Question 1

Economists usually begin their analysis of decision-making by firms by assuming that the objective of a firm is to maximise its profit. In reality, however, there are many different objectives that a firm might adopt.

- (a) Explain the likely effects on a firm's price and output when its objective changes from profit maximisation to profit satisficing. [10]
- (b) Discuss the most appropriate strategy that a firm could adopt if its objective was to reduce the competition that it faces. [15]

Part (a)

Introduction

Firms are assumed to be profit-maximisers and they will set their price and output according to the profit-maximising condition where MR=MC. However, objectives may change depending on various factors like the contestability of the industry and dynamic economic conditions. A firm may also decide to focus on other objectives such as maximise its sales volume in order to gain market share and as an entry deterrence strategy.

R1: Explain why profit maximization requires MC = MR using a price setting diagram



In the diagram above, the firm would choose to maximise profits by producing where MR=MC, producing at Qe and pricing at Pe. If the firm produces below Qe, say at Q1 and prices at P1 where MR>MC, the additional revenue gained would be the area ABQeQ1 while the additional cost would be CBQeQ1. Since ABQeQ1>CBQeQ1, a rational firm would be able to gain additional profit by increasing production and moving closer to Qe and Pe.

If the firm produces above Qe, say at Q2 and prices at P2 where MR<MC, the additional revenue gained would be the area BEQ2Qe while the additional cost would be BDQ2Qe. Since BEQ2Qe<BDQ2Qe, a rational firm would be able to gain additional profit by decreasing production and moving closer to Qe and Pe.

R2: Explain why profit satisficing often leads to a lower price and higher output



A profit satisficing firm is satisfied with a level of profits as the firm seeks to attain other objectives such as sales volume maximisation or revenue maximisation.

A firm seeking a sales volume maximisation strategy would produce as much as it can but it would not go beyond the breakeven output and price of Qv and Pv respectively. At Qv and Pv, TR=TC at PvAQv0. This means that the firm is achieving at least normal profits and is thus able to remain in the industry while at the same time maximising its sales volume.

Hence, as a firm changes from a profit maximising strategy to a sales volume maximisation strategy, Pv is larger than Pe and Qv is greater than Qe. However, the firm may revert to the profit maximising price and quantity, Pe and Qe respectively, to maximise profits once higher market share is attained and its demand becomes more price inelastic with greater market power.

Mark scheme

To score L3 your need to address the two requirements:

- Explain the impact on price and output when a firm profit maximises using the marginalist principle
- Explain how the impact on price and output differs when a firm focuses on another objective other than profit maxisiation.

Part (b)

Introduction:

As analysed in part (a), a firm need not to always choose to profit maximise, and in this instance the focus of an incumbent firm may be to reduce the contestability of a market so as to increase its market share, potentially earning higher profits in the long run. Both price and non-price strategies can be used to reduce competition. Price competition such as limit pricing could be used to deter potential entrants while predatory pricing could be used to drive out existing competitors. Non-price strategies seek to win over consumers from competitors and establish brand loyalty. This essay will discuss the most appropriate strategy a firm could adopt to reduce competition.

R1: Pricing strategy to reduce competition

(A) Limit pricing: Similar to the profit satisficing diagram in part a, a firm could choose to deliberately charge a price that is lower than its profit maximizing price.

Limit pricing is designed to prevent new firms from entering the market rather than by forcing the existing firms out. This strategy involves charging a price that may be only a little above its average cost but could be lower than the estimated average cost of the potential rivals. It is therefore a way of creating an artificial entry barrier.



From Fig 1 on limit pricing, the firm may decide to sacrifice some short term profits by pricing lower at P_2 and selling a higher output (this increases its market share). Total profit is lower - shown by P_2BFC_2 . This new low price P_2 is below the estimated average cost of the potential rival firm, and assuming that firms in the market sell at the same price, then the potential rival firm may face the risk of big losses if it enters the market.

Ev1A: Limit pricing may not be able to reduce competition due to government intervention

Limit pricing is usually deemed as anti-competitive strategy and given that most governments have set up anti-trust laws that prevent the formation of monopolies, there is a possibility the government might step in to halt the tactic. Hence this strategy may prove unsustainable.

(B) Predatory pricing

Predatory pricing is the practice of charging a very low price with the intent of forcing competitors to leave the market. A sign of predatory pricing is when a company chooses temporarily to sell its product at a loss. This is when the firm is pricing below its marginal costs, doing so the firm is voluntarily making additional losses and presumably the motivation for this is to eliminate its competitors. If the dominant firm can acquire a reputation for predatory pricing, this may help to deter new entry to its market in the future – it works like another way of creating an artificial entry barrier.

Ev1B: Predatory pricing rarely proven and invites government intervention

Cases of predatory pricing successfully reducing competition is rare. This is because when the dominant firm start to raise prices once its rivals are forced out of the competition, this increases the incentive for other new firms to enter the market. No long-term gain can be reaped from this predatory action. Moreover, the government might step in as the strategy helps to protect powerful market positions, going against the interests of the consumers.

R2: Non-price strategy to reduce competition

Product Innovation and marketing to create product differentiation and brand loyalty

When an incumbent firms is able to successfully carry out production innovation to come up with improved or clearly differentiated products, it will raise the demand for the product and the demand for the product would become relatively more price inelastic.

Moreover with marketing, when the firm's ability to promote the product results in the consumer developing a close association between the product and the brand, it will be increasingly difficult for a new firm to break into that market. The brand name is often established by means of product differentiation, aggressive advertising & attractive after-sales service (e.g. Apple, Microsoft and Panadol). All these will make the product unique to the consumers, increase the demand and reduce the magnitude of price elasticity of demand. Hence, this will reduce contestability in the market, thus reducing competition while helping the incumbent firm to retain its dominant market share.

Ev2: Possible limitations of product innovation and marketing

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However product innovation is costly and may not prove successful. Moreover, the high cost of marketing campaigns may erode profits and hence it may not be a sustainable strategy. For example, Windows Vista/Windows 8 where statements made in their marketing campaign which could not be taken at face value resulted in lawsuits.

Summative Conclusion:

Predatory pricing would usually not be appropriate since it is illegal in many countries while limit pricing, at best, can only be temporary. Therefore, the most appropriate strategy, would be to make the firm's product unique, creating product differentiation and brand loyalty, and to continue this strategy (i.e. not once-off) to ensure the product continues to remain unique (e.g. Apple products).

Mark scheme

To score L3 you need to address the requirements:

- Explain at least one price-related strategy for a firm to reduce competition
- Explain at least one non-price stratey for a firm to reduce competition
- To score E3 you need to
- Make a substantiated a stand on which of the strategies analysed would be most appropriate to reduce competition.





Question 2

The Singapore government announced in the 2018 Budget that the goods and services tax (GST) would rise from 7% to 9% sometime between 2021 and 2025. The intended consequence of this change is to raise tax revenue. However, following the coronavirus (Covid-19) outbreak in 2020, the incomes of many households fell.

- (a) With the aid of diagrams, explain why an increase in GST and a fall in the incomes of many households are <u>each</u> expected to cause a fall in expenditure on luxury goods. [10]
- (b) Discuss whether this increase in GST is likely to raise tax revenue and whether it will lead to unintended consequences. [15]

Part (a)

Introduction

GST is an indirect, ad valorem tax that would increase cost of production while expenditure is the product of price and quantity. This essay will use the concepts of price elasticity of demand and income elasticity of demand to explain why an increase in GST and a fall in the incomes of many households are each expected to cause a fall in expenditure on luxury goods.

R1: Increase in GST leads to a fall in expenditure on luxury goods

Price elasticity of demand (PED) is defined as the degree of responsiveness of a change in quantity demanded to a change in price ceteris paribus. The PED for luxury goods tend to be greater than one since the price takes up a larger proportion of consumer's income, for example the purchase of a new car, overseas holiday travel package.



Increase in GST raises the cost of production for firms as it increases the price of many factor inputs. This will decrease market supply curve from S_0 to S_1 .

Since demand for luxury goods are mostly price elastic as price takes up a larger proportion of income, this fall in supply will lead to an increase in price from P_0 to P_1 and a more than proportionate fall in quantity from Q_0 to Q_1 . The fall in total expenditure due to the decrease in quantity demanded, represented by area $AE_0Q_0Q_1$, and outweighs the rise in in total expenditure due to the increase in price, represented by area $AE_1P_1P_0$. Hence total expenditure falls.

R2: Decrease in income would also lead to a fall in expenditure on luxury goods

Income elasticity of demand (YED) is defined as the degree of responsiveness of a change in demand to a change in income, ceteris paribus. The YED for luxury goods by definition, is greater than 1, as they have a low degree of necessity.



Fall in income will lead to a more than proportionate fall in demand for luxury goods, from D₀ to D₁ as they are income elastic in demand (YED>1). As both price and quantity sold falls, expenditure will also fall, from Po*Qo to P1*Q1

To score L3 your need to	
 Explain how an increas Explain a fall in income 	e in GST results in a fall in expenditure on luxury goods s results in a fall in expenditure on luxury goods
Part (h)	
Introduction	

Introduction:

The increase of the GST as an ad valorem tax on all goods and services is aimed at increasing government's tax revenue. Tax revenue is the product of the tax rate and the quantity sold arising from the increase in price (due to the tax). Whether or not the increase in GST raises tax revenue depends on whether the goods are considered necessities or luxuries. This essay aims to discuss whether the increase in GST (analysed in part a) will likely raise tax revenue as well as consider the possible unintended consequences which may arise.

R1: The increase in GST raises tax revenue

For necessities, the demand is likely to be price inelastic (i.e. PED<1). For example, water is considered a necessity for various purposes such as drinking, cooking and washing. Hence, any change in price would result in a less than proportionate change in quantity demanded for water. According to Figure 3, a rise in price (arising from the fall in supply) from P₀ to P₁, will result in a less than proportionate fall in quantity demanded from Q₀ to Q₁.

Initially, with the implementation of GST, the rise in price from P_0 to P_1 will lead to a less than proportionate fall in quantity demanded from Q_0 to Q_1 . The tax revenue earned by the government is given by the product of the tax rate AB and the corresponding quantity sold Q₁.

With the increase in GST tax rate to CD, the supply curve falls further, shifting from S_1 to S_2 . The further increase in price from P_1 to P_2 will lead to a less than proportionate fall in quantity demanded from Q_1 to Q_2 . Total tax revenue will increase to CD*0Q₂. Due to the price inelastic demand for necessities, the quantity demanded after the GST increase will not fall as significantly compared to the rise in price of the goods. Hence the total tax revenue received by the government from the GST increase would rise definitely rise.



Ev1: The increase in GST may not increase tax revenue

- For luxury goods, the demand is price elastic, with an increase in GST, there will be a more than proportionate decrease in quantity demanded. This may lead to a fall in tax revenue collected from this category of goods.
- As many households' income also fell in 2020 due to the pandemic, this fall in income could mean that without a change in the price of goods (including necessities), necessities could take up a higher proportion of one's income. This makes the demand for necessities more price elastic. Hence the rise in tax revenue would be smaller than expected.
- Alternatively, the fall in income reduced demand for necessities (albeit a less than proportionate decrease). Therefore, the same tax rate would also lead to a lower tax revenue raised.

R2: A rise in GST leads to unintended consequences

(A) Unintended consequence 1: Equity issues arising from increasing the tax on necessities

Note: Understanding and application of tax incidence is not expected in the 9570 syllabus

Figure 4: Tax burden from GST increase on the market for necessities



Since PED < 1 for necessities, the consumers will hear a larger burden of the tax revenue raised. In the above diagram, P_c represents the price consumers pay while P_f the price firms received attention the GST is collected by the government. The

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consumer share of the tax given by area C while the producer share of the tax is the much smaller area D. Hence consumers bear a larger share of the tax revenue as compared to producers.

Moreover, GST is a regressive tax. This means the percentage of income paid as taxes falls as income increases. Since the lower income households spend a larger proportion of their income on necessities in comparison with the higher income households, the burden of the GST on the lower income households will be greater than on higher income households. Hence the rise in GST is considered less equitable.

Ev2A: Government can help address the equity issue for the low income households

Given that one of the aims of the government is to counter income inequality to help the lower income households with the cost of living, the government would likely step in to alleviate the impact on this group via transfer payments such as GST vouchers. It could also encourage the low-income households to sign up for the Workfare Skills Support (WSS) scheme which encourages low-income workers to undergo training resulting in better employment opportunities in the future.

(B) Unintended consequence 2: Efficiency trade-off from increase in deadweight welfare loss

With GST, consumer surplus decreases, consumer surplus will fall from P0AZ to P1AY while producer surplus will fall from P0ZB to P2XB. Part of the loss in consumer and producer surplus is transferred to the government in the form of tax revenue, however, the rest is not, giving rise to deadweight welfare loss of AZB. With an increase in GST, this deadweight welfare loss is likely to further increase. Hence the government has to forego its allocative efficient objective to increase tax revenue.

Ev2B: The extent to which the deadweight welfare loss increase depends on the PED of the goods

For necessities, the increase in deadweight welfare loss is less in comparison to goods which lend themselves more as luxury items.

Other possible unintended consequences: GST increase may result in cost push inflation.

To use the AD-AS model to analyze the impact on GPL and RNO. The analysis could possibly be analysed in the context of the covid pandemic where supply disruptions has raised the prices of many goods. Hence adding the GST increase would make the impact on the low-income households even worse.

<u>Corresponding Ev</u>: As for GST increase resulting in cost push inflation, it is one off and could be offset thru GST offsets to households, with more given to the low income households.

Summative Conclusion

GST is a major revenue generator in Singapore. It taxes foreign tourists, who can only claim GST offset on goods that they take away from Singapore. Furthermore, even if GST is a regressive tax on its own, the Singapore government ensures that, with GST offsets, the entire tax system as a whole is progressive. For every \$1 the bottom 20% of households pay in tax, which is almost only GST, they get back about \$4 worth of benefits. Thus, I believe increase the GST would raise significant revenue and yet the low-income households need not worry too much about the GST being regressive.

Mark scheme

To score L3 you need to address the two requirements:

- Explain how a rise in GST results in a rise in tax revenue
- Explain how a rise in GST leads to unintended consequences
- To score E3 you need to
- Evaluate whether the rise in GST will always lead to a rise in tax revenue and possible government intervention to address the unintended consequences
- Make a substantiated a stand on the overall impact of a rise in GST.

Question 3

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Street lighting is considered to be a public good. However, there are negative externalities resulting from the generation of electricity for the lighting on the environment and the effect of bright street lights on wildlife.

(a) Explain two different reasons for the market failure associated with the provision of street lighting. [10]

(b) Discuss the extent to which a government should intervene in the market to ensure that the benefits of street lighting can be obtained while minimising the negative impacts. [15]

Part (a)

Introduction:

Street lighting is considered as a public good. Public goods are goods that can be collectively consumed and are both nonrivalry and non-excludable in consumption. Hence, street lighting will not be produced in a free market, hence market fails. Another reason for market failure associated with provision of street lighting is negative externalities resulting from generation of electricity for the lighting on the environment and the effect of bright lights on wildlife. This essay will explain these two reasons in detail.

Body:

R1: Non-provision of public goods is the first reason for the market failure associated with provision of street lighting

Public goods are not provided by the free market due to its characteristics of non-rivalry in consumption and non-excludability in consumption

Non-rivalry in consumption

Non-rivalry in consumption refers to the situation where the consumption or use of the good or service by one consumer does not reduce its availability to another consumer.

The use of the street lighting by one pedestrian will not reduce the amount of light available to others. The benefit of street lighting can be shared jointly by everyone who happened to be in the vicinity of the street lights.

As a result of non-rivalry, the marginal cost of providing a public good to an additional consumer or user is zero. Since collective consumption is possible, once street lighting is provided, the total cost is the same regardless of the number of persons uses it. Since the optimal or allocative efficient quantity to supply is where Price (P) = Marginal Cost (MC), the efficient price to charge for the use of public good should be zero. However, this means that no private firm in a free market can supply it profitably.

Non-excludability in consumption

Non-excludable in consumption refers to the situation where the consumption or use of the good or service cannot be limited to the consumers who have paid for it.

The reason is due to the lack of private property rights over its use because it is impossible or prohibitively expensive to exclude non-payers from consuming it. Once street lighting is provided, there is no inexpensive or practical way to restrict the availability of the service to only people who pay for their use.

As a result of the characteristics of non-excludability, once a street lighting is provided, others can free-ride on the good. Since anyone can enjoy all the benefits of a public good once it is produced without paying for it, no rational consumer motivated by self-interest will reveal his effective demand. Without price signals to indicate consumers' preference for street lighting, producers will not supply this good. Although it yields valuable benefits to society as street lighting provides safety.

Hence, without the profit incentive and price signals, the market fails in the provision of street lighting, which is a public good.

R2: Generation of negative externalities is the second reason for the market failure associated with provision of street lighting

Provision of street lighting can generate negative externalities, which occurs when the production of a good negatively affects the well-being of third parties. In this case, generation of electricity for the lighting especially if it is fueled by coal, could result in air pollution and hence affects health of residents living near the vicinity. The bright lights could also have negative impact on wildlife. For example, artificial lights disrupt this nocturnal activity, interfering with reproduction and reducing populations. All these would constitute external cost.



- With reference to Figure 1, Marginal Private Cost (MPC) measures the cost to producers of producing additional units of electricity such as the cost of raw materials and wages of workers.
- Marginal Private Benefit (MPB) measures the benefit to consumers from consuming additional units of electricity.
- Q_m represents the free market equilibrium output where MPC = MPB.
- Electricity production generates external costs to third parties who are neither consumers nor producers, as explained earlier.
- Hence as seen in Figure 1, external costs cause a divergence between private and social costs, with MSC lying above MPC as MSC = MPC + MEC.
- The market does not price in the true costs of producing the marginal unit of electricity. P_m reflects only the private costs and excludes the external cost.
- As such, the free market has "under-priced" the production of electricity relative to its true social costs, leading to an inefficient allocation of resources.

Conclusion:

Due to the failure of free market in the non-provision of street lighting and generation of negative externalities associated with provision of street lighting, government intervention would be required to bring about greater societal welfare.

Mark scheme

To score L3 your need to address the two requirements:

- Explain the non-provision of public goods as a possible reason for market failure associated with street lighting
- Explain negative externalities as a possible reason for market failure associated with street lighting

Part (b)

Introduction:

A government's objective is to maximise social welfare such that the socially optimal level of provision of street lighting is where marginal social benefit (MSB) = marginal social cost (MSC). With the two reasons explained in part (a) for the market failure associated with the provision of street lighting, it is imperative for the government to intervene to maximise social welfare. This essay will discuss the extent to which government should intervene by using cost benefit analysis to ensure that the benefits of street lighting can be obtained while minimising the negative impacts, in consideration of the constraints.



R1: Government intervention to ensure the social benefits of street lighting can be obtained

Direct Provision by Government with Full Subsidy:

Due to the problem arising from the non-rivalry and non-excludability characteristics of street lighting, no free markets will provide them and hence the government has to provide such public goods in order to maximise society's welfare. The government is in the best position to provide public goods since their objective is not to maximise profits, unlike that of the private producers.

Direct provision of street lighting with full subsidy helps to keep users safe through various ways such as greater visibility on roads so that it reduces accidents and crimes.

Ev1: Ability to implement the policy is constrained by the lack of information and lack of public funding

The provision of public goods such as street lighting is funded from taxation. As such it is not always possible to provide sufficient public goods if there is not enough tax revenue. i.e. the provision of public goods is constrained by the state of the government finances. While it is beneficial to provide street lighting to the whole nation, it may not be socially optimal MSC > MSB. The government would then need to consider how much of street lighting is to be provided in different areas (urban and rural).

The lack of price signals makes it difficult for the government to determine the optimal level of provision of street lighting as those who want the goods do not reveal their true preference via the price mechanism. Hence, the government would need to do research to collect information on the population and intensity of usage of street lighting to derive the MSB and compare against MSC. The policy to minimise MSC would be discussed in the next segment.

R2: Government intervention to minimise the negative impacts of street lighting

Government intervention could be required to internalise negative externalities associated with the provision of street lighting as analysed in part (a).

- (A) Policy addressing electricity generation: Regulation can be implemented to reduce the third party costs arising from the generation of electricity powered by fossil fuel.
- As analysed in part a, there is allocative inefficiency which arise from electricity generation. In the provision of street lighting, the government can regulate the proportion of renewable fuel sources in the electricity generation to reduce the negative externality. Hence reducing the divergence between MSC and MPC and therefore the deadweight loss.

Note: Alternatively, a subsidy on the production of 'green energy' can be analysed

Ev2A: Close monitoring by the government and accurate reporting is required by firms to ensure policy success

The extent to which this is successful would depend on the country's ability to incorporate renewable energy sources in the generation of electricity. Some countries are better endowed with land can tap on wind energy or solar. Even then, these sources of energy may not be as dependable like fossil fuels.

Iceland for example achieved almost 100% renewable energy from hydropower and geothermal energy by 2015.

(B) Policy to reduce the negative impact on wildlife: In terms of provision of street light to minimise light pollution, government has intervene in terms of deciding when and where lighting is required, how the light is being used and what type of light source to use. For example: (1) Directing light downwards towards the ground, (2) using warm sources of light, (3) shielding the light source so it doesn't produce glare, (4) using light only where and when it is needed

Ev2B: Government budget constraint consideration required to ensure negative impact is minimised

One of the key considerations would be the additional costs involved, which government needs to consider if the budget constraints would allow for such investment to change to warm LED light, provide sufficient shield. However, such conversion would allow for more long term reduction in cost in street lighting provision due to more efficient light usage.



Summative Conclusion:

- In my opinion, the government would definitely need to provide street lighting so that social benefits can be enjoyed, that would otherwise would not be provided in the free market.
- However, it should not be provided indiscriminately in view of constraints of government budget and its negative impacts. It would be provided when MSB > MSC, with social welfare maximised. Government would need to do research to collect information on the population and intensity of usage of street lighting to derive the MSB and compare against MSC as explained earlier.
- Hence, government should implement measures to reduce negative externalities generated from electricity generation for street lighting and light pollution respectively, to a large extent.
- With technological advancement, overtime more countries will be able to use alternative sources of electricity generation which can reduce negative externalities.
- Investment to use warm sources of light and relevant infrastructure can help to reduce cost of provision of street light in the long term as it will help to reduce energy wastage and hence lower the pressure on government's budget constraint in provision of light.
- Overtime, if such government intervention is successful, private and external cost would be lowered, and hence greater (net) social welfare of street lighting can be enjoyed.

Mark scheme

To score L3 you need to address the two requirements:

- Explain policies that help ensure the social benefits of street lighting can be obtained
- Explain policies that minimise the negative impacts of street lighting
- To score E3 you need to
- Evaluate the extent to which the policies analysed help address the two requirements in the question.
- Make a substantiated a stand on the extent of government intervention with adequate.



Question 4

During the pandemic, there was a fall in investment and a rise in unemployment. Innovation-based investment is a good way to stimulate the economy but, unless appropriate government policy action is taken, this might lead to another type of unemployment.

- (a) Explain how a fall in investment might lead to one type of unemployment while a rise in innovation-based investment might lead to a different type of unemployment. [10]
- (b) Discuss the extent to which a rise in Singapore government spending on investment in major capital projects and in human capital are both required to reduce unemployment in a post-pandemic world. [15]

Students to choose either explain the reverse succinct multiplier effect in part (a) or the succinct multiplier in part (b) as part of analysis. Need not do both.

Part (a)

Introduction

Unemployment refers to the situation where people in the labour force, who are willing and able to work, but are unable to find employment. I shall explain how fall in investment results in demand deficient unemployment and rise in innovationbased investment results in structural unemployment respectively.

R1: Explain how fall in investment leads to demand deficient unemployment

Investment is spending by firms on new capital goods, which refers to goods that are used to produce other goods. E.g. factories, offices, machinery, delivery vehicles, intermediate inputs etc. These tend to decrease during pandemics as the economic outlook is bleak. For example, domestic safe management measures and a fall in domestic consumption

negatively affected consumer-facing sectors such as retail trade and food & beverage services, which prompted firms to reduce investment.

A fall in investment results in fall in aggregate demand (AD) from AD_0 to AD_1 as shown in Figure 1. A fall in investment will reduce income for individuals employed by firms whose goods and services are initially being demanded for. These individuals will spend a proportion of the additional income on induced consumption, depending on their marginal propensity to consume (MPC), and the rest will be withdrawn as savings, taxes and import spending. The decrease in induced consumption creates less income for individuals employed in other sectors, who will then spend less additional income on induced consumption. This cycle of spending and re-spending will continue until the decrease in income becomes negligible, i.e. when the change in withdrawals is equal to the change in injections. The eventual decrease in national income from Y_0 to Y_1 is several times the initial decrease in injection.

Firms find they cannot sell all their current output, and stocks pile up. Firms will then adjust to the lack of demand by cutting back on production, in turn retrenching workers (given that labour is a derived demand), leading to demand-deficient unemployment.



R2: Explain how a rise in innovation-based investment leads to structural unemployment

Rise in innovation-based investment such as advancement in technology changes the skills needed to perform jobs. People made redundant in one sector of the economy cannot immediately find jobs elsewhere because they either do not have the necessary skills or are unwilling to move to another area/region where prospects are better (occupational and geographical immobility of labour respectively). Automation of production can lead to the shedding of labour, even when industry output is expanding. For example, the drive to replace humans with machinery is accelerating as companies struggle to avoid workplace infections of Covid-19 and to keep operating costs low. For e.g. deployment of robots to clean floors at airports and take people's temperatures, replace dining-hall employees; malls and stadiums use security-guard robots to patrol. Hence, there is a mismatch of skillsets required by potential job vacancies and the workers searching for jobs, resulting in these workers becoming structurally unemployed.

Mark scheme

To score L3 your need to address the two requirements:

- Explain how a fall in investment leads to demand deficient unemployment
- Explain how a rise in innovation-based investment leads to structural unemployment

Part (b)

Introduction

As analysed in part (a), the pandemic has resulted in acceleration of digitalisation and automation, and the slowdown in economic growth which has caused structural and cyclical unemployment respectively. It has also disrupted the global supply chain, causing higher cost of production which worsens economic growth and hence unemployment. This essay will discuss the extent to which a rise in Singapore government spending on investment in major capital projects and in human capital are both required to reduce unemployment in a post-pandemic world.

R1: A rise in Singapore government spending on investment in capital projects reduces demand deficient unemployment in a post pandemic world

An increase in government spending on investment in capital projects, such as infrastructure or technology, can help to reduce cyclical unemployment in a post-pandemic world by stimulating economic growth and creating jobs.



An increase in government spending (G) on capital projects such as the construction of the Cross Island train line will result in an increase in AD from AD_0 to AD_1 as shown in Figure 2.

Such an injection will generate income for individuals employed by construction firms whose goods and services are initially being demanded for. These individuals will spend a proportion of the additional income on induced consumption, depending on their marginal propensity to consume (MPC), and the rest will be withdrawn as savings, taxes and import spending. The increase in induced consumption creates income for individuals employed in other sectors such as retail industry, who will then spend their additional income on induced consumption. This cycle of spending and re-spending will continue until the increase in income becomes negligible, i.e. when the change in withdrawals is equal to the change in injections. The eventual increase in national income from Y_0 to Y_1 is several times the initial increase in injection. The multiplier, k, represents how many times the national income increases with respect to the initial change in injection.

When the government invests in these projects, it will lead to an increase in production and firms will hire construction workers, engineers, and other skilled labour to address this increase in demand for output. Hence, the resulting economic growth and job creation helps to reduce cyclical unemployment caused by pandemic.

Ev1: Small size of G relative to total demand and issues arising from the pandemic may impede policy success

In order for the above policy to be successful in countering demand deficient unemployment, government spending needs to be raised more than proportionately to offset the fall in export demand and investments arising from the pandemic. The Singapore government's spending (G) as a % of GDP did increased from about 14-15% during pre-pandemic period in 2018-19 to about 18% in 2021 (*FYI: 24% in 2020 and 16% in 2022*). Such an increase is partly due to temporary financial schemes such as the Jobs Support Scheme and temporary income relief schemes¹ to support those who are financially hit

¹ Targeted schemes for individuals who had lost their jobs, suffered drops in their incomes, or who were self-employed with less means and family support. The initial Temporary Relief Fund offered a one-off S\$500 to individuals who needed urgent help. Subsequently, the Covid-19 Support Grant and Self-Employed Person Income Relief Scheme gave cash assistance to eligible workers and self-employed persons respectively.

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Suggested Answers to A Level 2022 H2 Economics (ESSAYS) by Hwa Chong Institution Economics Unit

by Covid-19. Nonetheless, in comparison to Singapore's external demand, G continues to remain small. Therefore, it is likely that the rise in G may not be able to fully mitigate the combined fall in export demand and investments.

Another point of consideration is that disruptions in the global supply chain creates shortages and rising input costs means that the prices of food, fuel and construction materials continue to surge, at least in the short run. This incentivises firms to cut cost and retrench workers. Government spending on major capital projects may not be sufficient to reduce such unemployment issues. Instead, promoting flexible and resilient supply chains at the industry level might prove more effective in addressing the root cause of the problem.

Singapore's small k value is also a possible point for evaluation

R2: A rise in Singapore government spending on investment in human capital reduces structural unemployment in a post pandemic world

To reduce structural unemployment, the Singapore government has implemented programmes and provide subsidies to encourage workers to retrain and pick up new skills in areas like language, IT, management, supply chain management as well as entrepreneurship provided by the Continuing Education and Training Centres (CET).

Initiatives such as the Skills Development Fund (SDF), as well as the Lifelong Learning Endowment Fund and Workfare Training Support Scheme provide subsidies to firms who send their workers for re-training or upgrading courses to retain their employability. SkillsFuture Credit has also been introduced to encourage individuals to take ownership of their skills development and lifelong learning, where all Singaporeans aged 25 and above will receive an opening credit of S\$500 and this amount will be topped up periodically.

Amid a weakened hiring market due to the Covid-19 pandemic, more Singaporeans tapped professional conversion programmes (PCPs) in 2022 to learn new skills with the intention to switch careers. Mid-career workers went through structured training and gained on-the-job experience so they can change sectors or be redeployed to other roles within their companies.

<u>Ev2</u>: Skills upgrading takes time, depends on willingness of workers to retrain and sustainability of government funding

Retraining takes time and it will not directly translate to employability in the short term, depending on the type of skills learnt. For example, jobs like data analysts, cybersecurity-related jobs, healthcare, supply chain management takes a long time in order to be qualified. Hence, structural unemployment may not be reduced within a short frame of time. In turn, this would mean that funding for retraining by the government is required over a prolonged period. While the government has increased its spending both during and post-pandemic, fiscal prudence on its part will likely enable the funding of such investment into human capital to continue in the longer term.

Another point for consideration is the employers' willingness to send their employees for retraining, which could involve both explicit cost like training cost and opportunity cost in terms of revenue that could be earned. Given the pickup in demand for goods and services might be gradual post pandemic coupled with subsidies from the government to support retraining, firms may be more willing to let its workers participate in such programmes.

Summative conclusion

Although G is currently still a small proportion of Singapore's AD, such spending on capital projects can generate crowdingin effects. Spending on major projects like the Cross Island line and improvement to other infrastructures like the airport and seaport will make it attractive for foreign investors to invest. The boost in consumer and producer confidence may in turn spur investment and consumption. In fact, positive business sentiment would also increase the firms' willingness to invest in workers' retraining as they have less pressure to cut cost.

While retraining takes time, and resources from workers and employers, it is a necessary measure in order to structural unemployment. It is hoped that the uncertainty arising from the pandemic would have driven home the need for employees to safeguard against loss of current jobs. It is also an opportunity for forward-looking employers to expand their talent pipeline to meet their changing manpower needs. Additionally, such measures can also increase attractiveness for FDI



inflow in industries such as data management and supply chain management that has potential to grow in the post pandemic world.

In my opinion, a rise in Singapore government spending on investment in major capital projects and in human capital are both required to reduce unemployment in a post-pandemic world as they will help to address cyclical and structural unemployment respectively, to a large extent.

Mark scheme

To score L3 you need to

- Explain how a rise in government spending on investment in major capital projects will address demand deficient unemployment
- Explain how a rise in government spending on investment in human capital will address structural unemployment
 To score E3 you need to

Provide a substantiated stand justifying the extent to which these 2 policies reduce unemployment in the post-pandemic world

Question 5

A low rate of inflation is a key macroeconomic policy objective for most governments. During the first quarter of 2020, interest rates in most countries throughout the world fell to very low levels.

- (a) Explain why a rise in interest rates is used as a macroeconomic policy tool to control inflation in some countries but not in Singapore. [10]
- (b) Discuss whether a change in interest rates in other countries is likely to have a significant impact on Singapore's domestic and external economy. [15]

Part (a)

Introduction:

A rise in interest rates, commonly known as contractionary monetary policy, is used to control inflation rate, notably in countries with significant domestic demand relative to external demand. Singapore, with a large external demand coupled with its openness to international capital flows and reliance on imports does not use interest rates policy to control inflation. This essay will explain the reasons behind other countries using interest rates to controlling inflation and why Singapore does not do so.

Body

R1: Some countries use higher interest rates to reduce inflation





With reference to Figure 1, higher interest rates increases cost of borrowing, hence both households and firms reduce consumption and investment respectively. This leads to a fall in AD. Through the reverse multiplier process, nominal income



and output will fall by a multiple of the initial fall in AD. AD₁ eventually shifts to AD₂, causing general price level to fall from P_1 to P_2 , reducing demand-pull inflation. If time permits, the succinct reverse k process can be included.

The use of interest rates to control inflation is especially effective for countries who are more dependent on domestic demand (and less on external demand), given that the policy primarily affects consumption and investment.

R2: Explain why Singapore does not use higher interest rates to reduce inflation

It is futile for Singapore to control interest rates

Any attempt to an increase in interest rates will result in an inflow of short-term capital resulting in the appreciation of the Singapore dollar. This may not be the desired outcome by the central bank (MAS) and so it will intervene into the foreign exchange market, which in turn drives the interest rates down to world rates, negating the rise in interest rates in the first place.

Higher interest rates is unable to help curb imported inflation

As an import-dependent economy, Singapore requires tools which can directly influence the costs of imported inputs (i.e. AS). By managing the exchange rates, MAS is able to directly influence the costs of imported inputs, hence prevent or reduce imported inflation. Higher interest rates are unable to help with cost-push inflation given that the interest rates will fall back to world rates.

Higher interest rates is less effective to curb demand-pull inflation by reducing C & I

Given Singapore's AD is more dependent on external demand (compared to domestic demand) due to her export-orientated nature of economy, reducing consumption and investment to curb demand-pull inflation is less effective for her. Moreover, the bulk of the investments in Singapore are dominated by MNCs which are less sensitive to local interest rates as they have foreign sources of funds. Therefore, it is more appropriate for Singapore to use exchange rate appreciation to reduce AD by dampening net exports as compared to increasing interest rates.

Conclusion

In conclusion, Singapore's choice of monetary policy tool differs from that of other economies as the nature of its economy renders interest rate changes a less effective tool than exchange rates in controlling inflation.

Mark scheme

To score L3 you need to

- Explain why some countries use higher interest rates to reduce inflation
- Explain Singapore does not use higher interest rates to reduce inflation

Part (b)

Introduction:

Countries typically use low interest rates as an expansionary measure to boost their economy. This was no different in 2020 at the start of the Covid-19 pandemic. However, this policy may in turn affect other countries which are open to trade and international capital flows such as Singapore. This essay will use the AD/AS analysis to discuss whether a fall in interest rates by other countries will result in a significant impact on both Singapore's domestic and external economy.

R1: A fall in interest rates in other countries can affect Singapore's external economy

A fall in interest rates makes it cheaper for households and firms in these countries to borrow thus increasing the ability to consume and invest. An increase in the C & I components causes the country's AD to increase. As AD increases, output and income will rise, some households will spend part of the additional income thus causing the consumption to rise further. However, as some of income is saved, taxed or spent on imports, each additional round of consumption will become increasingly smaller. The cycle stops when the rise in income induced consumption becomes negligible. Real output and income increases several more times than the initial increase in AD. This expansionary effect on these countries increases their purchasing power to buy Singapore's exports (assuming her exports are normal goods). Therefore Singapore's external demand increases leading to an improvement in Singapore's Balance of Trade (BOT), ceteris paribus.

Ev1: Size impact on Singapore's external economy is dependent on degree of openness, prevalence of the use of low interest rates and pandemic context

Given Singapore's heavy dependence on exports and her interconnectedness with many countries as trade partners, it is likely that the impact on the external economy will be huge. Moreover, the low interest rates was a common occurrence in many countries, indicating that this is a widespread effect on many of Singapore's trade partners. Assuming policy implementation was successful, this would further reinforce that the impact on Singapore's external demand is likely to be significant.

Nonetheless, given interest rates fell to 'very low levels' during the Covid-19 pandemic context, it is possible that consumption and investment in these countries may be interest insensitive as firms and households may be unwilling to borrow for investment and consumption despite the very low interest rates. This limits the increase in AD and hence real output in other countries, in turn limiting the demand for Singapore's exports and hence the impact on her external economy.

There could likely be supply-side constraints due to lockdowns and Covid-19 related disruptions which can reduce extent of the rise in real output and incomes in other countries, further limiting the rise in export demand in Singapore and hence limiting the improvement in her BOT.

R2: A fall in interest rates in other countries can affect Singapore's domestic economy

As an interest rate taker (given that Singapore has chosen to relinquish her control of interest rate for the control over exchange rates *also known as the trilemma of international finance*), when many countries (including major economies such as the US and UK) lower their interest rates, Singapore's interest rates will also be lowered. The lower interest rates reduces the cost of borrowing, encouraging consumption and investment. Hence there will be a favourable impact on Singapore's domestic demand. This results in AD rising due to the increase in C & I, which through the multiplier process increases real output and generates actual growth for Singapore. This gives rise to depletion of inventory stock, hence producers will hire more workers as production increases, leading to lower demand-deficient unemployment. In addition, the increase in investment will increase the quantity of capital and increase the productive capacity of the Singapore economy, hence AS will increase, resulting in potential growth. If AD and AS increase at the same time, non-inflationary growth is generated.

Ev2: Size of the impact on Singapore's domestic economy is dependent on response by property market and pandemic context

Residential investments are sensitive to interest rates in Singapore. The low interest rates on mortgages could possibly lead to a boom in the property market. This would have a significant impact on the domestic demand giving rise to an increase in AD and hence actual growth. Inflationary pressures due to a property boom might also increase if the economy is near full capacity.

However, the uncertain economic outlook due to the Covid-19 pandemic may result in an increase in precautionary savings and more interest inelastic consumption and investment, which could limit the favourable impact on domestic demand, consequently limiting the increase in AD and hence actual growth will also be limited while demand deficient unemployment might not be significant.

Summative Conclusion

There is likely a limited impact on Singapore's external economy. The low interest rate environment in other countries already existed prior to 2020. The zero lower bound for nominal interest rates limits the extent to which interest rates are reduced which in turn limits the size of the expansionary impact. Moreover, the supply-side disruptions arising from the pandemic slowed down trade. This limits the extent of the rise in Singapore's exports and hence the improvement on her BOT.

There is likely a limited impact on Singapore's domestic economy. A comprehensive set of strong cooling measures implemented by the Singapore government helped curb property demand, limiting the rise in residential investments. Singapore was one of the first to be hit by Covid-19 pandemic in 2020 with a lockdown and other movement restrictions being implemented. Such policies reduce the opportunities to spend (e.g. on dining in restaurants) limiting the increase in consumption despite the lower interest rates. Hence the impact on actual growth and demand deficient unemployment is consequently likely to be limited.

FYI: In 2020, Singapore's GDP fell by 4.1%, suggesting limited impact of lower global interest rates.



Mark scheme

To score L3 you need to

- Explain how a fall in interest rates can affect Singapore's external economy.
- Explain how a fall in interest rates can affect Singapore's domestic economy.
- To score E3 you need to
- Provide a substantiated stand on whether there will be a significant impact on Singapore's external and domestic economy when there is a fall in interest rates in other countries.

Question 6

Singapore's Prime Minister has stated that 'Globalisation will be under pressure, but it is imperative for countries to cooperate, for businesses to operate across many geographies, to tap resources, to bring skills and talents and experiences together, and then serve markets all around the world.'

Source: pmo.gov.sg/Newsroom/PM-interview-with-BBC-for-Talking-Business-Asia, 2 March 2021

- (a) Explain the benefits and costs of globalisation to Singapore. [10]
- (b) Discuss the most appropriate policy measures that the Singapore government should take to increase the benefits and reduce the costs of globalisation. [15]

Part (a)

Introduction

Globalization refers to the increasing interconnectedness and interdependence of economies across the world in terms of trade, capital, and labour flows. As a matter of economic survival, Singapore embraces globalization for its clear benefits and acknowledges the costs, using policies to mitigate the negative impacts of globalization. This essay will attempt to explain the benefits and costs of globalization on Singapore's 4 macro-economic goals using the AD/AS model.

R1: Benefits of globalisation to Singapore

R1(a): Higher consumption possibilities

With globalisation, countries can trade according to their CA. As economies become more integrated, there would be more scope for specialisation, for trade and thus gains in living standards. Singapore can specialise in exporting goods in which it is able to produce at a lower opportunity cost and import goods in which it has a higher opportunity cost of production. Such specialisation and trade enables Singapore to consume more than what it could if it was under autarky. With lower or no tariffs, Singapore firms have greater access to export markets. This is all the more important as our domestic market is too small for firms to achieve economies of scale. Hence, trade results in higher welfare or material living standards as we are able to consume beyond our production possibilities.

R1(b): Trade as an engine of growth

Globalisation provides exporters based in Singapore greater access to global markets. In a growing world economy, the demand for a country's exports will also grow especially if the goods they are producing have positive and high-income elasticities of demand (i.e. normal-luxury goods). With decreased trade barriers like lower or eradicated tariffs, Singapore's exports have greater access to foreign markets. This increases our exports (X) which in turn increases AD and actual growth.

Singapore also welcomes foreign investment and many Multinational Corporations like Google have made Singapore their Asia Pacific headquarters. FDIs bring in capital in Singapore which increases our AD. Thanks to foreign investment, Singapore has even managed to get into the car manufacturing game as Hyundai invested hundreds of millions in an electric car manufacturing facility in Singapore. Many of these MNCs use Singapore as a gateway for their exports due to the

numerous FTAs Singapore has. As such, the exports (X) and investment (I) components of aggregate demand (AD) increases, increasing the AD curve.

The aggregate supply (AS) of an economy is determined by the quantity and quality of the factors of production in the economy. These include the labour force and capital stock. Increased foreign investment leads to increased quantity and quality of capital stock in the Singapore economy. MNCs would bring in their skilled labour which may then have benefits for the local workers as the latter learns best practices and know-how from these MNCs. This would include learning how to operate the technology. For example, Hyundai's car manufacturing facilities increases the quantity of manufacturing facilities in Singapore while their use of the latest production technologies increases the quality of our capital stock. In terms of quantity and quality of labour, Singapore's policies, strong currency, work and living standards attract a significant quantity of migrant workers to increase the quantity of labour available. Our foreign talent scheme also brings in workers with skills which augment the quality of labour. As such, increased numbers of skilled labour increases the productive capacity of Singapore and shifts the AS curve right (an increase in productivity can also shift the entire AS curve out).

With reference to figure 1 below, AD increases from AD_0 to AD_1 while AS increases from AS_0 to AS_1 due to globalization. This leads to an increase in real national output from Y_0 to Y_1 while maintaining price stability at P_1 (i.e. low inflation), signifying non-inflationary economic growth.



<u>R2: Globalisation brings costs to Singapore in the form of being susceptible to externally induced cyclical</u> <u>unemployment, imported inflation and structural unemployment.</u>

R2(a): Externally induced cyclical unemployment

Singapore, being a trade-dependent nation, is susceptible to economic shocks from other countries. During the 2008/2009 global financial crisis caused by the US subprime mortgage market, Singapore was also greatly impacted, alongside other Southeast Asian nations such as Vietnam. A reduction in spending by American consumers led to a decline in demand for Singapore's exports and reduced AD. With a strong SGD, Singapore households and firms may switch from C and I to M since with globalisation, there are less or no restrictions to importing from trading partner. As C and I decrease, AD decreases as well.

With reference to figure 1, when AD decreases from AD_1 to AD_0 , this leaves inventories unsold as the output gap widens and firms will seek to reduce production by cutting factors of production, including labour, leading to externally induced cyclical unemployment and an increased output gap between Y_1 and Y_0 .

R2(b): Vulnerability to Imported inflation caused by current events

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Singapore is heavily dependent on imported goods for consumption as well as production, rising costs of imports is a threat to economic stability and growth. Globalisation tends to make prices more volatile due to increased capital flows. Rising costs of imports such as energy (oil) increase the unit cost of production for most items in Singapore and rising costs of importing food due to supply chain issues has also significantly impacted households. These lead to a decrease in the horizontal AS curve, shifting it upwards. An example would be the Ukraine-Russian war which caused a disruption in the global energy market, leading to an increase in the price of oil and gas as well as supply chain stoppages since Russia supplies a significant proportion of the world's grain products.

With reference to figure 2, as Singapore is a net importer of energy, the increased cost of oil and gas decreases the horizontal AS curve from AS0 to AS1, leading to an increase in GPL from P0 to P1 and a fall in real national output from Y_0 to Y_1



R2(c): Vulnerability to structural unemployment due to loss in CA

As globalisation facilitates the movement of capital, including human capital, across boundaries, businesses and labour will move to countries where they will receive their highest possible returns. FDI will bring physical capital and skilled labour which will benefit domestic higher skilled labour. However, the lower skilled workers would not have access to these employment opportunities by these MNCs due to the skills mismatch. To exacerbate the problem among lower-skilled workers, CA in more labour-intensive industries may be lost to developing countries with lower costs. Unless these lower skilled workers upgrade their skills to match the requirements of these MNCs, structural unemployment may be persistent, or maybe even worsen, due to rapid globalisation. Singapore, being one of the most open economies in the world, is significantly vulnerable and susceptible to capital flows. Volatile capital flows bring about changing Comparative Advantages and hence forces the country to restructure its economy, reallocate resources to sunrise industries and move up the value chain. This usually leads to structural unemployment.

*Other possible cost: worsening income inequality due to higher-skilled labour being better abled to take advantage of the benefits of globalisation compared to lower-skilled labour.

*may also include widening income disparities within Singapore as we are very open to capital flows and thus significant structural unemployment..

Mark scheme

To score L3 you need to

- Explain the benefits of globalisation to Singapore
- Explain the costs of globalisation to Singapore



Part (b)

R1: Policy to increase the benefits of globalisation

Singapore signs FTAs with as many economies as possible, even with the non-major economies. Signing more Free Trade Agreements (FTAs) can help Singapore gain greater access to global markets by reducing barriers to trade such as tariffs and quotas. Through FTAs, Singapore can negotiate more favorable conditions for its exports, making it easier for Singaporean businesses to access foreign markets and compete on a level playing field with local firms. This can result in increased exports and AD for Singapore. This is especially so because Singapore has supply side policies which are geared towards strengthening current products for export and finding new sources of comparative advantage. For example, Singapore is pouring significant funding into developing the digital sector of the economy. With more FTAs signed, companies based in Singapore can expand and leverage on their comparative advantage more easily without the obstacle of protectionist tariffs.

Additionally, FTAs can attract foreign investment to Singapore as it provides investors with greater access to regional markets. This can result in the transfer of technology, capital, and expertise, which can increase the quantity and quality of capital stock and increase productivity and thus shift the entire AS curve out for Singapore. FTAs may thus bring about sustained growth for Singapore. This inflow of physical and human capital helps stabilise the economy against contagion effects, reduces Singapore's vulnerability to external shocks and reduces costs of production, giving us more CA in a wider variety of industries.

*Other policies to increase trade or capital flows can also be considered (e.g. SSPs to gain CA in certain industries and thus increase exports)

Ev1: Limitations of using FTAs for export growth

In theory signing more FTAs would lead to increased trade between Singapore and her trading partners. This would mean increased competition from foreign companies vis-à-vis domestic producers. On one hand, Singapore exporters have greater access to foreign markets due to the increase in the number of FTAs but so do foreign exporters with increased access to the Singapore market. This would mean that the less efficient domestic producers might be priced out of the market as firms in trading partners with greater CA in that industry would be more efficient and thus have lower prices. But Singapore does not practise protectionism in the first place and we have no tariffs, so there is unlikely to be any significant increase in competition for firms based in Singapore.

R2: Policy to reduce the costs of globalisation

R2(a): Allowing the SGD to appreciate to manage imported inflation.

In 2022, Singaporean residents felt the heat of imported cost push inflationary pressures due to the Ukraine-Russian war and supply chain disruptions caused by COVID-19. These events led to the increase of important imported commodities like oil, natural gas and food and increased inflationary pressures. Our ongoing monetary policy to tackle imported inflation involves gradual and modest appreciation of our currency. But if inflationary pressures increase, the Monetary Authority of Singapore will tighten monetary policy by allowing the SGD to increase its pace of appreciation. This may entail MAS adjusting the slope of the band to make it steeper or recentering the band upwards. This allows more room for the SGD to appreciate to address a worsening imported inflation. When the Singaporean dollar (SGD) appreciates, Singaporean importers need less SGD to exchange for foreign currency to purchase imports (i.e. imports are more price competitive in domestic currency). With reference to figure 2 in part 6a), ceteris paribus, an increased pace of appreciation would reduce the unit cost of production, increasing the horizontal AS from AS1 to AS0, reducing GPL from P1 to P0 and increasing RNY from Y1 to Y0, reducing the inflationary cost push pressures.

Ev2(a): Limitations of using exchange rate policy to reduce imported inflation

The unintended consequence of a pace of appreciation which is too high is that it may trigger a recession. When SGD appreciates, exporters need to use more of their currency to exchange for SGD to purchase our exports, increasing the price of our exports in foreign currency. This leads to a reduction of exports and a decrease in our AD. Too high a pace of appreciation would decrease AD too much, which might lead to a recession. Bearing this in mind, there is a limit to how much appreciation can mitigate imported cost-push inflation due to the trade-off with our export competitiveness.

R2(b): SSPs to manage structural unemployment

Singapore may use supply-side policies (SSPs) to address the occupational immobility due to the skills mismatch between employers and job seekers stemming from economic restructuring due to globalisation. SSPs involve making the supply of labour more adaptable by equipping workers with the education and skilled in demand by the market. This may include fiscal incentives by the government like taxes and subsidies for firms to retrain their workers or by coordinating or directly providing relevant education and training facilities to prepare workers for sunrise industries.

Ev2(b): Limitations of using SSPs to address the skills mismatch

Training can be very time consuming, thus workers may be reluctant to undergo training while firms may be reluctant to provide training. In the context of Singapore's aging population, older workers tend to find it harder to learn new skills and adapt to new working environments because they are more set in their thinking, beliefs and habits. The length of time needed for training may exacerbate their reluctance to acquire the relevant skills.

*Policy to address the worsening income gap: progressive taxation; upskilling of lower-skilled labour market

Summative Conclusion

Signing FTAs with as many countries as we can is a key policy to benefit from globalisation with little downside. This is especially important for a trade-dependent economy like Singapore's which relies on exports and FDI as engines of growth. Appreciation of the SGD is useful to reduce imported inflation but there is a limit to its use due to the unintended consequence. Hence, Singapore uses other policy tools to complement its monetary policy, especially as they relate to unequal distributions of the gains from trade. For example, Singapore gives cash payouts to help Singaporeans cope with the higher prices and subsidies for our importing firms.

Mark scheme

- To score L3 you need to
- Explain measures which will increase the benefits of globalisation
- Explain measures which will reduce the costs of globalisation
- To score E3 you need to
- Provide a substantiated stand on whether slower growth makes it harder to achieve inclusive and sustainable growth