



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

**ECONOMICS**

**9570/01**

Paper 1 Case Study

**16 September 2024**

Additional Materials: Answer Booklet

**2 hours 30 minutes**

**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 7 printed pages and 1 blank page.

**[Turn over]**

Answer all questions.

### Question 1: Changes in the market for air travel

#### Extract 1: Revenge travel wreaks havoc on more than just airports

Air travel is making a comeback. But the aviation sector is struggling to meet surging demand as major airports worldwide are plagued by endless queues at counters and chaos at baggage carousels due to shortage of passenger service crew. This revenge travel can be attributed to pent-up demand as holidaymakers try to make up for lost time.

Besides causing headaches for customers and companies, revenge travel is bad news for our warming planet. COVID-19 grounded planes to an unprecedented extent in 2020, resulting in huge drops in flight-related carbon emissions. The International Energy Agency said emissions from international aviation fell almost 45 per cent from 2019 to 2020, a decline comparable to taking 100 million cars off the road. History suggests the rebound in travel we are seeing now will be accompanied by an increase in carbon emissions.

To minimise the environmental impact of our post-pandemic adventures abroad, we can consider other ways to travel besides flying. Generally, planes are the heaviest emitters and trains the lightest. A flight from Singapore to Kuala Lumpur (KL) produces 62kg of CO<sub>2</sub> per passenger while a passenger who travels to Kuala Lumpur by train only emits 0.8kg of CO<sub>2</sub>. The potential carbon savings from commuting to Malaysia by train could be substantial. To encourage consumers to choose trains over planes, it is essential to improve the convenience and speed of train travel. The ongoing discussions between Malaysia and Singapore about reviving the terminated KL-Singapore High Speed Rail project offer hope. A direct high-speed rail link would significantly reduce travel time and make train travel a more attractive option, encouraging more people to opt for this environmentally friendly mode of transport.

*Source: Channel NewsAsia, 07 August 2022*

#### Extract 2: Asian airlines rush to restore routes as air travel recovers from Covid

Ahead of the year-end travel season, Asian airlines are ramping up flight options by training and hiring pilots and in-flight crew in a battle to board flyers, with air travel continuing to recover as Covid concerns remain largely downgraded.

But analysts and industry groups note that regional airlines are closely monitoring rising fuel prices and interest rates, as economic uncertainties could dampen earnings while airlines are grappling with a gradual recovery.

Singapore Airlines (SIA) reported a record operating profit of SG\$1.23 billion (\$740 million) for the six months ending in September. This marks a significant turnaround from the SG\$620 million full-year loss in 2021, driven by increased flight demand following Singapore's reopening to vaccinated travellers in April. However, SIA, like many other carriers, remains wary of persistently high fuel costs, inflation pressures across supply chains, geopolitical tensions, and the looming risk of a global recession beyond the Chinese New Year in January.

*Source: Financial Times, 21 December 2022*

### **Extract 3: The aviation sector wants to reach net zero by 2050**

Aviation is responsible for around 2.5% of global CO<sub>2</sub> emissions, with most aircraft powered by conventional jet fuel. The European Commission predicts that by the middle of the 21st century, demand for flying could increase aviation's greenhouse gas emissions by upwards of 300% over 2005 levels if no drastic measures are taken to reduce them.

The aviation industry has adopted the goal of reaching net-zero carbon emissions by 2050. In October, the UN's International Civil Aviation Organization (ICAO) led two weeks of negotiations involving 184 nations to agree on CO<sub>2</sub> emissions reduction measures. One of these include ramping up innovative aircraft technologies, "streamlining" flight operations and the increased production and use of sustainable aviation fuels (SAF).

Sustainable Aviation Fuels can reduce emissions by 80% according to the International Air Transport Association (IATA). SAF can be made from several sources ranging from agricultural waste to carbon captured from the air. It is fully compatible with existing aircraft and fuelling infrastructure. However, high production costs and limited supply has slowed its adoption. It is estimated that SAF comprises less than 0.1% of all conventional jet fuel currently used. To accelerate the adoption of SAF, stakeholders such as businesses and governments must collaborate on effective strategies. Governments can incentivise adoption by providing subsidies to airlines to offset costs. This initiative aims to establish a viable pathway for the aviation sector to achieve significant decarbonisation in the coming years.

*Source: World Economic Forum, 9 December 2022*

### **Extract 4: Overdue brand reboot aims to rescue Air India's battered image**

Almost a year has passed since India's biggest conglomerate bought Air India Ltd., promising to turn it into a world-class airline.

Tata Group, which paid \$2.2 billion to buy Air India back from the government, has a five-year transformation plan called Vihaan – Sanskrit for new dawn. UK-based FutureBrand was last week brought in to help with the makeover, which could include dropping the airline's "outdated" Maharajah mascot, local media reported.

There's a "desperate need to improve its product and service," said Shashank Nigam, chief executive officer of airline brand-strategy firm SimpliFlying. Campbell Wilson, who shifted from Singapore Airlines Ltd.'s low-cost unit to become Air India CEO over the summer, told reporters recently that aircraft interiors will be refurbished, including seats, cushions and carpets.

Nigam said Air India needs to position itself as a progressive brand that caters to younger people, which is particularly important given India's demographics and sheer size of its young population. By previously branding itself as the custodian of Indian culture and heritage, the airline gave off an impression of being old fashioned and stuck in time, he said, adding that its fleet is old and "needs urgent rejuvenation."

Tata said last week that its Vistara joint venture with Singapore Airlines would be merged into Air India, creating the country's second-biggest carrier. "Partnerships like this combine sales effectiveness, customer bases, loyalty programs of multiple airlines, so that you can really make one plus one be worth more than two," said Allan Schulte, Bain & Co.'s head of Asia-Pacific airlines, logistics and transportation.

*Source: Bloomberg, 7 December 2022*

**Table 1: Top Indian Airlines Market Share in 2022**

Airline	Market Share (%)
IndiGo	58.7
Vistara	9.2
Air India	9.1
AirAsia India	7.6

Source: Bloomberg, 7 December 2022

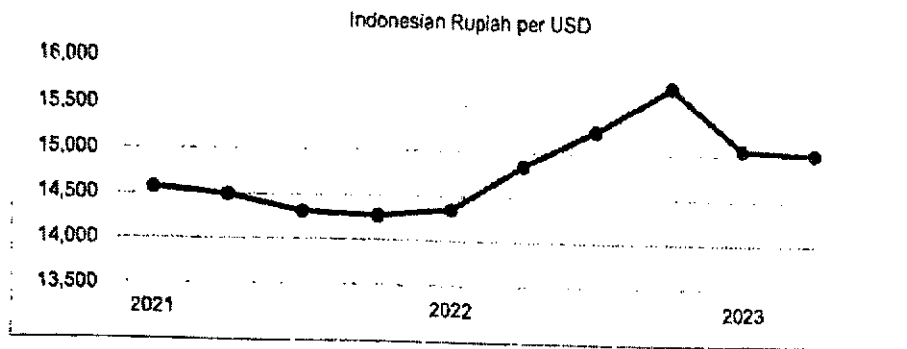
**Questions**

- (a) Using the evidence in Extract 3, explain whether the cross elasticity of demand between sustainable aviation fuel (SAF) and conventional jet fuel is positive or negative. [3]
- (b) Explain why the KL-Singapore high speed rail should not be considered a public good. [3]
- (c) Using a supply and demand diagram, explain why the price of air travel might have increased sharply following the recovery of the air travel industry from the impact of Covid-19. [4]
- (d) Explain the market structure of Indian airline industry in 2022. [2]
- (e) Discuss whether Air India's plan to revive its carrier is likely to increase its profits. [8]
- (f) Discuss whether providing subsidies to airlines for adopting sustainable aviation fuel (SAF) is the best policy to improve the efficiency of resource allocation in the market for air travel. [10]

[Total: 30]

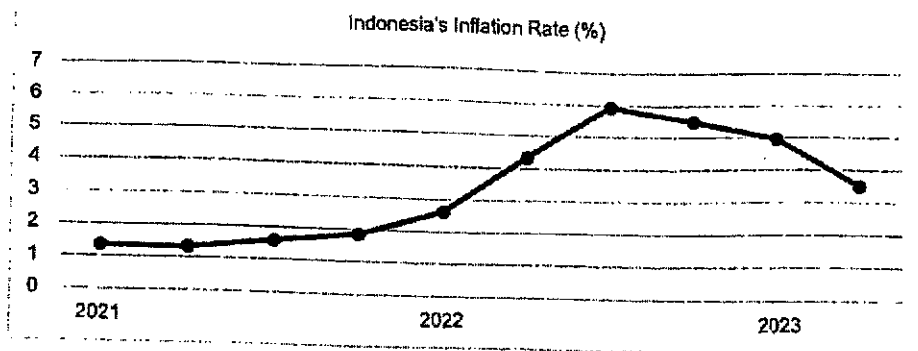
## Question 2: Impact of Russia-Ukraine War on Indonesia and Singapore

Figure 1: Indonesian Rupiah per USD, 2021-2023



Source: Organization for Economic Co-operation and Development (OECD)

Figure 2: Indonesia's Inflation Rate (%), 2021-2023



Source: Trading Economics

### Extract 5: Growth is slowing in Indonesia

After recording economic growth of 5.3% in 2022, the strongest for almost a decade, Indonesia is now braced for growth to slow down due to the Russia-Ukraine conflict.

The OECD recently mentioned that the main downside risks for Indonesia included "persistent tensions on energy, food and fertilizer markets." Besides the food sector, energy sectors such as the coal and crude oil markets are amongst the worst-hit by the war. Given that Indonesia also imports fertilizer from Russia, this has pushed inflation in the country higher. So far, Indonesia's moves to mitigate the deteriorating economic situation have not been met by an effective Russian response. Last summer, in an effort to obtain "security guarantees for food and fertilizer supplies from both Ukraine and Russia," President Joko Widodo traveled to Moscow to meet Russian President Vladimir Putin. Hopes that Widodo would be able to secure such guarantees from Moscow, along with a restored energy supply chain, went unfulfilled.

Although, by comparison with many countries, inflation of around 5.5% is relatively low, it still represents a seven-year high for Indonesia. In January, the country's central bank, Bank Indonesia, lifted its interest rates by 25 basis points to 5.75%, the sixth consecutive increase. In August they were just 3.5%. The Indonesian government has worked hard to protect Indonesian consumers from price increases, but the government has had to raise subsidized fuel prices by 30% to protect the state budget.

A few months ago, things didn't look so bad. While the conflict led to rising prices of global commodities, it lifted Indonesia's export revenue of iron, steel, coal and palm oil and contributed to a stronger Rupiah. However, it was partially constrained by the damaging impact of weakening global demand. In January, Indonesia's Coordinating Minister for Economic Affairs Airlangga Hartarto said exports would only grow by 12.8% this year, less than half the 29.8% growth cited for 2022.

Indonesia, one of Asia's success stories of recent years, has been less hard-hit than many emerging economies by the war in Ukraine. Yet storm clouds persist and the severe slowdown being experienced by advanced economies is set to cause more turbulence for Indonesia.

*Source: Business Insider, March 16 2023*

#### **Extract 6: Indonesia bans the export of palm oil**

Indonesia's palm oil export ban kicked off on April 28, 2022, in one of the most drastic cases of food protectionism since the war erupted in Ukraine. Palm oil is by far the most consumed and traded edible oil in the world. Grown only in the tropics, the oil palm tree produces high quality oil that is used as a common ingredient in cosmetic and household items, such as cooking oil.

The ban comes as Indonesia gripes with domestic cooking oil shortages and reins in high prices that had triggered recent protests in the country. Ironically, Indonesia is the world's largest producer of crude palm oil. Indonesia President Joko Widodo said that the ban would be lifted once the local demand for food staples is met, adding that it was "ironic" that the country had difficulty getting cooking oil.

However, the government acknowledged that the policy may result in unsold harvests for farmers. There are also concerns about when Indonesian producers will run out of storage capacity to store oil that they can no longer export. Palm oil production is vital to the economy of Indonesia, which exported US\$28.52 billion of palm oil in 2021.

*Source: Asean Briefing, 29 April 2022 and The Straits Times, 28 April 2022*

#### **Extract 7: Key risks to Singapore economy**

Russia may not be one of Singapore's major trading partners, but the disruption to its exports because of its war with Ukraine can still hurt the Republic's growth prospects. This is because Russia's role in the global economy is more as a major energy supplier, said the Monetary Authority of Singapore (MAS) in its macroeconomic review report. Uncertainty over energy supplies from Russia has sent oil prices soaring above US\$100 a barrel, driving up inflation worldwide and indirectly putting Singapore's economic outlook at risk by pushing up production costs and consumer prices.

Aside from the effect on prices, there are other channels of indirect exposure through which disruptions to Russia's exports could have knock-on effects on Singapore. If key export partners with significant exposures to Russia, such as China and European Union, suffer income losses, this may in turn reduce demand for Singapore's exports.

Indirect exposure also comes through supply chain linkages, as goods imported from other countries may contain Russian components that are used in Singapore as intermediate inputs for products that are ultimately exported. Energy-related inputs account for a particularly high share of total input requirements in the petrochemical (40.3%), air transport (31.5%) and water transport (14.4%) industries. Higher energy prices will raise production costs in these industries significantly, with firms potentially cutting supply and passing on the cost increases to other intermediate stages of production,

Thus, the duration and intensity of economic spillovers from the Russia-Ukraine conflict are key risks for Singapore, MAS said. The impact of the war on the economy may be amplified if higher inflation, tighter financial conditions, and heightened uncertainty restrain domestic consumption and investment.

*Source: The Straits Times, 28 April 2022*

### Questions

- (a) Using Figures 1 and 2, explain how the change in inflation rate in Indonesia leads to the change in the value of the Indonesian Rupiah from 2021 to 2023. [4]
- (b) With reference to Extract 5 and using an aggregate demand and supply diagram, account for the slowing economic growth in Indonesia. [4]
- (c) Extract 6 mentions that Indonesia has imposed a palm oil export ban in 2022. Using the concept of equity, explain one reason why this ban can be justified and one reason why it cannot be justified. [4]
- (d) Discuss whether increasing interest rates is the best way to tackle inflation in Indonesia. [8]
- (e) Discuss the possible impacts of the Russia-Ukraine war on Singapore's economy. [10]

**[Total: 30]**





**RIVER VALLEY HIGH SCHOOL**  
**2024 JC 2 Preliminary Examination Suggested Answers -CSQ1**

**(a) Using the evidence in Extract 3, explain whether the cross elasticity of demand between sustainable aviation fuel (SAF) and conventional jet fuel is positive or negative. [3]**

- Cross elasticity of demand between sustainable aviation fuel and conventional jet fuel is positive ( $XED > 0$ ) [1]
- Because they are both substitutes in consumption [1]
- According to Extract 3, it says that "sustainable aviation fuels is fully compatible with existing aircraft and fuelling infrastructure", this means that both can be used in place of one another as a source of energy to power airplanes to bring passengers across the world [1].

**(b) Explain why the KL-Singapore high speed rail should not be classified as a public good. [3]**

- A public good is a good or service that has the characteristics of non-excludability and non-rivalry in consumption, as well as non-rejectability.
- A new rail network should not be classified as a public good because it is rivalrous. An additional passenger would diminish the amount of rail tickets left for other users [1]
- It is excludable because passengers who do not pay to use the rail will not be able to board the train to use the rail network. [1]
- It is rejectable because individuals who do not want to use the rail network can choose not to buy a rail ticket. [1]

**(c) Using a supply and demand diagram, explain why the price of air travel might have increased sharply after air travel recovers from Covid. [4]**

- As Extract 1 mentioned, with the relaxation of travel restrictions, there is a "surging demand" for air tickets. This is attributed to revenge travel due to the change in taste and preferences towards travelling after Covid-19. Thus, consumers are more willing to travel at each price level, causing demand for air tickets to increase. With reference to Figure 1, the increase in demand for air tickets causes the demand curve to shift rightwards from  $D_0$  to  $D_1$ . [1] At initial equilibrium price  $P_0$ , the increase in demand results in a shortage of air tickets, which exerts an upward pressure on the price of air tickets. As a result, price of air travel increases.
- To analyse the sharp increase in price, the concept of price elasticity of supply (PES) is required. PES refers to the responsiveness of the change in quantity supplied given a change in the price of good. PES for air travel is likely to be  $< 1$ . This is because a substantial period of time is needed to train passenger service crew, pilots and in-flight crew as highlighted in Extract 1 and 2. This means that airlines cannot readily increase the number of flights when price increases. [1]
- Since the quantity supplied increases less than proportionately in response to an increase in price, prices increase sharply to resolve the shortage. Thus, prices increase sharply from  $P_0$  to  $P_1$  as shown in Figure 1. [1]

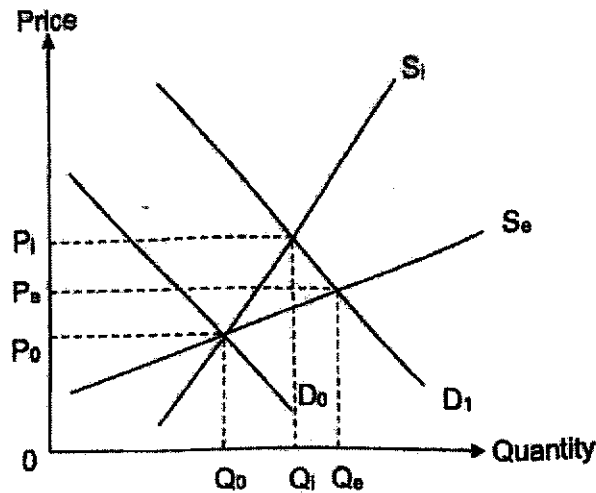


Figure 1: market for air tickets [1]

(d) Explain the type of market structure that the Indian airline industry is in. [2]

- Oligopoly [1]
- Concentration ratio of 3 main airline companies – IndiGo, Air India, and Vistara is 76%, which suggest a large market share dominated by a few sellers. [1]

(e) Discuss whether Air India's plans to revive its carrier is likely to increase their profits. [8]

#### Introduction

Air India's plans to revive its carrier can increase their profits, either through an increase in total revenue, or a fall in total cost (or both) given that  $\pi = TR - TC$ . However, its plans can also lead to a fall in profits, arising due to external factors such as rising fuel prices, inflationary pressures across the supply chain and economic uncertainties.

#### Thesis: Plans will increase profits

As mentioned in Extract 4, "aircrafts interiors will be refurbished, including seats, cushions, and carpets". With these improvements made, it gives rise to product innovation and reduce the substitutability of the Air India's service when compared to other airlines. In addition, coupled with Air India's product promotion where they position itself as "progressive brand that caters to young people". Both of these changes will lead to a shift in taste and preferences towards Air India's flights due to better quality and relevant services, leading to a rise in demand and make the demand for Air India's flight to be more price inelastic ( $|PED| < 1$ ) as their flights becomes less substitutable. As such, Air India can increase the price of its flights, which will lead to a less than proportionate fall in quantity demanded and cause total revenue to increase. Assuming ceteris paribus, Air India will see an increase in profits.

As seen from Figure 2, the rise in demand and the reduced substitutability of Air India flights has caused demand to increase from  $DD_0$  to  $DD_1$ . This will also cause total profits to increase from  $P_0ABC_0$  to  $P_1CDC_1$ .

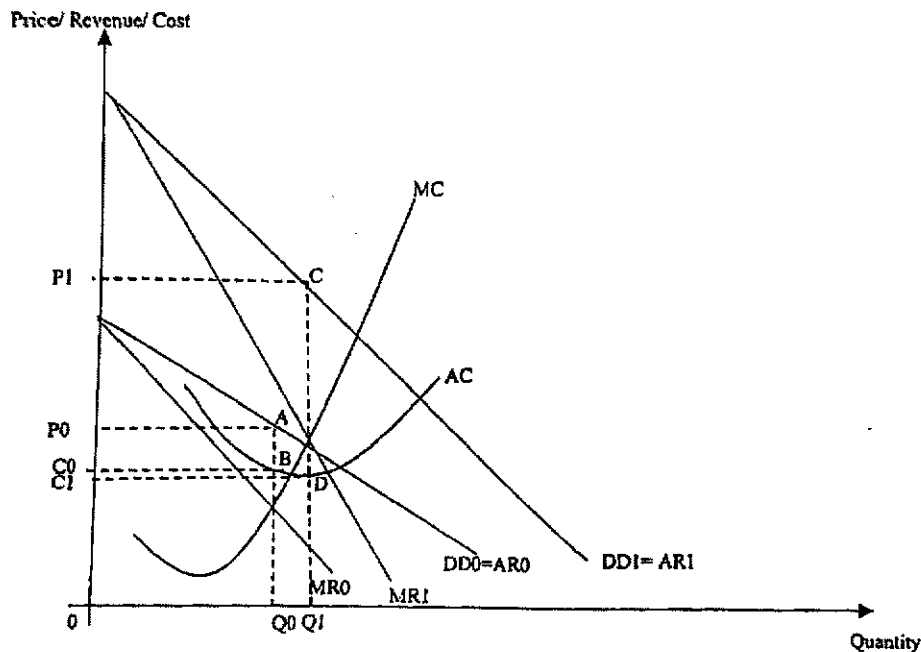


Figure 2

### Antithesis: Plans will not increase profits.

However, Air India might still experience a fall in profits even with the execution of their plans. As seen from Extract 2, regional airlines face "rising fuel prices and interest rates". As fuel is a factor input necessary for air travel, the rise in cost of production will cause profits to fall.

This can be further compounded by economic uncertainties like "risk of global recession", as mentioned in Extract 2, which might deter individuals from travelling, as they might expect their income to fall. As air travel is a normal good, falling income will lead to a fall in demand for air travel. With price and quantity decreasing, a fall in revenue, and thus profits is likely to be observed. As such, the increase in demand as seen in Figure 2 due to product innovation and promotion might not be significant or might not even exist.

### Evaluation

To conclude, whether Air India's plans to revive its carrier will increase profits might be dependent on the extent of innovation or product promotion that is done. Should the revamp be on superficial changes, consumers might not be willing to switch from flying with other airlines to flying with Air India. While its revival plan presents promising opportunities for profitability through strategic rebranding, partnerships and operational efficiencies, ability to navigate industry trends, technological advancements and regulatory changes, particularly in environmental sustainability and fuel efficiency will also be essential for sustained profit growth.

Knowledge, Application, Understanding & Analysis		Marks
L2	Answers in this level will include analysis of how profits of Air India could rise AND how profits of Air India can fall due to rising cost and economic uncertainties.  Note: Cap at 2m for each thesis if reference to case materials is not made.	4-6
L1	Answers in this level will show superficial understanding of Air India could rise AND how profits of Air India can fall due to rising cost and economic uncertainties.	1-3
Evaluation		
E2	Well-developed judgement on how profits will change. E.g., actions of competitors and degree of innovation efforts.	2
E1	Unsupported judgement on how profits will change. E.g., actions of competitors and degree of innovation efforts.	1

- (f) Discuss whether providing subsidies to airlines to adopt sustainable aviation fuel (SAF) is the best policy to improve the efficiency of resource allocation in the air travel market. [10]

Intro (brief explanation of market failure in the market for air travel)

In the market for air travel, negative externalities arise from the usage of conventional jet fuel, which is a factor input used in the provision of air travel that gives rise to carbon emissions as mentioned in Extract 1 and 3. This results in the Marginal Social Cost (MSC) being higher than MPC and the free market output ( $Q_m$ , where  $MPB = MPC$ ) exceeding the socially optimal level of output ( $Q_s$ , where Marginal Social Benefit = MSC), thus there is over-allocation of resources in the market for air travel and welfare loss of area ABC as seen in Figure 3.

Thesis: Explain how providing subsidies to airlines to adopt sustainable aviation fuel (SAF) improves the efficiency of resource allocation in the market for air travel and its limitation

With governments providing subsidies to airlines to adopt SAF, this will reduce the cost of using SAF as an alternative fuel. If the subsidies are large enough such that the cost of using SAF is lower than using conventional jet fuel, airlines will then be enticed to switch to using SAF instead. As mentioned in Extract 3, the usage of SAF can reduce emissions by 80% and SAF is fully compatible with existing aircraft and fuelling infrastructure. This means the amount of negative externality generated due to the provision or supply of air travel will be much lesser, and hence, the divergence between MSC and MPC will also be smaller, resulting in a lower MSC' as shown in Figure 3. Thus, the new socially optimal level of output is at  $Q_s'$  where  $MSC' = MSB$ . Since the difference between  $Q_s'$  and  $Q_m$  is smaller, the problem of over-allocation of resources in the market for air travel is also reduced.

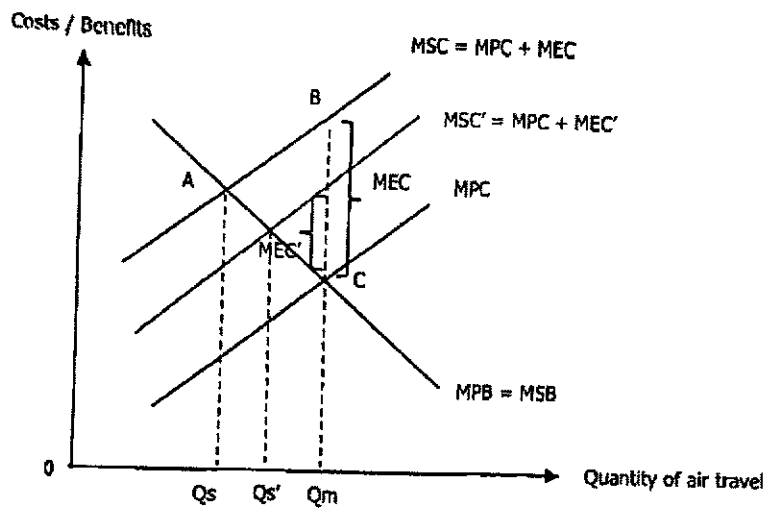


Figure 3: Over-allocation of resources in the market for air travel

However, it does not eradicate the problem of environmental pollution as the usage of SAF still generate carbon emissions, albeit much lesser. Thus, pollution can only be reduced but not eliminated and there is still over-allocation of resources in the market.

Anti-thesis: Explain how another policy improves the efficiency of resource allocation in the market for air travel and its limitation

Extract 1 mentions that another policy to improve the efficiency of resource allocation in the market for air travel would be to consider other ways to travel besides flying, like rail travel. For example, "a flight from Singapore to Kuala Lumpur produces 62kg of CO<sub>2</sub> per passenger while a passenger who travels by train only emits 0.8kg of CO<sub>2</sub>".

As explained earlier, the allocative inefficiency in the market for air travel arises due to the negative externalities from the usage of conventional jet fuel. Thus, one way to reduce such usage would be to encourage individuals to switch to the other modes of transport like rail travel. This can be done via improving the connectivity/ widening the rail transport networks. As individuals change tastes and preferences and switch to rail travel, this reduces the MPB of air travel to MPB' in Figure 4, leading to a lower level of air travel. The new free market equilibrium occurs at Qm' where MPB' = MPC. Since Qm' is the same as Qs, allocative efficiency is achieved.

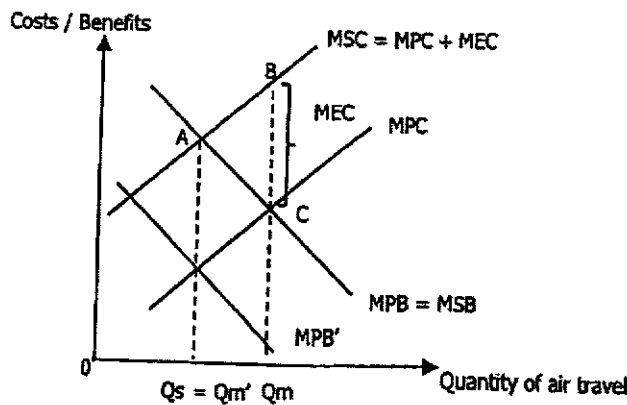


Figure 4: Over-allocation of resources in the market for air travel

However, pulling people away from air travel to rail travel is a difficult task which requires time, money and resources to first improve and build up the rail transport network. More importantly, there needs to be a change in mindset, which does not happen overnight. This is because it might be inconvenient for travellers as travellers need to 'hop on three different trains to get from Woodlands to Kuala Lumpur, which could take up to eight hours in total' as mentioned in Extract 1.

### Conclusion

Providing subsidies to airlines to adopt SAF might be the best policy in the short run to improve efficiency of resource allocation in the market for air travel because it tackles the root cause directly by reducing the amount of negative externality (i.e. pollution). In addition, promoting greater use of other modes of transport i.e. rail travel is a more long-term measure which effects will not be seen immediately.

As each policy as its advantages and disadvantages, both providing subsidies to airlines to adopt SAF and encouraging greater use of other modes of transport can be implemented so that both policies complement each other.

Level	Knowledge, Application, Understanding & Analysis	Marks
L2	Well-developed explanation on how providing subsidies to airlines to adopt sustainable aviation fuel can improve efficiency of resource allocation in the market for air travel and its limitation AND another policy and its limitation.	5-7
L1	Under-developed explanation on how providing subsidies to airlines to adopt sustainable aviation fuel can improve efficiency of resource allocation in the market for air travel and its limitation AND another policy and its limitation.  OR  Well-developed explanation on how providing subsidies to airlines to adopt sustainable aviation fuel can improve efficiency of resource allocation in the market for air travel and its limitation OR another policy and its limitation.	1-4
<b>Evaluation</b>		
E3	Well-reasoned judgement on whether providing subsidies to airlines to adopt sustainable aviation fuel is the best policy to improve efficiency of resource allocation in the market for air travel.	3
E2	Under-developed judgement on whether providing subsidies to airlines to adopt sustainable aviation fuel is the best policy to improve efficiency of resource allocation in the market for air travel.	2
E1	Unsupported judgement on whether providing subsidies to airlines to adopt sustainable aviation fuel is the best policy to improve efficiency of resource allocation in the market for air travel.	1

**2024 J2 Prelim Macro CSQ2 Suggested Answers**

(a) (i) Using Figures 1 and 2, explain how the change in inflation rate in Indonesia leads to the change in the value of the Indonesian Rupiah from 2021 to 2023. [4]

- From Figure 2, inflation rate over the period has generally increased. When Indonesia's inflation rate increases, assuming that other countries' have lower inflation rates, this means a relatively higher inflation rate in Indonesia.
- As such, Indonesia's exports should be relatively more expensive while imports become relatively cheaper. This translates to a fall in quantity demanded for Indonesia's exports. Assuming that the demand for Indonesia's exports is price elastic, this leads to a fall in Indonesia's export revenue which implies a fall in demand for the Indonesian Rupiah. OR  
Indonesians will switch from consuming domestic products to relatively cheaper imports, hence increasing their demand for imports. This will lead to an increase in import expenditure which implies an increase in supply of the Indonesian Rupiah.
- Hence, given a rise in Indonesia's inflation rate, the Rupiah should depreciate, as seen in Figure 1.

(b) With reference to Extract 1 and using an aggregate demand and supply diagram, account for the slowing economic growth in Indonesia. [4]

- Extract 1 mentions that Indonesia also imports fertilizer from Russia and due to the Russia-Ukraine war, prices of fertilizer have increased. OR Extract 1 mentions energy prices are contributing to the inflation. As such, there is an increase in costs of factor inputs. This in turn will increase the unit cost of production and is likely to cause SRAS to fall from  $SRAS_0$  to  $SRAS_1$  as seen in Figure 1 below.
- On the other hand, extract 1 mentions "exports would only grow by 12.8% this year". This suggests a rise in net exports (X-M), ceteris paribus, and hence a rise in AD from  $AD_0$  to  $AD_1$  as seen in Figure 1 below.
- With fall in SRAS smaller than the rise in AD, there will be an increase in real GDP from  $Y_0$  to  $Y_1$ , smaller than rise in real GDP from  $Y_0$  to  $Y_2$  if SRAS had not fallen, accounting for the slowing economic growth.

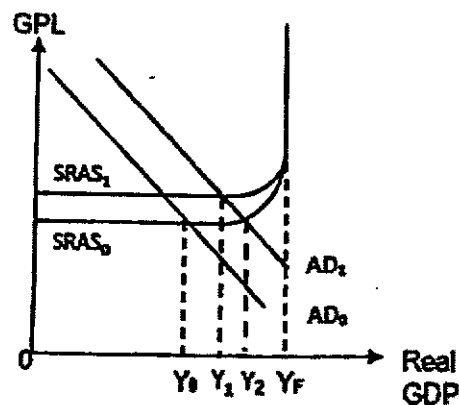


Figure 1

(c) Extract 2 mentions that Indonesia has imposed a palm oil export ban in 2022.

Using the concept of equity, explain one reason why this ban can be justified and one reason why it cannot be justified. [4]

- The export ban can be justified as it increases the domestic supply of palm oil which helps to lower its price. Given that palm oil is a common ingredient used in the production of cooking oil, an essential good, (Ext 2), the fall in price of palm oil will also lower the cost of producing cooking oil and hence lower the price of cooking oil, allows Indonesians, especially the low-income households, to have the ability to purchase cooking oil.
- However, the ban cannot be justified as it could lead to "unsold harvests for farmers" (Extract 2). This suggests that Indonesia could be experiencing a surplus instead. A ban will mean that domestic demand may be insufficient to clear the stock and farmers may receive less income as they sell less palm oil, reducing their ability to consume other essential goods and services.

(d) Discuss whether increasing interest rates is the best way to tackle inflation in Indonesia's economy. [8]

Increasing interest rates refers to the use of contractionary monetary policy. Whether this is the best way to tackle inflation in Indonesia's economy will depend on its effectiveness vis a vis other policy options and also the type of inflation that is present.

[Analyse how increasing interest rates can tackle inflation]

Increasing interest rates can help to tackle inflation in Indonesia. When interest rates are raised, cost of borrowing increases and this would reduce households' consumption (C) of big ticket items such as cars. Moreover, the rewards to savings will be higher with increased interest rates which incentivizes consumers to save more, hence cutting down on consumption. Firms would also likely reduce investment (I) as investment projects which were once viable now becomes unviable at the higher interest rate. With increased interest rates, there would also be increased hot money inflows which will increase the demand for Indonesia Rupiah. This will lead to an appreciation of the Rupiah, ceteris paribus. An appreciation of the Rupiah will lead to an increase in the price of Indonesia's exports in terms of foreign currency and a fall in price of imports in terms of Rupiah. Assuming Marshall Lerner condition ( $PED_x + PED_m > 1$ ) holds, Indonesia's net exports (NX) will fall. The combined fall in C, I and NX will lead to a fall in AD and hence lead to a fall in general price level, in turn tackling inflation. This helps to also alleviate the rising price pressure cause by the rising export revenue (Ext 1) earned by Indonesia.

However, raising interest rates may not be very effective in tackling inflation due to the impact lag as it takes time for the full effects of interest rates changes to work through the economy.

Extract 1 also states that there has been 6 consecutive increase of interest rates and inflation still seems to persist. This could suggest that investment and consumption in Indonesia could be interest inelastic. As such, increasing interest rates may not be the most effective way to tackle inflation in Indonesia.

*Given the weakening global demand in Ext 1, any policy that reduces AD may also have severe repercussions on the Indonesia economy in terms of growth and employment.*



[Analyse how <another policy> can tackle the cost push inflation]

Possible policies to consider would be *provision of subsidies* or *diversification of import sources*.

The Indonesian government can consider the use of energy or fertilizer subsidies to tackle inflation. These subsidies can be given to firms to help lower their cost of production. This will increase SRAS and hence lower the general price level, tackling cost push inflation.

However, subsidies require substantial government funding and would unlikely be a sustainable long-term solution should the inflation persist. From Ext 1, we see that the Indonesian government is struggling to provide subsidies for fuel and had to raise the price of fuel so as to protect the state budget. Likewise, any consideration of the provision of subsidies will bring about stress to the state budget.

OR

One key reason why Indonesia is facing imported inflation is due to the Russian-Ukraine conflict where both parties are countries that exports commodities to Indonesia. With the conflict, there has been a shortage of wheat and fertilisers which had in turn led to high prices that has contributed to high inflation. Indonesia's continued reliance on both Russia and Ukraine and the lack of "security guarantees for food and fertilizer supplies from both countries" remains the root cause of the imported cost-push inflation. Indonesia could hence consider diversifying its sources of wheat and fertilizer imports so as to reduce the reliance on Russia and Ukraine. Given the uncertainty of the duration of the conflict, Indonesia should consider other imports sources so that she is less susceptible to price increases arising from the conflict.

However, time taken to establish new import sources can be significantly long due to the need for negotiations. Moreover, given the interconnectedness of economies, an increase in price of a commodity in an exporter country will likely cause a rise in global price. As such, diversification may not be the most effective way to tackle inflation in Indonesia.

Evaluation

Indonesia finds herself in a sticky situation with stagflation as a possibility given the impending slowdown and no clear signs of a fall in inflation. While raising interest rates can be effective in reducing AD to dampen prices, it can be potentially damaging in bringing the economy to a recession due to its contractionary effects. Given the significant number of increases in interest rate in a short period of time, there may be limited scope for the Indonesia's policymakers to contemplate any further increase.

In addressing the root cause of the inflation, we can infer that inflation in Indonesia is likely to be cost push inflation given the disrupted "energy supply chain" and also "rising prices of global commodities". As such, alternative policies to reducing interest rates such as subsidies and diversification would be more effective.

Diversification could be a better long-term solution for Indonesia to reduce their reliance on any few countries for their source of wheat and fertilizers as the Russia Ukraine conflict has clearly demonstrated the perils of such reliance. An even longer-term solution will be to consider ways to reduce their reliance on traditional energy sources such as coal to reduce their exposure to high energy prices.

Going forward, the Indonesia government will need to thread carefully and consider what is the best way to tackle Inflation in a manner that does not implicate growth and is also cost-effective.

Knowledge, Understanding, Application and Analysis		
L2	For a response that considers raising of interest rates plus one other policy in tackling inflation, coupled with their limitations	4-6
L1	For a one-sided response that only considers whether raising interest rates is the best way to tackle inflation or an undeveloped discussion of 2 policies (including raising of interest rates) to tackle inflation	1-3
Evaluation		
E2	For answers that consist of at least 1 well-developed evaluation point considering the context of the Indonesian economy	2
E1	For answers that consist of an evaluative point that is explained or attempts to consider the context of the Indonesian economy	1

(e) Discuss the possible impact of Russia-Ukraine war on Singapore's economy. [10]

As a small and open economy, the Russia-Ukraine war will have a large impact on Singapore's economy, as Singapore will likely face higher cost-push inflation and fall in economic growth.

Impact 1: Cost push inflation

As mentioned in Extract 3, "uncertainty over energy supplies from Russia has sent oil prices soaring above US\$100 a barrel", which has "pushed up production costs". As a small and open economy who lacked natural resources, Singapore is reliant on external economies for factor inputs such as oil. An increase in price of imported inputs will lead to a significant rise in unit cost of production, causing SRAS to fall. As seen in Figure 2, the SRAS shift upwards from SRAS0 to SRAS1, resulting in a higher price level of P1 and a lower output level of Y1. And if SRAS continues to decrease from SRAS1 to SRAS2, price level increases from P1 to P2 causing cost-push inflation. Thus, firms respond to an increase in cost of production by passing some of the costs to consumers in the form of higher prices as well as cutting back on production.

General Price Level

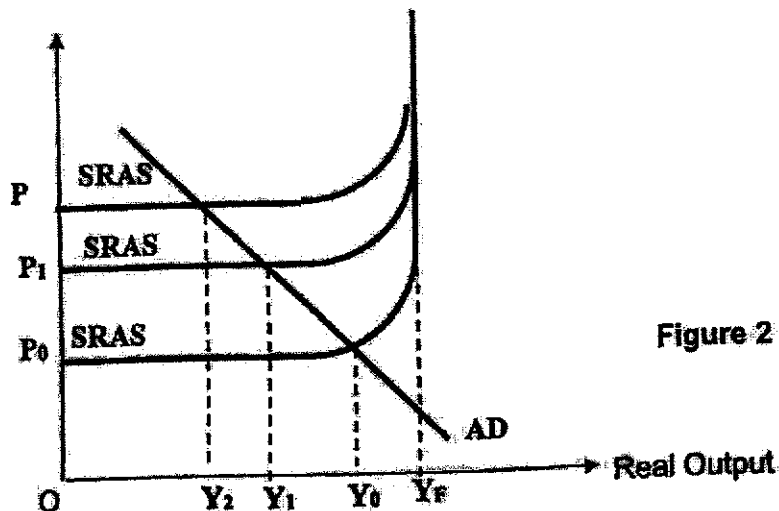


Figure 2

### Impact 2: Fall in Economic Growth

In addition, "Singapore's key export partners with significant exposures to Russia... may suffer income losses". With a fall in export partners' income, their purchasing power will decrease and import lesser, resulting in a fall in export revenue for Singapore. Considering how Singapore is highly reliant on exports to drive her actual economic growth, the fall in export demand from export partners will lead to a significant fall in AD.

Moreover, poor economic outlook arising from Russia Ukraine can also lead to a fall in consumption and investments. Assuming ceteris paribus, this will lead to a fall in C and I, which will also lead to a fall in AD.

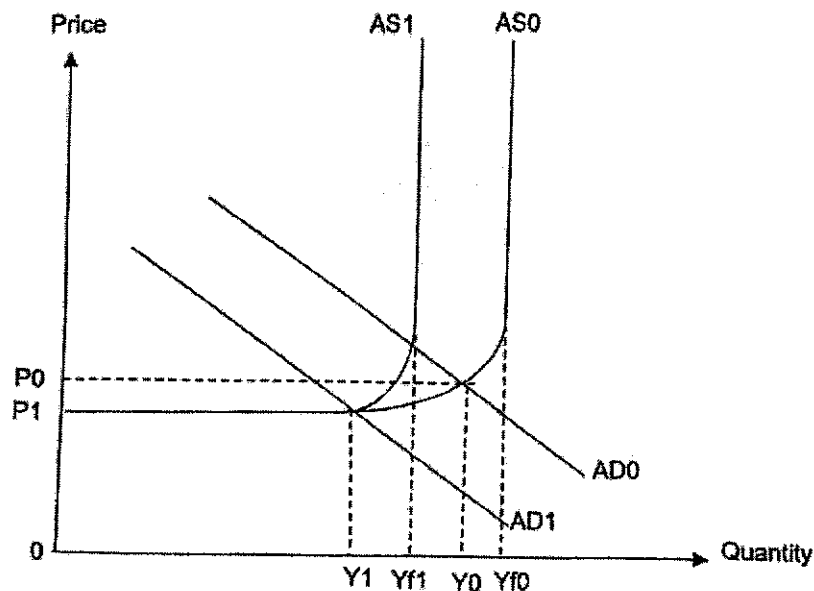


Figure 3

The fall in investments will lead to lesser fixed capital formation, and this will lead to fall in quality and quantity of resources used, which will lead to a fall in potential growth, as seen from a fall in LRAS from AS0 to AS1, and full employment level  $Y_f$  falls to  $Y_{f1}$ . Taken together, the fall in actual growth and potential growth prevents sustained growth to be enjoyed.

With reference to Figure 3, the fall in AD from AD0 to AD1, will lead to an unplanned rise in inventories. Firms will then decrease their production level and hire lesser factors of production such as labour, causing a decrease in the derived demand for labour. As a result, households income will decrease and this decrease in purchasing power will result in a further fall in induced consumption of other goods and services. This will lead to further decreases in production and lesser factors of production hired resulting in another round of fall in spending, creating a reverse multiplier effect. As such, real GDP decreases by a multiple from  $Y_0$  to  $Y_1$ , resulting in lower actual growth.

### Evaluation

To evaluate, it is likely that the war will have negative impact on Singapore. However, the extent of the Russia Ukraine war on Singapore depends on the duration of the conflict. If the conflict were to continue for long, the impact on Singapore economy will

be severe, as its Singapore key trading partners will also be severely impacted by the war. However, if the war ends soon, the impact on Singapore economy will be smaller, especially when Russia is "not one of Singapore's major trading partners".

In addition, whether the Russia Ukraine war has an impact on Singapore also depends on the government policies that are in place to counter the negative effects the war creates. If the Singapore government provides subsidies to firms to reduce their cost of production, or offers policies to promote investments in Singapore, the impact the Russia Ukraine war has on Singapore's cost push inflation and growth will be reduced.

Knowledge, Understanding, Application and Analysis		
L2	For a developed discussion the impact of Russia-Ukraine war on Singapore economy.  Developed answers should include clear elaboration on how the war will move the economy further away from a range of macroeconomic goals.	4-7
L1	For an undeveloped discussion on how the war will move the economy further away from a range of macroeconomic goals	1-3
Evaluation		
E2	For answers that consist of at least 1 well-developed evaluation point and a judgement on the extent of impact the war has on Singapore	2-3
E1	For answers that consist of an evaluative point that is explained or attempted a judgment the extent of impact the war has on Singapore	1