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ECONOMICS

Higher 2

Syllabus 9570

Examiner's Report

Year 6 Preliminary Examination 2023

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ECONOMICS

Y6 H2 Preliminary Examination 2023

Paper 9570/01
Paper 1

Question 1 The Cotton Market

(a) (i) With reference to Figure 1, identify the year in which cotton prices rose the most. [1]

Cotton prices rose the most in 2021.

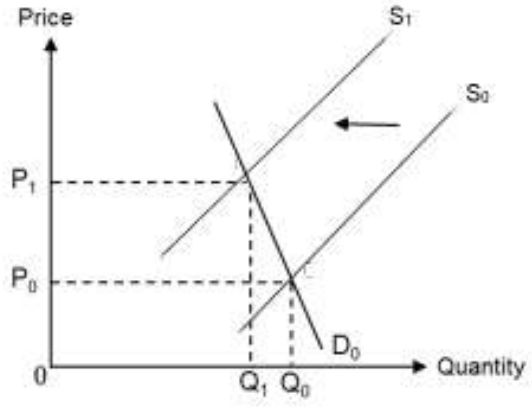
Mark Scheme:
- *Correct identification – 1m*

(ii) Using a diagram, explain the reason for such a change in price. [3]

- Prices rose most significantly in 2021.
- From Extract 1, there were heavy rainfalls in India in 2021. This led to a fall in world supply, causing the supply curve to shift leftwards from S0 to S1, as shown in Figure 1. A shortage results, and prices are bided up.
- From Figure 2, India is the world's second largest producer of cotton. The fall in supply will have a huge impact on the total world supply. In this regard, the huge shortage that ensues will causes prices to rise very significantly in 2021.

- ***Alternative Approach:*** Demand for cotton is price-inelastic as it is an essential input for clothing and furniture. As shown in Figure 1, the price is likely to rise more than proportionate from P0 to P1 compared to the fall in equilibrium quantity from Q0 to Q1.

Figure 1: World Market for Cotton



Mark Scheme:
- *use of case evidence to explain fall in supply - 1m*
- *justify using either PED or Figure 2- 1m*
- *diagram to show shift in supply curve - 1m*
- *No brief adjustment process - Max 2 m*

(b) Explain whether the use of subsidies can help the US develop comparative advantage in cotton production. [5]

- Comparative advantage in cotton production means the country can produce cotton at a lower opportunity cost i.e. less of another good is foregone. Comparative advantage is dynamic and can be changed with government policies or with changes in quantity or quality of resources.

Thesis:

- As the US subsidises cotton production, its supply rises - causing prices to fall. But this 'artificial' reduction in price has nothing to do with improving comparative advantage
- Comparative advantage may be developed if the firms were to use the excess profits arising from the subsidies or from the rise in quantity demanded for exports (due to fall in price) to invest in research and development. This may facilitate the development of new technology and lead to better production processes and even cultivation that uses less water and land. The subsequent fall in MC and AC for firms leads to a fall in production cost for the US and allow it to gain comparative advantage in cotton production.
- From another perspective, if the subsidies by the government are directed towards firms' R&D efforts, the effect on comparative advantage can be more effectively enhanced.

Anti-thesis: [any 1 idea]

- **Idea 1:** US does not have a comparative advantage hence the need for US to subsidise in the first place – reason being that it may lack the amount of arable land and conducive climate as compared to India. Moreover, cotton production seems to be labour-intensive.
    - In Extract 2, in India there are '5.8 million farmers, the majority of whom are small-scale farmers cultivating land less than 2 hectares in size'. In this regard, US may be unable to compete in cotton production, given that its wages are much higher due perhaps to a smaller pool of unskilled workers and farmers.
- **Idea 2:** With huge government subsidies, firms are less likely to have the incentive to find their own ways to be cost-effective. Over the years, they are likely to be X-inefficient - operating at a point above their LRAC curve. Moreover, they are less likely to have the incentive to engage in process innovation to reduce costs. As a result, the higher cost of production will not allow the US to develop comparative advantage.

Synthesis/Judgement:

- All things being considered, subsidies are unlikely to help the US develop comparative advantage - even into the long run. From Extract 2, the US has been subsidising cotton production way before 2007 and the size of the subsidies seems to have increased – accounting or half or more of a grower's cotton revenue.
- A need for subsidies for such a long period of time simply shows that the US does not and will not have comparative advantage. Perhaps, the US may have other reasons for continuing cotton production - reducing reliance on other countries being the reason – since cotton is an essential input.

Mark Scheme

- *Thesis- 2m*
- *Anti-thesis - 2m*
- *Synthesised Conclusion - 1m*
- *No reference to case material - Max 3*

(c) With reference to Extract 3:

(i) Explain how the pandemic is 'potentially more damaging' for clothing boutique businesses than food businesses. [3]

- Extract 3 states that 'the consumption of apparel is more income responsive than the consumption of food commodities. This means that apparel has a higher YED value.
- Reason for difference in YED value: While people need food for survival, they may not need new apparel as much especially in times of trying economic circumstances.
- It is also implied in Extract 3 that the pandemic may have led to a fall in incomes, causing the demand for normal goods like apparel and food to fall.
- The fall in income is likely to cause the demand for apparel to fall more than the demand for food – given its higher YED value. The larger fall in demand will cause the total revenue for clothing boutiques to fall – as equilibrium price and quantity decrease more significantly. This thus has a more damaging effect.

Mark scheme:
- *1 m for explaining and justifying YED value*
- *1 m for linking fall in income to fall in demand/AR*
- *1 m for examining effect on TR/profits*

(ii) Given the market structure which clothing boutique firms operate in, discuss whether measures to increase revenue are better than cost-cutting measures to ensure the survival of these firms. [8]

Requirement:
- ***1 Revenue and 1 Cost strategy***
- ***Thesis (how it works) and AT (limitation) for each measure***

Introduction:

- Market structure is likely monopolistic competition. Extract 3 stated there are 178,366 clothing boutiques in the US and this is possibly representative of the market structure around the world.
- The industry is mostly likely characterised by low entry cost as the start-up cost and rental is relatively lower than -for example- to set up an airlines. It is also rather low-technology in nature in that it is just about the purchase of clothing and the know-how of making clothing.
- With such low entry barriers, the firms are only able to make LR normal profits. This poses a constraint on the strategies they can use to survive.
- As stated in Extract 3, the firms are facing harsh conditions of rising cotton prices which affect MC and AC as well as uncertain demand due to falling incomes which threaten to reduce AR.
- To survive in the industry amidst such adverse conditions, the firm have to make at least normal profits in the LR where AR=AC. In the SR, insofar as the AR>AVC, they can still continue to operate despite the loss.

The table below shows some strategies that can be used. Some strategies do increase revenue and reduce cost at the same time.

Revenue Strategies
1. **increase range of apparel to include non-cotton apparel; or even sell 'budget line of clothing' which may be inferior goods.** *[This can also be used as a cost strategy]*

It has been suggested in Extract 3 that firms should 'optimise product mix'. And firms are replacing cotton clothing with those made from rayon or lycra 'in a bid to retain their customers'.

Thesis:

- Such diversification can increase consumer base to include consumers from different groups. If the diversification is successful, demand or AR of the firm will increase.
- This has the added advantage that the cost of acquiring non-cotton apparel may be lower, which serve to MC & AC, since such inputs are variable factors.
- The selling of budget line of clothing aka 'inferior goods' may work fine since the pandemic may have caused a recession and a fall in incomes.

Anti-Thesis:

- difficult to gauge consumer preference – whether they prefer cotton or are more inclined towards wearing clothing which uses sustainable inputs. As a result, the impact of AR is uncertain.
- moving towards offering a 'budget clothing' may alienate existing consumer base. Much depends on the image the boutique has projected and whether it caters to high-end consumers or people from all income groups. The effect on AR may be indeterminate, as it hinges on the loss in old clientele vs the ability to win over new consumers. A new consumer base does take time to build.
- Moreover, as mentioned in Extract 3, cost of acquiring non-cotton fabric has been rising due to rising demand as firms seek to 'increase the quantum of such collections in their offerings'. In this regard, the rise in MC and AC will erode the firms' profits. This, coupled with uncertain demand, is likely to make the strategy less successful in ensuring survival.

2. Use online shopping platforms to increase customer base

Thesis:

- allows the firms to overcome issue of limited demand due to physical constraints especially if they are small firms with only one outlet.
- the customer base will be a multiplied increase since anyone who uses a shopping app can buy clothing from the said store. This therefore increases AR for the firm.

Anti-thesis:

- there remains the problem of 'how to stand out' amidst the huge array of firms in the platform.
- prices may need to be even more competitive than physical store since there are many competing firms and reputation needs to be built slowly based on positive feedback
- incur platform fees
- need some degree of advertising and promotion but this is constrained by lack of long run abnormal profits

3. Advertising and Promotion

Thesis:

- Since such firms operate in a monopolistically competitive market structure, they can only do <u>small-scale advertising</u> such as using flyers or banners to promote their new sustainable line of clothing. Theoretically, these forms of promotion may increase AR.

Anti-thesis:

- However, the effects are often limited since the efforts do not reach out to a 'mass audience'. The inability to advertise intensively on television or social media due to lack of past supernormal profits is thus a hindrance to the effectiveness of such efforts.

Based on any one of the strategies above:

When AR for the firm rises, as shown in Figure 2, the AR curve shifts from AR1 to AR2. With a rise in demand, the profit-maximising price and output rise to P2 and Q2 respectively. The short run profits would have risen to P2bcC2, thereby ensuring the survival of the firms in the SR.

However, the SR supernormal profits will attract the entry of new firms or will entice other firms to copy the revenue and cost strategies of the firms. Nonetheless, as long as the firms are still making LR normal profits, they can still survive.

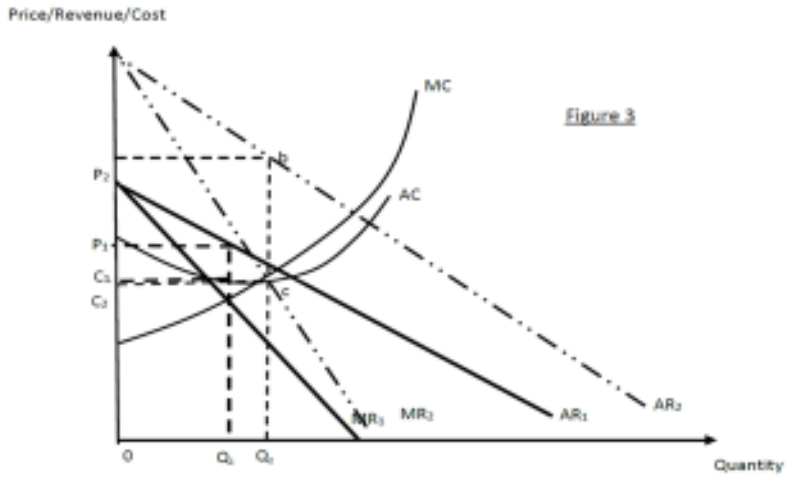


Figure 3

Cost Strategies

1. Move operations online with own website [can be couched as a revenue strategy]

Thesis:

- Given the difficulty and uncertainty in increasing demand and revenue, sometimes reducing cost may be the better option. Moving operations online can allow the firm to reduce its fixed cost of rental of premises and variable cost of labour and electricity usage. This will lead to a fall in MC and AC
- This may have the added benefit of increasing the consumer base and AR.

Anti-thesis:

- in the interim, firms may face a huge fall in profits due to lack of 'foot-fall' business'.
- it takes time to build reputation and a regular clientele.
- need some form of advertising and promotion to 'announce its presence online'.

2. Banding

Thesis:

- In a monopolistically competitive market structure, firms do not enjoy internal economies of scale as output is very limited. By banding and working collectively to purchase fibre as well as ready-made clothing, they may have better bargaining power and possibly get discounts on such bulk purchase. This serves to reduce the LRAC of the firm. As the long run time period is made up of many short run time periods, the SRMC of the firm also falls. Such an effect is akin to the firm itself enjoying internal economies of scale. But the firms are still operating as separate entities.
- Moreover, the firms can do joint promotions and advertising which was perhaps not possible as an individual strategy due to lack of past supernormal profits. This has the effect of increasing AR for the firms.

Anti-thesis:

- even with banding, it may be difficult to mitigate huge rise in cost due to surge in cotton and synthetic fibre price.
- Banding may be difficult in the purchase of ready-made clothing as the industry does thrive on the need for product differentiation i.e. firms want the clothing they sell to be different from others.

3. Strategic withdrawal from unprofitable areas as suggested in Extract 3

- Firms with several outlets can seek to shut down outlets with poor business. These may be locations with low foot-fall or locations near poorer neighbourhoods. They can also reduce stocks of clothing that are not saleable.
- These serve to reduce cost. Shutting down outlets reduces rental cost – a fixed cost and variable cost such as wage cost – a variable cost. Reducing stocks also reduces variable cost of production.

Based on any one of the strategies above:

As shown in Figure 3, the fall in MC and AC will lead to a new profit-maximising equilibrium. The price would have fallen to P1 and quantity risen to Q1. As a result, profits rise to (P1AC1 X 0Q1).

One key problem operating in such a market structure is that the extent of imperfect information is limited. Soon other firms will copy the cost strategies, thereby giving no firm an edge over others.

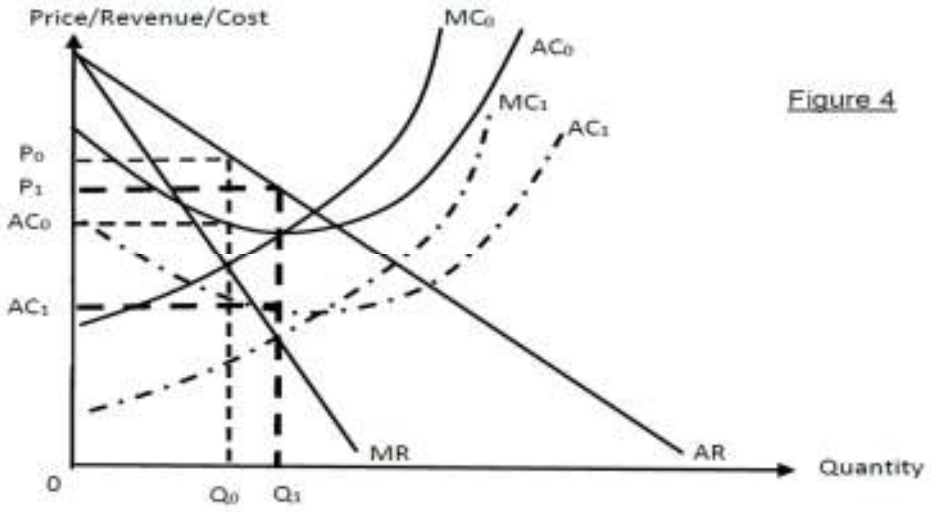


Figure 4

Conclusion and Evaluation

- *Constraint of market structure:* Clothing boutique businesses face huge constraints both in terms of use of revenue and cost strategies. They lack past supernormal profits to boost revenue through advertising or even expand range of apparel. Where cost is concerned, they lack the bargaining power to reduce cost of purchasing apparel from the manufacturers. And banding to purchase ready-made may not be feasible since the industry thrives on product differentiation.
- *Comparison of strategies:*
  - On the one hand, revenue strategies may be better than cost strategies since there are very limited ways firms can use to reduce cost as they already employ very few workers and there is very little scope to raise productivity given their small size.
  - Conversely, in some ways, cost strategies may be better since the nimbleness and adaptability of small enterprises allows them to reduce manpower needs and reduce the amount of stocks more easily compared to the bureaucracy and lack of spontaneity of large enterprises.
  - Such adaptability also means they can switch more easily to 'budget series of clothing' aka inferior goods to tap the falling incomes of consumers. In that case, revenue can be boosted.
  - A point to note is that within the clothing boutique chains, there are larger enterprises with chain stores that may survive better.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *No theoretical framework/Descriptive and journalistic writing* ▪ *Meaning of question not properly grasped* ▪ *Did not use correct theoretical framework i.e. MR-MC analysis* ▪ *Major conceptual errors* ▪ *Answer mostly irrelevant or inaccurate.* o *did not specify type of cost and revenue strategy* o *used DD-SS framework instead of MR-MC* o *identified oligopoly as the market structure*	***1 - 3***
L2	▪ *Evidence of use of theoretical framework and analysis linked clearly to how the 2 measures work* *Max 4:* ▪ *no T or no AT for both measures* ▪ *no reference to mkt structure in discussion of strategies* ▪ *strategies not linked to MPC mkt structure eg. collusion and predatory pricing*	***4 - 6***
Evaluation		
E1	*A judgement with some substantiation but not well supported with economic analysis/case context*	***1***
E2	*Insightful judgement about the relative merits/demerits of each measure*	***2***

(d) In view of the problems arising from cotton production, discuss the extent to which conflicts in policy objectives may arise when a government intervenes in the market to achieve an efficient allocation of resources. [10]

Introduction:

- Efficiency in resource allocation is achieved when MSB=MSC.
- Policy objectives refers to the 4 macro-economic objectives and 2 micro-economic objectives of efficiency and equity in distribution. In this context, as the government achieves efficiency in resource allocation, the concern is about **whether this conflicts with the other policy objectives.**
- From Extract 4, negative externality in production has led to market failure, as there is an overproduction of cotton causing MSC>MSB, and the governments have intervened to achieve an efficient allocation of resources through the use of taxes on fertilisers and pesticides, as well as encouraged the switch to organic cotton. One other possible policy is through r&d.

Development:

Thesis: Intervention leads to conflict with policy objectives

Briefly on how the market failure is corrected:

Explain, using a diagram, how a tax on pesticides & fertilisers corrects the market failure

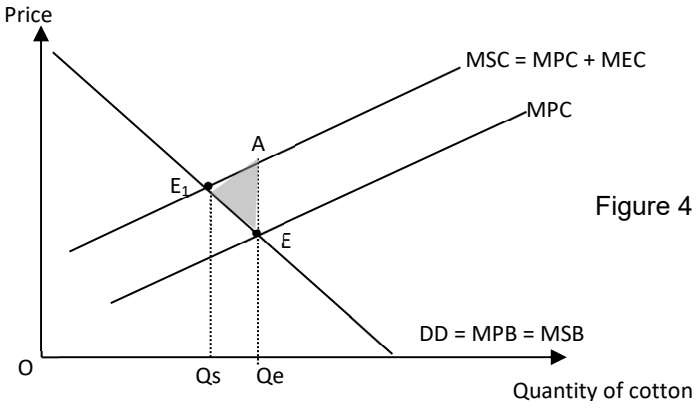


Figure 4

- As shown in Figure 4, the imposition of tax increases the production cost of farmers. This forces farmers to internalise the external cost of cotton production. They are forced to reduce supply, and the supply curve shifts from MPC to MSC. Theoretically, the social optimal level of output will be attained and the deadweight welfare loss of area E1AE is eliminated.

Thesis: Conflict 1 – Unemployment/Failure to achieve Inclusive Growth

- As the output of farmers falls from Qe to Qs, the demand for labour as a factor input falls. This can lead to a significant rise in unemployment in a case where the cotton industry is an important industry that contributes much to real GDP and jobs.
- This is likely the case in countries like China and India. Figure 2 shows these countries to be the world's largest and second largest producers of cotton respectively. Jobs are likely lost in cotton farming and cotton-related industries. From Extract 2, 'in India alone, cotton production sustains the livelihoods of 5.8 million farmers'. So a fall in output will mean that livelihoods will be lost.

- Moreover, in such countries that produce cotton, there are likely to be cotton-related industries. Since cotton is an essential input in the production of clothing and furniture, these other industries will be adversely affected with dire consequences on employment.

- The discussion here can also be linked to the government's failure to achieve inclusive growth or worsening of income inequality. Farmers (who are in the lower-income group) face a double whammy of a fall in income and a rise in indirect tax payments. From Extract 2, In India, 'the majority are small-scale farmers cultivating land less than 2 hectares in size. These farmers live below the poverty line. Many are deeply indebted from the high-interest loans they are forced to obtain from loan sharks to buy fertilisers'.
- With the indirect tax imposed, the post-tax TR of farmers fall. With a rise in price, the producer surplus which is a proxy for industry profits fall. This compounds the problems faced by the farmers.

Thesis: Conflict 2 – Effect on Balance of Trade and real GDP

- For major cotton producers like China and India, the rise in cotton price due to the tax may cause them to lose comparative advantage. As consumers in the world switch to other cotton-producing countries, the fall in demand may cause total revenue from exports to fall. Since cotton is an important export, the balance of trade will be adversely affected, assuming the change in total import expenditure is constant.
- A fall in net exports causes a fall in AD, and works through the reverse multiplier to cause real GDP to fall by more than proportionate. As the numerous rounds of fall in income and spending, many indirect jobs will be lost.
- *Discussion can be linked to AD-AS diagram.*

Anti-Thesis: Intervention does not lead to conflict in policy objectives

Issue 1: Intervention helps for sustainable growth and equity

- *On sustainable growth:* From Extract 4, 'cotton needs a lot of water to thrive. Globally, cotton consumes 100 billion gallons of water every year.' To a large extent, when cotton production decreases, there will be a fall in demand for water for cotton production. This alleviates the chronic water shortage caused by rising demand and falling supply. The water resource – being an essential input for most production processes - can then be used for other crops and for other industries. This helps prevent the productive capacity of the economy from falling – and is thus a key to sustainable growth.
- The discussion here can be linked to the effect on AS and future growth due to economies pre-empting the fall in productive capacity.
- Moreover, the quantity (and quality) of clean water and arable land is maintained with the fall in demand and with less pollution – with positive effects on sustainable growth.
- It can also be argued that clean water maintains the health of labour and less pesticides maintains the health of farmers.
- *Below are the specific effects of the measures:*
    - Use of indirect taxes: fall in output leads to fall in demand for water and land, and thus allow for sustainable growth as these resources can be used for other areas and for future generations. Clean water and arable land that has not been polluted are essential for production in other areas.
    - Use of r&d: Similarly, if the r&d leads to better production methods that use less land, water as well as pesticides, there will also be also be a fall in demand for water usage.
    - Switch to organic cotton: When a government subsidises organic cotton, the supply of conventional cotton will fall and the supply of organic cotton will rise, since they are in

competitive supply. Organic cotton uses less pesticides and water – with positive effects as explained.

<u>*On equity in distribution:*</u> If the chronic shortage of water is alleviated due to falling demand for water, this keeps the price of water from rising. The lower-income group will benefit as water is essential for survival.

Issue 2: Use of R&D may create jobs

- In addition, theoretically, with better production methods, there can be a rise in supply of cotton. This rise in equilibrium output will lead to a rise in derived demand for labour. This is unlike the imposition of an indirect tax which reduces output and jobs.
- However, this based on the assumption that the industry is still decidedly labour-intensive and the r&d is geared towards better varieties instead of switching to capital-intensity.
- The lower price can also be linked to effects on trade balance and growth.

<u>Conclusion/Evaluation:</u>

- All in all, given the context in Extract 4 on the use of indirect taxes, conflicts are likely to arise especially with regards to unemployment.
- But the extent of unemployment depends on whether cotton is an important industry and its contribution to trade and GDP. From Figure 2, countries like China and India will be more adversely affected than countries that like Pakistan.
- Much also depends on the type of intervention used. As a case in point, r&d – if successful, is less likely to cause conflicts with other policy objectives compared to taxes.
- ❖ But taxes are a quick-fix solution to correcting inefficiency whilst r&d takes time to yield results. So a government may be more likely to impose taxes as a short-term solution and this results in conflict with other policy objectives.
- And farmers may be averse to switching to organic cotton given its low yields and low revenue as stated in Extract 4. As a result, benefits linking to sustainable growth may not be reaped.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *No theoretical framework/Descriptive and journalistic writing* ▪ *Meaning of question not properly grasped* ▪ *Did not use correct theoretical framework* ▪ *Major conceptual errors* ▪ *Answer mostly irrelevant or inaccurate.* ▪ *discussion on why free market fails only* ▪ *only used market failure framework to discuss measures and limitations w/o linking to conflicts at all*	***1 - 3***
L2	▪ *Evidence of use of theoretical framework and analysis linked to conflicts in either macro or micro-economic policy objectives* ▪ *Full range of marks not awarded if market failure framework used, but* ❖ *linked only to effect on SOL* ❖ *no reference to case material on measures* ❖ *only T or AT*	***4 - 6***
Evaluation		

E1	▪ *A superficial conclusion /assertion*	***1***
E2	*Insightful and perceptive opinion on whether there will be conflicts* ▪ *can be linked to extent of reliance on cotton* ▪ *type of intervention*	***2 - 3***

Question 2 Singapore and the UK Economy

(a) With reference to Tables 1 and 2:

(i) Identify and explain a possible relationship between Singapore's economic growth rate and its budget balance. [3]

Suggested Answer:

- Table 1: There is a positive relationship between economic growth rate and budget balance.
    - As Singapore's economic growth rate falls, budget position will worsen → fall in budget surplus or budget surplus to a deficit.
    - When EG rate rises, there is a budget position will improve → deficit to surplus.
- With EG, as RNY rises, government's tax revenue rises as more people move into higher income brackets in a progressive tax system → as budget balance is government revenue – government expenditure → T > G → budget surplus.
    - OR when EG rate is rising, government will run contractionary FP as the is no need for the government to spend when the private sector is spending / prevent over-heating → planned budget surplus → T > G → budget surplus
- OR vice versa

Mark Scheme:

- *Identification of the positive relationship - 1m*
- *Explanation of the relationship*
    - *EG → tax revenue OR EG → FP – 1m*
    - *Compare between govt revenue and expenditure that gives rise to the relationship – 1m*
        - *T > G → deficit OR*
        - *Rise in G / fall in T → worsen budget position*

(ii) Explain why the trend in the UK's budget position is a cause for concern. [2]

Suggested Answer:

- Identify trend: Table 2 - UK's has a persistent budget deficit and the budget deficit has increased.
- Elaborate on any cost associated with rising budget deficit:
    - Deficit has to be financed via borrowing → rise in borrowing → government debt
        - needs to be financed via interest payments / decreasing govt spending on healthcare, infrastructure etc.
        - leads to trade-offs in the LR → worsens outcome on the economy → KEI / equity etc.
    - Draw out from reserves → affects business confidence and reduces ability of the country to manage crisis in the future → worsen KEIs
    - Crowding out effect → reduce C/I → decreases effectiveness of FP → impact on KEI

Mark Scheme:
- *Identification of the trend in budget position – 1m*
- *Explain any 1 cost with links to KEI/SOL/Equity– 1m*

(b) (i) Define foreign direct investment. [1]

Suggested Answer:
- Foreign direct investment is the movement of money flows that results in the acquisition of capital such as new plants and equipment, or ownership and control of production facilities in a foreign country.

Mark Scheme:
- *Accurate definition – 1m*
- *Accept the definition in various forms with important key words*

(ii) Explain one factor affecting the inflow of foreign direct investment to the UK. [2]

Suggested Answer:

- Possible factors affecting FDI inflows: economic performance in the UK, costs of production (access to FOPs), tax policies, trade flows etc.
- Explanation of factor with links to profitability:
    - "New border frictions and higher transport costs pose barriers to trade… and FDI flows unlikely to return…", "FDI has retreated since the Brexit referendum"
        - The fall in trade flows with the EU has caused FDI flows to fall, as it will be less profitable for firms to invest and produce goods/services in the UK given that UK has less access to EU markets than before.
        - Or weaker business sentiments due to Brexit has led to fall in expectations of profits
    - "reduced size and diversity of UK's labour pool" / "wage-price spiral"
        - Less labour / talent that FDIs can tap on in the production process. The lack of access to labour may increase the COP in the UK which results in less profitable investments → fall in FDI inflows.
        - OR rise in COP / price instability → weak business confidence → fall in profitability of investment → fall in FDI inflows.
    - Any other factor with use of case material

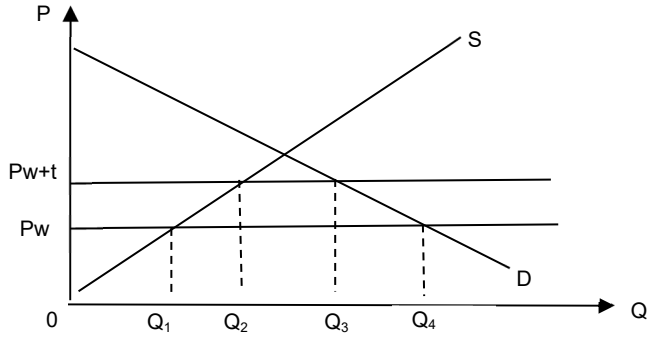
Mark Scheme:
- *Any one determinant of FDI with links to profits – 2m*
- *Lack reference to context of UK – max 1m*
- *Do not accept if students look at interest rate as a determinant of FDI inflow*

(c) With the aid of a diagram, explain how FTA's requirement to lower tariffs on all trade between partners is 'of tremendous benefit' to Singapore's trade. [4]

Suggested Answer:

- Establish the outcome of the question: Singapore's trade → net export value (in BOT or GDP)
- FTA – lower tariffs on all trade between partners → tariff is a tax imposed on imports.

- This will reduce price of Singapore's exports in trade partners' countries from Pw+t to Pw. This will increase Singapore's X-competitiveness in global markets → cause Q of Singapore's X to increase from Q2Q3 to Q1Q4.



Singapore's trade partner - Foreign country

- As Qx increase, export revenue rises → Singapore's trade will improve.
- Technically, lower tariffs will also reduce price of foreign imports in Singapore. But, "we are already very open, imposing duties on only three alcohol products – beer, stout and samsu" → the impact of fall in price of imports in Singapore is unlikely to lead to significant rise in Qm and import expenditure.
- Overall, Singapore's net exports will rise given increase in export revenue and that there will not be significant rise in import-expenditure → "tremendous benefit" to Singapore.

Mark Scheme:

- *Accurate diagram – 1m*
- *Explanation of how the removal of tariffs will increase Singapore's Qx and X with links to the diagram – 2m*
- *Compare rise in X and rise in M → overall impact on trade – 1m*
- *No consideration of impact on M / extent of the benefit / use of case material – max 3m*

(d) Discuss the relative effectiveness of the different approaches to manage inflation in Singapore and the UK between 2021 and 2022. [10]

Suggested Answer:

Students are expected to discuss how Singapore and UK manage inflation through exchange rate policy and interest rate policy and the effectiveness and limitations of each of the policy.

Introduction:

- Both Singapore and UK experienced rising inflation rates from 2021 to 2022.
  - UK – 2.5%-7.9%
  - Singapore – 2.3% - 6.1%
- Singapore adopted ER policy to manage inflation – "Singapore's CB tightened monetary policy for the fifth time in 12 months", "give Singapore dollar a jolt" → appreciation of S$
- UK adoped I/R policy to manage inflation – "pain for interest rate rises to work", "support for further rate rises" → rise in i/r

Body: Discuss the different policy approaches – workings and limitations

Requirement 1: Singapore's approach to manage inflation

T: Appreciation of S$ → dampen inflation (illustrate the effects diagrammatically)

- When MAS appreciates the S$ → dampens cost-push / imported inflation
  - Price of M (in d.c) rises
  - Price of imported finished goods fall → fall in CPI
  - Fall in prices of M-FOP → fall in COP → Rise in AS → fall in GPL → dampens cost-push inflation
  - "supply disruptions causing imported food costs, higher energy prices"
- When MAS appreciates the S$ → dampens DD-pull inflation
  - Price of X (in f.c.) rise → Fall in Qx
  - Price of M (in d.c) falls → Rise in Qm → Fall in Cd
  - Fall in Qx and Rise in Cd → fall in AD → dampens DD-pull inflation
  - "tight labour market" → near full employment
- Extent of tightening is aggressive → "should dampen inflation in the near term and ensure medium-term price stability", projected inflation will fall

AT: Limitations of appreciation of S$ to dampen inflation

- However, the appreciation of S$ will lead to fall in X-competitiveness → Singapore is dependent on X for EG. Hence, there is a limit to how much we can afford to allow S$ to appreciate → limits the extent to which it can dampen inflation.
- Other causes of inflation not effectively managed by ER → domestic factors e.g. tight labour market → wage rises

Requirement 2: UK's approach to manage inflation

T: Rise in interest rates → dampen inflation (illustrate the effects diagrammatically)

- Interest rate → Price of money
- As i/r rises, cost of borrowing increases:
  - higher financing cost for big ticket items → fall in willingness and ability to consume → fall in C of these items
  - number of profitable projects that yield a rate of return (MEI) that is at least equal to the cost of borrowing (i/r) falls → fall in profitability of I → fall in I
  - The fall in AD → fall in GPL → reduce DD-pull inflation
  - Fall in AD → fall in RNY → Bank of England "has to create a recession" → to prevent / reduce the wage-price spiral → "people have to feel the pain for interest rate rises to work"

AT: Limitations of rise in interest rates to dampen inflation

- Root causes not directly managed by rising i/r → "energy prices, food prices, worker shortages".
- Interest-elasticity of C and I → Households and firms may not be responsive to interest rate changes → "does not feel the pain"
- "balancing act between inflation and recession is getting worse" → given that UK is having a recession, there is high tradeoff when i/r rises → this may limit the extent of i/r rises which will limit the extent of effectiveness.

Conclusion and Overall Evaluation: look out for 2 points of evaluation

- Judgement: Singapore's approach to inflation seemed to be more effective than the UK given that inflation rate is lower in Singapore (6.1%) than in the UK (7.9%) in 2022.
- Singapore's ER policy can also better target the root cause of inflation (external factors) than UK's i/r policy.
- Singapore's ER policy can address both dd-pull and cost-push inflation while UK directly solves dd-pull inflation only
- Singapore's economic performance is stronger than UK (lower UE rate) → allows for greater fall in S$ as compared to UK's fall in i/r?
- Other points considered (after the above):
    - Other limitations → desirability/feasibility
    - Suggestion of other policies if the effectiveness is limited? Improvement in policy?

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *No or weak theoretical framework and/or glaring conceptual errors – NO AD/AS framework.* ▪ *Lack of scope of discussion – only R1 or R2* ▪ *Insufficient depth of elaboration – points are stated and not explained.* ▪ *Lack of links to reducing inflation*	***1 - 3***
L2	▪ *Good scope of discussion – R1 and R2* o *Both R1 and R2 only addressed dd-pull inflation → max 6m* ▪ *Good depth of analysis – use of AD/AS framework.* ▪ *Balanced answer – with well-developed thesis and anti-thesis.* o *One-sided answer that **with no limitations of policies – max 5m*** ▪ *Good links back to the question – on reducing inflation.* ▪ *Weak choice of policy suggestion – FTA / moral suasion – max 4m* ▪ *Lack use of case material – max 4m*	***4 - 7***
Evaluation		
E1	▪ *An unexplained conclusion /judgment or mere repetition of points discussed – whether SG or UK managed inflation more effectively – state 1 point of comparison to conclude*	***1***
E2	▪ *A judgment/conclusion supported by reasons / economic analysis – explanation of the reason/s why SG or UK managed inflation more effectively.*	***2 - 3***

(e) Discuss whether greater labour inflows would lead to inclusive growth in Singapore.
[8]

Introduction:

- Inclusive growth – is the rate of growth that is sustained over time, and is broad-based across sectors, and creates opportunities for the majority of the country's population. It is economic growth that does not lead to worsening income inequality.
- Labour inflows → Figure 3: Singapore's labour force has been augmented by PRs and non-residents which includes employment pass holders, various work permit holders and migrant workers.

Body: Discuss the effects of labour inflows on inclusive growth

<u>Thesis: Greater labour inflows lead to inclusive growth</u>

1. **Explain impact on sustained EG (illustrate diagrammatically)**
   - Rise in labour inflows increases the quantity of labour in Singapore.
   - Rise in quantity of labour leads to a rise in the quantity of factors of production → increase in productive capacity → rise in AS
   - Depending on the type of labour:
     - Inflow of low-skilled labour → increase in SS of labour → fall in wage rates → fall in COP → rise in AS
     - Inflow of high-skilled labour → skills transfer → rise in productivity → rise in productivity capacity → rise in AS
   - As quantity of labour in Singapore rises → increase in consumption as spending on food, rental, transport, healthcare, leisure activities rises → increase in AD
   - The increase in AD and AS will lead to actual and potential EG → sustained EG
     - The rise in C will lead to a more than proportionate increase in AD and RNY given the k-process
     - The increase in Yf allows for non-inflationary growth as AD rises as Singapore has a "tight labour market", and inference from UK → "policies on workers… less competitive pressures… bring down inflation"
   - Infer from Ext 7: "shrinkage in immigration…. could do lasting damage to the UK economy"

2. **Explain impact on inclusive growth**

   Implications on employment
   - As AD and AS rises, national output increases → jobs are created → creates employment opportunities in many sectors.
   - Alternatively, the inflow of labour attracts FDIs into Singapore as there is a pool of labour to tap on → "size and diversity of labour pool" → which can create employment opportunities for all in Singapore.
   - Table 1 and Table 3
     - In 2019 and 2022 → positive labour inflows → accompanied by positive EG rates and falling Gini coefficient
     - In 2020 → falling labour inflows → EG is negative and gini coefficient rises (before govt int)
   - With EG → HH spend more on healthcare/edu → can improve social mobility?

   Implications on redistribution
   - Infer from extract 7: "EU immigration tailed off… reduced size and diversity of labour pool…implications for fiscal sustainability."
   - Greater labour inflows → EG → rise in tax revenue → greater ability of the government to redistribute income
   - Acceptable if the higher tax revenue is linked to spending on upskilling / healthcare subsidies etc.
   - Figure 2: Gini coefficient falls with government transfer and taxes

<u>Anti-thesis: Greater labour inflows may not lead to inclusive growth</u>

1. **Explain impact on income inequality → non-inclusive growth**
   - Rising wage inequality
     - Inflow of low skilled labour → fall in wages rates / stagnant wages
     - Inflow of high skilled labour → DD for these workers remain high → wage rates rises
     - Thus, EG is accompanied by rising income inequality

- Greater labour inflows → greater competition for jobs → rise in unemployment in certain sectors
    - Inflow of labour → rise in SS of f.labour → wage rates fall
    - DD for domestic labour falls → wage rates fall (equalize)
    - Fall in quantity of domestic labour hired

2. Explain possible impact of labour inflows on effects on lower income households

- Competition for resources → higher prices for goods and services etc. housing, healthcare → reduce affordability → inequitable distribution

Conclusion and Overall Evaluation:

- **Judgement:** Greater labour inflows is likely to lead to inclusive growth in Singapore to the extent that it will allow the country to achieve sustained growth which is otherwise constrained by low population growth (table 3) and creates job opportunities for Singaporeans/PRs in the various sectors.
- While certain sectors may be made worse off by inflow of labour → other policies such as progressive wage structure ensure that wages do not fall. Also, government transfer and taxes reduce the extent of income inequality (Figure 3).
- Whether or not greater labour inflows achieves inclusive growth depends on:
    - Type of labour inflow → degree of substitutability
    - Accompanying policies?
    - What else?
- Any other insightful points.

Mark scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *Glaring conceptual errors / not addressing the question.* ▪ *Lack of use of economic framework – no use of AD/AS to explain the impact on EG* ▪ *Lack of scope of discussion – only looked at concept of "inclusive" OR "growth" and not both.* ▪ *Lack of depth of analysis – points are stated and not explained.*	***1 - 3***
L2	▪ *Good scope of discussion – concepts of "inclusive" and "growth" are both addressed* o *If no effects on AD – max 5m* ▪ *Good depth of analysis with use of the AD/AS framework with clear explanation of how labour inflows can lead to sustained EG.* ▪ *Balanced answer – with well-developed thesis and anti-thesis.* o *One-sided answer – only explained T or AT – max 4m* ▪ *Good use of case material – if lack reference to case material completely → max 4m*	***4 - 6***
Evaluation		
E1	▪ *An unexplained conclusion /judgment or mere repetition of points discussed → judgement without valid substantiation, generic without application to SG context*	***1***
E2	▪ *A judgment/conclusion supported by reasons / economic analysis → explanation of the judgement e.g. SG context, accompany policies*	***2***

Paper 9570/02
Paper 2

Question 1

Singapore's property market prices rose 10.6% in 2021 and 8.6% in 2022. Construction delays, manpower crunch and supply chain bottlenecks have contributed to the rising prices. In response, authorities raised buyer's stamp duty, tightening the maximum loan limit while ramping up supply of public housing of BTO.

(a) Explain the persistent shortage in the public housing market despite the rise in price. [10]

(b) Discuss whether demand or supply-side measures are more appropriate in cooling down the residential property market. [15]

Part (a)

Introduction:

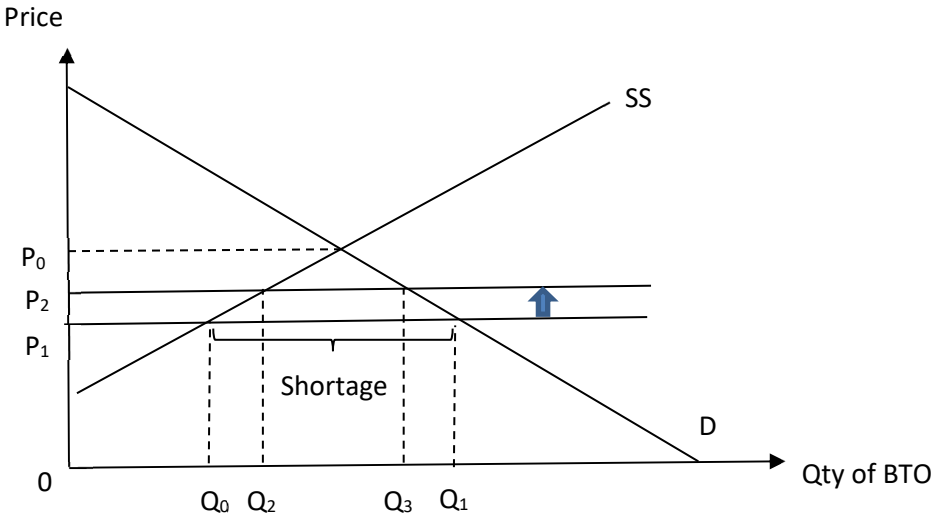
- A shortage of BTO occurs when quantity demanded exceeds quantity supplied at the prevailing price.
- Despite the rise in price of BTO, the shortage might still exist as the existing price of BTO is still below market clearing price.
- The persistent shortage in the BTO market despite the large increase in price could be explained by the demand, supply and elasticity concepts.
- Demand factors: Rising income (YED>0), supply factors: BTO delays, manpower crunch/supply chain bottlenecks→ increase COP. PES<1: long time taken to build BTO.

Body:

1. Explain how BTO prices are set by the government to ensure affordability of public housing.

- In a free market, where BTO prices are determined by the market demand and supply with market clearing price at P_0, there is no shortage.
- However, due to public housing being a basic necessity and Singapore government having to ensure public housing is made accessible and affordable to households, the government sets the price of housing at P_1 below P_0. This creates a shortage of Q_0Q_1, since at prevailing price P_1, quantity demanded of Q_1 exceeds quantity supplied of Q_0.

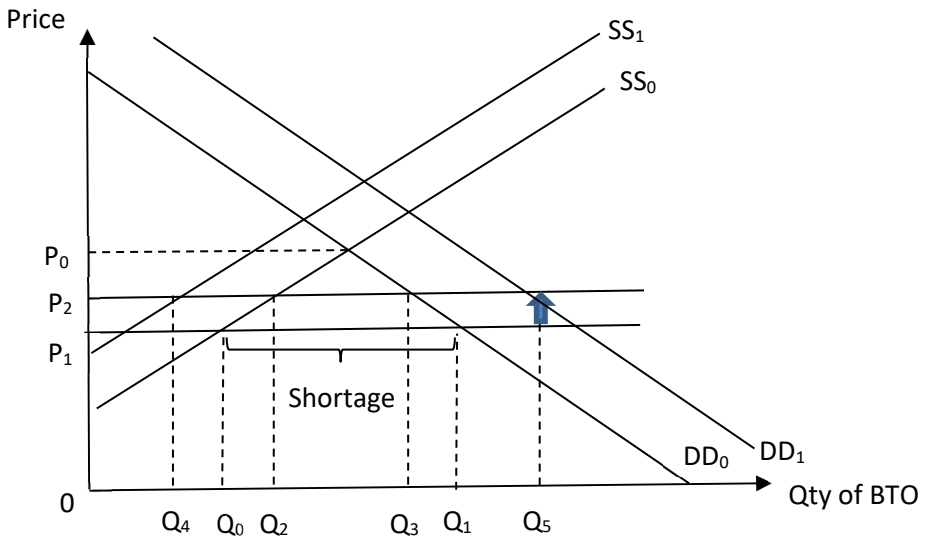
Fig 1: Market for BTOs – Shortage exists even with price increase



2. Explain why BTO shortages still persist even after the increase in BTO prices.

- Despite the increase in price from P_1 to P_2 as shown in Fig 1, P_2 is still below market equilibrium price P_0. At price P_2, a (smaller) shortage (Q_2Q_3) still exists as quantity demanded still exceeds quantity supplied.

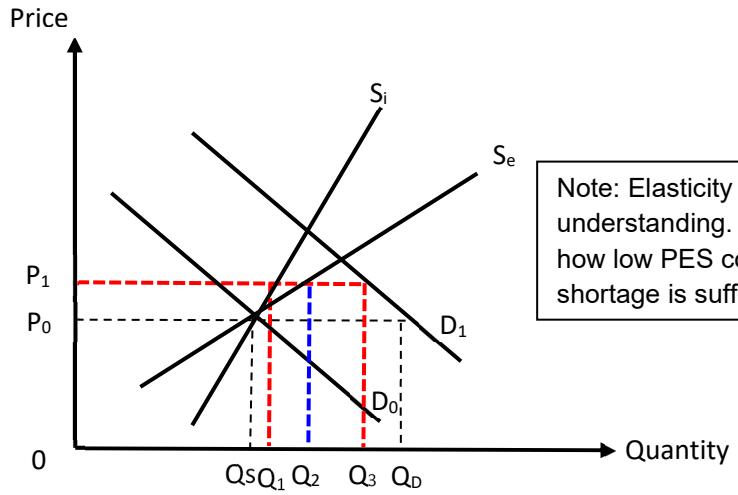
Fig 2: Market for BTOs – combined effect of an increase in demand and fall in supply



1. Increase in demand for BTO due to increase in population size/rise in price of private property
   - Demand for BTO may have increase due to the increase in population size from 5.4 million to 5.6 million from 2021 to 2022. Permanent Residents (PR) citizenship grew by 6.3%.
     With a higher population and increase in citizenship, there will be an increase in demand for public housing as it is a basic necessity.

OR

- As the prices of private residential property rises significantly from 2021 to 2022, consumers switch to buying BTO as substitute in consumption. This increases the demand for BTO.
    - From Fig 2, there is an increase in demand from DD_0 to DD_1.



Note: Elasticity diagram is to aid your understanding. Worded explanation of how low PES contributes to persistent shortage is sufficient.

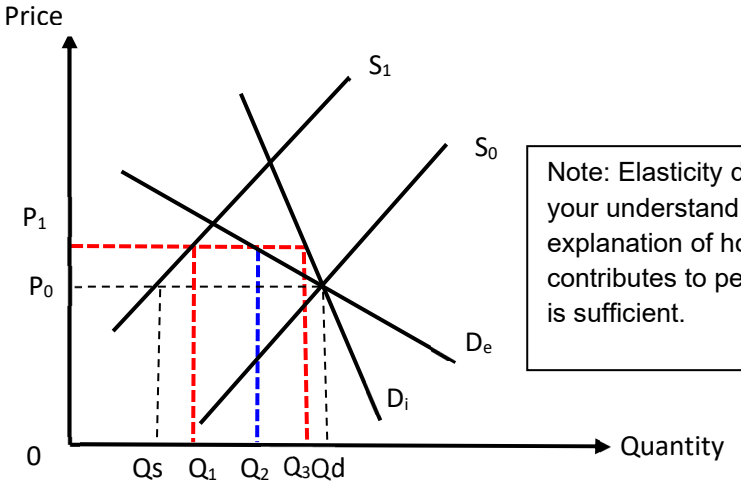
Application of elasticity concepts: Increase in demand + PES<1:

Fig 3: Market for BTOs – increase in demand and price elasticity of supply

- In addition, with the continuous disruptions to production and delivery of the BTOs, the supply for BTO is likely to be price inelastic due to a lack of capacity where firms cannot respond readily to price. It also takes time for developers to place tenders for land and start construction of BTO.
- In Fig 3, with the increase in demand from D_0 to D_1, the increase in quantity supplied will less than proportionate to the increase in price, causing the shortage to be larger at each price, illustrated by Q_1Q_3 compared to a situation if the supply is more price elastic, where the shortage at price OP_1 is illustrated by the Q_2Q_3, i.e. where firms can respond more readily to the rise in price of BTOs.

2. Fall in supply of BTOs due to manpower crunch/ supply-chain disruptions
    - The supply of BTOs has fallen significantly as the producers are faced with supply chain disruptions such as manpower crunch and shortage of building materials, likely due to the COVID-19 pandemic. The manpower crunch occurred as many workers who are employed in constructing BTO were prevented from returning to work. Many of them were told to stay at home or were stationed at quarantine areas prior to their return to work from the lockdowns, with BTO construction workers being held back for quarantine and other safety reasons, there is a fall in the supply of BTO due to the supply shock and fall in production capacity.
    - Supply chain bottlenecks in building material/manpower crunch has also led to a shortage of key factor inputs required for the construction of BTO, thus increasing the cost of production and decreasing the supply of BTO as illustrated by the leftward shift in supply from SS_0 to SS_1 in Figure 2.

Application of elasticity concepts: Increase in demand + PES<1: Decrease in supply + PED<1



Note: Elasticity diagram is to aid your understanding. Worded explanation of how low PED contributes to persistent shortage is sufficient.

Fig 4: Market for BTOs – fall in supply with price elasticity of demand

- In addition, the demand for BTO is likely to be price inelastic because of the high degree of necessity as public housing is a basic necessity to provide a shelter for the citizens. Hence, the quantity demanded for BTO tend to be less responsive to price rises as illustrated by the demand curve labelled D_i.
- From Fig 4, with a fall in supply of BTO from S_0 to S_1 causing a rise in price of BTO, fall in quantity demanded tend to be less than proportionate. Hence the shortage will tend to be larger at each price illustrated by Q_1Q_3, compared to a situation if the demand is more price elastic as illustrated by the shortage of Q_1Q_2, i.e., where consumers respond to the rise in price of BTOs by buying proportionately less.
- According to the demand and supply analysis, with the simultaneous increase in demand and fall in supply of BTOs, the price of BTO will increase to eliminate the shortages.

3. Explain why price adjustment did not remove shortages of BTOs.

- As shown in Figure 2, even with an increase in the price of BTO, a shortage of Q_4Q_5 still exist where the extent of shortage is even larger now with the increase in demand and decrease in supply of BTOs. This shortage will persist as long as quantity demanded exceeds the quantity supplied at the prevailing market price.

Conclusion

- With an increase in price, it is still not sufficient to eliminate the shortage of BTOs, due to the high demand and fall in supply, combined with the effects of price inelastic demand and supply.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	– *A descriptive response* – *Glaring conceptual errors* – *No analysis on the market for defence and education*	***1– 4***
L2	– *Underdeveloped explanation of increase in price + why shortage persists in the housing market* – *Lacking scope of analysis (Analysed only demand or supply factors)* – *Max 6m: explain only demand and supply factors.* – *Max 7m: explain increase in P + shortage persist + either demand/supply factors only.*	***5 - 7***
L3	– *Good analysis of public housing market with* • *Explained an increase in price and why shortage persists where Qd>Qs* • *Both demand and supply factors (3 factors)* *OR* • *1 demand, 1 supply factor and either PED/PES.* – *Detailed explanation supported with well-drawn diagram.*	***8 - 10***

Question 2

In the ride hailing industry, Grab became the dominant ride-hailing service provider in Singapore after Uber's exit from the market. Even with the entry of new players like Gojek and Tada, Grab's pricing power is significant.

(a) Explain, with the use of examples, why firms in oligopolistic markets in reality may not set prices at profit maximising level. [10]

(b) Discuss whether reducing barriers to entry or regulating prices of firms leads to a more desirable outcome for society. [15]

Part (a)

Introduction

- Identify the market structure: Oligopoly: a few dominant firms relative to market demand.

- Clarify features: Due to the high barriers to entry in the industry, there are only a few large firms dominating the industry and market concentration is high in Singapore, for example, in the pertrol retailing industry, characterised by 3-4 dominant firms (eg. Shell, Caltex, SPC, Esso) while in the ride hailing industry, Grab, Comfort Delgro, Gojek are some of the dominant firms followed by smaller firms such as Tada. Products sold can be homogeneous (eg. Ride hailing services or pertrol)/ differentiated (eg. Different Car brands in the automobile manufacturing industry).

- Clarify impact of features of oligopolies on pricing decisions
  Due to the small number of competitors in the market, the actions of one firm can affect the other firms' market share and therefore profit levels of other firms significantly. There is a large degree of mutual interdependence and each firm takes into account the behaviour of its competitors when it makes decisions.

- Set direction: When firms are assumed to be profit maximising, the firm will adopt the price determined by the output where marginal revenue (MR) is equal to marginal cost (MC). However, due to high level

of uncertainty in the behaviour of oligopolies who can either choose to behave collusively or competitively or have alternative objectives to profit maximising, this can result in prices set that is not at profit maximisng levels in reality.

Body:

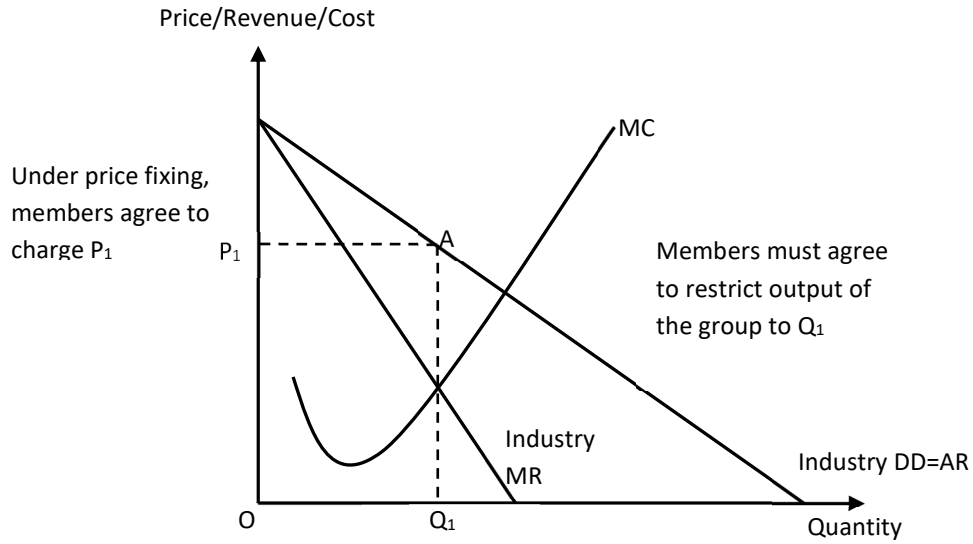
R1: Due to mutual dependence and uncertainty, oligopolists can either compete or collude which may give rise to pricing and output decisions that are not profit maximising

1. <u>When firms choose to behave collusively to reduce uncertainty and competition</u>

Due to mutual dependence, oligopolies can collude to reduce the uncertainty and potential losses from competition. In such instances, the output and price charged might not be profit-maximising for individual firms.

Under formal collusion in the context of a cartel, the firms act as a monopoly and jointly maximize profits where MC=MR and the output quotas for individual members or common price is not individually profit maximising. According to figure 1, the cartel members choose their combined output at the level where their combined marginal revenue equals their combined marginal cost. By acting like a monopoly, joint profits are then maximised at the price P_1 and output level Q_1 and each firm will follow the market price set. *In order to restrict total industry output to maximize joint profits, each firm is given a production quota. Cartel members have to agree on how to divide the market between them and the agreement is usually based on their current market share.* Hence, under formal collusion, the output quotas for individual members or common price is <u>not</u> individually profit maximising. An example of a cartel is the Organisation for Petroleum Exporting Countries. The members of OPEC then decide on the allocation of the total market output among them, usually based on each firm's current market share.

<u>Figure 1: Pricing and output decision of a cartel</u>



Or students may explain tacit collusion.

2. <u>When firms choose to behave competitively and engage in price competition</u>

<u>Predatory pricing / price war</u>

Price wars or predatory pricing tend to arise when there is considerable excess capacity in the industry and are likely to be initiated by firms with the largest minimum efficient scale. In a bid to

become the market leader, a firm might want to drop its price below its profit maximising level to increase its market share. The incumbent firms with huge supernormal profits can engage in predatory pricing to deliberately drive competitors out of the market and scare off potential entrants. They can lower price significantly, sometimes to the point of making losses (selling below AC) as seen in Figure 2. Given the mutual interdependence and rival consciousness behaviour of oligopolistic firms, rivals are likely to match the price reduction. But smaller rivals are less likely to be able to survive as they have limited economies of scale due to their smaller production base and end up earning subnormal profits, where average cost exceeds average revenue at their profit-maximising output. Rival firms might not be able to cope with losses as a result of matching low prices set by the incumbent and choose to exit market while potential entrant firms deterred. Only large firms with huge economies of scale and huge past profits are likely to be able to survive. As smaller rivals are edged out, in the long run, firms that remain can retain their market power and price-setting ability to maximise profits.

E.g. Dominant firms such as Grab in the ride hailing industry may deviate from profit maximisation by practising strategic entry deterrence such as predatory pricing to prevent the entry of new firms to drive out new entrants to prevent a further loss of market share or to capture a greater market share respectively. Due to increased competition from new entrants eg. Tada into the market, incumbents like Grab may deliberately make it difficult for the new entrants to stay in the industry by offering attractive price / fare promotions that is below the firm's AC when they match the price cut. Since the low price is insufficient to cover the smaller firms' average costs due to their smaller production scale → cause the firms to make subnormal profits where their AVC is likely to exceed its low AR given its limited consumer base (as it is a new firm that has yet gain consumers' trust and confidence in its ride hailing services)→ smaller firm has to shut down and should the losses persist into the long term, it will exit the industry.

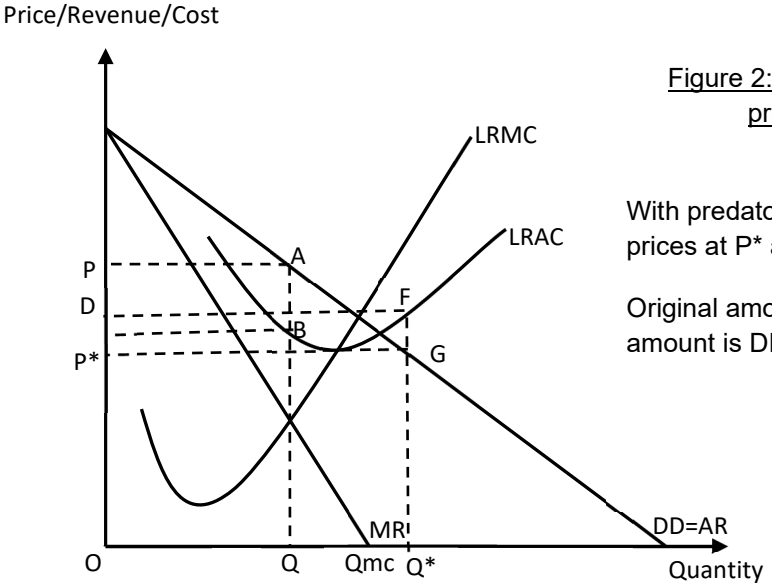


Figure 2: Strategic entry deterrence via predatory pricing strategy

With predatory pricing, the dominant firms prices at P* and produces at Q*

Original amount of profit is CPAB. Final loss amount is DFGP*

Note: In the above argument that incumbent firms deviate from the profit maximising theory is likely only true to extent of the SR since the reason why oligopolist choose to do so is to deter potential entrants into the industry or oust existing rivals to prevent erosion of their market share and hence supernormal profits away. Hence, firms may compromise short-term profit maximising goal for long-term profit maximisation aim.

R2: When alternative aims are pursed by oligopolies

Firms may have other objectives apart from profit maximisation, e.g. social welfare objective, profit satisficing, revenue maximization that affect its price and output decisions.

i) Revenue maximisation

Due to the large size of oligopoly firms, there could be a separation between ownership of the firm/shareholders and control of the firm by managers. This might lead to the principal-agent problem, where the managers' interest are not aligned with the owners or when the former does not constantly monitor the behaviour of the latter and firms that are run by managers (an employee of the firm) can set prices that deviate from the profit maximising level. For example, oligopolist firms that employ managers to run its retail operations and allow them to decide on price and output may choose to maximise revenue by producing at output (Q_{TR}) where MR=0 and charge P_{TR} (Figure 3).

Example 1: Automobile manufacturing firms where there is a principle- agent problem (separation of interest between the owner and managers). This is because managers' wages tend to be commission-based (eg. Based on the number of cars sold) and tied to the level of revenue. They are also divorced from cost considerations as they do not incur the AC of the firm. Hence, managers choose to maximise revenue (eg. sales of cars) and produce at output Q_{TR} and charge P_{TR} instead of profit maximising output.

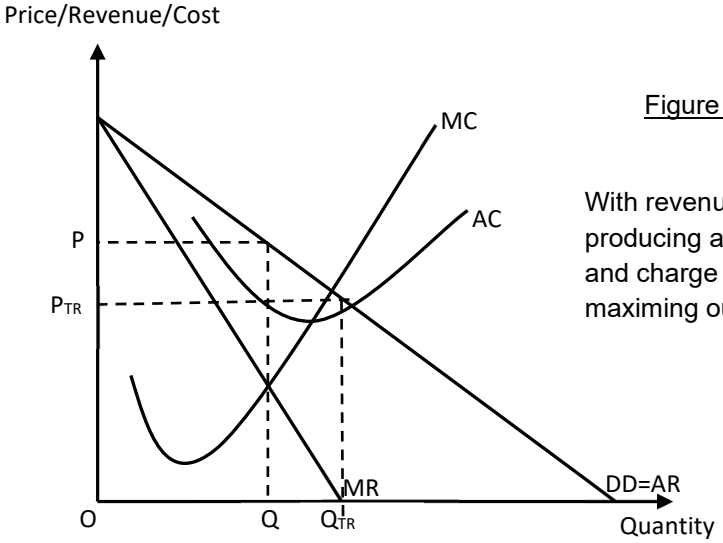


Figure 3: Revenue Maximisation

With revenue maximisation, the firms producing at output (Q_{TR}) where MR=0 and charge P_{TR} instead of profit maximing output level of Q.

Or

ii) Profit Satisficing for other objectives

A firm may adopt objectives that are focused on social responsibility and sustainability, rather than solely on profit maximization. This can involve setting objectives related to reducing carbon emissions, improving working conditions for employees, or supporting local communities. Increasing emphasis on non-financial objectives such as environmental goals and corporate social responsibility (CSR) and may cause firms to profit satisfice – aim for a target level of profit and deviate from profit maximizing objective. Profit satisficing has no unique price and output combination. Hence, for example, instead of producing at profit maximizing output, firms may use a cost plus approach eg. where prices are determined based on a markup on the cost of products and services.

By adopting these objectives, a business can build a positive reputation and enhance its brand, which can help to attract environmentally conscious customers who share similar values. For example, in the automotive industry apart from creating new mobility of vehicles through new power sources to reduce carbon dioxide emissions, changes are also taking place in the materials that make up automobiles. The goal is to reduce the impact on the environment by using eco-friendly materials for the interior and exterior of automobiles which may increase cost of production at the expense of maximizing profits and earning lower profits. For eg. some global automakers and autopart manufacturers are putting a lot of effort into

developing eco-friendly materials. Some of the brands that are currently considered leaders when it comes to sustainability and environmental friendliness include Tesla, BMW, Toyota and Hyundai.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	• Little / non-existent use of relevant economic theory. • Answer that is largely descriptive knowledge with little or no economic terminology/ framework applied. • Unexplained answers or listing of points • Significant conceptual gaps/lapses in explanation	**1 – 4**
L2	• 2 distinct factors explained on how oligopolies may deviate from profit maximising price across R1 and R2 but with some gaps in explanation. • Rigour and depth of analysis lacking in some areas and economic terminology could be improved. • Some use of examples • Answer is supported with some use of relevant economic framework- firm's analysis	**5 - 7**
L3	• Answer has sufficient depth and scope of analysis. • Economic terminology and framework (firm's analysis – AR/AC diagram) is well used to demonstrate rigour • Good use of examples is applied across essay • 2 well explained and developed point across R1 and R2 using appropriate examples on how oligopolies may not always be profit maximising	**8 - 10**

Part (b)

Introduction:

- Clarify desirable outcomes: yardsticks of efficiency and equity which in turn affects the various stakeholder in society (consumers, firms and government)

- Direction: Both measures of reducing barriers to entry and pricing regulation can lead to increase in the economic efficiency yardsticks of allocative, productive inefficiency, dynamic efficiency (or fall in economic inefficiency) as well as equity and consumer choice but they can also be undesirable and also worsens society outcomes or result in unintended outcomes.

Body:

R1: Reducing BTE→ increase in competition in terms of no. of firms entering the industry leads to <u>more</u> desirable outcomes for society

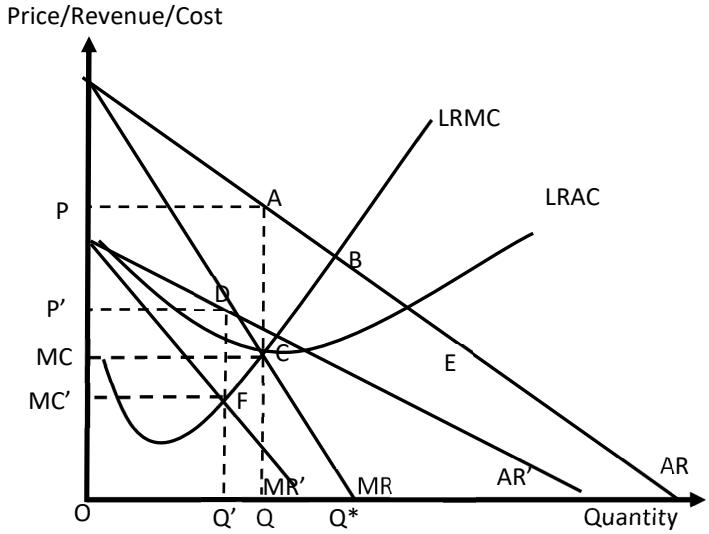
i) <u>Reduced allocative inefficiency (and smaller dwl)</u>
ii) <u>Increased consumer surplus in terms of lower price and increased equity</u>

Governments can allow more firms to enter the market by reducing barriers to entry. By issuing more licenses to new entrants, more firms may enter the industry, and this increased competition and innovation by firms will lower prices for consumers.

For example, the deregulation of the telecommunication service market in Singapore over the years ensured that the incumbent Singtel faced competition, leading to a fall in prices of mobile services over the years and allowing consumers to be better able to choose a plan that best suits their needs from the other competing firms. In addition, reducing BTE in the ride hailing services has allowed for more competition and choices for consumers in terms of ride hailing companies and more competitive fares. As shown in figure 4, the increased number of firms will result in each firm facing a lower demand due to a smaller market share, with the demand for their services being more price elastic as well with more substitutes available.

➔ Figure 4 below presents profit maximising output and pricing of the monopolist for which P>MC at output 0Q, at where marginal cost = marginal revenue and the firm is allocative inefficient and deadweight loss is reduced. Society values that last unit of output at 0Q more highly than the opportunity cost of producing it. More resources should be channelled into the increased production of the goods and there is deadweight loss (ABC) from the underproduction of the good. With increased competition from other firms, the incumbent firm would possess less market power →lower AR and a more price elastic demand curve, with consumers that are more price sensitive due to the availability of cheaper substitutes. The dominant firm could become <u>less allocative inefficient</u>, i.e. price nearer to its marginal cost of production and deadweight welfare loss is reduced, increasing society's welfare.

➔ This also allows for <u>greater equity as</u> prices fall from P to P', benefitting the consumers with increased consumer surplus and increases society welfare due to reduced allocative inefficiency caused by market power. Especially so for lower income consumers who now have greater ability to consume and suffer less in terms of exploitative pricing. In addition, any SR supernormal profits would be eroded as new firms can enter easily, thus the distribution of profits in the LR would be less inequitable across the no of firms/ producers in the market.



<u>Figure 4</u>

At 0P and 0Q (where MR = MC), price (P)>MC and deadweight loss is ABC.

With more competition from new firms entering market, AR shifts leftward to AR' and becomes more price elastic. MR shifts leftward to MR'.

At the new profit maximizing output, Q', a lower price (P') will be charged relative to MC', there is less allocative inefficiency and deadweight loss reduced from ABC to DCF.

iii) <u>Reduced X inefficiency / productive inefficiency</u>

Increased competition and loss of market share would incentivise dominant firms/ incumbents to produce on its LRAC in the attempt to minimise losses or retain profits. This means less wastage of resources or unnecessary expenditure eg. Excessive advertising which could be put into better use such as innovation of better quality goods and services and the lower cost can translate to lower prices for consumers

iv) Increased (incentive) to be dynamic efficient

Greater Dynamic efficiency could also result from rising intensity of competition as firms are now more incentivised to divert its resources into innovation of cost-saving technology to or product / service innovation. This could lead to lower AC at every output level or result in an increase in AR. For example, firms in the automobile manufacturing industry have greater incentive to invest in R&D and engage in product and service innovation such as better fuel efficiency for cars /in-built features of cars such as safety mechanisms to improve the safety of drivers which can increase the quality of cars. Or in the ride hailing industry, Grab could engage in R&D /innovation and develop apps that increase consumer welfare. For eg. GrabMaps technology incorporates prediction models to ensure delivery requests can be allocated to the fastest and most convenient method of transport under prevailing traffic conditions such that consumers benefit from accurate pricing based on distance and time spent in traffic.

v) Greater Consumer choice

Consumer choice is enhanced with the variety of brands that come with the entry of more producers (for examples, in the telecommunication industry, the deregulation of the industry has result in more choice of firms offering more telco services apart from the incumbent Singtel and includes Starhub, M1 and more recently TPG, My republic etc.

Limitations:

vi) Less ability to be dynamic efficient

With more competition, the firms are less able to earn large supernormal profits in the long run, which can be otherwise be channelled to fund R&D and process and product innovation, hence, firms have less ability to be dynamic efficient. From the above diagram in figure 4, the firm's supernormal profits fall from [PAC MC] to [(P'AC'MC'] which is sufficient to keep them in business but the fall in supernormal profits reduces the ability and may disincentivise the firms to undergo R&D.

For example, R&D undertaken by telecommunication firms could result in lower operating cost and hence lower prices of their mobile, or higher quality services like better network coverage /service standards that better suit consumers' tastes in the case of telecommunicaiton industry which has been deregulation to allow for more competition. However, reducing BTE may lead to worse outcomes for consumers and society, due to the fall in potential innovation in goods and services.

vii) Less ability to exploit IEOS by firms → less cost savings and less productive efficient (society)

Depending on the nature of the good/ service provided, if the production of good (eg. Utilities or Telecommunications service) entails high fixed costs (eg. High infrastructure outlay such as distribution network, cable network grid), then the firm would need a large domestic market to exploit all possible internal economies of scale in order to experience cost savings which could be passed on to consumers as lower price. However, with reduced market size, consumers might not benefit from lower prices, as firms are unable to experience significant cost savings from smaller scale production. In addition, the firm is also more productive inefficient from society view since it is producing further away from MES.

Eg. *The small market demand in Singapore and high capital outlay suggests that the public rail service industry can be likened to natural monopoly.* The LRAC of the firm falls continuously across a large output range owing the extensive iEOS that result from the spreading out of high setup costs. As the MES is large relative to the entire market demand, there is room for only one firm to fully exploit all the available iEOS, so as to supply the entire market at a lower price (than two or more smaller firms). However, with increased

competition and reduced ability to reap IEOS, this could result in higher average costs for firms, and potentially higher prices of goods and services.

R2: Price regulation: MC pricing or AC pricing policy leads to more desirable outcomes for society

When market concentration is high, the few large firms with market dominance in the telecommunications market or bus industry tend to restrict output and produce far less than the allocative efficient output without govt. regulation. Firms that are profit maximising will under produce relative to the free market equilibrium and result in an allocatively inefficient outcome and welfare loss.

To achieve the socially optimum level of production, the government can regulate the market by requiring the firm to set prices at marginal cost or at average cost.

For example, in the Public Bus industry, fare regulation in the public bus transport sector involves the regulator, the Public Transport Council to oversee fares that the public transport operator (PTO) could charge so as to prevent the private operators from abusing their market power to set excessively high fares.

Referring to figure 5 and using the example of a natural monopoly (defined as one where market demand is large enough to support only one large firm operating at or near its minimum efficient scale of production).

- With Marginal cost pricing, allocative efficiency is achieved at Qmc, consumers' marginal benefit from the last unit sold is equal to the marginal cost of producing that last unit. However, with Mc pricing, the firm makes a loss (PacDBPmc) when it prices at Pmc and produces at Qmc
- With Average cost pricing, however, the monopolist will be able to make breakeven and make at least normal profits, but the output level at Qac will still be less than allocative efficient at Qe.

However, compared to unregulated profit maximising price Qe, both average cost and marginal cost pricing reduce price and increase output, increasing consumers' surplus and social welfare.
*can also accept MC / AC pricing on non natural monopoly diagram

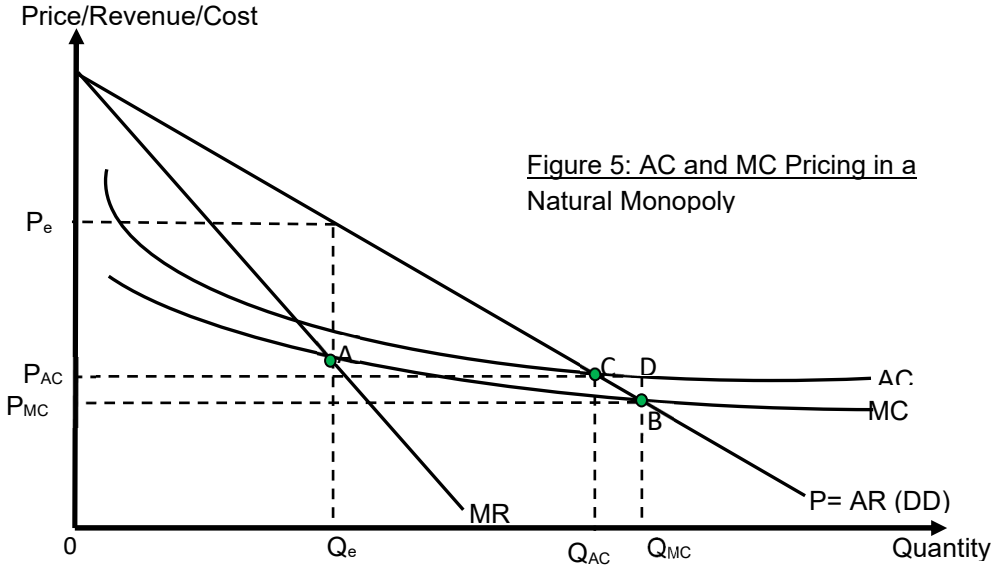


Figure 5: AC and MC Pricing in a Natural Monopoly

i) Reduce allocative inefficiency / achieves allocative efficiency and greater equity for conumers→ increasing consumer surplus

Price regulation increases allocative efficient outcome and both AC and MC pricing regulation reduces price result in greater equity for consumers. Compared to unregulated profit maximising price, both average cost and marginal cost pricing reduce price and increase output, increasing consumers' surplus and social welfare. In addition, MC pricing result in an allocative outcome for society since the P (value that society places on the good) equals the MC incurred in production of g/s.

ii) Reduce X inefficiency of firms

Pricing regulation incentive dominants to be productive efficient and reduce wastage of resources which results in lower cost since the firm would face a fall in profits from the pricing regulation and would need to cut unnecessary cost/ expenditure to remain viable or survive. For example, firms may reduce extensive/ excessive advertising such as paying big sums of money to celebrities to endorse their product but instead utilise social media to advertise their product, hence, cutting unnecessary costs.

Limitations:

iii) Unsustainable that could result in shut down of firms and reduced choice (of firms) for consumers

Based on Figure 5, MC pricing regulation will cause the firms to make a loss, as the price charged Pmc is lower than the cost, D at Qmc. Hence, in order for the firms to be able to continue production, the government would have to provide subsidies, such that the firms earn at least normal profits, but this is in turn dependent on the government's fiscal position. For a government that has been running/ accumulating budget deficit, this subsidy may not be sustainable and also incurs opportunity cost for the government. For example, subsides to firms may imply less government funds that can be allocative for alternative uses such as expenditure on public goods or merit goods which can improve society's welfare. In addition, for firms whose AR cannot cover AC in the long run, they will shut down and exit the market which may result in reduced choice for consumers.

Ev: On evaluation, alternatively, MC pricing may be feasible depending on the type / nature of industry, such as private entities/ firms as compared to a nationalised firm (eg. Water utilities) that provide strategic services that is owned by the government. For example, if privatised firms eg. telecommunication firms are allowed to levy a fixed initial charge for access to their mobile services, such that these fixed charge amounts to the loss incurred so as to offset the loss due to pricing their services below the AC. Such charges are typically known as registration fees that cannot be refunded, even if the mobile contracts are terminated. Hence, this makes MC pricing more feasible.

iv) Reduced ability to be dynamic efficient

MC and AC pricing could mean that the firm has less supernormal profits available to be used for innovation of new products that made reduce consumer welfare due to fall in quality or stagnant quality of goods and services. For example, in the smart phone manufacturing industry, the absence of supernormal profits would reduce ability of firms eg Apple to improve the features of its smartphone eg. fingerprint detection features or improved camera features for the latest iPhone models that could increase consumer welfare.

Conclusion and Overall Evaluation

Whether deregulation or pricing regulation leads to more desirable outcomes for consumers and society would depend on factors such as the extent of market dominance and extent of supernormal profits earned; market demand of the firm relative to size of the market as well as the nature of the industry.

EV1: If the market was saturated/ highly concentrated with a few dominant firms eg. Grab, Comfort, **deregulation could likely lead to better outcomes** in terms of economic efficiency (allocative, productive and dynamic) and equity as the initial allocative inefficiency and deadweight loss to society is high so

consumers benefit more significantly from reduced BTE and lower prices. Furthermore, such firms would likely have been earning huge supernormal profits, such that even if some profits are eroded with increased competition, the firms still retain substantial supernormal profits to retain the ability to invest in R&D. For example, in the pharmaceutical sector in where R&D is crucial with increased competition, dominant firms would be more incentivised to use their past supernormal profits to carry out R&D. This would then benefit consumers in terms of improved quality of products. Thus pricing regulation may be a less feasible or desirable measure for society.

EV2: In a natural monopoly where the market demand is large enough to support only one large firm operating efficiently, it is not feasible for 2 firms to exist with each supplying half of the industry's output and charging a price that would allow them to cover cost. In a natural monopoly, substantial economies of scale can arise due to the huge capital outlay or huge total fixed cost incurred such as investment in infrastructure eg. power plants and distribution network and cables in the market for power and utilities. As output increases, the average fixed cost (AFC) will keep falling. As a result, the average total cost (ATC) falls continually over a very large output, resulting in a very large minimum efficient scale relative to market demand for the existing firm. Thus, the duplication of resources can result in wastage and greater inefficiency as IEOS cannot be fully exploited. **In this case, price regulation is better than reducing barriers to entry to increase society's welfare.**

EV3: in strategic industries or industries that provide essential services eg. Utilities, power/ gas industries, **price regulation may be preferred to reducing BTE** as a longer term policy on equity reasons to ensure that regulated prices of such necessities are made available for consumption for low income households. However, in other industries, eg. Firms in telecommunication industries, reducing BTE can be a better policy so long as the government regulates anti-competitive behaviour of the dominant firms to oust out new competitors.

Nonetheless, in industries where reduced BTE is preferred, anti-competitive regulation still needs to be in place by the government to ensure that competition benefit society overall. This is because increasing competition without the necessary support of the government especially for smaller firms may not lead to significant desirable outcomes in the industry as presence of dominant firms can drive out smaller competitors, and retain their market dominance again.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *Brief or vague knowledge of outcomes of policy (reducing BTE or price regulation) on society* ▪ *Vague explanation/ unexplained points or mainly listing of points* ▪ *No use of relevant economic framework and answers are mainly descriptive* ▪ *Critical errors in analysis*	***1–4***
L2	▪ *Sufficient discussion of outcomes on society of policies of reducing BTE and price regulation and includes a balanced argument* o *allocative inefficiency* o *productive inefficiency, possible x-efficiency* o *dynamic* o *equity* o *consumer choice* ▪ *Some use of examples* ▪ *Some development of relevant economic framework applied: how policy works and the limitation but some gaps in analysis* *Both policies are explained and discussed but rigour or scope of analysis lacking.*	***5-7***

L3	▪ *Excellent and well-developed discussion that has good scope and depth of explanation of desirable outcomes from both policies* ▪ *Policies are well explained and developed with good use of economic framework applied* ▪ *Good use of examples applied throughout essay* ▪ *Good scope of coverage of limitations in both policies*	***8-10***
Evaluation		
E1	▪ *A superficial conclusion /assertion.* ▪ *Unsupported judgments on the relative strengths and limitations of both measures on desirable outcomes on society.*	***1 - 2***
E2	▪ *Substantiated evaluative comments about which measure is better to lead to a more desirable outcome, and supported by economic analysis*	***3 – 4***
E3	▪ *Insightful and perceptive evaluation or judgement on which measure is better able to lead to a more desirable outcome for society* ▪ *Well discussed and evaluated using economic analysis* ▪ *2 well explained insights*	***5***

Question 3

Singapore's high vaccination rates have been pivotal to enable us to weather successive waves of COVID 19 infections. Insurance coverage for Covid-19 looks set to stay, with major insurers here saying they have no plans to reduce such protection from their offerings even as the world emerges from the pandemic.

(a) Explain how information failure results in an inefficient allocation of resources in the above markets. [10]

(b) Discuss whether legislation is the best measure that the Singapore government can adopt to correct failures in the above markets. [15]

Intro:

- Clarify respective "above markets": market for vaccination and market for insurance.
- Define market failure: failure of the free market to achieve an efficient allocation of resources that maximises society's welfare.

- Define information failure: In economics, information failure refers to imperfect knowledge and asymmetric knowledge. Information failure occurs when people have inaccurate, incomplete or misunderstood data and so make potentially choices which do not result in allocative efficient outcomes which maximizes social welfare.

Body:

R1: Explain how imperfect information will lead to market failure in the market for vaccinations.

- Effective demand refers to willingness and ability to buy a product at various prices. With reference to Figure 1 below, if left to free market forces where consumers pursue self-interest to maximize their own welfare, demand for COVID vaccination under imperfect information is DD_0. The demand curve for vaccines would be higher at DD_1 if consumers had more accurate information about the true private benefits that can accrue to themselves.

- This could be due to an information gap since it is a new virus and a new vaccine manufactured with new technology. Individuals are confused by complex and conflicting information and are unaware of how the vaccine will reduce the risk of falling severely ill in both the current period and the possibility of long Covid in the future.
- Thus, individuals susceptible to unreliable information undervalue the true benefits and consume till SS intersects DD with imperfect information, DD_0. Free market equilibrium occurs at output $0Q_e$. However, the socially optimal level of consumption is at output $0Q_s$ (where SS intersects with $DD_1$with perfect information). Hence, with imperfect information, too little resources will be diverted to the production and consumption of Covid vaccination. A welfare loss represented by area ABC arises as the benefits of not consuming Q_eQ_s units of vaccination (Q_eCBQ_s) exceed the resources saved from not being used ($Q_eAB_eQ_s$) in producing Q_eQ_s units of vaccination.

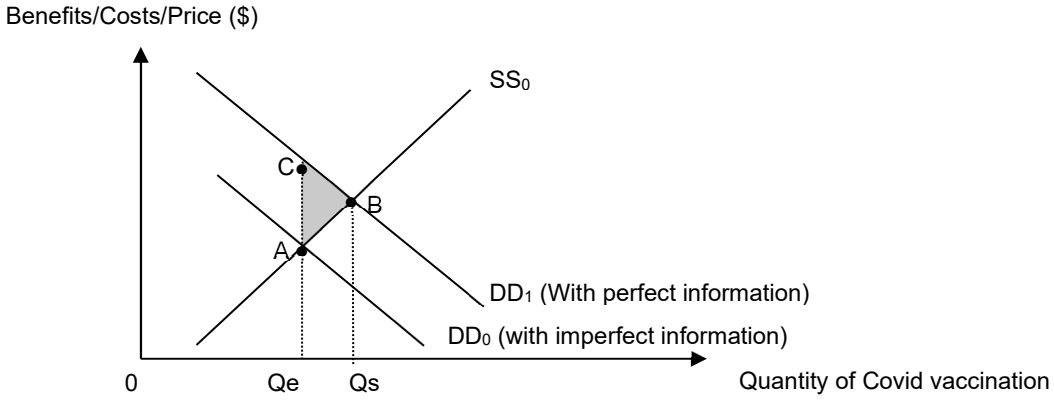


Figure 1: Market for Covid Vaccination

R2 Explain how information failure will lead to market failure in the market for health insurance:

- The buyers of health insurance (or more specifically for this question, COVID insurance), want to manage the uncertainty of illness and so are willing and able to pay a small price (a regular payment to an insurance firm is known as premium) for someone else to bear the risk of their falling sick and being saddled with hefty medical bills. An insurance firm calculates the probability of individuals falling sick and is willing and able to take this risk and sell insurance at a price the firm is comfortable with. The firm needs to have a large consumer base to pool risks from many buyers with different risks profiles so that this pool remains viable.

Adverse selection

- Adverse selection in insurance comes about when buyers have more superior information about themselves than the sellers. This unequal information distorts the market and leads to market failure.
- In the purchase of COVID health insurance, buyers have more information about their general health and susceptibility to Covid-19 than the insurance firms. In order to pay a lower premium for their health insurance, buyers may conceal certain information about the conditions of their health from insurance companies such as a history of pre-existing health conditions. Because unhealthy people are more likely to want and buy insurance, the proportion of unhealthy people in the pool of insured people increases and insurance firms will have to pay higher claims from more frequently sick buyers than expected. As a rational profit-maximizing unit with higher costs, insurance firms will then have to raise the average price for everyone as they are not able to differentiate between the high vs low risk individuals to charge different prices. With this higher price, some low risk or healthy individuals will not be willing and or able to buy health insurance. The insurance firm would be left with an ever-riskier (adverse) pool of buyers because only people with more underlying

health problems would find the high premiums worth paying for while low risk individuals are no longer incentivized to buy at this high price.

- This cycle continues and the adverse selection will mean the pool of buyers now consists mainly of unhealthy individuals: since over representation of unhealthy consumers and an under representation of healthy consumers in the market.
- In the long run, the premiums will be so high that not many people will be able and willing to buy. The insurance firms eventually find it unprofitable, and the insurance market collapses, a 'missing market' results where both parties do not get to buy or sell the good. Even though insurance can generate increase in welfare for society, the absence of such a good means that resource allocation to this good is zero and market failure has occurred.

Moral Hazard

- Moral hazard is a situation in which economic agents take greater risks than they normally would, because the costs that result from their riskier behaviours would not be solely borne by themselves. Moral hazard tends to arise when one party has both the incentive and the ability to shift costs onto the other party.
- Health insurance (Covid 19 insurance) market is an example in which moral hazard problems may arise. This is because of the lack of information about the insured's future behavior after the purchase of the health policy, in this case Covid Insurance. Moral hazard occurs as the behavior of the buyer changed since he no longer bears the full costs of that behavior. For example, if an individual is not insured with Covid health insurance, he is more likely to take care of his own health via wearing mask to reduce risk of infection. However, with COVID health insurance, he would be fully covered and would not have to bear cost in the event of hospitalization. As a result, upon being insured, the individual will have less incentive to take care of his health and wear a mask.
- Some individuals may also have an incentive to opt for more expensive and unnnecessary medical treatments upon contracting Covid-19.
- Such changes in behaviour results in the increase in over-consumption of healthcare services and wastage of healthcare resources.
- In the insurance market, inefficient allocation will occur in an extreme scenario: the excessive hefty insurance claims make it no longer profitable for an insurance firm to sell the insurance product. Individuals who are willing and able to pay can no longer buy the product and the result is a "missing market". Hence, the market fails.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L1	• *For an answer that shows vague knowledge of the different types of information failure* • *Significant conceptual gaps in explanation* • *No use of relevant economic framework applied.* • *Descriptive explanation of answers*	*1-4*
L2	• *For an answer that explain both sources (R1 and R2) of market failure (imperfect information & asymmetric info) but with some gaps in explanation.* • *Scope of analysis lacking* • *Reference to relevant economic framework is developed* • *Use of relevant examples pertaining to both markets lacking*	*5-7*
L3	*A well-developed answer that demonstrates:* • *Well-developed and rigorous analysis for BOTH sources of market failure (imperfect information & asymmetric info- both moral hazard and asymmetric information)* • *Good application of examples in both markets* • *Good use of relevant economic framework applied*	*8-10*

Part (b)

Introduction:

- Clarify that given market failure in the above markets, there is allocative inefficiency and thus a need for govt. intervention to correct the above sources of market failure.
- Clarify that legislation refers to administrative laws and rules or regulations that regulate behavior of buyers and/or sellers.
- Clarify that 'best' measure entails beyond effectiveness of government policies, and entails other aspects such as desirability, unintended consequences, and feasibility of measures.
- State direction that legislation is an effective measure but given limitations, there is a need for alterative measures.

R1: Legislation can be the best measure to correct for market failure due to information failure

(NEED TO DISCUSS ONLY ONE LEGISLATION TO CORRECT MARKET FAILURE IN VACCINE AND INSURANCE MARKET <u>EACH</u>.)

- **For imperfect information in the vaccines market: legislation to encourage/mandate vaccination.**
    - Various legislations could be implemented to increase individuals demand for vaccinations:
        - Compulsory vaccination legislation could be implemented to force individuals to be vaccinated. Individuals who do not get vaccinated could be fined. As there is now additional benefit of not getting fined, DD for vaccinations will increase.
        - Legislation to allow vaccinated individuals to dine-out and gather in groups for family visits, granting individuals greater personal freedoms during the pandemic. This increases the benefits of getting vaccinated, increasing the DD for vaccinations.
    - Demand increases from DD_0 (with imperfect information) to DD_1 (with perfect information) in Figure 1 as those who were initially unwilling are now suitably incentivized by various legislations to be vaccinated. Socially optimal output of $0Q_s$ is now consumed, eliminating the under-consumption and deadweight loss issue.
    - **Limitations:**
        - Legislation does not tackle the root cause of imperfect information in the Covid-19 vaccination market which is due to consumers being unaware of the true health benefits of consuming Covid-19 vaccination.
        - Enforcement of certain legislations may be difficult and expensive. Constant checking e.g. by safe distancing officers are needed to ensure that consumers adhere to the law is needed and this can translate into high costs for the government. In addition, for the law to be effective, the penalties for breaking the law must be sufficiently harsh. This could be unpopular with the population.
        - Legislation is also a blunt tool as Covid-19 vaccinations may not be suitable for all individuals as some may have pre-existing conditions or health issues that makes them more vulnerable to the side-effects of consuming covid-19 vaccinations. Hence, mandatory vaccination legislation may not be the most appropriate measure for such individuals.

- **For asymmetric information resulting in adverse selection in insurance markets: legislation for mandatory information sharing**
    - To increase and share information for all parties, the government can set up a database of all those who seek medical care to be shared among all the hospitals and clinics. All the hospitals and clinics are legally obliged to share information about their customers. This will enable all parties involved to have all necessary information to make better decisions. The insurer will be able to charge a fair price to differentiated customers due to the information made available.

    - **Limitations:**
        - A database on individuals' health records will raise privacy concerns for some people. In addition, such records will be susceptible to leaks and demolish trust in the system.
        - The cost of collecting the data and maintaining the database may be high.

- **For asymmetric information resulting in adverse selection in insurance markets: legislation for mandatory purchase of insurance**
    - Mandatory insurance can overcome the problem of adverse selection. As everyone is required to be covered by insurance, mandatory insurance legislation will prevent a situation where sellers have a pool of high-risk buyers more pre-disposed to require medical care and so incur higher costs. Mandatory health insurance schemes effectively pool the health risks of the entire population.

    - **Limitations:**
        - The receptivity of individuals of towards such a mandatory insurance scheme. If a significant number of individuals are resistant to such a scheme, it may become politically impracticable to implement.
        - Individuals may lack the financial ability to buy insurance
        - By forcing everyone on the scheme, the problem of moral hazard may actually be exacerbated.

    - **Evaluation:**
        - The government will have to obtain the support of its population for such a legislation and also provide subsidies for individuals who lack the financial ability to buy insurance.

- **For asymmetric information resulting in moral hazard in insurance markets: legislation to implement deductible and or co-payment scheme**
    - Legislating a deductible and co-payment scheme for insurance to overcome moral hazard problem. e.g. MediShield Life insurance legislated by the Sg government incorporates deductible and co-payment requirements. Under MediShield Life, claimants are required to pay a deductible of between $1500 to $3000 and a co-insurance of between 3 and 10 per cent of the cost of the treatment net of the deductible.
    - Since deductibles and co-payments require the insured to pay a portion of their medical costs, the insured individuals will be less incentivised to engage in risky behaviour after purchasing the health insurance. This helps to reduce the moral hazard problem which causes market failure. Since 2015, insurance firms in Singapore are not allowed to sell insurance plans that allow buyers to have no co-payments. This bill was passed as the government felt that the spirally costs of Medishield premiums was due to the moral hazard problem.

- **Limitations of measure:**
  - Effectiveness:
    - While mechanisms of maximum claim limit, deductible and co-payment reduce the extent of moral hazard, it does not totally eliminate the issue as the root cause is risky behaviour and the policy may fail to alter the behaviour of some individuals. Also, as a co-payment in an insurance plan will require the insured to pay a proportion of the medical cost which they incur in the event of a claim, it may induce some individuals to be unwilling to buy health insurance.
    - The ability to set an optimal deductible and co-payment quantum by the government. Deductibles and co-payments which are set too low do not sufficiently mitigate the moral hazard problem.

  - Unintended consequences due to inequity issues:
    - Co-payment is an effective policy because it encourages consumers to be partly responsible for their own health, instead of relying on the state to provide healthcare treatment. However, it can lead to a less equitable outcome if lower income individuals cannot afford to pay the remainder of the medical fees leading to possible unintended consequence of lower-income individuals not partaking in the market. For example, the higher the co-payment, the more effective it will be as a measure to address the problem of moral hazard. However, a high co-payment may lead to a high price which may reduce equity since lower income household consumer are unable to pay and may be priced out from the insurance market.

R2: Other policies to correct for information failure may be better

(NEED TO DISCUSS ONLY ONE NON-LEGISLATION POLICY TO CORRECT MARKET FAILURE IN VACCINE AND INSURANCE MARKET <u>EACH</u>.)

- **For imperfect information in the vaccines market: Indirect subsidies for vaccinations**

  - Subsidies in production can be provided to reduce the cost of supplying the product, for example Covid 19 vaccination. This is shown in Figure 3. The equilibrium without government intervention is at point F where $D_0 = S_0$. If the government estimates the difference between D_0 and D_1 correctly and subsidises the production of Covid vaccination accordingly, the supply curve moves to the right from S_0 to S_1, which equals D_0 minus the unit subsidy. The marginal cost of supplying the good is reduced by the amount of subsidy and the vertical distance GH. Producers will be able to sell output Q_2 at a price of P_3 which is where D_0 curve intersects S_1 curve. The socially optimal output level of vaccination will be achieved at $0Q_2$.
  - Covid-19 vaccinations are provided free-of-charge in Singapore and many countries. Free-of-charge provision of Covid-19 vaccinations can be analyzed as a <u>large per unit subsidy</u> which increases supply where S_1 curve shifts rightwards to the point where it intersect the D_0 curve at P=0.

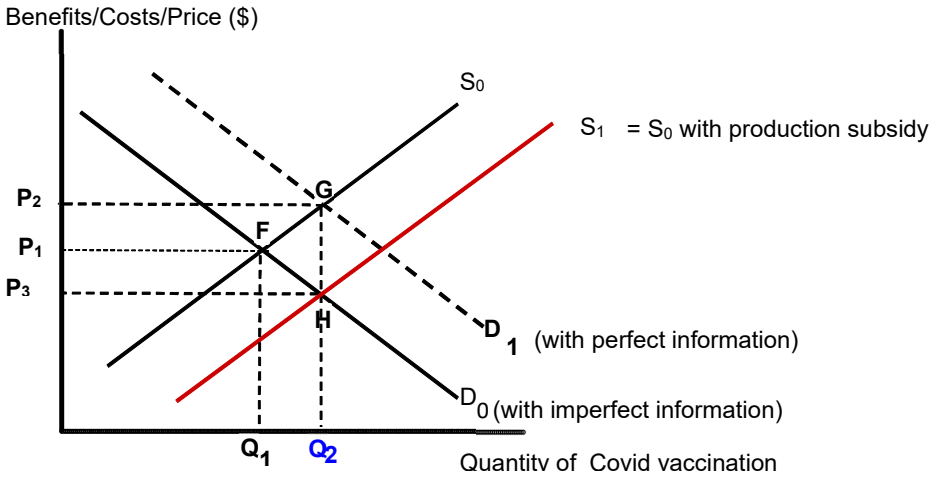


Figure 3: Imperfect information and use of subsidies

- **Limitations**
  - Desirability: Indirect subsidies address the symptoms but not the root cause of the problem which is imperfect information. Even though consumers consume more after the subsidies, they still lack perfect information about how beneficial the product is for their own health. When subsidy is dis-continued, market will fail again.
  - Effectiveness: The government may over-subsidize or under-subsidize because it is difficult to put a monetary value on the extent to which vaccination curbs the spread of Covid-19, hence the allocative efficient output level may not be achieved.
  - Sustainability: Subsidizing healthcare imposes a drain on government's finances. This can pose a serious challenge in view of Singapore's aging population. An opportunity cost is incurred in subsidizing the healthcare sector.

- **For imperfect information in vaccines market: Provision of information via public health education & campaigns:**
  - Governments can influence the behaviour of consumers through public education and campaigns that increase the salience of the importance of vaccinations and ensure that the message is more noticeable to all. Campaigns supplied information directly to individuals about the full private benefits and imprinted in their minds the importance of consuming covid-19 vaccination, leading consumers to value their benefits more accurately. This will lead to a modification of consumers' taste and preference and thus individuals' demand increases from DD0(with imperfect information) to DD1 (with perfect information) in Figure 1. Socially optimal output of 0Qs is now consumed.
  - For e.g. the Singapore government can provide more accurate and reliable information about the benefits of Covid 19 vaccinations through campaigns using local celebrities. A series of short films in different languages and even dialects were published and screened on TV calling on everyone to get vaccinated. Information about the benefits of Covid-19 vaccination was also disseminated online via the use of easy-to-understand infographics.
  - Greater awareness of the health benefits to plug the information gap amongst consumers will modify taste and preference and thus raise the demand for vaccinations from DD0 to DD1 (with perfect information), correcting the underestimation of private benefits. Output for vaccinations will increase from 0Q1 to 0Q2 (socially optimal output level), correcting the

underconsumption of vaccinations and eliminating deadweight loss of abc. Hence, allocative efficiency is achieved. (Refer to Fig 1 with a shift in demand curve to the right).

- This measure is desirable as it helps addresses the root cause of imperfect information and taps on free market forces to achieve new equilibrium that is allocative efficient.

- **Limitations:**
  - Effectiveness: while the sole use of this policy directly addresses the root cause of imperfect information, it largely depends on the receptivity of the target audience. Due to ingrained beliefs and misconceptions about the efficacy and side effects of the Covid-19 vaccines, people may not be receptive to the information given, reducing the effectiveness of the policy.
  - Sustainability of measure: The use of campaigns and public education initiatives involve significant costs and incurs an opportunity cost as money spent on public education could be used for other purpose such as the provision of public goods and other merit goods such as education.

- **Evaluation**:
  - Since Singapore has a relatively educated population, the people will likely be more receptive to useful health campaign messages based on scientific evidence.

- **For asymmetric information resulting in adverse selection in insurance markets: Direct provision of health insurance for all:**

  - As an alternative measure to tackle the problem of adverse selection causing a missing market, the government can directly provide health insurance to all. An example is MediShield Life which is administered by the CPF Board.
  - The main advantage of direct provision is that the government has direct control over the supply of the good or service. It can also fund losses made from providing such an insurance with tax revenue. By controlling the supply of these goods and services, the government can control not just the quantity, but also its affordability and quality. In this case, the government can dictate the price of the plan and the amount of medical coverage to provide under the insurance plan.

  - **Limitations:**
    - The ability of the government to provide such a scheme in a sustainable manner is of particular concern. If it is priced too lowly, the premiums collected may not be able to cover the claims made. Tax revenue may have to be used to finance the losses. This incurs opportunity cost as government expenditures in other areas could be compromised. Otherwise, tax rates may have to be raised. If insurance premium is priced too high, lower income groups may not be able to afford it.
    - The disadvantage of direct provision is that the production may be inefficient as employees of the state tend to have little or no incentive to keep costs at a minimum due to the lack of profit-motive. They may lack the expertise to operate an insurance scheme as well.
    - As the direct provider, the government also needs to be aware of the costs of crowding out private sector activity. Where public sector bodies are engaged in mixed markets alongside private firms, it is important for the public bodies to ensure that they are not exploiting unfair advantages over the private sector and stifling innovation that private firms may bring to the market.

  - **Evaluation:**
    - With rising healthcare needs, claims may escalate, and the government may not be able to sustain such an insurance.

Overall Evaluation:

- **Whether legislation is the best measure in overcoming the above sources of information failure will depend on:**
    - Comparing the root cause or source of market failure in the 2 markets: For example, in the vaccination market, since the market failure source is largely due to imperfect information, then legislation itself is not the best desirable to correct the market failure and would need to be supplemented other measures that is more effective in the LR such as education to increase quantity demand and output to allocative efficient levels. On the other hand, in the market for covid 19 insurance, since market failure arises due to asymmetric information which is difficult to monitor, legislation may be the best as it makes it compulsory for consumers to consume or release relevant information necessary for all concerned to make informed choices.

    - Comparing the extent of market failure in the 2 markets: the extent of information failure is likely to be greater for complex products or services that could even result in a missing market (as in the case of asymmetric information), there might be greater need for mandatory measures such as legislation to correct the market failure. Legislation, supported by strong punitive measures as disincentives is better to ensure compliance than moral suasion. On the other hand, if the cause of market failure is just solely imperfect information that results in underconsumption, alternative policies such provision of information and education can be a more desirable measure especially over the LR to change mindset.

    - Depends on time period: while alternative government measure e.g. provision of information directly address the problem of information failure, its outcomes take time to develop and are less certain. Hence, legislation may be a more effective and desirable measure since it ensures certainty in outcomes in a shorter time period.

    - Most important issue of vaccination is herd immunity and thus legislation is necessary and choice and freedom to choose may not be an important factor for the whole community to consider. Instead, the government can provide choices with respect to the type of vaccines, e.g. the vaccines produced by traditional methods.

- Overall, whether legislation is the best measure depends on a multitude of factors to address the market failure. As the issues are complex and multi-faceted, a combination of policies should be implemented to tackle the various root causes and enhance the effectiveness of policies and reduce government failure.
- In addition, the Singapore government should ensure that its policies do not bring about unintended consequences. For example, while mandatory insurance will reduce the problem of asymmetric information, it might also make healthcare insurance unaffordable to low income consumers. Thus some form of means tested subsidies to consumers for purchase of COVID insurance or vaccination can reduce such unintended consequences.

Mark Scheme:

Level	***Knowledge, Application/Understanding and Analysis***	
L1	• *Vague knowledge of government interventions for information failure* • *No use of relevant economic framework or analysis applied* • *Unexplained interventions or listing of points* • *Critical errors in analyses of intervention* • *Descriptive explanation of answers*	*1 – 4*

L2	• *Some economic analysis of government intervention of legislation and an alternative measure* • *Some use of relevant framework in the analyses of government interventions to information failures.* • *Some use of examples.* • *Some gaps or lapses in analyses of interventions.* • *Some discussion of effectiveness of interventions.*	*5 – 7*
L3	▪ *Good scope of coverage of interventions.* ▪ *Detailed analysis and discussion of the respective government interventions.* ▪ *Good use of examples applied throughout essay* ▪ *Good discussion of government failure in intervention that extends beyond effectiveness.*	*8 – 10*
	Evaluation	
E1	▪ *Unsupported judgment about the relative effectiveness of government interventions.* ▪ *Unsupported suggestion of alternative policies or refinement to mentioned policies.* ▪ *Superficial conclusion/ assertion*	*1*
E2	▪ *Substantiated judgment, recommendation supported by reasons/ economic analysis*	*2 - 3*
E3	▪ *Insightful and perceptive evaluation and recommendation well discussed and evaluated using economic analysis and good application to the context* ▪ *2 well explained insights*	*4 - 5*

Question 4

To safeguard the poor, tax hikes must be combined with larger transfer payments.

Source: International Monetary Fund

(a) Explain the likely impact of the above fiscal measures on an economy's aggregate demand and aggregate supply. [10]

(b) Discuss the extent to which various measures to 'safeguard the poor' may create problems for a country. [15]

Part (a)

<u>Introduction</u>

- Tax hikes can be in the form of a rise in direct taxes i.e. income taxes and corporate taxes as well as GST which is an indirect tax.
- Transfer payments are financial payments given to unemployed or low-income households for which no goods or services are transacted in return. Examples are unemployment benefits or food vouchers.
- Define AD and AS
    - AD refers to the total spending on domestically produced goods and services by households, firms, government and the foreign sector.
    - AS refers to the total output of goods and services produced by all firms in an economy.

.

Body

Requirement 1: Impact of direct tax hikes and larger transfer payments on Aggregate Demand

1) Rise in Direct Taxes

- Income taxes are progressive in nature i.e. the higher the income bracket, the higher the percentage to taxes. Therefore, an income tax hike will affect the higher-income more than the lower income.
- In this regard, a rise in income taxes is likely to reduce the disposable income of households. They are likely to reduce their consumption of goods and services. As aggregate demand for goods and services is the summation of C, I, G and net X, AD thus falls, ceteris paribus.
- Corporate taxes are imposed on firms. With higher taxes, firms' post-tax profits fall, and the firms are likely to reduce their investment on plants and machines. Firms' decisions to invest depend on their Marginal Efficiency of Investment (MEI) which is the expected rate of returns (or expected profits). A tax hike reduces the MEI, causing firms to reduce their investment projects, at the given interest rate. This will result again in a fall in AD, since investment is a component of AD.
- The cumulative fall in C and I lead to a fall in AD. This works through the reverse multiplier to reduce AD by many rounds – as each round of fall in income induces further falls in spending.

2) Rise in Transfer Payments

- With a rise in transfer payments to the poor, it increases their ability to spend on goods and services, in spite of their low income. The extent of increase in C depends on the amount of these transfer payments.

3) Combined Effect

- Whilst a rise in direct taxes causes AD to fall, the transfer payments cause AD to rise. The final effect on AD can be a rise if transfer payments bring about a greater rise in C. As shown in Figure 1, the AD curve shifts from AD0 to AD1. This is possible since the lower-income households have a higher MPC i.e. they are likely to spend a significant amount of the given transfer payments on necessities. Conversely, the higher-income households' level of consumption may not be adversely affected by the income tax hike.

[Note that you may argue the other way as long as your opinion is valid. For example, another line of argument is that direct taxes affect a larger cross-section of the population including domestic firms as well as FDI whilst transfer payments are for a relatively smaller cross-section of the population]

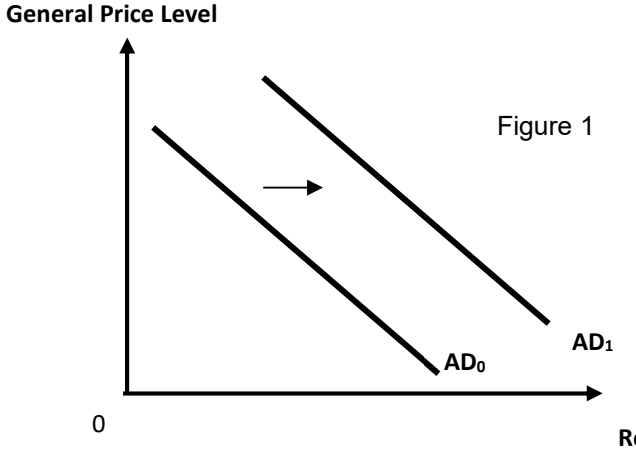


Figure 1

- As shown in Figure 1 above, the combined effect leads to a final rise in AD. And the AD will rise by more than proportionate via the multiplier process.

4) Multiplier Effect

- The multiplier works based on the principle that one man's spending creates income for the next person, and that income induces more spending. With a rise in autonomous AD, the process goes through many rounds of induced spending to generate more rounds of increase in AD. The process ends when the initial rise in AD has totally leaked out as withdrawals in the forms of savings, taxes and imports. Eventually, AD would have risen by more than proportionate.

Requirement 2: Impact on AS
[any 1 or 2 ideas acceptable but there must be a link to change in productive capacity]

1) Effect of rise in direct taxes

Corporate taxes: With a rise in corporate taxes, the aggregate supply of goods and services is likely to fall. As explained earlier, investment falls with imposition of corporate taxes. In a case where new capital stock is insufficient to replace worn-out capital, there will be a fall in productive capacity i.e. the ability of the economy to produce goods and services decreases. The AS thus falls, causing the AS curve to shift inwards as the full employment frontier decreases.

- Moreover, given a fall in productivity, less output can be produced with the same amount of input. This implies that the average cost of production may have risen. This causes the horizontal segment of the AS curve to shift upwards.

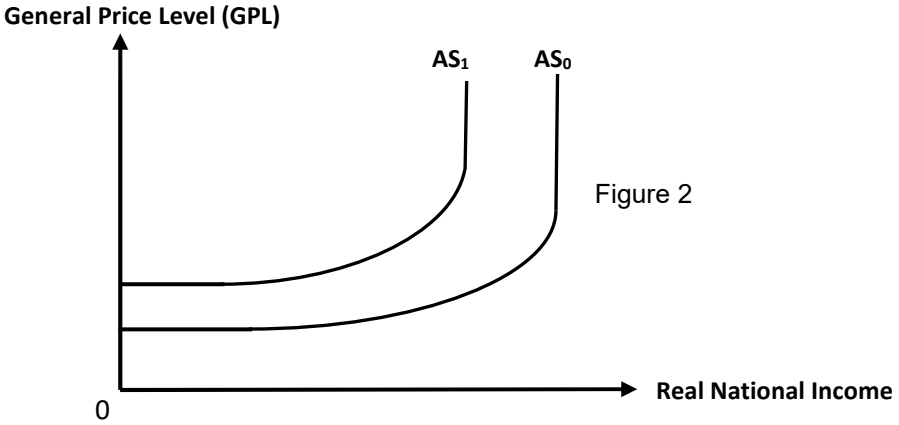


Figure 2

With a fall in productive capacity and rise in production cost, the AS curve shifts from AS0 to AS1, as shown in Figure 2 above.

- **Income taxes:** The effect on AS is less determinate with the imposition of income taxes. With a rise in income taxes, the incentive to work may be affected. With the income effect of a tax, households may be forced to work more to maintain the same level of disposable income and material welfare. On the other hand, given the substitution effect, the opportunity cost of leisure has decreased since the amount of disposable income earned for every hour of work has fallen. In this case, households may value leisure more and thus work less.

- In a case where substitution effect outweighs the income effect, the quantity of labour may reduce and quality may deteriorate. This leads to a fall in productive capacity thereby reducing the ability of the economy to produce more goods and services. The aggregate supply of goods and services thus falls, leading to an inward shift of the AS curve from AS0 to AS1.

- Moreover, an increase in income taxes can lead to brain drain where people migrate to other countries with less harsh income taxes. It also deters foreign talent from working in this country. The consequence might be a fall in quantity and quality of labour – causing a further fall in AS.

2) Effect of rise in transfer payments

In welfare states where there are instituted unemployment benefits, the incentive to work may be drastically reduced as people can rely on government handouts to get by. A prolonged period of unemployment or very generous welfare payments may lead to these people permanently leaving the labour force, thereby causing a fall in productive capacity and AS, as the quantity of labour is reduced.

3) Effect of GST being imposed

A broad-based GST will have a significant impact on the production cost of firms. At the prevailing price level, all firms reduce their quantity supplied. This causes a corresponding fall in AS.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ A descriptive response ▪ Glaring conceptual errors ▪ No theoretical framework/no link to AD-AS ▪ Confused between AD and AS effects	***1 - 4***
L2	▪ Relevant answer with analysis of impact of tax hike and transfer payments on AD and AS - but with some gaps in analysis ▪ Analysis lacks relevant details ▪ Underdeveloped explanation of AD and AS factors ❖ only AD or only AS explained ❖ only tax hike or only transfer payments analysed ❖ only 2 effects analysed – 1 AD and 1 AS ❖ no examples nor clear categorisation of different types of taxes	***5-7***
L3	For a well-developed analysis on how the tax hike and transfer payments affects both AD and AS A full mark requires: ❖ combined effect on AD due to transfer payments and direct taxes ❖ explanation of the multiplier process ❖ link to productive capacity ❖ clear definitions of terms such as AD/AS, C/I and productive capacity	***8 – 10***

Part (b)

Introduction

- 'Safeguarding the poor'
  - providing financial/material help to the poor to protect them against the lack of food, clothing and shelter, so as to provide for a minimum standard of living.
  - Problems refers to **other problems that may arise** – other than the issue of income inequality.
  - Such problems can be examined in terms of impact on the 4 macro-economic objectives [or even micro-economic objectives -depending on the measure or issue raised]

Body

Requirement 1: Stated Measure 1 – tax hikes with larger transfer payments

[This is an extension of what was discussed in part a. Part a ends with effects on AD and AS, and part b continues with how the changes in AD and AS affect the macro-economy. Rigour in analysis is expected in use of the AD-AS framework.]

Briefly on how it safeguards the poor:

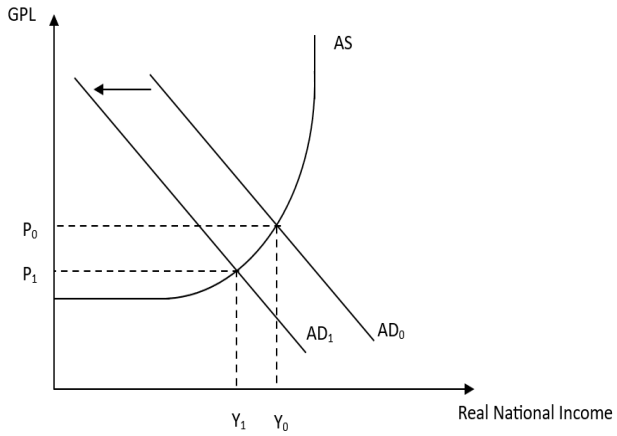
- tax revenue used to finance transfer payments such as direct subsidies and unemployment benefits to serve as safety net for the poor

Issue 1: Comparing Effects of tax hikes vs transfer payments

Thesis: Problem created

1) *Contractionary effects of tax hikes [C and I fall]*
   - **Recall**: A rise in income tax led to a fall in C and a rise in corporate tax caused I to fall. This leads to a fall in AD. [*this is where the rigour in analysis should begin*]

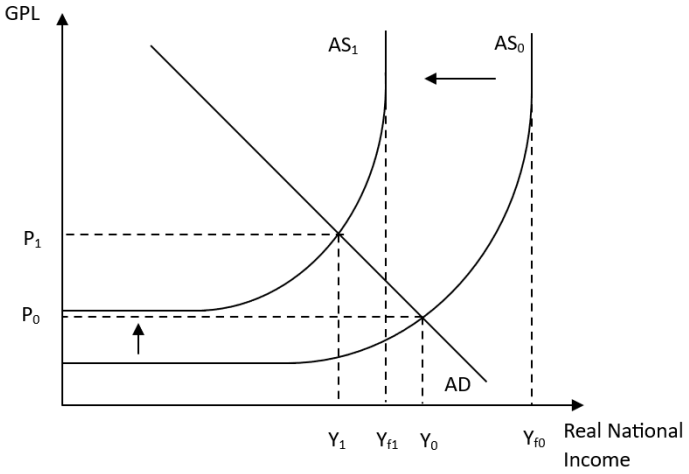
Figure 3



- With reference to Figure 3, as AD falls, the AD curve shifts from AD0 to AD1. This causes an unplanned surplus of inventories. Firms reduce output and need fewer workers. As workers are retrenched, they face a fall in income which leads to a fall in induced consumption. The process goes through many rounds of fall in AD due to fall in induced consumption. Eventually the real GDP falls from Y0 to Y1.

2) Effect on Potential Growth
Recall: Rise in direct taxes may reduce the incentive to work and reduce I. This causes the AS to fall. [*Rigour in analysis begins from here*]

Figure 4



With the fall in AS, the AS curve shifts from AS0 to AS1. As a result, the full employment frontier falls from Yfe0 to Yfe1, and there is a fall in potential growth. Moreover, the real GDP would have fallen from Yo to Y1. This is due to the higher inflation of P1 that causes a fall in quantity demanded – by households, firms or foreigners. The fall in actual growth is seen as a movement along the AD curve.

In sum, the consequence of a fall in AS is the adverse impact on actual and potential growth as well as inflation.

Can elaborate briefly on <u>any one secondary issue</u> arising from the high inflation - such as on balance of trade due to decline in export competitiveness or on I arising from uncertainty in gauging profits and rise in operating costs.

*But **<u>primary effects as discussed above must first be rigorously analysed.</u>***

Anti-thesis: No Problems

<u>Expansionary effects of rise in transfer payments</u>

- Conversely, the rise in C due to transfer payments leads to an increase in AD. This works through the multiplier to increase real GDP by more than proportionate.

<u>Combined Effect</u>

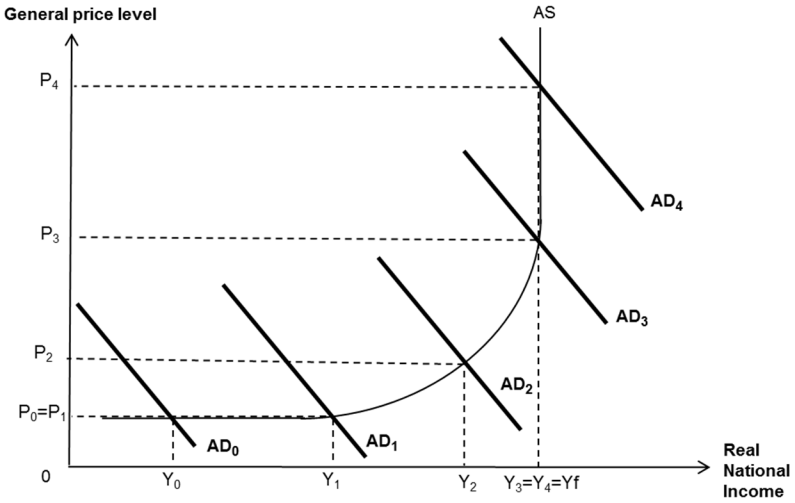
- Given that the rise in C due to transfer payments outweighs the fall due to direct taxes, the end result is therefore positive economic growth.
- In addition, as output rises, there is a rise in demand for labour as a factor of production. Cyclical unemployment will be reduced.

Issue 2: Possibility of demand-pull inflation

Thesis: Problem - Demand -pull inflation arises

- As AD rises, the prospect of over-heating depends on the state of the economy.

Figure 5



- If the economy is at the upward sloping portion of the AS curve, any increase in AD will create pressure on prices. The economy faces a shortage of resources. As shown in Figure 5, with a rise in AD and AD curve shifting from AD2 to AD3, the limited resources are insufficient to produce goods to meet the high demand. The rise in price of factor inputs caused by the rising demand leads to demand-pull inflation – shown as a rise in GPL from P2 to P3.
- A worse-case scenario may be if the economy has already reached full employment of its resources. Then the shift in AD curve from AD3 to AD4 causes excessive over-heating with a rise in GPL to P4 - without any rise in real national income.
- **Evaluation:** In some ways, the high inflation also hurts the poor since a rise in GPL signifies a rise in the price of necessities, thereby negating the benefits brought about by higher transfer payments.

Anti-thesis: Demand-pull inflation may not arise

- However, if the economy is at the Keynesian range i.e. the country is in a recession or has abundant resources, there is little pressure on prices as there are sufficient factor inputs to meet the rising demand. As shown in Figure 5, as the AD curve shifts from AD0 to AD1, the full multiplier effect works to bring about a significantly higher rate of economic growth with real GDP rising from Y0 to Y1 – without the dampening effects of inflation.

Requirement 2: Any one additional measure

Measure 1: Minimum wage

Briefly on how it safeguards the poor

As shown in Figure 6, a national minimum wage has to be set above the equilibrium wage rate of w1 in order to be effective. With a higher wage rate, it has the effect of 'safeguarding the poor' to allow them to meet basic subsistence needs.

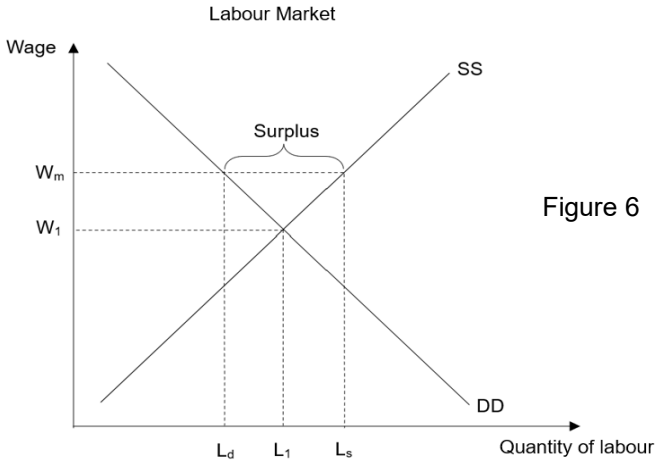


Figure 6

Thesis: Problems that arise

On employment:

- Figure 6 shows a disequilibrium i.e. a surplus LdLs of labour being created as the quantity supplied of workers surpasses the quantity demanded. Firms and workers react differently to the rise in wages – with firms wanting to employ fewer workers as production cost rises while workers are incentivised to offer their labour services. The national minimum wage thus leads to a higher unemployment rate.

- What is more worrying is that L1Ld of workers are retrenched. Since a national minimum wage is instituted to help the lower-income workers, it becomes a double-edged sword as it ends up hurting the people it is trying to protect.

- With higher wage cost, firms are likely to switch to capital-intensity – towards a greater reliance on machines. This will possibly lead to more unemployment as labour gets replaced by machines.

Effect on Inflation and Growth:

- With the rise in wage and thus production cost, AS falls resulting in a higher GPL (wage-push inflation) and lower real GDP.
- Moreover, a higher inflation, if not reined in, hurts export competitiveness. And it is likely to deter domestic I and FDI due to the difficulty in gauging profits and higher operating costs. These are likely to impinge adversely on AD and thus economic growth rate.

Anti-thesis: Problems may not arise

- Unemployment may not be a severe problem if wage cost is not a significant percentage of production cost. This means that the demand for labour is wage-inelastic and therefore may not lead to a large labour surplus nor a huge retrenchment of workers.
- The imposition of a minimum wage may entice firms to send workers for training so that they can be more productive. This has the added benefit of raising the productive capacity and contributing to potential growth.

Measure 2: Education and training

Briefly on how it safeguards the poor: With efforts directed at education and training, the skills of those in the lower-income strata are improved. It increases their employability and reduces their susceptibility to being structurally unemployed.

Thesis: Problems may arise

Issue 1: Problem of debt and crowding out

- Upskilling of workers requires government funding as it is often subsidised by the government – in co-payment with the firms. This thus leads to the problem of inability to finance. The same problem arises with the use of transfer payments if they are greater than the tax revenue collected.
- When the government runs a budget deficit, it may have to borrow to finance its expenditure. Debt incurred requires interest payments. That will reduce its ability to spend in the future or to stimulate the economy in times of recession. It also reduces its ability to spend on infrastructure or other essential services such as healthcare. The impact is thus lower growth for future generations as well as inability to achieve micro-economic objectives of efficiency in resource allocation.
- If the government borrows from the public through the issue of bonds, it has the effect of crowding out C and I. In its competition with the public for scarce loanable funds, the interest rate will rise. As it is more costly to borrow, households reduce C and domestic firms reduce I. The fall in C and I are likely to reduce AD, leading to a fall in real GDP.

Issue 2: Receptivity of firms and workers

- Workers and firms alike may not be receptive to the idea of training programmes. In the case of an ageing labour force, it may be more difficult for the workers to learn new skills as their learning curve is steep. Moreover, firms may not be keen to send workers for training as absence form work means a fall in productivity. And firms also incur cost in such training programmes. The policies may thus not yield results. There will be a wastage of resources which could have been used in other areas to develop the country with adverse impact on the economy, as explained earlier.

Anti-Thesis: No Problems or there can be benefits

On economic growth: Helping lower-income workers to upskill undoubtedly helps to reduce income inequality. And it has the added benefit of boosting the potential growth of the economy. With a more skilful labour force, the productive capacity increases, thus leading to a rise in the full employment frontier and a lower inflation rate.

On funding: The problems associated with inability to fund training programmes and transfer payments will not be an issue if government has been running persistent budget surpluses to have enough reserves to finance its spending.

Conclusion Overall Evaluation

Synthesis:

All in all, the extent to which problems may arise depends on

- the extent of fall in AD due to direct taxes vs rise in AD due to transfer payments,
- the state of the economy – whether it is at the Keynesian range or approaching full employment,
- the ability to finance, and
- the type of measure being used.

Comparison of measures

- It is likely that the stated measure of transfer payments has a more immediate effect on helping the poor compared to a policy of upskilling which may take time to yield results. The latter thus does not have an instantaneous effect of helping the poor.

- With the given measure in the preamble, when transfer payments are accompanied by tax hikes, one cannot ignore the contractionary effects especially if tax hikes lead to brain drain and outflow of FDI.
- Minimum wage seems to have the same tangible benefits as transfer payments, but the problem is that the benefits only accrue to those who get to keep their jobs. We need to bear in mind that a minimum wage will lead to some workers being retrenched.
- On balance, transfer payments can be considered to be a short-term measure as its permanent use can lead to a double whammy of draining government reserves and encouraging complacency and inertia in seeking work.
- On the other hand, education and training seems to be a better long-term measure as the spending may lead to twin benefits of improved job prospects for the lower-income and rise in productivity for the economy. However, even this cannot be guaranteed – there may not be better access to job opportunities especially in a highly competitive labour market in the face of a globalised world that is open to influx of foreign labour.

Suggestions:

Some ways to pre-empt the problems:

On transfer payments: Governments need to ensure they do not run persistent budget deficits such that they are not able to sustain a policy of transfer payments when the need arises.

The desirability of transfer payments also depends on the type and duration such as the use of food vouchers during periods of economic downturn vs permanent unemployment benefits. Transfer payments of a long-term nature are definitely not to be encouraged.

On minimum wage: Since the use of a minimum wage may not encourage upskilling, there might be a need to couple it with training. In such a case, the wage increase can be matched with a productivity increase, thereby reducing the vulnerability to wage -push inflation.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	▪ *No theoretical framework/Descriptive and journalistic writing* ▪ *Meaning of question not properly grasped.* ▪ *Major conceptual errors* ▪ *Answer mostly irrelevant or inaccurate*	***1-4***
L2	*Evidence of use of theoretical framework and analysis linked to measures - but with some gaps in analysis and inconsistent use of theoretical framework* ❖ *at least 1 policy measure adequately discussed (T/AT)* ❖ *no reference at all to given measure in preamble* ❖ *no explanation of how measures work to safeguard the poor* ❖ *if alternative measure inappropriate*	***5-7***
L3	*2 requirements (R1 and R2) fulfilled- clear discussion of stated measure and 1 alternative measure with good Thesis/Anti-thesis framework* *Max 8:* ❖ *no AT – "No problems' not discussed* ❖ *if only half of stated measure discussed i.e. only tranfer payments or only tax hikes discussed*	***8 - 10***
Evaluation		

E1	▪ *A superficial conclusion /assertion* ▪ *Mere one-liner w/o substantiation/that does not offer any insight*	***1-2***
E2	▪ *A stand made to address the question* ▪ *R1 & R2 - insightful comment made such as substantiated evaluative comments about the relative merits/demerits of each measure*	***3-4***
E3	▪ *A stand made to address the question* ▪ *R1 & R2 – insightful comments made* ▪ *Insightful and perceptive judgement on which measure is better able to safeguard the poor, with possible solutions to alleviate the extent of the problems that arise.*	***5***

Question 5

(a) Explain why a government should be concerned with high rates of unemployment and a balance of trade deficit. [10]

(b) Discuss the factors that determine the choice of policies that a government would use to reduce unemployment. [15]

Part (a)

Intro:

- Define key terms:
  - Define unemployment: the situation when people who are willing and able to work and actively searching for a job cannot find jobs
  - Define BOT deficit: when import expenditure exceeds export revenue and that there is a net outflow of money on the country's trade balance
- Clarify 'concerned'
  - Government will be concerned about high unemployment rate and a BOT deficit when they negatively affect the government's achievement of its macroeconomic or microeconomic objectives (e.g., future economic performance and standard of living or equity)

Body:
R1: A government should be concerned with high unemployment rate as it has negative consequences on the economy/country

On high forgone output and its impact on social welfare and future growth <u>OR</u> SOL <u>OR</u> equity

- High unemployment rate represents in a wastage of scarce labour resources as many workers in the economy are unutilised and lying idle. The society will be productively inefficient and producing at an output level that is far below its maximum potential with lots of forgone output.
- For instance, the official unemployment rate in South Africa rose to 33% in 2023. With reference to Figure 1, at full employment level where all South Africa's scarce resources are fully and efficiently employed, it could be producing a combination of goods and services represented by point B on the PPC curve. However, with a third of its labour force not gainfully employed, South Africa can only produce at a point within its PPC curve, such as at point A. This is far below its productive capacity with fewer quantities of goods and services produced and a forgone output of X1X2 units of consumer goods and Y1Y2 units of capital goods.

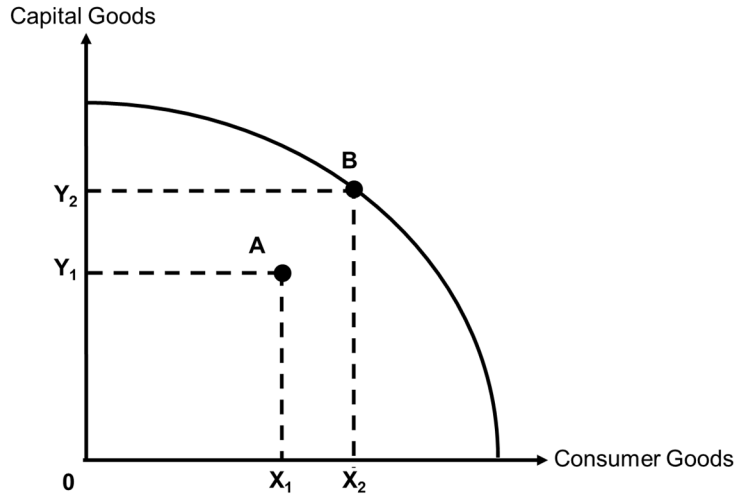


Figure 1

On social welfare and future growth

- South Africa is thus deprived of a higher quantity of consumer goods available for consumption. Its economy is allocatively inefficient where its social welfare will not be maximised. South Africa will benefit if all its labour resources are employed, and more goods and services are produced.
- The loss of potential capital goods also limits South Africa's future economic growth as it would have fewer capital factors of production to use for future production.

On hysteresis/discouraged workers and its impact on future economic growth of the economy

- Demand-deficient unemployment tends to be short term and usually gets resolved when the economy grows. However, very high levels of demand-deficient unemployment take time for the government to resolve.
- For instance, the United States took almost a decade to fully recover from the devastation of the 2008-2009 global financial crisis, during which many workers remained unemployed for months or even years, living on unemployment benefits.
- Many of these displaced workers experience deskilling when they start to lose the expertise they used to have, resulting in higher risks of hysteresis. Some become discouraged at repeatedly failing to secure a job, and hence leaves the labour force altogether. As its labour force shrinks, the US experiences lower productive capacity as the maximum level of output that it can produce is now lower with fewer labour to employ in the economy.
- While some long-term unemployed workers do not leave the labour force, some may become structurally unemployed where they no longer have relevant skills that matches the requirements of the recovering US economy, making the unemployment even harder to resolve.
- And even when these workers with deteriorating skills are re-employed into jobs, they may experience decreasing productivity with lower output produced per unit of labour hour. With lower quality of labour, the US economy faces higher average cost of production for firms and even lower productive capacity. This is represented by in inward shift of the AS curve from AS1 to AS2 in Figure 3.

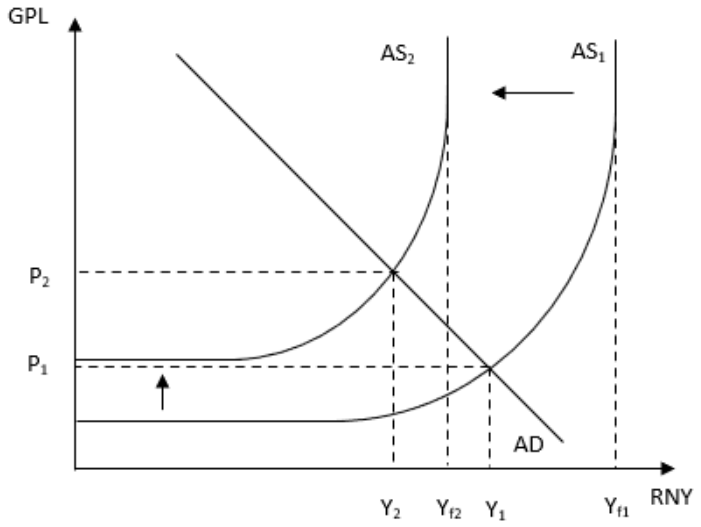


Figure 3

- As a result, the US economy experiences lower actual growth as real national income falls from Y1 to Y2 and lower potential growth as productive capacity falls from Yf1 to Yf2.

On putting strains on government budget

- High unemployment would lead to strains on the government budget which is the difference between tax revenue and government expenditure.
- When the COVID lockdown measures brought a halt to economic activities in the US, many people lost their jobs overnight and millions of people reportedly filed for unemployment. The US government had to incur higher expenditure and spent over billions on unemployment benefits and other social transfers such as cash payouts uplift the US households. Furthermore, tax revenue fell as fewer workers paid income tax and lower profitability for firms resulted in lower corporate tax collection. These resulted in a worsening government budget deficit for the US.
- To continue to finance its necessary government spending, the US government repeatedly hit and raised debt ceiling to borrow more *from the market*. This would result in intergenerational inequity where the burden of repaying the higher government debts lies disproportionately more on the future generations while the current generation benefits. The future generation may face more tax hikes and less government support as the US eventually faces the challenge to pay back the principal and the interests on the debts they incurred today. With potentially lower disposable income, the welfare of the future generation will be compromised.

R2: A government should be concerned with a BOT deficit as it has negative consequences on the economy/country

On economic performance and SOL of the country

- When a country runs a BOT deficit, it means that the country is paying more for its imports of goods and services than it is earning through exports. For instance, the US persistently runs a BOT deficit and this typically translates to a fall in net exports, X-M, in the economy. As the net export is a component of AD, the US experiences a fall in AD, leading to a more than proportionate fall in real national income via the reverse multiplier effect *(see the detailed explanation under unemployment above and link to an AD/AS diagram to illustrate)*.
- The actual economic growth in the US slows down. As the national output falls, firms in the US will hire fewer workers as factors of production. This results in higher demand-deficient unemployment.

The rise in unemployment would in turn lead to lower SOL in the US *(see explanation under unemployment)*.

On the need to finance BOT deficit and its effects on the country

- A country needs to finance its BOT deficit by running a capital and financial account (KFA) surplus (meaning net inflow in the capital and financial account) and/or running down on its foreign reserves.

On foreign debts and its effects

- The US finances its BOT deficit mostly by running a KFA surplus. This would necessarily mean that the US is 'borrowing' *from foreign countries* such as China. Such external debts, however, will need to be repaid in the future (with both principal and interests accrued on the debt). Future generations will be burdened with such debt repayment, hurting intergenerational equity *(see explanation under unemployment)*.
- Furthermore, the repayments of external debt also have an opportunity cost because the interests owed to foreign investors could have been used in supporting its internal development policies. For instance, the US could spend on its increasing taxed healthcare and education systems to boost human capital development or on transforming its flagging manufacturing sectors to regain economic competitiveness. These forgone spending could negatively affect the country's material and non-material SOL and future growth *(see explanation under unemployment)*.

OR

On exchange rate and its effects

- A BOT deficit could lead to net money outflow from the country, as more money are paid on import expenditure than received from export revenue.
- The US, under a free-floating exchange rate regime, will experience a decreased DD for USD in the forex market as foreigners demand less USD to purchase US exports and an increased supply for the USD as Americans sell more USD to purchase imported goods and services. Ceteris paribus, the USD depreciates. The weakened USD will make imported consumer goods more expensive for Americans, leading to higher imported inflation shown by higher CPI in the US. Furthermore, imported factors of production such as crude oil and steel, critical to the production of many American industries, will become more expensive in USD. This increases the average cost of production in the US economy, leading to a fall in AS from AS1 to AS2 in Figure 4 as firms are less willing and able to produce at each GPL level.

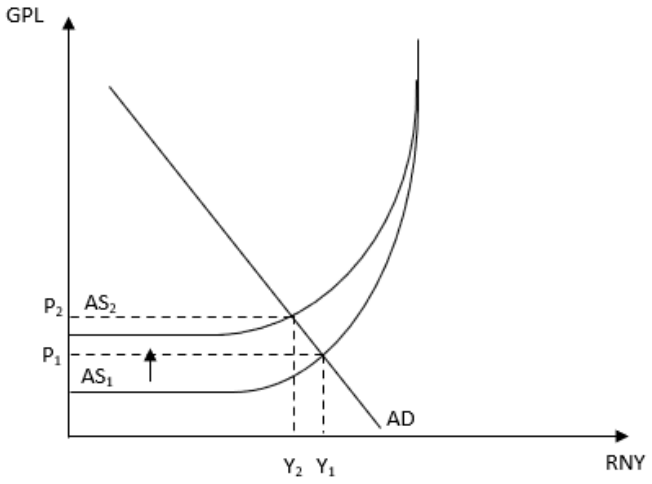


Figure 4

- The US will thus experience higher cost-push inflation as GPL rises from P1 to P2 and lower actual economic growth as real national income falls from Y1 to Y2.

OR

- Under a fixed exchange rate regime, the Hong Kong government, however, needs to draw on its foreign reserves when its trade deficit results in a net money outflow from its economy. To prevent depreciation of Hong Kong dollars (HKD) and maintain its fixed exchange rate, Hong Kong needs to buy HKD with foreign reserves to increase DD for HKD in the forex market.
- While this is viable in the short term and when the trade deficit is not large, the Hong Kong government could run out of foreign reserves if the trade deficit persists. The eventual depletion of foreign reserves could cripple the Hong Kong government's ability to maintain its fixed exchange rate, resulting in drastic devaluation of HKD. As HKD weakens, imported inflation will be resulted *(see explanation above)*.
- Even if the foreign reserve does not run out, the use of official foreign reserves to finance trade deficits raise similar issues about the opportunity cost of alternative uses of foreign reserves *(see explanation above)*.

Conclusion:
Overall, the government should be concerned with high rates of unemployment and a BOT deficit as they negatively affect its attainment of its macroeconomic and microeconomic objectives.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	• *A descriptive response* • *Glaring conceptual errors* • *No clear use of government goals to describe the consequences* • *No use of economic framework throughout*	***1 – 4***
L2	• *Lacking scope of answer, only fulfilling R1 or R2 with multiple consequences, but not both requirements* • *Some gaps or lacks depth in analysis*	***5 - 7***
L3	• *Balanced scope with both R1 and R2 explained well* • *Analytical answer that uses economic tools of analysis well*	***8 - 10***

Part (b)

There are two equally acceptable approaches to the question:

Approach one: discussion based on the different factors of consideration and infuse the policy choice in the explanation of each factor, e.g.

1. 1st factor to consider is the root cause of unemployment. SSP for structural vs. DD-management policy for cyclical unemployment (explain)
2. 2nd factor to consider is the openness of the economy in dealing with cyclical unemployment. ER policy for small and open economy like SG vs. IR policy for countries with large domestic C like US (explain), etc.

Approach two: discussion based on the policy choices suitable for solving both types of unemployment and how the factors like openness of the economy and government budget position can affect the policy choices accordingly.

The suggested answer below is based on Approach two with the use of ABCDE framework of government decision making as the main structure.

Introduction:

- Due to the negative consequences of high unemployment, governments would seek to reduce unemployment with a variety of policies. However, every policy has different limitations and trade-offs thus the government must consider many factors when deciding which policy to implement to achieve its aim of low/full unemployment.

Body: choose at least two factors in deciding policy choices to explain. At least two policies targeting unemployment need to be analysed, one for cyclical and one for structural.

The government needs to consider the key <u>benefit</u> of its policy choice, i.e., how the policy choice can effectively address the root cause of the unemployment.

Government can use expansionary DD-management policies, such as fiscal policy, to reduce cyclical unemployment.

- Cyclical unemployment is usually caused by significantly falling AD and poor growth in the economy.
- For instance, many countries such as the US and the UK increased government spending on healthcare and provided tax reliefs in terms of lowering personal and corporate income taxes in their fight against the economic recession during the Covid-19 pandemic.
- With lower personal income tax, consumers will enjoy higher disposable income and hence increase their consumption spending on goods and services. With lower corporate income tax, firms will enjoy higher after-tax profits, giving them higher ability to invest in projects that would generate them profits in the long run. Hence, investment spending increases.
- As G, C and I are all components of AD, these economies will experience a rise in AD. At the original GPL level, the firms will experience an unplanned rundown of inventories. They will step up their production by hiring more factors of production including labour. As the household income increases with the employment, they will spend more on consumption. This triggers the multiplier effect where one person's spending is another's income. The initial increase in induced spending will generate many more rounds of income and job creations. Each round gets smaller and smaller due to the presence of leakages in the form of savings, taxes and import expenditure. The process will eventually end with a more than proportionate income in real national income. This increases the derived demand for labour as they are needed in the production of the goods and services produced, reducing the level of cyclical unemployment.

However, the government should use supply-side policies (SSP) to reduce structural unemployment.

- Structural unemployment is caused by the mismatch of skills between the unemployed and the available job vacancies. It cannot be addressed by DD-management policies as even when there is enough demand for labour, the unemployment remains due to the lack of relevant skills offered by the job seekers.
- Countries like Singapore uses supply-side policies to actively promote retraining and upskilling of its labour force. For instance, under its SkillsFuture programme, the Singapore government establishes the Continuing Education and Training (CET) centres which act as public training providers for its people. Each CET centre offers a comprehensive array of Workforce Skills Qualifications (WSQ) courses and training in areas such as hospitality, finance and aerospace. Subsidies are also provided to Singaporeans to attend various skills retraining programmes.
- Many of the structurally unemployed are from the sunset industries in Singapore like low skilled manufacturing. They typically lack the skills to readily join the sunrise industries in Singapore such as the finance and high skilled engineering sectors, resulting in structural unemployment.
- With the subsidies and training provided by the government, these unemployed can learn new and more advanced skills over time and get qualified to join the sunrise industries. This increases the

employability of the workers as they learn more transferable skills such as computing and coding, reducing the level of structural unemployment in Singapore.

The government also needs to consider the <u>costs</u> arising from their policy choice and the <u>constraints</u> that each face in carrying out the policies.

Constraint considerations, i.e., factors that could limit the government's ability to effectively carry out the different types of policies.

- Nature of economy
    - Small and open economies like Singapore have a relatively smaller domestic market. As compared to domestic consumption and investment, trade and FDIs are more important drivers of their economic growth. Thus, to reduce cyclical unemployment, domestic targeting policies, such as lower direct taxes through fiscal policies, are less effective in increasing its AD, real national income and hence employment levels. Instead, Singapore uses expansionary exchange rate policy by conducting one-time devaluations of SGD to spur growth.
    - As SGD depreciates, one unit of foreign currency can purchase more SGD. This makes Singapore's export cheaper in foreign currency, increasing demand for its exports. Imports into Singapore are, however, made more expensive in SGD, and local consumers would be more willing and able to switch to consumption of locally produced substitutes for imports. As the AD increases, there is a more than proportionate increase in real national income in Singapore via the multiplier process and a reduction in demand-deficient unemployment.
    - However, for economies like the US and the UK with higher levels of domestic and investment, domestic targeting policies, such as lowering direct taxes and interest rate, tend to be more effective.

- Size of the multiplier
    - Economies like Singapore have a small k size, reducing the effectiveness of DD-management policies in reducing cyclical unemployment.
    - Due to the culture of thrift and the presence of compulsory savings scheme under the CPF Board, Singaporeans tend to save a lot out of each dollar that they earn. Compounded with the high import content in the goods and services consumed in its economy, Singapore faces a high marginal propensity to withdraw and hence a small k size.
    - As a result, the same initial AD increase (e.g., due to a rise in government spending under fiscal policy) in Singapore will lead to a smaller multiplied rise in real national income and less reduction in cyclical unemployment than countries with a larger k size like the US.
    - Thus, the Singapore government often needs to supplement with DD-side policies with SSP or even trade policies (e.g. signing FTA to expand to more foreign markets or to attract more FDI) to achieve optimal results on reducing cyclical unemployment.

- Government budget constraint
    - Interventionist SSP and expansionary fiscal policy place a high strain on the government budget as they often require high levels of government expenditure to finance.
    - For instance, setting up CET centres in Singapore and paying out training subsidies to all Singaporeans aged 25 and above requires high expenditure by the Singapore government. This SSP can be an appropriate policy for Singapore in reducing its structural unemployment because the government routinely keeps a healthy level of government reserves to fund all its policy spending.

- Countries like UK, on the other hand, are on large and persistent budget deficits. With the lack of enough fiscal space to spare, the UK government's hands are often tied in carrying out expensive interventionist policies. Without enough budget to spend, the UK government would have to resort to other less expensive measures such as the interest rate policy.
- The government could lower its interest rate, reducing the cost of borrowing domestically. The consumers will be more willing and able to borrow and spend on consumption of big-ticket items such as cars and houses. The firms will be more willing and able to invest as the number of investment projects with expected rate of returns (or MEI) greater or equal to the cost of borrowing increases. Hence, AD increases, leading to higher real national income and lower cyclical unemployment.
- However, this policy will be ineffective in addressing any potential structural unemployment in the UK. And the government would have to resort to other less interventionist measures such as moral suasion to encourage the unemployed to retrain and upskill and tolerate the higher uncertainty in effectiveness.

Cost considerations, i.e., if the policy choice could lead to other negative impact on the economy.

- Opportunity costs and/or conflicts with other goals
  - E.g. the depreciation of SGD to address cyclical unemployment in Singapore may worsen cost-push inflation and economic growth in Singapore as it makes imported factors of production more expensive in SGD. Thus, in carrying out exchange rate policy, the Singapore government needs to weigh out the potential contractionary effects on the economy due to rising costs. The government can use expansionary fiscal policy in conjunction with its exchange rate policy to enhance the effects on reducing cyclical unemployment, no matter how small.
- Possible retaliation by other countries
  - E.g. deliberate currency management may be deemed as a form of protectionism, which could lead to retaliation by trading partners especially during worldwide economic hardship. For instance, while China can manage its exchange rate during recession to reduce its cyclical unemployment, it may not be able to fully rely on it as major trading partners like the US are likely to retaliate and impose trade barriers. Thus, a combination of both fiscal, interest rate and exchange rate policies are usually used reduce cyclical unemployment inChina.

Evaluation:

- *Accept any possible evaluative ideas but need at least two main insights*
- *E.g. weigh which consideration is the most important*
- *E.g. suggest possible ways to improve policy effectiveness / reduce costs / a mix of policies to minimize trade-offs or to complement in SR and LR effects*
- *E.g. examine the context of different countries or global environment*
- *E.g. consider SR vs. LR effects*

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	*Mostly irrelevant / inaccurate answer with only a few unsubstantiated ideas* *Glaring conceptual error* *Lack of AD/AS framework throughout and insufficient explanation for structural unemployment*	***1–4***

L2	*Limited scope of answer, e.g., only one policy discussed with factors or only one factor with policy choices discussed; only one type of unemployment addressed* *Gaps in explanation of how policy works to address unemployment* *Gaps in explanation of relevance of factor to policy choice* *Lack contextualization throughout the essay*	***5-7***
L3	*Excellent and well-organised analysis of policy, using AD/AS framework for cyclical unemployment and using concept of skills mismatch for structural* *Good use of examples and context for discussion* *Good scope* • *at least **2** policies well discussed, one for each type of unemployment (cyclical and structural)* • *at least **2** different factors well discussed, one benefit and one cost/constraint*	***8-10***
Evaluation		
E1	*A superficial conclusion /assertion.*	***1 - 2***
E2	*Substantiated evaluative comments about the relative importance of different factors*	***3 – 4***
E3	*Insightful and perceptive judgement on the relative importance of different factors substantiated with 2 insights*	***5***

Question 6

Low probability but high impact events, such as the Covid-19 pandemic that sparked a global recession and the obstruction of the Suez canal that triggered supply-chain breakdowns, have illustrated that an increasingly globalized world has made economies more efficient but less resilient. This has prompted many governments to make efforts to be more self-sufficient.

(a) Explain how globalization has made economies 'more efficient but less resilient'. [10]

(b) Discuss the policies a government could use to become more self-sufficient and whether, on balance, these policies are beneficial. [15]

Part (a)

Introduction:

- Clarify key terms
  - Define globalization: Interconnectedness / lower barriers to flows of G&S, capital, labour, technology, information
  - Define 'more efficient': more efficient use of resources, more productively efficient (lower costs), more dynamically efficient (improvement in R&D)
  - Define 'less resilient': resilience is the ability to withstand challenges / shocks, therefore an economy becomes less resilient if it becomes more vulnerable to external shocks
- Overall essay direction
  - Globalization has allowed for economies to become more efficient by allowing for more efficient use of resources and lowering costs of production
  - However, globalization has made economies more interdependent and as a result more vulnerable to external DD-side and SS-side shocks

Body:

R1: Globalization has made economies more efficient

- Freer flows of trade has allowed economies to be more efficient
    - Lower barriers to trade allows economies to engage in more trade and exploit comparative advantage
        - This allows economies to further specialize in their area of comparative advantage where they have lower opportunity costs of production than their trading partners
        - Economies would specialize in their area of comparative advantage, diverting resources away from other goods and import those goods instead
        - This allows for more efficient use of resources as each economy specializes in goods that they have lower opportunity costs and this increases global output allowing economies to enjoy greater consumption of goods and services through mutually beneficial trade.
        - This specialization and trade thus allows economies to achieve higher allocative efficiency, achieving higher consumption levels increasing society's welfare.
    - Lower barriers to trade has also allowed firms to engage in cost-saving strategies
        - Allows firms to source for cheaper imported FOP, this lowers their costs of production
        - Allows firms to engage in outsourcing / off-shoring, whereby parts of their production processes are conducted in other countries where it can be done cheaper thus lowering their costs of production

- Freer flows of goods/ capital / FDI has made economies more efficient
    - Freer flows of goods / FDI has made economies more efficient by increasing competition
        - Domestic firms face more competition in the form of cheaper imports / foreign firms conducting FDI
        - This creates incentive for firms to conduct more R&D to compete with foreign firms
        - Leads to better productivity and thus lower per unit costs of production

- Freer flows of FDI/technology/labour has made economies more efficient
    - Transfer of skills / technology / know-how, increases the productivity in the country
    - Leads to lower per unit costs of production

R2: Globalization has made economies less resilient

- Globalization has made economies more vulnerable to DD-side shock
    - More trade and more FDI occurs due to less barriers and more interconnectedness
    - This means that economies become more reliant on external sources of demand as part of their aggregate demand
    - Export spending and FDI spending can become large % of overall AD
    - This means that when external DD shocks such as a recession in a trading partner's economy due to the COVID-19 pandemic occurs, this can lead to a large fall in a country's AD as the lower growth would lead to fall in export spending and FDI
    - This fall in AD would then lead to negative impacts on a country's growth and employment

- Globalization has made economies more vulnerable to SS-side shocks
    - Greater interconnectedness in the supply chain through processes such as offshoring / outsourcing / greater reliance on imported FOP
    - This makes economies more vulnerable to external SS-side shocks

- For example, a disruption in the supply of imported FOP and intermediate goods due to an event such as the blockage of the Suez canal
- This would lead to a shortage of imported FOP causing prices of FOP to rise and leading to an increasing cost of production >> reflected as worsening SRAS curve
- This would thus lead to worsening cost-push inflation
- Thus, the more interconnected an economy, the more reliant they are on imported FOPs and the more vulnerable they are to external SS-side shocks.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	– *A descriptive response* – *Glaring conceptual errors* – *No economic analysis used to explain 'efficient' or 'resilient'*	***1 – 4***
L2	– *Underdeveloped explanation of globalization effects* – *Analysis lacks relevant details* – *Application to the context of globalization is weak* – *Lacking scope of analysis (Analyzed only efficient OR resilient)*	***5 - 7***
L3	– *Good analysis of BOTH 'more efficient' AND 'less resilient'* – *Detailed explanation linking globalization to improved efficiency.* – *Detailed explanation linking globalization to greater vulnerability* – *Well applied to the context of globalization*	***8 - 10***

Part (b)

Introduction:

- Interpret key issue: Given that globalization has the potential to make economies less resilient, one way that governments have been responding to the challenges of globalization is by implementing policies to make their economies more self-sufficient and less vulnerable as a result.

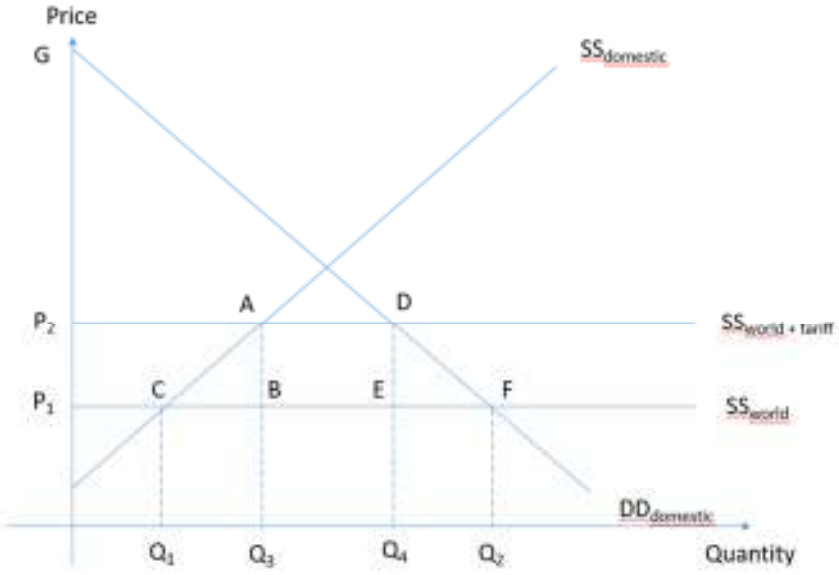
- Clarify key terms
  - Self-sufficient: Less reliance on imports, less reliant on external demand, increase domestic production and domestic consumption.

- Set overall Essay direction
  - One approach governments could use to achieve greater self-sufficiency is through using protectionist policies such as a tariff
  - Another approach governments could adopt would be to use SS-side policies that encourage domestic production and making domestic firms more competitive

Body:

R1: Governments can use protectionist policies such as a tariff to achieve greater self-sufficiency

- Diagrammatic analysis of tariff showing fall in import spending and increase in domestic production



Use of tariff to achieve greater self-sufficiency in an importing country

- Tariff would lead to an increase in the price of imported goods allowing domestically produced goods to become more price competitive
- This is reflected as an increase in the price of imports from P_1 to P_2 when the tariff is implemented shifting the supply of imported goods from SS_{world} to $SS_{world+tariff}$
- At the higher price of P_2, quantity demanded of the good falls from Q_2 to Q_4 while domestic producers find it more profitable to produce thus increasing output from Q_1 to Q_3.
- This results in a fall of overall import volume from Q_2-Q_1 to Q_4-Q_3, thus showing that the economy has become more self-sufficient as the imports have fallen and domestic production has increased as a result of consumers switching away from the relatively more expensive imported goods.
- This could also benefit the economy by boosting domestic employment as the increase in domestic production would result in an increase in derived-demand for domestic labour

Problems that can be caused:

- Inefficient allocation of resources >> DWL in the tariff diagram >> the loss in consumer surplus greater than the gain in producer surplus + government revenue
- There is a loss of welfare of area ABC due to the switch from more efficiently produced imported goods to the more inefficient domestic producers
- There is a loss of welfare of area DEF due to the consumers paying a higher price for the good while enjoying lower quantity thus losing consumer surplus.
- Spillover effects in related markets >> if tariff an FOP/intermediate good >> can cause cost of production to increase in related markets >> causes fall in SS >> fall in output >> worsening unemployment in related markets
- Can cause retaliation on the part of trading partners >> trade war >> result in falling X >> falling AD leading to worsening growth / unemployment

R2: Governments can also use supply-side policies to achieve greater self-sufficiency

- Government can use interventionist supply-side policies such as subsidizing R&D or training for local labour
- Improves the productivity of domestic production >> lower per unit COP >> makes domestic goods cheaper >> more price competitive >> consumers switch from imported goods to domestic good

- Illustrate through SRAS improvement >> lower GPL >> better price competitiveness of domestic goods relative to imported goods >>

Problems that can be caused:

- High cost of subsidizing R&D / training >> can lead to worsening government budget position >> can lead to lowered biz confidence >> leads to worsening Investment / falling AD >> lowered rate of growth
- R&D >> leads to technology improvement >> can end up replacing labour / changing skillset >> leads to unemployment / structural unemployment

Alternative arguments

- One possible answer can be a policy that rebalances the composition of the aggregate demand, increasing the domestic components of C, G and domestic I and reducing the components of X and FDI
- Another acceptable policy would be one that rebalances the labour composition that leads to substitution of foreign labour for domestic labour
- The key idea of reducing foreign elements and substituting with domestic elements needs to be present in the explanation and not simply linked to some generic beneficial macroeconomic outcomes.

Conclusion and Evaluation:

Stand: Whether the move to become more self-sufficient is overall beneficial or harmful depends on the type of policy used and the nature of the economy.

- Type of policy
    - Protectionist policies are likely to be more harmful than beneficial especially with the context of WTO rules / potential trade wars
    - Conflict with price stability of the economy
    - SS-side policy can possibly improve other macroeconomic goals at the same time as achieving the greater self-sufficiency. The main concern of SS-side policies is mainly feasibility and budget constraints.
- Nature of the economy
    - Affects the feasibility of becoming more self-sufficient
    - Small countries like Singapore not feasible to substitute imports to a large extent
    - Therefore unlikely to achieve any significant improvement in self-sufficiency and therefore the harms are likely to outweigh the little benefits that can be achieved.
    - Economies such as Singapore should then embrace globalization and seek not to reduce interconnectedness but to merely mitigate the negative consequences through other policy measures when they occur.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	• *A few valid points.* • *Answer mostly irrelevant or inaccurate.* • *Shows some knowledge.* • *No analysis of how the policy makes the economy more self-sufficient* • *Meaning of question not properly grasped (wrong interpretation of self-sufficient)* • *Inadequately explained or descriptive.*	***1–4***

L2	• *Gaps in the analysis of how the policy used by the government could achieve greater self-sufficiency* • *Only analyzed one policy* • *Policies only addressed self-sufficiency but did not consider potential trade-offs and harms*	***5-7***
L3	• *Excellent diagrammatic analysis on how the policies achieve greater self-sufficiency.* • *Good scope – **2** policies well discussed* • *Both benefits and costs of the policies are considered* • *Good application to the context of globalization*	***8-10***
Evaluation		
E1	• *A superficial conclusion /assertion.*	***1 - 2***
E2	• *Substantiated evaluative comments about the relative weight of benefits versus costs of the policies*	***3 – 4***
E3	• *Insightful and perceptive judgement on the relative weight of benefits versus costs of the policies based on 2 well explained insights.*	***5***

********END********