

### RAFFLES INSTITUTION 2023 YEAR 6 PRELIMINARY EXAMINATIONS Higher 1

# ECONOMICS

8843/1

## **Examiners' Comments**

#### **Question 1**

(a)(i) With reference to Figure 1, describe the trend in cotton prices during the period 2018 to 2022. [2]

- Overall, cotton prices rose.
- Cotton prices fell in 2020 OR
- Cotton prices fell from 2019 to 2020

Examiners' Comments:

- Most managed to provide the overall trend and a refinement correctly.
- Candidates need to remember that there is no need to provide figures in their answers.

(ii) With reference to Extract 1, explain how 'extreme rainfall in India' may affect [3] the extent of change in price of cotton in 2021.

- Identify that cotton prices rose the most in 2021.
- From Extract 1, heavy rainfalls in India caused the supply to fall. This led to the supply curve to shift leftwards from S0 to S1. A shortage results and prices are bided up.
- From Extract 1, India is "part of the top 10 cotton exporters"; it "alone contributes over 26% of global cotton production". The fall in supply of cotton in India will have a huge impact on the total world supply. In this regard, the huge shortage that ensues will cause world prices to rise very significantly in 2021.



*Alternative Approach:* Demand for cotton is price inelastic as it is an essential input for clothing and furniture. As shown in Figure 1, the price is likely to rise more than

proportionately from 0P0 to 0P1 compared to the fall in equilibrium quantity from 0Q0 to 0Q1 as a result of a decrease in supply of cotton.

Examiners' Comments:

- Most candidates could identify the supply determinant and applied the market adjustment process to analyse the effect on equilibrium price and quantity.
- However, there were answers that could not identify from Extract 1 the evidence for India's impact on the world cotton supply and hence the significant increase in the world price of cotton.
- Answers that applied PED concept as the reason for the huge rise in price tend to misuse the term 'habitual consumption'. Cotton is a resource, thus the price-inelastic demand for cotton should be linked to its importance as an input.

(b)	Using Extract 2, and with the help of an appropriate diagram, explain the	[5]
	likely impact of a removal of cotton subsidies by the USA on the standard of	
	living of cotton farmers in a developing country like India.	

- Clarify standard of living both material (amount of goods and services available for the average individual to consume within a given period of time) and non-material (qualitative aspects of welfare which will include heath levels, literacy rate).
- From Extract 2, significant subsidies to US cotton farmers were removed. This led to a rise in cost of production for US cotton farmers and resulted in a fall in supply, represented by a leftward shift of the supply curve. Price of cotton in US rose sharply as a result of a shortage at the prevailing price of cotton.
- The rise in US cotton prices eroded away US's export price competitiveness such that US cotton exports are now relatively more expensive compared to cotton from developing countries such as India.
- Since cotton from India and the US are substitutes, global consumers will switch to cotton from India. This will result in an increase in demand for India's cotton, as shown by a rightward shift of the demand curve from DD0 to DD1. Ceteris paribus, the shortage in India's cotton market will generate an upward pressure on its market price until a new equilibrium is reached where DD1 equals to SS. Both price and quantity increase to 0P1 and 0Q1 respectively ["higher prices farmers would get for their cotton"].
- Given that total revenue is PxQ, cotton farmers will experience an increase in total revenue and an increase in purchasing power. This increases their ability to consume more and better-quality goods and services such as healthcare, clean drinking water, thus raising their material standard of living. As these farmers will have greater ability to access better healthcare services, they are more likely to experience an increase in life expectancy. Moreover, access to clean drinking water, which is not easily afforded by everyone, will also lower their susceptibility to falling ill and improve the quality of their life, improving their non-material SOL.



	<ul> <li>Examiners' Comments:</li> <li>Most candidates were able to explain how the removal of subsidies for US cotton farmers brought a positive impact on India's cotton farmers' total revenue and linked it appropriately to improvement in their SOL.</li> <li>However, many wasted their time by lifting significant amount of case material regarding the large amounts of subsidies US cotton farmers have been receiving which did not add value to their answers.</li> <li>The relationship between US's cotton and India's cotton needed to be stated clearly – that they are substitutes which would then provide the justification for the rise in demand for India's cotton.</li> <li>It is important to state that TR is the product of price and quantity of the good rather than merely identifying that the areas representing TR have increased.</li> <li>A fairly large number of candidates were able to draw the link between TR and purchasing power and hence applied it relevantly to the impact on SOL of cotton farmers in India.</li> <li>However, there were others who chose to use the AD-AS model to explain how demand for India's cotton exports increased (given the loss in price competitiveness of US's cotton) bringing about a rise in RNY and SOL for India's cotton farmers. While it is possible that the rise in demand for India's cotton exports is a significant % of India's exports), the rise in RNY impacts the Indian economy and SOL of the average citizen in India rather than just cotton farmers</li> </ul>				
(	(c)(i)	'Cotton pesticides now contaminate land, air, food and drinking water in the USA, India, Pakistan, Uzbekistan, Brazil, Australia, Greece and West Africa' (Extract 3).	<u></u>		
	Distin privat Pr fo the ca pr er pa er pa er pa er pa er co av the us ar co co e. Th ne tha	guish requires a comparison between differences, in this case the characteri e and public goods. ivate goods are excludable while public goods exhibit non excludability, her rmer can be provided via price signals in the free market while in the latter, bec e free-rider issue, there will be zero provision by the market. As a result, non in be excluded from enjoying the benefits of private goods such as food since ohibitively costly to exclude them. Meanwhile, non-payers cannot be exclude ijoying the benefits of a public good such as air since it is impossible to exclude invers. ivate goods are rivalrous while public goods are non-rivalrous. As such msumption of a private good such as food by one individual can reduce the of railable for others. Meanwhile, consumption of a public good such as air will not e amount available for others. Hence the marginal cost of providing for an ad ere is zero for public goods, resulting in no price should be charged for public good onsumer does not like the private goods while non-rejectable for public good onsumer does not like the private goods while non-rejectable for public good g. nuclear defence or flood defence project). hus, while the free market will allocate resources to produce private goods (tho ecessarily in optimum amounts), there is total market failure for public goods in at the government will directly provide and finance through government revenue	stics of nce the ause of -payers it is not ed from de non- ch, the quantity reduce lditional pods for ds. If a nd, the pple (for ugh not mplying e.		

(ii)	Identify and justify a good from the above that is a private good.	[2]			
Students can identify any good from the quote and use the example to demonstrate the characteristics of a private good.					
<ul> <li>For a for a</li></ul>	<ul> <li>Food is excludable as the ability of the consumer to consume the food item is contingent on the price paid to the seller. The seller can exclude non-payers from consuming the food item.</li> </ul>				
<ul> <li>For condition</li> <li>Condition</li> <li>Condi</li></ul>	bod is rivalrous – for a given amount of food available in a given time perionsumption of food by a consumer will leave less available for subsequent ad onsumers. Food items have to be replenish hence the MC of providing food ditional consumer is not zero. Ince food possess BOTH the main characteristics all the time, it is likely a privat	iod, the Iditional for the e good.			
Exam - Ca pu of - Fc in we (i)	<ul> <li>Examiners' Comments:</li> <li>Candidates were able to provide the necessary characteristics to distinguish between public and private goods. The quality of the explanation however was varied with little use of relevant words that demonstrated comparison between the goods.</li> <li>For (ii), it is important that candidates choose an appropriate example of a private good in order to provide clear justification using the characteristics in (i). Surprisingly, there were a number who were unable to justify their choice despite their earlier explanation in (i).</li> </ul>				
(d)	Discuss the view that demand factors are likely to be more important than supply factors in explaining the popularity of fast fashion among the teens and those in the early twenties.	[6]			
<ul> <li>CI</li> <li>Fa</li> <li>m</li> <li>E)</li> <li>•</li> </ul>	<ul> <li>and those in the early twenties.</li> <li>Clarify that popularity of fast fashion is represented by the sales volume of fast fashion.</li> <li>Fast fashion is also disposable fashion and it embodies the 'throw away' consumer mentality where purchases are worn only once or twice.</li> <li>Explain how demand factors account for the popularity of fast fashion.</li> <li>Fast fashion allows for up-to-minute styles where clothing designs move from catwalk to stores. This allows consumers to take advantage of current trends quickly as it provides instant gratification of consumers' desires.</li> <li>The appeal to consumers' change in taste and preference together with the 'increase in consumer purchasing power especially among the young people' (Extract 4 para2) will bring about a significant increase in demand for fast fashion. With reference to Figure 3 below, this will lead to the demand curve for fast fashion to shift right from D1 to D2. Ceteris paribus, a shortage arises at the initial equilibrium price causing an upward pressure to be exerted on price. Price of fast fashion increases until the shortage is cleared at the new equilibrium. At the new equilibrium, quantity of fast fashion would have increased to 0Q2.</li> </ul>				



• Meanwhile, supply may continue to increase due to low manufacturing cost, made possible by innovations in supply chain management among fashion retailers.

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Examiners' Comments: Candidates need to clarify key terms in the question. In this case, popularity of fast fashion is associated with its sales volume (Q). Candidates recognised that demand and supply factors refer to the non-price determinants of DD and SS hence they were able to flag out the respective appropriate determinants. However, like in part (b), they spent a long time lifting various case evidence to support the same determinant which subsequently ended off with a cursory mention of the direction of change in demand and supply without providing the economic analysis that addressed the question requirement (ie increase in quantity). Attempts to make a judgement were cursory and often repeated what was already raised. Discuss the extent to which the price mechanism is able to perform any two (e) [8] of its functions efficiently in the fast fashion market. Any two of the following three functions of the price mechanism can be explained: The price mechanism performs a signalling function. The price levels act as a signal to producers about consumer preferences. An increase in demand for fast fashion will bring about a shortage in the market which in turn will lead to an increase in equilibrium price of fast fashion. This will encourage textile manufacturers to increase quantity supplied of fast fashion as they find it profitable to expand their output production. The price mechanism performs an *incentive* function for consumers and/or suppliers. Given the scenario of increase in demand for fast fashion, then fast fashion manufacturers and retailers find that they can sell more at the original price. Being profit driven, this will incentivise them to increase their quantity supplied through allocating more resources to the fast fashion market because the rise in price makes it more profitable for them to do so. Consumers on the other hand will reduce their quantity demanded as price increases in order to maximise their utility. The price mechanism performs a rationing function. The rise in market price of fast fashion due to an initial excess demand will discourage consumers who are not willing and able to make the purchase at the higher price thus conserving resources. The clothes will be rationed to only those who want it and can afford it at that higher price. The price mechanism may not always be able to perform its function efficiently: Prices fail to provide proper signals to economic agents to bring about efficient allocation of resources such that society's welfare will be maximised. For eg. price signals in the fast fashion market ignore the presence of negative externalities in production (Extract 4). Chemical pollution from the dangerous dyes and synthetic fibres used in fast fashion production seep into water supplies. Such polluted water will cause other members in society such as households to not be able to use the water for drinking purposes. Producers of fast fashion only take into account their private costs of supplying fast fashion and ignore the costs imposed on third parties arising from their production. The external cost will result in cost incurred by society to be higher than the private cost to producers. Thus, the marginal social cost is higher than the marginal private cost of producing fast fashion (MSC = MPC + MEC). In Fig 5, assuming perfect competition, the free-market equilibrium output of the industry is 0Qe units where MPC = MPB. However, at this output 0Qe, MSC exceeds MSB and resources are not allocated optimally. The socially optimal output level is at OQ<sub>s</sub> units, where MSC = MSB. The free-market equilibrium results in an overproduction of fast fashion by QeQs units and too much scarce resources have been allocated to production and consumption of fast fashion.

 By failing to take into consideration the third-party costs, price of fast fashion is undervalued at 0Pe when price should be valued at 0Ps, thus sending wrong signals to consumers to overconsume the good as more were willing and able to pay the lower price. Resources were over allocated to this industry away from other industries.



Fig 5: Negative externalities in production in the market for fast fashion

- Another example would be negative externalities in consumption in the fast fashion industry that could lead to an inefficient output level in an unregulated competitive market.
  - Purchasing fast fashion clothing can generate marginal external costs of consumption, ie costs to people not directly involved in the transaction. For eg, the discarded clothes that end up in landfill sites do not break down but release toxins into the air. This can cause respiratory issues and higher medical costs for affected members in society. Washing clothes can release microplastics into the ocean and damage the marine environment.
  - The MECs cause the MSC of consumption to be higher than the MPC as MSC = MPB + MEC. If consumers take into account their own private costs and benefits of consumption when buying clothes, then the market equilibrium output (where MPB = MPC) is greater than the socially optimal quantity where MSB = MSC.
  - Thus, the under-pricing of fast fashion clothes resulted in its over-consumption by the free market, relative to the socially optimal output. Too much scarce resources have been allocated to its production as well causing a deadweight loss as clothes are traded where MSC > MSB.



Note: Any one of the above can be used to illustrate why the price mechanism does not perform its functions efficiently.

L1	-	Limited understanding of the functions of the price mechanism with a relatively more detailed analysis of one function. Limited application to the fast fashion market.	1-3
L2	-	Detailed analysis of the way in which two out of three functions of the price mechanism operate in the context of the fast fashion market.	4-6
E1	-	Opinion without substantiation / one that does not consider 'extent' after consideration of analysis.	1
E2	-	Substantiation of opinion / one that arrived at an informed conclusion with respect to 'extent' after consideration of analysis.	2

Examiners' Comments:

practices.

- Many candidates did not cover the first part of the Price Mechanism lecture notes during their revision, hence they were not able to identify and/or explain adequately the three functions of the price mechanism.
- Candidates often failed to apply their explanation of the functions of the price mechanism to the fast fashion market.
- Negative externalities in production was the common example used by candidates to discuss why the price mechanism was unable to perform its functions efficiently. However, not many students could explicitly linked back to the wrong signalling in the form of lower prices of fast fashion in the market that caused the over consumption of the good and misallocation of resources to the market.
- (f) Extract 5 suggest that the EU "will require fashion companies to either collect an amount of textile waste that is equivalent to a certain percentage of their production or pay a fee towards local government's waste collection".
   Discuss whether imposing an indirect tax is better than rules and regulations to force the fashion industry to adopt more sustainable design and production
- Clarify meaning of sustainable design and production practices.
- State the likely market failure that is experienced in the fashion industry [negative externalities in production and imperfect information from supplier-induced demand].
- Analyse how the imposition of indirect tax can achieve the socially optimal output level and force firms to adopt more sustainable production practices.
  - In the case of negative externalities in production, the government can levy an indirect tax (e.g. a specific tax on the producers) equivalent to the value of the marginal external cost at the socially optimal output level. This is a monetary valuation of the harm imposed on society due to the negative externality, brought about by production per unit of output produced by the firms. Through this indirect tax, the government attempts to compel the polluting firms to *internalise the external costs*.
  - In Figure 7 below, a specific tax of E<sub>1</sub>B per unit which is equal to the marginal external cost (MEC) at 0Q<sub>s</sub> will raise the firms' marginal private cost, shifting it from MPC to MPC (with indirect tax) = MPC<sub>1</sub>. This causes the *price paid by consumers to rise* from P<sub>0</sub> to P<sub>1</sub>, which disincentivises consumption and quantity demanded falls from Q<sub>e</sub> to Q<sub>s</sub>. On the other hand, *price received by producers falls* from P<sub>0</sub> to P<sub>2</sub>, which causes quantity supplied to fall from Q<sub>e</sub> to Q<sub>s</sub>.

- The tax has resulted in a *lower after-tax equilibrium quantity* of 0Q<sub>s</sub> units in the market, where MPB=MPC<sub>1</sub> which is also the socially optimal quantity where MSC=MSB. (The private optimum, where MPB=MPC, now coincides with the social optimum, where MSB=MSC). Hence, the tax has internalised the external cost, and the over-allocation of resources is corrected. This eliminates the deadweight loss (AE<sub>1</sub>E) arising from over-production prior to the imposition of the tax. Allocative efficiency is achieved at the output of 0Q<sub>s</sub> which is the social optimum quantity.
- Indirect tax equal to the MEC will increase MPC of firms. This will shift the MPC curve upwards to MPC' which is MSC if tax accurately measures the MEC. The market equilibrium output will be where MPC' = MPB which will also be at the socially optimal output level hence overproduction and deadweight loss are eliminated. As less output is produced, the use of toxic chemicals, dangerous dyes and synthetic fibres in garment production will also fall, thus leading to lower levels of pollution. The overallocation of resources will be addressed with the fall in production which implies a more sustainable use of resources by the fashion industry.



Figure 7: Indirect tax to correct for negative externalities

- On the other hand, the indirect tax levied by the government could be in the form of a *tax per unit of pollutants (refer to lecture notes on Market Failure and Government Intervention Section 3.2.1).* Such indirect tax is intended to work by creating incentives for the fast fashion firms to buy fewer polluting resources such as synthetic fibres and dyes and to switch to less polluting technologies through the adoption of sustainable design and production methods. If the firm eventually switches to less polluting resources or sustainable technologies, *the marginal external costs (MEC) of producing output will fall, thereby reducing the divergence between the MSC and MPC curves and shifting the MSC curve downwards / to the right.* In other words, the socially optimal output has increased, making it closer to the free market output. The tax revenue could be used to support decarbonization efforts and the transition to a green economy such as research into the relative environmental performance of various materials especially in terms of reducing microfibre pollution.
- Limitations
  - The policy requires accurate valuation of the external cost which in practice is difficult. An under-valuation of external cost implies that although output is lowered by the tax, it is not enough to bring output down to the socially optimal level and hence eliminate the pollution effects from production. With the lack of precision, society's welfare cannot be maximised.
- Analyse how rules and regulations can achieve the socially optimal output level and force firms to adopt more sustainable production practices.
  - Rules and regulations to prohibit or regulate behaviour that imposes an external cost include a ban on the destruction of unsold textiles, collection of an amount of textile waste that is equivalent to a certain percentage of their production (Extract 5). These

laws are used to force the potential polluters in the fashion industry to bear the costs of overproduction and more proper disposal of industrial wastes and sustainable practices. For eg:

- A ban on the destruction of unsold textiles will force fashion producers/retailers to accept responsibility for the waste they generate. Unsold garments could be converted into new products (hats, tote bags) or recycled. This helps to ensure that microplastics and microfibres end up in nature as little as possible, lessening their negative impact on the environment. The fall in MEC will thus reduce the divergence between MSC and MPC of producing fast fashion clothes.
- Regulations to "restrict brands' use of sustainable claims to advertise clothing" will help combat greenwashing. Claims must be accurate, clear, truthful and avoid ambiguous statements. Firms will be also required to substantiate any claims that their product is sustainable.
  - When consumers are more accurately informed, they will seek to maximise their self-interest. Demand for fast fashion clothes would ideally be discouraged as more conscious consumers turn to slow fashion. It is hoped that private demand (DD<sub>0</sub>) would move to the socially desirable levels (DD<sub>1</sub>), causing firms in the fashion industry to produce at levels (the free-market equilibrium output) that correspond with the social optimum output level. Firms may also respond to the demand for clothes produced in a sustainable by changing their own methods of production.



Figure 8: Discouraging Consumption of Fast Fashion

- Limitations
  - Using legislation or government regulations is that enforcement of such laws may be difficult and expensive. Constant checking is needed and this can translate into high costs for the government. In addition, for the law to be effective, the penalties for breaking the law must be sufficiently harsh.
  - For eg. large fashion companies can escape the ban by moving their unsold textiles to developing countries to dump in landfills where such considerations are not paramount.
- Conclusion
  - Both consumer choice and regulatory action are needed hand in hand to ensure safe supply.
  - Indirect tax is effective in reducing the firm's leftover inventory as it reduces output
    production to be closer to the socially optimal output level. However, there is no
    incentive for the firm to achieve sustainable design and production practices. In fact,
    there may be the unintended consequence of lowering product quality which may
    worsen the firm's environmental impact.

- On the other hand, certain rules and regulations especially those that provide information to consumers such that it increases the consumers' sensitivity to quality will have greater benefit to the environment in the long run. However, such legislations take time to develop and implement in addition to the enforcement required make it a daunting task.
- At the end of the day, the sustainability of the fashion industry requires collaboration among the various stakeholders, namely government agencies, businesses and consumers.
  - The government could reform taxation to reward fashion firms that create items with minimal environmental impact while penalising those who do not.
  - Government support in research to develop more sustainable designs and production practices.
  - Promoting green strategy such as emphasis on more reuse and recycling of garments through second-hand stores while schools could teach clothing designs, creation and mending and repair lessons.
  - Organise sustainable fashion events including fashion shows, exhibitions and conferences which provide a platform for stakeholders to showcase sustainable fashion products, share knowledge and promote sustainable fashion practices.

Knowledge, Application, Understanding, Analysis			
L1	<ul> <li>Awareness of the market failure involved and hence need for sustainable design and production practices.</li> <li>Answers mostly irrelevant or inaccurate.</li> <li>Lack of scope of discussion.</li> <li>Insufficient depth of elaboration – points are stated and not explained.</li> </ul>	1-3	
L2	<ul> <li>Discussion of how indirect tax and rules and regulations work to successfully force the fashion industry to adopt more sustainable design and production practices.</li> <li>Good depth of analysis – use of MSB/MSC framework.</li> <li>Balanced answer.</li> <li>One-sided answer that with no limitations of policies</li> <li>Lack use of case material</li> </ul>	4-7	
E1	An unexplained conclusion /judgment or mere repetition of points discussed.	1	
E2	<ul> <li>A judgment/conclusion supported by reasons / economic analysis</li> <li>– relative effectiveness of each policy with particular insight that made reference to 'better'.</li> </ul>		

#### Examiners' comments

- A number of candidates were unable to complete this part it is important to ensure that time management is followed strictly to avoid throwing away marks for questions that they could have handled.
- The analysis of indirect tax to address allocative inefficiency was better handled within the MSB/MSC framework whilst that of rules and regulations were mainly descriptive and cursory. However, they both failed to address the question requirement which is to show how the various interventions forced the industry to adopt sustainable design and production practices. Most were quite satisfied to end their explanation with addressing overproduction and overallocation of resources to the fashion industry hence were not awarded the full credit.

- Candidates were also required to comment on which policy measure is the 'better way' to adopt sustainable design and production practices. There were some with good evaluative comparisons but those were few. It is important to remember that such key requirement needs to be fulfilled in order to score the top mark for evaluation.

#### Question 2

(a)	Using Tables 1 and 2, compare Singapore's general price level with UK during the	[2]
. ,	period 2018 – 2022.	
	Similarity: 1. GPL in both countries increase throughout the period.	
	<ul> <li><u>Difference</u>:</li> <li>GPL in UK increases throughout while GPL in SG decreases in 2020.</li> <li>GPL in UK increases at a slower rate than GPL in SG</li> </ul>	
	Give 1 similarity and 1 difference.	
	<ul> <li><u>Examiners' comments</u></li> <li>Most students were aware that they needed to provide 1 similarity and 1 difference, but there was too much lifting of evidence to support their answers. They quoted figures from tables which were not necessary.</li> </ul>	
(b)	Extract 6 states that 'a confluence of external and domestic factors' led to rising prices in Singapore. Explain one external and one internal factor which have led to the change in prices in Singapore.	[4]
	External Factor	
	<ol> <li>Using evidence from Ext6 p2, 'supply disruptions pushing up imported food costs', this means that the closure of borders during pandemic led to a drastic fall in supply of food which are factors of production for certain production in Singapore. This causes an increase in the prices of factors of production which in turn led to the cost of production of firms to increase.</li> <li>In addition, the sanction of Russia oil due to the war led to a drastic fall in supply of oil in the market. This has caused the price of oil to increase exponentially. Oil being the most important factor of production for electricity and many productions in SG, has led to 'an increase in energy costs' which in turn increases cost of production of firms.</li> </ol>	
	<ul> <li><u>Internal factor</u>:</li> <li>1. 'The tight labour market' in Singapore means that the demand for labour is higher than the supply of labour which leads to higher wages for the labour. This increases the cost of production of the firms.</li> </ul>	
	These external and internal factors cause cost of production of the firms to increase which disincentive the firms to produce, leading to a decrease in AS. This is illustrated by a leftward shift of AS curve. Assuming ceteris paribus, at the original price level, a decrease in AS will result in a shortage which will lead to an upward pressure on GPL. This will cause quantity demanded to decrease while quantity supplied to increase until the shortages are eliminated. The final equilibrium is at a higher GPL. This is cost push inflation.	

	<ul> <li><u>Examiners' comments</u></li> <li>Out of the 3 factors provided in the evidence, the external factor 'imported food costs' was misinterpreted by several students. They thought that 'imported food</li> </ul>	
	costs' would lead to a fall in demand for imports, and went on to explain how this will cause AD to increase and thus lead to demand pull inflation. This is wrong as the evidence clearly mentioned 'supply disruptions pushing up imported food costs' and hence should offer an explanation on how it will affect the supply side in Singapore.	
	<ul> <li>Since all the internal and external factors will lead to inflation, it makes sense to explain how each factor will lead to a rise in cost of production first. Then end off the answer by explaining how the rise in cost of production will bring about cost push inflation. This way will help to avoid repetition of the explanation of cost push inflation after each factor.</li> <li>The price adjustment process is missed out by many students. A detail avalantian of DAD is not required, and each avalantian defined.</li> </ul>	
	such as 'shortage', 'upward pressure on price' and 'until shortages are eliminated'.	
(c) (i)	With reference to Table 2: Describe the trend in the UK's budget position.	[2]
	UK's budget position experiences an increasing budget deficit.	
	Examiners' comments	
	- Several students answered by saying 'budget position is negative'. This is not	
	acceptable as position is unknown whether it is a surplus or deficit. There is no meaning to 'negative'	
	<ul> <li>A few students had the idea that budget balance is the same as balance of trade. Balance of trade is the value of exports minus the value of imports, it is not related to government expenditure and tax revenue.</li> </ul>	
(ii)	Comment on whether such a trend is a cause for concern.	[6]
	<ol> <li>A cause for concern:         <ol> <li>If UK government chooses to borrow from its banking sector to finance this deficit, this will increase in the demand for loanable funds which causes interest rate to increase. Households will decrease consumption of bigticket items since borrowing rate has increased. Firms will also borrow less since there will be a decrease in the number of investment projects whose returns will be higher than the increased borrowing rate. As a result, the fall in C+I may negate an increase in G, dampening the increase in AD. This crowding out effect will then dampen the increase in RNY.</li> </ol> </li> <li>When UK economy is <u>already experiencing increasing GPL</u>, any increase in GPL, when the economy has no sufficient spare resources to produce more output. Workers will in turn demand for higher wages which will aggravate the situation in UK when there is 'spiral wages' already.</li> <li>If UK govt must draw out from foreign reserves to finance budget deficit, this affects confidence of the economy and its ability to manage future crisis. Foreign direct investment may pull out, decreasing AD in the SR and AS in the long run. Actual and potential growth will be negatively impacted.</li> </ol>	

	<ul> <li>Not a cause of concern: <ol> <li>If UK govt has sufficient foreign reserves to finance the budget deficits.</li> <li>The increase in G is spent on re-training of workforce or subsidise firms' cost of production, then AS can be lowered which will bring about the positive effects on RNY.</li> </ol> </li> <li>Judgement &amp; reason for the judgement Hence, it depends on how budget deficit is being financed and the state of the economy to determine whether it is a cause for concern. In UK's case, it is a case for concern as the economy's unemployment rate is not so high, there is little spare capacity in the economy, increase in G will fuel inflation. Examiners' comments Many students gave a 1-sided answer, and focused on why budget deficit is a cause for concern. This meant that they ignored the word 'whether'. Several students explained that when there is budget deficit, government does not have sufficient funds to spend on infrastructure, unemployment benefits etc. This is a misconception as government must have gotten funds from either foreign reserves or borrowing to finance those expenditures. It is only that they are spending more than the tax revenue that is collected in that year that resulted in the budget deficit. Several students only used the data like rising GDP growth rate, low unemployment rate to support the deduction that budget deficit is not a cause for concern. An explanation using ASAD framework should be used to explain how when there is an increase in G in area such as educating and training of workforce may lead to an increase in the workers' productivity which subsequently increases AS, resulting in an increase in RNY. This is further supported by the rising GDP growth rate in Table 2. Therefore, it is not a cause for concern.</li></ul>	
d (i)	Explain what is meant by investment. Investment refers to the spending on new fixed capital goods like buildings, plants, machineries by firms. It also includes the increase in stocks and inventories such as raw materials, semi-finished products and finished products held by the producers. <u>Examiners' comments</u> - All students were not able to give the exact 2 parts definition of investment.	[2]
(ii)	Explain one possible factor that can affect the level of investment expenditure in an economy.	[2]

		1
1.	Change in interest rate Interest rate is the rate of borrowing, assume most businesses need to borrow to buy machineries and expand business. If interest rate increases, there will be fewer investment projects that will be profitable, the lower the investment expenditure.	
2.	Change in business confidence Business confidence refers to how optimistic firms are about the future sales. The more optimistic about the future sales, the more firms will increase their investment expenditure.	
3.	Change in corporate tax rate Corporate tax refers to tax on profits of the firms. If government reduces the corporate tax, the firms' after-tax profits increases, this increases the firms' ability and willingness to invest.	
4.	Changes in technology Improvements in technology could mean an increase in efficiency in production or an increase in productivity per worker. Firms will be able to make more profits as cost of production is lowered with the improvement in technology, this leads to an increase in firms' investment expenditure.	
<u>Ex</u> -	aminers' comments Most students could answer this very well. In fact, this was the best answered question.	
Us like	ing Extract 8, explain how a change in the level of investment expenditure is elv to impact the UK economy in both the short-run and the long-run.	[5]
As eco do of t	sume it is an increase in investment expenditure, explain its impact on the UK pnomy's economic growth, unemployment and inflation rate. Since 'investment es not only affect the demand side of the economy, it matters for the supply side the economy too', there will be impact on AD and AS.	
On	<ul> <li>the demand side, in the short run</li> <li>Explain how an autonomous increase in I will promote actual growth. Assume cet par, increase in investment leads to an increase in AD. This causes planned expenditure to be less than actual production, firms see a decrease in its inventories and respond by employing more labour to produce more output in the next period. This increase in real national output/income triggers the multiplier process as one man's spending generates income for another, it results an increase in induced consumption. This increase in induced consumption gets successively smaller with each round of withdrawals. The process eventually stops when the cumulative increase in withdrawals equal to the initial increase in autonomous investment. The increase in real national income is more than proportionate than the increase in investment. This is shown by an increase from Y<sub>0</sub> to Y<sub>1</sub> known as actual growth.</li> <li>Since UK economy is close to full employment as shown by table 2 as well as 'the spiral wages', when AD rises, there will be an increase in competition for the factors of production. Firms bid up prices of fop and this causes an increase in cost of production which firms pass onto the consumers in the form of higher prices. GPL increases from P<sub>0</sub> to P<sub>1</sub>.</li> </ul>	
	1. 2. 3. 4. Us like dot of f	<ol> <li>Change in interest rate Interest rate is the rate of borrowing, assume most businesses need to borrow to buy machineries and expand business. If interest rate increases, there will be fewer investment projects that will be profitable, the lower the investment expenditure.</li> <li>Change in business confidence Business confidence refers to how optimistic firms are about the future sales. The more optimistic about the future sales, the more firms will increase their investment expenditure.</li> <li>Change in corporate tax rate Corporate tax refers to tax on profits of the firms. If government reduces the corporate tax refers to tax on profits increases, this increases the firms' ability and willingness to invest.</li> <li>Changes in technology Improvements in technology could mean an increase in efficiency in production or an increase in productivity per worker. Firms will be able to make more profits as cost of production is lowered with the improvement in technology, this leads to an increase in firms' investment expenditure.</li> <li><u>Examiners' comments</u></li> <li>Most students could answer this very well. In fact, this was the best answered question.</li> <li>Using Extract 8, explain how a change in the level of investment expenditure is likely to impact the UK economy in both the short-run and the long-run.</li> <li>Assume it is an increase in investment expenditure, explain its impact on the UK economy too', there will be impact on AD and S.</li> <li>On the demand side, in the short run</li> <li>Explain how an autonomous increase in I will promote actual growth. Assume cet par, increase in investment leads to an increase in AD. This causes planned expenditure to be less than actual production, firms see a decrease in its inventories and respond by employing more labour to produce more output in the next period. This increase in induced consumption. This increase in induced consumption gets successively smaller with each round of withdrawals. The process as o</li></ol>



Singa	oore	
Explai	n how exchange rate policy lowers inflation	
1.	SG 'central bank tightened monetary policy for the fifth time in 12 months'	
	and 'give the Sing dollar a jolt'. This means that there is an appreciation of	
	S\$. S\$1 can now exchange for more foreign currency.	
2	'External factors such as supply disruptions pushing up imported food costs	
2.	higher energy prices' that cause imported inflation will now be cheaper in	
	S\$ this reduces the cost of production for firms. This incentivises firms to	
	increase production which means an increase in AS illustrated by a	
	downword shift of the AS ourse. Assume actoric paribus, this results in a	
	downward shift of the AS curve. Assume ceteris paribus, this results in a	
2	At the same time, price of SC experts will be more eastly to foreigners	
Э.	At the same time, price of SG exports will be more costly to foreigners,	
	importe increases since importe are chooser with a strenger St. This results	
	imports increases since imports are cheaper with a stronger 55. This results	
	In a decrease in her export which in turn reduces the AD. This will reduce	
	demand pull inflation in the country.	
1 1	tion of evenence rate nation	
	Lion or exchange rate policy	
1.	The higher the imported content the many effective is the engaged if	
	The higher the imported content, the more effective is the appreciation of	
0	S\$ in curbing the imported inflation.	
Ζ.	I his exchange rate policy is not able to affect initiation caused by internal	
	factor such as tight labour market. The cost will remain high as wages of	
0	workers are high and exchange rate is not able to lower such internal costs.	
3.	To strengthen S\$ will mean central bank has to make use of foreign	
	reserves to buy S\$ in the forex market, this involves opportunity cost. This	
	amount of reserves could be spent on education which promotes potential	
	growth in the future.	
<u>UK</u>		
Explai	n how interest rate policy lowers inflation	
1.	UK government raises interest rate as given by people have to feel the	
	pain for interest rate rises to work and his support for further rate rises.	
~	I his is a contractionary monetary policy.	
2.	An increase in interest rate which is the borrowing rate will affect C and I.	
	Households will not borrow to buy big ticket items and firms will invest less	
	as the number of projects whose returns will be higher than interest rate	
	decreases. This will lead to a fall in AD which in turn leads to a fall in the	
	GPL.	
Limita	tion of interest rate policy	
1.	it depends on the interest elasticity of consumption and investment, if the	
	nousenoids and tirms have own tunds and do not need to borrow to	
~	consume and invest, then AD will not be affected.	
2.	I his policy does not solve the root of the problem which is due to the supply	
	side. The more effective way is to slow down the increase in cost of	
~	production or to increase in AS.	
3.	i ne tradeoff of this policy is a fall in RNY and an increase in unemployment.	
	UK economy's growth rate has started to fall in 2022, so it may not be	
	healthy to experience this tradeoff if the UK government intends to increase	
	interest rate further.	
<b>•</b> •		
Conclu	<u>usion:</u>	
1.	SG government's policy will be able to solve the root cause of the problem	
	DUT NOT UK.	

w	as already negatively affected by Brexit.	<b>W</b> III
	Knowledge, Application, Understanding, Analysis	
L1	<ul> <li>No ADAS or weak theoretical framework and/or glaring errors</li> <li>Lack of scope of discussion</li> <li>Insufficient depth of elaboration – points are stated and not explained.</li> <li>Lack of links to reducing inflation</li> </ul>	1-3
L2	<ul> <li>Good scope of discussion for SG and UK</li> <li>Good depth of analysis – use of AD/AS framework.</li> <li>Balanced answer – with well-developed thesis and anti- thesis.</li> <li>Both SG and UK only addressed dd-pull inflation</li> <li>One-sided answer that with no limitations of policies</li> <li>Lack use of case material</li> </ul>	4-7
E1	An unexplained conclusion /judgment or mere repetition of points discussed – whether SG or UK managed inflation more effectively – state 1 point of comparison to conclude	1
E2	A judgment/conclusion supported by reasons / economic analysis – explanation of the reason/s why SG or UK managed inflation more effectively	2-3

- Many could not identify the correct policy measures implemented by the 2 countries. For SG, many chose increase interest rate to explain how inflation can be dampened while for UK, many wrote 'create a recession', without specifying the measure to create the recession. This was really a waste of effort; perhaps more time should be spent on confirming the correct policy measures that are implemented by the 2 countries first.
- Students who identified the correct tool used in SG spent too much time explaining how to bring about an appreciation of the S\$. They used the DDSS framework to explain what was being done to strengthen the S\$ which was irrelevant in this question. If they had intended to explain this, it must not penalise their time to explain how the strong S\$ can dampen demand pull inflation and imported inflation.
- All except a handful of students explained how an appreciation of S\$ can lower demand pull inflation only. They ignored the more important role of the stronger S\$ in dampening imported cost push inflation which was the more significant cause of inflation in SG for this question.
- Many students gave a 1-sided answer by explaining how the policy measures could lower inflation without giving any limitations of the measures.
- Those who tried to explain the limitation of the measures did not give the most important one which was the factor that limits the effectiveness of the measure in lowering inflation. Instead, they chose to look at the trade-offs of those measures such as a falling RNY, rising unemployment. While it was not wrong to explain those trade-offs, but when there are limited marks and time to explain

	a limitation, we want to give the most important one first that will really evaluate why the measure may not be so effective in lowering GPL.	
(f)	Assess the extent to which supply-side policies can be used by a government to achieve sustainable economic growth in an economy.	[8]
	Define sustainable economic growth It refers to sustained economic growth that can be maintained without creating other significant problems for future generations. Problems such as rapid depletion of resources, damage to environment such as through pollution. Sustained economic growth refers to both actual growth and potential growth, which is a pre- requisite to sustainable growth.	
	Supply-side policies include measures that 'facilitates the adoption of energy efficiency and emissions reduction technologies through grants and other policy tools to overcome high upfront capital investments and other non-market barriers' as given in Ext 9 p3.	
	<ul> <li>Explain interventionist policy to achieve sustainable growth</li> <li>By giving grants to firms to encourage 'use of energy efficiency and emission reduction technologies' will mean subsidise firms in using such energy efficient technology which helps to lower cost of production of the firms. This incentivises firms to produce output, increasing AS and illustrated by a downward shift of the AS curve.</li> </ul>	
	<ol> <li>Such subsidies will enable firms to use its own funds to make investment in other areas such as capital stocks to enhance its productive capacity which brings about an increase in its full employment income level. This is illustrated by a rightward shift of the AS curve.</li> <li>These will result in an increase in actual growth and potential growth which</li> </ol>	
	<ul> <li>is the sustained economic growth.</li> <li>4. By adopting the 'energy efficient and emission reduction technology', it reduces the negative externalities from production by using traditional energy sources such as fossil fuel. This reduces the pollutants entering the air, hence reduces the external cost imposed onto society, improving the sustainable growth</li> </ul>	
	5. Other ss measures such as subsidies or tax deduction measures can also be given, follow the framework on how the measure will result in increase in actual and potential growth to achieve sustained growth (pt 1-3 above), plus the reduced impact on the environmental damage will then lead to sustainable economic growth.	
	<ul> <li>Limitations         <ol> <li>Such 'energy efficient and emission reduction technology' may be very costly as compared with the traditional energy source. If the industry is the capital intensive kind, energy cost will take up a big proportion of its total cost. The grants provided by government may not be able to lower its cost significantly, therefore, firms may be reluctant to adopt such a switch. As a result sustainable growth may not be attainable.</li> </ol> </li> </ul>	
	<ol> <li>Research and development into this 'emission reduction technology' is still ongoing, such investment involves high risks. The results of such R&amp;D are not guaranteed and there is a possibility that R&amp;D efforts might not yield any results despite aggressive government support.</li> </ol>	
	3. There is a long gestation period before R&D efforts can yield tangible results.	
	4. Opportunity costs of such government grants.	

1 2 3	<ul> <li>Besides depending on own government in achieving sustainable eco growth, there can also be collaboration efforts between countries so the one between SG and UK, 'the UK-Singapore Green Eco Framework will support economic growth and job creation, encouraging the decarbonisation of economic activities', from Ext9 p</li> <li>Small country like SG needs to work with other countries to address challenges such as transboundary air pollution.</li> <li>Govt also needs to put in relevant policies to achieve sustained eco growth first.</li> </ul>	onomic uch as onomy while 4. global onomic
	Knowledge, Application, Understanding, Analysis	
L1	<ul> <li>Cover either sustained growth or sustainable growth only</li> <li>No use of ASAD framework</li> <li>Not on ss policy</li> </ul>	1-3
L2	<ul> <li>Good use of ADAS framework and case evidence</li> <li>No use of case material</li> <li>Either thesis or anti-thesis only</li> </ul>	4-6
E1	Judgment with international collaborations will be easier to achieve sustainable growth in the world	1
E2	To achieve sustained EG, other policy like dd management policies must also be implemented at the right time	2
Ξ2 <u>xan</u> N sı p tr g p	To achieve sustained EG, other policy like dd management policies must also be implemented at the right time <u>hiners' comments</u> lany students did a TAT approach for either sustained economic gro ustainable growth parts. This was not acceptable as sustained growth re-requisite for sustainable growth. he supply side measure chosen by most students was on the education aining of the workforce. While this measure was easy to explain the sus rowth part, it was perhaps not easy to explain sustainable growth which erhaps why this part was not found in most answers. This could be over a containing that the increase in productivity of the trained workers may	2 wth or n is the on and stained ch was ercome
by le G in are by	y explaining that the increase in productivity of the trained workers may ass resources are depleted to produce the same level of output, the ading to sustainable growth. Quite a handful of students chose to discuss fiscal policy measure which acrease in government expenditure on R&D in cleaner energy developed inswer the question. While the measure is fine, it did not fulfil the que equirement which clearly indicated 'supply side policies'. Thus, fiscal police marked as an additional measure that could complement the supple policies to achieve the sustainable growth. Only evaluative mark will be	r mean erefore n is the nent to uestion licy will ly side

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- The use of case material for this question was far and few. Time management of the entire paper was not well handled. Many did not have time to complete this last part (f). -