2018 JC2 Preliminary Examination
9757 H2 Economics Paper 2
Suggested Answers

1 The rising price of healthcare is coming under closer scrutiny as medical inflation rate climbed up to 15% in 2015.

(a) Explain the role of prices in addressing the fundamental problem of economics. [10]

(b) Discuss the relative importance of demand and supply factors in influencing Singapore's medical inflation rate. [15]

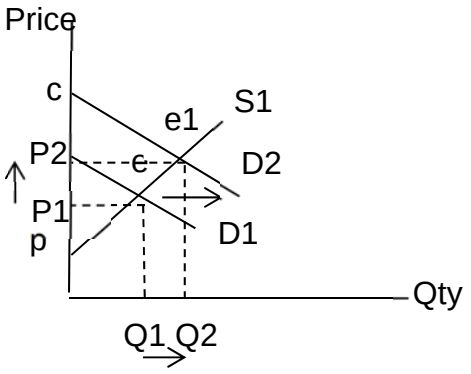
Introduction

The fundamental problem of economic is that of scarcity where there is limited resources to fulfil the unlimited wants. As a result that there is a need to make decision about resources allocation regarding what & how much to produce, how to produce and for whom to produce. This essay aims to explain how price mechanism will help address the above decisions such that resources will be allocated efficiently.

Body

P1: In a free market economy, prices help determine what and how much to produce

The free play of market forces of demand and supply determines price which then acts as a signal to firms to allocate scarce resources. The consumers signal their demand for the goods by offering a price that they are willing and able to pay for the good. The producers will then respond by producing the quantity of the goods that they are willing and able to produce for the price that is offered to them.



market for private condominium

For example, in Figure 1, the initial equilibrium price is at P1 and the equilibrium quantity of private condominium exchanged between consumers and producers is Q1.

If demand for private condominium rises and supply remains unchanged, a shortage will occur as quantity demanded is greater than quantity supplied. As a result unsuccessful consumer will signal their willingness and ability to purchase the good by bidding up the prices. Producers will then respond to the price signal by increasing allocating more resources towards the production of it to increase the quantity supplied since it is now more profitable to do so. At the same time consumers who are unwilling to pay the higher price will reduce the quantity demanded. Price will rise until new equilibrium is reached at price P2 and quantity Q2.

At output Q2, quantity demanded equals to quantity supplied and consumer surplus and producers surplus are maximised as shown by area P2ce1 and P2ep respectively. The right amount of goods is thus produced from society's point of view, assuming no externalities.

L1: Hence prices which is driven by demand and supply forces helps address the problem of what goods and how much to produce such that there will be efficiency in resource allocation.

P2: In addition, prices also help determine how to produce

Firms make decisions on how to produce based on their profit maximising objective. The decision making process concerns on how to produce include many decisions, for example, should the firm use more machines or labour, where should the factory be located and how should the factors of production should be combined to generate an efficient combination of resources to ensure a profit maximising level of output.

In the long run all inputs are variable and therefore the firm is able to choose the best combination of inputs that gives the firm the lowest unit cost possible. Firms tend to use more of resources with lower prices and less of resources with higher prices. If capital is relatively cheaper than labour, then to lower his costs, the firm will switch to using more capital and less labour. For example the rising labour cost in Singapore as seen many restaurants turning to using iPad to take orders instead of relying on waiter.

L2: Thus prices of factor of production will help firms determine how to produce such that the least cost combination of input is used and there is no wastage in the use of resources.

P3: Lastly, prices also help determine for whom to produce

Different people are willing and able to pay different prices for a good. This is partly due to differences in incomes and tastes and preferences. In a market economy, consumers' dollar votes or the willingness and ability of consumers to pay for a good determine the pattern of resource allocation. Those who are able and willing to pay a higher price will exert a greater influence on resource allocation.

L3: This illustrates that price consumers are willing to pay largely influences resource allocation decisions where the consumer is king in the free market.

Conclusion
Due to the problem of limited resources and unlimited wants, factors of production must be utilised as efficiently as possible to produce the goods and services most desired by the society. Economists believe that prices that are driven by demand and supply forces will address the problem without government intervention.

L3: 8-10	• Good knowledge and explanation of the fundamental economic problem • Clear explanation of how prices can help address the question of what and how much to produce, how to produce and for whom to produce. • Answer should also show the role of prices in achieving allocative and productive efficiency • Detailed price adjustment process with well labelled diagram
L2 5-7	• Some understanding of the fundamental economic problem. • Some attempt to explain how prices can help address the question of what and how much to produce, how to produce and for whom to produce • Weak/no attempts to show the role of prices in achieving allocative and productive efficiency • Diagram and price adjustment process explained in answer.

(b) Discuss the relative importance of demand and supply factors in influencing Singapore's medical inflation rate. [15]

Introduction

Prices of medical services in Singapore has risen rapidly as evident from the climb in medical inflation rate to 15% in 2015. In this essay we will be examine the demand and supply reasons for the sharp rise in prices and determine the most important factor that drives the rising price of medical services in Singapore.

Body

P1: Ageing population in Singapore is the most important demand reason for the rise in medical inflation rate.

In Singapore the number of citizens aged 65 and above is increasing rapidly, as population growth slows. The size of this group of citizens doubled from 220,000 in 2000 to 440,000 today, and is expected to increase to 900,000 by 2030. As such demand for healthcare services is expected to increase significantly. This is because older people are more likely to develop complex and chronic diseases, like diabetes. Furthermore one such disease is also likely to cause another and stay with us for life.

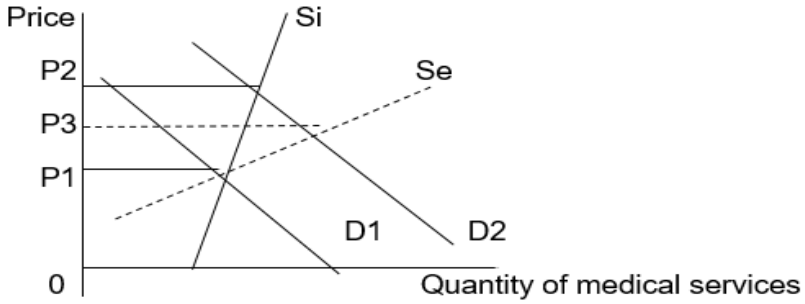
P2: The rise in medical tourism could be another demand factor that contribute to the medical inflation rate.

There has been a growing number of overseas patient seeking treatment in Singapore. This increasing numbers of patients could be largely due the increasing number of excellent medical infrastructure in Singapore. Several world-class medical facilities have been added in the recent past. One such example of the quality healthcare service provided can be seen in the four-year-old Mount Elizabeth Novena Hospital. The hospital has 13 operating theatres and provides a wide range of specialised medical and healthcare services. It attracts a large number of foreign patients and has built a reputation for offering top-of-the-line medical care as well as facilities that are on par with five-star hotels.

Ev: Although Singapore may still be among the region's top dogs when it comes to medical tourism, its neighbours are swiftly closing the gap. Lower costs and the growing availability of quality care in neighbouring countries are luring medical tourists away from Singapore and also encourage patients to stay home for treatment. This therefore dampens the impact that medical tourism has on demand for healthcare services in Singapore. Hence the main demand factor the influences the medical inflation in Singapore is likely to be that of ageing population.

P3: Price elasticity of supply for medical services is also contributes to the extent of the price increase in medical services.

Supply of medical services is likely to be price inelastic as construction of new hospitals and training of medical staff takes a few years. Hence the lack of ready staff and hospital beds available will make it difficult to increase the quantity supplied of medical services. Any increase will thus only bring about a less than proportionate increase in quantity supplied. As such when there is an increase in demand, a sharp price increase from P1 to P2 will be required to eliminate the shortage. This is in contrast to when supply is price elastic where there is only a small price increase from P1 to P3 as demand increases.



Ev: However the supply for certain healthcare services such as those provided by eldercare centres and private general practitioner clinic may be price elastic. This is because construction of such clinics and centres and the training of staff in these areas (e.g. care staff and clinic assistant) takes a much shorter time. Hence the price elasticity of supply may not be the main reason for the sharp increase in price of medical services.

P4: The rising cost of production which affects the supply also influences the medical inflation rate

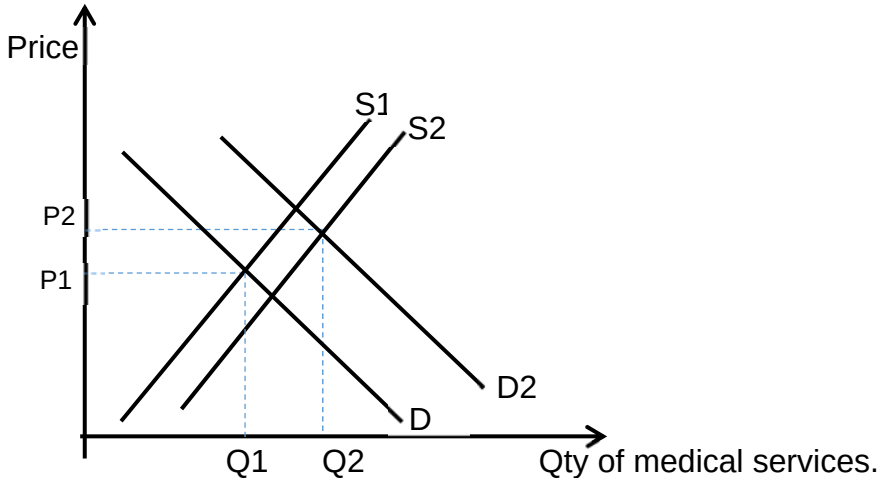
The cost of running a medical practice has gone up tremendously over the past few years. Singapore's ageing population and the tightening of the immigration policies has led to an acute shortage of skilled medical personnel. Nurses, therapists, dieticians, pharmacists, attendants, radiographers and receptionists are in short supply. Furthermore rental cost are also on the rises in a land scarce Singapore. The rent of private medical clinics have also gone through the roof. The price of a medical suite at established private hospitals is more than twice that of the most-expensive condominium on Orchard Road. In addition medical innovations which open new (though often expensive) treatment options also adds to cost (in the form of new medicine and new medical equipment).All these increases in will eventually lead to higher medical fees.

Ev: Despite the rising cost of proving healthcare services the supply of healthcare services is likely to increase

This is because Singapore government has pledge to spend more on healthcare in order to cope with the rising demand. Within the next five years, Singapore will build six more general and community hospitals, four new polyclinics and more nursing homes and eldercare centres across the island. Therefore the rising supply should dampen medical inflation rather than contribute to it.

P5: However there is still an increase in price of healthcare services as the increase in demand outweighs the rise in supply

With the changes in demand and supply, there is now a shortage of medical services. The shortage exerts an upward pressure on prices. Those who are willing and able to buy will offer a higher price to get the medical services they desire and producers in respond to it will increase the quantity supplied. There is both an upward movement along D2 and S2 and eventually the shortage is eliminated. The market is now at a new equilibrium where price has increased from P1 to P2 and quantity traded has also increased.



Conclusion

In conclusion, Singapore medical inflation is largely due to the rise in demand for healthcare services as a result of the ageing population. The ageing population trend also looks set to continue with Singapore's birth rate having been in decline since the 1960s. However with the supply become more price elastic in the long run and the further increase in supply the medical inflation rate is likely to fall in the future.

L3 *8-10*	*Thorough explanation of demand and supply factors with good use of examples.* *Answer makes good use of concepts of elasticity* *Choice of demand and supply factors highly relevant to the context of healthcare* *Well labelled and explained diagrams*
L2 *5-7*	*Demand and supply factor explained but no/weak use of examples.* *Concepts of elasticity not/poorly used* *Choice of demand and supply factors is poor* *Use of diagrams to support answer*
L1 *1-4*	*Splattering of points. Limited analysis. Cursory or weak journalistic approach. No use of examples.*
Ev3 *4-5*	*Synthesis and personal judgement. Considered all the factors raised when making judgement. Good use of analysis to support judgement*
Ev2 *2-3*	*Some attempt to explain why certain factor may be more important than others*
Ev1 *1*	*General statements without analytical support*

2 Falling labour productivity squeezes the profits of firms as their earnings fail to keep pace with rising labour costs. Fourth-quarter profits of US's top 500 companies have fallen to the lowest in two years.

Source: adapted from *cnbc.com,* 17 February 2015

Assess the extent to which the type of market structure determines the survival of a firm given a fall in labour productivity. [25]

INTRODUCTION

Definition: labour productivity measures the output one unit of workers is able to produce and it affects the unit cost of production.

Direction: The labour productivity would affect firms in different ways depending on the market structure in which they operate. This essay will show how the type of market structure, the strategies of a firm and government intervention will determine the sustainability of a firm given a fall in labour productivity.

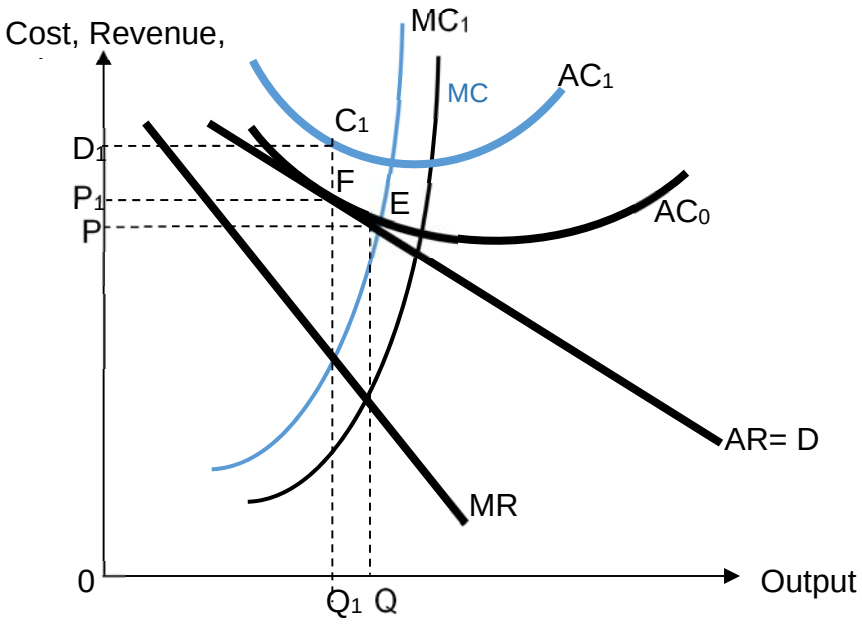
BODY

P1: A fall in the labour productivity will lead to higher average cost and marginal cost.

To determine the profit-maximising output level, the firm will produce up to the level where the **addition to total revenue from the sale of the last unit of output equals to the addition to total cost that results from the production of that last unit** at the rising portion of marginal cost (MC) curve. In other words, marginal revenue (MR) is equal to marginal cost of the last unit of output produced, and MC is rising.

Assume that a firm makes normal profit initially. Suppose the market price is 0P. The firm's profit is maximised at output 0Q. Total revenue (TR) is the area 0PEQ while total cost (TC) is also area 0PEQ. Since TR is equal to TC, the firm earns only normal profit (breaks even).

When there is a fall in the labour productivity, average cost (AC) curve will shift up from AC_0 to AC_1. MC rises from MC_0 to MC_1. As a result, its new equilibrium price rises to $0P_1$ and output drops $0Q_1$ respectively. The new TR experienced by the firm is $0P_1FQ_1$. And the new total cost is $0D_1C_1Q_1$. Hence, its profit would fall from zero to $P_1FC_1D_1$ which is a loss.



P2: In the short run, the sustainability of a firm depends on whether its total revenue is more or less than total variable costs.

E: Fixed costs are costs that do not vary with the level of output. A firm will incur fixed costs in the short run even if it does not produce any output. Examples of fixed costs are rent and cost of administrative staff. Variable cost is the cost of hiring the variable factors. It varies directly with the level of output. When output is zero, total variable cost is zero. When output increases, total variable cost increases. Examples include the total wage payment for workers and the cost of raw materials. The firm's fixed costs are irrelevant in this decision-making process because the firm has to incur fixed costs whether he decides to produce or not produce in the short run.

a) Sustainable despite making a loss if TR > TVC

When TR > TVC, this means that the firm is able to cover not just its variable costs but also part (not all) of its fixed costs. Hence, its loss is equal to only a portion of its fixed costs that is not covered by its total revenue (see Example A below).

Example A

Total Revenue	=	$4 500	
Total Fixed Cost	=	$2 000	
Total Variable Cost	=	$3 000	
Total Loss	=	$500	if the firm continues production.

On the other hand, if the firm were to shut down, it will still incur total fixed costs of $2000. However, since it shuts down, it cannot earn any revenue. Hence, it will incur a loss that is equal to its total fixed costs (TFC) = $2000.

By comparing the two scenarios, the firm will minimise its loss if it continues production.

b) Unsustainable if TR < TVC

However, when a firm is unable to cover its total variable costs i.e. total revenue is less than total variable cost, it should cease production immediately. In Example B below, if it stops production, its loss = $2000 (= TFC only).

However, if the firm stays in production, it will incur a greater loss of $2 500. (= TFC + part of TVC).

Example B

Total Revenue	=	$2 500	
Total Fixed Cost	=	$2 000	
Total Variable Cost	=	$3 000	
Total Loss	=	$2 500	if the firm continues production.

Thus, in this case, loss is minimized only if the firm shuts down completely and leaves the industry.

P3: However in the long run the sustainability of a firm will depend on whether total revenue is more or less than total cost.

E: In the long run, since all factors are variable, there are no fixed costs. In other words, all costs in the long run are variable costs. A firm that is making subnormal profit in the long run is unsustainable and will leave (force out of) the industry to minimise loss since TR is unable to cover its TC.

L: Thus even though losses are made due to the falling labour productivity, the firm might not be forced out of the industry in the short run. However it will exit the industry in the long run if the losses persist.

P4: The type of market structure can influence the sustainability of a firm given a firm in labour productivity as the market structure determines the long run profits the firms earn.

E/E(a): Firms in monopolistic competitive industries tend to make normal profits in the long run due to free entry and exit. With a fall in labour productivity, average cost rises and the firm will be making a sub-normal profit. If total revenue is unable to cover its total variable cost in the short run it will be unsustainable and the firm will have to shut down. Even if total revenue is greater than total cost, the firms may still be unsustainable in the long run if the loss persist. The firm will have to shut down if its total revenue is less than its total cost.
In contrast, firms in industries with high barriers to entry and relatively lesser competition, such as firms in monopolistic or oligopolistic industries may be less affected by falling labour productivity. Barriers to entry are obstacles that prevent new rival firms from entering the industry. Examples of barriers to entry are large economies of scale, high initial cost of starting the business, government licensing and control of key resources or raw materials. Due to the protection from competition by high barriers to entry, the less competitive firms can enjoy supernormal profits in the long run. Even with the rise in average cost, firms in these industries may still be able to make supernormal profits and be sustainable. However, the supernormal profit is less than what the firm was making before.

E/E3b: In addition since firms in monopolistic or oligopolistic industries can earn supernormal profits in the long run due to the presence of high barriers to entry, they have the ability to innovate. As a result, oligopolistic firms may be able to influence the taste and preferences of consumers and boost demand and hence total revenues despite falling labour productivity. For example, Apple continues to roll out new phones each year even when the global economy was still weak. With successful marketing, Apple captured a larger market share in the smartphone market. Innovation could also result in lower cost of production if it results in a more efficient method of production. Hence, oligopolistic firms that successfully innovate may still be able to enjoy rising profits despite falling labour productivity and be sustainable.

EV: However, the sustainability of such firms is not guaranteed. Firstly if the fall in labour productivity results in a significant rise in cost of production, a loss might be incurred and variable cost could still be higher than the revenue. Secondly firms could also face the threat of creative destruction. For example, the video rental market in many countries used to be dominated by Blockbuster Video. However with the advancement in technology, Blockbuster video lose its barriers to entry as firms could turn to the online platform to rent out videos instead of rely on physical stores to rent out videos. With that more firms like Netflix began entering the market and Blockbuster began losing its market share and eventually had to file for bankruptcy and shutdown.

P5: The sustainability of a firms also depends on the strategies the firms employ to deal with falling profits as a result of falling productivity.

Different firms would apply different strategies to deal with the falling profits. Apart from R&D firms could also look to simple product differentiation to boost their revenue and thus profits. For example bakeries often come out with new flavours for the bread to attract customers and boost their demand. Other firms may also look to reduce their cost by sourcing for cheaper alternatives. For example a printing company can now easily source for cheaper ink cartridge from overseas market as globalisation and advancement in digital technology has made it easier to purchase goods from overseas market.

EV: However such strategies may not be effective in keeping the firms sustainable. This is because demand strategies to differentiate their products can sometimes be easily replicated by others. This would thus negate any initial impact it had on revenue.. Strategies to source for cheaper alternative could also compromise quality of the final product and thus demand.

This is because the cheaper alternative may be of inferior quality. If the fall in revenue as a result of a fall in demand outweighs the cost savings profits will still fall.

P6: Government intervention could also affect the sustainability of a firm.

For example, certain firms may continue to operate despite heavy losses. One such example is Ceylon Electricity Board which is a state owned firms. With a market share of nearly 100%, it controls all major functions of electricity generation, transmission, distribution and retailing in Sri Lanka. The government continues to sustain the firm through revenue it gets from direct or indirect taxes as electricity is an essential market and it cannot afford to shut it down. Alternatively governments could also subsidies firm in infant industry and thus allow firm to continue operating despite its losses. This is because the government believe that firms in this industry will eventually grow and gain comparative advantage. This would allow them to turn their losses into profits.

EV: However if the government revenue does not increase and government decides to increase spending on other areas, (e.g. healthcare or training of workers) the support for these firms could eventually be removed. Such a firm may then become unsustainable and shut down. For example Tanzania announced recently that it plans to shut down all loss making state own companies as it seeks to grow its economy to a middle income economy.
Similarly support for infant industry may be withdrawn by the government if they feel that the industry is not growing as expected and is unlikely to become profitable.

Conclusion:
Although market structure can influence the sustainability of a firm to a certain extent, a firm's sustainability in the long run is still largely dependent on how the firms react to the ever changing cost and revenue conditions. This is because regardless of the market structure or government intervention, a firms can make losses. These losses will persist in the long run unless effective strategies are employed to turn them into profits.

L3 15-20	*Answer shows good understanding that the sustainability of a firm is linked to shut down condition. In addition answer should also consider how firms can remain sustainable in the long run (i.e. continue remaining profitable)* *Detailed explanation of shutdown condition in short run and long run* *Clearly explaining at least 2 different ways in which market structure has an impact on the sustainability of a firm given the falling labour productivity* *Carefully considered at least 2 other factors that could affect the sustainability of a firm* *Appropriate use of diagram(s) and examples*
L2 9-14	*Answers should some understanding of sustainability of a firm* *Some attempt was made to explain the shutdown condition of firms* *Understanding of how labour productivity affects profits levels and thus sustainability show be reflected in answer* *Answer must have explain at least one factor that could affect the sustainability of a firm* *Limited/Weak use of diagram(s) and/or examples*
L1 1-8	*Splattering of points. Limited analysis. Cursory or weak journalistic approach. No use of examples.*
Ev3 4-5	*Synthesis and personal judgement. Considered all the factors raised when making judgement. Good use of analysis to support judgement*
Ev2 2-3	*Some attempt to evaluate certain factors.*
Ev1 1	*General statements without analytical support*

3 **(a)** Using relevant examples from the goods and services market, explain how imperfect knowledge and asymmetric information lead to market failure. [10]

(b) Evaluate the measures that are currently used by the Singapore government to correct these sources of market failure. [15]

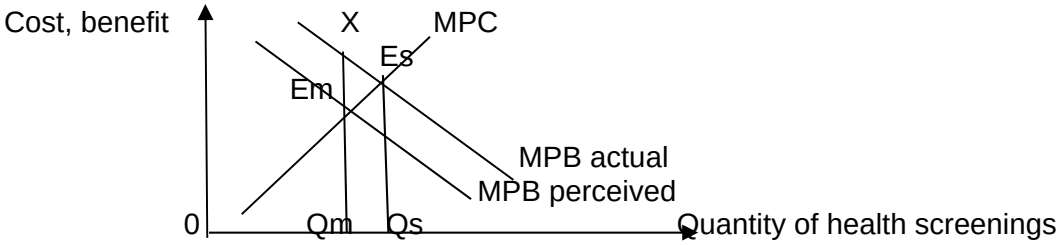
Intro

Market failure refers to a situation where resource allocation concerning what, how, how much and for whom to produce by the market mechanism fails to achieve efficiency in resource allocation and thus there is welfare loss to society.

Body

P1: Imperfect knowledge leads to partial market failure as the consumers fail to recognize the true benefit/cost of consuming a good to themselves and therefore under or overconsume it thus leading to allocative inefficiency

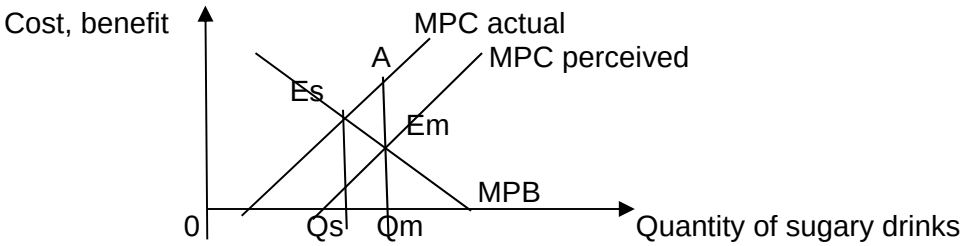
- ***Imperfect knowledge*** arises when consumers fail to recognise the ***true private*** benefits/costs ***to themselves*** of consuming certain goods and services due to incorrect/incomplete information about the ***actual private*** benefits/costs.
- An example would be health screening to detect early signs of illnesses. Consumers underestimate the true private benefit of regular health screening to themselves due to inaccurate information regarding their effectiveness or underestimate the likelihood of them contracting an illness. As such, consumer's perceived MPB < actual MPB. This leads to underconsumption of health screening



- Market equilibrium output level is OQm where MPB perceived = MPC
- Social optimum output level is where true costs and benefits are taken into account and there is perfect information. Assuming no externality, this occurs at OQs
- Since OQm < OQs, there is underconsumption of health screenings and partial market failure results
- Deadweight loss due to underconsumption is represented by area XEmEs
- Net benefit to society from consuming each additional unit of output QmQs are not realised due to imperfect knowledge

Alternatively, students can explain how overconsumption leads to market failure

Take the example of market for sugary drinks. Since the consumer underestimates the true private costs of consuming the good to themselves, perceived MPC < actual MPC. They fail to take into account the additional healthcare costs to be incurred in the long term to treat medical problems like obesity or diabetes from overconsuming sugary drinks.



- Market equilibrium output level is OQm where MPB = MPC perceived
- Social optimum output level is when true costs and benefits are taken into account and there is perfect information. Assuming no externality, this occurs at OQs
- Since OQm > OQs, there is overconsumption of sugary drinks and partial market failure results
- Deadweight loss due to overconsumption is represented by area AEmEs. Each additional unit of output consume beyond OQs results in welfare loss to society because marginal cost > marginal benefit due to imperfect knowledge

P2: Asymmetric information leads to partial market failure in the form of causing <u>adverse selection</u>. This would lead to under consumption/under provision of a good leading to failure to achieve allocative efficiency.

Adverse selection is one outcome of asymmetric information which leads to market failure.
It arises when the economic agents involved in a transaction have different amounts of information. It results in inefficient outcomes since the uninformed side of the market must choose from an undesirable or adverse selection of goods. An example is the <u>market for second-hand cars</u>.

Assume there are two kinds of 2nd hand cars sold in the market – low versus high-quality ones. <u>If there is perfect information</u> where both sellers and buyers know the quality of a used car, there would be <u>separate markets</u> for low and high quality cars. But because buyers could not tell the differences in their quality, there will only be <u>one market</u> for all used cars sold at a single price.

Sellers often have more information than buyers about the condition of the used cars they want to sell, be it knowledge of their defects, true mileage, whether the cars have met with any road accidents etc. In order to profit, sellers tend to conceal these relevant information about the low quality used cars in order to sell them at a higher price.

Worried that they might end up buying low quality used cars, buyers would offer a lower price This in turn cause owners of good quality used cars to exit the market as they are reluctant to sell at the lower price. Hence, there is zero transaction of high quality used cars.

This will result in a situation where only lower quality used cars are sold since high quality ones are pushed out of the market. There is ***<u>market failure</u>*** as too many low quality product and too few high quality product are sold in the market. Asymmetric information results in the used car market adversely selecting against higher quality used cars in favour of lower quality used cars.
Adverse selection can potentially lead to a total market failure of a <u>missing market</u> for 2nd hand car market. This is because consumers are discouraged from buying altogether as all remaining cars in the used car market are of poor quality.

OR students can explain how <u>moral hazard problem</u> causes consumers to <u>over</u>consume particular goods or service that may cause some risk OR <u>under</u>consume

particular goods or service that can minimise potential losses, thus leading to allocative inefficiency

Moral hazard arises when the party who has more information about his own actions/intentions, take more risks than he normally would (that the other agent with less information cannot observe) because costs that could result would not be borne by himself.

An example would be health insurance. The individual because of the availability of health insurance may be less inclined to take care of himself since the payment from an insurance company lessens his financial burden when he is hospitalised. As such, underconsume preventive health care goods and services and instead overconsume food that are bad for his health in the long run. This leads to allocative inefficiency and the market fails.

Conclusion

In conclusion, the presence of imperfect knowledge and asymmetric information prevent an efficient allocation of resources in the markets for different goods and services. There is thus a need for government to intervene to correct such market failure so as to improve resource allocation to increase society's welfare.

Level	**Descriptors**
L3 8-10	• An answer that explains both types of market failure – imperfect knowledge & asymmetric information (for asymmetric information, only 1 of moral hazard or adverse selection is expected) • Answer uses approp econ theory, examples, diagrams to show how market fails
L2 5-7	• An answer that explains only 1 type of market failure well **OR** • explain both types of market failure but lacks rigour with regards to econ theory
L1 1-4	• Answer is generally descriptive with little or no economic analysis • Able to define concepts of imperfect knowledge & asymmetric info • Able to express idea that mkt will produce a qty that does not maxi. social welfare

(b) Evaluate the measures that are currently used by the Singapore government to correct these sources of market failure. [15]

Note: Of the 3 measures, 1 of them has to correct either adverse selection or moral hazard. Remaining 2 measures are to correct imperfect knowledge - can be public education cum campaigns, regulation, subsidies/taxes

Intro
Government intervention in the case of imperfect knowledge and asymmetric information aims to improve information flow between buyers and sellers to help them correct information failure in different types of products. The measures will be assessed in terms of - ability to address the root cause of market failure - effectiveness in achieving social optimum output level or at least lower welfare loss - whether the benefits exceed the cost of intervention (long term fiscal sustainability)

P1: To correct market failure associated with ignorance due to <u>imperfect knowledge,</u> government uses public education, campaigns and regulations.

<u>E/E1:</u> Public education and campaigns help to reduce imperfect knowledge in different markets such as health screening, sugary drinks, cigarettes, alcohol etc. For example, by educating the people on the harm of sugary drinks, they become more aware of the true MPC of consuming sugary drinks.

Quantity consumed will reduce to the social optimal level to close the gap between actual & perceived MPC. Public education and campaigns thus address the <u>root cause</u> of imperfect knowledge as it provides consumers with information about the <u>true</u> MPB or MPC <u>to themselves</u>. Deadweight loss would be eliminated to achieve allocative efficiency.
To educate the public on the dangers of consuming too much sugar, the Health Promotion Board updates frequently diabetes awareness messages and programs on their website, encourage schools to stop selling or sell less sugary drinks, organise competitions to promote healthy food preparation etc. Government has also installed more water coolers in public spaces to encourage people to cut down on flavoured drinks. There are also guidelines drawn up to get food manufacturers to reduce the amount of sugar used in their products.

<u>Strengths & limitations of public education & campaigns</u>
(+) Their strength lie in the ability to ***encourage and change*** public's perception of the good.
(-) However the effectiveness in bringing consumption level to the social optimum level is uncertain as they are ***not enforceable by law***.
<u>EV1</u>: Their effectiveness depends on the consumers' <u>receptivity</u>, government's ability to <u>message convincingly</u> as it is difficult to change peoples' mindsets and habits within a short time span. People may not heed the advice due to ingrained habits that are hard to change.
To <u>complement</u> the above, government in Singapore has used **<u>regulation</u>** such as labelling

P2: <u>Government subsidies are used to correct market failure arising from imperfect knowledge in the market for health screening</u>

<u>E/E:</u> Besides public education and campaigns, subsidies will also help greatly to reduce imperfect knowledge particularly in the market for health screening. Subsidies will induce consumers to **increase quantity demanded to the social optimal level that is efficient from society's point of view as it closes the gap between actual & perceived MPB. Deadweight loss would be reduced if not eliminated to achieve allocative efficiency.**
In a move to raise Singaporeans' health level through early detection and treatment of medical problems as well as to prevent bills from spiralling out of control later, the government in 2017, launched a highly subsidised <u>national health screening programme</u>. They can get tested for diabetes, cholesterol, blood pressure and cervical cancer for $5 at most, at the Community Health Assist Scheme (CHAS) clinics across the island. Thus heavy subsidy from government will reduce the underconsumption and correct market failure.

<u>Strength</u>: Effective measure to raise quantity demanded to social optimal level if PED > 1
<u>Limitation</u>: Government may suffer from incomplete information. If it overestimates the actual MPB and grants a subsidy per unit that is more than optimal, this would lead to consumption level that exceeds the socially desirable level.
<u>EV:</u> An opportunity cost will always be incurred whenever the government decides to give a subsidy. By subsidizing the national health screening programme, it would mean less government budget to spend on other social aspects like education. This opportunity cost may be too high for a country to bear. ***Though Singapore has enjoyed past accumulated budget surplus, government still have to consider*** its budget position when implementing policies to correct imperfect knowledge for healthcare services which require substantial government funding.

As for asymmetric information

P3: To address adverse selection, government's legislation is used to correct the market failure

E/E1: Governments can address adverse selection through implementation of **Lemon Law**. It requires retailers to replace, exchange or give refunds for defective goods to the consumer within 6 months of delivery date when they unknowingly purchase a faulty or low-quality product while thinking they were purchasing a high-quality one. When such a law has been implemented, consumers are now willing to pay a price as if they are purchasing a high-quality car even when they are unsure. This would ensure that prices are kept high enough that the sellers of high-quality cars do not exit the market and thus preventing the problem of adverse selection.

Strengths and Limitations
(+) Lemon law reduces the risk that consumers take when facing adverse selection as they are able to recover their money if they unknowingly buy a low quality product. Thus they do not incur a loss of welfare.
(-) Lemon law may not always be well understood. Some consumers may misunderstand this to be like a warranty and be careless with the second-hand cars they buy and trying to claim a refund for damages that they cause themselves. This causes a situation of moral hazard if they successfully abuse the lemon law as they no longer bear the cost of their reckless behaviour. This abuse could lead to sellers of second-hand cars to be reluctant to sell their cars as they are wary of being taken advantage of by unscrupulous buyers. In such a situation, the government intervention is undesirable as it could potentially collapse the market for second-hand cars.

EV

- effectiveness of legislation depends heavily on government's ability to successfully implement and monitor it to prevent abuse by consumers. Clear education on the rationale and usage is required to reduce abuse and misinterpretation. Countries with a well-educated population who can understand the law and a transparent legal system would likely find such a policy effective.

Conclusion
Singapore government addresses the information gap with a mix of policies. To ensure relevance and effectiveness, government needs to regularly review the effects of its intervention on market outcomes. Of all the measures explained, legislation can be considered to be relatively more effective as it ensures certainty of outcomes. Appropriateness of measures depends on availability of government funds of which Singapore does not have too much of a problem because it can tap on its past accumulated budget surplus.

Level	Descriptors
L3 7-10	- An answer that explains **3 measures** (2 in detail), addressing both sources of market failure (suggestion: 4m, 3m, 2m for 3 measures, 1m float) - Answer must include an analysis of strengths / weaknesses of measures - Include application to Singapore's context
L2 5-6	- explains at least 1 government measure in detail - OR 2 government measures adequately done

L1 1-4	- A generally descriptive answer lacking in economic analysis - Limited explanation of different government measures to deal with the market failure

Level	Description
E3	For an answer that **uses analysis to support** an evaluative conclusion or judgement. Made reasoned attempt at evaluation on limitations of policies relevant to the question Articulates clear criteria on how to judge when measures are effective
E2	For an answer that **makes some attempt** at evaluation or a judgement Attempts to justify the conclusion but answer is lacking in rigour
E1	For an answer that gives largely **unsupported evaluative statement(s)**

4 In the past decade, we have seen an explosion of technological advances in the way we work, live and play. Whilst this has impacted economic growth, some gains from technology do not always show up in the growth numbers.

(a) Explain the factors that can affect sustainable economic growth of a country. [10]

(b) Discuss the problems associated with using gross domestic product (GDP) as a measure of the standard of living of a country and why it might be increasingly challenging to rely on GDP for this purpose. [15]

INTRODUCTION

Define sustainable economic growth : rise in real GDP into the long run, at a rate which can be maintained without creating significant economic problems such as price instability, environmental and resource depletion for future generations.

Direction of answer: State that the factors which can affect sustainable rise in real GDP includes factors that can bring about a sustained rise in both aggregate demand and aggregate supply.

BODY

P1: The rise in aggregate demand for domestically produced goods and services such as from the household sector, firms, government and the foreign trade sector can be caused by a rise in the income of a country.

E For example when there is a rise in its national income, the level of **consumption** for consumer goods and services such as normal and luxury items such as electrical and electronic household goods, houses and cars can also rise as household's power increases. In the same way if there is global economic growth, a country's **net exports** are given a boost. This has been true for trade dependent countries like Singapore where world economic growth brought about a rise in global purchasing power and hence witnessed increased demand for Singapore exports such as high end electronic, pharmaceutical and petrochemical products. This will incentivise firms to increase **investment** on capital goods and expand their business to meet the rise in consumption and exports. The **government** can also increase aggregate demand by encouraging more spending through an **expansionary** fiscal policy by increasing its own capital expenditure such as building physical infrastructure and/or reducing taxes to increase the level of AD in the country.

E A rise in this injection will shift the aggregate demand curve outwards to AD1, boost production and income not just by the initial amount of the injection but also a multiplied amount due to induced consumption arising from this initial rise in income. Hence bringing about actual economic growth. The extent of the rise depends on the size of the multiplier which is inversely related to the marginal propensity to withdraw. The smaller the propensity to withdraw, the bigger the size of the multiplier and effect on the rise in real GDP. This would be true of countries like USA where there is less leakages out of their circular flow of income through savings and imports as compared to Singapore (*alternative explanation : the resulting shortage will cause price to rise which incentivises greater production by the profit maximising firms, causing a movement along ASo curve. At the same times, as price rises, the level of AD falls along AD1. This price adjustment process continues until the shortage is cleared and a new equilibrium is achieved with greater output at 0YFo as seen in figure 1 below)*

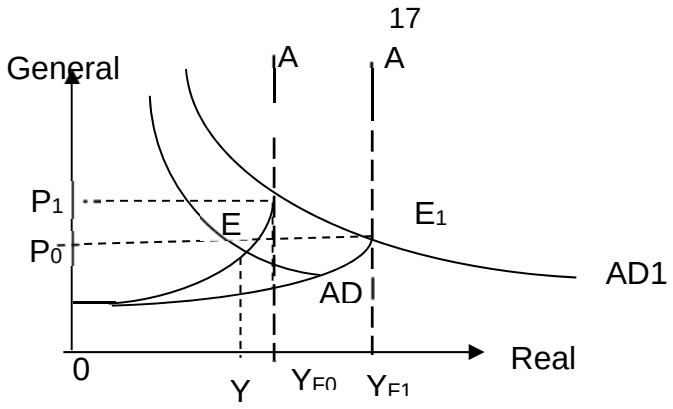


Figure 1 : Sustainable rise in real GDP

P2: However, a rise in aggregate demand *alone* will not ensure sustainable economic growth. This is because an economy will overheat and raise the general price level to OP1 when it reaches full employment of resources. Real GDP remains stagnant whilst the country struggles with rising prices. Hence another key factor to ensure real GDP continues into the long run would involve increasing the quantity and quality of resources and the level of technology.

E: An example would be a country's human resource development where many countries keep a tab on population growth data and size of their labour force. In particular, countries with challenges of ageing population like Singapore, China and Japan have seen government's ***continued investment in human capital*** to improve the quality of their workforce of both young and old through skills deepening and lifelong learning to sustain a rise in aggregate supply. Shortage of skilled labour would constrain economic growth in the long run due to a limit to the rise in its potential growth.

Singapore labour productivity drive can be seen in Enhanced Continuing Education and Training CET) Masterplan in 2014 which include online training courses that adult learners can access at their own pace, in their own time. In addition, the 2015 **SkillsFuture** attempts to develop an integrated system of education, training and career progression for Singaporeans, promote industry support for workers to advance based on skills, and to foster a culture of lifelong learning. This will increase the productive capacity of the country and enable the aggregate supply to continuously shift outwards. Figure 1 shows a rise in both greater potential output to OYF1 and actual output in the long run at OYF0 and a lower price at OPo.

P3: In addition, this sustainability depends on whether factors of production will be depleted in the long run eg non-renewable resources such as oil. Similarly, environmental issues arising from greater production can affect sustainability. In such a case, a factor ensuring sustainability would be new technology that harnesses environmental friendly and efficient methods of production

Conclusion

Hence, factors influencing the rate of growth of aggregate demand and aggregate supply can determine whether a country's economic growth is sustainable. It requires both actual and potential growth as well as a sustainable environment and resources pool in the long run.

Level 3 8-10	• Thorough explanation of factors affecting AD and AS and hence real GDP. Eg: national or global incomes, quantity, quality of resources and technology. • At least 3 clear factors. • Well labelled Diagram included and weaved into answer.

	• Concept of sustainable economic growth is clear: actual, potential, price stability and environmental and resource depletion issues.
Level 2 5-7	• Sufficient explanation of how a **component** of AD and AS can raise/or reduce a country's real GDP • Sufficient explanation of a factor that could affect AD and AS. Or 2 factors well explained either AD/AS [Marked to max 6marks with other peripherals]. • May or may not have illustrated graphically.
Level 1 0-4	• Splattering of points • Some mention of rise in real GDP as endpoint • Some mention of AD and AS as factors that can raise or reduce GDP Some mention of actual and potential and or environmental and resource issues

(b) Discuss the problems associated with using gross domestic product (GDP) as a measure of the standard of living of a country and why it might be increasingly challenging to rely on GDP for this purpose. [15]

Introduction

Define terms:
GDP: total value of goods and services produced in the country per period of time. The **standard of living** measures the well being of the average citizen and refers to both the level of material and non-material well-being of an individual or household. Material well-being is measured by the quantities of goods and services ***an average household*** can consume while the non-material well-being is measured by other factors affecting quality of life.
Direction of answer: Problems associated with using GDP are both statistical and conceptual as it measures only the material standard of living and even so, there are inaccuracies and limitations in using it to measure material standard of living.

Body

P1: One problem associated with using GDP is that it measures only the total income of the country and does not take into consideration the population size and how this national income is distributed amongst the various groups of people.

GDP is a common yardstick used to assess the well-being or standard of living of the people in a country. The higher the GDP, the higher national income earned. Assuming the real income has increased after discounting for inflation in the country, the higher will be the ability of its people to buy more quantities of goods and services. With more wants being satisfied, the material standard of living is thus said to have increased.

Explain problem: However, the population size also needs to be taken into consideration in order to arrive at what an average household is able to consume. This is because a large total income of the country could be due to a large labour force. For example, China's GDP could have risen but if its population also rises and rises by a greater rate, its real GDP per person would have fallen. Hence, care need to be taken to use real GDP per capita or GDP per household as a more reliable indicator for any country.

Explain 2nd problem: In addition, real GDP per capita is just a statistical mean and it does not reflect **the income distribution** among the people in the country. This is because firstly GDP figures do not necessary coincide with employment figures. Secondly, it says nothing about the income earned between the entrepreneurs and the rest of the labour force. Hence, an increase in real GDP per capita does not mean that all individuals benefit equally from economic growth as there could be wide disparity in the distribution of income, even within the

labour force. If the distribution of income become more unequal as the country enjoys economic growth such that the MINORITY rich become richer, for example high skilled workers, while the majority of the poor remains poor with low wages in low skilled jobs, then on average, SOL has worsened.

For example, in some years, in spite of its continuous growth in GDP figures, Singapore's income gap, as measured by the Gini coefficient has increased. In fact, its income gap is one of the widest among developed countries at **0.478** before factoring in government assistance and redistributive measures.

Discuss problem: Nevertheless this is largely a statistical problem. Using both real GDP per capita and a supplementary measure such as the Gini coefficient which measures the degree of income gap would enable a more accurate assessment the country's material standard of living.

P2: In addition, the size of the contributions of the **various components to GDP** also pose a problem in ascertaining standard of living. GDP measured by the expenditure method comprised spending by government, households, firms and foreign sector. Hence, if the large GDP value is due to government expenditures on defence and war overseas, it does not necessarily convert equally to a rise in national income for its citizens.

Other statistical problems concerns the fact that GDP takes into account only the value of market transactions. "Do- it- yourself" services like painting your own house instead of paying for the service of a contractor, which may be substantial, do not enter into GDP computation and may understate the actual value of economic activity if it had been provided at a fee in the market. In addition, the proliferation of many online transactions and free digital services are not captured in the GDP figures. Free whatsapp services provided by various agents and online surfing does away with the need for services at a fee. The problem is that GDP assigns a zero value to goods with a zero price, and so the value of a flux of free apps today does not enter into GDP figures

Discuss problem:
Hence, some caution should be exercised as the GDP figure would either overstate or understate the material standard of living. This fundamental problem of including only market transactions and quantity figures therefore is made more difficult in today's technological age.
(any one statistical problem on material standard of living thoroughly explained)

P3: The other problem is that even economists agree that indicators more intricate than just GDP are needed to ascertain if life is better or has improved for individuals as it does not measure the non-material SOL

Explain problem
E Real GDP per capita figure represent value of *output* of final goods and services produced in a year, but does not reflect changes in the *quality* of goods and services nor the non-material standard of living. While output in quantitative terms has improved over the years, the *quality* of life may have suffered. This is especially true of countries where rapid industrialization has been accompanied by high level of water and air pollution with the dumping of waste carbon emissions from the running of factories. These negative externalities, i.e. external costs, are ignored in national income accounting even though they diminish the quality of life eg increase health problems.

In addition, an increase in the real GDP may occur because the labour force is working longer hours or putting in more effort per unit of time. If it is true, fewer hours are available for leisure, for families and friends. Hence, the non-material standard of living may not have improved. It might even lead to higher level of stress and medical problems and adverse social effects like

neglected children and juvenile delinquency. A U.S. Bureau of Labour Statistics report indicates that of the 20 countries covered, average annual hours worked were highest in Singapore at well over 2000 hours, in 2011. In contrast, Singapore was ranked 20th in terms of GDP per hour worked (an indicator of a country's productivity).

The lack of social amenities and education services will also affect the non material aspect of life. Hence, a high GDP figure itself can overstate the standard of living of a country.

Discuss the problem: Increasingly the stress level does not appear to have abated for some in many developed countries, even as some value work life balance and measure quality of life with less income but more quality time for self and family. A case in point is the recent case of "superstar CEO" like electric car manufacturer,Tesla's, Elon Musk who has been reported to spend long nights at his Tesla factory. Hence, the non-material standard of living of the quality of life may suffer and GDP could have grossly overstated its measure of the standard of living

The issue is to what extent GDP per capita is a fundamental measure of standard of living as one would need a reasonable level of material of standard of living to have a roof over the head, food on the table and education. A higher material standard of living can also increase the quality of life with the consumption of more goods and services Therein lies the **extent of the problem** of using GDP.

Evaluation
Hence, there have been continuous attempts to have supplementary measures to reflect better a country's material and non material standard of living. The Physical Quality of Life index (PQLI) pioneered in 1979 by the Washington-based Overseas Development Council.supplements Real GDP per capita with infant mortality rate and life expectancy,
Another more comprehensive and holistic indicator of measuring SOL is the Human Development Index (HDI) provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in education) and having a decent standard of living as measured by GDP at purchasing power parity. The MEW (measure of economic welfare) is an attempt to factor in the values gained from leisure, social amenities and the costs of externalities like pollution.

Even so, these statistical and conceptual difficulties can become increasingly challenging in today's world, especially for countries that arrives at a more sophisticated stage in its development and people seek to **redefine and measure quality of life.** For example, increasingly the stress level does not appear to have abated and debates of quality of life continue. Issues of widening **income equality** may also continue to be a challenge in a rapidly globalised world.

Conclusion
Whilst statistical problems may be technically easier to resolve with increased sophistication in data collection, the challenge remains in the measure of the non material aspect of life such as happiness and quality of life can be subjective and hence differs within the same country. Hence more robust studies on quality of life issues will help improve GDP as a measure of standard of living.(*Increasingly with the quickened pace of globalisation where a country's citizens seek employment out of the country, attention should also be given to GNP that measures the contribution to national income of its citizens).*

Level 3 7-10	• Explained and discussed clearly and thoroughly (at least 3, with at least 1 non material measure problem) • Competent Technical grasp of concept

	• Good use of examples.
Level 2 5-6	• *Explained sufficiently at least 3 pertinent problems for material and non material sol* • *Discussed sufficiently the problem, eg, extent, nature of problem, statistical, conceptual.*
Level 1 1-4	• *Splattering of points. Limited analysis. Cursory or weak journalistic approach.*
Ev3 4-5	• Personal voice/synthesis on whether it might be increasingly difficult and why/why not (any one well explained with mention of a second) • Insights on current difficulty of measuring technology impact on cost and benefit on GDP and quality of life.
Ev2 2-3	• *Some support for stand or clear statement on which discussion is based.* • *Eg, income inequity rising with globalisation trend* *Definition of quality of life is subjective using Singapore examples*
Ev1 0-1	• General statements without analytical support • Listing of relevant points that relates to body of answer

5 Explain why a government should be concerned with deflation and assess the relative effectiveness of alternative demand-side policies that a country could adopt to tackle this problem. [25]

Intro

Deflation is a situation where the economy faces a ***persistent*** fall in general price level. Governments should be concerned especially when it is caused by a ***persistent fall in AD*** which has adverse consequences on a country's ***macroeconomic goals***.

Body

P1: Deflation may lead to further fall in consumption which can worsen recession and cyclical unemployment

- Deflation often follows a prolonged recession. As AD falls, firms sell their unsold stocks at reduced prices and consumers delay their current spending as they ***expect further price fall*** (non-income determinant of consumption).
- Fall in current consumption leads to ***further fall in AD***, ceteris paribus → multiplied fall in real NY which deepens the recession.
- As firms reduce output further, ***derived demand*** for labour falls and cyclical unemployment rises.

P2: Deflation leads to a fall in actual and potential economic growth as investments fall due to business pessimism

- During a deflation, ***business sentiments*** worsen due to falling revenue caused by falling consumers' demand. It leads to firms reducing output and investment.
- Ceteris paribus, the fall in investment leads to a fall in AD thereafter multiplied fall in real NY and actual economic growth.
- Less incentive to invest in capital equipment will also reduce growth in economy's productive capacity. LRAS falls leading to a fall in potential economic growth.

P3: Deflation may worsen a country's balance of payment due to capital outflow

- During deflation, poor business sentiments arising from fall in real NY and GPL may lead to capital outflows as firms move their operations overseas. ***Capital account*** thereafter the country's balance of payments will worsen, ceteris paribus.
- The impact of deflation on country's ***current account is uncertain***. It depends on the price elasticity of demand for its exports as well as whether its trading partners will implement any counter measures eg. currency depreciation to curb the rise in its quantity demanded of cheaper imports from country facing deflation.

Level	Descriptors
L3: 8 – 10	• Thorough explanation of at least ***3 concerns*** of government where deflation adversely affects economic goals • Correct use of AD-AS framework with assumptions made (eg. assume other AD components eg, net X remain constant etc)
L2: 5 – 7	• Thorough explanation of 2 concerns • Adequate explanation of 3 concerns • Thorough explanation of 1 concern and 2 others adequately explained • Incomplete/inadequate explanations of how deflation adversely affects economic goals of government

L1: 1 – 4	• Explanation was mostly brief, limited or inaccurate with conceptual errors • End points (ie. govt's economic goals) are not clearly identified

Assess the relative effectiveness of alternative demand-side policies that a country could adopt to tackle this problem.

To effectively tackle deflation, expansionary demand-side policies need to address the root cause and the economic conditions in the country.

P5: The government could implement aggressive expansionary monetary policy to address deflation caused by weak demand and overcapacity in the economy.

E/E1: When the ***root cause*** of deflation is the ***lack of a sustained increase in AD***, the government could implement expansionary monetary policy to raise AD. When money supply is increased to reduce interest rates hence cost of borrowing, investors will be more incentivised to borrow and invest while consumers will be enticed to borrow to spend more on big ticket items. The rise in consumption and investment will lead to a ***large rise*** in AD, resulting in a shortage of goods and services as the economy moves closer to full employment. The policy thus addresses the problem of fall in economic growth and rise in unemployment seen during deflation. The large rise in AD not only helps to raise the general price level to stop the persistent fall in GPL, it also mops up the overcapacity caused by an excessive rise in capital goods which left many resources underuse in the economy.

EV: However, addressing the ***root cause*** of weak AD alone does not necessarily mean expansionary monetary policy is effective in tackling deflation. It also depends on the ***prevailing economic conditions*** in the country. A main limitation of the policy is that it depends on the responsiveness of consumption and investment to a fall in interest rates. If economic outlook for the future is bleak especially when deflation is caused by weak AD **(economic conditions),** the interest elasticity of C & I will be low. An extremely low or even zero interest rates may not encourage sufficient spending as households prefer to save more due to fear of wage cuts or retrenchment during a recession. Firms are also not keen to borrow to invest due to anticipated low returns. In addition, borrowing is further deterred since ***real*** interest rates will still be positive even when ***nominal*** interest rate is zero during deflation. This is seen in ***Japan and Eurozone*** where despite the central banks cutting interest rates aggressively, there was only a minimal rise in inflation rate due to a bleak economic outlook. Thus, when the rise in consumption and investment expenditure is not sustained, AD will not rise large enough to address problem of deflation.

E/E2: When above conventional monetary policy fails, governments even turn to unconventional monetary policy such as ***quantitative easing.*** It involves the central bank buying bonds from banks which then increases their money supply to encourage more lending by banks.

However the high risk of bad loans in a weak economy usually mean banks are reluctant to lend. This is why European Central Bank implemented a bigger than expected QE package in 2015 which help some countries in the euro zone to return to inflation levels close to 2%.

P6: When monetary policy has above limitations, government needs to combine it with fiscal expansion in order to bring about a sustained rise in AD to tackle deflation.

EV1: Unlike monetary policy whose effectiveness hinges on the willingness of private sector to spend, fiscal policy is more predictable since it is about increasing the government spending

to kick start the economy to create a positive multiplier effect on growth to reach its inflation target. Hence fiscal stimulus may be more effective than monetary policy.

E/E: When deflation is caused by a persistent fall in AD due to prolonged recession, an aggressive fiscal policy should be implemented to raise government spending and/or reduce personal income and corporate tax rates. The former will increase households' disposable income which lead to rise in consumption while a rise in firms' post tax profits will encourage investment expenditure. In all, there will be a ***large rise in AD*** to shift the economy out of spare capacity alongside a rise in general price level. In 2016, Japan government set aside 28 trillion yen on building critical infrastructure projects such as earthquake resistant roads, bridges and tunnels.

EV2: For fiscal policy to be effective in tackling deflation, there must be a ***substantial rise*** in G to bring about a ***sustained rise*** in AD. But the government will run into a budget deficit. Government borrowing money from the banks may lead to crowding out effect as it competes with firms for limited supply of loanable funds. Interest rates will rise which may deter investment and consumption. However due to deeply entrenched pessimism, crowding out effect tends to be minimal thus the rise in AD is expected to tackle deflation. However, fiscal stimulus policy may not be available to every government. Some eurozone countries like Spain, Greece are constrained by debt restriction which prevents the government from borrowing to finance its spending.

P7: To address deflation caused by external factors, currency depreciation would be a more effective policy than expansionary monetary and fiscal policies.

E/E1: When a country's key trading partners face a recession, it will lead to fall in demand for its exports The fall in AD due to fall in net exports would result in a sustained downward pressure on general price level if the overseas recession is prolonged.
Government could depreciate its currency by selling it and buying more foreign currencies in the foreign exchange market. Prime Minister Abe depreciated the yen to cause the price of exports to fall in foreign currency and price of imports to be higher in domestic currency. Assuming demand for both are price elastic, net exports will rise, assuming Marshall-Lerner condition is met (sum of price elasticity of demand for exports and imports are more than 1). When net exports rise, AD will rise alongside general price level thus tackling deflation.

EV: However a weaken currency does not always lead to a rise in its net exports. The country has to consider the ***economic conditions*** of its trading partners. If latter are facing a recession, even with depreciation, net exports might not rise. Furthermore, their trading partners might see it as a form of protectionist move and might retaliate. Increase in net exports hence AD will be limited hence it might not tackle deflation.
The ***characteristics of the country*** must also be considered to gauge the effectiveness of currency depreciation. If the country exports mainly primary commodities, there will be a less than proportionate rise in quantity demanded for its exports thus export revenue will fall instead. An import reliant country will also face a rise in import expenditure as import demand is price inelastic. Thus the rise in net exports via depreciation is limited, reducing its effectiveness in addressing deflation.

Assuming all the above 3 demand side policies are effective, they will lead to multiple rightward shifts of AD curve via the **multiplier process**. An initial rise in injections (G, I, X) will lead to an equal rise in national income which leads to a rise in induced consumption and withdrawal. Higher the MPC value, greater is the rise in induced consumption and national income. With multiple rise in induced consumption, it will mop up the spare capacity leading to a shortage as economy moves closer to full employment level. The shortage will result in an upward pressure on price thus tackling deflation (where economy operates on the elastic portion of AS curve).

Conclusion

Government must act swiftly to prevent deflationary expectations from being entrenched. Latter when set in, implies firms and households expect prices to keep falling which would render monetary and fiscal stimulus ineffective in stimulating domestic demand. Once there are indications of negative inflation rates, government needs to respond promptly with policies that not only address the root cause, but also take into account the country's characteristics and prevailing economic conditions. As each policy has their limitations, they must therefore work alongside each other to ensure a large/sustained rise in AD to create growth in real GNP so as to reach its inflation target.

Level	**Descriptors**
L3: 7 – 10	• Thorough explanation of at least 3 policies to tackle different causes of deflation • Ideas are well-supported by economic analysis with attempt to make reference to real world examples
L2: 5 – 6	• Thorough explanation of 2 policies correctly applied to solve deflation • Thorough explanation of 1 policy & adeq explanation of 2 others • Adequate explanation of 3 policies
L1: 1 – 4	• Explanation was mostly brief or inaccurate with conceptual errors Undeveloped analysis .
E3	For an answer that **uses analysis to support** an evaluative conclusion or judgement. Made reasoned attempt at evaluation on limitations of policies relevant to the question
E2	For an answer that **makes some attempt** at evaluation or a judgement
E1	For an answer that gives largely **unsupported evaluative statement(s)**

6 In recent years, the globalisation trend witnessed both threatening protectionist moves and increasing attempts at free trade agreements and economic cooperation. In Singapore, additional challenges are posed to its fundamental shift to become a mature economy with a high rate of local innovation.

(a) Explain why in some cases protectionism may be justified. [10]

(b) Discuss how a country like Singapore should increase its competitiveness in a globalised world which might become increasingly protectionist. [15]

Introduction

Define protectionism:

Protectionism is the use of government measures such as tariff and non tariff barriers to prevent free entry of imports to protect domestic economy/industries from foreign competition. It can involve the use of subsidies to promote the growth of exports.

State direction of answer: These measues are justified only in cases of infant industry with CA and in the short run, dumping and restructuring period.

Body

P1: **Whilst protectionism may be argued to be on balance to be detrimental to countries' GDP growth in the long run, it may be justified based on the Infant industry argument**

E This is because newly-established indy with potential source of CA are not yet able to compete internationally. Starting out as smaller outfit means that these firms are unable to reap substantial economies of scale and will not be price competitive. Keeping out international competition into the domestic market through protectionistic measures like tariffs on imported substitutes will enable these firms to grow and reap lower cost of production such as technical and marketing economies of scale which will also help them to compete internationally in the long run.

This is because the import tariff raises the price of the import and allows the domestic producer to compete at the same higher price but reduces the amount of import. Alternatively, the rise in prices of imported goods, price of local goods unchanged means that local consumers will be drawn to its relatively cheaper products. This enables greater output and hence economies of scale, enabling it to lower its unit cost of production in the long *run.*

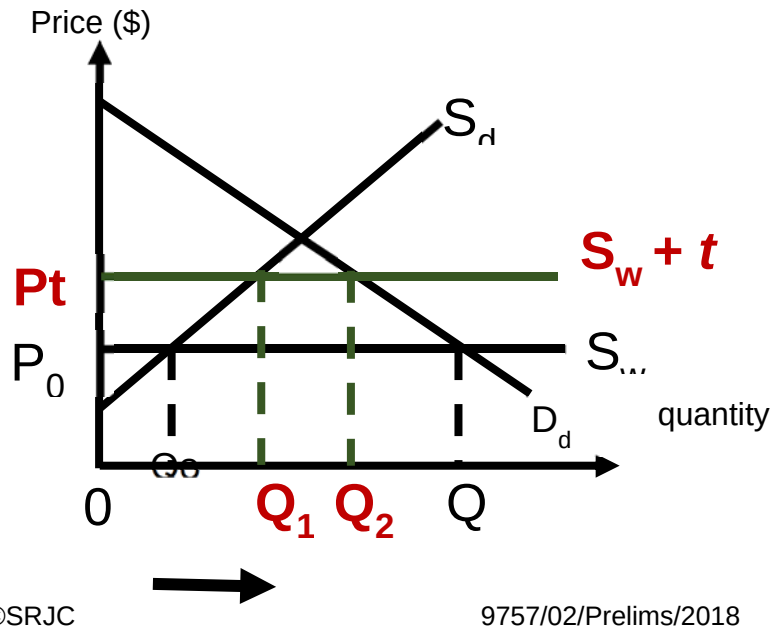


Diagram is not critical. If properly use, it enhances rigour & answer.
Candidates May use **alternative basic** illustration of a shift in demand for the locally produced good that in competition with the imported substitute

However, it should remove such protectionist measures after a period of time as firms will become complacent if these protective barriers remain permanently.

Hence, subject to protectionist measures being temporary and for companies with potential comparative advantage, such measures are justified and allowed under World Trade Organisation rules. The case study of the Malaysian car company Proton Saga is a case in point where Malaysia wanted to develop their own national car and imposed tariffs on imported cars from Japan and China for a period.

P2: **Protectionism is also justified in cases where there is unfair competition such as Dumping**

E Dumping occurs when a good is sold in foreign mkts at a Price below the marginal cost (MC) of production. This gives the exporter an unfair advantage that is not based on comparative advantage, the basis on which free trade is mutually beneficial. Hence countries are justified to *impose an import tariff to equalise competition.*

It can be further argued that this could be a strategy by **f**oreign producer to lower price temporarily at below cost in domestic mkt to oust out domestic producers with the aim of gaining monopoly position. This then allows them to increase price to the detriment of consumers as they are exploited with their consumer surplus transferred to the foreign producer. This reduces the welfare of consumers.

It is for this reason the International Trade Watchdog, World Trade Organisation disciplines dumping actions and it is often called the "Anti-Dumping Agreement" under its world trade ruling. The agreement allows governments to act against dumping where there is genuine injury to the competing domestic industry. In order to do that the government has to be able to show that dumping is taking place, calculate the extent of dumping (how much lower the export price is compared to the exporter's home market price), and show that the dumping is causing injury or threatening to do so.

Hence to justify anti-dumping tariff, countries must be able to prove that the exporter has indeed sold below its marginal cost of production before they can raise protective walls as it may not be a case of predatory dumping but sporadic dumping to clear stock. Some examples include China's tariffs on American cars, accusing it of dumping into its domestic market at a time when China was trying to protect its own car market and dumping could cause substantial damage to its attempt to grow its own car industry. American tariff has imposed on China solar panels and India's tariffs on imported steel on various countries such as China and Japan.

P3: **In cases where restructuring is needed when local firm have lost their comparative advantage, protectionist measures may be used to enable more economic stability as the country goes through the process of restructuring, eg from low end to high end manufacturing or services.**

E This is because if firms have lost their comparative advantage, it would mean they have to *shut down* if their total revenue cannot cover cost of production. This forces firms to retrench workers and hence cause massive **unemployment** especially if it constitutes a big sector of the economy. Hence **protectionism prevents significant job loss** & unemployment as the measures give economy time to shift resources from sunset to sunrise industries and low for training and retraining of workers appropriately

Conclusion

Hence, despite the warranted fears that protectionism may be bad news for both a national and international economy, protective barriers to support local industry is justified in cases of

need to develop an infant industry with CA for the short run, to help in its restructuring process due to loss of comparative advantage and to counter unfair trade practises such as dumping practices of its trading partners.

Level 3 8-10	The 3 key reasons well explained & justified based on clear assumptions & qualfications. Good use of examples. May or may not have used a graphical illustration
Level 2 5-7	Explained well at least 2 reasons. Explain the need for assumptions and qualifications for justifications. May have included a diagram on impact of protectionism on local industry in terms of output, economies of scale and employment.
Level 1-4	Splattering of points concerning employment and other listing. Descriptive narration.

(b) Discuss how a country like Singapore should increase its competitiveness in a globalised world which might become increasingly protectionist. [15]

INTRODUCTION

Set context:
Globalisation is the increasing integration of countries arising from freer mobility of goods, services,resources and technology. This has propelled the economic growth of many national economies especially in the last few decades with prospects of bigger markets for all. Protectionist moves will raise prices of exports and block economic projects and affect Singapore's ability to compete in the world market.

Concept of competitiveness and how to bring it about/direction of answer:
The current Global **Competitiveness** Index measures the set of institutions, policies, and factors that sustain **economic** growth and places Singapore at 34th place. In this light, Singapore should increase its competitiveness by taking due consideration some of these factors to continue to penetrate the world market based on cost and quality of its goods and services.

BODY: (any 3 measures cohesively presented)

P1: If protective tariff barriers are increasingly imposed by trading partners, Singapore will need to find ways to reduce its actual cost to still enable lower prices to compete in the international market.

E This is because a tariff on its exports would instantly increases the price of its exports to the country. To counter this and still be able to compete successively, Singapore would need to continue to maintain price competitiveness in these markets. One measure Singapore can continue to use is her **exchange rate policy** to manage a relatively strong sing dollar. This is because she is a resource scarce country reliant on imported raw materials where it constitutes 60% of the total cost of production. Hence, a strong sing dollar will reduce the price of imported raw materials in domestic currency. This means cheaper cost of production and can help alleviate the price of the final goods and services she produced like pharmaceutical and petrochemical products. Examples include imported natural gas to power electricity and machinery, oil for transportation services provided by airport and ports, and basic intermediate primary products like wheat, poultry and seafood or manufacture of food products for exports.

This will continue to manage the **price competitiveness** of its exports as long as the rise in price of exports due to a strong exchange is mitigated sufficiently by the cost savings from a lower cost of production.
Antithesis: However this measure might be seen to be an artificial competitiveness as it does not look at the *actual* cost of production itself.

P2: Hence, the limitation of this measure means that Singapore need to also look into reducing the *actual* cost of production itself. As such, she should also continue to calibrate her supply side polices to decrease unit cost of production.

Given that Singapore's only resource is its people, she should seek to increase the quantity and quality and mobility of factor so production and to reward and encourage local enterprise. Rapid technological and disruptive changes taking place in the *global* marketplace will make workplace old skills irrelevant. Hence measures must be in place in Singapore to reskill and focus on highly specialised areas such as medical technology and data analytics.[1] With higher education and skills training, the labour force becomes more productive, versatile and adaptable. Therefore it should continue to review its Continuing Education and Training CET) Masterplan where since 2014, CET has been enhanced to include online training courses that adult learners can access at their own pace, in their own time. Such platform allows courses to be more accessible and gives more flexibility to learners juggling between work and study. In addition, the 2015 **SkillsFuture** attempts to develop an integrated system of education, training and career progression for Singaporeans, promote industry support for workers to advance based on skills, and to foster a culture of lifelong learning. This will increase Singapore Government funding to an average of over $1 billion per year from now to 2020.[2]

Discuss/strengths: (1 thesis,1 "antithesis" well analysed) Training and Education improves labour productivity and mobility and must rightly comprise formal and informal education for the labour force. Improvement in the quality of the workforce can raise the productivity level of the labour force, enable more to be produced at a lower unit costs of production. This increases its global competitiveness and at the same time mitigating the rise in price due to tariff by certain trading partners.

It should also continue to monitor its wage policy through its tripartite system of engaging employers and trade unions and the National Wage Council such that wage rise will not outstrip productivity rise. This will curb any undesirable rise in unit cost of production that could reduce its ability to compete especially in markets where tariffs worsens the competition.
Although it has been a concern that workers and firms would not be receptive to such programmes, recent data suggest that there has been a good take up rate as more than 126,000 Singaporeans have used the SkillsFuture Credit to up-skill or re-skill themselves by end December 2016. As this is a critical expenditure to increase its competitiveness to ensure productivity, lower cost and quality products, it should remain a key area that Singapore must pursue to ensure sustainable economic growth.

This measure accompanied with an industry transformation map to identify key areas of growth with which Singapore can develop new comparative advantage will also help her to break into areas that are not likely to be protectionist as these countries are unable yet to produce them.
It also increase our competitiveness in terms of attracting foreign direct investment into the country as a productive workforce enables foreign firms to produce at lower cost and in turn compete in the international market.

P3: In addition, in view of increasing protectionism, Singapore should continue to sign free trade agreements (FTAs). FTAs can expand the international economic space for Singapore-based companies with the reduction of trade barriers. Singapore has successfully ratified the CETrans-Pacific Partnership (TPP). Asia-Pacific Economic Cooperation (APEC) members like Australia, Brunei, Chile and Vietnam. These countries collectively represent about 26% of global GDP and 17% of world trade. In addition, she should remain an active participant in regional integration initiatives like the Association of Southeast Asian Nations (ASEAN) and the AEC aims to achieve a single market and production base, with free flow of goods, services and investments by 2015.

Strength: This is because there remains big growth areas and new areas of cooperation such as Africa, Brazil, Russia and India. These emerging economies would want the much needed trade for growth and the likelihood of them imposing protectionist measures is minimal.

In this way, bigger markets allow our local companies to expand and enjoy ***economies of scale*** of production such as technical, marketing and financial economies of scale. This reduces the **average cost of production** and enable firms to charge a lower price to continue to compete successively in new and penetrate even protected markets. Hence, Singapore should look into regional cooperation if the big players from the West and China threatens to be become increasingly protectionist.

Conclusion

Personal opinion: It serves Singapore well to recognize the importance of adapting to both the opportunites presented by the global economy and the possibilities of countries implementing protectionst moves to protect their own national economy. Singapore must take both a short and long term perspective in dealing with competitiveness, whether threatened by protectionism or otherwise. In essence, she should will continue to pursue an appropriate exchange rate policy and relevant supply side policy to create a globalized, entrepreneurial and diversified economy that ensures sustainable growth. Singapore should continue to pursue regional trade agreements to keep economy open.

Level 3 8-10	Thorough explanation of at least 3 measures and impact on cost, price and non price. Thesis and anti-thesis is evident
Level 2 5-7	Sufficient explanation of at least 2 relevant measures to increase competitiveness in terms of price and non price appeal. Impact of context of protectionism (and globalisation) in terms of raising prices is evident Anti-thesis is also attempted.
Level 1 1-4	Smattering of points. Lack of understanding of term “competitiveness”
Ev3	At least 2 criteria well evaluated Eg: Need to keep own economy open to FDI Need to look for new markets as viable solution. Recognised need for appropriate supply side measures and a policy mix of eg, appropriate exchange rate, free trade agreements
Ev2	Criteria is supported with analysis Eg: human resources as its key resource Need to gain new comparative advantage with government policies. Recognised need for supply side measures.
Ev1	Listing of criteria.