H2 Economics
(Essay)

Ryan Joo Rui An

Abstract

This book is written with the intention to provide readers with a brief summary of Paper 2 essay questions in the Singapore GCE A-Level Economics at the H2 Level.

ECONOMIC ANALYSIS

SCOPE DEPTH CONTEXT

Graphs

Used to effectively illustrate economic concepts

- titled
- well-labelled
- suitably sized (1/3 of page)
- effectively referenced in the accompanying textual explanation

Structure

Use PEEL method to develop arguments

- **P**oint: construct concise and relevant topic sentences.
- **E**xplanation: explain the economic intuition underpinning their analyses.
- **E**xemplification: exemplify points using contextual, authentic or hypothetical examples for essays and well-referenced to the given data for evidence to support the explanation as far as possible for case studies.
- **L**ink: link points/ arguments back to the question.

Evaluation

Stand

- **Absolute**
- **Conditional** - based on certain criteria

Criteria

1. Market conditions e.g. consumer income, tastes and preferences, availability of substitutes, number of competitors, government policies, factor market, technological changes, market structure
   - where relevant, to also consider the broader macroeconomic environment which the consumers and firms are operating in
2. Nature of product and product characteristics
3. Magnitude and duration
4. Initial starting point
   - E.g. inherent advantages of a firm
5. Countervailing forces / measures
6. FRESCH considerations (strategies and policies)
   - **f**easibility
   - **r**oot cause
   - **e**ffectiveness
   - **s**ide effects / unintended consequences
   - **c**ertainty of outcome
   - time **h**orizon

Action words

Action	Requirement
Account for / explain	Question (a): 2 paragraphs – 2 requirements No need evaluation
Discuss whether	Question (b): 3 paragraphs – thesis + antithesis + evaluation Need evaluation
Discuss policy A	How it works + limitations Evaluation: when is it recommended (FRESH)
Discuss whether policy A or policy B is better	How each works + limitation Evaluation: which policy is better (FRESH)
Discuss if policy A is the best	2 policies: how each works + limitation (i.e. propose another policy)

Terms in questions

Topic	Term	Analysis
DD/SS	'affect equilibrium price and quantity'	Direction of change of P&Q
	'affect the market'	Explain changes in P&Q, TE/TR
	'sharp increase'	Explain both direction and magnitude of change
Firms	'strategy of firm'	Cost / revenue strategies to increase profit
	'affect level of profits'	Profits increase or decrease
	'consequences on firms'	Effect on profit and survival
	'different firms'	Firms differ in terms of: nature / types of goods they produce size
	'survival of firms'	SR survival / shutdown conditions LR survival / shutdown conditions Others e.g. strategies to respond, characteristics of firm/ mkt
	'reduce firms' vulnerability to closure'	Strategies turn the situation of subnormal profit around to normal/ supernormal profits

Topic	Term	Analysis
policy	‘interest of the society’	Govt’s goals of E&E, csr welfare
	‘effectiveness of policy’	Whether objectives can be achieved
	‘appropriateness of policy’	Use FRESH as criteria to measure appropriateness
	‘fiscal policy’	Market-based solution e.g. tax/subsidy (not C&C, i.e. laws)

Economic frameworks:

- **PPC**
- **DD/SS**
- **Firms**
- **Market failure**

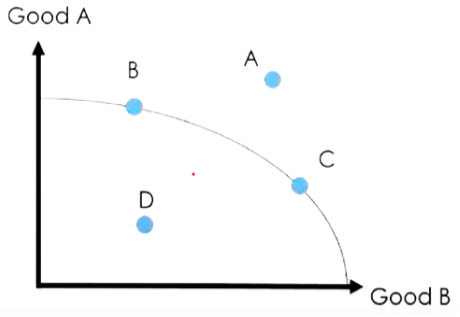
Scarcity

Using the concept of opportunity cost, explain the central economic problem that all societies have to solve. [10]

Para 1: Limited resources + unlimited wants → scarcity
Unlimited wants refer to the desire for ever higher levels of consumption.
Resources refer to factors of production such as land, labour, capital, entrepreneurship

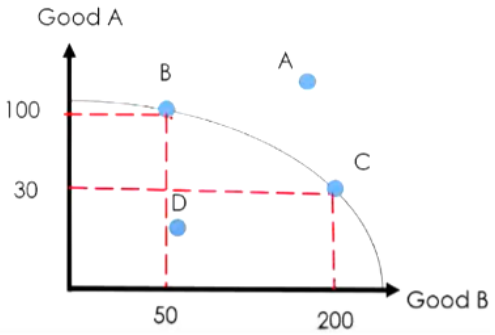
Para 2: Scarcity → choice among alternative uses → opportunity cost
Production Possibility Curve (PPC) shows all the different maximum possible combinations of goods and services that can be produced in an economy given the level of resources and technology.

- The central economic problem of scarcity is represented by the unattainable combinations outside PPC (point A).
- If the economy is producing inside PPC (point D), it is not fully utilising resources and there is underemployment or unemployment of resources.
- Any point on PPC (points B and C) mean that economy is productive efficient
  - all resources are used to maximum potential
  - no unemployment or underemployment
- Only one point on PPC represents economy is allocative efficient
  - society's welfare is maximised



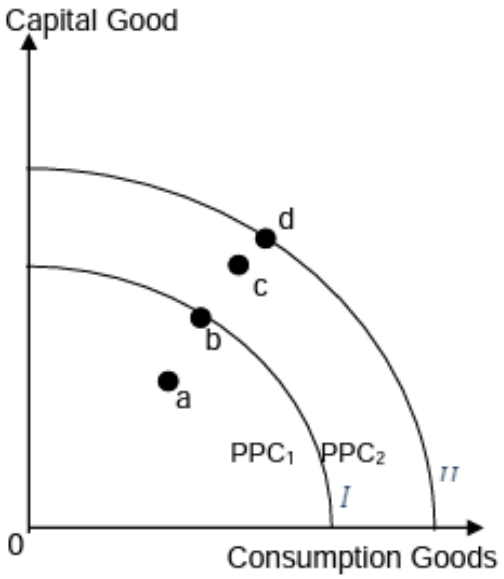
- Resources fully utilised for points on PPC (point B → C)
  - produce 150 units more of Good B
  - produce 70 units less of Good A

- Concept of opportunity cost is illustrated by negative slope of PPC, which is concave to origin.



Para 3: Conclusion
Scarcity is the central economic problem which results in the need to make a choice in resource allocation that incurs an opportunity cost

Explain what is meant by actual and potential economic growth using the Production Possibility Curve (PPC). [8]



Actual economic growth is the annual percentage increase in national output, i.e. rate of growth in output of economy. Actual growth is a SR concept where it shows how much resources is used in the current level of production. It also shows if there are idle resources in the economy too.

- Initially, the economy is operating at pt a (there is unemployment)
- Actual growth can arise from fuller use of resources (movement from point a → b)

Potential economic growth is an annual percentage increase in economy's capacity, i.e. rate at which the economy could grow. It refers to rate of growth of potential output. It is a long run concept as for actual growth to be sustained in the long run, however, there would also have to be increase in potential output. This is to about how to increase quantity or quality of resources

- PPC would have to shift outwards from PPC_1 to PPC_2 to get beyond point b (eg. to reach point c). When this occurs, potential growth is realised

Explain the central economic problem and the rationale of how the optimal choice is made. [10]

Explain the central economic problem of a society

- Identify and explain scarcity
- Resources have to be allocated to maximise society's welfare

Explain the rationale of how the optimal choice is made

- **Define** MSB and MSC
- Society gains from producing an additional unit when MSB > MSC. It is worthwhile for the society to produce that last unit whenever MSB > MSC
- Society loses from producing the last unit when MSC > MSB. Production should be decreased until MSB = MSC

Using the PPC, explain the concept of scarcity, choice and opportunity cost. [10]

Introduction
- Explain how scarcity → choice → opportunity cost
- **[Reason for scarcity]** Limited resources, unlimited human wants
- Relevant **definitions**

Introduction to PPC
- **[Address point]** PPC reflects scarcity, choice, opportunity
- **Definition** of PPC

Overview of PPC
- **Diagram** and **explanation**

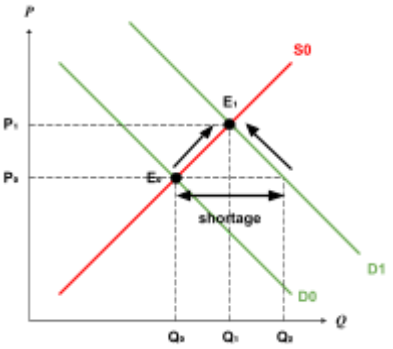
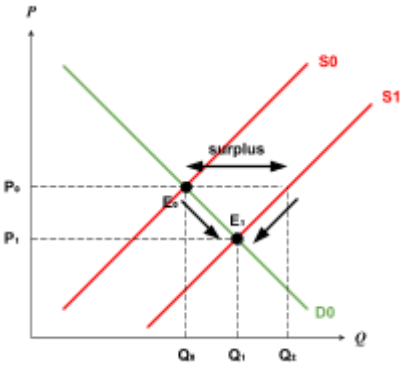
Explain how PPC reflects scarcity
- **[Address point]** increase production capacity in economy → outward shift in PPC → decrease scarcity, vice versa
- **[Explain & Elaborate]** increase in quantity and quality of factor of production
- **[Example]** Education and training → greater human capital
- Hence PPC shifts outwards

Explain how PPC reflects choice
- **[Address point]** change in taste & preference → movement aling PPC → change in choice
- **[Explain & Elaborate]** change due to technological advancement
- **[Example]** invention of smartphones and tablets → consumers prefer electronic publications → market more inclined to produce more electronic publications

Explain how PPC reflects opportunity cost
- **[Address point]** PPC is concave to origin because opportunity cost of producing good increases as its quantity increases
- **[Explain & Elaborate]** as economy produces more of a good, it has to use resources not equally suitable for production of different goods → give up producing more units of other goods to produce each additional unit of the good
- **[Example]** farmer use less fertile land to increase production of strawberries → yield of strawberries per acre of land decreases
- Hence PPC is concave

Demand–Supply

- Market adjustment process

Shortage ○ At original price P_0, Qdd > Qss → shortage of Q_2Q_1 ○ Buyers compete for the good, bid up price, <u>price increase</u> ○ With fixed income, csr purchasing power decrease → <u>Qdd ↓</u> ○ Units of o/p that can only be produced at higher marginal cost become profitable - profit-maximising producers incentivised to <u>↑ Qss</u> to capture marginal profits ○ **<u>Upward</u>** pressure on price until shortage is eliminated **P ↑ Q ↑**	
Surplus ○ At original price P_0, Qss > Qdd → surplus of Q_2Q_1 ○ Producers cut prices to clear excess stock to reduce losses, <u>price decrease</u> ○ With fixed income, csr purchasing power increase → <u>Qdd ↑</u> ○ Units of o/p that can only be produced at higher marginal cost become unprofitable, prs <u>↓ Qss</u> to avoid marginal losses ○ **<u>Downward</u>** pressure on price until surplus is eliminated **P ↓ Q ↑**	

Falling interest rates, continued income growth and other factors contributed to a period of rapid residential property price inflation in Singapore from the middle of 2009. However, the government has successfully pursued policies to restrict this rise to the extent that residential property prices actually fell in 2014 and 2015.

Use supply and demand analysis to explain why falling interest rates and continued income growth may have led to a rapid rise in residential property prices. [10]

(2017 A level P2 Q2a)

How will ↓i/r and continued Y growth ↑ the DD for residential property?

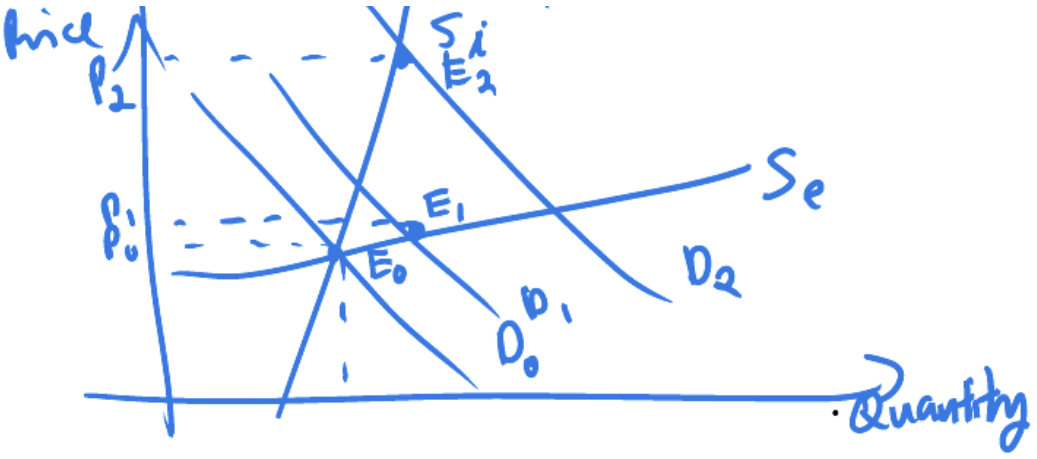
- ↓Interest rate → ↓ cost to borrow to finance property purchases → ↑DD for property
- Continued income growth → more income to pay for property purchases → increase upgrading of property and also investment in property → ↑DD for property

What is the likely YED and PES for residential property?

- YED: depends on the type of property
  - Higher end property like Built-to-Order (BTO) larger flats, condominiums and private houses: YED >1 (normal-luxury)
  - Middle tier property smaller HDB flats: 0 < YED <1(normal-necessity)
  - Low end property like 2 room HDB flats: YED < 0 (inferior goods) – not really needed in this question as the focus should be in YED>0 with rising income that will raise demand and thus price.
  - 1 room HDB flats are generally for rental and not for purchase.
- PES: all property takes a long time to build so low PES (steep supply curve)

How will YED, PES and the shift in DD result in a rapid rise in residential property prices?

- A more proportionate ↑ in DD (especially for higher end property) and PES<1 supply curve → rapid ↑ in property prices as compared with a less than proportionate ↑ in DD and PES>1 supply curve
- Illustrate and explain the diagram below



The average price of tickets for two concerts performed by singer-songwriter Ed Sheeran in November 2017 at the Singapore Indoor Stadium was S$180. Tickets went on sale six months earlier and both concerts sold out almost immediately. Some tickets were later being offered for resale at prices well above their face value.

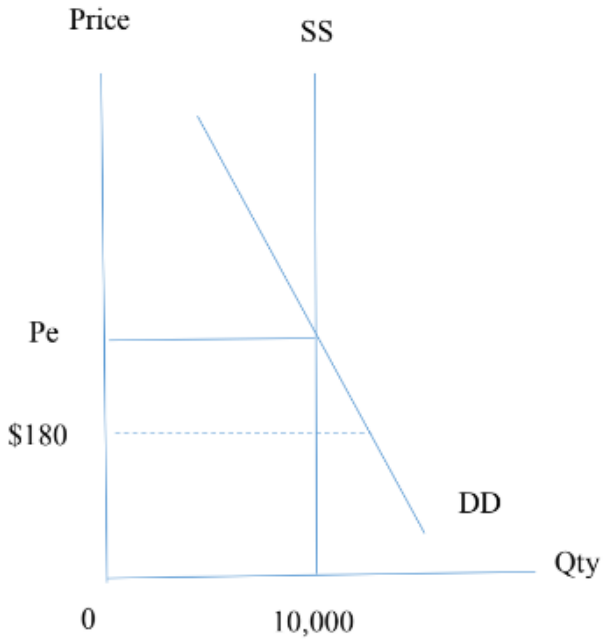
Using demand and supply curves, explain why there is an excess demand for tickets and why there is a high resale price. [10]

(2018 A Level P2 Q1a)

Schematic plan:

- Define demand and supply of concert tickets and how the equilibrium price is determined in the free market
- Explain how excess demand comes about
- Explain how the resale market operates, leading to a high resale price
- Summarise and reiterate key points

Introduction	<u>Interpret (Definitions, clarify concepts/question)</u> The price of Ed Sheeran concert tickets is determined by the interaction of the market forces of demand and supply. The demand for concert tickets refers to the amount of tickets consumers are willing and able to purchase at any given price level, ceteris paribus while the supply of concert tickets refers to the amount of tickets the concert organiser is willing and able to sell at any given price level, ceteris paribus. <u>Scope (Set up directions for the answer)</u> The intersection of demand and supply of concert tickets in the free market determines the equilibrium price and this happens when quantity demanded is equivalent to quantity supplied. <u>Stand (State the stand)</u> Thus, the reason why there is an excess demand is due to quantity demanded exceeding quantity supplied at the prevailing price level and why resale ticket prices are high is due to the limited supply of tickets in the secondary market and a highly price inelastic demand.
Body paragraphs	<u>Main Point</u> The reason why there is an excess demand for concert tickets is due to quantity demanded exceeds quantity supplied at the prevailing market price. <u>Application Analysis</u> The decision to hold two concerts at the Singapore Indoor Stadium fixes the supply of tickets (10,000 capacity) for the organisers based on the seating capacity of the location and this will also determine the equilibrium quantity of concert tickets traded in the free market. Supply curve for Ed Sheeran's was

	therefore perfectly price inelastic (vertical). Being a highly popular singer with many die hard fans, the demand for Ed Sheeran's concert tickets will be highly price inelastic as fans want to capitalise on this rare opportunity to listen to him sing live and do not view other entertainment activities to be close substitutes to his two concerts. Based on the above analysis, the market for Ed Sheeran's tickets is illustrated below as Fig A.  However, even while organisers may be aware of the elasticities of demand and supply for Ed Sheeran's concert tickets, setting the right price to maximise profit is tough. This is because firstly, in organising a concert, high total fixed cost (TFC) such as rental of venue and audio equipment has to be incurred regardless of the number of audience. Hence, total variable cost (TVC), which could include hiring of ushers and making of concert souvenirs, is insignificant compared to TFC. The marginal cost of providing an additional consumer entry to watch the concert is extremely close to zero. Since profit-maximising output occurs where MC-MR and with MC = zero, MR must be equal to zero too for profit maximisation, which implies to maximise profit, total revenue (TR) must be maximised, ie all tickets must be sold. Lastly, with imperfect information, it is also impossible for the concert organiser to accurately estimate the exact demand curve for Ed Sheeran's concert when setting the ticket price. To maximise TR by selling off all the tickets, a relatively low price of $180 is therefore set, erring on the side of caution. <u>Answer the Qn</u> With reference to the above diagram, when the concert organisers set a price of $180, this is likely to be below the equilibrium price determined in the free market. Hence, at the price of $180, quantity demanded exceeds quantity supplied and this leads to a shortage. This shortage represents excess demand.
	<u>Main Point</u> The shortage that exists in the market for Ed Sheeran's concert tickets may

	prompt those who did not manage to purchase the tickets to turn to the secondary market to purchase the tickets. With the advancement of technology and the existence of social media platforms, information flows are enhanced and interested sellers are able to reach out easily to consumers who are not able to purchase the tickets in the open market originally. <u>Application Analysis</u> As the number of sellers who want to sell the tickets in the secondary market are extremely limited and fixed as well, the supply curve in the secondary market is also perfectly price inelastic, but definitely much lower than the equilibrium quantity traded in the primary market. (vertical) The demand for Ed Sheeran's concert tickets is still likely to be highly price inelastic here too, given his popularity and large number of die-hard fans. <u>Answer the Qn</u> With a perfectly price inelastic supply curve intersecting a highly price inelastic demand curve, it gives rise to a high resale price in the secondary market, where his price is much higher than that of the price sold in the original market as depicted in Fig A.
Conclusion	<u>Summarise main points</u> Because of the fixed supply of tickets for Ed Sheeran's concerts and the popularity of Ed Sheeran which gives rise to a high demand and highly price inelastic demand curve, there is excess demand when $180 is being set originally as the ticket price. <u>Reiterate stand</u> To address this excess demand, the resale market is thus charging a very high price for a fixed number of tickets being resold.

Overall construction starts have plummeted in the first five months of 2020, falling 12%, according to Dodge Data & Analytics. “The COVID-19 pandemic and recession have had a significant negative impact on the construction sector,” says Richard Branch, chief economist at Dodge, noting that only warehouse construction starts have increased during this time.

With the use of an appropriate diagram, explain the effect of the above developments on the demand in the US construction market. [5]

Para 1
[P] Housing, assuming it as a normal good, will experience a fall in demand during recession, ceteris paribus.
[E2] Disposable income falls for most consumers during a recession which will lead to a fall in their purchasing power and ability to consume.
[Link] Hence demand falls from D1 to D2.

Para 2
[P] The increase in taste and preference towards online shopping has caused the demand for warehouses to increase, ceteris paribus.
[E2] During Covid-19, more consumers are doing online shopping since (reason).
[L] The growth in e-commerce and online shopping pushes up the demand for warehouse space.

Para 3
Since housing takes up a large proportion of the total construction market
Poor economic outlook may limit the expansion of warehouses
Hence ↓ in demand due to falling income is more likely to outweigh the ↑ in demand due to greater need for warehouses.
This results in an overall ↓ in demand from D1 to D3 instead of D2.

Different retailers, such as NTUC and Walgreens, have changed prices of repellents differently in view of Zika. Using demand and supply analysis, explain the price changes of the above retailers. [4]

Explaining unchanged prices in NTUC

"Mosquito repellent products have been restocked on a daily basis to meet the increased demand" OR "working with suppliers to ensure sufficient stocks at stores & warehouses". (Extract) **[1]**

The increase in demand has been matched by an equivalent increase in supply, leading to unchanged prices, since there is no shortage/surplus to exert pressure on prices to change. **[1]**

Explaining the fall in price at Walgreen

Walgreen has boosted insecticide sales via an increase in supply. (Extract) **[1]**

The increase in supply is greater than the increase in demand, leading to a downward pressure on prices to eliminate the surplus, resulting in a fall in prices. **[1]**

Major automakers reported more than 30% drop in US sales in the second quarter of 2020. Sales were hurt by record job losses limiting spending money, as well as mass work-from-home policies that temporarily put commutes on hold.

How might the above Covid-19 developments be expected to impact the price and output of steel?

When the workers are discouraged from going to work, producers are less able to produce the same quantity of steel at each price since lesser amount of FOP are available now. Hence supply falls from S_0 to S_1.

When income falls, assuming cars are normal goods, consumers would cut down on their demand for cars due to lower purchasing power. Since the demand for steel is derived from cars, the demand for steel will also fall from D0 to D1.

The fall in demand for and supply of steel would cause a fall in eqm output but eqm price is indeterminate since it depends on the relative shifts between demand and supply.

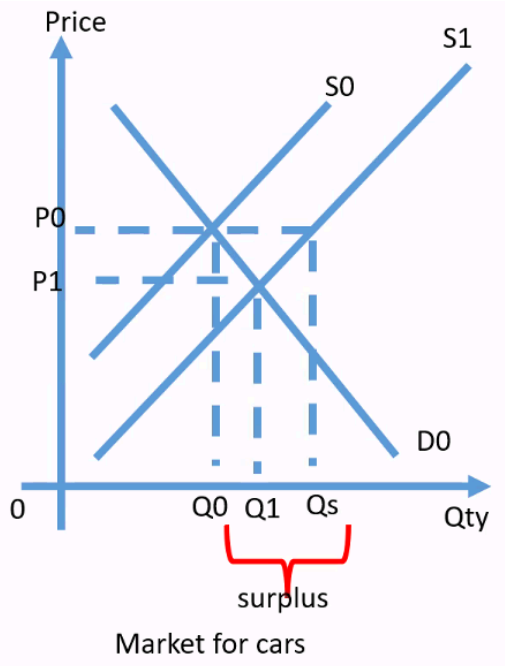
Assuming the fall in demand is greater than fall in supply
Reasoning:

There is a surplus created at original price P0 since Qss is more than Qdd <draw graph>

This gives rise to a downward pressure on price as producers would be willing to accept a lower price to minimise their losses. As price fall, budget constrained consumers would be w/a to purchase more as purchasing power increases while producers would reduce their Qss as the lower price is unable to cover the MC incurred at higher output. This process stops until surplus is eliminated or new eqm is reached at E2 where Qdd=Qss again.

Overall, price of steel will fall from ___ to ___ while output falls from ___ to ___.

How might a decrease in steel price be expected to impact the equilibrium price and quality of cars? [5]



[Topic sentence] The fall in price of steel will cause supply of cars to increase, ceteris paribus.

[Explain with example] Steel is a FOP for cars. A lower steel price will cause MC of producing cars to fall. Car producers, to maximise profits, would be less willing to produce the same qty at every price. Hence supply of cars increases from S_0 to S_1.

At original price P_0, surplus is created as new qty supplied Qs is greater than qty demanded Q_0. (MAP)
Incentive driven producers will be willing to accept a lower price to get rid of excess stock, leading to downward pressure on price. Budget constrained consumers will be w/a to buy more, causing Qdd to rise from Q_0 to Q_1. Profit driven producers cut down production, causing Qss to fall from Qs to Q_1. This continues until surplus is eliminated or new equilibrium is reached.

[Link] Hence, price of steel falls from P0 to P1 while output increases from Q0 to Q1.

The world's biggest suppliers from Brazil and Vietnam for coffee beans have cut production. On the other hand, economic growth is witnessed around the world.

Explain the sharp increase in price of coffee beans. [10]

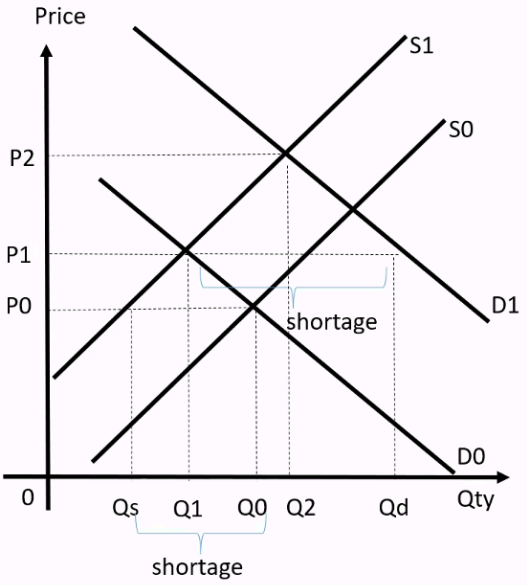
Format 1

The world's biggest suppliers from Brazil and Vietnam for coffee beans have cut production. This could due to poor weather conditions that kills the coffee plants, reducing producers' ability to produce coffee beans at each and every price level. Hence, supply for coffee beans will fall from S0 to S1 ceteris paribus.

This causes a shortage (QsQ0)at P0 .....full market adjustment process.....price ↑ from P0 to P1 and output ↑ from Q0 to Q1

At the same time, demand for coffee is rising which may be due to rising income. As income increases, consumers' purchasing power will increase and they will be more willing and able to purchase normal goods such as coffee to increase their utility. Since demand for coffee beans is derived from coffee, demand for coffee beans will also increases from D0 to D1, ceteris paribus.

This causes a shortage at P1 and a greater upward pressure on coffee beans prices.
The MAP continues until new eqm is reached, causing a sharp increase in price of coffee beans from P0 to P2 instead of P1.
How about eqm qty? ******



Market for coffee beans

Eqm qty - magnitude

Format 2

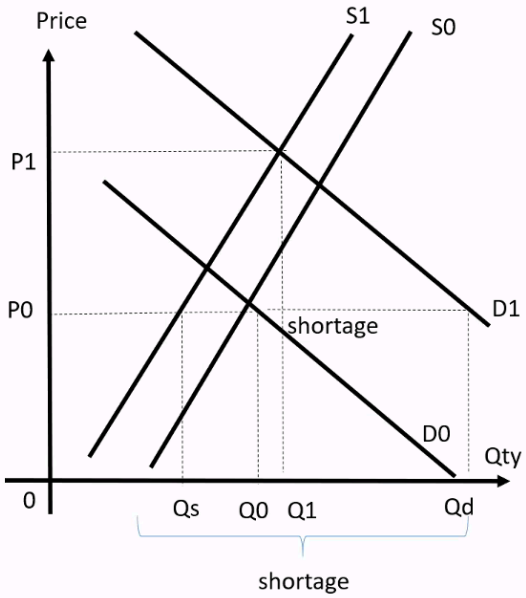
The world's biggest suppliers from Brazil and Vietnam for coffee beans have cut production. This could due to poor weather conditions that kills the coffee plants, reducing producers' ability to produce coffee beans at each and every price level. Hence, supply for coffee beans will fall from S0 to S1 ceteris paribus.

At the same time, demand for coffee is rising which may be due to rising income. As income increases, consumers' purchasing power will increase and they will be more willing and able to purchase normal goods such as coffee to increase their utility. Since demand for coffee beans is derived from coffee, demand for coffee beans will also increases from D0 to D1, ceteris paribus.

This causes a shortage (QsQ0)at P0 .....full market adjustment process.....price ↑ from P0 to P1 and output ↑ from Q0 to Q1

The MAP continues until new eqm is reached, causing a sharp increase in price of coffee beans from P0 to P1.

How abt eqm qty? ******



Market for coffee beans

SHARP -

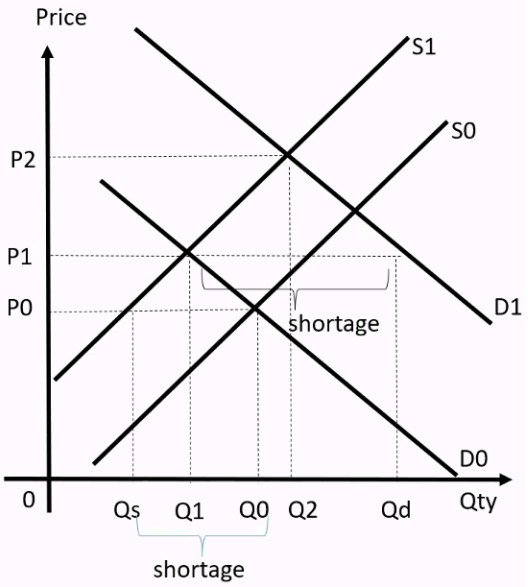
Accounting for the relative shifts in DD/SS

The new eqm is indeterminate as it depends on the relative shifts in DD/SS (since fall in SS and increase in DD have an opposing effect on o/p)

Since coffee is considered as a luxury good as it is not required for survival, an increase in income with lead to a more than prop increase in Qdd, ceteris paribus. Consumers to max utility to divert any increase in income to the consumption of luxury good when income increases since consumption of all necessity has been accounted for. Hence DD increases from D0 to D1.

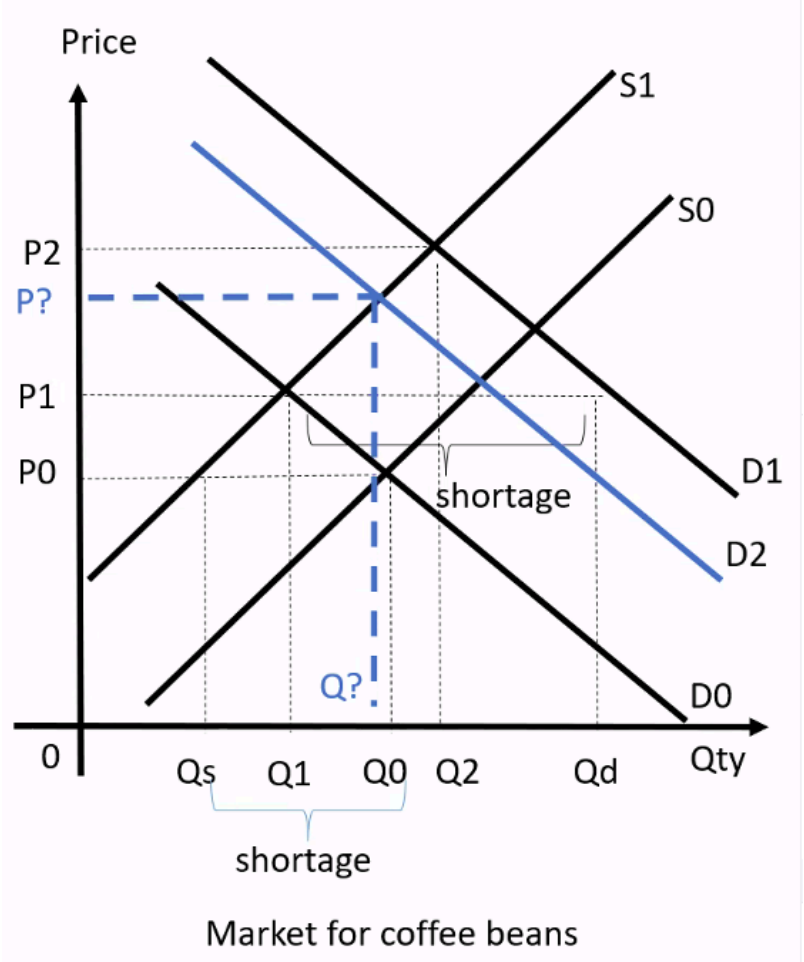
Furthermore, since coffee can be stored for a longer period of time due to available of better storage systems nowadays, the suppliers of coffee can use their existing stocks in their warehouse to buffer the falling production due to bad weather conditions, the fall in supply is likely to be limited.

Hence, **assuming the increase in demand for coffee outweighs the supply**, overall output increases.



Market for coffee beans

Can we assume fall in SS outweighs the increase in DD?



Market for coffee beans

Not necessity - greater shortage - greater increase in price to eliminate shortage → SHARP increase in price

Microeconomic Policies

A firm in Singapore is facing an increase in demand for its goods which has led to an increased demand for labour. Its demand for labour is also inelastic. In addition, large numbers of its workers born in the 1960s ("baby-boomers") have been retiring, reducing the number of workers available to the firm.

Discuss whether making changes to the foreign worker levy is likely to be the most effective way the Singapore government can address the labour shortages experienced by such firms. [15]

(2019 GCE A Level H2 P2 Q2b)

Question analysis:

What is the cue word? (what are the skills required for this question?)	**What is the concept word?** (what are the concepts required to answer this question?)	**What is the context word?** (what is the context for this question?)
Discuss 2 sided answer required with evaluative comments	Foreign worker levy (Taxes) Labour shortages	Firm in Singapore

Stronger responses explained that the Foreign Workers Levy (FWL) is a type of tax on the employment of labour and that its reduction leads to a fall in firm's marginal cost.
Stronger responses combined the explanation of the FWL with a good explanation of at least one other policy.
Evaluation was often framed within a short-term / long-term framework.

Schematic plan:

Aim: Solve labour shortages experienced by firms → 1. Reduce demand of local workers 2. Increase supply of local workers

Policy 1: Reduction in foreign worker levy.
> Reduce the marginal cost of hiring foreign workers for firms. Firms will then switch to hiring more foreign workers to replace local workers.
> Reduce the demand for local workers

Limitations
1. Displaces local workers which leads to an increase in unemployment and worsen income inequity
2. Increasing reliance on foreign workers

Policy 2: Government subsidies to encourage automation
> Government to provide subsidies to encourage firms to automate certain labour intensive processes. Machines will thus replace the job of a worker.
> Reduce the demand for local workers

Limitations
1. Costly. Incur opportunity cost of available government funds when the government spends money to subsidies firms.

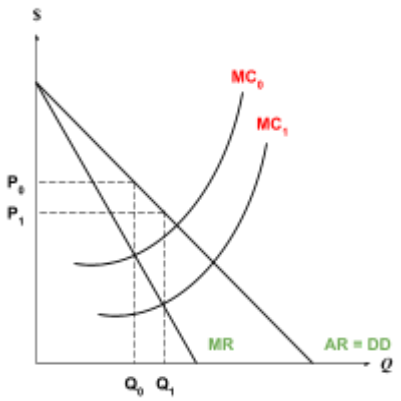
Policy 3: Increasing retirement age
> Government to increase retirement age to support and encourage older workers to continue in the workforce

Limitations
1. Firms may choose not to hire these workers as it may increase their cost due to lower worker's productivity

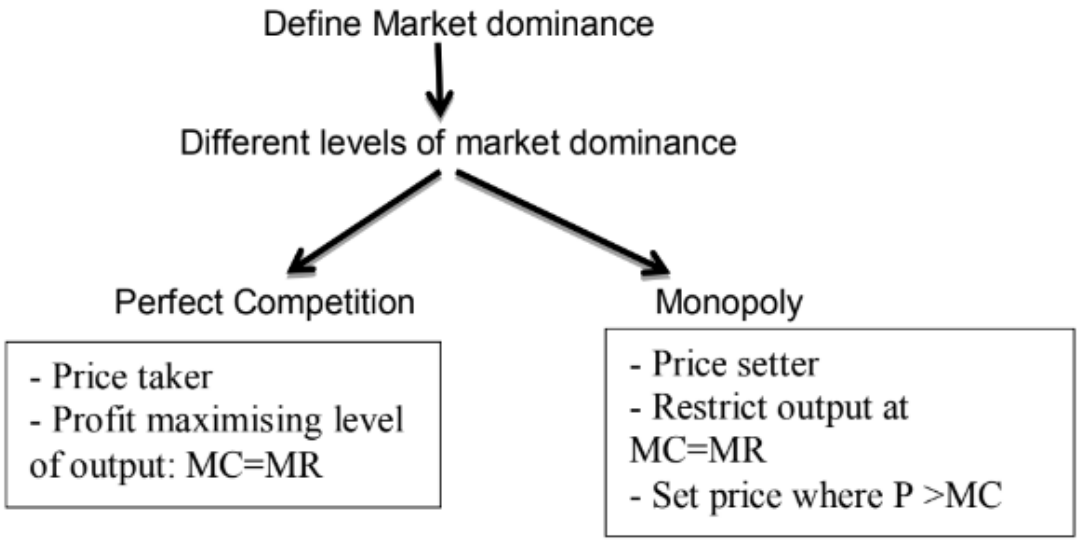
Firms

Firm adjustment process e.g. MC decrease

- Profit-maximising output is at Q_0 where MR = MC and MC is rising
- Firm charges price P_0, highest possible price given the demand to maximise profit
- When MC decrease, at original output Q_0, MR > MC. Firm increases o/p to capture marginal profit, until Q_1 where MR = MC …



'Market dominance is the main factor determining the profitability of firms.'
Explain how market dominance can influence a firm's price and output decisions. [10]



Market dominance refers to the market share that a firm possesses.
It is affected by the level of barriers to entry in a market. Barriers to entry determine the number of firms within a market, which determine the market dominance and market structure a firm operates in. This will thus affect a firm's pricing and output decision.
E.g. strategic BTE
Graph: PED inelastic → mark up of P>MC (compare low and high mkt power)

When there is no market dominance, the resultant market structure will be a PC market where firms are price takers and produce at profit maximising output where MC=MR.

With market dominance, monopoly is able to restrict output below the optimal level and charging a higher price (price setter) so as to increase its profits.

In Australia, small and remote communities face high and stable prices for petrol. The petrol is supplied by one or two small petrol stations owned by small independent retailers. Prices are lower and more volatile in the large cities, where there are a large number of big petrol stations owned by a small number of big oil companies.

Explain why less market competition might lead to higher and more stable prices. [10]

Higher → no incentive to keep price low to compete with competitors, gain mkt share, increase profits
In a competitive market, numerous sellers compete with each other to attract customers, often leading to lower prices as they try to gain a larger market share.
When there are fewer competitors, sellers have more control over pricing, as they face less pressure to lower prices to match or beat their rivals.

More stable → no break out of tit-for-tat price war / price competition (rival firms keep price low and bid prices down) as each firm already has large market share, high profits → **price rigidity (explain)**

Discuss the extent to which the behaviour of firms depends in reality on the actions of their competitors. [15]

Big/small firms

Thesis:

<u>The behaviour of competitors may affect the pricing and output decisions of a firm.</u> Oligopoly is a market structure where there are a small number of large firms each with a large market share generally selling differentiated products. Oligopolists are price-setters in the sense that they are able to set their prices by setting their output levels. In oligopoly, there are high barriers to entry which means that firms can make supernormal profit in the long run. Oligopolists are strategically interdependent. An example of oligopoly is the pharmaceutical market. In oligopoly, due to the small number of large firms and hence the large market share of each firm, the actions of one firm affect and are affected by the actions of the other firms in the market, and this is commonly known as strategic interdependence. When an oligopolist changes its price, it will have a significant effect on the other firms in the market. The rival firms will hence react by changing their prices which will affect the first firm. Therefore, when an oligopolist makes pricing and output decisions, it must take into consideration the reactions of the other firms in the market. In this sense, the pricing and output decisions of an oligopolist depend on the behaviour of competitors. For example, if Honda reduces the price of its cars, the quantity demanded is likely to increase by a smaller proportion which will lead to a decrease in the total revenue if the rival car manufacturers such as Toyota and Nissan follow suit to prevent losing customers to Honda. Therefore, Honda is unlikely to reduce the price of its cars to increase the total revenue if the rival car manufacturers are likely to follow suit (price rigidity). The converse is also true.

Mutual interdependence:
Higher BTE set by larger firms (strategic BTE) → how firms react
Explain price rigidity → how firms react (increase/decrease price → lose TR)
Explain price war → how firms react (firms view as sign of competition, trigger price war → hurt profit level) → adopt non-price strategy to compete

Antithesis:

<u>The behaviour of competitors may not affect the pricing and output decisions of a firm.</u> In MC, due to the large number of small firms and hence the small market share of each firm, the actions of one firm do not affect and are not affected by the actions of the other firms in the market, and this means that there is no strategic interdependence. When an MC firm changes its price, it will not have any significant effect on the other firms in the market. The rival firms will hence not react by changing their prices. Therefore, when an MC firm makes pricing and output decisions, it need not take into consideration the reactions of the other firms in the market. In this sense, the pricing and output decisions of an MC firm do not depend on the behaviour of competitors. For example, if a restaurant reduces the price of its dishes, the reduction in the price will not have any significant effect on other restaurants which will not prompt them to react. Therefore, the restaurant does not need to consider the reactions of other restaurants.

Low BTE → … → normal profits → limit ability to R&D

The pricing and output decisions of a firm may be affected by other factors to a larger extent such as the **objective of the firm** and **government regulation**. Instead of maximising profit, a firm may seek to maximise long-run profit, sales revenue or market share. For example, one of the potential problems of a monopoly maximising profit is that the profit-maximising price may attract potential firms to enter the market. If this happens, the profit of the firm will fall in subsequent periods. Therefore, to maximise long-run profit, the firm may need to practise limit pricing which is a pricing strategy where a monopoly charges a price below the profit-maximising price with the objective of preventing potential firms from entering the market. In this case, although profit will not be maximised, long-run profit may be maximised. To achieve allocative efficiency, the government may decrease the price that a firm charges by passing a pricing regulation that requires the firm to charge a price equal to its marginal cost which is commonly known as marginal cost pricing.

Government intervention to restrict firms from responding
Anti-trust laws to disallow mergers and acquisitions - reduce conc of mkt power (even if competitors merge, they cant merge
Nationalise, take over production of essential goods directly - govt set price and output, deviate from profit-max level to improve allocative efficiency or equity e.g. SG govt step in to maintain MRT tracks, instead of SMRT

Incumbent firms act based on entry deterrence intentions e.g. mass advertising

Evaluation:
In the final analysis, whether the behaviour of competitors affects the pricing and output decisions of a firm depends on several factors. For example, unlike firms that provide services, firms that produce goods generally operate in oligopoly. This is because unlike firms that provide services, the nature of the machines used by firms that produce goods generally allow them to reap more technical economies of scale. As a result, firms that produce goods are generally larger than firms that provide services. Therefore, the pricing and output decisions of a firm that produces a good is more likely to be affected by the behaviour of competitors. If the market produces an essential good such as public transport or telecommunications, government regulation is likely to be a major determinant of the pricing and output decisions of the firm or firms. For example, the Singapore government regulates the public transport market through the Public Transport Council. The two public transport operators are required to seek approval from the Public Transport Council for any fare increments. Furthermore, the Public Transport Council has implemented a fare adjustment formula which allows a maximum fare increment of 2.8 per cent. These pricing regulations affect the pricing and output decisions of the operators to a large extent.

Large extent - in order to protect mkt share
However, Type of response depends on type of mkt structure OR
However, some exceptions esp lack of competition e.g. natural monopoly → lack of contestability
E.g. kodak

Market Failure

Evaluate the alternative policies that are adopted by the Singapore government to correct for both these types of market failure (public goods and imperfect information). [15]
(2014 P2 Q3)

Direct provision of public goods
However high spending ⇔ e.g. of NS (use rules and regulation to enforce the public in jointly providing the public good - reduce spending)

Supplier-induced demand →
(close information gap) **Education** - MOH makes public information on various treatment options and prices online, as well as provides public hospitals as an alternative to private hospitals so that patients can seek a second opinion at low cost, and prevent doctors from giving misleading information → patients have more information about options and treatments before making their decision → shift perceived MPB curve to coincide with the actual MPB curve → socially optimal level of consumption at Qs
Educating the population would be an important long term solution

Evaluation:

There was a serious outbreak of flu (influenza) across the world at the beginning of 2018. In many countries, vaccinations were provided free of charge to the most vulnerable people and various Health Authorities

(a) Explain why vaccinations against infectious diseases, if left to market forces, might be allocated undesirably. [10]

(b) Suppose the government decides to intervene in the market and subsidise vaccinations against infectious diseases.
Discuss whether government subsidy is the best policy to ensure that vaccinations are allocated desirably. [15]

(2019 P2 Q3)

(a)
Positive externality → under-consumption
Merit good, imperfect information - unaware of full benefits of vaccines - prevent future diseases that result in higher healthcare cost in future → not seen immediately
Equity?

(b)
Yes - subsidy=MEB at Qs, MPC decrease until Qp'=Qs (csr subsidised)
No - problems e.g. imperfect information on the part of government
[–] Imperfect information
Difficult to accurately determine exact monetary value of external benefit (difficult to quantify MEB) → amount of subsidies
Govt may under- or over-subsidise
[–] Govt budget, opportunity cost
[-] PED inelastic as csr do not deem it as necessity → less responsive to price decrease → Qdd increase LTP → limited effectiveness
→ need significant amt of subsidy to induce sufficient decrease in price so that Qdd increase more → further strain in govt budget position
(graph)

Close the information gap - moral suasion
Make informed decisions, persuaded by clear benefits-over-costs → shift MPB perceived to MPB actual
[-] long time to take effect, not immediate solution to pressing urgent problems

Subsidy - certain outcome
Moral suasion - uncertain outcome, depends on voluntary adoption
Feasibility: Immediate effects
Use mix of policies: subsidy in SR, moral suasion in LR
Depends on root cause: subsidy only solve +ve externality, not suitable to correct imperfect info

If MEB is very large, govt can consider making consumption compulsory + free provision if new DWL is smaller than original DWL

Subsidy not feasible for countries experiencing budget deficit e.g. LDC, so moral suasion is more feasible

(paste pic of evaluation)

(ASRJC Promo 2019)

(a) Explain why the Singapore government intervenes in the market for high-sugar packaged drinks. [10]

(b) Discuss whether an advertising ban on high-sugar packaged drinks is the best measure to correct the market failure. [15]

-ve externality
Demerit good, imperfect information
→ over-consumption

Policy 1: ban
Yes - avoid distortion of information, change in t&p, MPB perceived shift to MPB desired
No - voluntary adaption, MPB shift less
- enforcing and monitoring is challenging, may require govt o incur monitoring and enforcement costs → strain on govt budget
Evaluation: on balance, Does not solve root cause, might not necessarily lead to fall in consumption - consumers might still seek out these products through other means or remain unaware of the health risks

Policy 2: indirect tax
MEC at Qs, increase MPC, force consumers to internalise external cost of consumption
Limitation - if PED more elastic than PES, csr more responsive to change in price & more bargaining power →
Tax revenue collected re-invest as third measure + fast way, certain outcome

Overall: no best measure to correct mkt failure, need to use a mix of policies
- different sources of mkt failure → one target externality, one target imperfect info
Both work hand in hand to cut down consumption & DWL

In the event of a Zika outbreak, discuss whether a subsidy on mosquito repellent products should be implemented in Singapore. [6]

Introduction: establish purpose of policy + criteria for evaluation
A subsidy would be implemented in the event of an outbreak in order to address market failure due to the existence of positive externalities in the consumption of mosquito repellent, i.e., use of repellent reduces a consumers' chance of getting Zika (MPB), thus reduce the chances of the spread of Zika in Singapore to others, improving the economic outlook and tourism receipts (unlike Brazil, Extract 2) (MEB).

Whether a subsidy should be implemented would then be decided based on its effectiveness, feasibility in addressing the market failure and whether it suits the context of Singapore.

Thesis: Subsidy should be implemented because it is effective in addressing market failure due to positive externalities.
A subsidy would decrease MPC since it reduces the price of insect repellents for consumers. If the subsidy is set equal to MEB at Qs, this causes consumers to internalise the externality. The new and lower MPC* would intersect MPB at Qs, thus addressing market failure, i.e. eliminating the deadweight loss. Moreover, the reduction in prices would also lead to more equity as the low-income groups gain greater access to these repellents.

Anti-thesis: Subsidy should not be implemented because it is not feasible to estimate MEB precisely.
However, it is difficult to estimate the correct amount of subsidy (=MEB at Qs). An underestimation/overestimation of the amount of MEB would lead to the same result of underconsumption/overconsumption and deadweight loss.

Anti-thesis: Subsidy should not be implemented as it'll drain government resources.
High government expenditure is required to provide for the subsidy. This is not only a drain on government resources but may require higher tax rates such as for income taxes to finance the subsidy. High income tax rates are known to discourage effort and investment in the country.

Synthesis
Given that the subsidy would merely be temporarily given (during an outbreak), the concern of draining Singapore government's huge fiscal surpluses is a minor one. Moreover, the amount of subsidy can be flexibly altered to adjust for misestimating of MEB. Hence the subsidy should be implemented during an outbreak.

Explain the economic rationale for government intervention in developing vaccinations against Zika. [6]

Vaccinations can be considered a merit good, which are deemed by the government or society to be desirable and underconsumed.

In a free market economy driven by self-interest, individuals will produce/consume at the point, MPB=MPC, whereby MPB would refer to the reduction in incidence of Zika on the vaccinated individual and MPC is the cost of the vaccination. Hence consumers maximize their welfare at the free market equilibrium output level Qf.
(1m for contextualization of MPB/MPC and condition reflecting self-interest)

However, due to the positive externality on 3rd parties, e.g. unvaccinated individuals also experiencing a reduced chance of contracting Zika, there is a divergence between the marginal social benefit and the marginal private benefit. The marginal social benefit is higher than the marginal private benefit at any level of output.
(1m for contextualization of MEB and divergence)

There is thus an underconsumption of vaccines by the amount QfQs.
(1m for identifying underconsumption)

At output levels between Qf and Qs, MSB > MSC which leads to a deadweight loss (welfare loss) and hence this indicates society's welfare is not maximized and therefore government intervention is required.
(1m for concluding DWL)

If left wholly to the private sector, the government believes that vaccinations will be under-consumed because individuals undervalue their own private benefits. Consumers may mistakenly underestimate the effects of Zika, for instance, believing that it only affects infants.
(1m for contextualising imperfect information)

In other words, they perceive the marginal private benefit from consuming vaccination, which is the avoidance of contracting the Zika virus, to be lower than it actually is, and therefore consumption of vaccination will be lower than it should be, further aggravating the underconsumption due to the positive externalities.
(1m for theoretical elaboration of underperceiving MPB)

Comment on the extent to which government subsidy for electric vehicles can lead to "improved efficiency in resource allocation". [6]

Govt subsidy for electric vehicles can improve efficiency in resource allocation

- Use of diesel cars generate negative externalities in consumption due to high amount of air pollutants emitted → existence of MEC causes divergence between MPC and MSC → Qe > Qs of diesel cars → allocative inefficiency
- Govt subsidy for electric vehicles → lowers unit COP → increase supply of electric vehicles lowers price → cause more consumers to switch from diesel cars to electric vehicles → higher consumption/ usage of electric vehicles reduce extent of negative externalities and hence DWL due to lesser usage of diesel cars → reduce allocative inefficiency

Govt subsidy for electric vehicles may not improve efficiency in resource allocation

- Burning of fossil fuels to generate electricity to power electric vehicles generate carbon emissions and air pollutants (extract 3) → existence of MEC as negative externalities are generated from consumption of electric vehicles → allocative inefficiency since MSC>MSB at Qe
- Govt failure e.g. imperfect info → may not provide optimal amount of subsidy to increase production/consumption of electric vehicles to Qs

Comment on the extent

- The avoided emissions in road transport is likely to outweigh the carbon emissions from electricity generation (as power plants are usually located in less populated areas (extract 3) → lesser MEC) → overall efficiency in resource allocation should improve
- Depends on whether firms continue to burn fossil fuels or switch to use alternative cleaner fuels to generate electricity to power electric vehicles

Discuss how government intervention can alleviate the problem of allocating scarce resources in an economy. [15]

Introduction

Market failure occurs when the price mechanism is unable to allocate resources efficiently on its own; as such government intervention is necessary to improve the allocation of resources. In situation such as public good, merit and demerit goods or when the production or consumption of goods and services causes positive or negative externalities, the price mechanism will allocate resources inefficiently on its own, resulting in market failure.

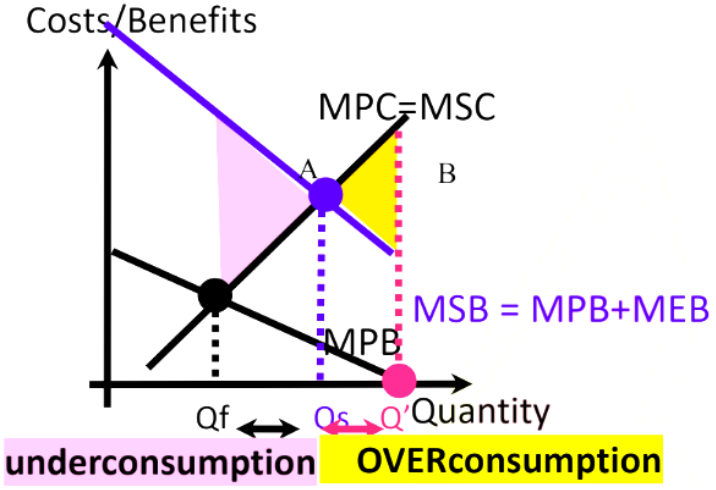
Overview

In this essay we will look at two situations in which the markets may fail and they are the market for merit goods and market for public goods. We will be discussing whether government intervention will result in more allocative efficiency.

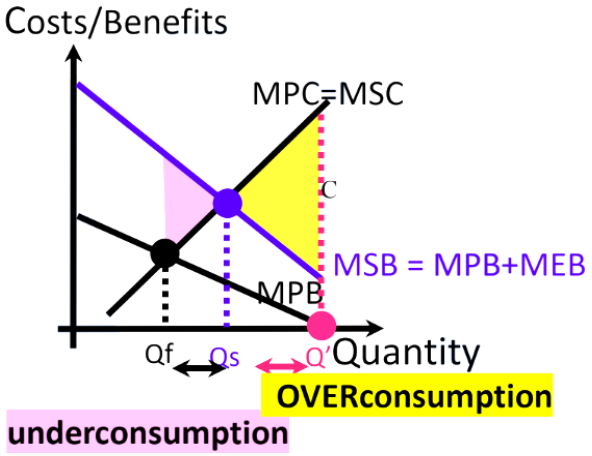
Thesis 1: Government intervention in market failure will result in more efficient outcomes in the provision of merit goods

One market failure would be education where it is deemed as a merit good by our society, which are goods that are deemed by the government to be desirable but underconsumed.
These goods are under consumed due to its positive externality and imperfect information held by consumers of their private benefits.
The positive externalities would be the external benefits in terms of a more educated and productive workforce driving our economic growth as well as a more civilised and refined society. When consumption of education has positive externality, this will cause its marginal social benefits (MSB) to be higher than the marginal private benefit (MPB). Since there are no negative externalities, marginal private (MPC) = marginal social cost (MSC). Individuals will consume education up to MPC/MSC = MPB. However, the society will prefer consumption to be at MSB = MSC/MPC where it is allocative efficient. Since MSB is higher than MPB, from the society's point of view, there is under consumption of education which results in deadweight loss.

There is also imperfect information of the consumer's marginal private benefit, in an individual may only value the MPB to be the future earnings, but is unaware of the benefit education yields to his civic and cultural awareness as a holistic being. Thus, consumers tend to underestimate the MPB, such that the perceived MPB is lower than the actual MPB, thus under consuming education, leading to deadweight loss. This further aggravates the underallocation of resources (& DWL) that arises due to positive externality.
Government intervention in the form of free provision can help to achieve allocative efficiency. For example in Singapore, a large part of our education is provided by the government directly. Primary school education is free while the rest are heavily subsidised. Consumers receiving the free provision will maximise net private benefits, and consume up to MPB=0. This leads to greater consumption of education, such that Q' > Qf. Consuming more primary education, which has an extensive MEB, towards the socially optimal consumption will allow us to reduce the dead weight loss of triangle A, and results in a lesser DWL of triangle B



Anti-thesis 1: Government intervention in market failure may not result in more efficient outcomes.
However, free provision will only reduce DWL and improve allocation if the MEB of education is indeed very high. If the MEB of education is not high enough, free provision actually results in overconsumption, such that Q' is significantly larger than Qs, thus causing the DWL after free provision to be larger than DWL before government intervention (triangle C), as in Figure 2. This might be true for types of education like a postgraduate degree, where the education incurs less MEB, than primary education, which has extensive MEB. Government intervention thus only improves the problem of allocating scarce resources if the MEB is extensive.



Furthermore, it free provision does not directly tackle imperfect information, the other source of market failure. Hence, Qfree provision could be still some distance away from Qs. The Singapore government thus complements free provision with regulation, where the Compulsory Education Act mandates that all children go through primary school education.

Another limitation is that the provision of free and subsidised education would require large funds which may imply higher income tax on our workforce. Such taxes may discourage working and investment, leading to lower aggregate demand that reduces national output level, causing economic slowdown and higher unemployment. Hence even if government intervention alleviates the problem of resource misallocation, it can cause another set of problem of higher unemployment.

Mini Synthesis
Given the importance of an educated labour force to Singapore's economy, the extensive government intervention in terms of large amount of money spent on education and regulation are justified because of the huge external benefits to our economy. However, the long terms outcomes of education are always uncertain and this is a risk that our government have to take in the provision of education for all our young. Such extensive intervention should also be reduced with the years of education, since the extent of MEB would fall as one progresses from primary to secondary to tertiary (benefits tend to be more private benefits than external benefits for higher levels of education).

Thesis 2: Government intervention in market failure will result in more efficient outcomes in the provision of public goods
In the case of public goods where they are non-rival and non-excludable such as the case of national defence in Singapore, government intervention is needed. National defence is non-rival because the consumption of it does not lower the quality and quantity of defence to other people in Singapore. A newborn or a foreign tourist entering the country does not make an existing citizen feel less protected by our national defence. Hence, the MPC of providing for an additional person is zero, thus for allocative efficiency, P=0, which no private firm is willing to do. It is also non-excludable because non-payers are being protected as well – there is no feasible way to charge non-taxpayers like foreigners from being protected by the national defence when visiting the country. This creates the problem of free ridership and hence producers are not able to get price signal from consumers to pay for the service. As a result, no private producer is willing to provide national defence.

The Singapore government provides national defence to the entire country due to the nature of it being a public good as well as for national security reason. Singapore's National Defence is provided through two ways. First, we have regulars who work in Ministry of National Defence (MINDEF) as their occupations. Secondly, we have conscription of males Singaporeans and Permanent Residents who are required by law to serve National Service for two years. As such, our National Defence is provided by the government through both regulars and our citizens and PRs. This allows our small nation with a small population to provides a large army that is adequate to provide national defence. Without government intervention in this case, free market will fail completely. Government intervention is thus necessary to allocate scarce resources in the case of a public good.

Anti-thesis 2: Government intervention in market failure may not result in more efficient outcomes.
While Singapore is able to provide adequate national defence, it does incur high opportunity cost. One of the limitations of our government policy with regards to National Defence is that young males adults who have to serve National Service will only be able to contribute economically two years later, hence the potential economic output of our NSmen is lost. Secondly, the government would have to spend huge amount of the budget to provide for the large army that we have. In the real world, the government do not really have the information on what is the optimal amount of national defence it should provide. Over provision of national defence would result in inefficient use of resources.

Mini Synthesis

The Singapore government has sufficient funds to provide for National Defence and while MINDEF is given the largest proportion of budget each year, the government does cater funds to other areas of development in Singapore. National defence do have positive effects on our country as well given that it helps to provide a stable environment for our economy to thrive. Hence, in this case I feel that the government intervention results in more efficient outcome.

Overall Synthesis

I feel that market oriented government policies seems to be better way to allocate resources rather than blunt regulatory government policies as price acts as a good signal to the producers and consumers. For example, in cases of overproduction of cigarettes, to eliminate the overproduction(e.g.), price can be increased to reduce the greater quantity demanded by the consumers to achieve allocative efficiency. This can be done by the imposition of tax. In cases of underproduction of merit goods such as healthcare and education which should be made affordable to consumers, with subsidies, or even direct provision (complete subsidy) by the government may be considered a better choice to induce the desired behaviour of the consumers. Overall, whether government intervention leads to more efficient outcomes than the market really depends on the type of polices chosen by the government based on its financial ability. In the case of Singapore, due to the adequate amount of financial resources that the government is able to carry out policies effectively to deal with the various market failures without compromising other areas of development in the country. For governments with limited resources, they may not be able to come out with effective policies to deal with market failure due to the high opportunity costs incurred.

Circular Flow of Income

Answering format

1. State component being affected, which of the 4 factors
2. Diagram of circular flow of income (label each arrow of diagram)
3. Multiplier process (k), explain growth due to injection / withdrawal. Magic number being k=0.6, initial injection / withdrawal of $1000
4. Give specific example (apply context of question, identify correctly which component is being affected)

Using circular flow of income, explain the effect of "a fiscal stimulus" on the Peruvian economy. [4]

- Definition of circular flow of income: Shows the flow of income and goods and services in an economy. Equilibrium in the circular flow occurs when the sum of Injections = Sum of Withdrawals
- Assuming the economy is initially at equilibrium, a fiscal stimulus increases G on infrastructure and decreases income, corporate and fuel T, resulting in an increase in injections and fall in withdrawals. This will cause the economy to be in disequilibrium with J>W. [1]
- The increase in demand for goods and services will signal to firms to produce more goods and services. As they produce more goods and services, they will employ more factors of production, raising factor incomes of households. [1]
- The fiscal stimulus will create many rounds of increase in spending within the circular flow and a multiplied increase in income. [1]
- As income increases in each round, withdrawals in the form of S, T and M will also increase. The process ends when the increase in income is 0 and J=W at a higher level of national income, actual economic growth and employment. [1]

Using the concept of the circular flow of income, explain how a fall in government spending on infrastructure will affect China's equilibrium level of national income. [4]

- The circular flow of income is used to explain how production of the national output and level of income in an economy is driven by expenditure. When Income = Expenditure = Output, the economy is in equilibrium.
- With a fall in government spending on infrastructure, injections in the form of government spending (G) would decrease. [1m] Hence, withdrawals exceed injection and this will set in motion a process to bring the economy back to equilibrium.
- In a 2-sector economy, the households are both the consumers of goods and services, as well as providers of the factors of production (i.e. land, labour, capital and entrepreneurship) to the firms. The decrease in G would lead to a decrease in production of goods and services. Firms would then hire less factors of production and reduce payment of factor incomes. This further reduces income for households employed in the consumer goods industry, who will spend less additional income on consumption depending on their marginal propensity to consume (MPC). [1m]
- This cycle of fall in spending and re-spending on consumption will continue until the decrease in income becomes negligible and the total withdrawals equal to the reduced initial injections. [1m] At that point, national income will stop falling and equilibrium has been reached.
- The eventual decrease in national income would be a multiple of the initial decrease in G, depending on the size of the multiplier. [1m]

Using the concept of the circular flow of income, explain how 'expanding its budget deficit' (Extract 2) will affect the equilibrium level of national income in China. [4]

- The circular flow of income refers to an economic model which describes the flow of payments and receipts between domestic firms and domestic households. Income flows from firms to households in the form of factor payments, and back again from households to firms as consumer expenditure on domestically produced goods and services (Cd). This circular flow of income can be increased by injections while reduced by withdrawals.
- Injections comprise investment (I), government expenditure (G) and expenditure on exports (X) while withdrawals comprise savings (S), taxes (T) and import expenditure (M). National income is in equilibrium when planned injections are equal to planned withdrawals and there is no tendency for it to change.
- When the Chinese government 'expands its budget deficit', G will increase while T will decrease. This will result in injections exceeding withdrawals (J>W) [1m] which leads to a rise in national income as more goods and services are produced and more households are paid more factor income. With the increase in income, households not only increase their spending on domestic consumption, they also save more (S), pay more taxes (T) and buy more imports (M), which increases withdrawals. [1m]
- There will be successive rounds of induced increase in national income, causing an increase in domestic consumption, S, T and M until withdrawals have risen to equal the new level of injections in the economy. [1m] At that point, national income will stop rising and a new equilibrium is attained in the circular flow where there would be a multiplied increase in national income. [1m]

Macroeconomic Indicators

AD–AS

Using AD-AS analysis, explain the possible relationships between inflation and unemployment. [10]

Introduction

Define inflation: Inflation refers to a sustained and inordinate rise in the General Price Level

Define unemployment: Unemployment refers to a situation where available resources such as labour is not utilised in an economy.

Identify components that affect AD and AS: AD is made up of expenditures from Households (C), firms (I), government (G) and trade (X – M). AS refers to the ability and capacity of an economy to produce goods and services. It is dependent on the quantity and quality of her factors of production (FOP).

Body

Explain the types of inflation

- Demand-pull inflation occurs when the AD rises but the economy does not have spare capacity to meet the rise in demand. This is illustrated by a rightward shift in the AD curve near or at the vertical section of the AS curve
- Cost-push inflation occurs when the cost of production rises. This could be due to rise in domestic costs or the rise in the cost of imports. Such a situation is illustrated by an upward shift in the horizontal section of the AS curve

Explain the types of unemployment

- Cyclical unemployment occurs when the AD is too low vis-à-vis the capacity of the economy to produce. In such a situation, the AD is at the horizontal portion of the AS curve, or has fallen to those levels
- Structural unemployment occurs when unemployed workers are unable to find suitable jobs because they lack the required skills due to occupational immobility or are geographically immobile
- Frictional unemployment refers to a situation where unemployed workers are in transition to another job or are looking for a more suitable jobs. Such unemployment are voluntary and temporary in nature.

Explain inverse relationship between DD-pull inflation and cyclical unemployment

- As AD rises close to the vertical portion of the AS curve, cyclical unemployment is reduced. However, if the AD continues to shift rightwards, there will be DD-pull inflation even as cyclical unemployment falls. Thus, there is an inverse relationship between DD-pull inflation and unemployment

Explain inverse relationship between DD-pull inflation and structural unemployment

- As AD falls, cyclical unemployment is likely to rise. If the unemployed is unable to find suitable jobs that match their ability (ie. mismatch of skills or occupational immobility), these group of unemployed may persist, leading to a rise in structural unemployment. This is particularly so if the fall in AD is due to a loss of comparative advantage

Explain direct relationship between cost-push inflation and cyclical unemployment

- When there is cost-push inflation, the horizontal portion of the AS curve shifts upwards, resulting in a rise in GPL
- Economies with little natural resources and poor economic structure may face domestic cost pressures coming from rising rentals or face imported cost pressures if it is highly reliant on imported raw materials
- As the GPL rises, firms cut production resulting in unemployment.
- Thus, there is a positive relationship between inflation and unemployment.

Explain the direct relationship between cost-push inflation and structural unemployment

- As output falls due to a rise in the cost of production, the unemployment may become structural if there is occupational immobility.
- The inability of the unemployed to retrain themselves, or find themselves ill-equipped to take up jobs in other industries will lead to structural unemployment

Explain no relationship between inflation and frictional unemployment

- Frictional unemployment is voluntary and is not directly dependent on the state of economy.
- It is affected by the level of information in the economy on job opportunities. Improved knowledge of available job opportunities will help alleviate the temporary loss of jobs as such workers are able to transit between jobs faster. Hence, there is no relationship between inflation and this particular type of unemployment

<u>Conclusion</u>

Depending on the types of inflation and causes of unemployment, there may be a direct or indirect relationship between these two objectives. The relationships would also be dependent on the state of economy and nature of economy.