

RIVER VALLEY HIGH SCHOOL
 JC 2 Preliminary Examination
 in preparation for General Certificate of Education Advanced Level
 Higher 2

ECONOMICS

9757/01

Paper 1 Case Study

17 September 2021

2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

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

Answer Question 1 and Question 2 on **separate** booklets. You can ask for an additional booklet if you need more than one for a question.

For each Answer Booklet:

Write your name, Centre number and index number on the first page of all Answer Booklets that you hand in. Write clearly and use capital letters.

For each booklet, use both sides of the paper.

Write in dark blue or black pen. HB pencil may be used for graphs and diagrams only.

DO NOT WRITE ON ANY BARCODES.

Write the number of the question you are responding to in the first margin.

Question	Part	
1	ai	
1	aii	

If the question you are responding to also contains parts, for example 1a, write the question part in the second margin.

Do not tear out any part of the Answer Booklet.

All work must be handed in. If you have used any additional booklet, please insert it inside the first Answer Booklet.



This document consists of 8 printed pages.

[Turn over

Answer all questions.

Question 1: The Growing Market for Electric Vehicles

Figure 1: Global Electric Vehicles (EV) Annual Sales Volume (2013-2018)



Source: CleanTechnica, 19 May 2019

Extract 1: Electric vehicles are replacing petrol vehicles

An electric vehicle (EV) is a vehicle that is capable of running on electricity along at least part of the miles that the vehicle is driven. The government has adopted several policies to support the EV industry including providing grants for EV purchases and R&D support for battery development. The total budgetary cost for these policies is estimated to be about \$7.5 billion through the decade. The grants for EV buyers account for about one-fourth of the budget, and are expected to produce more additional EV sales as it covers a larger portion of the upfront cost, and more average households who are more price responsive would be attracted to purchase EVs.

Assuming each EV replaces a conventional petrol vehicle, the total lifetime petrol saved would become 0.65 billion gallons, with an emissions reduction of 12.8 billion pounds of carbon emissions. The increased EV sales translate to \$73.8 million of environmental benefits due to reduced emissions of major air pollutants.

The cost effectiveness of the policy is hindered by the fact that about 70% of consumers would purchase EVs in the absence of the grants, and the grants mainly attracted consumers who would have otherwise purchased fuel-efficient petrol vehicles.

Source: National Bureau of Economic Research, Apr 2019

Extract 2: Challenges in the electric vehicle industry

Even though sales are growing in China, they still constitute less than 4% of the global car market sales. So even as manufacturers push forward, many industry officials fear they could be at risk of wasting billions. Many of the EV carmakers are destined to be unprofitable due to high systems costs, low volumes and intense competition.

Range anxiety, the fear that the car will run out of power before reaching a charging station, is the most commonly cited response to why people are not buying EVs. Also, part of the problem is that charging times are still lengthy as it can require nearly a day plugged in if the battery is fully drained.

Cost is the other obstacle. EVs traditionally cost thousands of dollars more than petrol vehicles. The gap has been shrinking, in part due to an increase in competition that has forced manufacturers to lower the price on their cars.

Source: CNBC, 31 Jan 2019

Extract 3: The key to electric vehicles is batteries

China accounted for 60 percent of the 2.1 million electric vehicles sold worldwide last year. By 2030, global plug-in car sales are expected to be between 23 million and 43 million annually, according to the International Energy Agency. In its highest estimate, EVs will comprise 57% of vehicle sales in China, 26% in Europe and 8% in the US.

To meet demand, carmakers will need millions of lithium-ion batteries, by far the most lucrative part of an EV. Leading the charge is CATL, the world's biggest EV battery producer measured by the number of factories and their combined scale of operations. CATL modelled itself after Huawei Technologies by mimicking their practice of prioritising research and development to deliver frequent technology improvements.

In Europe, policymakers are providing R&D support to help develop the vehicle battery industry, with several plants now under development and at least £1 billion in public money flowing into the sector. However, not all R&D efforts are successful. One promising battery start-up in US went bankrupt and was acquired by a Chinese car parts company.

As the EV market took off in 2015, the Chinese government told carmakers they would only qualify for subsidies if they used batteries from a list of approved suppliers, which included dozens of Chinese firms but excluded foreign ones.

Source: Wall Street Journal, 3 Nov 2019

Extract 4: Tesla to start making electric vehicles in China

The company told investors that Tesla's new Gigafactory in Shanghai started trial production ahead of schedule this month and is building full vehicles, from body to paint to general assembly. A couple of international production plants will likely be critical to Tesla's future. Easier access to major global car markets, China, which is the world's largest, could give the company tens of millions of potential new customers.

The Shanghai factory is also notable for how quickly it came together. It was only 10 months ago that Tesla broke ground on the plant. Tesla did not get there without any help. The company has gotten significant support from the Chinese government in the last year. It was the first foreign carmaker to be allowed to open a factory in the country without a Chinese partner, and it recently won a tax break for some of its cars. In a letter to shareholders, the company said the facility was about 65% cheaper to build and operate than its production plant in the US.

While the company has built momentum in China, success may not come easy. China's car market has been in a slump, and that decline has been made worse this year by a slowing global economy. And while Tesla has strong international brand recognition, it faces fierce competition from local and international players. The company has in the past refused to advertise, spending the money instead on developing the product and letting the cars speak for themselves.

Source: CNN, 25 Oct 2019

Questions

- (a) Describe the trend of global EV sales volume between 2013 and 2018. [1]
- (b) (i) Explain what determines the extent of impact that an increase in competition has on the sales volume of EV. [3]
- (ii) Explain how this impact on sales volume might differ in the long run. [2]
- (c) Explain whether cross elasticity of demand between EV and petrol vehicles is positive or negative. [2]
- (d) Explain how R&D support for battery development might affect the different types of costs for an EV battery maker. [4]
- (e) Discuss whether the new Gigafactory in Shanghai is likely to increase profits for Tesla. [8]
- (f) Discuss whether grants for EV purchases or R&D support for battery development is likely to be a more effective policy to improve allocative efficiency in the market for petrol vehicles. [10]

[Total:30]

Question 2: Drive towards competitiveness in Vietnam and Indonesia

Figure 2: Productivity Index (GDP per unit of labour)

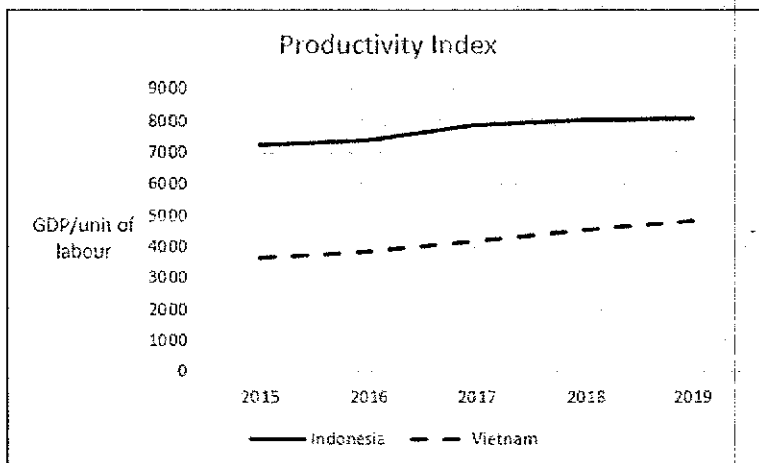
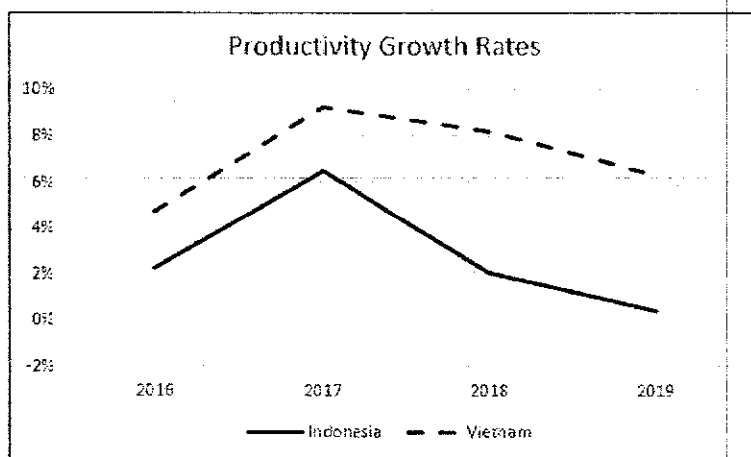


Figure 3: Productivity growth rates



Source: Statista

Table 1: Global Competitiveness Index: 2018 and 2019

Country	Rank 2018	Rank 2019
Indonesia	45	50
Vietnam	77	67

Source: Global Competitiveness Report 2019, World Economic Forum

Extract 5: Vietnam is entering its 'golden period'

Vietnam's economic growth momentum will continue in 2020 on the back of strong macroeconomic forecast, a growing middle class and a surging export-oriented manufacturing industry.

"Over the next 5 to 10 years, Vietnam will be in the golden period," said McKinsey & Company Vietnam's managing partner Marco Breu. "The middle class in Vietnam will grow from 20% of the population to 50%, and this will be the time when it's very interesting for consumer goods companies, retailers, banks to be in Vietnam." He added: "Consumption is the main economic engine for Vietnam, it's about 68% to 70% of the GDP, so many companies and businesses are looking into new consumption patterns, product innovation and so on."

Real GDP growth peaked at 7.1% in 2018 but is projected to decelerate slightly in 2019 and 2020, remaining nevertheless robust at around 6.8% and 6.9%, according to data from the Asian Development Bank.

With trade tensions between the US and China still ongoing, Vietnam will remain a favoured destination for shifts in trade flows and supply chains, said analysts. "The Trump-China trade war has been the tipping point for companies to look at an alternative product base outside of China," said Claudio Karjalainen, co-founder and head of regional operations for FinnSEA in Vietnam. "With it, many companies have discovered that Vietnam has a lot of advantages for shifting manufacturing, including a skilled workforce and reasonable salaries."

Being one of the fastest growing economies in South-east Asia also comes with its plethora of drawbacks and problems. Strong economic and population growth have not been friendly to the environment and have caused considerable pollution challenges.

Over the past decade, final energy consumption tripled, growing faster than output, and demand for water continues to increase while water productivity still remains low, according to the World Bank. The issue of marine plastics and water pollution has already impacted productivity of key sectors and human health. Air pollution is also a major concern with large cities including Hanoi and Ho Chi Minh City hitting their worst-ever levels in September.

A series of initiatives announced recently showed that the government is committed to reducing environmental footprints. For Mr Breu, a shift to cleaner energy sources and the management of increased pollution levels will be among Vietnam's top challenges in the years to come. "People are becoming unhappy with how these pollution levels are rising year after year. If you were to look at China and Beijing in particular, it took them 20 years to bring it under control and it took them enormous amounts of investment to actually clean this up," he said.

Source: The Business Times, 30 December 2019

Extract 6: Indonesia posts record trade gap in 2018, December exports sink

Indonesia posted wider-than-expected trade deficit in December, bringing the gap for 2018 to the largest ever, the statistics bureau said on Tuesday. December's trade deficit was \$1.10 billion (853.18 million pounds), in a third consecutive month where the gap was wider than market expectations. A Reuters poll had expected a deficit of \$930 million.

Southeast Asia's largest economy had a deficit of \$8.57 billion in 2018, the widest ever, a stark contrast to its \$11.84 billion surplus in 2017, Suhariyanto, the statistics bureau chief said. Last year was challenging because exports had slowed at a time when imports surged due to a recovering domestic economy, said Josua Pardede, an economist with Bank Permata in Jakarta.

This year would probably be equally challenging, Pardede said. "Global economic growth is stagnating. Growth in our major trading partners such as China, the United States, Japan and Europe is slowing. If we can't find new destinations for our products, export growth could slow further," he said, noting that falling oil prices could cool down imports.

Bank Indonesia also raised interest rates six times by a total of 175 basis points last year to try to reduce the trade deficit, and Warjiyo said the deficit in 2019 was expected at 2.5 percent. Fakhru Fulvian, Trimegah Sekuritas economist, said December trade data proved that Indonesia may need to slow its GDP expansion further to "bring back the balance" and reduce the trade deficit.

Source: Reuters News, 15 January 2019

Extract 7: Manufacturing less dominant in Indonesia's economy, but not shrinking

The government is not buying arguments that the manufacturing sector is shrinking even though its percentage contribution to the economy has declined over the past few years. The manufacturing sector remains the largest contributor to GDP. However, its percentage contribution to GDP reached 19.86 percent last year after struggling to remain at the 20 percent mark.

Vice President Jusuf Kalla said that the government was committed to developing manufacturing through the implementation of President Joko Widodo's road map on the fourth industrial revolution, titled Making Indonesia 4.0. He said technology and data control were the keys to getting ahead in today's industrial race with the rise of automation, but that people would remain the backbone of the economy. "We are not like those developed but aging countries, as we have a large workforce thanks to our demographic bonus. Physical work will remain relevant, as we need workers who can ensure our consumption continues," said Kalla.

Indonesia's working age population, or those aged 15 to 44, was projected to reach approximately 68 percent of the population, giving the country the highest number of productive aged citizens in Southeast Asia, the National Development Board (Bappenas) said.

"We can develop manufacturing through technological advancement, increased investment, human resources development and providing fiscal incentives to encourage research and development," Industry Minister Airlangga Hartarto said.

Source: The Jakarta Post, 18 Apr 2019

Questions

- (a) (i) Using Figures 2 and 3, compare the productivity levels of Vietnam with that of Indonesia over the period 2015-2019. [2]
- (ii) Explain how the change in (i) is likely to affect the living standards in Vietnam over the same period. [2]
- (b) Explain how a country such as Indonesia or Vietnam can have a high growth rate despite a low standing in the Global Competitiveness Index as shown in Table 1. [4]
- (c) Explain how an increase in interest rates as mentioned in Extract 6 might reduce the trade deficit. [4]
- (d) Extract 7 mentions that policymakers in Indonesia intend to implement some policies aimed at developing her manufacturing sector.
- Discuss the effectiveness of these policies in achieving the intended outcome. [8]
- (e) Extract 5 highlights that Vietnam is likely to continue enjoying high economic growth in 2020.
- Explain the factors that contribute to Vietnam's continued economic growth and consider whether the high growth rate is likely to be of overall benefit to her economy. [10]

[Total: 30]

RVHS Prelim H2 CSQ1 Answers

(a) Describe the trend of global EV sales volume between 2013 and 2018. [1]

Increase

(bi) Explain what determines the extent of impact which an increase in competition has on the sales volume of EV. [3]

Price Elasticity of Demand: It measure the extent of the rise in quantity demanded i.e. sales volume of EV given a fall in price caused by the increase in supply due to the increase in competition i.e. increase in number of sellers.

(bii) Explain how this impact on sales volume might differ in the long run. [2]

In the long run, demand may become more price elastic. Consumers have more time to adjust their consumption pattern. Over time, as lower prices persist, consumers will be more ready to switch from petrol vehicles to EVs, causing sales volume to increase more significantly in the long run.

OR

In the long run, demand will become more price inelastic. Due to consumers' heightened environmental awareness, they may no longer perceive conventional petrol vehicles to be a close substitute for EV. As such, there will effectively be fewer close substitutes for EV. Thus, lower prices will lead to sales volume increasing less significantly in the long run.

(c) Explain whether cross elasticity of demand between EV and petrol vehicles is positive or negative [2]

Positive. From extract 1, it is stated that EV buyers would switch to petrol vehicles, which suggest that they are substitutes in consumption.

(d) Explain how R&D support for battery development might affect the different types of costs for an EV battery maker. [4]

Firstly, R&D support for battery development could affect fixed cost.

- R&D support for battery development may lower the cost of building of R&D facilities (ext.3)
- The cost of building of R&D facilities are considered a fixed cost as it does not vary with each battery produced.

Once R&D support for battery development is successful, it could affect the variable cost.

- R&D support could lower the cost of producing battery of each EV.
- the cost of producing lithium-ion battery is incurred with each battery produced.

(e) Discuss whether the new Gigafactory in Shanghai is likely to increase profits for Tesla. [8]

Likely to increase profits	Unlikely to increase profits
<p>The new Gigafactory in Shanghai facilitates access to a larger market. "Tens of millions of potential new customers" (Ext 4) suggests a larger market with greater number of buyers, thus increasing demand and increasing total revenue.</p> <p>AND</p> <p>Furthermore, a larger market allows for firms to produce a larger output and reap IEOS through e.g. economies of indivisibilities. If AC is lowered, this would lead to an increase in profits.</p> <p>OR</p> <p>The new Gigafactory suggests that Tesla would be producing its cars in China. Operating in China incurs lower cost of production compared to in US (Ext 4). Since cost of production is now lowered and revenue is higher, there will be an increase in profits.</p>	<p>Slowing global economy & china's car market has been in a slump (Ext. 4) could suggest expectations of falling income that may have dampened demand for normal goods like cars in general, including that of Tesla's cars. Therefore, this reduces total revenue and hence profits.</p> <p><i>EV: However, this is temporary, and once the economic conditions recover, demand will increase, and profits may increase.</i></p>
<p><i>Evaluation</i></p> <ul style="list-style-type: none"> • <i>Ultimately, it depends on their strategy. Thus far, we assumed that they are profit-maximising. However if their short-term objective is to gain market share, they may price their products competitively such that there may be temporary subnormal profits.</i> • <i>Whether Tesla can increase profits depends on whether advantages of the strong brand recognition outweighs the disadvantage from fierce competition from local players (Ext 4). If Tesla is willing to spend on advertisements to market its cars to Chinese consumers, it may be able to play to its advantage of strong branding, and edge out its competitors to gain market share. In this case, Tesla can enjoy higher revenue and lower cost (enjoy IEOS from expansion of output). Thus profits will likely increase.</i> 	

Level	Description	Marks
L2	<p>For a developed discussion on whether the new Gigafactory in Shanghai is likely to increase profits for Tesla</p> <p>A developed discussion should include the following points</p> <ul style="list-style-type: none"> • Why profits may increase (due to lower COP and higher TR) • Why profits may not increase (due to higher COP or lower TR) 	4-6
L1	For an undeveloped discussion on whether the new Gigafactory in Shanghai is likely to increase profits for Tesla	1-3

	Or For a developed answer that explains how the new Gigafactory in Shanghai will affect level of profits for Tesla	
	Evaluation	
E2	Developed judgement that is supported with economic analysis.	2
E1	Unexplained judgement	1

(f) Discuss whether grants for the purchase of EV or R&D support for battery development is likely to be a more effective policy to improve allocative efficiency in the market for petrol vehicles. [10]

There are negative externalities generated from the usage of petrol vehicles such as the health cost to pedestrians, due to emission of major air pollutants (extract 1). Consequently, this leads to over-usage (or over-consumption) of petrol vehicles, leading to allocation inefficiency. Hence, the aim of grants and R&D support for battery development is to reduce the usage (or consumption) of petrol vehicles towards the socially optimal level, thereby improving allocative efficiency.

Grants	R&D support for battery development
<p>Grants are a sum of money given to consumers to purchase EV, which lowers the upfront cost (ext 1). It targets "price-responsive" households i.e. those who are otherwise not willing or able to pay for an EV at the current market price.</p> <p>This increases households' ability to pay for an EV at the current market price. Ideally, this incentivizes consumers to buy EV in place of petrol vehicles.</p> <p>This decreases demand for petrol vehicles, thus reducing usage of petrol vehicles to the socially optimal level.</p>	<p>The R&D for battery development in EV may result in lower cost of producing batteries. Since batteries are a factor input of EV, it reduces cost of production for EVs. Therefore, this increases supply of EV and reduces prices of EV.</p> <p>Since EV and petrol vehicles are substitutes in consumption as established in part c), this reduces the demand for petrol vehicles.</p> <p><i>EV: effectiveness depends on the closeness of substitutes between EVs and petrol vehicles. Given that there is range anxiety about EV, they may not be currently perceived as close substitutes. As such, the extent to which demand falls may be small.</i></p> <p>OR</p> <p>The R&D support for battery development may lead to product innovation such as better battery performance, which may influence consumers' taste and preferences towards EV and away from petrol vehicles. This reduces demand for petrol vehicles, which would ultimately reduce usage to the socially optimal level.</p>
Limitation:	Limitation:

<p>However, the grants may be going to consumers who are already keen on buying fuel-efficient petrol vehicles (Extract 1). As such, the decrease in demand for fuel-inefficient petrol vehicles by consumers is likely to be limited.</p>	<p>Results are not guaranteed; R&D efforts may fail. (Extract 3). As such, this policy may not be successful in decreasing usage of petrol vehicles.</p> <p>Furthermore, R&D results are only seen in the long run. Thus, even if it is successful, it may not be effective in reducing demand in the short run.</p>
<p>Evaluation</p> <ul style="list-style-type: none"> Consumers' choice of vehicles is motivated by other factors other than cost. Given that consumers have range anxiety (ext. 4) about EVs, grants may not provide enough incentive to purchase EVs in place of petrol vehicles, especially if range anxiety is a more important issue than cost to consumers. Therefore, grants may not provide significant reduction of purchase and usage of petrol vehicles. Comparatively, R&D support for battery development may be a more effective policy, as improvements in battery performance can address the range anxiety that is currently impeding consumers' switch from petrol vehicles to EV. 	

Level	Description	Marks
L2	<p>For a developed discussion on how grants and R&D support for battery development improve allocative efficiency.</p> <p>A developed discussion should include the following points:</p> <ul style="list-style-type: none"> Identification of negative externalities leading to over-usage of petrol vehicles. How grants and R&D support for battery development work to improve allocative efficiency, using DD-SS framework Limitation of grants and R&D support 	5-7
L1	<ul style="list-style-type: none"> For an undeveloped discussion on how grants and R&D support for battery development improve allocative efficiency <p>OR</p> <ul style="list-style-type: none"> For a developed answer that explains how grants or R&D support for battery development improve allocative efficiency in the market for petrol vehicles 	1-4
Evaluation		
E2	Developed judgment supported with economic analysis.	2-3
E1	Unexplained judgment.	1

RVHS 2021 Preliminary Examinations JC2 H2 Paper 1 Question 2 Suggested Answers

- (a) (i) Using Figures 1 and 2, compare the productivity levels of Vietnam with that of Indonesia over the period 2015-2019. [2]**

Productivity level of Vietnam is lower than that of Indonesia. However, productivity growth rates of Vietnam was consistently higher than that of Indonesia.

- (a) (ii) Explain how the change in (i) is likely to affect the living standards in Vietnam over the same period. [2]**

A rise in productivity implies a rise in the output produced per unit of input i.e. a rise in competitiveness.

EITHER

Increase in productivity will result in an increase in total output and this will lead to an increase in the amount of goods and services available for consumption, thus increasing Vietnamese's material standard of living.

OR

With increased productivity, workers may be able to work fewer hours for the same level of production and hence enjoy more leisure hours. This improves the non-material aspect of standard of living.

- (b) Explain how a country such as Indonesia or Vietnam can have a high growth rate despite a low standing in the Global Competitiveness Index as shown in Table 1. [4]**

Despite a low standing in the Global Competitiveness Index, there are other factors that can contribute towards a high growth rate.

Any of the 2 factors below will suffice

① From Extract 1 and 3, we can infer that there is an abundance of labour in both Indonesia and Vietnam. This likely implies a relatively low wage as compared to other economies. This translates into a low cost of production, enabling their exports to be more price-competitive. Assuming the demand for exports is price elastic, this will increase export revenue. At the same time, the lower wages make these economies popular destinations for foreign direct investment (FDI) which will translate into an increase in investment. With increased export revenue and investment, aggregate demand increases and leads to growth in real GDP by a multiple.

② The high growth rate enjoyed by both countries is also dependent on external factors. From Extract 1, Vietnam's growth was largely in part due to the US-China trade tensions, which diverted trade and supply chains flow to Vietnam. This implies that Vietnam will likely see a rise in demand for their exports. If this translates to a rise in export revenue (X) and in turn AD, there will be a multiple rise in NY, thereby allowing the country to grow despite the low standing in the competitiveness index.

- (c) Explain how an increase in interest rates as mentioned in Extract 2 might reduce the trade deficit. [4]**

The trade deficit is due to the import expenditure outstripping the export revenue. Extract 2 mentions that the gap was due to exports slowing down at a time when imports are surging. The increases in interest rate is hence to deal with the surge in imports.

When interest rates are raised, it has a contractionary effect on the economy. Increased interest rates will lower consumption due to increased cost of borrowing for big ticket items and also higher rewards to savings. Additionally, as the cost of borrowing for firms increases, projects previously viable at the lower interest rates now becomes unviable, hence leading to lower investment.

With a fall in consumption and investment, aggregate demand will fall and this leads to a fall in national income by a multiple. As income of households starts to fall, they will be less inclined to buy imports since imports is a function of income. This will lead to a fall in import expenditure. Assuming no change to export revenue, the trade deficit will be reduced.

(d) Extract 3 mentions that policymakers in Indonesia intend to implement some policies aimed at developing her manufacturing sector.

Discuss the effectiveness of these policies in achieving the intended outcome. [8]

To develop the manufacturing sector means that Indonesia needs to increase the competitiveness of their manufactured goods through reducing their average cost of production or increase the quality of the goods produced.

From Extract 3, it can be seen that policymakers are leveraging the use of supply side policies such as investment in technology, fiscal incentives to encourage R&D and also investing in human capital. While these policies may help in developing the manufacturing sector, the effectiveness may not be very certain.

Analysis of a market oriented SSP

One form of market oriented supply side policies will be to provide fiscal incentives to encourage R&D. Market oriented policies focuses on allowing the markets to operate more freely with minimal government intervention to achieve growth in potential output. Fiscal incentives in the form of lowering corporate income taxes will help to increase the after tax profits. This leaves firms with more funds available for investment and to pursue innovation through research and development. This will increase the quantity and/or quality of capital which will increase the productive capacity of the economy. With successful R&D, the quality of products will improve or it may also lead to a fall in average cost of production, which will increase the competitiveness of Indonesia's manufactured goods.

However, reducing corporate tax cuts may not bring about the desired outcome as firms may choose to pay out higher dividends rather than undertaking more R&D. R&D can also take a significant amount of time and results are also not guaranteed.

Analysis of an interventionist SSP

Another policy that is implemented is the investment in human capital in the form of human resources development, which is an interventionist policy. Interventionist policies are policies where the government plays an active role to encourage growth in potential output. These can include initiatives pertaining to education and training to expand the quantity and quality of the workforce. This will in turn raise the employability of workers and labour productivity which increases the productive capacity

of the economy. Extract 3 highlighted that the demographic bonus has given Indonesia a large workforce. As such, the emphasis of human capital investment could be on the quality of these workers and equipping them with the skill sets to take on jobs in the manufacturing sector. This will provide a huge boost to the manufacturing sector as there are more workers to drive production when demand increases. As workers become more productive, it will also lower the average cost of production which will allow Indonesia to produce manufactured goods that are more price competitive.

However, such training is costly which gives rise to funding issues. Firms may be reluctant to do so for fear of losing workers after retraining or upgrading. The government could step in to provide funding but this will incur an opportunity cost as the funds could have been spent on other areas such as healthcare. Moreover, education and training is also dependent on workers' attitude and aptitude towards the skills training. Some of them may not be receptive towards it as they may have other interests, while those who go for the training may not have the ability to pick up the skills.

Evaluation/Synthesis

- The use of supply side policies, both market oriented and interventionist has its drawbacks and may have to be implemented together to increase the chances of a successful development of the manufacturing sector.

Marking Scheme

Level	Knowledge, Application, Understanding & Analysis	Marks
L2	Well-developed discussion of two policies aimed at developing the manufacturing sector in Indonesia. Reference have to be made to evidences from extract that support the arguments made.	4-6
L1	Well-developed discussion of one policy aimed at developing the manufacturing sector in Indonesia. OR Under-developed explanation (without limitations) of policies aimed at developing the manufacturing sector in Indonesia.	1-3
Evaluation		
E2	Developed judgement on effectiveness of policies in achieving the intended outcome.	2
E1	Unsupported judgement without economic analysis on effectiveness of policies in achieving the intended outcome.	1

(e) Extract 1 highlights that Vietnam is likely to continue enjoying high economic growth in 2020.

Explain the factors that contribute to Vietnam's continued economic growth and consider whether the high growth rate is likely to be of overall benefit to her economy. [10]

There are several factors that will contribute to the continuation of Vietnam's economic growth as seen from Extract 1.

First of all, the middle class in Vietnam will grow from 20% of the population to 50%, which will likely lead to a rise in consumption expenditure as income increases. Moreover, consumption expenditure contributes to a large proportion of Vietnam's GDP (close to 70%) and as such, Vietnam's economic growth is likely to continue with the increase in consumption expenditure.

Secondly, trade tensions between the US and China has resulted in Vietnam being a favoured destination for foreign direct investments (FDI), outside of China. With "a skilled workforce and reasonable salaries", investments in Vietnam will increase.

These factors contribute to the growth of the various components of aggregate demand (AD) and hence lead to a substantial increase in AD. Assuming spare capacity exists, which is very likely given the abundance of labour in Vietnam, it will lead to a multiple increase in national income (NY), thus allowing Vietnam to continue achieving actual economic growth. At the same time, with an increase in quantity and quality of factors of production due to an increase in investment, it also allow Vietnam to achieve potential economic growth. With actual economic growth and potential economic growth achieved, this also allows for sustained growth into the future.

Thesis: High growth rate will be beneficial to Vietnam's economy.

The high growth will bring about positive impact on employment. As real national income increase due to more goods and services produced, there will also be an increase in derived demand for labour and hence generates more employment opportunities, thus reducing cyclical unemployment.

Anti-thesis: High growth rate will be detrimental to Vietnam's economy.

Extract 1 pointed out that Vietnam's economic growth has been achieved at the expense of environmental degradation which have caused considerable pollution challenges. Energy consumption has grown faster than output and amount of output per unit of water has remained low. These have resulted in air and water pollution as more energy and water are used, which have affected productivity of Vietnam's key sectors negatively. At the same time, pollution has worsened the health of citizens, who is vital to driving the growth of a country. Besides causing a fall in the non-material standard of living in Vietnam, all these will also have a negative impact on Vietnam's economic growth rate and if so, employment might not improve as explained above.

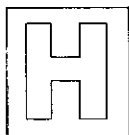
Overall Evaluation/Synthesis

Whether Vietnam can harness the benefits of high growth rates will very much depend on what the government can do to tackle the challenge that stands in her way.

In the short run, high growth rate is likely to be beneficial for Vietnam as national income increases and employment rate will increase. However, if high growth rates persists in the long run, it must be ensured that there is an increase in productive capacity too. If not, it might result in overheating of economy and thus, demand-pull inflation. In addition, the environmental footprints need to be reduced so as to achieve sustainable economic growth.

Marking Scheme

Level	Knowledge, Application, Understanding & Analysis	Marks
L2	Well-developed explanation of two factors that contribute to Vietnam's sustained economic growth. A developed and balanced discussion on whether the high growth rate is of overall benefit to Vietnam's economy (linking to at least one macroeconomic aim in the thesis and anti-thesis). Reference made to evidences from extract that support the arguments made.	5-7
L1	Well-developed explanation of two factors that contribute to Vietnam's sustained economic growth. OR A developed and balanced discussion on whether the high growth rate is of overall benefit to Vietnam's economy (linking to at least one macroeconomic aim in the thesis/anti-thesis). Reference made to evidences from extract that support the arguments made.	1-4
Evaluation		
E3	Well-reasoned judgement on whether high growth rate is of overall benefit to Vietnam's economy.	3
E2	Under-developed judgement on whether high growth rate is of overall benefit to Vietnam's economy.	2
E1	Unsupported judgement on whether high growth rate is of overall benefit to Vietnam's economy.	1



RIVER VALLEY HIGH SCHOOL
JC 2 Preliminary Examination
in preparation for General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/02

Paper 2 Essays

14 September 2021

2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

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.

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

Answer **each** question using **separate** answer booklets. You can ask for an additional booklet if you need more than one for a question.
Indicate clearly the **question number**.

For each Answer Booklet:

Write your name, Centre number and index number on the first page of all Answer Booklets that you hand in. Write clearly and use capital letters.

For each Answer Booklet, use **both** sides of the paper.
Write in dark blue or black pen. HB pencil may be used for graphs and diagrams only.

DO NOT WRITE ON ANY BARCODES.

Do not tear out any part of the Answer Booklet. All work must be handed in. If you have used any additional booklet, please insert it inside the first Answer Booklet.



This document consists of 3 printed pages and 1 blank page.

[Turn over

Section A

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

- 1** Even with the recruitment of foreign nurses, the shortage of nurses continues to persist. This led to the latest round of salary adjustment, which saw the salaries of nurses increase by a significant 30%.
- (a) Using demand and supply curves, explain why there is an excess demand for nurses, and why it may have led to this significant salary adjustment. [10]
- (b) Discuss whether increasing salaries of nurses is the most effective policy in tackling the shortage of nurses in Singapore. [15]
- 2** The World Health Organisation (WHO) has declared e-cigarettes to be undoubtedly harmful and that they are not safer alternatives to regular cigarettes. In Singapore, the use, purchase and sales of e-cigarettes have been banned.
- (a) Explain why a government intervenes in the market for e-cigarettes. [10]
- (b) Discuss whether a ban is the best policy to ensure an efficient allocation of resources in the market for e-cigarettes. [15]
- 3** The Singapore government granted more operating licenses to increase competition in the telecommunications industry comprising three players — Singtel, StarHub & M1. Since then, TPG Telecom and several mobile virtual network operators such as Circles Life have entered the industry, leading to falling prices of mobile plans.
- (a) Explain how easing of barriers to entry in the telecommunications industry might lead to lower and less stable prices set by profit-maximising firms. [10]
- (b) Discuss the potential benefits and costs likely experienced by consumers, firms and government due to easing of barriers to entry in the telecommunications industry. [15]

Section B

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

- 4 (a) Explain how an appreciation of a country's currency might affect its balance of payments. [10]
- (b) In recent years, uncertainty and disruptions have affected global economic developments.
- Discuss whether the Singapore government should change her policies for managing the balance of payments. [15]
- 5 The size and openness of an economy will affect the value of her multiplier, thereby influencing a government's macroeconomic policy decision-making.
- (a) Explain how trade-offs between government macroeconomic aims arise in the course of her policy decision-making. [10]
- (b) Discuss how far the size and openness of an economy influence a government's macroeconomic policy decision-making. [15]
- 6 While Singapore's national income and labour productivity grew over the past decade, she confronts the challenges of a shrinking workforce and declining productivity growth.
- (a) Explain how the challenges above will affect a country's economic growth. [10]
- (b) Discuss the extent to which economic growth determines the standard of living in Singapore. [15]

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RVHS Prelim H2 EQ1

Even with the recruitment of foreign nurses, the shortage of nurses continues to persist. This led to the latest round of salary adjustment, which saw the salaries of nurses increase by a significant 30%.

- a) Using demand and supply curves, explain why there is an excess demand for nurses, and why it may have led to this significant salary adjustment. [10]
- b) Discuss whether increasing salaries of nurses is the most effective policy in tackling the shortage of nurses in Singapore [15]

Part a) answer:

"Explain why there is an excess demand for nurses..."

The supply of nurses in the Singapore labour market comprises of foreign nurses and local nurses. The demand for nurses comprises demand by public and private medical organizations.

The recruitment of foreign nurses results in an increase in supply of nurses in the factor market for nurses.

However, even with an increase in supply, there is excess demand. This suggests there is an increase in demand that exceeds the increase in supply.

The increase in demand for healthcare could be due to rapid ageing population, which may mean a higher proportion of elderly, who generally require more healthcare services. This increases demand for healthcare.

(Other accepted points:

- *Growth of population also leads to an increase in demand for healthcare.*
- *the rise in chronic diseases such as diabetes in Singapore also leads to an increase in demand for healthcare.)*

Since nurses are a form of labor (factor of production) in the production of healthcare services, the increase in demand for healthcare leads to an increase in derived demand for nurses.

With reference to Figure 1, the increase in supply will shift the supply curve rightwards from S_0 to S_1 while the increase in demand will shift the demand rightwards from D_0 to D_1 . At the initial wage rate W_0 , quantity demanded is now at Q_d , which is greater than quantity supplied which is at Q_s . Hence, this shows labour shortage ($Q_s Q_d$) arising from the excess demand for nurses.

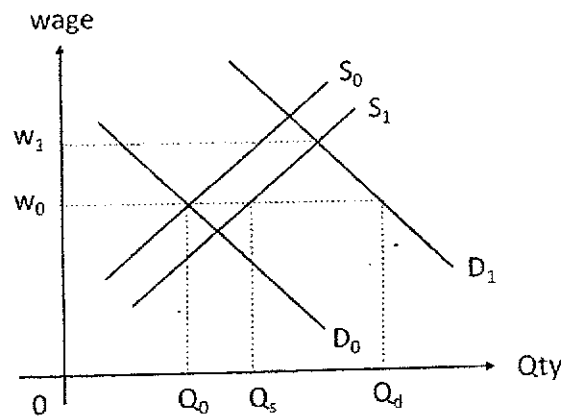


Figure 1: Market for nurses

"Explain why there is a significant salary adjustment..."

The significant salary adjustment could be due to the large shortage ($Q_s Q_d$) of nurses arising from a large excess demand.

Also, it could be due to a price inelastic supply, which compounds the increase in wage rate arising from the increase in demand. Price elasticity of supply measures the degree of responsiveness of the change in quantity supplied given a change in price, *ceteris paribus*. Supply is price inelastic because it takes years to undergo the complex training process before one can be qualified to practise as a nurse. i.e. an increase in wage (price of labour) will lead to a less than proportionate increase in quantity supplied. As such, given an increase in demand, a significant increase in wage rate from w_0 to w_1 (Figure 2) is required to increase the quantity supplied in order to clear the labor shortage, as compared to when supply is price elastic (w_0 to w_e)

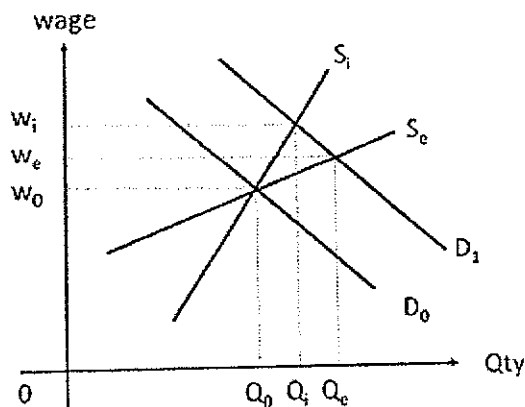


Figure 2: Market for nurses

Knowledge, Understanding, Application & Analysis		
L3	For a developed explanation on why there is an excess demand for nurses and why there is a significant increase in wage	8-10
L2	For an undeveloped answer on why there is an excess demand for nurses and why there is a significant increase in wage Or For a developed answer on why there is an excess demand for nurses or why there is a significant increase in wage	5-7
L1	Smattering of valid points	1-4

b) Discuss whether increasing salaries of nurses is effective in tackling the shortage of nurses in Singapore [15]

Thesis: It is effective.

- The shortage can be resolved by a wage increase.

Price adjustment process:

- With reference to Figure 1, as wage rate increases, more would be incentivised to join or rejoin the nursing profession, such that quantity supplied increases. At the same time, it becomes more costly to hire nurses. Hence, quantity demanded decreases. Wage rate will continue to increase until the new equilibrium at w_1 , where quantity demanded equals to quantity supplied.
- Ideally, the quantity demanded will be equal to quantity supplied of nurses at the 30% hiked pay as mentioned significant in the preamble, thus resolving shortage.
- Limitation: Due to a price inelastic supply, it is only effective if the medical organizations are able to increase the wage rate significantly. However, due to imperfect information or budget constraints of the medical organizations, it is possible that the increase in wage rate will be lower than what is needed to resolve the shortage. As such, the current increase in wages is insufficient to resolve the shortage fully.

EV: Furthermore, this drives up the cost of hiring nurses significantly. Given that wages take up a large proportion of their operating expenditure, this may be passed on to consumers in terms of higher prices of healthcare services. Given that healthcare is an essential good, this may worsen inequity. Consequently, this may result in a large amount of expenditure by the government, in terms of higher wages and subsidies required to ensure access to healthcare services.

Anti-thesis:

However, there are also other policies that can also tackle the shortage of nurses.

Decrease demand for nurses (choose 1 of the following):

1. Hold educational campaigns to improve lifestyle habits (e.g. improving diet & exercise) so as to keep the population healthy. This reduces demand for healthcare, and therefore reduces derived demand for nurses. Therefore, this reduces shortage at the current wage W_0 .

Limitations: However, this depends on the population's receptiveness to change their lifestyle habits. If such habits are deeply ingrained in them, it may be difficult to change, and consequently, derived demand for nurses may not be reduced in the short term.

2. The government can encourage medical organizations to adopt technology in patient care that can replace nurses in some duties. For example, subsidies can be given to medical organizations in their adoption of automated dispensing robots in the medical administration process, or AI-controlled companion robots for monitoring of elderly. With more use of capital in place of labour, medical organizations will reduce their demand of nurses. Therefore, this reduces shortage at the current wage W_0 .

Limitations: However, medical organizations may not be receptive to it as the technology is still new and may not be widely accepted by the public. They may perceive this as taking on unnecessary reputational risk. Therefore, the take-up rate may be low, and demand may not be reduced.

Increase in supply for nurses (choose 1 of the following):

3. Increase the supply by sponsoring those thinking of a mid-career switch to choose the nursing career. This would expand the pool of nurses that medical organizations can hire from. The government has implemented a 2-year Professional Conversion Programme for Registered Nurses (Diploma) which aims to support mid-career PMETs in acquiring relevant training to be Registered Nurses. The course fees are fully sponsored and successful applicants can receive training allowances. More professionals would be motivated to make the career switch to nursing. Therefore, this increases supply, and reduces shortage at the current wage W_0 .

Limitation: However, it takes time for mid-career professionals to be trained in nursing. Therefore, in the short term, supply will not increase.

4. Alternatively, organizations can attract people to join nursing by clearly defining career progression pathways to facilitate career development (e.g. opportunities to try new roles or specialize). As such, more would be attracted to embark on a nursing career. This increases supply, and reduces shortage at the current wage W_0 .

Limitation: This depends on the receptiveness of people. If people have reservations about joining nursing because of other reasons other than career development, then this solution may not be effective. For example, some may have the traditional mindset that it is undignified work as nurses typically have to clean up after patients as well as the long working hours and shift work required.

5. We can further increase the recruitment of foreign nurses. Healthcare organizations can hire foreign workers from other countries other than traditional sources like Philippines and India. This increases supply, and reduces shortage at the current wage W_0 .

Limitation: However, there may be cultural and language barriers between the foreign nurses and local patients. As such, to cater to the needs of local patients, there can only be a limited increase in supply of foreign nurses.

Knowledge, Application/ Understanding and Analysis		
L3	For a developed discussion on whether increasing the salaries is the most effective in tackling the shortage of nurses in Singapore. Developed discussion should include the following points: <ul style="list-style-type: none"> • How increasing salaries work to tackle the shortage & its limitation • How increasing supply and decreasing demand can tackle shortage and their limitations 	8-10
L2	For an undeveloped discussion on whether increasing the salaries is effective in tackling the shortage of nurses in Singapore.	5-7
L1	For an answer that explains how increasing salaries work to tackle the shortage of nurses in Singapore.	1-4
Evaluation		
E3	For an answer that uses analysis to evaluate whether increasing salaries is the most effective to tackle the shortage of nurses in Singapore (2 points required)	4-5
E2	For an answer that makes some attempt to evaluate whether increasing salaries is effective to tackle the shortage of nurses in Singapore.	2-3
E1	For an unexplained evaluative statement(s)	1

2021 RVHS Prelim Essay Question 2

The World Health Organisation (WHO) has declared e-cigarettes to be undoubtedly harmful and that they are not safer alternatives to regular cigarettes. In Singapore, the use, purchase and sales of e-cigarettes have been banned.

- Explain why a government intervenes in the market for e-cigarettes. [10]
- Discuss whether a ban is the best policy to ensure an efficient allocation of resources in the market for e-cigarettes. [15]

Suggested Answers

- Explain why a government intervenes in the market for e-cigarettes. [10]

Intro

E-cigarettes is a demerit good which it is deemed socially undesirable by the government and will be over-consumed if left to the free market. This over-consumption results because individuals disregard negative externalities and overestimate their private benefits.

Body 1 – Over-consumption due to negative externalities

In the market for e-cigarettes, producers incur the marginal private cost (MPC) of producing an additional unit of e-cigarettes. Marginal external costs (MEC) are also borne by 3rd parties who are not compensated for. For instance, friends, family and colleagues of the smoker may incur healthcare costs when treating illnesses arising from the inhalation of the second-hand smoke.

Since marginal social cost (MSC) = MPC + MEC, MSC is greater than MPC as shown in Figure 1 below. Assuming no positive externalities (i.e. MEB = 0), marginal social benefit (MSB) = marginal private benefit (MPB).

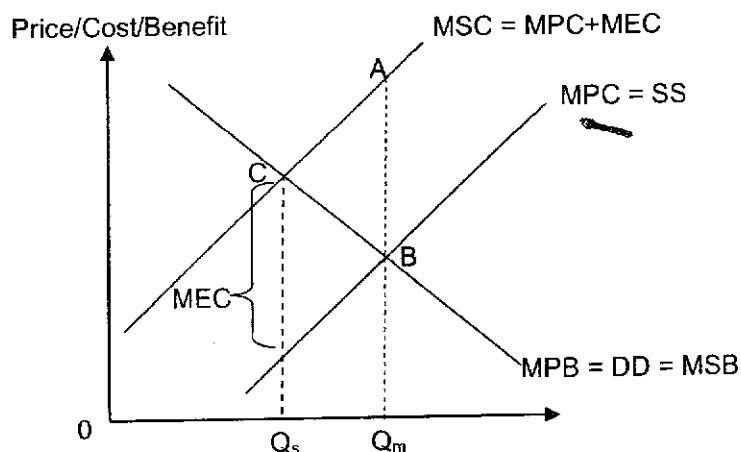


Figure 1: Over-consumption in the market in e-cigarettes due to negative externalities

With reference to Figure 1, when left to the free market, consumption and production of e-cigarettes occurs at Q_m where $MPC = MPB$ since individuals only consider their own private benefit and private cost and do not take into account the external costs in their decision-making. However, the socially optimal level of output is at Q_s , where $MSB = MSC$. Since Q_m is more than Q_s , there is over consumption of e-cigarettes and hence,

over-allocation of resources, resulting in allocative inefficiency. The deadweight loss to society is represented by the area ABC.

Body 2 – Over-consumption due to imperfect information

Besides negative externalities, over-consumption of e-cigarettes also occur due to imperfect information. Smokers might not be able to accurately estimate their private benefit as they are unaware of the full extent of harmful effects from smoking e-cigarettes. For instance, consumers may think that e-cigarettes is a safer alternative compared to traditional cigarettes, ignorant of the fact that e-cigarettes can result in more severe lung illness such as E-cigarette or Vaping Use-Associated Lung Injury (EVALI). Thus, it is likely that they will overestimate their MPB, leading to the perceived MPB being higher than the actual MPB. Assume no externalities.

If left to the free market, the consumption and production of e-cigarettes occurs at Q_m where misperceived $MPB = MPC$. However, the socially optimal level of output is Q_s , where actual $MPB = MPC$. Since $Q_m > Q_s$, there is over consumption of e-cigarettes and hence, over-allocation of resources, resulting in allocative inefficiency and deadweight loss to society.

Conclusion

The presence of both negative externalities and imperfect information leads to an over-consumption of e-cigarettes, thus requiring government intervention to improve the allocation of resources and reduce the deadweight loss.

Level	Knowledge, Application, Understanding & Analysis	
L3	Developed and well-contextualized explanation of both negative externalities and imperfect information leading to the over-consumption of e-cigarettes (2 types)	8 - 10
L2	Undeveloped explanation of both negative externalities and imperfect information leading to the over-consumption of e-cigarettes (2 types) OR Developed discussion of negative externalities OR imperfect information leading to the over-consumption of e-cigarettes (1 type)	5 - 7
L1	Smattering of valid points	1 - 4

- b) Discuss whether a ban is the best policy to ensure an efficient allocation of resources in the market for e-cigarettes. [15]

To improve the over-allocation of resources in the market for e-cigarettes, the government may intervene with a ban, indirect tax or moral suasion. Whether a ban is the most effective policy depends on the extent of over-consumption as well as whether the ban can address the root causes of the inefficient allocation.

Thesis: A ban can ensure an efficient allocation of resources

As WHO declared e-cigarettes to be undoubtedly harmful, it is likely that the MSC of consuming/producing e-cigarettes is higher than MSB for all output levels, thus the government decided to ban the use, purchase and sales of e-cigarettes. A ban is an extreme form of legislation where output is set at 0, meaning that there is zero consumption/production of e-cigarettes.

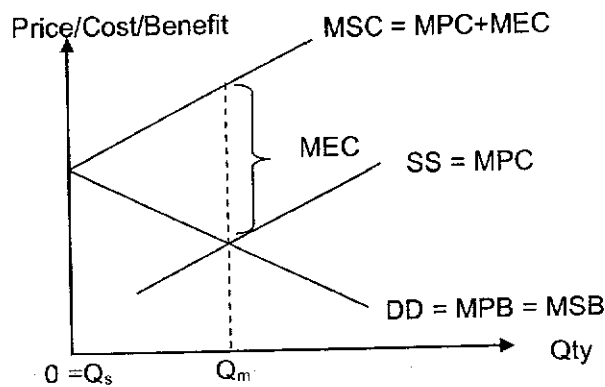


Figure 2: Ban in the e-cigarettes market

With reference to Figure 2 above, smokers consume Q_m where $MPB = MPC$ while Q_s is the socially optimal level of output where $MSB = MSC$. Since $Q_s = 0$, the imposition of a ban results in zero deadweight loss and leads to an efficient allocation of resources in the e-cigarettes market.

Anti-thesis 1: A ban cannot ensure an efficient allocation of resources

However, a ban may not bring about a more efficient allocation of resources if the extent of over-consumption is small/ the degree of negative externality is not large; imposing a ban may actually contribute to greater allocative inefficiency.

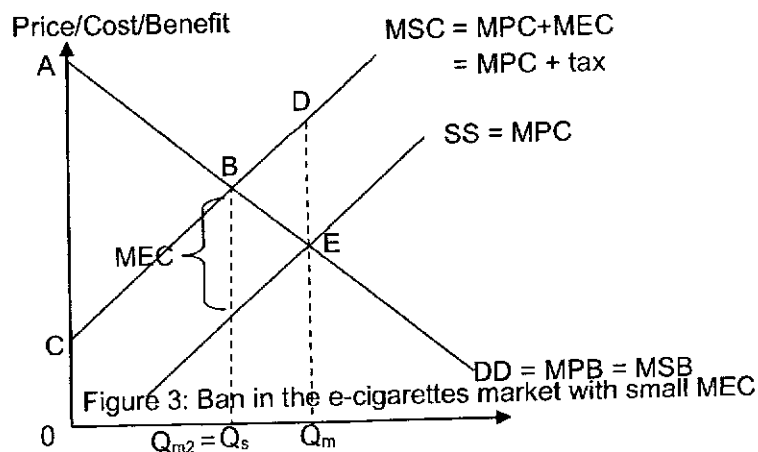


Figure 3: Ban in the e-cigarettes market with small MEC

As shown in Figure 3 above, when the divergence between MSC and MPC is very small (due to a small MEC), the socially optimal output (Q_s) would be a non-zero level and Q_s exceeds Q_m by a little. Thus, the ban would result in a greater deadweight loss of area DAE compared to the initial deadweight loss of area of ABC, worsening the inefficient allocation of resources.

Another limitation of the ban is the high administrative costs incurred in channeling resources to enforce compliance with the ban. For instance, the hiring of officers to monitor and carry out routine checks to ensure no sales and usage of e-cigarettes.

Anti-thesis 2: Other policies can ensure an efficient allocation of resources

① Alternatively, the government may choose to impose an indirect tax to increase the cost of producing e-cigarettes. With reference to Figure 3, when the tax is equal to MEC, smokers internalize the negative externality and MPC shifts upwards to coincide with MSC. This reduces Q_m until the new market output Q_{m2} coincides with Q_s , thus improving the inefficient allocation of resources in the e-cigarettes market.

However, there are limitations of an indirect tax to reduce the over-consumption of e-cigarettes. It is difficult to quantify MEC in monetary terms, hence difficult to estimate the optimal amount of tax to impose on e-cigarettes. As such, government intervention may actually produce unintended negative results making the cost of government failure considerably greater than the cost of market failure. For instance, the government may over-tax and this will lead to under-consumption/production. The new consumption level could fall short of social optimal level, Q_s , and welfare loss under government intervention could exceed initial welfare loss under free market conditions, thus it may not lead to an efficient allocation of resources. Conversely, if the government under-tax e-cigarettes, it will lead to under-consumption, which will still detract the goal of allocative efficiency.

② Alternatively, the government can also engage in moral suasion to educate the public on the harmful effects of smoking e-cigarettes. Such public health campaigns reduces the divergence between the smokers' misperceived MPC and the actual MPC by raising awareness about such issues. Effective campaigning will improve the information smokers have and make them less ignorant to the negative impacts of smoking e-cigarettes. With better quality of information, smokers' misperceived MPB decreases towards actual MPB, thereby reducing market equilibrium output Q_m towards the socially optimal level of output Q_s , thus improving the inefficient allocation of resources in the e-cigarettes market.

However, the limitation of moral suasion is that outcomes are uncertain as it relies on the voluntary actions of individuals to change their smoking habits. Despite being better informed, there is no perfect information as smokers tend to attach a low probability of them contracting any smoking-related diseases. Thus, improving the quality of information alone may not be sufficient to reduce the over-consumption of e-cigarettes and bring about an efficient outcome.

Level	Knowledge, Application, Understanding & Analysis	
L3	Developed discussion of whether ban is the best policy <ul style="list-style-type: none"> • how a ban works to bring about an efficient allocation of resources • ~2 limitations of a ban (anti-thesis) • 2 alternative policies + limitations (anti-thesis) 	8 - 10
L2	Undeveloped discussion OR developed explanation for one side (either thesis or anti-thesis) 'Undeveloped' – Descriptive explanation of how the measures address negative externalities and imperfect info	5 - 7
L1	Smattering of valid points	1 - 4
E3	Well-reasoned judgement on what constitutes the best government policy i.e. consider the root cause of the problems to decide which is the best policy	4-5
E2	Undeveloped judgement on why a ban may or may not be the best policy	2-3
E1	Unsupported judgement on why a ban may or may not be the best policy	1

2021 J2 H2 Prelims EQ4 (Macro) – Ans for other JCs

<p>(a) Explain how an appreciation of a country's currency might affect its balance of payments. [10]</p> <p>(b) In recent years, uncertainty and disruptions have affected global economic developments.</p> <p>Discuss whether the Singapore government should change her policies for managing the balance of payments. [15]</p>

Suggested Mark Scheme (a)

Knowledge, Application/ Understanding and Analysis		
L3	For an answer that uses appropriate analysis to show how the current and financial account position will be affected when domestic currency appreciates. i.e. refers to appropriate elasticity values + considers impact on relevant sub-accounts in the BOP. <i>Suggested mark distribution: 3m per point, mix of current and financial account.</i>	8-10
L2	For an answer that gives a descriptive explanation of how the current and financial account position will be affected. Alternatively, the answer gives a developed explanation for <u>either</u> current or financial account only.	5-7
L1	Smattering of valid points	1-4

Suggested Mark Scheme (b)

Knowledge, Application/ Understanding and Analysis		
L3	Developed discussion of at least 2 policies adopted by the Sg govt to manage her BOP, followed by whether and how there is a need to tweak them in view of recent global developments. 'Developed' – Able to explain the workings of each policy and how they affect the current/ financial account.	8-10
L2	Undeveloped discussion OR developed explanation for one-side only. 'Undeveloped' – Descriptive rather than analytical, superficial link to context and preamble.	5-7
L1	Smattering of valid points	1-4
E3	Evaluative appraisal of whether there is a need for the Sg govt to change current measures to manage the BOP. Specifically, after explaining each policy, the answer <u>considers</u> how they can be refined/ adjusted by referring to recent events (e.g. Covid-19 pandemic etc.)	4-5
E2	Some attempt at an evaluative appraisal of whether there is a need for the Sg govt to change current measures to manage the BOP.	2-3
E1	Unsupported concluding statement about the relevance of existing measures and whether they need to be tweaked in the light of recent developments.	1

Part (a)

INTRO

- Define balance of payments (BOP) as a record of all economic transactions between residents of one country and the rest of the world in a given time period
- Explain what a BOP surplus implies and what BOP deficit means.
- State that the BOP includes:
 - current account;
 - financial account
 - official financing account.
- Further explain that the current account includes:
 - Balance of Trade
 - Service Balance
 - Net Income Flows
 - Net Unilateral Transfers
- Next explain that the financial account includes:
 - Short term capital flows
 - Long term capital flows
- State overview of essay

DEVT

- Explain what is meant by exchange rate of a country's currency.
- Explain how an appreciation of a country's currency will lead to rise in price of exports coupled with fall in price of imports.
- Next, explain how the quantity demanded of exports and imports will be affected.
- Assume the Marshall-Lerner condition holds i.e. sum of price elasticities of demand for exports and imports exceeds 1 ($PED_x + PED_M > 1$).
- Following this, explain how net exports ($X-M$) will be affected and in turn, how the balance of trade and service balance position may worsen.
- Link to impact on current account and balance of payments position.
- Secondly, explain how the fall in price of imports will affect the cost of production in the domestic country.
- Subsequently, explain how this can help to partially mitigate the loss of export competitiveness.
- Link the above analysis to how the current account position may not worsen that much.
- Next, explain how an appreciation of a country's currency may affect her financial account position.
- Specifically, explain how a stronger domestic currency may encourage foreign direct investment if potential foreign investors perceive the country to be doing well.
- In this case, there will be a positive impact on the financial account position since there is inflows of long term capital.
- Provide an alternative case whereby the appreciation of a country's currency may also lead to potential foreign investors undertaking less investment.
- Reason being, it is now more costly to do so. Given the above possibilities, it is difficult to ascertain clearly how the country's financial account position will change.

CONCLUSION

- Highlight that it is difficult to state conclusively how a country's BOP will be affected when her currency appreciates.
- Reason being, at any point in time, many factors are changing simultaneously. As such, we will need to consider many other factors that have occurred.
- Only then can we say in definite how the balance of payments have changed.

Part (b)

INTRO

Discuss whether = 2 POV, can use **THESIS-ANTITHESIS-SYNTHESIS** approach

- Reference to be made to preamble.
- Key: Link policies to exports + FDI predominantly

DEVT Part 1:

THESIS: Sg govt may need to make some changes to current policies for managing the BOP. Why?

- Ref preamble: Uncertainty & disruptions happening around the world in recent yrs
- E.g.: Economic fallout from Covid-19 pandemic/ Technology disruptions/ Trade Wars etc.

① Be prepared to switch to neutral stance

- Following the economic fallout from Covid-19 pandemic, the Monetary Authority of Singapore (MAS) has kept S\$ on neutral stance.
- Students can explain briefly what a neutral stance means and how such a stance is necessary in the given circumstances.
- Focus on how such a policy stance can help to ensure Singapore's exports remain competitive with respect to other that of other countries.
- If we look at the trends or future outlook, MAS may need to be prepared to even move from neutral stance to depreciation, although this may not be very likely.

② Complement with measures to raise SRAS and/ or LRAS

- Following the economic fallout from Covid-19 pandemic, we can see that in 2020, the Singapore government has implemented various supplementary budgets.
- In each of these budgets, there are initiatives to help firms lower their cost of production. More notably, wage subsidies are being given to help with firms' operations.
- It is hoped that with such help measures, firms can continue to keep the price of their products (e.g. exports) competitive.
- If successful, this can help to ensure Singapore's exports remain competitive so that Singapore's current account will not go into deficit.
- Can evaluate that such help measures cannot be continued indefinitely because of the possible drain on government funds.
- Other measures that raise LRAS need to be continued given their importance to Singapore's long term economic growth.

DEVT Part 2:

ANTI-THESIS: No need for Sg govt to make big/ much change to current policies for managing the BOP. Why?

- Explain 2 current policies adopted by the Singapore government in managing the BOP:
 - (1) Keep Singdollar on a gradually appreciating stance
 - Explain what this policy stance means and how it works to manage the BOP.
 - Students need to explain how it affects the current account position.
 - Students also need to link to how the resulting price stability achieved can in turn have some implications on the financial account position.
 - (2) Use supply side policies
 - Explain some types of supply side policies that can contribute to raising the competitiveness of Singapore's exports.
 - Link to how this can affect the current account position.
 - If possible, students can also link how some of these supply-side policies can go on to affect Singapore's financial account position if it contributes to attracting FDI into Singapore.
- ∴ Traditionally, the above 2 policies have been adopted by the Sg govt to manage our BOP i.e. ensure favourable BOP position.

2021 J2 H2 Prelims EQ 5 (Macro) – Answers for Other JCs

The size and openness of an economy will affect the value of her multiplier, thereby influencing a government's macroeconomic policy decision-making.	
(c)	Explain how trade-offs between government macroeconomic aims arise in the course of her policy decision-making. [10]
(d)	Discuss how far the size and openness of an economy influence a government's macroeconomic policy decision-making. [15]

Suggested Mark Scheme (a)

Knowledge, Application/ Understanding and Analysis		
L3	For an answer that uses appropriate analysis to show three possible trade-offs that may arise in the course of macroeconomic policy decision-making i.e. uses analytical tools such as AD-AS diagram. <i>Suggested mark distribution: ±3m per trade-off.</i>	8-10
L2	For an answer that gives a descriptive explanation of trade-offs between government macroeconomic aims.	5-7
L1	Smattering of valid points	1-4

Suggested Mark Scheme (b)

Knowledge, Application/ Understanding and Analysis		
L3	Developed discussion of how size & openness, and at least 2 other factors determine a government's macroeconomic policy decision-making. 'Developed' – Able to link each factor to how decision making will be affected. E.g., links size & openness to value of k, and consequently, whether the government can adopt demand-management policy predominantly or need to rely on policy mix.	8-10
L2	Undeveloped discussion OR developed explanation for one-side only. 'Undeveloped' – Descriptive rather than analytical, superficial link to preamble.	5-7
L1	Smattering of valid points	1-4
E3	Evaluative appraisal of how important the size & openness of an economy is to influencing government's macroeconomic policy decision-making. Specifically, after explaining the factors each policy, the answer is goes one step further to <u>weigh amongst them</u> , justifying which factor is relatively more important.	4-5
E2	Some attempt at an evaluative appraisal of how important size & openness of an economy is to influencing policy decision-making.	2-3
E1	Unsupported concluding statement about the appropriateness of the three-pronged approach	1

Part (a)

INTRO

- Explain what macroeconomic policy decision making entails.
- State the four key macroeconomic aims - sustainable economic growth, price stability, full employment and favourable balance of payments (BOP) position.
- State overview of essay

DEVT

Trade-off #1: Actual economic growth (or low unemployment) vs Price Stability

- When expansionary demand management policy is adopted to increase aggregate demand, this leads to a rise in national income by a multiple
- It may also contribute to a rise in employment.
- However, if AD continues to rise as the economy nears her full employment level of output, demand-pull inflation may result
- If so, this leads to a rise in general price level.
- Draw in AD-AS diagram to illustrate the above tradeoff.

Trade-off #2: Potential economic growth vs Low unemployment

- When certain types of supply-side policies e.g. policies to encourage more automation are implemented to increase a country's productive capacity, this theoretically leads to a rise in both the quantity and quality of factors of production.
- As a result, this translates to a rise in the long run aggregate supply.
- However, such supply side policies may cause hasten structural changes. When this happens, there will be potential economic growth but it comes at the expense of keeping unemployment low.

Trade-off #3: Price stability vs Favourable Balance of payment position

- When governments keep their domestic currency on a gradually appreciating stance, this prevents imported & cost-push inflation, as well as moderates DD-pull inflation.
- However, a stronger domestic currency causes exports to lose competitiveness.
- If so, there may be an adverse impact on the current account position.
- In this case, trade-off occurs between price stability and favourable balance of payments position.

**Note: Other instances of trade-offs between macroeconomic aims are acceptable as long as the explanation is economically sound.*

CONCLUSION

- Given that trade-offs occur in the pursuit of macroeconomic aims, the government will need to consider their costs and benefits carefully before deciding on their policy decisions.

Part (b)

INTRO

- Define multiplier and state the formula to calculate it i.e. $k = \frac{1}{1-mpc} = \frac{1}{mps+mpt+mpm}$, where mpc, mps, mpt and mpm is the marginal propensity to consume, save, tax and import respectively.
- State that k shows the number of times that national income (NY) will change, given an initial change in aggregate demand (AD).
- Overview: Highlight that while size and openness of an economy does play a part in influencing a government's macroeconomic policy decision-making to some extent, it is not the only factor because other factors also matter.

DEVT Part 1 (Thesis)

- Using the example of Singapore, explain how the size and openness of the economy can have an implication on the value of the multiplier.
- Specifically, highlight that the nature of Singapore results in a small value of multiplier compared to that of larger and less open economies.
- Very importantly, the value of k will determine how effective demand-management policies will be and thereby influence a government's macroeconomic policy decision making.
- Students should draw reference to the multiplier process (but no need to give detailed numerical example), show how an increase in aggregate demand will translate to a smaller overall increase in national income after the various rounds in the case of small, open economies such as Singapore.
- In contrast, for larger and less open economies, the above increase in aggregate demand will instead translate to a much larger ultimate rise in national income.
- Link back to the question: in this case, the government of small, open economies will need to tap on other policies whereas the government of larger and less open economies can use demand management policy predominantly in times of recession.

DEVT Part 2 (Anti-thesis)

- Besides the importance played by the size and openness of an economy, the anti-thesis will require students to explain in detail at least two other factors that can influence a government's macroeconomic policy decision-making.
- Specifically, these factors can be explained:
 - Crowding out
 - Tradeoffs between macroeconomic aims
 - Time lags
 - Outlook
- For crowding out – first explain what this concept means and how it will influence decision making especially for expansionary fiscal policy.
- Link to how a rise in government expenditure will crowd out private investment and this may reduce the extent of increase in aggregate demand and in turn national income.
- Explain how decision making will differ between two cases: if crowding out exists vs if crowding out did not exist.
- For time lags – first explain the possible time lags that are present (i.e. recognition, implementation and impact lag).
- Next, explain how each of these lags work in decision making.
- More importantly, students can make use of example (e.g. Singapore) to show how the duration of each lag will affect government's decision making.
- Specifically, governments who face shorter duration lags will be in a position to undertake certain policies. In contrast, governments who suffer longer time lags may find that they are not able to adopt certain policies that easily.
- For tradeoffs between policy aims, students can make reference back to part (a). In the event where there are no tradeoffs, the government can make decisions on what policies to adopt more easily.

• **RVHS 2021 JC2 H2 Paper 2 Question 6**

• While Singapore's national income and labour productivity grew over the past decade, she confronts the challenges of a shrinking workforce and declining productivity growth.

- a) Explain how the challenges above will affect a country's economic growth. [10]
- b) Discuss the extent to which economic growth determines the standard of living in Singapore. [15]

• a) Explain how the challenges above will affect a country's economic growth. [10]

• A country's economic growth is defined as the rate of increase in real national income over a period of time, usually one year. The challenges of a shrinking workforce and declining productivity growth will affect a country's economic growth adversely.

• Given Singapore's falling birth rates and ageing population, this will lead to a shrinking workforce. With a shrinking workforce, this will lead to a fall in supply of workers, which will lead to an increase in wages as firms compete for these workers. The increase in wages will lead to a rise in cost of production at each and every output level, thus causing short-run aggregate supply (AS) to fall from AS_0 to AS_1 as shown in Figure 1.

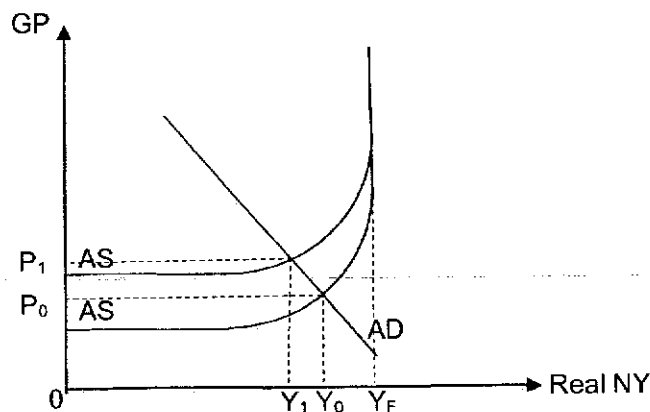


Fig 1 Fall in SRAS due to increase in

• At the original price P_0 , a shortage is created when short-run AS shifts from AS_0 to AS_1 , which will cause an upwards pressure on general price level (GPL). With an increase in GPL, there will be a fall in consumption as consumers are less willing and able to buy goods and services, a fall in investment as cost of production increases and also a fall in exports as exports become more expensive. All these are represented by a movement along the aggregate demand (AD) curve. GPL will continue to increase until the new equilibrium price P_1 is reached where AD is equal to AS_1 . As such, there will be negative economic growth as NY falls by a multiple from Y_0 to Y_1 .

• With a shrinking workforce, there will also be a fall in quantity of labour especially when senior workers retire and leave the workforce. If this is the case, it will result in a fall in productive capacity as long-run AS falls from AS_0 to AS_1 in Figure 2, assuming ceteris paribus. Similarly, at the original price P_0 , a shortage is created when long-run AS shift from AS_0 to AS_1 , which will cause an upwards pressure on GPL. GPL will continue to increase until the new equilibrium price P_1 is reached where AD is equal to AS_1 . Again, there will be negative economic growth as NY falls by a multiple from Y_0 to Y_1 .

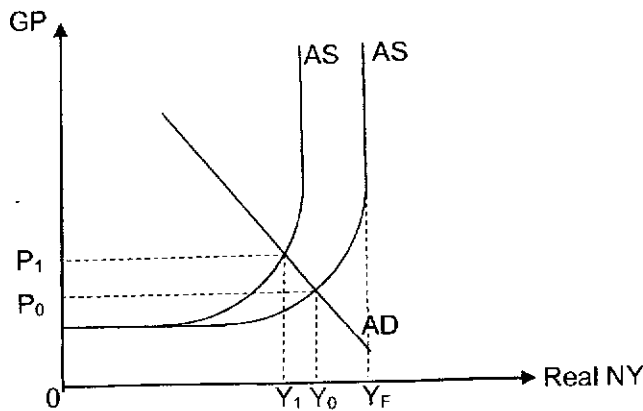


Fig 2 Fall in LRAS due to decrease in quantity of

Productivity is defined as the amount of output per unit of input. With declining productivity growth, it means that the amount of output per unit of input will be increasing at a decreasing rate.

With a decline in productivity growth, it is less attractive to invest as with the same amount of input, the increase in output is of a smaller extent. This will lead to a smaller increase in investment, both domestic and foreign direct investment, as there is a smaller increase in rate of return. Similarly, export competitiveness also increase at a slower rate as there are less improvements made to exports, which results in a smaller increase in export revenue. Together, these will lead to a smaller increase in AD as shown by AD increasing from AD_0 to AD_1 in Figure 3, thus increasing NY from Y_0 to Y_1 , compared to Y_2 in the case where productivity growth did not fall.

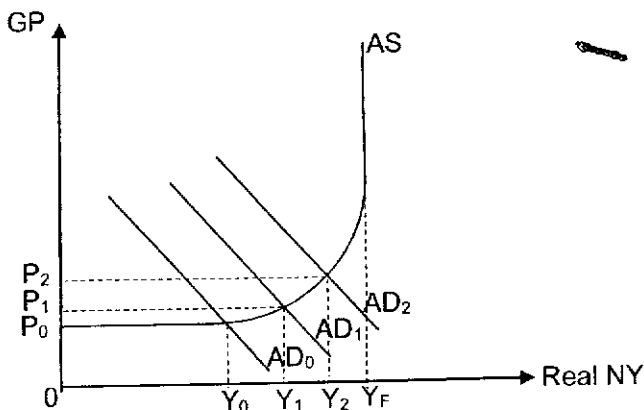
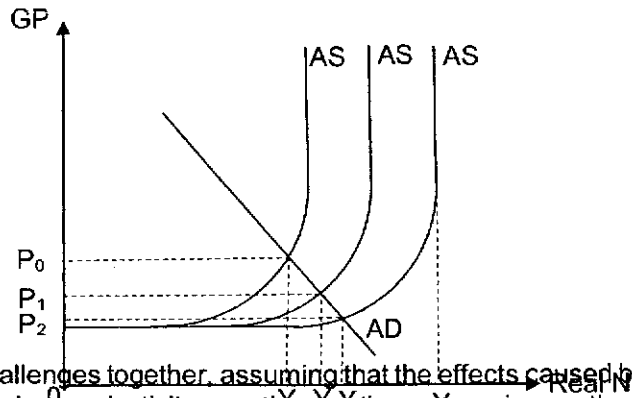


Fig 3 Increase in AD due to increase in

With a declining productivity growth, the increase in quality of factors of production like labour and capital will be slower and as such, this will result in a smaller increase in productive capacity. Long-run AS will

increase from AS_0 to AS_1 , instead of AS_2 had productivity increase at the same rate. As such, this will result in a smaller increase in NY from Y_0 to Y_1 , instead of Y_2 .



Putting both challenges together, assuming that the effects caused by the shrinking labour force outweighs that of the declining productivity growth, negative economic growth will be experienced. On the other hand, if the effects of declining productivity growth outweighs that of the shrinking labour force, then economic growth will still be experienced, although at a smaller rate.

Knowledge, Application/ Understanding and Analysis

L3	For a developed answer that explains how each of the challenges given in the preamble affects a country's economic growth. A developed answer will have explained how both challenges have affected AD, SRAS and LRAS (with diagrams drawn) and as such, economic growth. Examples linking challenges faced by Singapore to economic growth can be used to substantiate the answer.	8-10
L2	For an undeveloped answer that explains how each of the challenges given in the preamble affects a country's economic growth. For a developed answer that explains how only one challenge given in the preamble affects a country's economic growth.	5-7
L1	For an answer that shows some unexplained knowledge of how each of the challenges given in the preamble affects a country's economic growth.	1-4

- **b) Discuss the extent to which economic growth determines the standard of living in Singapore.**
[15]

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- Intro
- A country's standard of living (SOL) can be determined by both material and non-material aspects. Material SOL measures the amount of goods and services that individuals within the country have available for consumption while non-material SOL involve indicators like environmental factors (e.g. pollution) and socio-economic factors (e.g. life expectancy, stress-related illnesses, etc).

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- Thesis: Economic growth determines the standard of living in Singapore

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- As part a defined, a country's economic growth is defined as the rate of increase in real NY over a period of time, usually one year. As such, there is an increase in real NY as economic growth is achieved. This can be caused by an increase in AD, assuming that economy is not at full employment yet or an increase in short-run AS, due to a fall in cost of production or an increase in long-run AS, assuming that AD is at the intermediate or classical section of the AS curve. A higher NY over time would mean that there are more goods and services produced and at the same time, employment levels will increase as more factors of production are needed to produce the increase in goods and services. Hence, material SOL will improve over time.

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- In the case of Singapore, the rate of increase in real NY is likely to be higher than the rate of increase in population size due to falling birth rates, which is also reiterated by the shrinking workforce as mentioned in the preamble. As such, this will lead to an increase in real NY per capita, which means that more goods and services can be enjoyed by the average Singaporean and this will improve the current material SOL in Singapore. With higher NY per capita, non-material SOL can also be improved as Singaporeans can afford higher quality healthcare and thus, enjoy an increase in life expectancy.

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- At the same time, it is much easier for a growing economy to care for its less fortunate citizens than it is for a stagnant economy. When there is economic growth, there is an increase in income levels experienced by households and firms and this will increase the tax revenue that the Singapore government can collect through personal income tax, goods and services tax and corporate income tax. With a higher tax revenue, some can be redistributed to the lower-income group and this will suggest that majority of the population are able to consume more goods and services, thus increasing their material SOL.

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- With the emphasis on productivity-driven growth, Singapore has emphasized on supply-side policies like education and training to counter the increasing burdens of shrinking workforce and declining productivity growth. These initiatives help to create employment opportunities and also increase the wages of Singaporeans as their productivity increases. This helps to increase the amount of goods and services that Singaporeans can afford and thus, improve their material SOL. As workers' productivity increases, they might spend less time on work to produce the same amount of output. This frees up more time for leisure, which improve their non-material SOL in the future too.

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- Anti-thesis: Economic growth alone will not determine the standard of living in Singapore

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- General price level determines SOL
- Demand management policies like expansionary fiscal policy are usually undertaken to stimulate economic growth but if they are undertaken too aggressively, it might bring about demand-pull inflation especially in the case whereby increase in long-run AS is limited due to a shrinking workforce and declining productivity growth. As shown in Figure 5, increase in AD from AD_0 to AD_1 increases general price level from P_0 to P_1 . However, if AD continues to increase to AD_2 without any corresponding increase in AS, general price level will continue to increase to P_2 , resulting in demand-pull inflation. A persistent increase in general price level will lead to an increase in cost of living. With a fall in the internal value of money, citizens will be able to buy less goods and services with the same amount of money and this will result in a fall in material SOL as most might have to give up on luxuries in order to buy necessities.

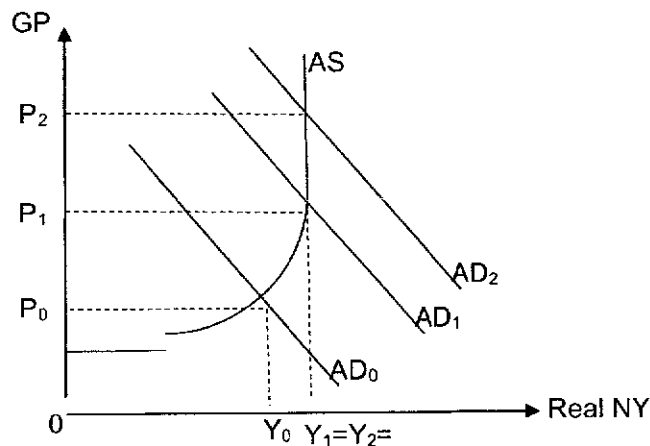


Fig 5 Increase in AD causing demand-pull inflation

Distribution of income determines SOL

Besides increasing real NY per capita, achieving an equitable income distribution is also important to improve SOL. With the emphasis on productivity-driven growth as mentioned earlier, Singapore has also encouraged the adoption of technology-driven solutions. As such, those with the knowledge and skills needed like IT skills will experience an increase in income as demand for these workers increases while those workers who are replaced by IT equipment and do not have the skills to take up new jobs will face structural unemployment. This will possibly lead to a widening income gap and thus, high real NY per capita may not necessarily mean that the income is evenly distributed amongst Singaporeans. An increase in real NY per capita could be due to higher level of income earned by a minority group of people while the majority do not see improvement in their income.

As such, information on the Gini Coefficient (GC) is required to understand more about income distribution amongst the population in Singapore. The higher the GC (range from 0 to 1), the more uneven the income distribution is i.e. higher proportion of income is held in the hands of the wealthy minority. Real GDP per capita has been increasing over the last ten years although it fell in 2020 as Singapore's economy shrank due to the COVID-19 crisis. Including government transfers and taxes, the GC was 0.375 in 2020, the lowest in two decades. As such, with an increase in real GDP per capita over the last ten years together with a fall in the GC, it can be said that majority of Singaporeans have experienced an increase in material SOL over the years.

Composition of goods produced determines SOL

In addition, an increase in real NY might not translate to an increase in level of consumption per head. Whether an increase in real NY will lead to an increase in material aspect of SOL depends on the composition of consumption versus capital goods and the time frame of analysis. If the increase in real GDP is due to an increase in the production of capital goods to increase productivity e.g. investment in high tech machinery and equipment in the case of Singapore, this will probably only improve future SOL but does not improve current SOL since the amount of consumer goods and services available for current consumption e.g. food and clothing did not increase for an average Singaporean.

Amount of leisure time, stress levels and pollution levels determines SOL too

- Last but not least, given that Singapore is a face-paced society, it is likely that even with an increase in labour productivity, majority of the workforce might still be working long hours in exchange for better work performance bonuses on an individual level or to achieve higher real NY on a macro level. Under such conditions, it is likely that leisure time might not have increase but instead stress levels will increase and this will adversely affect the mental health of Singaporeans, drastically reducing the non-material SOL of Singaporeans in the long run. With "homeworking" taking root amid the Covid-19 pandemic, many employees in Singapore find themselves being pushed to the limits, as the boundaries between work and home become blurred. Some worked around the clock, even on weekends. This will worsen the non-material SOL of Singaporeans.
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- If the increase in NY causes more Singaporeans to consume more energy-consuming goods like usage of fossil fuel-powered cars and air conditioning, then this might result in an increase in air pollution and congestion. These negative externalities will result in worsening of Singaporean's non-material SOL.
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- Conclusion
- It is no doubt that achieving economic growth determines the SOL in Singapore to a large extent. However, it is definitely not the only factor that determines SOL. In the attempt to achieve sustained economic growth, measures have to be undertaken to ensure that structural unemployment, income distribution, together with environmental and socio-economic factors do not worsen so as to ensure that both material and non-material SOL can continue to increase.
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Knowledge, Application/ Understanding and Analysis		
L3	For a well-developed discussion on the extent to which economic growth determines the standard of living in Singapore. Well-developed: Explanation on how economic growth improves both material and non-material SOL and also explanation on how with economic growth, material and non-material SOL might not improve, substantiated with good use of examples in the context of Singapore.	8-10
L2	For an undeveloped discussion on the extent to which economic growth determines the standard of living in Singapore or a well-developed one-sided explanation on how economic growth improves both material and non-material SOL or how with economic growth, material and non-material SOL might not improve, substantiated with some examples in the context of Singapore.	5-7
L1	For an answer that shows some knowledge of how economic growth improves both material and non-material SOL, with limited reference to the context of Singapore.	1-4
E3	For an answer that uses analysis to support an evaluative judgment to determine the extent to which economic growth determines the SOL in Singapore.	4-5
E2	For an answer that makes some attempt at an evaluative judgment to determine the extent to which economic growth determines the SOL in Singapore.	2-3
E1	For an unexplained evaluative statement(s).	1