



CANDIDATE NAME

CT GROUP

18

ECONOMICS

Paper 1 Case Study Questions

9757/01

2 September 2019

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Read all instructions printed on the cover page of the 12-page answer booklet carefully.

Write all your particulars clearly on the cover page of the 12-page answer booklet.

Write in dark blue or black pen on both sides of the paper.

You may use a soft HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer ALL questions.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (if required).

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.

Do not tear out any part of this booklet.

Begin case study question 1 and question 2 on a new page within the answer booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12-page answer booklet.

The number of marks is given in brackets [] at the end of each question or part question.

You may use a calculator.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded for the need for good English and clear presentation in your answers.

This document consists of **7** printed pages and **1** blank page.

Answer **all** questions**Question 1: US-China Trade war****Table 1: Change in Chinese Yuan per US dollar from 2013 to 2016**

	2013	2014	2015	2016
Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64

Source: *Focus Economics***Extract 1: US fights for protectionism**

Tapping into economic discontent, President Donald Trump has argued for protectionism and asserted that decades of free trade policies were responsible for the collapse of the American manufacturing industry and its ballooning trade deficit. He has been feeding on the perception among many Americans that globalisation has brought more pain than gain. For example, globalisation has brought cheap consumer goods into the country, costing domestic jobs and depressing wages. Outsourcing of jobs to cheaper markets has also been a concern.

President Trump wants to renegotiate the North American Free Trade Agreement (NAFTA) which lowers trade barriers between the US, Canada and Mexico and rejected claims that the deal has helped the US economy create more jobs and reduce trade deficit by opening up export markets. He has also argued that since China joined the World Trade Organisation (WTO), Americans have witnessed the closure of more than 50,000 factories and the loss of tens of millions of jobs. He wants the US government to label China a “currency manipulator” and has lambasted the rapidly growing Asian economy for “unfair subsidy behaviour”.

Source: *The Guardian*, 9 November 2016**Extract 2: Vietnam, a prime location for investors**

In recent years, Vietnam is well on its way to becoming a key destination for electrical and electronic products manufacturing for companies like Samsung and LG Electronics. Exports of smartphones and computer parts now account for more in export earnings than oil and garments. Samsung has turned Vietnam into a global manufacturing base for its products, producing almost a third of the firm’s output. Samsung has invested over US\$17 billion into the country.

Compared with other developing markets in the region, Vietnam is emerging as the clear leader in low-cost manufacturing. Currently, labour costs in Vietnam are 50 percent of those in China and around 40 percent of those reported in Thailand and the Philippines. With the country’s workforce growing annually, Vietnamese workers are inexpensive, young, and, increasingly, highly skilled.

In the past few years, a growing number of businesses have relocated their operations from China to Vietnam in an attempt to escape rising costs and an increasingly complex regulatory environment. Given the recent trade war between China and the US, alongside the signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and EU-Vietnam FTA, the country is steadily becoming more open to international trade and investment.

In terms of regulatory and financial incentives, Vietnam has become increasingly investor-friendly in recent years – the government has taken actions such as reforming its financial sector, streamlining business regulations, and improving the quality of its workforce. In addition, Vietnam has a zero percent tax on dividends remitted overseas and a low corporate tax rate of only 20 percent.

All these advantages have enabled Vietnam to become a premier “sourcing economy” in the eyes of many companies.

Table 2: Vietnam’s top exports, 2017

Top Exports	Export Value
Phones	US \$45.1 billion
Textiles	US \$25.9 billion
Electronic goods/Computers	US \$25.9 billion

Source: *Vietnam Briefing*, 19 November 2018

Extract 3: Trade war will hurt the US

The US imports machinery, clothing and consumer electronics from China, with a lot of it made by US companies which profit from them. President Donald Trump's proposed measures of raising tariffs against Chinese products and declaring China a currency manipulator might end up hurting both economic giants and others. All this, without quite achieving Mr Trump's objectives of bringing back manufacturing jobs to the US or reducing its \$552 billion trade deficit with China.

While even Chinese economists admit that China's economy will suffer if Mr Trump went ahead to slap tariffs on Chinese products and take other punitive trade measures against China, other economies are set to be hurt too. This is because many products exported from China to the US are assembled in China with components made in other countries as part of an international supply chain. In an interconnected world built on a complex web of supply chains and mutual economic interdependencies, China's trade partners, particularly in east and south-east Asia are likely to be among those hit hardest by the fallout.

On the other hand, the US economy could be hurt by a trade war too. First, more expensive imports as a result of the tariffs would hurt Americans' pockets, particularly those in the low-income groups. Second, the Chinese are likely to hit back at any US action with their own punitive measures. China is also the US' third-largest export market, and one that is expanding rapidly. The Communist Party-linked *Global Times* warned: "A batch of Boeing orders will be replaced by Airbus. US automobile and iPhone sales in China will suffer a setback, and US soybean and maize imports will be halted." The Trump administration's moves against China could hurt American firms with investments in China and the burgeoning American exports there.

Yet, for all that trouble, Mr Trump may not see many manufacturing jobs returning to the US. In industries like textiles, where factories were lost decades ago to China, the jobs will simply move to countries where labour is less expensive, such as Bangladesh and Vietnam.

Source: *The Straits Times*, 28 January 2017 and *Financial Times*, 3 December 2018

[Turn over]

Questions

- (a) (i) State what happened to the nominal exchange rate of the Chinese Yuan between 2013 and 2016.
[1]
- (ii) With a relevant diagram, explain how intervention by the Chinese government could have led to the change identified in (a)(i).
[3]
- (b) Explain how “currency manipulation” mentioned in Extract 1 might widen US’ trade deficit with China.
[2]
- (c) (i) Using a tariff diagram, explain the impact of China’s tariff on the revenue of US exporters of soybeans to China.
[3]
- (ii) With reference to the concepts of price elasticity of demand and price elasticity of supply, explain why the impact of the tariff on the revenue of US exporters of soybeans to China would likely be small in the short-run.
[3]
- (d) Discuss how far the concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors.
[8]
- (e) In light of globalisation, discuss the extent to which US economy would benefit from a protectionist stance on trade.
[10]

[Total: 30]

Question 2: Internet Connectivity and Lifelong Learning

Extract 4: Benefits of the Internet

The internet is a pervasive, fundamental part of daily life that continues to deliver massive economic and social benefits around the world. Yet some 3.9 billion people – more than 52% of the world's population – are still not online. Although much progress has been made in closing the digital divide, the challenge remains huge, complex and multidimensional. Multiple studies by The Boston Consulting Group have detailed the internet's macroeconomic benefits to Gross Domestic Product (GDP), the broad economic and job impact of the digital economy's rapid growth in online retail and advertising and infrastructure, and the big impact of information and communications technology (ICT) on small-business revenue growth and job creation. Most studies have verified the positive impact of greater broadband penetration on the growth in GDP. One of the first, by the World Bank, concluded that every 10 percentage point improvement in broadband penetration increases GDP by 1.3%.

Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered internet usage including social networking sites as one type of leisure activities. The internet is also increasingly a source of high-quality educational content and online courses, which can increase the availability of formal instruction to underserved population segments. Already a fixture in developed nations, educational institutions and for-profit universities are expanding their online offerings in emerging countries, where rapid economic growth has increased the demand for skilled workers.

Source: World Economic Forum, *White Paper: Internet for All*, April 2016

Extract 5: Singapore, Sweden top the Global Inclusive Internet Index

Singapore and Sweden lead the world in terms of internet inclusivity, according to a recent report. The Inclusive Internet Index measures how effectively individual countries have adopted internet usage and the benefits derived from it. Device innovation, technological advances and declining prices afford increased connectivity; yet prices are still quoted as one of the key barriers to access in developing economies. Also prominent, among other reasons, is the proportion of those who do not use the internet because they do not see the need and lack knowledge of how to use it. The Singapore government will roll out a series of new courses targeted at the elderly, covering topics from the use of e-payment, chat apps and digital government services, in an expansion of the official Silver Infocomm Initiative, which has promoted IT literacy among more than 130,000 seniors.

The availability aspect primarily entails ease of access to the internet. Singapore tops the availability rankings, owing largely to initiatives taken by the government. For example, the report says that Singapore is "arguably a standard-bearer" of public-access Wi-Fi which provides free internet access in public areas and now reportedly has more than 10,000 hotspots across the city. Internet access remains unaffordable for most income groups in many developing countries. The United Nations-defined threshold for affordability is 5 percent of average national monthly income and efforts are underway to reduce it to 2 percent. By 2016, 106 countries had reached the target of offering basic fixed-broadband services at less than 5% of monthly Gross National Income (GNI) per capita. In Singapore, while fibre broadband prices have dropped drastically, there are various programmes in place to ensure that vulnerable segments of the community can enjoy the benefits of the internet.

Source: www.edb.gov.sg, 12 April 2017 and *The Straits Times*, 2 June 2018
[Turn over

Table 3: Prices of fixed-broadband services of selected economies in 2016

Economy	as % of GNI per capita	USD	PPP\$
United Kingdom	0.22	8.10	7.55
Norway	0.5	39.17	32.35
Singapore	0.5	21.64	25.02
United States	0.82	38.10	38.10
Sweden	0.89	43.10	39.50
China	2.42	15.95	27.73

Source: *International Telecommunication Union*

Extract 6: Higher learning institutes to train more adults

A major revamp of how working adults are trained for the new economy is under way, with more courses, more funding and a more significant role for Singapore's institutes of higher learning (IHLs). The Ministry of Education (MOE) is pumping in \$70 million towards this effort over the next three years, with IHLs expected to spend \$40 million a year on the SkillsFuture Series by 2020, compared to less than \$5 million now. For a start, each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship. The programmes will be delivered as short modules, making them easier for working adults to take. They will be subsidised up to 70 per cent for Singaporeans and permanent residents. The rest of the fee can be paid using the \$500 SkillsFuture credit given to every Singaporean above the age of 25 from last year onwards.

Education Minister (Higher Education and Skills) Ong Ye Kung said funding levels for programmes with coursework components that are "purely academic" in nature will have to be relooked, while coursework that could be vocation-based could be delivered in a bite-sized format that can be accumulated and lead to graduate certifications. Some of the universities, such as Singapore Management University (SMU), are already doing this. SMU Academy, the university's lifelong learning unit, will be offering financial technology modules that can be "stacked up" towards a Master of IT in Business. The MOE noted that having such courses will give them exposure to an area of interest without having to pursue a full degree.

Although micro-credentials can be used to provide "a milestone for adult learners to aim towards and which employers can recognise", Mr Ong cautioned that it should not become a new "arms race" to collect credentials. "IHLs should instead focus on imparting skills and knowledge needed by industry, and package them into a nice bundle that represents a meaningful upgrading of skills and knowhow," he said. "Learners too, should focus on picking up what is necessary for their upgrading."

Source: *The Straits Times*, 29 October 2017

Extract 7: Education, infrastructure and fiscal sustainability vital to Singapore's future

While cohort sizes may be falling and money "may be tight", Singapore is ploughing more investments into education which "has, and must, continue to be the backbone" in the Republic's economic strategy, said Minister in Prime Minister's Office Chan Chun Sing. Noting that it is no longer just about providing Singaporeans with 10 years of compulsory schooling but a "lifetime of continuing education", Mr Chan also cited the need to continue investing "seriously" in infrastructure for the next generation while maintaining the country's long-term fiscal sustainability and discipline.

Mr Chan referred to the 2018 Budget and pointed out that the Government has “not slowed down” its investment in education. “Instead, we are strengthening our investment,” he said. He stressed that beyond the formal school system, new ways must be developed to “continuously train and retrain our people for tomorrow’s economy”. Adding that going back to school for long courses “is a luxury that few can have in today’s fast-paced economy”.

From 2019, foreign students will no longer receive subsidies for most of the vocation-based master’s degrees and post-graduate diplomas offered by the autonomous universities, while the subsidies for permanent residents (PRs) will be reduced. Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs at both undergraduate and post-graduate levels.

A history professor at the National University of Singapore noted that foreign students make up more than 50 per cent of the students in his class as “locals are not interested to pursue postgraduate studies. If there is a fall in the number of international students, then some faculty members might not see the need to improve the quality of lessons. This could eventually affect our standing in the global rankings,” he added.

Noting that unsubsidised postgraduate courses attract many students, the MOE expects such students “will continue to take up courses at our autonomous universities if they see value in the education and training offered”.

Source: *The Straits Times*, 5 March 2018

Questions

(a) With reference to Table 3:

(i) Explain what could be inferred from the difference in values between prices of fixed broadband services in USD and PPP\$ for Singapore. [2]

(ii) Explain the difference between using GNI per capita and GDP per capita as an indicator of affordability of internet access. [2]

(b) Using the information in Extract 4, explain how the internet would affect standard of living. [4]

(c) With reference to Extract 5, explain **two** economic reasons for government intervention in the market for internet access. [4]

(d) ‘Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs.’ (Extract 7)

Discuss the factors considered by the government in making a rational decision to proceed with the above changes in subsidies. [8]

(e) Discuss the extent to which a ‘lifetime of continuing education’ is more effective than ‘10 years of compulsory schooling’ in reducing factor immobility and asymmetric information in the labour market. [10]

[Total: 30]

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Trump's trade war: which of China's neighbours are set to profit?, Financial Times, 3 December, 2018
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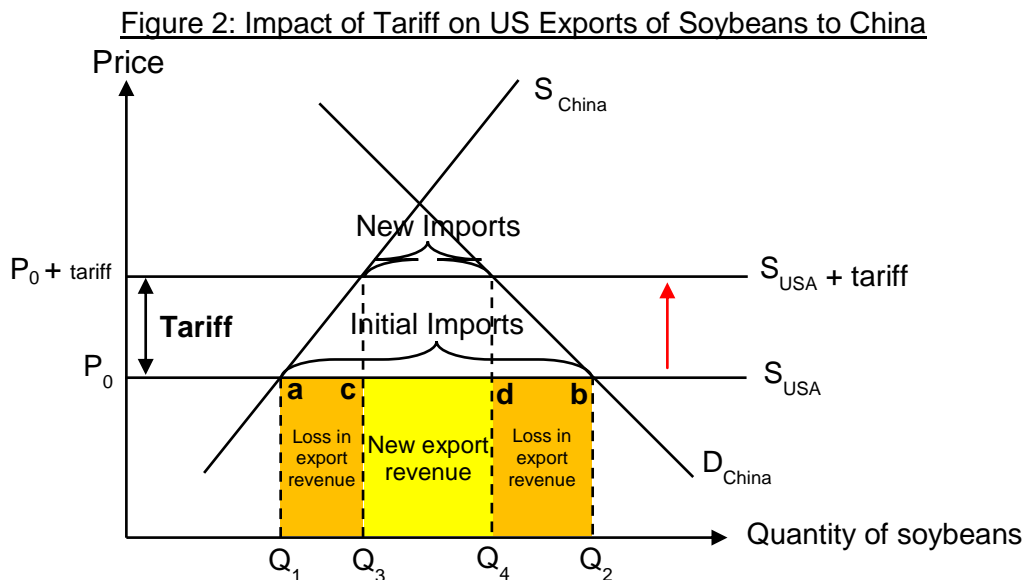
Hwa Chong Institution H2 Economics Preliminary Examinations Suggested Solutions for Case Study Question 1

(a)	(i)	State what happened to the nominal exchange rate of the Chinese Yuan between 2013 and 2016.	[1]										
		<div>Table 1: Change in Chinese yuan per US dollar from 2013 to 2016</div> <table><tr><td></td><td>2013</td><td>2014</td><td>2015</td><td>2016</td></tr><tr><td>Exchange Rate (Yuan per USD)</td><td>6.15</td><td>6.16</td><td>6.28</td><td>6.64</td></tr></table> <p>The Yuan <u>depreciated</u> [1m] (against the US dollar).</p> <p>* Exchange rate <u>increased</u> is NOT accepted.</p>		2013	2014	2015	2016	Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64	
	2013	2014	2015	2016									
Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64									
	(ii)	With a relevant diagram, explain how intervention by the Chinese government could have led to the change identified in a)i).	[3]										
		<div>Figure 1: Market for Yuan</div> <ul style="list-style-type: none">• [1m] – For AWESOME diagram<ul style="list-style-type: none">○ Correct axis○ Supply of Yuan shift right○ USD/Yuan ↓ & quantity of Yuan ↑• [1m] – For correct intervention: Chinese government <u>sell Yuan</u>• [1m] – For correct explanation of the impact of selling Yuan with reference to the diagram drawn: <u>increase supply</u> of Yuan in foreign exchange market, causing the Yuan to <u>depreciate</u>, as shown by the fall in exchange rate in <u>Figure 1</u> from E_1 to E_2, where less units of USD is needed to exchange for a unit of Yuan.											
(b)		Explain how “currency manipulation” mentioned in Extract 1 might widen US’s trade deficit with China.	[2]										
		In Extract 1, “currency manipulation” refers to the deliberate weakening of the Yuan against the USD by the Chinese government/central bank.											

By **depreciating** the Yuan against the USD, **US exports to China** would be **more expensive in Yuan**. If the **demand** for **US's exports** to China is **price elastic**, there would be a **more than proportionate fall in quantity demanded** for **US's exports** and hence **US export revenue** would **fall**, widening US's trade deficit with China [1m].

By **depreciating** the Yuan against the USD, **US imports from China** would be **cheaper in USD**. If the **demand** for **US's imports** from China is **price elastic**, there would be a **more than proportionate rise in quantity demanded** for **US's imports** and hence **US import spending** would **rise**, widening US's trade deficit with China [1m].

(c) (i) Using a tariff diagram, explain the impact of China's tariff on the revenue of US exporters of soybeans to China. [3]



- [1m] – For AWESOME diagram
 - Correct axis
 - Correct impact of tariff (on supply, P & Q) illustrated
 - * Note: labelling of “initial/new imports, loss in export revenue & new export revenue” are NOT required for this 1 mark. They are here for clarity in post mortem explanation to students.

As shown in Figure 2, a retaliatory tariff would **increase** the **price** of soybeans from P_0 to $P_0 + \text{tariff}$. This will **increase** the **quantity** of soybeans **supplied by Chinese farmers** and **decrease** the **quantity demanded** of soybeans **by Chinese consumers**. This **reduces** the **quantity of soybean imports** from US (or US exports to China) from $Q_2 - Q_1$ to $Q_4 - Q_3$. [1m] Given that the **price remains unchanged** for **US producers**, this **reduces** their **export revenue** from $[P_0 \times (Q_2 - Q_1)]$ to $[P_0 \times (Q_4 - Q_3)]$. [1m]

(c) (ii) With reference to the concepts of price elasticity of demand and price elasticity of supply, explain why the impact of the tariff on the revenue of US exporters of soybeans to China would likely be small in the short-run. [3m]

**This question would require student to apply to the given context.*

1m: Identify that Chinese demand for soybeans in the short-run is price inelastic + relevant

	<p>PED factor.</p> <p>1m: Identify that Chinese domestic supply of soybeans in the short-run is price inelastic + relevant PES factor.</p> <p>1m: Link back to why impact on revenue of US exporters would be small. (i.e. less than proportionate change in Q_d and Q_s, limiting the fall in US exports of soybeans to China and hence fall in revenue of US exporters soybean to China is likely to be small in the short-run.)</p>	
(d)	<p>Discuss how far the concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors.</p>	[8]
<p>Introduction:</p> <ul style="list-style-type: none"> - Define “comparative advantage” – <i>A country is said to have comparative advantage in the production of a good when she can produce the good at a lower opportunity cost than another country</i> → each country will then specialize in producing the goods in which they have comparative advantage in <p><u>Thesis: The concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors</u></p> <p>Briefly explain the concept of comparative advantage with reference to the appropriate assumptions – diagrammatic explanation is not necessary</p> <p><i>Focus of explanation is the resource endowment that causes Vietnam to possess comparative advantage in electronics – the essential part of the explanation is the “relative” idea – Vietnam has relatively lower skilled labour costs</i></p> <p>Key concept: <u>Lower opportunity cost</u> of producing electrical and electronics products</p> <p>Static comparative advantage arises due to differences in factor endowment between Vietnam and other countries. Differences in factor endowments lead to differing factor prices which in turn affect the prices of goods and services produced by different countries.</p> <p>Vietnam is relatively abundant in skilled labour since <i>“the country’s workforce growing annually, Vietnamese workers are inexpensive, young, and, increasingly, highly skilled. (Extract 2)”</i> and hence labour costs are relatively lower than other electronics exporting countries such as China where <i>“labour costs in Vietnam are 50 percent of those in China and around 40 percent of those reported in Thailand and the Philippines.(Extract 2)”</i>. Hence Vietnam has a comparative advantage in electronics which requires intensive use of skilled labour compared to other similar countries such as China.</p> <p>Hence, Vietnam will specialize in electronics and electrical products which it possesses comparative advantage in, resulting in Vietnam becoming a “key destination for electrical and electronics products manufacturing” for foreign investors.</p> <p><i>The main thesis argument focusses on factors like domestic resource endowment and if applicable, business friendly environment to facilitate the development of CA – but the main concept is “lower opp cost”</i></p> <p><u>Anti-thesis: Other reasons (besides comparative advantage) can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors</u></p> <p><u>Vietnam has increasingly become a more business friendly environment which has attracted</u></p>		

foreign investors to invest in the Vietnamese economy

Vietnam has also developed a business friendly environment by *“reforming its financial sector, streamlining business regulations, and improving the quality of its workforce (Extract 2)”* This has further enhanced Vietnam’s comparative advantage in electronics as the market conditions present in Vietnam have accelerated the development of the electronics industry by attracting foreign direct investment, especially since *“Vietnam has a zero percent tax on dividends remitted overseas and a low corporate tax rate of only 20 percent. (Extract 2)”*. Over time, Vietnam’s commitment to an attractive business environment for investment has attracted foreign investors, further developing Vietnam as a key destination for foreign investment.

Can also be classified as a factor that enhances Vietnam’s existing CA in electronics

Vietnam has increasingly become a preferred choice for exporters of electronics due to the effects of protectionism in the context of the US-China trade war

Vietnam has benefited from the effects of the US-China trade war and has become a viable alternative to China as an exporter of electronics due to rising costs caused by protectionism. This is seen from the *“a growing number of businesses have relocated their operations from China to Vietnam in an attempt to escape rising costs and an increasingly complex regulatory environment (Extract 2)”* Hence, rising tariffs imposed on Chinese goods has eroded China’s comparative advantage in electronics and has diverted trade towards Vietnam. Relatively, Vietnam’s export competitiveness in electronics has increased due to their comparatively lower factor costs and also less complex business practices, resulting in Vietnam increasingly becoming a key destination for foreign investment.

Can also be explained as Vietnam is further developing CA in relation to China.

Vietnam has increasingly become a preferred choice for investment due to the gradual shift towards trade liberalization in Vietnam

Vietnam’s economy is also steadily becoming more open which allows it to further attract longer term FDI which further boosts Vietnam’s attractiveness as a choice destination for the export of electronics. This is seen in the context of the *“signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and EU-Vietnam FTA (Extract 2)”*, where Vietnam is *“steadily becoming more open to international trade and investment (Extract 2)”*. As a result, Vietnam’s openness to long term FDI has attracted further investment by foreign firms and enhanced Vietnam’s position as key destination for foreign investment.

Important to note that increasing openness to trade only fulfils the conditions for the theory of CA to apply, but does not necessarily influence changes in conditions in Vietnam itself – to some extent can be explained under the Thesis.

Conclusion

- In conclusion, the concept of comparative advantage can explain why Vietnam is the key destination for foreign investments to a **small extent** as the role of other factors is more significant.
- Although Vietnam’s resource endowment of abundance of skilled labour can explain why Vietnam was able to successfully develop comparative advantage in the initial stages of development of the industry, increasingly **other factors prove to be more significant** in retaining the advantage.

- The gradual liberalisation of the Vietnamese economy and adoption of business friendly practices like low taxes on remittance of income and low corporate taxes are factors that enhance the existing comparative advantage that Vietnam enjoys and may be **more significant** than the initial reasons for comparative advantage. This is due to the fact that these longer term structural factors ensure that the comparative advantage will not be eroded and that Vietnam will be a destination for more than one type of investment.
- In addition, the effects of the US-China trade war are likely to be persistent and hence Vietnam's relative advantage in relation to China will continue to increase, further enhancing Vietnam's position as a key destination for foreign investment. Hence the effects of the US-China trade war are likely to be **more significant**.
- Overall, it is **unlikely** that the concept of comparative advantage is the **key factor** to explain why Vietnam is increasingly becoming a key destination for foreign investment.

Mark Scheme

L2: (4-6)	<ul style="list-style-type: none"> • Provides a balanced response (i.e. analyses both how concept of CA and other factors have caused Vietnam to be a key destination for manufacturing for foreign investors) • Covers sufficient scope (i.e. analyses at least 1 factor under the thesis and 1 factor under the anti-thesis) • Applies case evidence to support answers • Applies economic concepts or theories • Demonstrates sufficient depth and rigour in the analysis
L1: (1-3)	<ul style="list-style-type: none"> • Lacking in any of the L2 criteria
E (+2)	<ul style="list-style-type: none"> • Makes a substantiated stand on the extent to which Vietnam's position as choice exporter of electronics can be explained by the concept of CA

(e)	In light of globalisation, discuss the extent to which US economy would benefit from a protectionist stance on trade.	[10]
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Globalisation refers to the integration or **inter-connectedness** of **national economies** through **trade of goods and services**, **foreign direct investment**, **capital flows**, **spread of technology** and **labour migration**.

Thesis: US's economy would benefit from a protectionist stance on trade (arguments for protectionism)

US has **proposed protectionism** as a **response** to the **costs of globalisation**. The **tariffs** seek to **reduce unemployment** in US by *"bringing back manufacturing jobs to the US"* (Extract 3) and **improve** her **current account** and **BOP** by *"reducing its \$552 billion trade deficit with China"* (Extract 3).

BOP

From *Extract 1*, *"decades of free trade policies were responsible for the collapse of the American manufacturing industry and its ballooning trade deficit."* As shown and explained via Figure 2 in part c)i), **tariffs** would **increase** the **price of imported goods**, causing a **fall in imports** via a **fall in domestic consumption** as well as a **rise in domestic production**. The **fall in import expenditure** would **reduce** America's **trade deficit** and hence **improve** her **current account** and **BOP**.

Unemployment

From *Extract 1*, “since China joined the WTO, Americans have witnessed the closure of more than 50,000 factories and the loss of tens of millions of jobs”.

(Alternative evidence from *Extract 1*):

- “decades of free trade policies were responsible for the collapse of the American manufacturing industry”
- “globalisation has brought cheap consumer goods into the country, costing domestic jobs”
- “Outsourcing of jobs to cheaper markets has also been a concern.”

The **increase in domestic production** due to tariffs on imports would **create more jobs** and hence **reduce unemployment**.

BOP & Economic Growth Unemployment Potential Additional Analysis

Furthermore, since the **tariffs on imports** would **not apply to goods made in US**, the **protectionist stance seeks to encourage producers to relocate** their manufacturing plants to US to avoid the tariffs. Doing so would **increase the inflow of foreign direct investments into US**, improving her **financial account and BOP**. With **more goods made locally**, there would **less need for US to import**, reducing her **trade deficit**, improving her **current account and BOP**. With more investments into US, her **AD would rise**, increasing her **real national output** and hence **creating demand for more inputs** such and **labour** as her **economy grows**. Hence, **unemployment in US can fall too**.

**Answer can also consider how protectionism protects domestic firms against unfair trading practices such as currency manipulation and unfair subsidies (Extract 1).*

Anti-thesis: US's economy would not benefit from a protectionist stance on trade (negative & unintended consequences of protectionism)

BOP

- **Globalisation → globally mobile capital & trade → likely trade diversion to other countries such as Vietnam** as explained in part c) → **less imports from China** may be **offset by more imports from Vietnam** → US current account deficit not necessarily reduced
- **Tit-for tat retaliation from China would reduce exports** → US current account deficit not necessarily reduced
 - *Evidence: Extract 3: “Second, the Chinese are likely to hit back at any US action with their own punitive measures. China is also the US' third-largest export market, and one that is expanding rapidly. The Communist Party-linked Global Times warned: “A batch of Boeing orders will be replaced by Airbus. US auto and iPhone sales in China will suffer a setback, and US soybean and maize imports will be halted.”*
- **Beggar thy neighbor effects** in a globalized world: **Globalisation → mutual economic interdependence → reduced trade and economic slowdown in US & China → economic slowdown in other trading partners too → reduced ability of trading partners to purchase US exports** → US current account deficit not necessarily reduced
 - *Evidence: Extract 3: “In an **interconnected world built on a complex web of supply chains and mutual economic interdependencies**, China's trade partners, particularly in east and south-east Asia are likely to be among those hit hardest by the fallout.”*
- **Globalisation → many US companies invest overseas** to tap on the cost efficiencies provided by other countries → **tariffs would reduce their sales or increase their costs** if they have to shift to higher cost but lower tariff countries → **lower profits and dividends**

from investment income → fall in primary income balance → US current account deficit not necessarily reduced

- Evidence: Extract 3: “The US imports machinery, clothing and consumer electronics from China, with a lot of it made by US companies which profit from them.”

- Globalisation → globally mobile capital → tariffs on China would simply shift production to other lower tariff or tariff free countries & export to US → not cause the return of investments & manufacturing jobs to US → US current account deficit not necessarily reduced & its financial account not improve

- Evidence: Extract 3: “Yet, for all that trouble, Mr Trump may not see many manufacturing jobs returning to the US. In industries like textiles, where factories were lost decades ago to China, the jobs will simply move to countries where labour is less expensive, such as Bangladesh and Vietnam.”

Inflation

- Tariffs ↑ price of imports → can ↑ cost of production → SRAS shift left → cost-push inflation
 - Evidence: Extract 3: “The US imports machinery, clothing and consumer electronics from China”

Economic Growth & Unemployment

- The adverse impact on BOP above would reduce exports and reduce US’s AD.
- The cost-push inflation above would reduce US’s SRAS.
- The combined fall in AD & SRAS would cause US’s real output to fall, slowing her economic growth, creating less jobs and possibly increasing unemployment if jobs creation lag behind increase in size of labour force.

Conclusion

In conclusion, the US economy is **unlikely to benefit from a protectionist stance on trade** as it is **unlikely to reduce US’s trade deficit nor bring manufacturing jobs back to US**. In a globalised world, US companies are themselves benefitting from the **greater profitability offered by lower costs from tapping on the global supply chains and higher revenues from foreign consumer markets**. A protectionist stance would deny them from such advantages due to consequences such as **retaliation or beggar they neighbor effects**. While the protectionist stance may be **triggered by unfair trading practices** such as “currency manipulation” and “unfair subsidies”, it is **unlikely that such issues can be resolved simply by protectionism**. Neither does protectionism address the root cause of US’s problem – the **shifting of comparative advantage in labour-intensive manufacturing to nations with cheaper labour**. In light of globalization, instead of turning inwards with a protectionist stance, US should adopt the real solutions of supply-side measures that enhance global competitiveness in her areas of comparative advantage, improving trade relations and addressing alleged unfair trading practices through diplomatic means or arbitration platforms such as WTO.

Mark Scheme

L2: (5-7)	<ul style="list-style-type: none"> • Provides a balanced response that how the US economy would both benefit and not benefit from a protectionist stance. • Aspects of globalization was applied in the analysis. • Analyses with depth and rigor, using appropriate economic concepts • Supports answers with case evidence
L1: (1-4)	<ul style="list-style-type: none"> • Lacking in any one of the L2 criteria
E: (+3)	<ul style="list-style-type: none"> • Provides a substantiated stand as to whether the US economy would benefit from a protectionist stance. • Stand taken is applied to the US context

		<ul style="list-style-type: none"> • Stand takes globalisation into account • To score 3m: demonstrate how costs are more significant and benefits are less significant – evident in both thesis and anti-thesis 		
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Hwa Chong Institution H2 Economics Preliminary Examinations Suggested Solutions for Case Study Question 2

(a)	With reference to Table 3:	
	(i)	Explain what could be inferred from the difference in values between prices of fixed broadband services in USD and PPP\$ for Singapore. [2]
		<p>Singapore: Prices of fixed broadband services is 21.64USD but 25.02PPP\$ <i>*Note there is no difference between USD and PPP\$ for USA.</i></p> <p>Inference:</p> <ul style="list-style-type: none"> ○ <u>SG dollar is undervalued</u> relative to US\$ in terms of relative purchasing power [1m] ○ The underlying reason is <u>COL in SG is lower</u> relative to US [1m]
	(ii)	Explain the difference between using GNI per capita and GDP per capita as an indicator of affordability of internet access. [2]
		<p>Given that $GNI = GDP + NFIA$ where $NFIA = \text{net factor income from abroad} = \text{wages, interest, profits and dividends from abroad}$</p> <p><u>1m for accurate definitions/ highlighting the difference accurately</u> GNI includes income derived by residents from output <u>produced anywhere in the world</u> WHILE GDP measures only factor incomes received by residents from ownership of resources <u>located within the country</u> [1m]*</p> <p><u>1m for link to affordability as below</u> Using GNI per capita as an indicator of affordability of internet access considers the rising number of residents working or investing abroad and having their incomes sent home which may be a more accurate representation of income in today's globalised world and could better indicate affordability as compared to using GDP per capita [1m]</p>
(b)	Using the information in Extract 4, explain how the internet would affect standard of living. [4]	
		<p><u>Positive impact on material SOL [2m]</u> Ext 4: internet's macro benefits to GDP... Every 10 percentage point improvement in broadband penetration increases GDP by 1.3% Analysis: Internet spurs growth in on-line retailing and advertising and hence boosts C and I leading to increase in AD and GDP levels (AD-AS analysis not required; as long as there's some explanation and link to material SOL e.g. in terms of amount of goods & services available for consumption) → raise RGDP per capita, cp → raise material SOL</p> <p><u>Positive impact on intangible or non-material SOL [2m]</u> Ext 4: Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered Internet usage including social networking sites as one type of leisure activities Analysis: The availability on the internet of social networking as a form of leisure and high quality on-line educational courses which improves skills and literacy levels enables the average resident to enjoy a better quality of life → raise non-material SOL</p>
(c)	With reference to Extract 5, explain two economic reasons for government intervention in the market for internet access. [4]	
		<p>1. Efficiency [2m] <u>Identify government intervention from Ext 5:</u> 'The Singapore government will roll out a series of new courses targeted at the elderly, covering topics from the use of e-payment, chat apps and digital government services, in an expansion of the official Silver Infocomm Initiative, which has promoted IT literacy among more than 130,000 seniors.'</p> <p><u>Explain reason for above measure:</u> To reduce info gap</p>

	<p>Ext 5 'proportion of those who do not use the internet because they do not see the need and lack knowledge of how to use it') ($PMB_{perceived} < PMB_{actual}$) \rightarrow imperfect info</p> <p>2. Equity (fairness in distribution of economic welfare) [2m] <u>Identify government intervention from Ext 5:</u> '... provides free internet access in public areas and now reportedly has more than 10,000 hotspots across the city' and '... there are various programmes in place to ensure vulnerable segments of the community can enjoy the benefits of the internet' Ext 4 'UN defined threshold for affordability is 0.5 of average national monthly income. Aim to hit 2% eventually'</p> <p><u>Explain reason for above measure:</u> government views internet access as an essential good for which there must be equitable access to by everyone, hence explaining the aim to increase affordability and narrow the income inequality gap</p>
(d)	<p>'Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs.' (Extract 7)</p> <p>Discuss the factors considered by the government in making a rational decision to proceed with the above changes in subsidies. [8]</p>
	<p><u>INTRODUCTION</u> Clarify 'changes in subsidies' – removal of subsidies for foreigners and reduction of subsidies for PRs for vocation-based master's degrees and post-graduate diplomas offered by autonomous universities (Ext 7)</p> <p>Aim – channel these saved resources to support shorter, industry-relevant modular courses for Singaporeans and PRs e.g. more funding for Singapore's IHLs and \$500 SkillsFuture credit given to every Singaporean above the age of 25 (Ext 6)</p> <p><u>FACTORS CONSIDERED (DM FRAMEWORK):</u></p> <p>1. Constraints limited government's budget for infrastructure for next generation and various sectors of the economy – MOE has limited funds for different programmes, has to choose the best-ranked choice that enables govt to achieve objectives considering the need to maintain long term fiscal sustainability (Ext 7)</p> <p>In other words, S\$25m could be used either for: (a) subsidies for foreigners & PRs for vocation-based master's degrees and post-graduate diplomas offered by autonomous universities</p> <p>OR</p> <p>(b) support shorter, industry-relevant modular courses for Singaporeans and PRs</p> <p>2. Potential relative benefits of (a) & (b) Government views extent of EMB (in terms of contribution to society by jobs demand, productivity, impact on GDP growth) to be lower for (a) vocation/course-based programmes (e.g. architecture & music) as compared to that of (b) industry-relevant modular courses, hence justifying the reduction in subsidies for course-based programmes and rise in subsidies for the latter since $subsidy = EMB$ at Qs</p> <p>The channeling of resources from foreigners to Singaporeans and PRs may also be due to their lower potential contribution to society after graduation as foreigners are at most bonded by a number of years to work in Singapore.</p> <p>3. Potential costs (unintended consequences) Cutting subsidies in vocation-based master's degrees and post-graduate diplomas offered by autonomous universities may lead to lower take-up rate and graduates in these sectors, hence no incentive to improve quality of lessons, breeding inefficiencies in the market for such programmes and affecting Singapore's global ranking as stated in Ext 7: 'If there is a fall in the number of international students, then some faculty members might not see the need to improve the quality of lessons. This could eventually affect our standing in the global rankings'</p>

4. Others

Information:

Higher risk of government failure

Ext 6 'each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship.' → failure to identify the skillset to focus on accurately

OR failure to identify EMB, hence appropriate amount of subsidy accurately

Potential market failure issue (imperfect info - ignorance)

Intended target group may be unaware of such scheme or not fully utilizing such scheme to achieve effectiveness or Ext 6 'arm race of collecting credentials...', not 'picking what is necessary for their upgrading' → under/over-estimate PMB (PMBperceived ≠ PMBactual of CET courses/ micro-credentials)

CONCLUSION

Justify why government decided to go ahead with the changes in subsidies after considering the above factors :

Weighing the potential costs & benefits of decision and reached a rational decision based on benefits > costs

Govt weighed the benefits (2) against costs (3), together with other considerations (1 and 4) and **decided that the net benefit of the changes in subsidies is higher** due to the following:

Government placed higher value on benefits -

- government prioritises macro objectives of employment, productivity, GDP growth of decision → benefits higher

Government places emphasis on 'lifetime of continuing education' in view of changing/ evolving landscape of labour market and feels that the best way forward is to invest more in this area and move away from formal education that are 'purely academic' while facing budget constraints. Hence the decision is in line with their move

AND/ OR

Government placed lower value on costs (ensured costs are lowered/ minimized) -

- Ext 7: 'Noting that unsubsidised postgraduate courses attract many students, the MOE expects such students "will continue to take up courses at our autonomous universities if they see value in the education and training offered'

→ PED for unsubsidized courses tend to be low, even with reduction of subsidies which increase the fees, there would be a less than proportionate fall in quantity demanded for such courses, hence unlikely to affect the intake for such courses

- gathered sufficient info on the identification of emerging areas of growth

→ lower probability/ risk of government failure

- Ext 6 'imparting skills and knowledge needed by industry, and package them into a nice bundle that represents a meaningful upgrading of skills and knowhow' AND Ext 6 'focus on picking up what is necessary for their upgrading'

→ encourages IHLs to provide the required and useful courses as well as target group to be selective in picking of courses (reduce info gap by education)

LORMs

L2 (4-6)	<ul style="list-style-type: none">Balanced response that covers 2 groups of well-explained factors (costs & benefits)Applies relevant economic concepts or theoriesApplies case evidence to support answersExplains with rigour and detail
L1 (1-3)	<ul style="list-style-type: none">Lacking in any one of the L2 criteria
E (+2)	<ul style="list-style-type: none">Gives a summative conclusion on government's decision with justification – able to explain government's decision is based on weighing of potential costs and benefits and considering a number of factors discussed and justify which are the more/ most important factor/s or one that government places higher values/ priority on <p>(Any 1 point under conclusion with justification)</p>

(e)	Discuss the extent to which a 'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in reducing factor immobility and asymmetric information in the labour market. [10]
-----	---

SCHEMATIC PLAN

INTRODUCTION	
BODY	
'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in...	
1. reducing factor immobility in the labour market (labour immobility)	2. reducing asymmetric information in the labour market
Explain how 'lifetime of continuing education' reduces occupational immobility	Explain how 'lifetime of continuing education' reduces asymmetric information in the labour market
Explain how 'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in reducing labour immobility	Explain how 'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in reducing asymmetric information in the labour market
HOWEVER... (address 'extent to which')	
SUMMATIVE CONCLUSION	

SUGGESTED ANSWER:

INTRODUCTION	
Factor immobility and asymmetric information in the labor market represent 2 common types of labour market inefficiency.	
In the context of preparing the best labour force for Singapore that meet the needs of the future economy the government has considered 2 possible approaches: invest more on continuous lifelong education aka 'lifetime of continuing education' vs. compulsory formal education aka '10 years of compulsory schooling'.	
The relative effectiveness of these 2 approaches in reducing immobility and asymmetric information depends on factors such the type or nature of economy and type or profile of the learners/ workers, amongst others.	
BODY	
'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in...	
1. reducing factor immobility in the labour market (labour immobility)	
'lifetime of continuing education' reduces occupational immobility	
Immobility in the labour market refers to the difficulty in moving or switching from one job to another because of the lack of requisite skills. These CET (continuing education and training) courses are designed to help current workforce reskill/ retrain to switch jobs and fill up vacancies or jobs in growing sectors or switch jobs within the same organization. In addition, upskilling or upgrading courses are designed to help workers to improve job/ career prospects e.g. take up managerial or senior appointments.	
Ext 4 'rapid economic growth has increased the demand for skilled workers'	
Ext 7 'new ways must be developed to "continuously train and retrain our people for tomorrow's economy'	
'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in reducing labour immobility...	
<ul style="list-style-type: none"> delivered in short modules thus overcoming possible resistance to picking up new skills or learning for adult learners i.e. addresses possible negative attitude towards training for older workers. Ext 6 'programmes will be delivered as short modules, making them easier for working adults to take' Relevant to their work. CET courses are tailored to meet the changing needs of industry i.e. address right type of courses which will enhance workers' skills and productivity at the workplace Ext 6 'training targeted for 8 emerging areas of growth e.g. data analytics, finance, entrepreneurship Opportunity Costs (OC) of training is lower for individuals Workers can work and earn an income and learn at same time. Compulsory schooling incurs loss of earnings or income especially for breadwinners of households. Ext 7 'going back to school for long courses is a luxury that few can have in today's fast-paced economy' CET courses are highly subsidized by the government. This is a strong incentive for workers to go for reskilling/upskilling to improve their chances of clinching a good job. Ext 6 'subsidised up to 70 per cent for Singaporeans and permanent residents' and '... rest of the fee can be paid using the \$500 SkillsFuture credit...' (Though 10 years compulsory schooling is free in Singapore) 	
Given the all these benefits, CET courses could potentially draw many workers to sign on for training and reskilling provided by IHLs and hence more effective in reducing occupational immobility due to lack of requisite skills to fill available job vacancies.	

In contrast, '10 years of compulsory schooling' is a relatively inappropriate/ inferior approach to train workers to keep pace with the rapidly changing skills set requirements in a dynamic economy. Key drawbacks of such an approach:

- *Knowledge gained from 10 years compulsory schooling can easily become outdated or obsolete especially in the context of a rapidly changing structure of the labour market. It is designed to provide a general education ("purely academic") and not specialized training for a specific type of job. Role of such schooling is to provide a foundation for a person/ individual to embark on further on the job training when the person enters the labour force.*
Ext 7 'beyond the formal school system, new ways must be developed to continuously train and retrain our people for tomorrow's economy'

2. reducing asymmetric information in the labour market

Background:

In the labour market, a common problem is asymmetric information which makes it difficult for prospective employers to find potential employees/jobseekers with the right skill sets. There is asymmetric information in the labour market as employers and potential employees do not have the same amount of information regarding the potential employee's true skill set. Often, the potential employee has an incentive to exaggerate his or her true qualifications in order to clinch the job offer during an interview. Consequently, employers may end up mis-hiring or employing workers who are "misfit" or workers with the wrong skill sets for the job. Such misfits are inefficient and adds very little to the firm's productivity and are therefore very costly to employ.

*'lifetime of continuing education' **reduces** asymmetric information in the labour market...*

*CET courses serve as **credible signals** for prospective employers and it could be effective in reducing asymmetric information in the labour market if workers who have undergone skills training are certified by competent authority e.g. government and conducted by trusted training institutions such as IHLs. The process of collecting certificates as proof of competency is called signaling. In Singapore, IHLs are tasked with issuing "micro-credentials" which can provide credible signals or proof of relevant training chalked up by workers thus saving prospective employers time and cost to screen and hire the right type of workers.*

Ext 6 'micro-credentials can be used to provide "a milestone for adult learners to aim towards and which employers can recognise'

Ext 6 'coursework that could be vocation-based could be delivered in a bite-sized format that can be accumulated and lead to graduate certifications'

Ext 6 'SMU Academy, the university's lifelong learning unit, will be offering financial technology modules that can be "stacked up" towards a Master of IT in Business. The MOE noted that having such courses will give them exposure to an area of interest without having to pursue a full degree'

*'lifetime of continuing education' is **more effective** than '10 years of compulsory schooling' in reducing asymmetric information in the labour market...*

Micro-credentials may be better than O level certificate in sending clearer signal to potential employers that indicate that they are good potential hires, possessing skills relevant to the job. Earning credentials by searching for and completing industry/ job-specific courses signals to potential employers a desirable attribute and the possibility of higher productivity and ability to work better → Lower probability of 'mis-hiring' → closing info gap/ equalizing info

Evaluation (addressing 'extent to which 'lifetime of continuing education' is better than '10 years of compulsory schooling'...)

POTENTIAL DOWNSIDES

1. *Workers may abuse the system by acquiring paper qualifications for its own sake regardless of whether they are relevant to the job. In other words, it may degenerate into a "paper chase" sending the wrong signals to prospective employers and wasting precious time and resources.*

Ext 6 'Mr Ong cautioned that it should not become a new "arms race" to collect credentials'

2. *Opportunity cost and trade offs*

Investment in education is funded by limited resources/tight government budget

As discussed in part (d)

Since, the government has decided to channel subsidies from foreigners' post-graduate education in local universities (S\$25m) to fund CET (part (d)), there is a tradeoff in terms of forgone potential benefits from this pool of foreign talent who may later contribute to driving growth for future new economy.

EV: However, in reality the impact of potential benefits forgone is likely to be minimal as it is stated that unsubsidized

postgraduate courses attract many students and MOE expects such students will continue to take up courses ... if they see value in the education and training offered.

3. Market failure (under-consumption)

Unlike '10 years of compulsory schooling' which is a formal education that is made compulsory or mandatory by government, 'lifetime of continuing education' is not compulsory and hence some workers may not voluntarily sign up or opt for training if they are ignorant of the benefits of such courses i.e. $PMB_{perceived} < PMB_{actual}$

Hence, compared to '10 years of compulsory schooling', there is greater potential information failure leading to greater under-consumption of 'lifetime of continuing education'.

EV: In reality there is so much publicity (information dissemination) and incentives (subsidies) offered to workers that under-consumption of CET courses linked to information failure is unlikely to become a major issue in Singapore.

4. Government failure

Possibility of failing to identify the skillset to focus on accurately by the government as well as at the individual level

Ext 6 'each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship.'

Ext 6 'skills and knowledge needed by industry', 'Learners too, should focus on picking up what is necessary for their upgrading'

SUMMATIVE CONCLUSION

STAND:

On balance despite the potential drawbacks, 'lifetime of continuing education' is likely to be more effective in reducing immobility and asymmetric information compared to '10 years of compulsory education'.

SUBSTANTIATION:

As the Singapore economy continue to restructure in order to stay competitive over time there is constant need for its workforce to adjust to the changing manpower requirements of the economy. In this regard, 'lifetime of continuing education' is clearly more effective in preparing the workforce to meet the changing manpower needs of the economy over time as it provides industry relevant skills retraining and upgrading. In contrast, '10 years of compulsory education' is inadequate in dealing with this challenge as it is designed to provide only general basic education.

For Singapore, it is even more important to embark on 'lifetime of continuing education' as labour is her only natural resource. Singapore needs a productive and efficient workforce to drive future economic growth. The efficiency and productivity of the labour force is very much tied to reducing immobility and asymmetric information in the labour market. Hence in the face of rapid changes in the economic landscape it is best to invest more in 'lifetime of continuing education' to reduce immobility and asymmetric information so as to drive future economic growth for Singapore.

Level of Response Marking descriptors

Marks for Analysis

<p>L2 (5-7)</p>	<p>High L2 (7): For a correct and balanced analysis which covered both labour immobility and asymmetric information issues and has got analytical depth. The candidate is able to demonstrate good understanding and application of the 2 concepts and recognize and explain clearly at least 2 key merits/ drawbacks of 'lifetime of continuing education' <u>in comparison to</u> '10 years of compulsory schooling'.</p> <p>Mid L2 (6)</p> <p>Low L2 (5): For correct answers which has got analytical depth but is lop-sided/focused on only either reducing immobility or asymmetric information. Able to demonstrate sound understanding and application of the 2 concepts to the context. Recognise and explain in depth at least 1 key strength or drawback</p>
<p>L1 (1-4)</p>	<p>High L1 (4): For a correct understanding of the 2 concepts but answer is lacking in analytical depth. Has good understanding of the 2 concepts of but explanation is too superficial. Application is weak and answer is at best sketchy.</p>

	<p>Mid L1 (3): For a correct but sketchy/shallow and lop-sided answer which addresses only either reducing labour immobility or asymmetric information in the labour market.</p> <p>Low L1 (1-2): Mostly descriptive, irrelevant or conceptually incorrect analysis with weak or no application.</p>
Evaluation marks	
E2 (2-3)	For a substantiated or explained judgment based on sound economic analysis.
E1 (0-1)	For an unsubstantiated or unexplained judgment



CANDIDATE NAME

CT GROUP

18

CENTRE NUMBER

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INDEX NUMBER

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ECONOMICS
Paper 2 ESSAY

9757/02
17 September 2019
2 hours 15 minutes

Additional Materials: Answer Booklet(s)

READ THESE INSTRUCTIONS FIRST

Write your **name, CT group, Centre and Index numbers** clearly on every sheet of answer paper that you hand in.

Write in dark blue or black pen on both sides of the answer paper.
You may use a soft HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (where required).

Start each question on a new page in the answer booklet.

Do not tear out any part of this booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12-page answer booklet.

The number of marks is given in brackets [] at the end of each question or part question.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **3** printed pages and a **blank** page.

[Turn over

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1** In his Budget 2018 speech, Finance Minister Heng Swee Keat announced that Goods and Services Tax (GST) will rise from 7 per cent to 9 per cent between 2021 to 2025 as government spending grows. Some have suggested the exemption of basic necessities like food and utilities from the rise in GST to help the lower income households with the cost of living.

Explain how the proposed change in tax policy might impact consumers and producers of different types of goods and services and discuss whether the Singapore government should exempt basic necessities from the rise in GST to help the lower income households.
[25]

- 2** In the era of a sharing economy, technology is used to facilitate the exchange of goods or services between two or more parties, as seen in the case of Airbnb and ride-hailing services. This has lowered barriers to entry and traditional firms are facing new business risks and uncertainties. Some firms have taken the opportunity to increase their output while others have decided to close permanently.

(a) Explain what needs to be considered when a producer makes rational output decisions in view of new business risks and uncertainties.
[10]

(b) Discuss different strategies that could be used by traditional firms when barriers to entry are lowered and how their actions might impact other firms and consumers.
[15]

- 3** In the move towards a more sustainable and liveable city, Singapore introduces a carbon tax rather than tradable permits to incentivise industries which use fossil fuel, such as power stations and oil refineries, to cut their carbon emission and spur the growth of cleaner energy. However, the government will continue its decision of not subsidising the use of solar energy to avoid over-consumption.

(a) Explain the economic case for the Singapore government imposing a carbon tax and not subsidising the use of solar energy.
[10]

(b) Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore.
[15]

Section B

One or two of your three chosen questions must be from this section.

- 4** The British voted in a referendum in 2016 to withdraw the United Kingdom (UK) from the European Union (EU) and this is commonly known as Brexit. This has raised the fear of an adverse impact on exports and foreign direct investment. It has also resulted in an immediate drastic depreciation in the pound that caused inflation to rise above the 2% target, to 3.1% in 2017, adding to the UK cost of living squeeze. This happens at a time of stagnant living standards which has persisted since the global financial crisis.
- (a)** Using the circular flow of income, explain how the Brexit referendum might impact UK's national income.
[10]
- (b)** Assess the extent to which the Brexit referendum would increase cost of living and decrease standard of living in the UK.
[15]
- 5** Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate the Singapore dollar.

Source: *The Business Times*, 24 Jan 2018

- (a)** Explain the internal and external factors that are likely to have contributed to the reported change in inflation rate in Singapore.
[10]
- (b)** Discuss whether you will support a move by the central bank to appreciate the Singapore dollar to reduce inflation even though it might result in unintended consequences for the economy.
[15]
- 6** US and UK have had almost a decade of low interest rates which was between 0.25% and 1.5%. At the same time, economists are advocating for a greater role of fiscal policy to achieve economic growth even as economies adapt to global trends caused by shifting demographics towards an ageing population, rapid technological progress and high levels of government debt.

Discuss whether fiscal policy could play a greater role than monetary policy in achieving economic growth given the change in global trends. [25]

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Hwa Chong Institution 2019 Prelim Paper 2 Suggested Answers

HCI Prelim 2019 Question 1

In his Budget 2018 speech, Finance Minister Heng Swee Keat announced that Goods and Services Tax (GST) will rise from 7 per cent to 9 per cent between 2021 to 2025 as government spending grows. Some have suggested the exemption of basic necessities like food and utilities from the rise in GST to help the lower income households with the cost of living

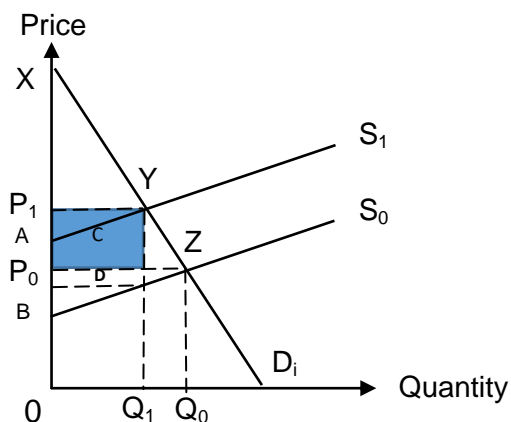
Explain how the proposed change in tax policy might impact consumers and producers of different types of goods and services and discuss whether the Singapore government should exempt basic necessities from the rise in GST to help the lower income households. [25]

Introduction:

- Impact of increase in GST (indirect tax) - increase in supply for goods and services, equilibrium price increases, quantity falls.
- Impact of the tax on consumers and producers depends on the tax burden producers can shift to consumers which in turn type of goods which face the tax (i.e. the differing PED and/or PES values).

Impact of increase in GST on different types of goods

Goods with relatively price inelastic demand



Examples: cigarettes, alcohol

Reason: Consumers are addicted to the products. This means a rise in price from P_0 to P_1 will result in a less than proportionate fall in quantity demanded.

The consumer's share of the tax is given by area C while the producer's share of the tax is given by area D.

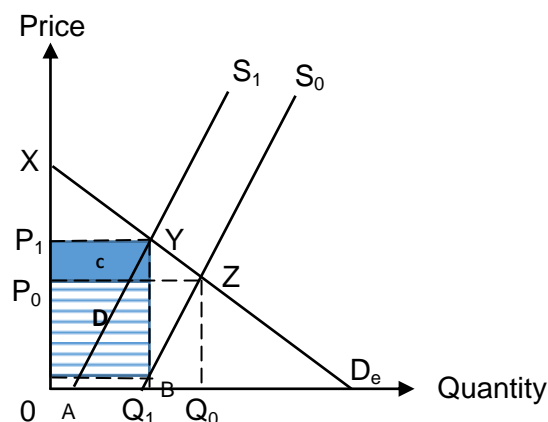
Therefore consumer surplus will fall from P_0XZ to P_1XY

Producer surplus will fall from P_0ZB to P_1YA

Total Revenue will rise from P_0ZQ_0O to P_1YQ_1O

The more price inelastic the demand (or more price elastic the supply), the greater the incidence of taxation on consumers.

Goods with relatively price inelastic supply



Examples: Agricultural produce (e.g. seasonal fruits, vegetables)

Reason: Nature of production – takes a long time to produce the good

This means a rise in price will result in a more than proportionate increase in quantity demanded.

The consumer's burden is represented by area C while the producer's burden is represented by area D.

Therefore consumer surplus will fall from P_0XZ to P_1XY

Producer Surplus will fall from P_0ZB to P_1YA

Total Revenue will fall from P_0ZQ_0O to P_1YQ_1O

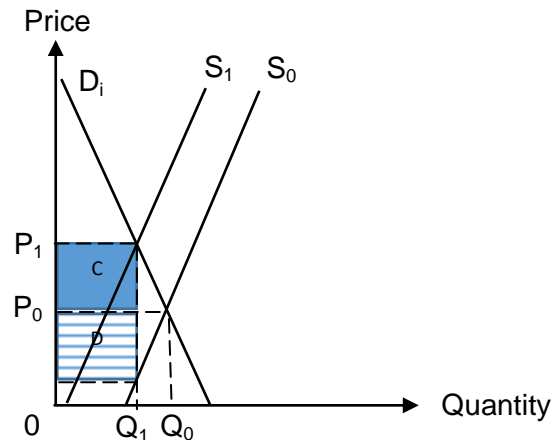
The more price inelastic the supply (or more price elastic the demand), the greater the incidence of tax on the producers.

Discuss whether the Singapore government should exempt basic necessities from GST to help the lower income households with the cost of living

Objective of government: Counter income inequality to help lower income households with cost of living

Issue is about unfair distribution of resources such that a widening income gap results in the lower income households unable to keep up with cost of living.

GST on Market for Necessities



Necessities include staples (e.g. rice, bread), utilities

Such necessities have relative price inelastic demand, and price inelastic supply

With GST, total tax revenue gained from necessities is given by tax per unit multiplied by the amount sold: the sum of areas C and D

(1) Proposed solution: Exempt basic necessities from GST

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

Given GST is indeed less equitable, there is a need to help the lower income households and exemption of GST can help relieve lower income households from the tax burden.

Limitations:

Tax exemption is indiscriminate (i.e. applied across all income groups)

However, with an exemption of GST of necessities on all income groups, the income gap persists. This is because the higher income groups are also able to enjoy the exemption from GST even though the burden placed by the tax is relatively lower than the lower income groups.

Category of goods exempted from GST

In addition, with the exemption of GST on necessities, the loss in government revenue will be much greater (compared to non-necessities) with more price elastic demand and supply. This will have implications on the government budget and hence impede the ability of the government use spending as a means to address its economic objectives.

(2) Alternative solution: No GST exemption for necessities + GST vouchers for low income households

With no GST exemption, necessities will also face the increase in GST by 2% points and all income groups will have to pay the GST on necessities.

- This will help contribute to government revenue.
- This increase in tax revenue from the rise in GST can fund more targeted schemes to help the low income households such as the provision of GST vouchers. In Singapore, the GST vouchers are also progressive in nature as the payout is higher the lower the household income or the smaller the HDB flat that the family resides in.

Synthesis:

GST exemptions on necessities can help address the issue of the regressive nature of GST and the heavier burden placed by the tax on lower income households. However, the fall in tax revenue from the GST exemption on necessities together with all income groups enjoying the tax exemption will limit the government's ability to focus on its objective to counter income inequality due to cost of living. Therefore the use of GST vouchers may be a more targeted approach for the government to consider given that it is not a welfare state.

The effectiveness of this approach depends on the increase in cost of living relative to the value of the vouchers provided, as well as the sustainability of the policy. While GST vouchers can help alleviate the financial burden on the low income households, the root cause of the widening income gap will have to be addressed in the longer term, which in the case of Singapore is primarily due to the widening wage gap between the highly skilled and low skilled workers (heavy reliance on low-wage foreign labour).

Mark Scheme

Level	Descriptor	Marks
L3	Analyse impact of GST on <ul style="list-style-type: none">• both consumers (CS) and producers (PS, TR)• 2 markets with differing PED/PES Provides discussion of GST exemption: <ul style="list-style-type: none">• Explains rationale for GST exemption to help low income households• Analyses limitation of GST exemption Suggests alternative policy of GST vouchers	15 - 20
L2	Analyse impact of GST – any one criteria not met Provides discussion of GST exemption – any one criteria not met	9 - 14
L1	Misinterpretation of question, serious concept errors, descriptive response lacking economic analysis	1 - 8
Evaluation		
E3	On top of E2, analyses factors that could affect effectiveness of suggested alternative	4 - 5
E2	Clear stand + justification on GST exemption policy	2 – 3
E1	Clear stand on GST exemption policy	1

HCI Prelim 2019 Question 2

In the era of a sharing economy, technology is used to facilitate the exchange of goods or services between two or more parties as seen in Airbnb and Grab ride hailing services etc. This has lowered barriers to entry and traditional firms are facing new business risks and uncertainties. Some have taken the opportunities to expand their business while others have decided to close permanently.

- a) Explain what needs to be considered when a producer makes rational output decisions in view of new business risks and uncertainties.
[10]
- b) Discuss the strategies that could be used by these traditional firms when faced with the above mentioned business risk and uncertainties.
[15]

Part a Suggested Answer:

Introduction:

Therefore producers will also be faced with these constraints, need to decide on their highest-ranked choice to achieve their objective which in general, is to maximize their well-being, satisfaction or self-interest of profit maximizing or loss minimizing.

Body:

To first determine the eqm Q in the market:

- Need to show profit maximization to determine Q of the firm.
- Need the diagram with $MC = MR$ condition

To then determine the change in the Q either to increase or $Q=0$ will require the decision-making process requires several considerations (note that it is not how the firm go about increasing output) :

Factors	Elaboration
Constraints	<ul style="list-style-type: none">• Need to consider how constraints may affect the willingness or ability to grow. For instance, government policy may prevent firms from growing (prevent merger) or the amount of financial capital or loans that firms can get access to will also determine if a firm can fund expansion.• So in the case of SG, when the government are very supportive in small and medium enterprises, there are more help and possibilities for these firms to expand.• Firms may also be constrained by their own resources and as much they want to expand, they might not have the capital assets, human network etc to increase Q.• Firms may also be constrained by the market size. If it is a natural monopoly, then a market size could be too small for the EOS to be reaped or if it is a small firm in a monopolistically competitive industry, increasing Q might mean disEOS might set in.
Benefits (Benefits that would enticed the producer to want to increase output / shut down)	<p><u>Possible Revenue advantages</u></p> <ol style="list-style-type: none">1. By become larger, firms can also gain more price setting ability to deter entry and increase market share by engaging in predatory pricing → AR can increase in the long run2. They might be able to get higher market share if their product sells. Their demand might become more price inelastic. Might have lesser substitutes, firms can now choose to increase prices to increase revenue rather than lower prices and thus it is more sustainable method to increase profits, ceteris paribus.3. There is might be still possible untapped demand in market → can easily increase demand for firm's product → by becoming larger, AR can increase. So like the silver

	<p>population or the green movement might bring about new opportunities. And thus a possible chance of increasing the firm's A</p> <p>However, all these will also depend if the retailer has the capability to make its services more attractive to consumers and brands to use their retailing services and products.</p> <p><u>Possible Cost advantages</u></p> <ol style="list-style-type: none"> 1. There might be available internal economics of scale that firms can tap on as they grow large, e.g. marketing EOS where firms can purchase inputs (raw materials) in bulk and bargain for discounts and lower unit prices from brand suppliers or technical EOS will different people specializing in different aspect of the firm like one on improving the platform while other do the marketing and another deals with customer services →lower costs and hence, ceteris paribus, increase profits. (Students will need to elaborate a few points with their examples) 2. Producers will also need to consider the nature of the industry that they in and if the market structure will change due to the risk and uncertainties. If the industry is more for the smaller firms, then MES will be closer to the left, nearer the axis and thus there is no point expanding. However, if the firm is in an industry that could accommodate big firms, then there might be room for more expansion. <p>(Students may show the MES)</p> <ol style="list-style-type: none"> 3. Producers will also need to consider if they will need to invest in new capital goods and if so, they need to determine if they can finance the loans for the investment for example to invest in developing a mobile and online presence. <p>For changing Q to 0:</p> <p>In the long run, there is no fixed cost. All costs are variable costs. As long as the firm foresee that total revenue is unable to cover total cost, i.e., the firm will be making subnormal profits, it will shut down permanently and leave the industry. When a retailer decide to completely exit, it basically winds up all its operations and might feel that he or she can sell off the capital resources thus get the resources free for use in another venture.</p>
<p>Cost (Cost that would deter the producer to want to increase output / shut down)</p>	<p>Growing larger may result in the onset of diseconomies of scale →higher unit costs may lead to lower profits</p> <p>The company might incur higher loss if the continuous to operate.</p>
<p>Other possible factors:</p> <p>Considering different possibilities / perspectives given the new uncertainty and risk/ information issues:</p> <ul style="list-style-type: none"> → They will also need to speculate the condition of the global economy will be, in order to predict the possible returns. The decision will be different when they feel that the economy is slowing down or in a recession as compared to when the economy is recovering or booming. They might also move their target markets as a result too. Like if the original target market was China and they wanted to expand their output there suddenly is trade war, if the company forsee the situation will not be resolve, then instead of China, we might consider another countries like India. If the producer foresee that the intense situation will be resolved, then he might continue. However all these are hard to be definitive and the producers can only try to gather as much information as possible to take a calculated risk. → It will also depend if the producer has the capability to make its services more attractive to consumers and brands to use their retailing services and products in such risky and uncertain times. 	

This is especially so as the barriers to entry in most industries are lowered with the revolution of technology. The firms need to either product developed such that they are at the fore front of the trends or find ways to be resilience of whatever challenges (which is also an unknown) to come.

- ➔ Perspective of rival firms and rival's action in response to the firm growing, i.e. unsustainable price wars with uncertain effects. This is especially so with much disruptive technology and one never know when a game changer might appear. As such, there is always need to gather information and read the competitors behaviour and thus some may resort to commercial spies to gather inside information

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Analyses how rational decisions are made in BOTH shut down and expansion Explains using decision making concepts and theoretical framework Explains with detail and rigor like cost revenue diagrams. Illustrates with relevant examples 	8-10
L2	<ul style="list-style-type: none"> Lacking in any of the L3 criteria 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4

b) Discuss the different strategies that could be used by these traditional firms when barriers to entry are lowered and how their actions might impact other firms and consumers. [15]

Part b Suggested Answers:

Introduction: Will need to look into how traditional firms respond and impact on : 1) other firms 2) consumers

For Ride hailing with ComfortDelgro as the tradition firm example:

	Elaboration
<p>Traditional firm's response:</p> <ul style="list-style-type: none"> Pricing strategies Non-pricing strategies 	<p>ComfortDelgro is likely to operate in a competitive oligopolistic market structure where this is a high degree of mutual interdependence and rival consciousness.</p> <p>With the lower BTEs, new competitors Uber and Grab came into the ride hailing industry. With the price competition, ComfortDelgro also gradually offered fixed price calculated rides. This is the to match the lower price offered by the new competitors.</p> <p>Trend towards e-commerce➔ ComfortDelgro also innovated and product differentiated by offering a variety of experiences for the customers. It moved into mobile platform where you can hail a ride via the app while still maintaining the call in service for the customers. It also still maintains the fixed fare option and also the metered services. With the variety, the company seeks to increase its consumer based and thus increase in AR.</p> <p><u>For the other traditional firms:</u></p> <ul style="list-style-type: none"> Being the price leader, the other smaller traditional firms followed ComfortDelgro also made used of their mobile app to compete with the newcomer Grab. Though the market is now more competitive, they actually lose less than expected. Thus AR decreases less than expected. As they did not have to develop their own app, there was no increase in cost for these firms. <p>Advertising and promotion campaigns ➔ they will offer similar promotions i.e. extensive</p>

<ul style="list-style-type: none"> Other possible strategy: Diversifying 	<p>membership programs and benefits to maintain market share and supernormal profits. Tie-ins with other places like Ezlink to get reward credits, Comfortpoints.</p> <p>A quick look at the company's financial report will reveal that the taxi segment only contributes 33% of total group revenue; Public transport segment, which comprises of buses and rail, is the largest contributing segment with over 60% of revenue.</p> <p>Their annual report will show that Comfort is a leading player in the transport industry: it has a diversified portfolio of transportation services in 35 cities and 7 countries, including Singapore, China, Australia, UK, Ireland, Vietnam and Malaysia, with the overseas segment contributing 36% of total revenue.</p>
<p>Effect on:</p> <ol style="list-style-type: none"> Other firms Consumers 	<p><u>For the new ride hailing services</u></p> <ul style="list-style-type: none"> this is a retaliation from the traditional firm to match their prices. At first Uber and Grab engaged in the price war among themselves and also against the traditional firms. However, when Uber and Grab merged to become one, market prices in the market started to stabilize. <p>These demonstrated the price stickiness in this industry. This can be explained by the kinked demand curve theory. In the kinked demand theory, it is assumed that rival firms will match any price decrease initiated by any one firm among them, but will not match any price increases. In the long run, since any price changes results in less total revenue than before, any oligopolist would have no incentive to alter the market price.</p> <ul style="list-style-type: none"> Grab started to diversify into other business to have a range of revenue stream rather than relying on ride hailing business as a non- price strategy. <p><u>Consumers:</u></p> <ul style="list-style-type: none"> With greater competition and lowered price, the industry moved to a more efficient level. As such, consumer will enjoy greater consumer surplus. There is increase consumer welfare due to the innovation. There is greater variety in consumer experiences and also with Grab's diversification, consumer enjoy greater link-up with other services. Consumer surplus diagram needed. <p>Note : There should be the use of cost revenue diagram at least once in the entire analysis.</p>
Conclusion	<p>With the lowered BTEs, the greatest beneficiary is the consumers who enjoyed lowered price and better services.</p> <p>Price competition will only be temporary until the market stabilized. Non price strategies are the long run approach to maintain their market base.</p> <p>Effectiveness of the different strategies will work differently for different firms and different industries. Even political situation and</p>

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Analyses 1) strategies 2) impact on other firms and 3) impact on consumer Uses the example of Airbnb or Grab or even give their own examples Analyses the impact using economic concepts or theory Explains with the situations and their responses in detail and rigour (diagrams?) 	8-10
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4

E3	<ul style="list-style-type: none"> • Takes a stand on the overall strategies that a producer could adopt • Substantiates stand with convincing arguments that compares most of the points covered 	4-5
E2	<ul style="list-style-type: none"> • Takes a general stand on the overall • Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

HCI Prelim 2019 Question 3

In the move towards a more sustainable and liveable city, Singapore introduces a carbon tax rather than tradable permits to incentivise industries which use fossil fuel, such as power stations and oil refineries, to cut their carbon emissions and spur the growth of cleaner energy. However the government will continue its decision of not subsidising the usage of renewable energy option such as solar energy to avoid over-consumption.

- (a) Explain the economic case for Singapore government imposing a carbon tax and not subsidising the use of solar energy. [10]
- (b) Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore. [15]

Introduction: The decision to impose carbon tax and not subsidizing renewable energy option such as the use of solar energy is meant to encourage more **efficient allocation of resources**.

Reason for carbon tax:

Carbon tax will reduce emission of greenhouse gases by heavy industries such as power stations and oil refineries.

Explain external cost on third party due to over-production associated in the production of oil refineries. There would be a divergence between PMC & SMC.

With a diagram, show how a carbon tax helps to reduce the production of oil refineries to the socially efficient level, thus resulting in the decreased emission of greenhouse gas.

Reason for not subsidising renewable energy options such as solar energy

Government would like to subject the renewable energy industry such as the use of solar energy to market forces so that resources will be efficiently allocated.

Assuming there is no EMB in the consumption of solar panel, price mechanism is able to allocate resources efficiently when $PMC = PMB$ or when $SS = DD$.

Government subsidy in the use of solar energy would intervene in resource allocation or the price mechanism resulting in an artificially low price. This could lead to over-consumption on the part of consumers. Moreover, subsidy would beget complacency in renewable energy production as cost is reduced artificially via subsidy rather than through productive efficiency.

Conclusion

The implementation of carbon tax on heavy industries such as power stations and oil refineries served to reduce the emission of greenhouse gases and achieve a more **efficient allocation of resources**. In a similar vein, government did not subsidize renewable energy as it believes that price mechanism would be able to allocate resources in this market more efficiently as compared to the **possibility of misuse or wastages** when price is distorted if subsidy is given.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none">Using Cost-Benefit analysis diagram, explain why government imposed carbon tax to internalize the EMC of carbon emission.Explain how without government intervention, price mechanism works perfectly in the solar energy market.Explain how subsidies can lead to price distortion (under-price) and over-	8-10

	consumption & wastage in the solar energy market. • Explain that the decision to tax ie intervening in the price mechanism and not to subsidize ie not intervening in price mechanism, are both on the ground of allocative efficiency	
L2	• Lacking in any one of the L3 criteria	5-7
L1	• Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors	1-4

[b] Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore. **[15]**

Introduction

Explain how carbon tax & tradable permits work

Carbon tax is an example of a market-based approach as it relies on the use of the price mechanism. In the case of negative externalities in the context of power stations and oil refineries, the misallocation of resources arises as the free market cannot price in externalities in conjunction with the emission of greenhouse gases and thus under-priced the good, resulting in over-production. A carbon tax on these industries improves resource allocation because it helps the market price in external costs so that the full social costs is accounted for by consumers and producers.

Tradable permit is sometimes called a “Cap and Trade” system. The government places a “cap” (i.e. quota or limit) on the total permissible level of pollution. The government will estimate the socially efficient level of emission before it decides on the corresponding number of permits to issue to individual firms. The permits give the firms the legal ‘right’ to pollute. Firms are allowed to pollute up to the permitted level.

In order to assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore, the government needs to consider their respective **pros & cons** and the **ease of implementation** in the context of a small country.

Examining the appropriateness of carbon tax & tradable permit in reducing the emission of greenhouse gases in Singapore

Pros of carbon tax: Government will gain in terms of more tax revenues collected

R&D sectors on clean energy will benefit if more funds can be channelled to innovation to reduce greenhouse gas emission.

- Firms can also be incentivised to reduce carbon emission or switch to cleaner energy if different tax rates are imposed based on the quantity and types of greenhouse gases emitted. However, this would mean more complex calculation & higher administrative cost

Carbon tax would be more appropriate as it provides the funds towards achievement of sustainable growth. As carbon tax revenue is collected by the government, this will provide the necessary funding to spur the growth of the clean energy sector as well as subsidize other measures to reduce greenhouse gas emissions.

Pros of tradable permits: encourage reduction of greenhouse gases

In contrast, tradable permits approach is a quota system which allows firms which are given permits to pollute to sell their excess or unused permits to other firms. This measure provides an incentive for polluting firms to cut back on pollution e.g. adopting green technology. Firms that can cut back on pollution stand to benefit from selling their unused. Typically, such firms are those with lower pollution abatement costs than other firms. This

will attract more investment into green technology which can contribute to actual and potential growth of Singapore.

Evaluation on the appropriateness of carbon tax and tradable permit:

Being a market-based approach, carbon tax is feasible and require less monitoring. The revenue collected can help subsidize innovation on clean energy.

On the contrary, there would be too few firms in Singapore to support carbon trading method, making it less appropriate. This problem is not an issue in big economies such as the US and the EU where they have pioneered the launch of pollution permits (carbon trading) to curb air pollution from air-travel and electricity generations plants. Moreover, tradable permit method could not reduce pollution in the case where profitable firms which have high clean-up costs, would rather pay for tradable permit and continue to pollute.

Note: For the case of carbon tax, some may argue that firms can always pass on the cost of higher tax to consumers if dd for their output is price inelastic eg power stations & oil refineries. Hence, there may be less incentives to switch to cleaner energy. Impact of higher energy cost is greater on the lower income group. To correct such inequity, government can provide more tax rebates example, in electricity usage to consumers according to housing types (2 rooms, 3 rooms etc).

Cons of carbon tax: erosion of export competitiveness of related industries & difficulty in determination of tax rate

Carbon tax add on to business cost of certain export-oriented industries thereby erode their export competitiveness. In view of the significance of electricity & oil as a form of energy, business cost may increase, resulting in cost push inflation if the tax is high. This tax will result in the loss of Singapore export competitiveness if a similar tax is not imposed by her trading partners. Moreover, as trade is an important engine of growth, the imposition of this tax will increase the price of ship transportation and air-freight if the maritime and aviation industries have to bear this added cost. Moreover, tourism in Singapore will be adversely affected if airlines pass on this cost to consumers. Depending on the extent of the tax and its impact on export-oriented industries, Singapore's BOT & growth can be adversely affected.

Evaluation: Erosion of export competitiveness on related industries can be mitigated if the carbon tax is not excessive

For the carbon tax to be effective, **researcher** proposed that there should be **different tax rates** on different greenhouse gases. Certain gases can be more damaging than others. For example, **methane**, is actually much more damaging than carbon dioxide. If the same tax rate is imposed on all industries, certain industries might lose out because it is not **equitable**.

However, it is administratively costly to impose different tax rates for firms with different types and quantities of pollution. EMC is difficult to estimate as the harm to 3rd parties due to emission of greenhouse gases is difficult to measure in monetary term. Hence, government may over or under tax.

Cons of tradable permits: Difficulties in issuance of permits & Enforcement Cost

To ensure that firms comply with the **pollution/tradable permits** issued, there must be effective monitoring and enforcement. Otherwise firms can flout the rules and pollute beyond their allocated quotas.

However, it is difficult for most countries to ascertain how much greenhouse gases the environment is able to accommodate. The task is much harder for a small country like Singapore as its airspace/atmosphere is limited and hence **air quality monitoring** and the **source of pollution** is much more difficult when subjected to wind.

Evaluation:

There are difficulties in estimating the amount of carbon tax to impose or the quota of tradable permits to issue. Nevertheless, implementation of carbon tax is more feasible since regardless its amount, the tax serves as a signal to all parties that the government is serious about fighting climate change. Moreover, as a market based solution, using carbon tax to internalise the externality requires no monitoring as it relies on the use of the price mechanism.

On the other hand, as a command and control measure, not only does tradable permit require close monitoring, there are also **too few firms** within Singapore's domestic sector to support this option - making it less appropriate.

Overall Synthesis & Conclusion:

Although certain industries such as power stations, oil refineries, and heavy industries that are fuel/energy dependent (eg petrol-chemical, steel, maritime and aviation) would experience a fall in profits as their COP will increase due to carbon tax, they may be incentivised to restructure by reducing carbon emissions or to adopt clean energy. Moreover, the revenue from a carbon tax can be used to fund or subsidize research in clean energy. In short, the gain by the clean energy sector and the **long term benefits** to society at large would **far exceed the short term loss** in related sectors that bear the cost of the carbon tax. Finally, the most important reason for **carbon tax** being **more appropriate** than tradable permit is because Singapore's **domestic market is too small** to support the implementation of tradable permit. The **smallness of the economy** and hence **limited number of firms** would make **trading of permit not viable**. In view of the aforementioned evaluation, **carbon tax will be a lot more appropriate** than tradable permit in reducing the emission of greenhouse gases & making Singapore a **more sustainable and liveable city**.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Explain and compare the pros & cons in how carbon tax and tradable permits work in reduction of carbon emission Identifies and explain the difficulties in the implementation of both methods in terms of measuring EMC and hence the corresponding valuation of tax & quantity of tradable permits to be issued respectively. Explain the feasibility or viability of each method 	8-10
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> Evaluates the pros & cons & feasibility of carbon tax & tradable permits in the context of Singapore. Substantiates with relevant and convincing arguments 	4-5
E2	<ul style="list-style-type: none"> Evaluates the pros & cons & feasibility of carbon tax & tradable permits Substantiates with arguments that are <u>not</u> entirely relevant nor convincing 	2-3
E1	<ul style="list-style-type: none"> Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

HCI Prelim 2019 Question 4

The British voted in a referendum in 2016 to withdraw the United Kingdom (UK) from the European Union (EU) and this is commonly known as the Brexit. This has raised the fear of an adverse impact on export and foreign direct investment. It has also resulted in an immediate drastic depreciation in pound that caused inflation to rise above the 2% target, to 3.1% in 2017, adding to UK's cost of living squeeze. This happens at a time of stagnant living standards which has persisted since the global financial crisis.

- a) Using the circular flow of income, explain how the Brexit referendum might impact UK's national income. [10]
b) Assess the extent to which the Brexit referendum would increase cost of living and decrease standard of living in the UK. [15]

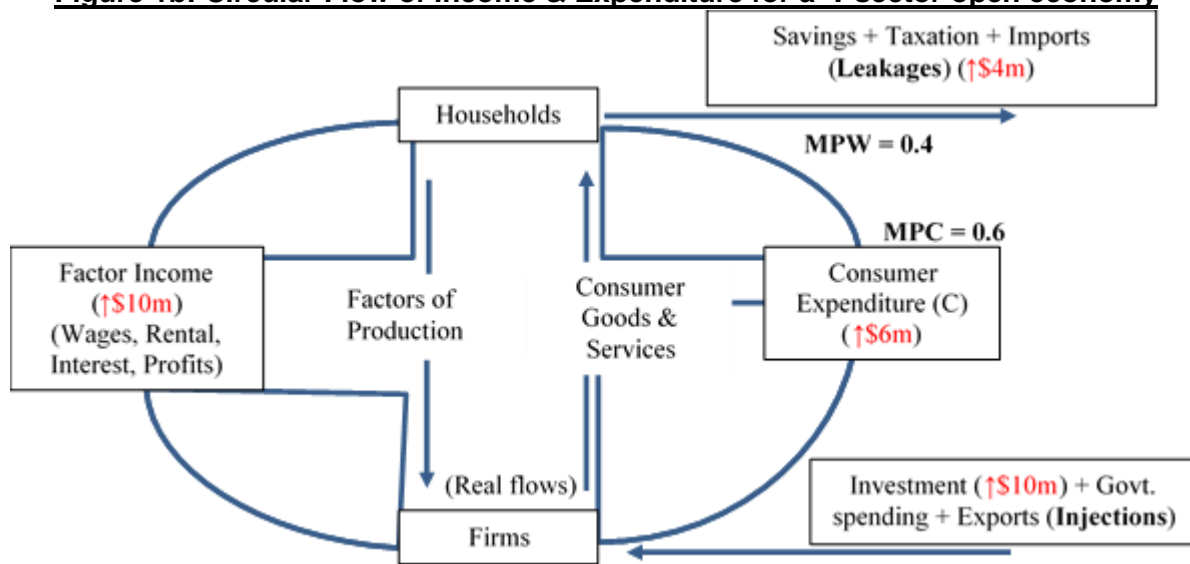
Suggested answer for Part a:

Introduction:

The real world economy is often represented by a 4-sector model. a 4-sector real world model is made up of the following 4 sectors: (1) Households (2) Firms (3) Government (4) External or Foreign Trade

Body:

Figure 1b: Circular Flow of Income & Expenditure for a 4-sector open economy



Withdrawals and Injections

As seen in the analysis, **withdrawals** (W) are leakages from the circular flow. This happens when any income from households is not passed to firms or vice versa. The effect of any withdrawals is to cause the flow of income to CONTRACT or diminish. From the circular flow diagram above, these incomes could “leak out” of the flow for the following reasons:

1. Savings (S) e.g. household savings or business/corporate savings
2. Taxes (T) e.g. personal income taxes or corporate taxes
3. Import Expenditure (M) e.g. purchases of goods made from other countries

In the real world, not all of the household's income is spent on consuming goods and services produced by the firms. Some are withdrawn in the savings, taxes and imports. Savings is the income that households choose not to spend but to put aside for the future. These are normally deposited in financial institutions such as banks. Part of household's income is paid out as taxes to the government. Some taxes are such as personal income taxes are levied directly on a person's income. The last leakage from the circular flow diagram is the imports where income from households that is spent on imported goods and services. Although the money that households spend initially flows to domestic retailers, it will

eventually flow abroad either when the retailers or wholesaler themselves import them or when domestic manufacturers purchases imported inputs to make their products.

On the other hand, **injections** (J) are any spending that comes from 'outside' the flow. They are basically autonomous spending that is not dependent on the current level of income. The effect of any injections is to cause the flow of income to EXPAND. Injections occur for the following reasons:

1. Investment (I) e.g. purchase of real capital goods (exclude stocks and shares)
2. Government expenditure (G) e.g. spending on building of roads or infrastructure
3. Export Revenue (X) e.g. sales of goods to other countries

In a four-sector economy, we also note that the demand for firm's output arises not only from household expenditure but other injections such as investment, government expenditure and exports. Investment is the money that firms spend on machineries, equipment or on building up stocks of inputs, semi-finished or finished products. Government also spend on goods and services of firms. Some examples of these are spending on roads, hospital and schools. The last injections is export expenditure which flows into the circular flow from overseas market when foreigners buy our export.

Based on the preamble:

- 1) Export had fallen.
- 2) FDI into the economy have fallen

Assuming the UK's circular flow is at first at equilibrium, with the fall in export injection and rise in leakages, firms will respond to this by using less factor resources such as labor and thus pay our less income to households. Households consumption will then fall and the firms will sell less. Firms in turn again will respond by producing less and employ the use of even lesser factor resources. This means that the household income will fall again. Consumption and production will fall again and so on. There will be a multiplied fall in incomes and employment. This is known as the multiplier effect.

This is where an initial fall in aggregate demand for example of \$10 billion leads to an eventual fall in national income that is greater than \$10 billion. The process however does not continue forever. Each time households' income falls, the households save less, pay less taxes and buy less imports. When injections have fallen to match the fallen withdrawals, equilibrium will be restored and national income will stop falling.

First Round

When there is an autonomous decrease in investment of \$10m into the circular flow,

- First, \$10m fell for the goods markets for the fall in exports.
- Second, this \$10m is revenue fall for the firms for this production.
- Third, this \$10m worth of fall will also be affecting the business sector as factor payments to the resources that produce the capital goods.
- Fourth, this fall of \$10m of factor payments becomes a fall in income of the household sector who are concurrently the resource owners.
- Fifth, the fall in \$10m of income is will then induce a fall in consumption (\$6m) and withdrawals in terms of savings, taxes and imports (\$4m) based on MPC=0.6 and MPW=0.4.

Second Round

The fall in \$6m worth of consumption expenditures will again be experience in the circular flow resulting in another round of aggregate production, factor payments, income, and consumption. And so the process continues until injections have fallen to match the fallen withdrawals, equilibrium will be restored and national income will stop falling.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none">• Analyses how circular flow is affected with Brexit given the preamble• Explains using economic concepts and theoretical framework• Explains the rounds of K process with detail and rigour• Illustrates with relevant examples•	8-10
L2	<ul style="list-style-type: none">• Lacking in any of the L3 criteria	5-7

L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4
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b) Assess the extent to which the Brexit referendum increase the cost of living and decrease the standard of living in the UK. [15]

Suggested answer for Part b:

On the increase of cost of living:

<u>Introduction</u> Definition of SOL, COL and economic growth	<p>SOL measures the level of wealth, comfort, material goods and necessities which individuals can enjoy and also the level of happiness in the country they are living.</p> <p>The qualitative or material aspects of SOL is affected by the quality and quantity of goods and services consumed while the quantitative or non-material aspects of SOL is affected by leisure, absence of pollution, life expectancy, standard of education and other social factors.</p> <p>COL is the cost of maintaining a certain level of SOL.</p> <p>COL is affected by the changes in the general price level in the economy, usually measured using consumer price index (CPI), looking at the general basket of goods.</p>
<u>Body</u> Explanation of the link between COL and General Price Level (GPL)	<p>As explained before, the COL in a country is dependent on how the GPL is changing with. GPL changes will depend what happens to the economy. Based on the preamble, there is depreciation of the currency which affected inflation drastically.</p> <ul style="list-style-type: none"> • If GPL increase is due to increases in AS from imported inflation from the depreciation, AS will decrease and RNI will actually fall. This case, RNI will definitely fall. • This is especially so as Pound had drastically depreciation. This means that basic imports and import of primary or intermediate goods would cost more in Pounds now. • However GPL may not increase if AD fall drastically with the fall in X and I in fear of the Brexit. • This will mean that the cost of purchasing the standard basket of goods had really increase in the country for an average person. This means that in order for a person to maintain the consumption of the same basket of goods, the person will need to pay more now. • However if the person's consumption basket is different from the standard basket taken into consideration for the calculation, the effect might be different.
Overall impact	<p>COL will definitely have increase for an average person as GPL have increase given the evident of inflation rate rising to 3.1% . RNI i.e purchasing power will fall.</p>

On the impact on SOL:

Explanation of the link between COL and SOL	<p>The level of SOL is affected by the COL in a country.</p> <ul style="list-style-type: none"> • This is because the COL or general price level in an economy affects the real purchasing power of income which affects the level of material SOL. • Therefore, the higher the COL, the lower the SOL, ceteris paribus and vice-versa. • For example, if the COL is rising faster than the nominal income is rising, SOL fall as the real income level falls. Or
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	if COL is rising, households will need a higher level of nominal income to maintain their current level of SOL.
Negative Impact	Positive Impact or other points needed
Material Aspects of SOL	
<ul style="list-style-type: none"> AD might fall if the gloomy expectation (affecting C and I) and negative impact on I is very big to negate the rise in X. With the RNI falling, and inflation squeeze, the UK people will really be suffering a drastic drop in their purchasing power. Imported inflation might be so high that the SRAS (COL part) might shift more than the AD and RNI will actually fall. It could also be AS falling resulting in RNI dropping <ul style="list-style-type: none"> Massive cyclical unemployment might occur. <p>Note: Students will need to demonstrate the AD-AS at least once with diagrams either in the COL or SOL part.?</p>	<ul style="list-style-type: none"> Being a developed country with ageing population, the real GDP per capita may still increase if population growth is slower than the low GDP growth. Though this increase might be insignificant. Thus purchasing power may still increase, though by only a little bit if automatic stabilizers kick in and transfer payments are given to the workers who became unemployed as now they no longer need to pay taxes on the welfare benefit. <p><u>Other points</u></p> <ul style="list-style-type: none"> With RNI decreasing, despite much possible unemployment, the income distribution might have improved. More unemployment benefit would have been given out. As it is a welfare economy, the unemployment benefit given out could be even higher than when they were having a job especially given that the benefits are not taxed. And now there might be better distribution of income. Composition of RNI matters. If there is a fall but due to the fall of I, then the current consumption level of goods and services may not be affected. In fact, if export had fallen, it could also mean more is now available for the domestic markets instead of being sold abroad. <ul style="list-style-type: none"> Composition of individual's consumption is also important. The COL will be affected if the individual consume similar basket of goods as the consumer price index. However, if the basket of goods included cars and fuel, which the lower income will not consume, then they may still maintain their SOL. These people could be using public transport etc.
Sub-conclusion for mSOL:	
<ol style="list-style-type: none"> Overall mSOL may increase. As although growth is slowed, but real GDP is increasing. This actual purchasing power is still increasing but slowly with a more even income distribution. Overall mSOL may decrease due to the high level of unemployment from the mass offshoring by companies and given that previously the SOL had been stagnant. 	
Non – material SOL	
<ul style="list-style-type: none"> A lot of fear and uncertainty of the future that makes life more stressful. Many riots and protest had resulted. <u>High chances of a no deal Brexit coupled with political instability</u> 	<ul style="list-style-type: none"> The feel of national autonomy and pride: <ul style="list-style-type: none"> The ability to take back some control of national security back like immigration border controls etc back. The ability to have better control on economic policies like MP (if they have to give up their own currency eventually), trade related policies, etc

where the prime minister keep changing from David Cameron to Teresa May and now Boris Johnson.	
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Final Conclusion:

The basket of goods that people consume need not be the same as the basket of good used to compute the consumer price index. The degree of impact on purchasing power on the consumer will depend on what the people consumer. At the same time, there is a lot of uncertainty of how the material SOL will turn out. Even though many are pessimistic, the GDP is still growing though at the lower rate. This does not mean that the consumption level had increased due to the massive job losses etc. Given the psychological fear and worry are really overwhelming on top of all these, overall SOL might actually have worsened.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Analyses BOTH COL and SOL (Both mSOL and non-mSOL) with considerations of the preamble (need to consider the weighting of marks for the 2 parts) Analyses the impact using economic concepts or theory Explains with detail and rigour Explains using relevant diagrams (need to discuss if it is a must have during standardization) 	8-10
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criteria 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> Takes a stand on the overall COL and SOL Substantiates stand with convincing arguments that compares most of the points covered 	4-5
E2	<ul style="list-style-type: none"> Takes a general stand on the overall Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points 	2-3
E1	<ul style="list-style-type: none"> Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

HCI Prelim 2019 Question 5

Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate Singapore currency.

Source: *The Business Times*, 24 Jan 2018

(a) Explain the internal and external factors that are likely to have contributed to the reported change in inflation rate in Singapore.

[10]

(b) Discuss whether you will support a move by the central bank to appreciate Singapore currency aimed at reducing inflation even though it might result in unintended consequences for the economy. [15]

(a) Introduction: Define inflation, state types (DD pull, Cost push or statutory factors)

2017 – Inflation rate was positive ie increase in rate of change in GPL

Internal factors:

Increase in price of **property and cars** (if weightage is high for the price index of these items, it may affect the Inflation rate as measured by % change in CPI). The over-heating of the private property market could be caused by speculative demand while the control of car population using COE is statutory in nature.

Restrictive Immigration law on foreign labour could increase wage cost, giving rise to cost push inflation

External Factors:

Cost push: increase in price of imports such as oil & food as in 2008. Oil price can increase depending on the SS policy of OPEC countries. If the oil cartel agree to restrict output to raise price, cost of crude oil will rise. Food price can increase due to SS shock which is affected by the vagaries of nature eg drought, flood & extreme weather caused by climate change.

DD-pull: Higher demand for Singapore exports resulting in greater competition for scarce resources => exerting an upward pressure on GPL as economy has little spare capacity or is near to full employment level.

COMBINED EFFECT (Draw Diagram)

Positive Inflation rate in 2017 :

AD increase & AS fall or $AD \uparrow > AS \uparrow$

(global sentiments are still optimistic as US-China trade-war had not intensified, leading to vibrant export sectors). Higher productivity resulting in lower COP can dampen the increase in price => **modest** increase in rate of increase in GPL as in preamble.

$AD \uparrow > AS \downarrow$ (higher business cost due to increased energy and labour cost can add on to inflationary pressure).

As economic recovery is not in full swing, the **pace** of price increase is **modest**.

Conclusion

The internal source of inflation in 2017 are statutory in nature in conjunction with government's attempt to restrict car population and inflow of foreign labour. The external sources of inflation in 2017 can be recovery of export demand or supply shock in the form of fall in SS of essential items such as oil or food.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • High L3 if students can explain <u>modest pace of price increase</u> clearly • Explain internal sources of inflation in Singapore by linking to statutory issues in relation to private property, cars or foreign labour • Explain external sources of inflation linking to either cost-push or dd-pull • Explanations are rigorous and detailed • Illustrate using clearly drawn diagram(s) 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which is lacking in application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4

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Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate Singapore currency.

Source: The Business Times, 24 Jan 2018

(b) Discuss whether you will support a move by the central bank to appreciate Singapore currency aimed at reducing inflation even though it might result in unintended consequences for the economy. [15]

Introduction:

Key Issues & Approach – shows **CONTEXT** in which decision of appreciation is to be made

- In 2017, inflation rate is positive and GPL expected to continue to rise modestly.

Body:

Explain how appreciation can have positive or negative impact

Appreciation or GRAMA policy helps tackle :

Imported cost push inflation => If the cause of the price increase is due to **higher cost of imports**, appreciation can mitigate cost push inflation.

Elaboration: Imported input would be cheaper in domestic currency after appreciation.

DD pull inflation => If economy is already at full capacity. Appreciation can **cool down** the over-heated economy and reduce the upward pressure on price.

Evaluation: DD pull is unlikely given the context that inflation has just turned positive from negative in 2017.

However, there is unintended consequences:

Appreciation would result in $P_x \uparrow$ in terms of foreign currencies in foreign markets. If $PED_x > 1$, $TR \downarrow$ as Q_{ty} falls by a greater proportion => adversely **affect BOT** => **fall in NI**

Appreciation of S\$ can affect the export-oriented sectors adversely if exports become less price competitive. This can lead to **retrenchment and unemployment**. => **fall in SOL**

Evaluation:

- However, Singapore can make its exports less price elastic by **SS side policies** ie improving the quality of its products via innovation etc which garners brand loyalty and reduce its substitutability.
- As current exchange rate policy is likely to be zero appreciation, it can be deduced that the global economy is experiencing slow growth & hence the threat of high import cost is low => mitigation of imported cost-push inflation is not applicable.

Other possible adverse effects:

If appreciation is to a great extent and at rapid pace: can result in higher cost for foreign investors to set up business ventures in Singapore. This will adversely **affect inflow of FDI, affecting financial account & BOP & job creation => employment opportunities.**

Evaluation : extent & timing of appreciation

The adverse impacts on growth, BOP and employment would be reduced if the appreciation is **gradual and modest**.

Moreover, the **timing** of the appreciation is significant. If the inflation rate has turned from negative to positive in 2017 due to **DD pull factors**, GRAMA can help mitigate the inflationary pressure by reducing the rate of dd for Singapore exports (Px will be less competitive). However, if the recovery of export demand is weak and the currencies of major trading partners have depreciated, the move to strengthen S\$ will make Singapore's exports to be much more expensive vis a vis substitutes from countries whose currencies have depreciated. This would dampen the recovery process in the export sectors.

Synthesis & Conclusion

Appreciation of S\$ would be supported if the source of inflation in 2017 is due to higher cost of imported input. However, if the inflation is mild and dd pull in nature, appreciation by a **large extent** would derail the recovery of the export sectors by making the price of its exports less competitive. The move to appreciate S\$ would be **supported only if** it does not cause its exports to lose too much of its price competitiveness. Generally **modest and gradual appreciation** would be supported if it can achieve the macro goals of low inflation, growth, employment & healthy BOP when supplemented by SS side policies.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none">Analyses the reasons for supporting appreciation AND unintended consequencesProvides a balance response that analyses the timing AND extent of appreciation which would be beneficial or detrimental to the Singapore economyAnalyses the approaches using economic concepts or theoryExplains with detail and rigourIllustrates with relevant diagrams and examples	8-10
L2	<ul style="list-style-type: none">Lacking in any one of the L3 criteria	5-7
L1	<ul style="list-style-type: none">Largely irrelevant responseDescriptive response which lack application of economic concepts or theorySerious and pervasive conceptual errors	1-4

E3	<ul style="list-style-type: none"> • Takes a stand on whether appreciation would be supported based on its impact on the economy • Substantiates stand with relevant and convincing arguments in relation to its timing, extent & unintended consequences 	4-5
E2	<ul style="list-style-type: none"> • Takes a stand on appreciation AND unintended consequences • Substantiates stand by evaluating one or two points without relating to context of timing and extent. 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

HCI Prelim 2019 Question 6

US and UK have had almost a decade of low interest rates which was between 0.25% and 1.5%. At the same time, economists are advocating for a greater role of fiscal policy to achieve economic growth even as economies adapt to global trends caused by shifting demographics towards an ageing population, rapid technological progress and high levels of government debt.

Discuss whether fiscal policy could play a greater role than monetary policy in achieving economic growth given the change in global trends. [25]

Introduction

Aim of government: Achieve economic growth (i.e. actual and potential growth)

Context: Low interest rates, economies face global trends of aging population, rapid technological progress, high levels of government debt

Approach: To discuss which policy plays a greater role in achieving economic growth.

Analyse why monetary policy has a limited role to achieve economic growth.

Theoretically, monetary policy via cuts in interest rate can stimulate AD via C and I to generate actual growth

Explain how policy works:

- Lower interest rates reduce cost of borrowing falls, resulting in a rise consumption spending. At the same time, expected rate of returns will be higher than cost of borrowing, increasing the incentive to invest.
- Together, a rise in consumption and investment increases AD which through the multiplier effect will result in a rise in RNI creating actual growth. (*succinct multiplier explanation*)

Policy Limitations:

However given the current low values in UK and US, cuts in interest rates may be limited (i.e. close to zero) and ineffective (due to possible interest-inelastic Consumption and Investment). This creates a problem of the Central Bank.

The Central Bank might resort to Quantitative easing to increase liquidity in the financial system. However this may create inflationary pressures in the economy in the future if the effects are uncontrolled.

Analyse why fiscal policy can achieve economic growth.

Expansionary Fiscal Policy

- By boosting government spending to increase AD, via the multiplier effect RNI increases to attain actual growth.
- At the same time, the government can reduce personal income tax which increases disposable income and encourages consumption spending
- Reducing corporate tax increases after-tax profits and encourages investment spending. The combined

effect of increase in C and I will increase AD and hence increase RNI via the multiplier effect.

Provide diagram analysis

As a result of AD increasing from AD_0 to AD_1 , real output increases more than proportionately from Y_0 to Y_1 , resulting in actual growth

Discussion of the role of fiscal policy to achieve economic growth

Constraints on Fiscal Policy as specified in the stem

1. Aging population
 - Competing spending needs due to aging population – increased healthcare spending in welfare states, funds may be channeled to re-skills older workers
 - More limited sources of revenue due to shrinking labor force (assuming no change in retirement age)
2. Rapid technological progress
 - With greater dependence on automation, labor-saving technology to increase productivity and productive capacity, it may be a challenge for AD to keep up with the increase in AS (depends on the increase in AD relative to AS). If increase in AS outpace increase in AD, government may require huge increase in G and/or C and I to achieve actual growth.
3. High levels of government debt: Expansionary fiscal policy measures may go against any attempt to conduct austerity measures reducing or eliminating the effects of growth.

Synthesis

- For large and less open economies, fiscal policy via an increase in government spending may be a more direct approach to stimulate the economy, given its large multiplier size. However, given the long term challenge of an aging population, government spending is likely to prioritize on improving healthcare and reskilling, hence the effect of government spending on actual growth is likely to be a secondary effect.
- For small very open economies like Singapore which are interest rate takers, exchange rate centered monetary policy is used in its place. The low interest rate may help support government's attempt at zero appreciation or a more gradual in currency appreciation
- Governments of debt –ridden economies may not have the luxury to choose between fiscal and monetary policy given the low interest rates as well as their budget will be further stretched from spending to address the aging population. If the government prioritizes the need to address the ageing population and high level debt, growth may end up as a by-product of rapid technological change.

Mark Scheme

Level	Descriptor	Marks
L3	Analyse how <ul style="list-style-type: none">• Lower interest rates generate economic growth• Fiscal policy generates economic growth Provides discussion based on : <ul style="list-style-type: none">• Impact of all 3 global trends on choice of policy• Other possible policy limitations	15 - 20
L2	Analyse in detail how at least one policy generates economic growth Attempted links to policy choice based on at least one global trend	9 - 14

L1	Misinterpretation of question, serious concept errors, descriptive response lacking economic analysis	1 - 8
Evaluation		
E3	On top of E2, provides insight into dilemma's faced by governments	4 - 5
E2	Clear stand + justification of policy choice based on characteristic(s) of economy	2 – 3
E1	Clear stand on policy choice	1