

Answer all questions

### Question 1: The Sugar Battle

**Table 1: Sugar in Selected Economies (1,000 Metric Tons)**

Countries	Production		Consumption	
	2016/17	2017/18	2016/17	2017/18
China	9,300	10,250	15,600	15,700
India	22,200	32,445	25,500	26,500
European Union	18,313	21,150	18,700	18,800
Pakistan	6,825	7,425	5,100	5,400
United States	8,136	8,393	10,979	11,181
World total	173,980	191,813	170,773	174,125

Source: United States Department of Agriculture

#### **Extract 1: Tax on sugary drinks will only be partly effective, claims study**

Three economists at the Institute for Fiscal Studies have raised questions about the efficacy of the government's soft drinks industry levy. Drinks makers who do not cut sugar levels will have to pay 18p a litre on drinks that have more than 5g of sugar per 100ml and 24p a litre on those that have 8g or more of sugar per 100ml. According to the economists' modelling, young consumers would lower their sugar consumption by more than older individuals in response to a soda tax. The tax, therefore, succeeds in achieving relatively large reductions in sugar among one group," the study notes. However, its impact of sugar tax on population remains to be seen.

The findings have implications for Britain and beyond. A growing number of cities and countries have adopted taxes on sugary drinks to help combat sugar consumption, which is blamed for rising obesity levels. Where do we draw the line for taxing undesirable dietary choices? For example, should a salt tax be implemented given that the overall concern is on long-term human health? To what extent do matters of dietary choices require government intervention? Some people might say that when it comes to food choices, they should have complete freedom in making those choices as they are solely responsible for the health cost that they would incur. However, the cost goes beyond personal choices.

Source: Various

#### **Extract 2: UK sugar industry licks lips over end of EU quotas**

The European Union is abolishing its system of quotas for sugar from Sunday 1 October, in one of the biggest changes for British agriculture in recent years. The UK's 3,500 growers of sugar beet – a sweet root vegetable that looks like a turnip – and the country's sole refiner, British Sugar, expect the change to allow them to increase production by 50% annually.

It's an industry that supports nearly 10,000 jobs across the country, helping the UK to consume roughly two million tonnes of sugar a year. About 60% comes from home-grown beets, while another 15% comes from the EU and the remainder is from imported cane sugar. The sugar rush comes as the EU scraps limits on production for the first time since 1968. Britain had been limited to producing little more than one million tonnes a year, which has led to stockpiling following bumper harvests.

British Sugar, a part of the Associated British Foods conglomerate, plans to immediately increase production to 1.4 million tonnes next year from 900,000 tonnes in 2017. But with the vote to leave the European Union, higher taxes on sugary drinks and a government push to wean consumers off unhealthy treats, the industry may face a sticky future. Producers will also be more exposed to the global sugar price as protections recede.

Consumers could benefit from falling prices, although not immediately, according to Callum Macpherson at the City bank Investec. "If prices are passed through to consumers, where you might see a noticeable effect, at some stage, is on the cost of buying a bag of sugar in the supermarket," he said.

Across the EU, sugar production next year is now forecast at 20.1 million tonnes, about 20% more than this year's crop. Imports are expected to fall to 1.5 million tonnes, while exports are forecast to double to 2.8 million tonnes. A government spokesperson said: "The removal of EU sugar beet quotas will enable British growers compete on a level playing field with other sugar producers around the world."

Source: The Guardian, 29 September 2017

### **Extract 3: Beating diabetes starts with small steps, says PM Lee**

Eat right, exercise more, get your health checked regularly and think twice about picking up that can of soft drink. These are Prime Minister Lee Hsien Loong's words of advice to Singaporeans who want to beat diabetes.

While diabetes is often a silent illness, its complications - which range from kidney failure to blindness and even impotency in men - can prove debilitating. Roughly 400,000 Singapore residents have diabetes. A significant proportion of them do not even know it.

Furthermore, total economic costs per working-age patient were estimated to be US\$5,646, of which 42% were excess direct medical costs and 58% indirect productivity-related losses in 2010. Total cost is projected to rise to US\$7,791 in 2050, with the share of indirect costs rising to 65%. By current projections, diabetes in Singapore represents a growing economic burden. Among the working-age population, the impact of productivity loss will become increasingly significant. Prevention efforts to reduce overall prevalence should also engage stakeholders outside the health sector who ultimately bear the indirect burden of disease. The Government alone cannot solve this problem, Mr Lee said. It is a matter of personal responsibility.

The first thing people should do is find out where they stand by going for regular medical check-ups. These do not have to be expensive. From next month, nearly two million Singaporeans can get a basic subsidised health screening for \$5 or less under the enhanced Screen for Life programme. The chances are your doctor will advise you to eat healthy and exercise more as well, Mr Lee said.

A final target of Mr Lee's speech was soft drinks and sugar. These drinks contain refined sugar, which is bad for a person and can increase the risk of diabetes. This problem is especially tricky because drinking such sugary beverages can become an ingrained habit from a young age, he said. "Our children are most at risk because soft drinks are part of their lifestyle."

The Government plans to introduce measures to reduce the amount of sugar in all the soft drinks consumed in Singapore. "But ultimately, what to drink is a personal choice," Mr Lee said. "The best is to drink plain water."

Source: Various

## Questions

- (a) (i) Why might the changes shown in Table 1 have led to a decrease in the world price of sugar? [2]
- (ii) Given the information contained in Table 1, identify the country that has had the greatest impact on world prices. Justify your answer. [3]
- (b) Using diagrams, explain what determines the extent of the change in the quantity of soft drinks consumed by the different types of consumers following the imposition of the sugar tax in UK. [4]
- (c) Extract 2 refers to the effects of removing quota on sugar production. Using a supply and demand diagram, explain the effect on the market for sugar in UK of such quota removal. [3]
- (d) Explain the determinants of a rational consumer's decision on whether to consume sugary drinks. [6]
- (e) (i) Using Extract 3, explain why the Singapore government would want 'to reduce the amount of sugar in all the soft drinks consumed in Singapore'. [5]
- (ii) Discuss whether the problem of increased incidence of diabetes in Singapore caused by the excessive consumption of sugary drinks can be better solved by education rather than indirect taxation. [10]
- (f) Instead of discouraging the consumption of sugary drinks, there should be subsidies on healthy dietary choices. [12]

Discuss whether subsidies on healthy dietary choices promote the efficient working of the price mechanism.

**[Total: 45 marks]**

## Question 2: Lessons from Japan and United States

Table 2: 2016 Selected Economic Indicators

	GNI per capita (constant 2010 US\$)	Government Gross Debt to GDP (%)	Unemployment Rate (% of total labour force)	Life expectancy at birth, total (years)
Japan	47,625.9	250.4	3.1	84
United States	52,707	105.8	4.9	79

Source: The World Bank and Trading Economics

### Extract 4: Quantitative Easing Around the World

Central banks use quantitative easing (QE) to inject money into the financial system, hoping to boost business spending and stop inflation from falling too low.

The Bank of Japan's most recent QE programme began in April 2013, when central bank boss Haruhiko Kuroda promised to unleash a massive QE programme worth \$1.4tn (£923bn). It formed part of a set of policies known as Abenomics, which hoped to pull Japan out of the deflation it had long suffered and stimulate the economy. Yet statistics show that Abe's economic policies have not achieved the desired results. Japan's GDP only grew 0.4 percent in 2015. With inflation worryingly low and consumer spending floundering, the Bank of Japan went even further last October, introducing negative interest rates for the first time. The move is designed to encourage commercial banks to use excess reserves they keep with the central bank to lend to businesses.

At the same time, the US Federal Reserve (Fed) was spending only a little more per month at \$85bn, compared with \$70bn by the Bank of Japan. But the US economy is almost three times the size of Japan's. As the US economy steadily improved in the aftermath of the Fed's cash injection, the central bank gradually slowed its bond-buying programme. US unemployment fell sharply after QE started and the US economy proved relatively solid. The economy is forecast to grow 3.6% this year by the International Monetary Fund. In 2016, the US central bank is expected to announce two to three interest rate hikes after it increased rates in December for the first time in nearly a decade.

The Bank of England launched QE in March 2009, announcing £75bn of newly created money to buy bonds, when it also cut interest rates to a new record low of 0.5%. However, the Bank later admitted that the richest 10% of households in Britain had benefited the most from QE. The strategy has been criticised by groups representing savers and pensioners because savings rates, have all fallen.

Adapted from: The Guardian, 2016

### Extract 5: Japan's credit rating cut as S&P deals blow to Abenomics' credibility

Standard & Poor's (S&P) downgraded Japan's credit rating by one notch from A+ to AA- as it warned that the country's performance would not be "strong enough" to justify a higher grade. The decision will reignite doubts about the efficacy of Prime Minister's Shinzo Abe's three-pronged package of measures intended to lift the Japanese economy out of deflation.

Dubbed Abenomics, Tokyo's policymakers have sought to fend off weak inflation with a combination of monetary and fiscal stimulus, and supply-side reforms.

But S&P suggested that the much-heralded economic revival had failed to materialise. Its downgrade reflects "our expectations that modest growth and stabilisation of price levels will slow an increase in government indebtedness over the next two years and eventually stabilise it", it said. Japan's rating could be cut further if there was an indication "that the government debt burden could rise more significantly than we currently expect", S&P added.

Source: The Telegraph, 16 September 2015

### **Extract 6: Reduce long working hours to maintain economic vitality: The Japan News**

To maintain economic vitality in society amid a declining population, it is essential to improve the environment so women and elderly people can better exhibit their ability and more actively participate in society. The biggest challenge is to address long working hours. Working hours of regular employees in Japan remain high, at around 2,000 hours a year. The ratio of workers with long working hours is also conspicuously high when compared with Europe and the United States. Current labour practices, under which overtime has become normal, have prevented women - whose time is limited because of child-rearing and nursing care of elderly people - from actively participating in society. This has made it difficult for them to balance their work and family life, which has also become a major factor in the declining birth rate. In moving ahead with work style reforms, it is vital to enhance the productivity of every worker.

Non-regular workers must be helped to develop their competence by improving vocational training programs for them or expanding opportunities for them to pursue continuing education at colleges. The bill to revise the Labour Standards Law has, as its central pillars, proposals introducing an employment pattern under which wages will be decided based on work results rather than by number of hours worked.

Source: The Straits Times, 30 September 2016

### **Extract 7: What's wrong with Japan's Economy**

Japan's economy has been in trouble for decades. Massive monetary and fiscal stimulus have so far failed to spur faster growth. This week, the Bank of Japan meets to decide whether to apply yet more economic shock therapy. Here's the situation the country's leaders face:

**Table 3**

	<b>Above 65 as % of population</b>	<b>Fertility Rate (%)</b>	<b>International migrants as % of population</b>
Japan	26.3	1.4	1.6
United States	14.8	1.9	14.5
<i>Median*</i>	17.8	1.7	12.2

\*Median is based on OECD countries

Japan has the world's oldest population, as well as a low birth rate and little immigration, but its growth problems go far deeper.

With the Japanese unwilling to spend, companies are increasingly investing overseas rather than at home. Wages are stagnant and growth has stayed low, with frequent recessions.

Japan's debt burden far outstrips that of other countries, largely a result of the stimulus introduced to help fix the economy. Higher debt led the government to consider a sales tax increase for revenue. Abenomics, Prime Minister Shinzo Abe's rescue plan, which initially relied too much on financial and fiscal measures, has run short of solutions for tackling the structural problems facing Japan's economy. Issues such as an aging population, a weak domestic market and erosion of Japanese firms' competitiveness in the global economic system have not been fundamentally addressed. Given that the real economy has not substantially improved, persisting with monetary easing policies can only be counterproductive. Abenomics has helped to weaken the yen and boost corporate profits but wages and domestic spending have remained fragile.

The monetary stimulus weakened the yen, and until earlier this year exporters felt the benefit but consumer spending hasn't followed and—with the central bank still far from its 2 percent target—neither has inflation.

The Bank of Japan says it will keep taking whatever action is needed to meet its targets and Abe has pledged "bold" measures this fall. Yet with stimulus failing so far to spur growth, economists and policy makers say broader, more dramatic strategies are needed.

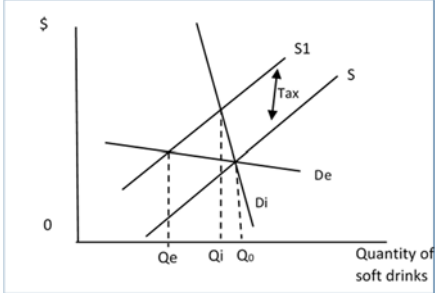
Adapted from: Bloomberg and Guardian, 2016

## Questions

- (a) Using Table 2, explain why any one indicator might have been a concern to the Japanese government. [2]
- (b) Extract 5 mentions that there is a cut in Japan's credit rating.
- (i) Explain why Japanese yen fell in value after the cut in credit rating. [2]
- (ii) Using a diagram, explain how this fall in the value of Japanese yen might affect prices of goods and services in Japan. [3]
- (c) Using Extract 4, discuss the factors that central banks should consider when deciding whether to extend quantitative easing. [7]
- (d) Explain why the Bank of Japan introduces negative interest rates while US's Fed raises its interest rates. [6]
- (e) (i) How is the rate of inflation and standard of living related to each other? [1]
- (ii) With reference to the data where relevant, explain and comment on whether Japan will have a higher standard of living than US. [8]
- (f) With reference to Extract 7, explain possible reasons why Japanese are unwilling to spend. [4]
- (g) Using evidence from the case study and/or your own knowledge, discuss the policy options that Japan could adopt to address its economic challenges. [12]

**[Total: 45 marks]**

**Suggested Answer: CSQ 1**

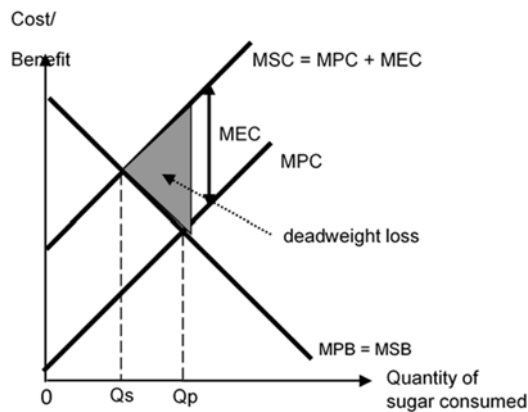
Qn	Questions																																											
a)(i)	<b>Why might the changes shown in Table 1 have led to a decrease in the world price of sugar?</b>	<b>[2]</b>																																										
	<p>Greater surplus of sugar in the world markets. (1m)            Surplus in 2016/17 = 173,980 – 170,773 = 3,207 (,000 metric tons)            Surplus in 2017/18 = 191,823 – 174,125 = 17,688 (,000 metric tons)            The surplus grew bigger thus adding more pressure for prices to decrease in the price of sugar. (1m)</p>																																											
a)(ii)	<b>Given the information contained in Table 1, identify the country that has had the greatest impact on world prices. Justify your answer.</b>	<b>[3]</b>																																										
	<p>The country with the greatest impact would be the one with the greatest change to supply or demand for cotton on the world market. (1m)</p> <table border="1" data-bbox="339 853 1289 1323"> <thead> <tr> <th></th> <th>2016/17</th> <th>2017/18</th> <th>2016/17</th> <th>2017/18</th> <th>2016/17</th> <th>2017/18</th> </tr> </thead> <tbody> <tr> <td><b>China</b></td> <td>9,300</td> <td>10,250</td> <td>15,600</td> <td>15,700</td> <td>-6,300</td> <td>-5,450</td> </tr> <tr> <td><b>India</b></td> <td>22,200</td> <td>32,445</td> <td>25,500</td> <td>26,500</td> <td><b>-3,300</b></td> <td><b>5,945</b></td> </tr> <tr> <td><b>European Union</b></td> <td>18,313</td> <td>21,150</td> <td>18,700</td> <td>18,800</td> <td>-387</td> <td>2,350</td> </tr> <tr> <td><b>Pakistan</b></td> <td>6,825</td> <td>7,425</td> <td>5,100</td> <td>5,400</td> <td>1,725</td> <td>2,025</td> </tr> <tr> <td><b>United States</b></td> <td>8,136</td> <td>8,393</td> <td>10,979</td> <td>11,181</td> <td>-2,843</td> <td>-2,788</td> </tr> </tbody> </table> <p><b>India</b> has had a large impact as it changed from a net importer (-3,300 000 metric tons) to a net exporter (5,945 000 metric tons) (From adding to supply to adding to demand). (2m)</p>		2016/17	2017/18	2016/17	2017/18	2016/17	2017/18	<b>China</b>	9,300	10,250	15,600	15,700	-6,300	-5,450	<b>India</b>	22,200	32,445	25,500	26,500	<b>-3,300</b>	<b>5,945</b>	<b>European Union</b>	18,313	21,150	18,700	18,800	-387	2,350	<b>Pakistan</b>	6,825	7,425	5,100	5,400	1,725	2,025	<b>United States</b>	8,136	8,393	10,979	11,181	-2,843	-2,788	
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	<ul style="list-style-type: none"> <li>Identify the “different types of consumers”; those with price elastic dd vs those with price inelastic dd.</li> <li>- PED&lt;1 include consumers with high income (expenditure on sugar is a small proportion of income).</li> <li>- PED&gt;1 include consumers with low income.</li> </ul>																																											



	<ul style="list-style-type: none"> <li>The factor that determines the extent of the change in price when an indirect tax is imposed is the PED.</li> <li>Define PED. (1m)</li> <li>Show the contrast in Price when <math>PED &gt; 1</math> and when <math>PED &lt; 1</math>. (Q to <math>Q_i</math> vs Q to <math>Q_e</math>) (3m)</li> </ul>	
c)	<p><b>Extract 2 refers to the effects of removing quota on sugar production.</b></p> <p><b>Using a supply and demand diagram, explain the effect on the market for sugar in UK of such quota removal.</b></p>	[3]
	<p>-Define 'Quota' (1m)</p> <p>-Price &amp; Quantity with quota is <math>P_q</math> and <math>Q_q</math>. (1m)</p> <p>-After the removal of the quota, Price will fall to <math>P_e</math> and quantity will rise to <math>Q_e</math>. (1m)</p>	
d)	<p><b>Explain the determinants of a rational consumer's decision on whether to consume sugary drinks.</b></p>	[6]
	<ul style="list-style-type: none"> <li>- Explain what constitutes 'rational' decision making (to maximize net benefits) (1m)</li> <li>- Relate 'utility' to consumer's benefit. (1m)</li> <li>- Explain the marginalist principle: (2m) <ul style="list-style-type: none"> <li>• Define marginal cost and marginal benefit.</li> <li>• Explain why net benefits is maximized at the consumption level where marginal benefit equals marginal costs.</li> </ul> </li> <li>- Explain the determinants of marginal benefit. (tastes, price of substitutes, complements, intended and unintended benefits etc) (1m)</li> <li>- Explain the determinants of marginal costs. (price paid for the good, time given up for the consumption process, other goods forgone, intended and unintended costs etc) (1m)</li> </ul>	
e)(i)	<p><b>Using Extract 3, explain why the Singapore government would want 'to reduce the amount of sugar in all the soft drinks consumed in Singapore'.</b></p>	[5]

- State the Micro objective of government (Allocative Efficiency). To achieve this governments strive to eliminate (or reduce) deadweight loss, due to negative externality in consumption and information failure. (1m)
- Explain how the consumption of sugar leads to external costs (illness)

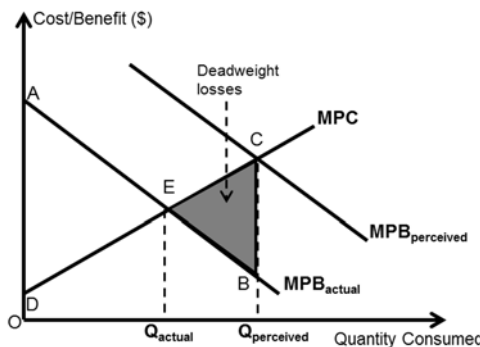
Deadweight loss resulting from external costs:



(2m)

**Note:** The MEC identified should be loss in efficiency due to illness (diabetes)

Deadweight Loss due to information failure. (When Perceived Benefit > Actual Benefits)



(2m)

**Note:** Equal credit should be awarded to those who take the costs approach i.e, (Perceived Costs < Actual Costs)

**Figure 8: Reduction in net private benefit due to imperfect information**

[Max of 3m is only ONE source of mkt failure is explained]

e)(ii)

**Discuss whether the problem of increased incidence of diabetes in Singapore caused by the unlimited consumption of sugary drinks can better solved by education rather than indirect taxation.**

[10]

**INTRO:** Outline the criterion by which policy solutions are assessed; including 'effectiveness' (ability to eliminate the deadweight loss) and cost of implementation (monetary costs & opportunity costs)

**THESIS:** Explain how education can be effective eliminating the d w loss resulting from overconsumption of sugary drinks.

- **Limitations;** effectiveness of internalising the external cost and/or correcting the misinformation, explicit costs of education programmes.

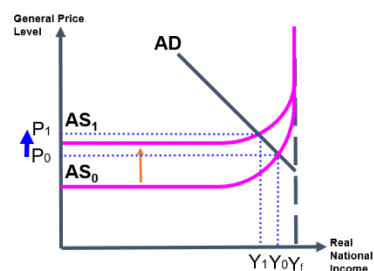
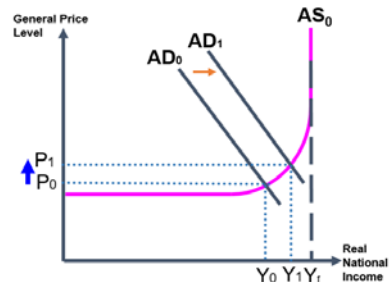
-**ANTITHESIS:** Explain how the taxation works.

	<p>- Outline the <b>limitations</b>.</p> <p><b>ASSESSMENT</b> of the 2 approaches (compare limitations of education with taxation)</p> <p><b>JUDGEMENT</b>. Come to a judgement (made here with SR and LR considerations)</p>		
	L3	<p>Question requirements are interpreted accurately</p> <ul style="list-style-type: none"> <li>- Both sources of mkt failure are addressed by the education &amp; taxation.</li> <li>- The effectiveness of the two approaches are compared adequately</li> <li>- The criterion for assessment is clearly outlined.</li> </ul> <p>Appropriate concepts and diagrams are used accurately</p> <ul style="list-style-type: none"> <li>- MSB/MSB analysis is accurately used.</li> <li>- Clear understanding of <math>MPB_{perceived}</math> and <math>MPB_{actual}</math> is demonstrated.</li> <li>- Diagrams are clearly drawn and accurately labelled (in context)</li> <li>- Shows a clear understanding of how the measures work.</li> </ul>	5-7
	L2	<p>Addresses some questions requirement adequately</p> <p>Incomplete (inaccurate) use of MSB/MSB analysis</p> <p>Weak / unclear explanation of how the measures work.</p> <p>Little or no comparison of the two measures and their limitations.</p>	3-4
	L1	<p>A sketchy inaccurate answer that shows misunderstanding of the question requirements.</p>	1-2
	E2	<p>Good evaluation, well-reasoned and supported.</p>	2-3
	E1	<p>Some unsupported evaluative statements.</p>	1
f)	<p><b>Instead of discouraging the consumption of sugary drinks, there should be subsidies on healthy dietary choices.</b></p> <p><b>Discuss whether subsidies on healthy dietary choices promote the efficient working of the price mechanism.</b></p>		[12]

	<p><b>Intro:</b> “Efficient working” (using market based intervention tools)</p> <p><b>Thesis (subsidising the consumer)</b></p> <ul style="list-style-type: none"> <li>• Show how subsidising the consumer can correct market failure caused by positive externalities. (promotes the efficient working of Price Mechanism)</li> <li>• Subsidies achieve this as a market based tool</li> <li>• Promotes the working of the price mechanism.</li> <li>• Examine the limitations</li> </ul> <p><b>Antithesis (subsidising producer)</b></p> <ul style="list-style-type: none"> <li>• Show how subsidising the producer can correct market failure caused by positive externalities.(Promotes the efficient working of the Price Mechanism)</li> <li>• Examine the limitations (generic limitations of subsidies) <ul style="list-style-type: none"> <li>○ The amount of subsidies given can lead to over or under consumption due to imperfect info and the inaccurate valuation of the MEB by the government.</li> <li>○ Opportunity cost of using subsidies. Consideration of subsidies better utilised in other areas (e.g. healthcare)</li> </ul> </li> </ul> <p><b>Judgement:</b> Considerations:</p> <ul style="list-style-type: none"> <li>- Which kind of subsidy is better? Why?</li> <li>- Are there any other approaches that promotes the working of the Price Mechanism better?</li> </ul>	
L3	<p>Question requirements are interpreted accurately</p> <ul style="list-style-type: none"> <li>- Shows good understanding of market based vs non-market based approaches.</li> <li>- Recognises the relationship between ‘healthy food choices’ and ‘unhealthy food choices’. (can be viewed as merit vs demerit goods)</li> <li>- Clearly shows the limitations of using subsidies.</li> </ul>	6-9
L2	Addresses some questions requirement adequately	3-5
L1	A sketchy inaccurate answer that shows misunderstanding of the question requirements.	1-2
E2	Good evaluation, based on the measure being supportive of the price mechanism.	2-3
E1	Some unsupported evaluative statements.	1
<b>[Total: 45]</b>		

**Suggested Answer: CSQ 2**

(a)	<p>Using Table 2, explain why any one indicator might have been a concern to the Japanese government.</p> <p>Percentage of government debt to GDP is high (twice of that of US) [1] → <i>Ext 5, Para 2: Japan's rating could be cut further if there was an indication "that the government debt burden could rise more significantly than we currently expect", S&amp;P added.</i> → cut in credit rating → investors lose confidence → I falls → AD falls → fall in RNY → fall in actual growth [1]</p> <ul style="list-style-type: none"> <li>• Identify any indicator (other than unemployment) that might have been a concern [1]</li> <li>• Give reason [1]</li> </ul>	[2]
(b)	Extract 5 mentions that there is a cut in Japan's credit rating.	
(i)	<p>Explain why Japanese yen fell in value after the cut in credit rating.</p> <ul style="list-style-type: none"> <li>• <i>Extract 2: "The decision will reignite doubts about the efficacy of Prime Minister's Shinzo Abe's three-pronged package of measures"</i></li> <li>• Cut in credit rating → people lose confidence in the currency and sell Yen [1] → supply of Yen rises → value of Yen falls → depreciation [1]</li> </ul> <p>Alternatively, demand for Yen falls as (foreign) investor and business confidence falls</p>	[2]
(ii)	<p>Using a diagram, explain how this fall in the value of Japanese yen might affect prices of goods and services in Japan.</p> <ul style="list-style-type: none"> <li>• Depreciation → price of exports fall in foreign currency → rise in demand for exports → rise in price and quantity of exports → rise in export revenue</li> <li>• Price of imports rise in Yen → assuming demand for imports is price elastic since there substitutes available → quantity falls more than proportionately → fall in import expenditure</li> <li>• Rise in net exports → rise in AD (diagram) → rise in GPL from <math>P_0</math> to <math>P_1</math> → rise in prices of goods and services in Japan</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Depreciation → rise in price of imported inputs in Yen → rise in COP → fall in SRAS → rise in GPL from <math>P_0</math> to <math>P_1</math> → rise in price of goods and services</li> </ul> <p>2m – explanation 1m – diagram</p>	[3]



(c)

Using Extract 4, discuss the factors that central banks should consider when deciding whether to extend quantitative easing.

[7]

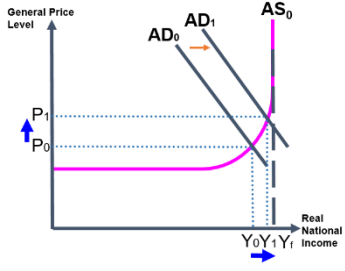
Intro

**Explain purpose of QE** → inject money into the financial system → *i/r* falls → boost spending → C&I rises → AD rises → boost growth and prevent inflation from being too low

Body

**Factors to consider**

- Benefits: AD rises → RNY rises → economic growth, fall in unemployment
  - *“US unemployment fell sharply after QE started and the US economy proved relatively solid”* → beneficial for US
- Costs: AD rises → rise in GPL → demand-pull inflation
- Unintended consequences: With lowered *i/r* → saving rates fell → disadvantaged pensioners and savers
  - *“The strategy has been criticised by groups representing savers and pensioners because savings rates, have all fallen”*



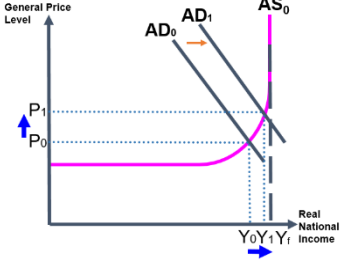
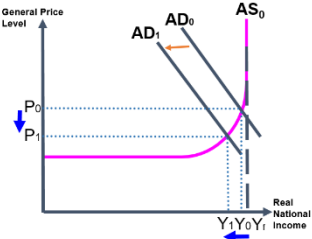
Evaluate

Which factor is the most important factor and provide reason depending on country

- E.g. “benefits” as the most important factor – central banks need to consider whether extension of QE will really bring in the intended benefits (whether there has been some results to signal that the policy is a step in the right direction) → US has been seeing some results (Extract 4 para 2: US unemployment fell sharply after QE started) vs abysmal results in Japan (Extract 4 para 1: GDP only grew 0.4 percent despite pumping in \$1.4 trillion) → US can consider extending QE further but Japan might perhaps consider other policies instead of extending QE since the economy does not seem to be responding well
- OR
- “costs” as the most imp factor – US has been seeing results after implementing the QE but is afraid that it might result in demand-pull inflation if QE is too extensive (afraid that cost may outweigh the benefits) → may want to pull back and not consider extending QE (Extract 4 para 2: In 2016, the US central bank is expected to announce two to three interest rate hikes after it increased rates in December for the first time in nearly a decade)

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> <li>• Question requirements are interpreted accurately. <b>Provided at least 3 factors with examples from extracts.</b></li> <li>• Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence.</li> </ul>	3 – 5

		<ul style="list-style-type: none"> <li>Appropriate diagrams are used to support economic analysis, where relevant.</li> </ul>	
L1		<ul style="list-style-type: none"> <li>Question requirements are interpreted inaccurately.</li> <li>Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis.</li> <li>Inappropriate or wrong diagrams are used.</li> </ul>	1 – 2
<b>Evaluation</b>			
E		Evaluative comments are well-explained and supported by economic analysis. <b>Made a stand on the most important factor.</b>	2
		Unexplained evaluative comments.	1

(d)		<p>Explain why the Bank of Japan introduces negative interest rates while US's Fed raises its interest rates.</p> <p><u>Reason(s) why Japan introduces negative interest rates [2]</u></p> <ol style="list-style-type: none"> <li>1) Abenomics unsuccessful in pulling Japan out of deflation</li> <li>2) "Japan's GDP only grew 0.4 percent in 2015... With inflation worryingly low and consumer spending floundering..." → Japan could experience a further contraction in the economy and a deflation if nothing is done</li> </ol> <p><u>Negative i/r [1]</u></p> <p>"encourage commercial banks to use excess reserves they keep with the central bank to lend to businesses." → makes cost of borrowing cheaper → rise in investment expenditure → rise in AD (diagram) → rise in RNY (actual growth) and GPL (inflation)</p>  <p><u>Reason(s) why US raises its interest rates [2]</u></p> <ol style="list-style-type: none"> <li>1) "US economy steadily improved... unemployment fell sharply... economy is forecast to grow 3.6% this year" → substantial rise in AD → rise in GPL → inflation</li> </ol> <p><u>Raise i/r [1]</u></p> <p>COB falls → C&amp;I falls → AD falls → GPL falls → lower inflation rate → ensure price stability</p> 	[6]
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(e)	(i)	<p>How is the rate of inflation and standard of living related to each other?</p> <p>Rising inflation rate is inversely related to the standard of living.</p> <p>Alternative: Rising inflation due to AD rising will also result in RNY to rise, raising income and purchasing power and thus SOL.</p>	[1]
	(ii)	<p>With reference to the data where relevant, explain and comment on whether Japan will have a higher standard of living than US.</p> <p><u>Intro</u></p>	[8]

	<p>Define SOL</p> <p><u>Japan will have a higher SOL than US</u></p> <ul style="list-style-type: none"> <li>• Table 1: Japan's unemployment rate is lower than US → more are employed → greater access to goods and services → higher material SOL</li> <li>• Table 1: Japan has a longer life expectancy → indicating better healthcare and quality of life → higher non-material SOL</li> </ul> <p><u>Japan will not have a higher SOL than US</u></p> <ul style="list-style-type: none"> <li>• Table 1: GNI per capita is greater for US than Japan → greater income accrued to one person in US than Japan → Americans are able to buy more goods and services → higher material SOL in US than Japan</li> <li>• Extract 3: <i>"The biggest challenge is to address long working hours. The ratio of workers with long working hours is also conspicuously high when compared with Europe and the United States."</i> → lesser leisure time than in US → lower quality of life → lower non-material SOL</li> <li>• Extract 4: Greater percentage of the aged in Japan than US &amp; Lower fertility rates in Japan than US → percentage of people contributing to the economy is lower and with little immigration, Japan has to depend on their own population → lowers production of goods and services → material SOL falls</li> </ul> <p>[Up to 5 marks for above]</p> <p><u>Comment [up to 3 marks]</u></p> <ul style="list-style-type: none"> <li>• Make a stand → which country will have a higher SOL → US will have a higher SOL than Japan. Despite Japan having a lower unemployment rate than US, it is not comparable since US's economy is three times that of Japan (Ext 4). US's unemployment also fell sharply and economy proved relatively solid after QE (Ext 4) showing that the policy used for US worked and this enabled a rise in RNY and therefore material SOL.</li> <li>• Data is insufficient to make a conclusion: need other data → Although data points to Japan having a lower quality of life due to long working hours, this data on US is not provided as well as other indicators such as level of pollution → more data is needed to make a conclusion.</li> </ul>	
(f)	<p>With reference to Extract 7, explain possible reasons why Japanese are unwilling to spend.</p> <p>[2] Consumer confidence is low → C falls or Expectations of future fall in prices → C falls</p> <p>[2] Sales tax hike → rise in COP → fall in SRAS → fall in RNY → fall in income → fall in purchasing power → unwilling to spend →</p>	[4]
(g)	<p>Using evidence from the case study and/or your own knowledge, discuss the policy options that Japan could adopt to address its economic challenges.</p>	[12]



## Intro

### **Economic Challenges (Explain any 2 challenges)**

- Ageing population
- Declining birth rate
- Deflation
- Few immigrants → shortage of workers
- Stagnant wages
- Low growth, frequent recessions
- Weak domestic market
- Higher debt

## Body

### **Policy Options to address the various challenges (Explain any 2 policies):**

#### (i) Higher debt

- Raise sales tax → Rise in COP → fall in SRAS → rise in GPL → counters deflation
- Limitation → reduces RNY → slows growth even further

#### (ii) Stagnant wages (+low growth, frequent recessions)

- Revenue from taxes could be used to finance education and training (improving vocational training programs) to improve the productivity of workers → raise income
- Productivity of workers increase → quality of labour rises → LRAS rises → actual and potential growth
- Limitation → effect takes time

#### (iii) Weak domestic market

- Fall in direct tax → rise in C&I → rise in AD → rise in actual growth, rise in GPL
- Limitation → Fall in revenue since tax rates fall → doesn't help to reduce government debt

#### (iv) Few immigrants → shortage of workers, ageing population

- Encouraging immigrants policy → rise in quantity of labour → rise in LRAS → rise in actual and potential growth
- Encourage more women to join the workforce → labour reforms → increase in quantity of labour
- Limitation: Cultural workforce traditions are rigid limits the effectiveness of this policy

## Conclusion/EV

- Most concerning economic challenge: Stagnant wages (+low growth, frequent recessions)
- *“Abenomics... which initially relied too much on financial and fiscal measures, has run short of solutions for tackling the structural problems facing Japan's economy. Given that the real economy has not substantially improved, persisting with monetary easing policies can only be counterproductive.”* → ss-side policies more important
- The policy options may have addressed the economic challenges of Japan but it comes at a cost. Japan has a lot of economic issues that this is inevitable. Therefore rising sales tax must be accompanied by

efforts to restructure the economy – in terms of investing in capital and labour to improve productivity or to attract firms to do so. This will ensure that with the greater income and profits generated from workers and firms respectively, they will be able to contribute greater revenue from paying income and corporate tax. This will then also mean that Japan’s issue of higher debt can be resolved. Simply increasing the sales tax will not be a good option since it only seems to address the problem of higher debt at face value and later on result in consumers spending even lesser, contracting the economy further. The structural issues such as long working hours and difficulty of integrating women in the workforce also contributes to the falling productivity which needs another set of structural reforms and changing mindset of employers, and not just the policy options mentioned above.

<b>Knowledge, Understanding, Application and Analysis</b>		
L3	<ul style="list-style-type: none"> <li>• Question requirements are interpreted accurately. <b>Addressed 2 economic challenges with different policies and its limitations.</b></li> <li>• Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence.</li> <li>• Appropriate diagrams are used to support economic analysis, where relevant.</li> </ul>	6 - 9
L2	<ul style="list-style-type: none"> <li>• Addresses some question requirements accurately.               <ul style="list-style-type: none"> <li>○ <b>Addressed only 1 challenge but 2-sided answer</b></li> <li>○ <b>Addressed 2 challenges but 1-sided answer</b></li> </ul> </li> <li>• Some appropriate economic concepts, theories and principles are used. Economic analysis is accurate but incomplete.</li> <li>• Attempts to address the context of the question but is incomplete.</li> <li>• Appropriate diagrams are used but might not be explained or used to support economic analysis.</li> </ul>	3 - 5
L1	<ul style="list-style-type: none"> <li>• Question requirements are interpreted inaccurately.</li> <li>• Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis.</li> <li>• Inappropriate or wrong diagrams are used.</li> </ul>	1 – 2
<b>Evaluation</b>		
E2	Evaluative comments are well-explained and supported by economic analysis. <b>Make a stand on the most concerning economic challenge to be addressed.</b>	2-3
E1	Unexplained evaluative comments.	1