Raffles Institution

Nurturing the Thinker, Leader & Pioneer

ECONOMICS

Higher 2

Syllabus 9757

Examiner's Report

Year 6 Common Test 2022

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ECONOMICS

Y6 H2 Common Test 2 2022

Paper 9757/02
Paper 2

Question 1

1. The degree of competition within an industry depends on a number of factors.

a. Using examples, explain possible factors that have caused some markets to become more competitive. [10]

b. Discuss whether innovation is the best strategy for a firm seeking to increase its profits. [15]

Part (a) Introduction

- Link **"more competitive"** to increase in the level of competition → increase in the number of firms in the industry, fall in market share of firms and market power.
- Some important factors are government intervention and advancement of technology. Other possible factors include globalization, shift in culture towards greater risk taking and greater availability of market information to both producers and consumers

Factor 1: Government intervention may cause markets to become more competitive.

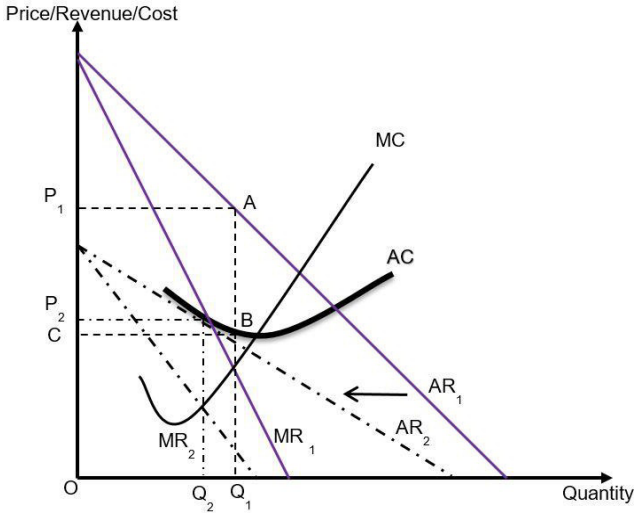
- Government can reduce monopoly power and market share of large firms through lowering the barriers to entry in many industries.
- Reduce legal barriers to entry (BTE) by issuing more licenses to more firms to operate, for example, the Spore government issued more licenses in various industries such as those in telecommunication, power distribution and public transport (bus). These industries were previously dominated by one or two firms and in recent years, the number of firms in each industry has risen substantially and the incumbent firms' market power has fallen, leading to the industry becoming more competitive.

- Reduce man-made BTE by implementing anti-trust laws to prevent predatory and anti-competitive behaviour of large firms thus ensuring fairer and greater competition. For example, in 2005, Competition and Consumer Committee Singapore (CCCS) was set up to eliminate or control practices which have adverse effect on competition in Singapore. It has the power to enforce against unfair practices like abuse of dominance, anti-competitive mergers and agreements in industries which might lead to reduction in number of firms and increased market share. For example, it intervened to prevent a potential dominance and lack of competition situation when a few diagnostic and laboratory services in the medical sector were bought over by a major player. It put in place measures to ensure fair practice to allow new entrants to compete in that sector → more firms, lower market share → more competitive.

- With lower BTE, the entry of new firms would lead to increase in the number of firms in the industry and reduce the market share of the incumbent firm as illustrated in diagram below, assuming the market size remains constant.

- As demand of incumbent firm falls and becomes more price elastic due to the increase in

the number of competitors, AR and MR curves shift inwards from AR_1 to AR_2 and MR_1 to MR_2 respectively and become gentler. The profit-maximising equilibrium output of firm fall from Q_1 to Q_2 → and thus the market share of firms falls, making the market more competitive.



Factor 2: Advancement in technology can reduce BTE, allow more firms to enter and reduce market share of incumbent firms and cause markets to become more competitive

- Technology advancement in communications and information– allow business units to be set up with low startup costs, eg through online selling, promotion and advertising → reduces BTE in terms of startup costs.
- Such technology also allows extensive reach to broader and even overseas markets → higher level of production/sales at lower unit costs → again reduces BTE (link to lower AC).
- For example, online fashion apparel business units have mushroomed because they can start small and at low cost (going online and engaging in social-media marketing) → retail fashion apparel on the whole have become highly competitive because of these new entrants.

Factor 3: Other possible factors

- Any example of any significant fall in the cost of production in industry → lower average cost →lower startup cost – for instance the lowering of factor input prices, the lowering of rent.
- Availability of information for new producers due to greater information flow- production know-how easily available because of information technology and ease of replicating production methods, example in the bubble tea sector. (This point might be linked to advancement of IT factor too)
- More information easily available to consumers about the pricing and quality of goods and services → lower consumer loyalty of incumbent firms, reduce BTE → lower mkt power.
- Shift in culture and more appetite for risk-taking among young entrepreneurs in society.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	• *Little / non-existent use of economic theory / answer that is largely descriptive knowledge with little or no economic terminology applied.* • *An answer that does not show that meaning of question is understood*	***1 – 4***
L2	• *At least 2 factors explained.* • *Some gaps in explanation - depth lacking in some areas / use of examples and economic terminology could be improved.*	***5 - 7***

L3	• *Answer has sufficient depth and economic terminology is well used to demonstrate rigour; good use of examples.* • *At least 2, if not 3 factors (must include govt intervention) well explained and developed using appropriate examples.*	***8 - 10***

<u>Examiners' Comments (part a)</u>

- *This question was poorly done by most students because the question requirement was not well grasped. Many students simply wrote all that they knew about the features that affect the level of competition in each market structure. Others wrote about how firms in different markets behave in a more competitive manner and engaged in price and non-price competition. Relatively few were able to explain factors, that have in recent years, led to an increase in the number of firms and subsequently a fall in firms' market share in some markets.*
- *The use of examples is needed in this question, not just because the question specifically asked for these, but also because they are critical to a rigorous explanation here. For scripts which have interpreted the question requirement accurately, most have quoted good examples of government measures to reduce BTE, leading to increased competition, namely increase in the number of firms and lower market share of the firms. However, those who suggested privatization did not score because they were not able to explain how that led to lowering of BTEs and increased number of firms in the market. Privatisation of state-owned companies per se without allowing more firms to enter a market does not necessarily lead to greater competition in a market. A monopoly is still a monopoly whether state owned or private owned.*

Part (b)
Approach:
Students are required to discuss innovation as well as other strategies which may increase the profits of firms. Other strategies may include advertising and marketing, superficial product/service differentiation, price discrimination etc. Scope of strategies should be wide to cover those which increase TR and reduce AC.

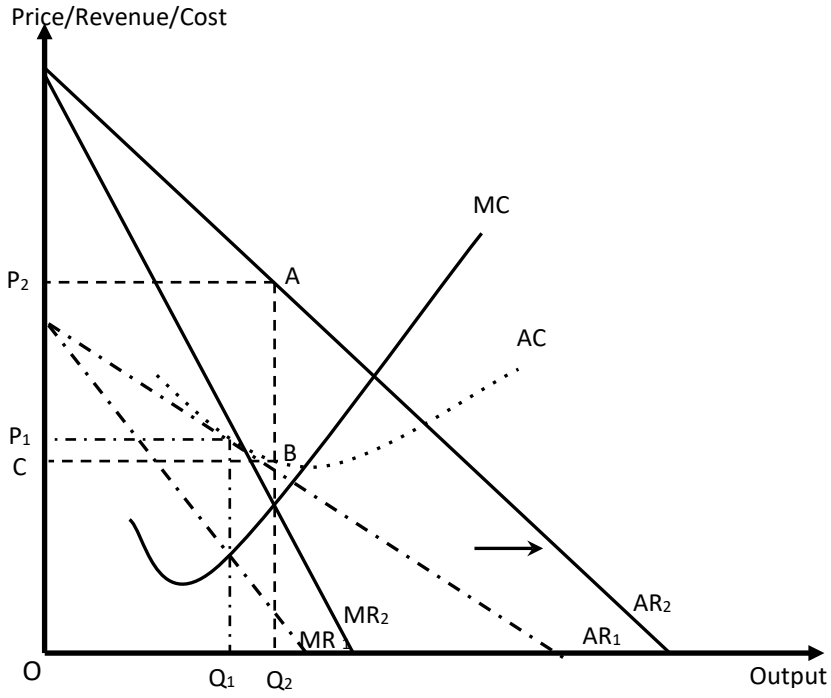
- **Thesis:** *Explain how innovation may increase revenue and reduce cost to maximize profits.*
- **Anti-thesis:** *Limitations of innovation to increase profits and proposal of at least 1 other strategy which might better increase profits of firms.*
- **Evaluation –** *Compare the strategies, make judgement and provide any other possible relevant insights.*

Thesis: Innovation as a strategy to increase profits
Innovation is a process to bring new ideas, new methods or new products to an organization.
Innovation can be product or process innovation and to increase profits, a firm can either increase revenue through introduction of a new / improved product or reduce cost through using a production process that incurs a lower average cost.

Thesis 1: Product innovation involves researching the market and the needs of customers and developing new products (such as Fitbit or Amazon's Kindle) or improved products and services (such as an improvement in the digital camera resolution of the iPhone) to meet these needs. This may allow the firm to capture a larger share of the market and in turn increase its total revenue and ceteris paribus, increase its profits, since it takes some time before competitors can respond to the improved products.
For example, Apple has a unique operating system (iOS) which also allows iPhone users to utilize the Apple ecosystem and sync their iPhones with their other Apple devices seamlessly. Furthermore, the most dramatic change for the new iPhones, aside from better cameras that Apple

always tends to offer, has the capability to make calls and send texts in emergencies when there is no cell coverage. These new improved features due to innovation attracts new consumers → increase TR

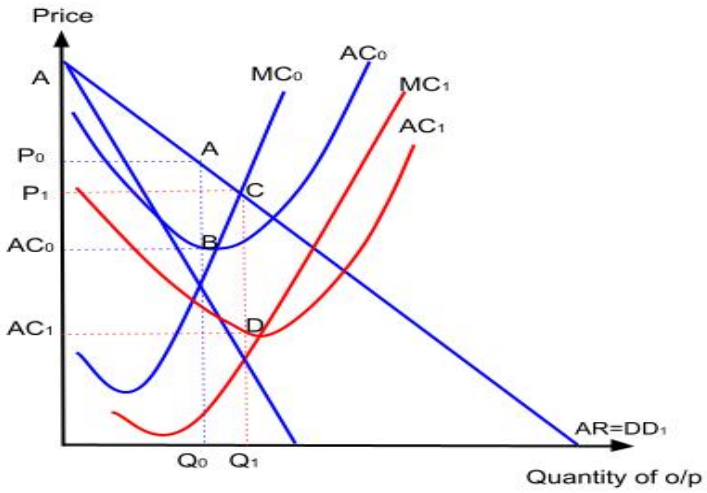
Referring to below figure, as the demand for the firm's product increases, and makes its demand relatively price inelastic due to the reduction of close substitutes, shifting the AR curve from AR_1 to AR_2. Correspondingly, this also shifts the MR curve from MR_1 to MR_2. The firm profit maximizes where MC = MR. This means the new profit maximizing price and output is now OP_2 and OQ_2, instead of OP_1 and OQ_1 previously. This increases profits for the firm – where previously normal profits were earned; the firm is now earning supernormal profits of area P_2ABC.



Thesis 2: Process innovation

An example of how process innovation can reduce average cost of production (COP) and lead to higher profits is in the fast-food restaurant chain like McDonalds. Production process focuses on consistency of product quality and efficiency of production→ the key to success is being able to produce and deliver the order quickly to customers while keeping labor and equipment costs per unit low. Engaging R&D which results in process innovation that use robots or self-ordering kiosks to increase efficiency in the production line, ie produce more and serve more customers per unit time while maintaining quality of burgers and fries lead to a lower average COP → increase profits. The reduced need for human labour in the process further reduces errors and increases the output per unit time. This helps to lower AC and MC from AC0 to AC1 and MC0 to MC1.

The firm profit maximizes where MC = MR. This means the new profit maximizing price and output is now OP_2 and OQ_2, instead of OP0 and OQ_0 previously. This increases profits for the firm – where previously supernormal profits area P_0AC_0AB. and the firm is now earning supernormal profits of area P_1AC_1DC.



Anti- thesis 1: However, innovation may not be the best strategy due to some limitations

Firstly, it can be challenging for firms to product innovate to increase the demand for their product. Once a firm reveals a new idea or include a unique feature in its device, other manufacturers can also include similar features into their devices. For example, an improvement in the digital camera resolution of the Samsung handphone is often met by a similar improvement in iPhone. Thus, even if a firm can differentiate its products or services, the uniqueness of its product may only be in the short run → firms seeking to increase its profits by increasing demand will have to constantly innovate their products. The strategy can be very expensive, increasing the total costs more than total revenue→ reducing profits.

Secondly, innovation usually require extensive R&D which is costly and takes a long time to bear fruits, if it does bear fruits. Some innovations might have relatively higher cost (tangible and intangible) than revenue. For example, in product innovation, new products are critical for the long-term success of a restaurant concept, yet the failure rate of new products may be alarmingly high. For example, McDonald's, with several billion dollars in sales annually, removed several new menu offerings a short time after their introduction. McLean Deluxe, Arch Deluxe and pizza have been marketplace flops for McDonald's in the past. Not only were these fiascos expensive with many wasted resources, the corporate image was damaged as well.

Thirdly, in process innovation, apart from the high cost in the short term, it might cause the employees and customers to feel even more frustrated rather than improving customer experience and reducing employee turnover. For instance, using the big digital board to order at the restaurant might lead to lack of emotional connection and it might be too hard to use for certain groups of people (such as the older group). Also, the automated process of cooking the food cannot solve complicated problems such as when the customer would like to personalize some parts of their order → consumer dissatisfaction → lower TR.

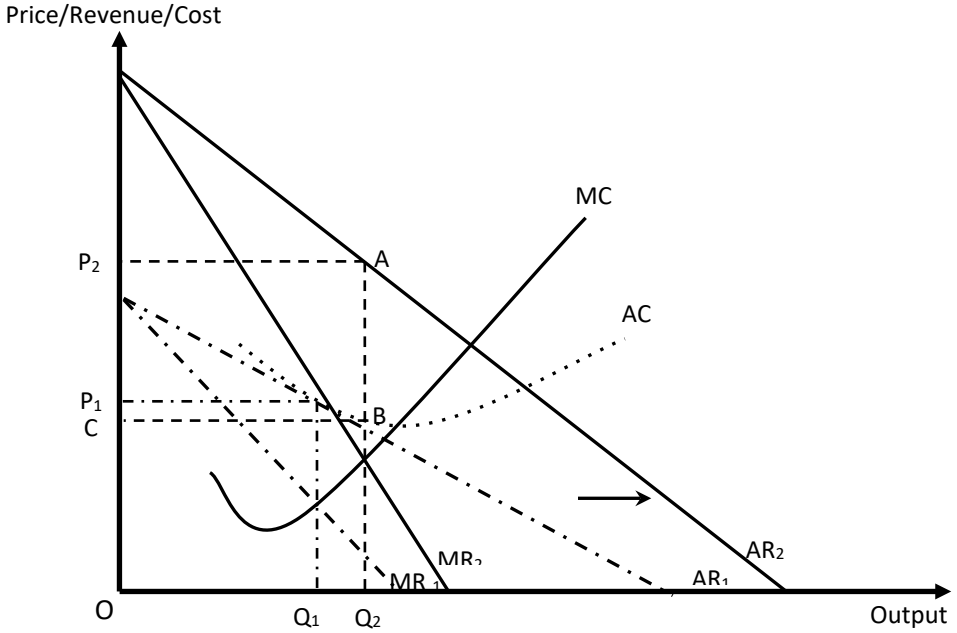
Other strategies may be more effective to increase profits

Strategy like marketing /advertising, promoting reward programs or price discrimination may be more effective to increase profits. (Pick max 2 distinct strategies due to time constraint)

Anti-Thesis 2: Strategy like advertisement/marketing to influence consumers' choices may be more effective to increase profits

Advertisement and marketing programmes can raise the awareness of the brands, new products and create new or remind consumers of positive association. These programmes, when well done, can

cause consumers to switch from rivals' goods and services or cause price elasticity of demand to go down, hence increasing loyalty to the brand, increasing TR and hence profit to the firm.



For instance, Mcdonalds uses toys and family as well as kids' birthday parties as their main advertising commercial to invoke happiness and love when they eat Mcdonalds, increasing brand emotional connection, increases the demand for McDonalds' food and make it less PED elastic as well, leading to higher revenue and ceteris paribus increase in profits.

This can be shown in above diagram (same as the one for product innovation) where AR (the demand curve) shifts right and becomes steeper from AR_1 to AR_2 and MR shifts from MR_1 to MR_2. The firm profit maximizes where MC = MR. This means the new profit maximizing price and output is now OP_2 and OQ_2, instead of OP_1 and OQ_1 previously. This increases profits for the firm – where previously normal profits were earned, the firm is now earning supernormal profits of area P_2ABC.

Advertising costs are relatively lower compared to costs incurred in R&D and the impact is likely on a shorter term than a good outcome of R&D.

Limitation of advertising:
Aggressive large-scale advertising sometimes flop, may not raise revenue as expected→ too much money spent on advertising which may not have significant increase in consumption → TR increase relatively lower to TC increase→ profit may fall.

Distasteful advertisements may backfire eg: the advertisement by Burger King for a new Vietnamese burger in New Zealand sparked a debate over whether it is harmless fun or culturally insensitive and racist. This has caused a storm over social media leading to many consumers calling it racist and boycotting the products → lead to loss of customer base, demand for their product to fall, TR falls, profits fall as well.

Anti- thesis 3: Strategy like reward programmes to establish consumer loyalty may be more effective to increase profits

- Fostering consumer loyalty through reward programs are relatively lower cost as compared to engaging in innovation. Such programs are effective in "keeping customers from defecting" as customers may continue to patronize the firm because they focus on the amount of points/rewards they have already accumulated and continue to accumulate with each purchase. Hence, they

become locked into the program and this helps to keep the demand high despite the rise in the level of competition.

- An example is seen in how Amazon create loyalty and 'lock in' customers. It does this through providing membership scheme like the Amazon Prime to help the firm to retain customer loyalty and deter them from switching to the entrants. This "membership" service differentiation concentrated on strengthening the relationships with customers who make regular purchases → increase in TR and profits, ceteris paribus.
- Amazon claims that it does not just sell product, they sell convenience and process. It claims that anyone can sell an item, but no one can provide same day delivery in many large cities. They make the shopping experience more convenient and enjoyable than its competitors.

Limitations of reward/membership programmes;
These programmes have to be very innovative and different from its competitors. Otherwise, they are not sustainable in the long term as they will be used by the competitors too and for the same reason that firms can lock in their consumers, they are also unlikely to increase new consumers to their base because the rivals have also locked in their consumers.

Anti-thesis 4: Strategy like price discrimination may be more effective to increase profits

Where the conditions for price discrimination are in place, price discrimination allows a firm to segregate its market and increase its profits as compared to if it were to charge the same price on all consumers. Apple practises price discrimination when it charges students a lower price for its devices like laptops and iPads as compared to working adults. The price elasticity of demand for such electronic devices is relatively higher among students and for a fall in price, there will be an increase in quantity demanded and that leads to an increase in TR in this group of consumers.

Limitations of price discrimination:

The conditions for price discrimination may not be present in some markets and the use of this strategy may not be possible. In the case of Apple, resale is possible but very limited. Each student must produce proof of student status to enjoy a lower price, but it is still possible for such a student to re-sell the devices to others.

Conclusion and overall evaluation
Compare the strategies to decide whether innovation is the best, substantiate any judgement made and provide further insights, if any.

Some possible ideas:

- The type of strategies depends on the amount of past supernormal profits the firms have, the type of goods/services produced, whether the market conditions allow price discrimination etc.
  The lack of supernormal profits will mean that innovation is not feasible, and that superficial differentiation or small-scale advertisement would be more effective in increasing profits. Also, the firm needs to have substantial market power to be able to price discriminate well. Product and process innovation requiring use of R&D is also not appropriate for MPC market like the hawker food where scope of in-depth is limited

- Innovation through R&D may be the best strategy as there are real differences made – in terms of range and quality, and even price. Product innovation is more likely to have a more sustained effect on demand, compared to advertising where there is no real improvement to products. So, innovation is a long-term strategy and should be accompanied by other mid- and short-term measures like advertisement or loyalty programmes.

Overall, given the dynamic and highly competitive nature of markets as well as the constant shift in consumer taste and preferences, an effective strategy to increase profits may be innovation. With product innovation, products are consistently evolving to meet the changing demand and it can help a

firm increase revenue and profits in the LR. At the same time, given the stiff price competition, process innovation such as using robotics etc is also an effective strategy to lower cost in the LR, which will also help to increase profit. However, innovation requiring R&D is most costly compared to the other strategies, needing huge past supernormal profits. It alone may not be the best strategy but should be accompanied by other mid- and short-term measures like advertisement or loyalty programmes or price discrimination to improve profits.

	Knowledge, Application, Understanding, Analysis	
L1	- *Smattering of points* - *Descriptive answer lacking in economic analysis on the strategies used by firms* - *Significant lapses in explanation / analysis*	***1-4***
L2	- *An answer that has a narrow scope - discusses innovation (**both** product and process) as a strategy to increase profits with limitations of innovation included but **no** discussion of other strategies. OR an answer that discusses innovation (**either** product or process) as a strategy to increase profits with limitations of innovation included **AND** with discussion of 1 other strategy. Answer shows depth of analysis with good use of relevant economic framework and examples.* *OR* - *An answer that has scope - discusses innovation (**both** product and process) as a strategy to increase profits with limitations of innovation included AND with a discussion of 1 other strategy. However, answer shows weak use of examples; depth of analysis, use of framework and links to profits can be improved.*	***5-7***
L3	- *An answer that has scope, discusses innovation (both product and process) as a strategy to increase profits with limitations of innovation included AND with discussion of at least 1 other strategy.* - *A well-developed, balanced answer that has good use of economic framework and appropriate examples with strong links made to profits.*	***8-10***
	Evaluation	
E1	- *An unsubstantiated conclusion*	***1***
E2	- *Evaluation or judgement shows some attempt to draw conclusions from the points discussed, and somewhat substantiated. Some attempt at comparison of the different strategies but with little further insights.*	***2-3***
E3	- *Evaluation and judgement show good attempt to draw conclusions from the strategies discussed and are well substantiated. A good comparison of the different strategies. Further insights and relevant ideas are substantiated.*	***4-5***

Examiners' Comments (part b)

- *A significant number of students provided only a descriptive answer. These scripts did not use any diagrams nor provide much economic analysis using the cost/revenue framework.*

- *There were also a number of scripts with gaps in the use of the cost/revenue framework. In such cases, diagrams drawn were not referred to and analysis was not linked to effects of the strategies on revenue/costs and therefore on profits. Many students failed to use the diagram to show an increase in profits because they did not draw the AC curve. Profits per unit is given by price minus average cost and that cannot be shown on the diagram without the AC curve.*

- *There were quite a handful of scripts with one-sided responses - explanation of the strategies without any discussion of limitations. Such scripts show low level of critical thinking.*

- *Some scripts did not pay heed to the phrasing of the question "whether innovation is the "best" strategy" which require a discussion of at least one other strategy if not two.*

- *Lack of application - in the discussion of innovation and other strategies, the use of examples was absent. For example, examples of what innovation projects firms could undertake or how firms can price discriminate in a particular market was lacking.*

- *Discussion of alternative strategies: many students suggested an inappropriate "pricing" strategy - to increase price if demand of good is price inelastic and to reduce price if demand is price elastic (so that TR rises) is not appropriate. Firms are supposed to be producing at the profit maximizing level of price and quantity and any deviation from that will lead to a lower level of profits. Also, predatory pricing is theoretically sound but might not be the most appropriate one given that it is illegal.*

- *Most scripts did not score well in the conclusion and evaluation because the evaluation/judgement of whether innovation is the best strategy is limited by the scope of the strategies discussed in the main body. A reasoned comparison between the discussed strategies is needed before a sound judgement can be made and this is unlikely to be well done if strategies were not well discussed earlier. While students who chose to compare which market structure is "best suited" to use innovation do get some credit for insights, it should be noted that to score the highest level of evaluation mark, a comparison between strategies must be included.*

2) Markets such as healthcare and insurance allocate resources inefficiently when there is information failure. In the case of Singapore, other than the provision of information, the government have also introduced policies such as compulsory healthcare insurance scheme and co-payment to address the above sources of market failure.

Discuss the measures the Singapore government has taken to address allocative inefficiency arising from information failure. [25]

Students are required to use examples applying to the given context to explain how lack of perfect information and asymmetric information will cause the free market to fail and discuss the different policies (3 in total) to address the market failures explained respectively.

Intro

Define key terms:

Define market failure

- Market failure refers to the failure of the free market to allocate resources in a socially optimal and efficient manner which maximises social welfare as well as achieves equitable outcomes.

Market failure can arise due to:
1) imperfect info **-** a situation where there is incomplete information **-** as consumers fail to recognise the true marginal private benefits/costs of consuming a good and therefore under or overconsume it leading to allocative inefficiency.

2) asymmetric information- a situation in which one party has more information than the other when making decisions and transactions. Due to information asymmetry, adverse selection and moral hazard problems can arise leading to inefficient allocation of resources.

Body

A. Market failure due to imperfect information

(i) Explain how imperfect information leads to under-consumption of a good/service

- Consumers may not be fully aware of the private benefits of health screening. For example, consumers may underestimate their own full benefits of health screening which allows for early detection and early treatment of diseases which will help to save their lives and lower the cost of treatments.
- Youths usually think that they are still young, they are most likely to be healthy and are less susceptible to diseases such as diabetes and cancer. As a result of the imperfect information, they underestimate their private benefit from going for health screening
- As a result, market demand for health screening is at DD_0, which is lower than DD_1 which is demand for health screening if consumers were fully aware of its MPB. Individuals are not acting in their best self-interests due to the lack of information about the full benefits of consuming health screening.
- If left to the free market, it is likely that healthcare screenings will be under-consumed because individuals undervalue their private benefits of going for check-up.
- In the free market, private individual consumes up to only Q_e where DD_0 intersects the SS. However, the socially optimal level of consumption is at Q_S where DD_1 cuts the SS, resulting in an underconsumption of **QeQs units of healthcare screenings.**

- **Explain DWL area**: Represented by area ABC which arises from imperfect information as the benefit forgone in not consuming QeQs units exceeds the resources saved from not producing QeQs units of healthcare screenings. Hence, **the net benefit forgone from the underconsumption of healthcare screenings leads to allocative inefficiency.**

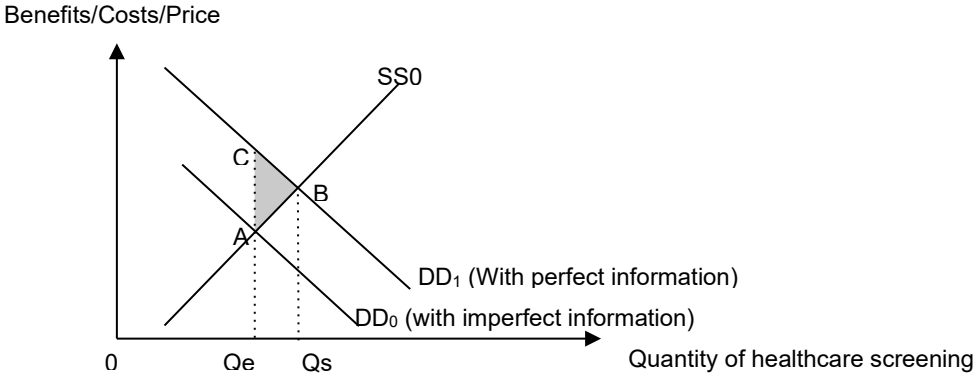


Figure 1: Market for healthcare

B. Market Failure due to Asymmetric Information

Asymmetric information is a situation in which one party has more information than the other when making decisions and transactions. Due to information asymmetry, adverse selection and moral hazard problems can arise bringing about market failure.

(i) Explain how adverse selection (due to hidden attributes unknown to one party before the transaction) leads to market failure

- Asymmetric information results in adverse selection, which causes the health insurance market to fail. In economic theory, adverse selection can be defined as "strategic behaviour by the more informed partner in a contract against the interest of a less informed partner. In the health insurance industry, this manifests itself through healthy people choosing managed care and unhealthy people choosing more generous plans" (Belli[1], 2001).
  - Asymmetric information exists in the health insurance market because consumers of health insurance (the insured) have more information about their state of health compared to the insurance provider (the insurer like AIA, Prudential). There is an incentive for less healthy individuals to conceal their unfavourable health records so as to be accepted by the insurer and pay a lower insurance premium.
  - As the insurer lack full information about its clients and cannot distinguish healthy from less healthy individuals, it will charge a higher average price to cover the possibility of insuring a less healthy individual.
  - At this relatively higher price, only the relatively less healthy individuals will purchase insurance. Healthier individuals will not purchase insurance at such a high price.
  - This results in adverse selection where the insurer sells health insurance to relatively less healthy individuals who are more likely to fall ill and claim for medical expenses against the insurer. The

1 https://books.google.com.sg/books?id=BVD0UKj_EyMC&printsec=frontcover&dq=adverse+selection+definition&hl=en&sa=X&ved=2ahUKEwjsxJTWmar4AhUFH7cAHS-DBiQQ6AF6BAgCEAI#v=onepage&q&f=false

consumers of the insurance will then tend to be those with existing health issues and the company is left with relatively less healthy (risker) pool of consumers.

- With the relatively unhealthier pool of people, there will be more health claims and the price of premium will likely increase in the future, pricing out the relatively healthier consumers.
- The health insurance market fails as it is made up of less healthy individuals and there is under-consumption of health insurance by healthy individuals.

(ii) Explain how Moral Hazard (change in behaviour of one party after transaction) leads to market failure in the healthcare insurance market.

- In economic theory, moral hazard is a situation where the behaviour of one party may act in a manner to the detriment of another after the transaction has taken place. Moral hazard tends to arise when one party has both the incentive and the ability to shift costs onto the other party.
- Prior to buying the insurance, individuals are fully responsible for their own health when they fall sick as they have to bear the full cost of their medical bills. Thus, they have the incentive to lead a healthier lifestyle to decrease the likelihood of having to pay the expensive hospitalisation bills.
- However, once they are being covered by insurance, the cost of falling sick is no longer borne by the individuals themselves, but the insurance companies when they claim under the insurance coverage. These insurance pay-outs are then financed by the premiums paid by the other insured people. As a result, the insured person will start to alter their behaviour. For example, they may stop taking health supplements since medical costs can be claimed when they succumb to flu and other common illnesses. This change in behaviour will increase the likelihood of them falling sick and incurring hospitalisation bills.
- As a result, the insurer experiences higher health care claims and will need to increase the price of health insurance premium to maintain profitability.
- At this relatively higher price, the relatively lower risk individual will be priced out of the insurance market, given that they are the ones that will tend not to engage in risky behaviours and don't see the point of paying so much for insurance, and only riskier individuals will continue to purchase insurance.

  Hence, the insurance market fails as there is under-consumption of health insurance (as the premium increase, less risker pool of consumers will not see the point of paying so much for the insurance) due to the moral hazard problem caused by asymmetric information.

  It also increases aggregate risk in the health insurance market because individuals insured against private loss may take on more risks than they otherwise would. This results in an over-consumption of healthcare services as riskier individuals are more likely to require healthcare services which will be claimed against the insurer.

Hence, information failure in the healthcare and insurance markets leads to market failure. Thus, the government has been seen intervening in these markets with information failure.

Explain and assess 3 policies to overcome above sources of market failure.

<u>One of the policies that the Singapore govt has taken to address **imperfect information** is by providing more information to consumers through **public education and campaigns t**o allow them to make more informed choices.</u>

- Education and campaign can help to correct market failure caused by imperfect information.

- Through roadshows, advertisements on printed and online media, the government can educate individuals about the full marginal private benefits of health screening as elaborated in the previous paragraph
- The government educates the public via education and campaigns or directly supplying them with information regarding the full private benefits of consuming health screenings.
- The government can launch campaigns related to providing more information regarding the benefits to early detections organizing talks or exhibitions to clarify the misconceptions the some might have about health screenings. Or having roadshows or pamphlets to disseminating info about the importance of going for regular health screening using **easy to understand everyday language.**
- For e.g.: HPB and its partners (including Singapore Cancer Society, Breast Cancer Foundation) also actively dispel misconceptions (such as screening not being necessary when one feels healthy, 'it is better not to know', and that mammograms are painful.) associated with breast cancer screening and encourage regular screening through the annual Breast Cancer Awareness campaign, infographics, forums, media messages and in talks delivered by community leaders and breast cancer survivors.

- These campaigns and educational talks/exhibitions attempt to plug the information gap and consumers are more accurately informed will seek to max their self-interests, **increasing their willingness to consume,** the demand increases from DD_0 to DD_1 (refer to figure 1). Via the market adjustment process (MAP-elaborate), the socially desirable op level of Qs is achieved.
- DWL ABC incurred in the health screenings market is eliminated, social welfare is maximised, and allocative efficient outcome is achieved.
- A successful education initiative is particularly effective in correcting market failure caused by imperfect information. By educating individuals, the market is able to deliver socially optimal outcomes through the price mechanism.
- It also targets the root cause of the problem, producing a permanent change in the market as fully informed individuals will continue to consume socially optimal level of health screening for their own benefit. Moreover, such information is likely to be passed on, allowing the health screening market to function efficiently in the long run without further government intervention.

Explain the limitations of education and campaigns.

- The effectiveness of education initiatives to correct market failure caused by imperfect information is uncertain as it depends on the clarity and persuasiveness of the education campaign. The full benefits of health screenings must be clearly communicated to consumers in an impactful manner to bring about a change in individual behaviour. In this case, for healthcare screening to be effective and reach out to the masses esp the older generation, it perhaps should be in multiple languages and dialects so as to effectively communicate with the older generation.
- Despite obtaining full information of the benefits, consumers may still under-consume health screenings due to procrastination or lack of financial ability to afford these health screenings.
- Difficult to convince different groups of people on the benefits of health-screening. Different beliefs may affect the effectiveness of such campaigns. Misinformation /false news or alternative viewpoints are all easily accessible on the internet, hence people may be influence into believing that healthcare screening is not necessary.

<u>Policy 2: Legislation for mandatory health insurance by the government can help to correct market failure in the health insurance market caused by asymmetric information.</u>

- To correct market failure caused by **adverse selection which arises from asymmetric information,** government can legislate the requirement to take up compulsory health insurance for all citizens**. For example, MediShield Life** is a basic health insurance scheme that protects all Singapore Citizens and Permanent Residents (PRs). The all-inclusive compulsory insurance is designed to provide coverage for Class B2 or C wards in public hospitals. MediShield Life provides

lifetime coverage for all – from birth till death – and even covers those with pre-existing health conditions. It **is a hospitalisation insurance plan administered by the CPF Board and made available to all Singapore citizens and permanent residents with no opt out option**.

- Mandatory universal health insurance schemes such as MediShield Life overcomes the problem posed by adverse selection as all individuals - less healthy and healthy, are insured. There is no need for the insurer to obtain information to discern healthy from less healthy individuals as everyone is insured. It corrects the market failure due to the under-consumption of insurance by healthy individuals.

- Universal health insurance schemes also pool the health risks of the entire population, fully reaping the risk-pooling benefits of insurance.

However, the effectiveness of legislation and direct provision of universal health insurance depends on:

- Although, it is a mandatory health insurance, the coverage provided may be just basic coverage and it is difficult to accurately gauge what is the optimal level of coverage required in the market. For example: some may feel that more coverage is better
- The ability of the insurer to price such a scheme appropriately, such that it is sustainable in the long run while remaining affordable and everyone can consume healthcare insurance.
- The ability of lower income citizens to afford the insurance.
- Another issue is compulsory participation in insurance policies for all, may result in unnecessary medical procedure done as some doctors may influence consumers to do unnecessary operations as these costs can be pass on to the insurance company when you are covered by medical insurance, when you seek medical treatment you will not bear the full cost of the medical procedure so if the doctor is aware of it they can recommend unnecessary operation resulting in the cost being pass on to company. These unnecessary operations would also mean that there is inefficient and waste of resources.

Policy 3: To correct market failure caused by **moral hazard which arises from asymmetric information**,

- The government makes it compulsory for the buyer of basic healthcare insurance to **make partial payment for healthcare bills compulsory** (these payments are known as 'out-of-pocket payments' or co-payments). By making the buyer face the consequences of irresponsible or risky behaviour, the buyer will have less incentive to engage in irresponsible or risky behaviour. Hence, there will be lesser "over-claims" and the insurance firms can still keep the price affordable and encouraging the less risker pool of consumers to continue purchasing the healthcare insurance. This helps to reduce the moral hazard problem which leads to market failure.
- **However, the effectiveness of regulations mandating co-payment components depends on** the ability to set an optimal deductible and co-payment quantum. Inaccurate information about the amount of co-payment to charge, if they are set too low do not sufficiently mitigate the moral hazard problem and get consumers to be more responsible and engage in less risky behaviour.

Overall evaluation:

Overall, Healthcare is a delicate issue:

- Given the importance of health care and insurance especially healthcare insurance to the standard of living, it is necessary that the government intervene in these markets. To address the market failure due to information failure in the healthcare and insurance markets, a combination of policies should be implemented to tackle the various causes of market failure such as providing education and campaigns to address the imperfect information in the healthcare screening market, compulsory universe healthcare insurance to address adverse selection and co-payments to address the issue of moral hazard.

- However, the extent to which the Singapore government intervenes in these markets may depend on the severity of the problem. If the market failure in the healthcare market is large and requires an urgent solution, it is perhaps more effective to use subsidies and legislation which are able to deliver more certain outcomes in a shorter time period. However, in the case of healthcare screening market, the general population in Singapore are relatively highly educated and will understand the importance of healthcare screening after educating them on the benefits of doing so and will consume more healthcare screening. On top of that, the Singapore government is efficient in information dissemination using different technology platforms and Singaporeans are generally tech savvy with high device penetration, the extent of underconsumption will thus tend to be to a smaller extent as compared to other countries where literacy rate may be low, efficiency and technology are not as advanced.

- **It also depends on the type of market failure/ nature of good:** The extent of information failure such as asymmetric information may be greater in Singapore, hence there might be a greater need for more powerful, mandatory measures such as legislation by the government such as making it compulsory for people to consumer basic healthcare insurance to correct the market failure.

Knowledge, Application, Understanding and Analysis		
L1	▪ Non-existent use of economic theory / framework in the explanation. ▪ An answer that does not show that meaning of question is understood ▪ An answer that only focuses on the sourc es of information failure. Glaring conceptual errors.	1-8
L2	▪ Answer that attempts to provide some economic theory/framework in the explanation of the sources of information failure (imperfect information and/or asymmetric -adverse selection **or** moral hazard) and balanced argument, but the policies may be generic and not be explicitly linked to the different sources of information failure ▪ Depth and rigour of explanation can be improved. ▪ Max L2-14: if both moral hazard and adverse selection are explained+ balanced argument ▪ Max L2-12: if only 1 sources of information failure explained (imperfect information **OR** adverse selection **OR** moral hazard) + balanced argument ▪ Max L2-14: for answers with no exemplification at all	9-14
L3	▪ Well balanced answer with economic analysis using a relevant framework to explain at least 2 sources of information failure (imperfect information and asymmetric information - moral hazard or adverse selection) and how each policy works to correct the relevant source of information failure as well as its limitations. ▪ Scope covers at least 2 distinct policies to address each of the market failures (imperfect information and asymmetric information).	15-20
Evaluation		
E1	An unexplained judgement An unexplained evaluative conclusion/comment	***1***
E2	Evaluative assessment supported by economic analysis Substantiation of an evaluative comment and/or conclusion	***2- 3***
E3	Able to give in depth or well explained insights.	***4- 5***

Examiners comments:

When explaining how the market fails due to information failure (imperfect information or asymmetric information)

- *In using the MPB/MPC (or demand and supply) diagram to explain how market fails due to lack of information, students are advised to draw diagrams that are big, neat and well-annotated.*

  Weaker scripts tend to confuse the analysis for imperfect information and externalities. The focus of imperfect information is about consumers undervaluing their MPB from the consumption of healthcare

services such as health screening to themselves and not about being unaware about the externalities. Note that full awareness/information of externalities will still result in market failure as long as consumers act in a self-interested manner to maximise their net private benefit.

- *For the imperfect information diagram: Students should instead refer to the 2 different MPBs (perceived and actual benefits) OR the 2 demand curves (with perfect info and without perfect info). Students should also make a very brief explanation of the deadweight loss area and the explanation of the conditions that leads to market failure. For e.g., the free-market equilibrium is where SS = DD with imperfect information vs social optimal equilibrium where SS = DD with perfect information, etc.*

- *Many scripts are brief and generic in their explanation of how individuals are not aware of the full MPB of consuming healthcare services. It is best to elaborate this point through the use of specific examples. As healthcare includes a very broad range of services, explanations of imperfect information will be a lot clearer if a specific type of healthcare like health-screening is cited. Candidates should also go on to give specific and persuasive examples as to what MPB of health screening might not be fully appreciated by consumers.*

- *Many scripts are unclear about the relationships between the terms "asymmetric information", "adverse selection" and "moral hazard". Asymmetric information is a source of market failure. Adverse selection and moral hazards are problems which result from asymmetric information, causing markets to fail.*

- *Quite a few scripts are also confused and not able to distinguish adverse selection and moral hazard problems.*

- *A handful of scripts also mistook information failure as just imperfect information or asymmetric information, thus limiting the scoop of their analysis.*

When discussing policies to correct market failure:

- *Majority of the students used the suggested policies in the preamble and was able to explain how the suggest policies targets the different reasons for the market to fail albeit with varying quality.*

- *Some students brought in extensive discussion of legislation and subsidies to correct for imperfect information market failure instead of the education and campaign. This is not wrong per se, but should be introduced only after the use of public education and campaigns, which should be the primary policy because it tackles the root cause. Alternative policies, like subsidies, should be couched as a measure to correct the market failure in the short run, relative to the long time for effects of campaign to kick in.*

- *Students are reminded of the need to explain clearly, with examples and reference to the diagram if necessary, how each measure works to correct the relevant source of market failure. For, example, in the use of campaigns, possible ways that campaigns may be carried out should be explained – "health screening campaigns such as the annual Breast Cancer Awareness campaign: through the main media like TV and radio, infographics, forums, media messages to educate women about the importance of going for regular checks and to dispel any misinformation about the screening process. These will influence the demand through the provision of the necessary information and shift the demand curve upwards as shown in diagram…etc…then to use the diagram to show how quantity consumed will increase…leading to correction of market failure*

- *There was significant confusion over the policy of legislating compulsory health insurance. "Compulsory", "Direct Provision by Government" and "Free" are 3 different policies. In the case of MediShield Life, it happens to be compulsory and provided by a government agency, the CPF Board. However, MediShield Life is not free. It has to be paid for by individuals.*

- *There are also some scripts which mistake MediSave as an insurance scheme. MediSave is a compulsory savings scheme which allows individuals to pay for their medical and health insurance expenses.*
- *Quite a significant number of scripts misidentified copayment as a form of subsidy. The primary aim of copayment is to address the issue to moral hazard by making it compulsory for the buyers of basic healthcare to make partial payment for healthcare bills so that they will be less incentivise to engage in irresponsible behavior rather than a policy to overcome imperfect information.*
- *Majority of the anti-thesis points to this question varies in quality. Weaker scripts tend to list the limitations of the policy without much explanation, linking back to the question or application to the given context.*

- *In raising a limitation of using campaign/public education, many wrote that campaigns are very costly without providing any substantiation. They could have reasoned that campaigns are typically very large scale to cover the whole nation and typically stretched over a long period of time and therefore are likely to strain government resources.*

- *However, for the limitations on Medshield life- a compulsory healthcare insurance: significant number of scripts misunderstood that the compulsory Medshield life as free and mentioned how it will increase the burden of the Singapore government and lead to increase in government expenditure. In the case of Singapore,* ***MediShield Life premiums can be fully paid by Medisave.***

When writing evaluation & conclusion:

- *Majority of the scripts were lacking in providing a well substantiated synthesis which is relevant to the question, meaning they are lacking in terms of substantiated judgements, insights, or further evaluation. Students need to be aware that each different policies are needed to address the different reasons leading to the inefficient allocation of resources instead of just making the sweeping statement that there is a need for a mix of policies that work in the short run and long run.*
- *Better quality evaluation also appealed to the Singapore context demonstrating a well-thought-out analysis of the current or future situation in the healthcare and insurance market of Singapore which is context driven rather than just scratching the surface at the theoretical level.*

3. A government's macroeconomic aims are low inflation, low unemployment, sustained economic growth and a favourable balance of trade (BOT).

a) Explain how the lowering of interest rates would affect actual and potential economic growth of a country. [10]

b) Discuss which is the most significant macroeconomic aim for a country. [15]

Suggested answer (a)

Introduction: Define key terms

- Actual growth: the increase in national output actually produced for a given period of time, commonly measured by the percentage annual increase in real GDP
- Potential growth: long run expansion of a country's productive potential → reflects the increase in the capacity of the economy to produce
- Lowering of interest rates: a form of expansionary monetary policy that lowers cost of borrowing

Body

Lowering of interest rates has internal and external effects which both lead to actual growth in the short run:

Actual growth (internal): Change in AD due to changes in C and I

- For net saver households: Return on saving has fallen and opportunity cost of saving has fallen → consumers save less and spend more
- For net borrower households: Cost of borrowing falls → cheaper for consumers to take up loans to purchase big-ticket items e.g., cars → rise in C
- According to Theory of Marginal Efficiency of Investment (MEI), there is an inverse relationship between interest rate and quantity of investments
- To decide whether to undertake an investment project, rational firms will conduct a cost-benefit analysis. A firm will only invest if it makes a profit, meaning that the expected rate of return of investment (i.e., MEI) must be greater than or at least equal to the cost of borrowing for investment (i.e., the interest rate)
- With reference to Figure 1, if the interest rate is at r_0, firms will undertake additional investment projects up till I_0 units, because for investment projects up till I_0 units, the MEI or expected rate of returns of these projects can at least cover r_0, the cost of borrowing. Any additional units of investment beyond I_0 units will be unprofitable as MEI < interest rate
- When interest rate falls from r_0 to r_1, there will be more investment projects (I_0 to I_1) that would yield a MEI or expected rate of return that is greater than or equal to the new lower interest rate. Therefore, a fall in interest rate would lead to an increase in level of investment

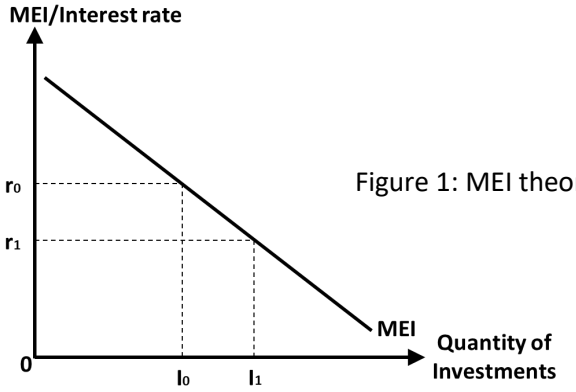


Figure 1: MEI theory

Actual growth (external): Change in AD due to changes in (X-M)

- When interest rate of a country falls, hot money flows out of the country as speculators seek higher rate of returns elsewhere where interest rates are higher → Holding demand of currency unchanged, supply of currency increases in forex market → depreciation of currency → lower prices of exports in foreign currency and higher prices of imports in domestic currency → foreigners switch to our relatively cheaper exports while domestic consumers switch away from relatively more expensive foreign imports → X increases and M falls → AD increases.

Actual growth: multiplier process

Increase in C, I and (X-M) leads to rise in AD_0 to AD_1 in Figure 2 → trigger the multiplier process → One person's spending generates income for another person. An autonomous increase creates many rounds of spending and re-spending with leakages in form of taxes, imports, and savings in each round. The process ends when total leakages equal to initial injections. This leads to more than proportionate increase in real national income to Y_1 → actual growth is achieved.

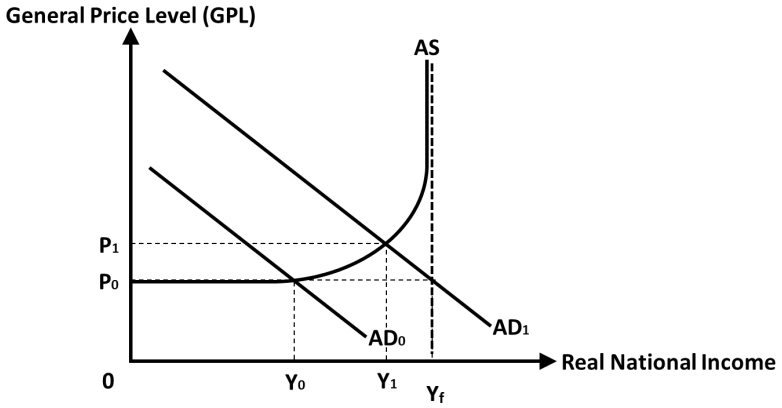


Figure 2: Actual growth due to rise in AD

Actual growth (internal): Increase in AS due to fall in cost of production

Investments if spent on research and development (R&D), and if such R&D lead to process improvements → per unit cost of production falls → AS shifts downwards → Aggregate quantity demanded increases via the wealth, interest rate and international substitution effect → RNY increases → Actual growth is achieved

Potential growth: Change in AS in long run

- As the level of capital stock increases (arising from I increases) such as investment in factories, R&D, and heavy machinery at scale → Capital deepening, capital-labour ratio improves, greater productivity as the use of machinery increases output per unit labour → economy able to produce more → productive capacity rises from Y_{f0} to Y_{f1} → Potential growth as shown in Figure 3.

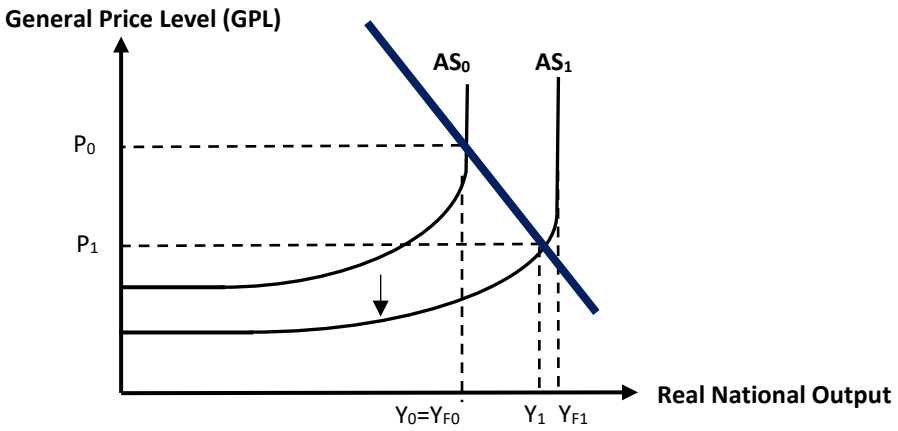


Figure 3: Shifts in AS resulting in actual and potential growth

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	Little / non-existent use of economic theory / answer that is largely descriptive knowledge with little or no economic terminology (no link to actual/ potential growth) applied.	**1 – 4**
L2	Fair attempt to link to BOTH actual and potential growth. However, some gaps in explanation - depth lacking in some areas / use of examples and economic terminology could be improved.	**5 - 7**
L3	Answer has sufficient depth and economic terminology is well used to demonstrate rigour. Link to both internal and external effects of monetary policy as well as implications on actual and potential growth with use of relevant examples needed to score 10m	**8 – 10**

Examiner's Comments

- This question was generally well done.
- This question tests fundamental understanding of actual and potential growth, and the processes related to interest rate changes.
- Most responses identified the changes in C and I correctly, however the main issues were the ability to explain in detail, including the explanation of the MEI theory and the different impacts on net saver vs net borrower households.
- Following on, most responses included a good explanation of the multiplier process.
- However, not many responses identified and explained the external effect of a change in interest rate, hence were not able to score top level marks.
- Many did not make diagrammatic references to show actual and potential growth
- Some responses did not explicitly differentiate between actual growth and potential growth – while their response showed a shift outward and downward of the AS curve, this was lumped together as sustained growth. Please note that you should differentiate between the 2.

Content

- A common misconception was that FDI was the same as hot money. This is not the case: FDI involves long run capital flows, and usually involves the setting up of a physical presence in another country, e.g. by building a factory; while hot money are short term capital flows, carried out by speculators who purchase stocks, shares, currencies etc. to make quick returns on additional money that they have.
- Another misconception is with the definition of investment. Investment is defined as accumulation of fixed capital stocks and inventories hence investment in training of labour should not fall under the I component in AD given the definition of investment.
- Another misconception is that some explain that the lowering of interest rates shifts the MEI curve. This is incorrect. The fall in interest rates represents a movement along the MEI curve.
- Problems relating to time management started to become apparent in this question – whether it is the lack of proper diagrams, diagrams lacking explanations, or the use of unaccepted short forms. This was quite rampant and are not acceptable. Such shortcuts are not the way to make up for lost time and affects your script negatively. Diagrams should be drawn relatively large, using rulers, fully labelled, and explained in prose. Short forms are only accepted for proper names, e.g., RNY, AD, AS, MEI etc. However, prior to using such acronyms, they should be fully spelt out at least once.

Suggested answer (b)

There are generally 2 approaches to this question. Approach 1 could focus on the selection of 3 macroeconomic goals and explain how each is important/beneficial to country to justify its significance and examine the possible trade-offs of the achievement of each respective macroeconomic goal. In in the conclusion, there should be comparison between the 3 goals to address which goal is the "most significant" to the economy through the use of a well-defined criteria like circumstances country is facing / nature of economy etc. Approach 2 could focus on a choice of a particular goal explaining benefits and trade-off of the goal. There should also be a comparison between the selected goal and 2 other goals to address how the significance of goals differ based on contexts/circumstances.

Introduction: Explain or provide yardstick to measure significance

- Significance of a particular macroeconomic aim can be based on the positive effects on achieving other macroeconomic aims
- Achieving these aims: ability to improve citizen's standard of living in the long run
- Different countries may have different priorities due to their economic circumstances / problems faced / context and nature of economy

Body: Selection of the goal of your choice

<u>Thesis: Low inflation / price stability might be the most significant as it attracts FDI</u>

- Price stability enables achievement of the other macroeconomic goals in the long run
- Inflation rate measured by the annual percentage change of the consumer price index (CPI)
- Low, stable inflation usually around 2% annually
- When a country's inflation is low and stable, firms will find it easier to predict changes in costs of production and prices and in turn profits more accurately which makes long-term planning easier for businessmen. In an environment of greater certainty, firms will be more willing to enter into long-term contracts because they do not expect prices of factor inputs to increase quickly in the future. Hence, investment will increase.
- Greater investor confidence → I increases (from both local investment and FDI) → AD increases, triggering the multiplier effect, leading to more than proportionate increase in real national income, resulting in actual growth
    - Greater material SOL due larger quantity of goods and services available for consumption

- Cyclical unemployment falls as derived demand for workers rises since firms need to hire more workers when production levels increase
    - Low unemployment ensures more productive use of resources, prevents loss of potential output available for consumption
- FDI may bring in better and more cost-efficient production techniques, resulting in fall in cost of production → AS shifts down → actual growth achieved as RNY increases.
- In addition, the higher level of FDI results in rise in productive capacity, due to the rise in capital equipment available for increased production. As a result, the entire AS curve shifts down and out to the right to AS_1. This results in potential growth indicated by rise in income at full employment level from Y_{f0} to Y_{f1}.
- GPL also falls to P_1 as the expansion in productive capacity helps alleviate supply-bottleneck pressures → firms do not need to bid up prices of factors of production as they get increasingly scarce → demand-pull inflation further controlled
- Thus, sustained economic growth and low unemployment can be achieved when low, stable inflation is maintained

Thesis: Low inflation / price stability might be the most significant as it helps maintain a country's export competitiveness

- For instance, when Singapore's inflation is kept lower relative to other countries' inflation, Singapore's export competitiveness improves as export prices are more competitively priced. Demand for Singapore's exports increases as foreign consumers switch to relatively cheaper Singapore products, while domestic consumers cut down on relatively more expensive imports and switch to buying domestically produced goods. The rise in AD also lead to rise in actual growth via the multiplier effect and reduces cyclical unemployment.
- Especially if exports are price elastic, such as high value exports of Singapore (semiconductors, biomedical components), export demand and hence export revenue will rise.
- Thus low, stable inflation helps to achieve a favourable BOT, actual growth, and lower cyclical unemployment

Anti-thesis: Tradeoffs render price stability less significant

- In the short run, by aiming for low inflation, Singapore may have to face trade-off with other macroeconomic goals
- For example, to reduce the level of inflation, contractionary fiscal policies may be implemented. Contractionary fiscal policies include reducing government spending and increasing taxation which will lead to a fall in AD and in turn, a fall in demand-pull inflation, assuming that the economy is operating near full employment level / along the intermediate range. However, the fall in AD not only dampens inflation but also slows down actual growth. When actual growth slows down, the demand for labour falls and demand-deficient unemployment rises.
- When contractionary monetary policy is implemented via appreciating the exchange rate, imported goods and services become relatively cheaper, thus alleviating imported inflation. However, this increases the price of exports in terms of foreign currencies and thus reduces the export competitiveness → BOT worsens
- Thus, the cost of prioritizing inflation can be high in terms of tradeoffs

Evaluation:

However, there are instances when targeting other goals are more significant than targeting inflation. Such instances arise because these other objectives are identified to be a *more pressing and urgent problem* to tackle than inflation.

Growth is an immediate priority in times of recession

- During the 2019-2021 COVID-led recession or 2008 global financial crisis, most governments' main priority is stimulating actual growth and reducing cyclical unemployment given the high costs of low economic growth and unemployment

- Given that AD has fallen sharply due to falling external demand for exports, risk of demand-pull inflation is low given the presence of spare capacity, hence may not need to prioritise low inflation

- Economies see falling real GDP → fall in real GDP per capita, assuming population stays constant, falling material SOL as amount of goods and services available for consumption by the average person declines.

- Falling GDP and higher unemployment means reduction in collection of tax revenue by government. This hinders government's ability to implement redistributive policies to address income inequality which tends to worsen during a recession as the group who is the hardest hit is often the low-income and low-skilled workers. This might lead to unhappiness and affects social cohesiveness, possibly resulting in social unrest which may then deter economic activity or investments, thereby threatening long-term growth of the country.

- The costs of high unemployment are underutilization of resources and loss of potential output foregone and hence lower material SOL.

- Lower non-material SOL as unemployment creates stress for those supporting families, and a lower ability to purchase essential services like healthcare

- High unemployment may lead to a broken window effect, leading to higher incidences of deviant behaviours and crimes, including theft, alcoholism, depression, child abuse and suicides. People who remain unemployed for long periods may turn to stealing and robbery in order to survive.

Managing BOT/ structural unemployment could be a priority due to dynamic nature of the global economy and that trade contributes significant to the achievement of economic performance

- Small, open economies like Singapore which is highly dependent on exports as its engine of growth may place emphasis on achieving favourable balance of trade by ensuring export competitiveness.

- For instance, if balance of trade worsens due to a loss in Singapore's comparative advantage especially in low-end manufacturing to emerging economies with lower cost advantages or even loss of comparative advantage in higher-valued added manufacturing as other countries develop CA in these industries, structural unemployment will become a significant goal for Singapore due to the high costs involved.
    - Hysteresis might set in → Protracted unemployment could deskill and demoralized retrenched workers, such that these workers are not readily employable. This loss in productivity results in a reduction in the productive capacity of the economy and loss of potential output in the long run.
    - In such circumstances, BOT and structural unemployment become significant goals for Singapore

Conclusion

Overall, the most significant macroeconomic aim depends on the nature of the economy and whether it is a short-term aim or a long-term aim.

In the short run, the most significant aim tends to be the one that deals with the most urgent and pressing problem. In times of recession, growth and maintaining a basic standard of living, especially for disadvantaged groups, is a top priority for most governments. In the long run, most countries aim for sustained economic growth for the purpose of improving the standard of living of its citizens.

For small and open economies such as Singapore, price stability is likely to be the most significant macroeconomic aim, partly due to Singapore's high susceptibility to import-induced inflation given its resource scarce economy. in the long run, price stability has more significant effects on export and investment competitiveness, as shown in the Monetary Authority of Singapore's policy approaches and Singapore government's focus on labour efficiency and productivity. In comparison, larger, less open economies such as the US are less likely to see price stability as the most significant aim as it may not have significant external effects on AD. This is also exemplified by the US Federal Reserve's policy of targeting the interest rate to manage domestic consumption and investment as their key tool, reflecting the significance of achieving sustained economic growth.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	Little / non-existent use of economic theory / answer that is largely not addressing the question. For instance, an answer that mainly describes how different policies can achieve the different macroeconomic goals will be deemed as not addressing the question.	***1-4***
L2	Explanation of at least 2 macroeconomic goals in terms of their significance with the use of relevant economics analysis by linking to discussion of benefits to the economy in achieving the respective goals. Some gaps in macroeconomic analysis	***5-7***
L3	Explanation of 3 macroeconomic goals in terms of their significance with the use of relevant economics analysis by linking to discussion of benefits to the economy in achieving the respective goals. For an answer that shows scope and depth in discussion of benefits beyond standard of living effects and also consideration of the possible trade-off in achieving the respective macroeconomic goals.	***8-10***
Evaluation		
E1	An *unsubstantiated conclusion*	***1***
E2	*Judgement is based on the discussion in the body.* *Evaluation shows some attempt to draw conclusions from the points discussed, is substantiated with use of context, shows some comparison of the different macroeconomic goals but with little further insights.*	***2-3***
E3	*Judgement that is well supported and substantiated.* *Evaluation shows good attempt to draw conclusions from the points discussed, is substantiated, shows good comparison of the different macroeconomic goals.*	***4-5***

	Further insights and relevant ideas are provided and substantiated with clear use of examples. For instance, considering the differences in context between different countries and the different circumstances a country may be facing.	

Examiner's Comments

- This question was not as well done as (a).
- This was a difficult question which required some unpacking and proper planning to be able to provide good scope and coherence; however, many responses failed to do so.
- A range of approaches are accepted for this question, e.g. responses could focus on achieving low, stable inflation as the anchor, while other responses could focus on achieving low unemployment or favourable BOT as the aim – either of these approaches could score well.
- While a direct way of explaining the significance of achieving the macroeconomic goals is much preferred, it is acceptable to explain the negative impacts of not achieving the goals and hence argue that the achievement of the macroeconomic goal is significant. The most common approach taken was to simply explain the benefits of achieving each aim, and even weaker responses merely focused on the SOL costs of not achieving each aim. Students should not narrowly link the significance of the achievement of the goals to SOL alone. Given the phrasing of the question, a positive phrasing should be used, i.e., the benefits of achieving the aim.
- The best answers were able to explain how achieving each of the macroeconomic aims results in the achievement of other aims, and hence the positive impacts on SOL
- The best answers were also able to identify the trade-offs involved when achieving some of the macroeconomic aims.
- Some students explain in detail about how a macroeconomic aim is achieved. Though this question is not about how to achieve the macroeconomic goals, students can explain how the process of achieving the goals lead to possible trade-offs (negative impacts) on other macroeconomic goals.

Content

- A common misconception here is that BOT is the same as BOP – please revise the macroeconomic aims lectures, BOT is a section within the BOP. Similarly, BOT is not the KFA.
- A common misconception is that the Marshall-Lerner Condition (MLC) is required for changes in AD. While this assumption is not wrong, it is not necessary. MLC is only required to show how changes in currency affects BOT.
- Another common concept error is rising employment results in rise in productive capacity. This is inaccurate as rise in productive capacity is due to rise in quantity or quality of resources but the rise in employment is not equivalent to rise in quantity of resources. The number of people in the workforce is the same. Rising employment just means that those who were not employed previously are now employed. There is thus no change to quantity of resources and hence no change to productive capacity with rising employment.
- Some were confused between the budget deficit and BOT deficit and used them interchangeably. This is erroneous. Budget deficit refers to when the government expenditure is greater than government revenue while BOT deficit refers to when import expenditure is greater than export revenue.
- Some students saw sustainable and sustained economic growth as equivalent. This association is not correct. Sustained growth and sustainable growth are different. Yet, sustainable growth includes sustained growth, and that growth can be maintained without creating other significant economic problems such as depleted resources and environmental problems, particularly for future generations.
- Problems relating to time management started to become apparent in this question – whether it is the lack of proper diagrams, diagrams lacking explanations, or the use of unaccepted short forms. These were quite rampant and are not acceptable. Such shortcuts are not the way to make up for lost time and affects your script negatively. Diagrams should be drawn relatively large, using rulers, fully labelled, and explained in prose. Short forms are only accepted for proper names, e.g., RNY, AD, AS, MEI etc. However, prior to using such acronyms, they should be fully spelt out at least once.

4. **Singapore's central bank unexpectedly tightened its monetary policy settings, strengthening the local dollar, as the city-state joins policymakers globally concerned about risks of persistent inflation.**

Source: Bloomberg Oct 2021

a) Explain why a small open economy like Singapore chooses to adopt exchange rates over interest rates as its monetary policy tool. [10]
b) Assess the likely effects of an appreciation of the SGD against foreign currencies on Singapore's economic performance. [15]

Suggested Answer:

(a)

Introduction:
- Clarify that both exchange and interest rates are monetary policy tools
- Exchange rate - measures the price of a domestic currency in terms of another foreign currency
- Interest rate - price of money or cost of borrowing in percentage terms
- Due to the nature of the Singapore economy being small and open, and lacking natural resources, Singapore's monetary policy is centred on exchange rate rather than interest rates as the use of exchange rates allows Singapore to best achieve price stability as a sound basis for sustained economic growth in the long run.

Body:
Explain how the unique characteristics that Singapore possesses makes exchange rates preferred as a monetary policy tool over interest rates

1. **Lack of natural sources ➔ reliance on imports of raw materials ➔ Susceptibility to imported Inflation**
   Singapore's lack of natural resources results in its high reliance on imports of basic necessities, raw materials and intermediate goods used in production. The high import content of its output means that the cost of production of Singapore firms are significantly affected by the prices of imported raw material and intermediate goods. Changes in world prices or in the exchange rate have a significant and direct influence on costs of production and general price levels (particularly cost-push inflation) in the economy.

   Given that Singapore is a small economy and hence a price-taker in the global market, it cannot affect the foreign prices of its imports. Hence, the choice of managing its exchange rates by appreciating the SGD against foreign currencies to lower the domestic price of its imports of raw materials in production, which in turn helps to reduce the cost of production of Singapore firms, raising the AS for Singapore and in the process, facilitate the moderation/taming of imported inflation for an import-reliant country like Singapore.

   Therefore, the susceptibility to imported inflation faced by Singapore led to its policymakers' choice to prioritise the adoption of exchange rate manipulation over manipulating interest rates since exchange rates directly influences the price of imported raw materials while interest rates cannot do the same.

2. **Small domestic market ➔High dependence on external sectors driver of growth**
   Singapore's openness to trade stems from her small domestic base and this results in the fact that total trade (i.e. X+M) amounts to approximately 300 - 400% of its GDP. Hence, Singapore's economic development strategy has always focused on targeting exports as the driver of growth

and since Singapore's exchange rate affects the foreign price of Singapore's exports which in turn affects its price competitiveness and the amount of exports sold (i.e. X in AD), which in turn affects the level of AD, equilibrium real national income and the derived demand for domestic resources, especially the demand for labour, this makes the exchange rate as the monetary policy tool of choice as it directly affects the largest component of Singapore's AD ie. X. Singapore's default policy is a modest and gradual appreciation of the SGD to achieve low and stable inflation so as to improve export price competitiveness in the long run. However, during periods of recession, Singapore do sometimes implement a once-off depreciate of its currency such that the price of exports in foreign currency will fall, thus leading to increase in consumption of our exports, boosting our AD.

In comparison, the manipulation of interest rates that affects C and I components of the AD would yield a much smaller impact on AD than X would create, given the small domestic base/market of Singapore. Recall that when interest rates are manipulated, cost of borrowing will be affected, which in turn affects households' consumption of interest-sensitive goods (C) as well as firms' willingness to undertake investment projects (I) due to the MEI theory. This will in turn affect AD since both C and I are components of AD. However, in the case of Singapore, the small domestic base means that both C and I components contribute to a less significant proportion of AD than X. In addition, given the heavy dependence on FDI in Singapore, they make up a large proportion of total investments in Singapore, making Singapore's MEI largely interest-inelastic, such that manipulating interest rates would not affect I in Singapore significantly. ***Hence, the impact of an interest rate policy (if undertaken) would generate a lower rate of economic growth compared to that of the conduct of an exchange rate policy, justifying the choice of exchange rates over interest rates as its monetary policy tool.***

3. Inability to control the interest rate due to openness to international capital flows

In addition to a large external trade sector, a vast network of international financial linkages exists as a pre-requisite for Singapore's role as a financial centre, resulting in the need to maintain relatively free movement of financial capital to enable it to function as an international financial centre. This results in an open economy with free capital mobility into and out of Singapore.

Since small differences between domestic and foreign interest rates can result in large and quick movements of funds, this makes it difficult for the central bank, MAS to target interest rates in Singapore. Any attempt by the MAS to raise or lower domestic interest rates will be thwarted by a movement of funds into or out of Singapore. The significant inflows and outflows due to any changes in our interest rate relative to global interest rates will cause exchange rate volatility which is detrimental to trade and FDI. Thus, due to the free movement of financial capital, interest rates in Singapore are largely determined by foreign interest rates.

Given that Singapore prioritises financial capital mobility due to its international financial hub status, Singapore must relinquish its control over interest rates and focus on managing its exchange rate as its monetary policy tool due to the established in the Open Economy Trilemma.

Conclusion:

Hence, for all the above reasons that are closely tied to Singapore's unique identity as a small and open economy, it is apparent why Singapore chose exchange rates over interest rates as its monetary policy tool. Given the disproportionate contribution of external demand to growth rather than domestic demand (due to the small domestic market) and the relative interest inelasticity of investments in Singapore (as FDI contributes to a large % of total I for Sg), the MAS chose to target exchange rates through a gradual and modest appreciation stance in order to keep cost-push (imported) inflationary pressures and demand-pull inflationary pressures low so as to ensure price stability that provides a sound basis for the Singapore economy to attain sustained economic growth over the long term.

Knowledge, Application, Understanding, Analysis		
L1	- *Misinterpretation of question/Fail to understand question's requirements* - *Unable to relate the reasons for SG's choice of policy instrument to its small and open nature characteristics.* - *Answer focused on explanation of exchange rate and/or interest rate policy*	*1 – 4*
L2	- *Recognize that the reasons for SG's choice of policy instrument, with answer referencing to its small and open nature.* - *Able to explain at least 2 out of the 3 reasons for Singapore's choice of exchange rates as monetary policy tool.* - *Answer is contextualized to Singapore (ie. Relates to SG characteristics) but may contain gaps or lack clarity in analysis.*	*5 - 7*
L3	- *Depth of analysis: Analytical explanation of 3 reasons for Sg's choice of policy tool. Clear reference made to how each of the 3 reasons affects Singapore's preference of exchange rates over interest rates as MP tool.* - *Answer is well contextualized to Singapore's nature/characteristics and her priority of price stability as a SR goal so as to attain sustained economic growth in the LR.* - *Answer includes a comparison between the relative impact on AD of the manipulation of interest rate vs exchange rate ➔ allowing MAS to arrive at the choice of exchange rates as its monetary policy tool.*	*8 - 10*

Examiners' Comments:

- *This part of the question is generally not well-attempted by majority of the candidates, with many failing to understand the requirements of the question. E.g. many candidates merely focused on analysing the characteristics/nature of Singapore economy without clear references or linkages as to why these characteristics justify the choice of manipulating exchange rates over interest rates for Singapore. Others went too far to elaborate on how exchange rate manipulation affects import-induced inflation, demand-pull inflation, economic growth as well as BOT (which is required in part b instead).*
- *Common mistakes include:*
    - *Careless claims that net exports i.e. (X-M) makes up 400% of Singapore's GDP, making it the largest component of AD. Other careless claims include M is a component of AD. "AD = C+I+G+(X-M)", its -M for the reason that M must be "**excluded**" from AD.*
    - *Use of hot money flows (short term capital flows) and FDI flows (long term capital flows) interchangeably in their answers, failing to recognise that interest rates do not influence FDI flows since FDIs tend to depend on their own sources of funds from their source countries.*
    - *Use of net exports (X-M) and BOT, which is essentially net export revenue ie. (X revenue – M expenditure) interchangeably in their answers, claiming that BOT is a component of AD.*
    - *Erroneous claims that Singapore's small multiplier size, k, is the main reason limiting the effectiveness of an interest rate policy on RNY, hence justifying the choice of exchange rate manipulation over interest rates for Singapore. These candidates fail to realise that the small size of Singapore's multiplier, k, constraints the effectiveness of **both** an exchange rate and interest rate policy since both work to effect a change on AD; and it is this change in AD that is multiplied by k size to create an effect on RNY. So essentially, the right element of comparison here should be the relative impact of manipulating exchange rates over interest rates on the different components of AD that matter, and not the size of k. (Refer to point 2 in the answer key)*
    - *For majority of the candidates, marks are capped at L2 when there is a lack of an element of comparison between the relative impact on AD of the manipulation of interest rates vs*

exchange rates, justifying Singapore's choice of exchange rate manipulation over interest rates. (Refer to point 2 in answer key)

(b) Assess the likely effects of an appreciation of the SGD against foreign currencies on Singapore's economic performance. [15]

Introduction:
- Clarify understanding of the term economic performance➔refers to the attainment of the 4 main macroeconomic goals ie. sustained economic growth, price stability, low unemployment and a favourable BOT that are measured using the 4 key economic indicators ie. Real GDP growth rate, inflation rate, unemployment rate and BOT position.
- Clarify what is meant by an appreciation of the SGD against foreign currencies ie. price of SGD rises in terms of foreign currencies.
- An appreciation of the SGD against foreign currencies creates positive and negative SR vs LR, internal vs external effects on the Singapore economy, which can be observed from the 4 main macroeconomic indicators.

Body:
Explain positive and negative effects of an appreciation of the SGD against foreign currencies
Effects of appreciation of SGD on inflation, economic growth and employment
- Appreciation of SGD in the foreign exchange market ➔prices of imported foreign goods and services (denominated in S$) will be lower➔ direct effect of ***dampening imported inflationary pressures*** especially those arising from food and essential items ➔cost of living in Singapore decreases.
- The appreciation of SGD will also cause a fall in prices of imported raw materials (in S$) used by Singapore firms in the production of goods and services ➔ a fall in per unit costs of production for Singapore firms➔an increase in AS represented by a downward shift of the AS curve from AS_0 to AS_1 as seen in Figure 1. Hence, an appreciation of the SGD against foreign currencies helps ***keep cost-push inflationary pressures low***.
- Additionally, when MAS appreciates the S$, Singapore' exports will be less competitively priced in international markets in the short term as the price of Singapore exports (in foreign currency) increases➔amount of Singapore's X falls. And since the price of imports to Singapore (denominated in S$) decreases➔amount of goods and services imported increases as Singapore households and firms will switch to relatively cheaper imported goods, away from relatively more expensive domestically produced goods and services. Hence, an appreciation of the S$ against foreign currencies ➔ fall in amount of net exports ➔ contributing to a fall in Singapore's AD in the short run, causing AD curve to shift to the left in Figure 1.

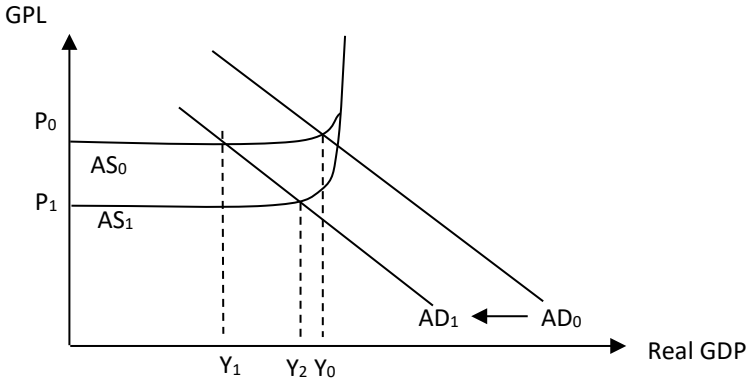


Figure 1: Effects of an appreciation of the exchange rate

As seen above, an appreciation of the SGD leads to a leftward shift in the AD curve due to the decrease in net exports from AD_0 to AD_1. As demand for labour is a derived demand, the fall in AD due to a fall in net X may in turn cause an ***increase in unemployment (demand-deficient)*** as fewer factors of production are required to produce the reduced level of national output. With lower employment levels, factor incomes

fall, leading to a fall in induced consumption which generates further rounds of reduction in incomes and induced spending as postulated by the multiplier process in which one man's spending creates another man's increase in incomes. In this scenario, it is the reverse multiplier process which results in real national income decreasing more than proportionately to the initial fall in AD caused by the fall in net exports, as seen from Y_0 to Y_1in Figure 1 ➔***fall in actual economic growth rate, hence a worsening of the economic performance in terms of actual economic growth***.

At the same time, the per unit costs of production decreases due to the lower prices of imported raw materials (in S$) used by Singapore firms. As such, the aggregate supply curve will shift from AS_0 to AS_1 in Figure 1. This helps to dampen the decrease in real national income (arising from the fall in AD), hence RNY increases from Y_1 to Y_2.

Overall, an appreciation of the S$ against foreign currencies will lead to an increase in AS and a fall in AD (seen to be limiting excessive increases in AD especially during times of economic boom), thus ***dampening both cost-push as well as demand-pull inflationary pressures*** ➔resulting in a ***lower rate of inflation, which is seen as an improvement in economic performance in terms of price stability.*** However, ***real national income will fall*** on the whole from Y_0 to Y_2. As demand for labour is a derived demand from the production of goods and services, ***cyclical unemployment will also increase*** due to the fall in AD ➔***worsening economic performance in terms of employment and actual growth. So, such an appreciation can result in both positive and negative effects on economic performance internally.***

Effects of an appreciation of SGD on Balance of Trade (BOT)

- Appreciating the S$ will cause exports to be relatively more expensive in foreign currency and imports to be relatively cheaper in SGD. This will cause quantity demanded of exports to fall and quantity demanded of imports to rise. The extent of change in quantity of exports and imports demanded depends on PEDx and PEDm. Assuming that the Marshall Lerner Condition holds where [PEDX + PEDM >1], the monetary value of net exports will fall, hence ***worsening Singapore's BOT position ➔ worsening economic performance externally.***

Hence, while the appreciation of the SGD has a positive impact on inflationary pressures, it unfortunately creates negative effects on the other macroeconomic indicators of growth, employment and BOT, demonstrating a **trade-off** in the attainment of macroeconomic goals in the **SR** as explained in the main. Given that a gradual modest appreciation of the SGD is traditionally adopted by Singapore's policymakers to manage inflation risks, the implication here for Singapore policymakers in their management of price stability (low inflation rate) is to ***weigh the benefits of lower inflation against the costs of slower economic growth rates and higher unemployment rates (demand-deficient).***

Conclusion:

- On the whole, the **appreciation of SGD** against foreign currencies tend to **create more positive effects on Singapore's economy,** ie. Improving its economic performance **in the longer term as compared to the short term**/intermediate term **due to the existence of trade-offs in the macroeconomic goals**. This is because, in the longer term, there will not be a conflict of aims from appreciating the S$ because by targeting low and stable inflation (through an appreciation of the SGD against foreign currencies), Singapore can gain export competitiveness over its competitors. This is because the maintenance of a low and stable inflation environment helps to minimize the dangers of a wage-price spiral, and by enabling Singapore to keep its inflation low relative to other countries' inflation, ensures Singapore's export competitiveness in the longer term. As Singapore's exports become relatively cheaper, external demand for Singapore's exports increases. This contributes to an increasing AD which helps to contribute to actual growth over time. In addition, the attainment of price stability also facilitates greater certainty in the projection of profits from investment projects, hence incentivizing further investments and FDI which helps to achieve sustained economic growth in the economy in the longer term through rises in productive capacity (LRAS) ➔ improving Singapore's economic performance both internally and externally.

- Another consideration is the **extent to which the BOT would be negatively affected**. In the **short term**, if the **MLC does not hold** ie. | PEDx + PEDm | < 1, then the appreciation of the SGD does not necessarily result in a worsening of the BOT since the monetary value of net exports should rise instead, leading to a **temporary improvement of the BOT** rather than a worsening of it.
-Having said these, what Singapore policymakers should consider in the conduct of the monetary policy in view of the possible trade-offs, is the **extent/rate of appreciation** of the SGD against foreign currencies – the larger the extent of appreciation, the greater the extent of fall in net X and hence AD, the greater the adverse impact on actual growth, employment levels and the BOT (assuming MLC holds for BOT); the **state of the economy** – the closer the economy is to Yf, the less concerns there will be wrt the trade-offs incurred because the economic priority would be price stability over growth and employment; the **nature/type and root causation of inflation** Singapore is facing – given that the appreciation of SGD is traditionally used as a monetary policy stance to stave off cost-push inflation (import-induced) and demand-pull inflation (export-induced), if the root causes of dd-pull or cost-push inflation that threatens Sg's price stability isn't of external sources, then the appreciation of SGD should not be employed as it would generate more negative than positive effects on Singapore's economic performance.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	- Superficial answer that lacks depth: No/Very limited use of economics frameworks and concepts - Limited scope and context: Only discussed impact of appreciation of SGD on one macroeconomic aim/indicator with no reference to Singapore whatsoever.	*1 – 4*
L2	- Balanced answer: Discussion shows how appreciation of SGD against foreign currencies affects macroeconomic aims/indicators both positively and negatively - Scope: Discussion covers at least 2 of the 4 macroeconomic aims/indicators - Depth: Employs good use of the AD-AS framework and/or relevant concepts to explain the effects of an appreciation of SGD on the macroeconomic aims/indicators, referencing to Singapore's economic performance - Context: Explanations and examples are applicable to Singapore	*5 - 7*
L3	- Well-balanced response: In depth analysis which explains with clarity how an appreciation of SGD can generate both positive and negative effects on Singapore's economic performance, internally and externally. - Good scope: Discussion covers all the internal macroeconomic indicators – economic growth, unemployment and inflation as well as external macroeconomic indicator – Balance of Trade. - Consistent application to the context of Singapore in analysis	*8 - 10*
Evaluation		
E1	- An attempt at judgement but not explained.	*1*
E2	- Judgement that answers the question with some attempt at justification. Justification is incomplete or weak.	*2-3*
E3	- Judgement that answers the question with well-elaborated and insightful justification.	*4-5*

Examiners' Comments:
Candidates generally performed better in this part of the essay compared to the previous, mainly because they could grasp the requirements of the question. Majority understood that they were required to critically analyse the positive and negative effects of an appreciation of the SGD against foreign currencies on Singapore's 4 main macroeconomic aims. That said, candidates ought to learn to link their points/arguments back to the question and make reference to different aspects of Singapore's economic performance at the end of each argument/point. This helps to make their answers more directed at answering the question and provides good signposting for the examiner.

Common mistakes made include:

- *the failure to use the Marshall-Lerner Condition (MLC) as an assumption in their explanation of how an appreciation of the SGD might negatively affect Singapore's BOT.*
- *the mis-use/mis-understanding of MLC*
    - *Misconceptions regarding requiring MLC condition to hold for AD to fall when there is appreciation of the SGD. As long as the SGD appreciates, AD will fall. MLC is applied when analysing the impact on BOT, not AD.*
    - *Making assumptions about PEDx>1 and PEDm>1, then applying MLC to BOT. MLC does not require both PEDx and PEDm to be greater than 1. It only requires the sum of PEDx and PEDm to be greater than 1.*
    - *Incorrectly applying MLC when explaining the impact of relatively lower inflation rates between countries on BOT. Apply MLC only when explaining impact of changes in ER on BOT.*
- *Misconceptions regarding requiring PEDx>1 for AD to fall when SGD appreciates, and vice versa. Regardless of PEDx, appreciation of SGD will lead to a fall in AD, ceteris paribus. PEDx determines the extent of fall in Qdx and in turn extent of fall in AD.*
- *Misconception regarding the term "deflation" and mistaking it for "disinflation" instead. Candidates who had expounded on deflation as a negative impact of the appreciation of the SGD had failed to apply to the context given in the preamble, which is that of "risks of persistent inflation", hence deflation would not be applicable or relevant given the risk of persistent inflation. These candidates should be writing about the benefits an appreciation of SGD might bring to price stability given such a scenario.*
- *Making claims that an appreciation of SGD would lower import-induced inflationary pressures and hence result in increases in productive capacity due to increases in LRAS tend to be far-fetched, failing to recognise the relative importance of analysing the primary/short-term/immediate impact of an appreciation of SGD on cost of production which shifts the AS downwards instead.*
- *The inability to differentiate between a change in AD (shift of AD) vs that of a movement along the AD curve (shift of AS). This mistake appeared in scripts that made claims about how a reduction in import-induced inflation due to an appreciation of the SGD facilitates the attainment of price stability such that real purchasing power amongst households rise, leading to increases in autonomous consumption that raises AD, shifting AD rightwards, hence mitigating the initial negative impact on AD (through a fall in net exports) that an appreciation of SGD would bring about. Hence, justifying that overall AD shifted to the right instead and that an appreciation of the SGD would positively affect actual economic growth for Singapore. Candidates who made the above mistake ought to realise that the apparent rise in real purchasing power caused by the reduction in import-induced inflation creates a rise in consumption that is seen as a movement along the AD and not a shift of the AD since it is induced by a price change!*
- *Other common mistakes that usually land candidates in the L2 range include the failure to contextualise their answers to Singapore by injecting some references to Singapore's characteristics/nature eg. our export-oriented and import-reliant nature, small domestic base etc, making their answers purely theoretical in nature; and the failure to provide intuitive economic analysis in their answers eg. by briefly explaining the reverse multiplier when explaining effects on RNY or briefly analysing how the reduction in AD would lower dd-pull inflation by reducing the need to compete for scarce resources etc. Scripts that belong to this category casually made use of the diagram to justify the adverse effect on economic growth by referring to the fall in RNY from Y0 to Y1 in the Figure or stating that general price levels had fallen from P0 to P1 hence price stability is attained through an appreciation of the SGD. Such answers tend not to score beyond L2.*

5. Global supply and demand shocks that follow the COVID-19 pandemic has created challenges for economies worldwide. In response, the Malaysian government implemented a fiscal stimulus package totalling $164 billion RM over the last 2 years. These included cash transfers, wage subsidies to help business retain workers as well as training and support for business digitalisation.

Adapted from multiple sources

Assess the appropriateness of the above government measures in addressing the challenges faced by the Malaysian economy. [25]

Examiners' Comments

Essay Approach: This essay will first explain the challenges Malaysia faced in relation to the demand and supply shocks arising from the Covid-19 pandemic before discussing if the policies are appropriate. Policies are appropriate if they help to increase actual economic growth and/or lower unemployment in the short run given the demand and supply shocks. Some considerations as to why the policies are inappropriate include reference to the yardsticks of ineffectiveness, unsustainability and trade-offs against other macroeconomic aims.

Suggested Answer

Introduction

Clarify the challenges faced by the Malaysian economy as a result of the Covid-19 pandemic:

- low /negative growth due to fall in AD
- high unemployment (largely demand deficient) due to fall in AD and/or AS
- Cost-push inflation due to a fall in AS

State the government measures used in the given context:

- Cash Transfers
- Wage Subsidies
- Training and support for digitalisation

Body

Unpack the challenges that Malaysia faces as a result of DD and SS shocks

(i) Demand Shock

Due to global demand shocks, Malaysia will experience a fall in AD and hence experience low growth and demand-deficient unemployment. Given the context of a COVID-led recession, we can assume that incomes of trading partners of Malaysia have fallen. As such, purchasing power of Malaysia's trading partners have fallen and they are now less willing and less able to purchase Malaysian exports. Assuming that the demand for Malaysian exports are normal goods, there will be a fall in demand for Malaysian exports, ceteris paribus (holding M expenditure and other components of AD constant), net export revenue falls and hence AD falls.

The fall in AD may also be exacerbated by pessimism by both firms as well as households. For firms, given the context of a pandemic, expected returns are uncertain or low, hence firms have an incentive to withhold or postpone investment decisions and I falls.

For households, pessimism about the outlook about of the economy may cause them to postpone consumption decisions. This is especially so for households who feel financially insecure or at risk of losing their jobs and C falls.

The combined effect of fall in (X-M), C and I lead to lower AD which triggers the reverse multiplier effect. The multiplier works on the principle that one man's lack of spending is another man's loss of income, The

fall in AD, ceteris paribus results in unplanned investment, firms step down production to reduce inventories accumulation and hence real output decreases. The initial fall in autonomous AD will lead to many rounds of lower induced consumption, causing multiple leftwards shift of AD curve. However, each subsequent round of fall in AD is by a lesser extent due to the presence of leakages in the form of savings, taxes and import. The multiplier process does not continue indefinitely, but comes to a stop when total fall in withdrawals is equal to the initial fall in autonomous AD. Hence resulting in a more than proportionate fall in real national income, and a fall in actual growth due to a reduction in utilisation of resources as the economy moves further away from the full employment level of output. With lower real output level, firms hire less factors of production, with labour as derived demand, this causes demand deficient unemployment.

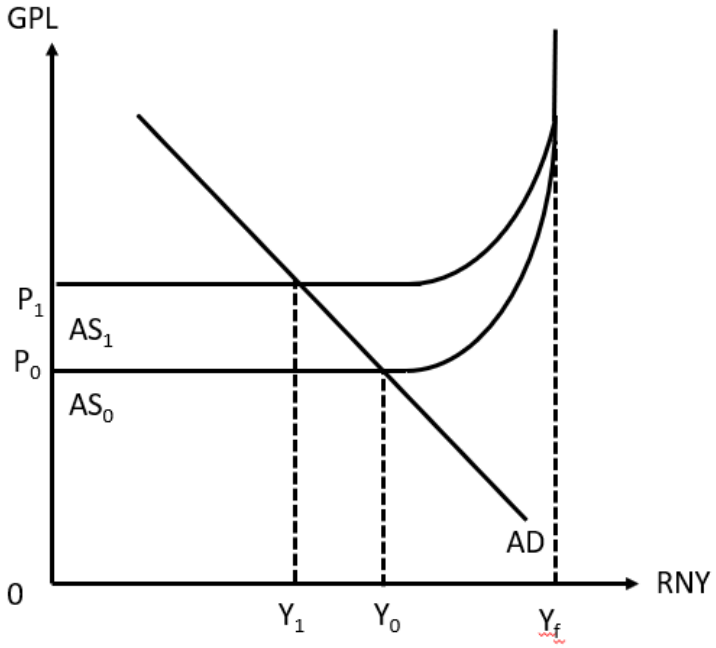
(ii) Supply Shock

Tightening of border controls and lock-downs as a consequence of governments' response to the Covid-19 pandemic has led to supply chain disruptions especially in the production and flow of intermediate goods. Some firms in Malaysia may also be pressured to find alternative sources of factor inputs which are comparatively more costly.

Further, limited labour movement as a consequence of movement control order imposed in Malaysia may also deny domestic firms access to much required labour in their production processes.

Hence, the above supply shocks lead to higher costs of production for firms, represented by an upward shift in the AS curve from AS0 to AS1 in Figure 1 below. This results in a fall RNY, reduction in actual growth and cost-push inflation with increase in GPL.

Figure 1



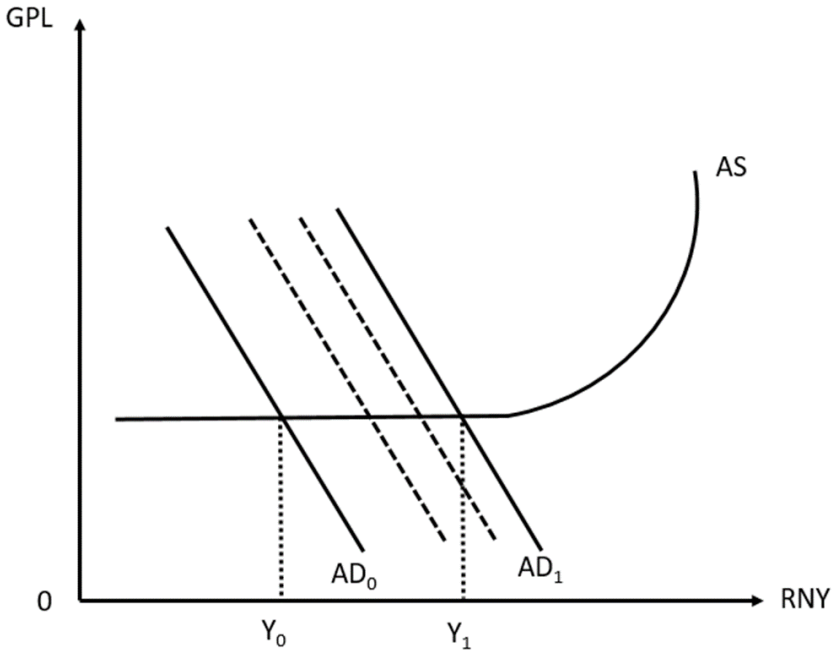
Explain the 3 policies to tackle the challenges that Malaysia faces

Policy 1: Cash Transfers

Cash transfers are appropriate to stimulate consumption and hence increase AD, leading to actual growth and lower demand deficient unemployment.

- Cash transfers disbursed by the government acts like a transfer payment to households that leads to a rise in disposable income. With a corresponding increase in purchasing power, households are likely to increase consumption of goods and services.
- This increase in autonomous C leads to rise in AD, which triggers the multiplier process. As firms step up production due to the fall in inventories, the increase in factor income payment to workers results in a similar spending and re-spending effect as explained earlier. The k process ends when total leakages equals to initial injection. This leads to more than proportionate increase in real national income, increasing actual growth and reducing demand deficient unemployment as firms hire more factors of production to increase output in order to meet the increase in AD. This is represented by the rightward shift of AD curve from AD0 to AD1 and the increase in RNY from Y0 to Y1 in Figure 2 below.

Figure 2



Anti-thesis 1: Limitations of Cash Transfers

- Cash transfers may not have the desired effect of increasing C sufficiently due to poor consumer sentiment dampening incentives of households to consume. Instead, households may choose to save their increase in their disposable income due to fear of job losses and insecurity. Hence the intended effect of increasing AD, actual growth and employment may be mitigated, rendering cash transfers ineffective.
- Cash transfers being a form of discretionary FP would likely require the government running a budget deficit in times of a recession. This may be unsustainable in the long run should the recession be a chronic one. This is particularly concerning for Malaysia since fiscal deficit remains high – the central government deficit has widened to 6.4% of GDP in 2021 from 6.2% in 2020 due to higher pandemic-relief and low revenue.

- Persistent budget deficit may also prompt austerity measures in the long-run to raise taxes and reduce G in order to balance the budget. This means that rise in AD due to government policies are unlikely to persist in the long run and the economy may suffer from lower growth and higher unemployment due to higher direct taxes for instance.

Policy 2: Wage subsidies

Wage subsidies are appropriate by lowering COP, increasing AS, leading to actual growth and lower unemployment

- When the government provides wage subsidies to businesses, the cost of labour is effectively subsidised by the government, as the government covers the cost of the wage bill of the worker. This provides incentive for firms to retain workers and safeguard employment. At the same time, it also helps to lower the COP for firms.
- With reference to Figure 1, this is illustrated by a downward shift in the horizontal portion of AS curve, from AS1 to AS0. Ceteris paribus, this results in an increase in RNY from Y1 to Y0 and hence increase in actual growth and mitigating cost-push inflation.
- The issue of demand deficient unemployment is mitigated as firms have a greater incentive to maintain the same level of unemployment in spite of lower derived demand for labour due to the recession.

Anti-thesis 2: Limitations of Wage Subsidies

- While wage subsidies are helpful in offsetting a large part of the wage bill of the employer, it may create disincentives for employers to upgrade the skills of the low wage workers who are often the target of wage subsidies, especially if wage subsidies are too generous and maintained over long periods of time. This may result in trade-offs against the other government's aim narrowing of wage and income differentials between the low and high skilled workers.
- Similar to cash transfers, wage subsidies do require government financing, which also puts a strain on the government's budget and is unsustainable in the long-run as explained earlier.
- Especially during times of COVID, government spending to finance the disbursement of wage subsidies incur an opportunity cost. The next best alternative forgone might be strengthening healthcare infrastructure to handle higher volumes of patients during a health crisis.

Policy 3: Training and support for business digitalisation

Training and support for business digitalisation is appropriate as a measure to increase labour productivity to increase AS and lead to actual and potential growth in the long run, mitigating cost-push inflation in the short run.

- With training and support for business digitalisation, eg. Training grants to deepen the skill sets of workers with the push for business digitalisation, the cost of production can fall if labour productivity is enhanced and rising at a faster rate than wage increases.
- Productive capacity also increases since output per unit of labour increases.
- The combined effect of lower COP and higher productive capacity leads to a downward and rightward shift of the AS curve, cet par, leading to both actual and potential growth. At the same time, it also helps to alleviate cost-push inflation by lowering GPL.

Anti-thesis 3: Limitations of training and support for business digitalisation

- Training of workers and support for business digitalization may be met with inertia and hence take time to actualise, if at all.
- Inertia for training and business digitalization stems from significant opportunity cost associated with training. Especially for daily rated low-wage workers, the next best alternative forgone in order to attend

a day's training are wages forgone that is crucial to maintain a basic material standard of living. Hence, many may prioritize working instead of receiving training.

- Inertia may also be explained by aversion towards technology, especially among older workers who may have limited interaction with digital systems and devices due to the perceived complexity and steep learning curve involved.
- For the two reasons above, productivity gains from training may not accrue and hence reductions in COP to alleviate cost-push inflationary pressures and promoting growth may not be actualised
- Productivity grants to promote digitalisation given to firms may involve abuse/fraud[2] as firms may have an incentive to overstate digitalisation expenses in order to claim more government support. This poses even larger costs to the government in terms of monitoring and enforcement to prevent such abuses.

Reasoned Conclusion

[Present your judgement]
Given the strengths and drawbacks of each policy measure, a policy mix approached is recommended to respond to the challenges that Malaysia faces as a result of the pandemic.

[Substantiate your judgement using the WEST evaluation technique]

Eg. **Weigh-up/Time-frame:** The 3 measures adopted are generally effective as a stop-gap measure given the severe repercussions of COVID-19 on the economy in the short run. However, in the LR, supply-side policies such as training and support would be better suited to promote sustained growth as Malaysia recovers from the recession.

Eg. **Suggest alternatives:** Alternative policies can be used to supplement the existing policies. These include the use of exchange rate policies to stimulate Malaysia's exports growth to counter the downturn in external demand due to global demand- side shocks and the use of expansionary interest rates policy to encourage greater domestic C and I.

Eg. **Examine assumptions:** However, moving forward, as border controls ease and international trade resumes to pre-pandemic levels, the threat of supply chain disruptions are less severe and such budget-intensive policies are less necessary.

Knowledge, Application, Understanding, Analysis		
L1	• *Lacks use of economic framework/concepts in analysis* • *Lacks sufficient scope and/or depth: one sided answer only and/or only one policy addressed* • *Irrelevant answer* • *No attempt to clarify what is appropriate*	*1-9*
L2	• *Good use of AD-AS framework/concepts in analysis* • *Sufficient scope:* ➢ *Demand and/or supply shocks somewhat addressed* ➢ *Challenges faced by Malaysia sufficiently explained* ➢ *Two-sided response covering at least 2 policies indicated in preamble* • *Analysis is underdeveloped or lacks rigor at times*	*10-14*
L3	• *Confident and consistent use of AS/AD framework in analysis* • *Good scope and depth of analysis:* ➢ *Demand and supply shocks well-explained*	*15-20*

[2] https://www.asiaone.com/some-firms-abusing-productivity-grants

	➢ *Challenges faced by Malaysia and corresponding policies to address the challenges well-explained. Analysis of minimum of 2 challenges can gain full credit.* ➢ *Two-sided response covering at all 3 policies indicated in preamble* • *Good application to the Malaysian economy*	
Evaluation		
E1	*A judgement made that is unsubstantiated*	*1*
E2	*A judgement made that is not well supported and substantiated*	*2-3*
E3	*A Judgement that is well supported and substantiated.* *Evaluation that is synoptic. Shows clear attempt to draw relevant conclusions and form considered judgement from the preceding analysis discussion. It is well-substantiated by anchoring the evaluative comments/insights based on the context that Malaysia is facing.*	*4-5*

Examiner's Comments

<u>Areas for improvement</u>

1) Approach

- A number of students neglected framing and providing an analysis demand and supply shocks first, instead, went straight into the discussion of policies. For policies question, always introduce the problem(s) first before discussing solutions.
- In terms of policies discussion, a significant number of responses framed it simply as a discussion of a generic expansionary fiscal policy without specific reference to the 3 policies articulated in the preamble. It is important that students grasp the nuances of the question accurately by paying closer attention to the phrase "the above government measures".
- The link to the macroeconomic goals can be more consistently established. Avoid discussing policies in isolation – instead, clearly map it clearly to the relevant and pertinent macroeconomic problem(s) and explain how the specific policy solves the particular problem (e.g. cash transfers address the challenge of low actual growth and high cyclical unemployment resulting from the demand shocks)
- As a limitation of cash transfer policy, consumer pessimism was posited as a cause of increase in MPS and hence the likely multiplier size to be small. While this is a valid point, an alternative approach would be the effect of consumer pessimism on reducing level of C and hence limiting extent of increase in AD.
- A significant number of responses were intentional in trying to cover all 4 macroeconomic objectives including that of effects on BOT. However, given the time constraint and more importantly to demonstrate a ***clear understanding of the pertinent issues*** (i.e weak or falling actual growth, demand deficient unemployment and cost-push inflation) presented in the question, students need to develop a more astute grasp of question requirements.

2) Quality of analysis/evaluation

- Demand and supply shocks while recognised in most responses, a cogent explanation of how such shocks may have arisen from the Covid-pandemic was cursory or non-existent. Hence this resulted in a weak development in the analysis of the demand and supply shock effects.

  Poor response: Eg. Global recession occurred as result of the pandemic.

  Better response: Eg. The pandemic resulted in lock-downs, closure and scaling back of business activities. For instance, the hospitality and aviation related industries suffered from a fall in demand

for their services due to curtailment of international passenger arrivals which reduced the profitability of firms within the industry and retrenchment of workers. Due to poor business and consumer sentiment, this dampened incentives to invest and consume, reducing C and I causing a fall in AD, more than proportionate fall in RNY, actual growth and employment.

- For weaker responses, the links to AD and/or AS effects were unclear or not evident. Eg. Wage subsidies were at times argued to lower cost of production for firms and therefore help to maintain profitability. There was no attempt to link to increase in AS and thereafter effects on actual growth.
- A number of scripts asserted that corruption in Malaysia is a limitation for the policies. Students are advised to go beyond making sweeping and simplistic lines of argument but develop well-directed limitations to the given context of the pandemic.
- Structural unemployment can be relevant as a challenge faced by Malaysia but many students simply stated it without unpacking how it arises. It can be linked to demand shocks and that link could have been made more explicitly.
- Evaluation was generally poorly done, with many presenting a mere repetition of points instead of meaningfully synthesising the key insights gleaned from the policies discussion.

3) Conceptual Errors

- A significant number of students explained that because of job losses and a recession, this result in lower income for consumers and hence kicks starts the reverse multiplier process due to a fall in C and AD. This is problematic as the fall in C here is income induced rather than autonomous.
- Some responses erroneously explained that the multiplier results in a more than proportionate increase in AD when it should have been RNY.
- A common misconception was that unemployment causes a fall in productive capacity. This only occurs if prolonged/ chronic unemployment leads to discouraged labour exiting the workforce, thus reducing the quantity of labour available.
- Cash transfers in the given context are not disbursed to firms and hence do not reduce COP and raise AS, but raises AD instead via an increase in disposable income of households and hence C.

What went well

- In terms of demand shocks, stronger responses provided a rigorous analysis of how a global recession causes a fall in national income of Malaysia's trading partner which causes a fall in demand for Malaysia's exports, assuming YEDx>0, fall in net X, cet par and hence a fall in AD for Malaysia.
- The stronger scripts generally provided clear explanation of multiplier effects in response to the autonomous changes in AD brought about by the demand-side shocks/expansionary fiscal policy
- The best scripts actively contextualized analysis and used relevant economic concepts. For instance, asserting Asian thrift as a way to explain how expansionary fiscal policy may be ineffective is generic. Stronger scripts could identify how pessimism given a COVID-led recession implies that individuals may be financially insecure and thus have a lower marginal propensity to spend and/or higher marginal propensity to save. The latter can be justified by job and hence financial insecurity. As a result, k size is small and this dampens any increase in AD and RNY.

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

"Nobody can go back and start a new beginning, but anyone can start today and make a new ending."
~ Maria Robinson