2022 A-Level P2 Question 5

A low rate of inflation is a key macroeconomic policy objective for most governments. During the first quarter of 2020, interest rates in most countries throughout the world fell to very low levels.

(a) Explain why a rise in interest rates is used as a macroeconomic policy tool to control inflation in some countries but not in Singapore. [10]

(b) Discuss whether a change in interest rates in other countries is likely to have a significant impact on Singapore's domestic and external economy. [15]

Part (a) - Question Analysis

Approach	**Command Word**	Explain
	Question Type	Policies
	Start point	Rise in interest rates as contractionary monetary policy tool
	End Point	Control inflation
Content and Context	**Content**	Mechanism of interest rate centred monetary policy and its limitations
	Context	Singapore and other countries which adopt interest rate centred monetary policy

Introduction

- Amid a rise in inflation rate in countries all round the world owing to a culmination of factors including post-Covid economic recovery, supply chain issues and high energy prices, implementing a rise in interest rate would be able to control inflationary pressures.
- **[Tools of monetary policy]** Monetary policy is a demand-management policy that works through the tools of interest rate; or exchange rate to influence aggregate demand (AD), and eventually affect real national income/output, employment and general price level.
- **[Criteria why economies choose a certain tool]** Though it is appropriate for some countries, it is not appropriate in Singapore's context given our small and open nature of the economy, hence the choice of instrument depends on the nature of the economy.

Body Point 1: How a rise in interest rates (ie. contractionary monetary policy) would be able to control demand-pull inflation in other countries, like the US.

- Raising interest rates would <u>increase the cost of borrowing for households</u> and they would be less likely to borrow to finance big ticket consumer items such as housing and cars. It would also <u>increase the returns on savings</u> (or opportunity cost of spending increased), incentivizing households to save than spend. Taken together, an increase in interest rate would decrease consumption expenditure (C).
- A rise in interest rate will also mean that the <u>cost of borrowing for firms</u> to finance their investment spending has increased. Hence it would make previously profitable projects appear unprofitable. Firms would now be less willing to borrow to finance its investment, decreasing investment expenditure.

- A rise in interest rates also results in short term capital inflow as the rate of return increases. In the foreign exchange market, there will be an increase in demand for the domestic currency, which thus causes the domestic currency to appreciate. If demand for exports is price elastic, the rise in price of exports in foreign currencies will cause the quantity demanded for exports to fall more than proportionately. This results in an appreciation of the domestic currency, causing X and (X-M) to fall.
- As C, I and X are components of aggregate demand (AD), AD decreases from AD1 to AD2 in Figure 1. Assuming that the economy is operating near full employment, a decrease in AD will cause a multiplied decrease in real national income (RNY) through the reverse multiplier process.
- As AD decreases, there is an unplanned accumulation of inventories. Firms decrease production to meet the decreased demand and they do so by decreasing the hiring of FOPs (ie. fall in demand for labour). Given the fall in demand for FOPs (ie. less competition for resources), this leads to less upward pressure on prices of FOPs. Firms pass on the cost savings to consumers, leading to a decrease in general price level from P1 to P2. Demand-pull inflation is alleviated as the economy returns to a state with more spare capacity, reducing inflationary pressures.

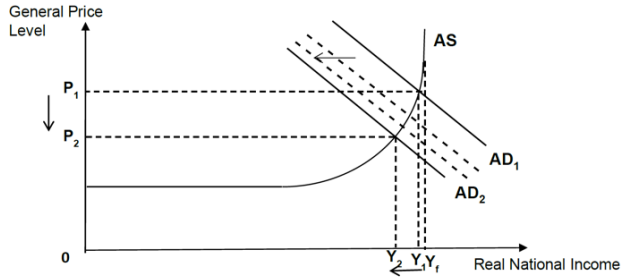

Figure 1

- [Context]Moreover, due to Singapore's small domestic economy, its size of consumption and investment expenditure is small. Hence the interest rate policy aimed at decreasing C and I, coupled with a small multiplier, is unlikely to have a significant impact on the AD, RNY and curbing demand-pull inflationary pressures.
- This is in contrast with other larger economies like the US, with a large consumption and investment expenditure as a component of AD. Hence the contractionary interest rate policy likely to have a significant impact on the AD, RNY and curbing demand-pull inflationary pressures.
- For example, the US Fed has been adopting aggressive interest rate hikes of late (ie. 2022-2023) with consecutive rounds of interest rate increases, due to soaring inflation rates from post-pandemic recovery and hence increases in consumer spending, as well as supply chain issues.

Body Point 2: How a rise in interest rates would not be able to control inflation in Singapore

Given the openness of Singapore's economy to capital flows, Singapore is **an interest rate taker** with limited control over its interest rates.

- Singapore is an international financial centre, open to capital flows, hence it is very easy for residents to borrow, lend or speculate in foreign assets and for non-residents to speculate in domestic assets as well.
- Thus, an attempt by the government to increase interest rate would only result in quick shifts of loanable funds into the country. As there is a huge inflow of short-term capital flow (hot money), assuming short-term investors prefer to save their capital to countries offering higher interest rates, Singapore would face an increase in supply of our loanable funds, decreasing interest rate. This would negate or render the initial rise in interest rates ineffective in controlling inflation.
- As Singapore is an interest-rate taker, it limits the ability of the government to use interest rates as an instrument of monetary policy. This explains why Singapore's monetary policy is centred on the exchange rate rather than interest rates.
- Moreover, with large inflows of hot money, the currency appreciates. Such effects and fluctuations on the exchange rate due to changes in interest rate is destabilizing given the export-driven and import-reliant nature of the Singapore's economy.

Conclusion

- Unlike other larger and less open economies like the US which uses interest rate centred monetary policy to control inflation, the small and open nature of Singapore's economy renders the interest rate monetary policy ineffective. Instead, Singapore uses the exchange rate monetary policy to control inflation, especially imported inflation which we are most susceptible to.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Full display of AO1, AO2 and AO3 skills: For an answer that shows well-developed explanation of why the rise in interest rate would be used to control inflation in other countries, but not in Singapore. • clear and accurate explanation of the interest rate policy with appropriate ADAS diagram(s) • appropriate examples of Singapore and other countries utilising monetary policy to control inflation rates.	8-10
L2	Uneven display of AO1, AO2 and AO3 skills: For an answer that shows under-developed explanation of why the rise in interest rate would be used to control inflation in other countries, but not in Singapore. • lacks depth of analysis (i.e., limited effective use of relevant economic analysis or gaps in diagrammatic analysis) • lacks scope in explaining the use of interest rates in controlling inflation in Singapore versus other countries • lacks appropriate examples of Singapore and other countries utilising monetary policy to control inflation rates.	5-7

L1	Limited display of AO1 and AO2 skills: For an answer that shows limited knowledge of why the rise in interest rate would be used to control inflation in other countries, but not in Singapore. • listing of points, unexplained statements, or descriptive response • many conceptual errors • irrelevant response • smattering of points • mere definition of relevant concepts	1-4

(b) Discuss whether a change in interest rates in other countries is likely to have a significant impact on Singapore's domestic and external economy. [15]

Part (b) - Question Analysis

Approach	**Command Word**	Discuss whether: provide relevant arguments based on different perspectives and a reasoned judgement
	Question Type	Consequences of policy
	Start point	Change in interest rates in other countries
	End Point	Singapore's domestic and external economy
Content and Context	**Content**	Consequences of change in interest rate on Singapore's BUGP
	Context	Singapore

Introduction

- The change in interest rates in other countries would affect Singapore's domestic economy in terms of its internal macroeconomic goals of economic growth, low unemployment rate and price stability while affecting the external economy in terms of having a healthy balance of trade and a stable exchange rate.
- The change in interest rate would be taken as a **fall** in interest rate as the preamble mentions that in first quarter of 2020, interest rates in most countries throughout the world fell to very low levels.
- The extent of the impact due to the changes in interest rates in other countries would depend on the nature and state of our economy, as well as weighing the overall benefits and costs on Singapore's economy.

Body Paragraph 1: A change in interest rates in other countries would cause a significant impact on Singapore's domestic economy in terms of economic growth, unemployment and standard of living.

- A fall in interest rates in other countries would lead to a fall in Singapore's interest rate, as Singapore is an interest rate taker and cannot set interest rates independently.
- Let's take the example of the recent Covid-19 pandemic and the expansionary monetary policy that countries all round the world adopted. US central bank cut interest rates to zero,

UK's central bank cut interest rates to 0.1% (the lowest that it has ever been) while China has lowered its interest rate as well.

- As an interest rate taker, this subsequent drop in Singapore's domestic interest rates would lead to a expansionary effect on the Singapore economy. This is because a fall in interest rates would decrease the cost of borrowing for households and firms. It would also decrease the incentive to save for consumers while increasing the rates of returns for firms. This would raise consumption (C) & investment (I) respectively. Lower interest rates and cost of borrowing could also increase firm's profits and subsequently the amount of taxable revenue that the government collects which could increase subsequent government expenditure (G) as well.
- Moreover, due to increase in income of other countries (due to a fall in interest rate there), they would enjoy an increase in purchasing power and purchase more Singapore exports. Hence Singapore net exports (X-M) would increase.
- Taken together, there would be an increase in aggregate demand (AD).
- The economy then faces an unplanned running down of stocks of capital goods, with firms stepping up production of capital goods by hiring more resources such as labour (ie. derived demand), leading to factor owners receiving extra income, raising national income in the first round. This induces more consumption in the economy. The additional consumption by the first group of factor owners will now create additional income for another group of factor owners in the economy. National income will now rise by another round, albeit by a smaller amount. This process will then continue, with each round of increase becoming smaller; until the rise in income is too small to generate any further consumption. The magnitude of the subsequent increase in induced consumption will depend on the rate at which income leaks out (i.e. MPW) or is spent (MPCd).
- As shown in Figure 3, there would be a rightward shift of AD from AD1 to AD2. Assuming ceteris paribus, this results in a multiplied increase in real national income through the multiplier effect, from Y1 to Y2, resulting in an **increase in actual economic growth**
- As more output of goods and services is produced, firms will use more of their resources to increase production. Hence, the derived demand for labour to produce these goods also increases, **decreasing demand deficient unemployment**.
- At the same time, if the rise in investment results in a rise in capital spending which would inccrease the productive capacity of the economy, allowing LRAS to shift rightwards from $LRAS_1$ to $LRAS_2$, **increasing potential growth** from Y_{FE1} to Y_{EF2}.
- This would improve the performance of Singapore's domestic economy, since higher income would lead to higher material standards of living, both current and future.

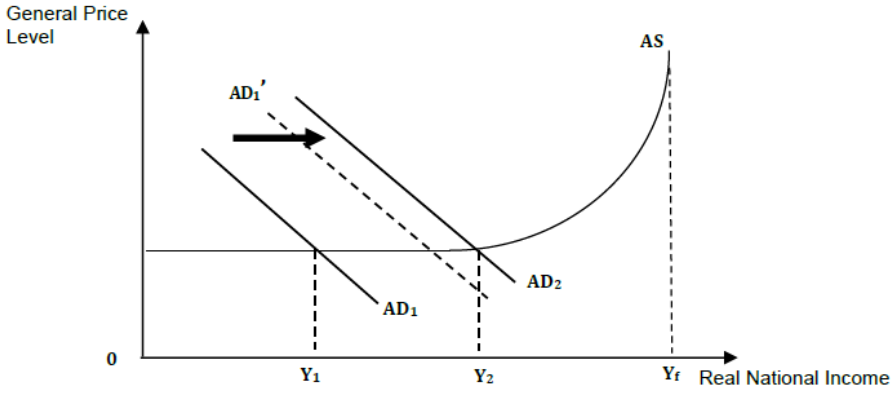

Figure 3

Intermediate Evaluation (only need one or two of the following points)

- As interest rate falls and the cost of borrowing decreases, projects with lower expected rates of returns would appear more profitable and hence more investments would occur. However, **expected rates of returns is impacted by other factors as well, such as business confidence, and is thus interest rate insensitive**. However, with high level of uncertain amid the Covid-19 pandemic especially in 2020, especially when not much is known about the virus, and no clear exit plan from the pandemic is in sight (ie. when the vaccines have not been made), **investments may not rise significantly** despite an increase in interest rates. Hence, investment in Singapore may continue to be negatively impacted despite the decrease in interest rates as there are other mitigating factors which would cause investment to rise only by a limited extent, and Singapore's domestic economy would not be significantly impacted.

- While **demand-pull inflation** might occur as AD rises and GPL rises as well, from P1 to P2, this might not be a likely scenario, as we assume that Singapore would be operating with plenty of space capacity, especially with the pandemic and all the border closures and business activity was basically grinded to a halt. Moreover, in the long run, with all the investment expenditure on capital goods which would raise the quantity and quality of capital goods, and expand the productive capacity of the economy, the LRAS would rise and dampen any potential inflationary pressures from the fall in interest rates.

- The change in world interest rates might not impact Singapore's domestic economy significantly due to **Singapore's small multiplier size**. Due to our resource constraints and heavy reliance on imports, Singapore has a high marginal propensity to import (MPM). We also have a high MPS, due to our strong saving culture, and mandatory savings scheme via Central Provident Fund (CPF). With a small multiplier size, the increase in AD will bring about a smaller intended benefit in terms of increase in real national income, limiting the effectiveness of expansionary monetary policy to stimulate its economy.

- However, since Singapore is an open economy with a large external demand (ie. (X-M) takes up a large proportion of SG's AD), further enhanced due to SG's strong trade links with many countries, the fall in interest rates in other countries is expected to lead to significant positive actual growth, fall in unemployment and rise in material SOL in SG.

Body Paragraph 2: A change in interest rates in other countries would cause a significant impact on Singapore's external economy in terms of its balance of trade (BOT) and hence balance of payments (BOP).

- Given that world interest rates are falling, this lowers cost of borrowing, leading to an expansionary effect on foreign economies (ie. US), raising their national income (RNY).
- Take for example in the US, the fall in interest rate would lower cost of borrowing for consumers and firms alike. Previously unprofitable projects would now be profitable, hence increasing investment expenditure. Consumption expenditure would also increase

as consumers would now be more incentivized to purchase big ticket consumer items, as well as save less given the increase in opportunity cost to save. Taken together, US' AD would rise, resulting in multiplied increases in RNY.

- US citizens would enjoy an increase in purchasing power and would increase demand for goods and services, including imports (ie. SG's exports, and assuming normal goods). Hence, Singapore's net exports (X-M) would increase, **positively affecting our balance of trade and current account balance.**
- Moreover, since US is one of SG's top trading partners, the increase in X would be significant, leading to a significant increase in SG's trade surplus. Also, given that many economies around the world are decreasing interest rates, demand for SG's exports would rise significantly, leading to significant rise in SG's trade surplus.

Intermediate Evaluation

- On the other hand, while the fall in interest rates would lead to a large decrease in demand for the Singapore dollar due to outflow of hot money (ie. short term capital flows) which would lead to a depreciation of currency, this effect is likely to be limited, as Singapore operates using a managed float exchange rate system, where the Singapore currency is managed within a band against a weighted basket of currencies of major trading partners. Whenever the currency exceeds the upper or lower band, the government would intervene to buy up or sell foreign currency to ensure the currency stays within the policy band.
- With interest rates falling all around the world, there would be an increase in AD and hence RNY and GPL in other countries. The rise in GPL in other countries would result in a rise price of imported raw materials, leading to a rise in unit COP and GPL in Singapore, giving rise to imported inflation in SG. With inflation, SG's export price competitiveness would be negatively affected. Assuming PEDx > 1 as there are many substitutes to SG's exports, a rise in price of exports would lead to a more than proportional fall in quantity demanded for exports. At the same time, imports are relatively cheaper in SG, hence demand for imports increase. Hence, (X-M) decreases, worsening the SG's BOT/ current account and BOP.

Summative Evaluation

- All in all, a change in interest rates in other countries which has a closer trading relationship with Singapore (ie. top trading partners include US, China, Malaysia) is likely to have a more significant impact on Singapore's domestic and external economy.
- Nonetheless, the extent of the impact of the change in interest rates in economies around the world would depend on how trade reliant SG is and the level of spare capacity in SG's economy.
- In the short run, there is minimal risk of demand-pull inflation given the spare capacity available in the context of poor economic outlook and central banks resort to "very low levels" of interest rates as per the preamble. However, in the longer run, there could be risks of both demand-pull and cost-push inflation due to pent up global demand after the pandemic, as well as supply chain issues, just like what the world is facing in the 2022-2023, when inflation rates have soared. Moreover, as Singapore is an open economy and thus highly reliant on imports, and given that we are a small country without any control

over global prices, we are highly susceptible to imported inflation. Hence, the performance of our external economy does have a huge impact on our domestic economy, lending weight to the argument that Singapore's domestic economy could be more significantly affected by the changes in interest rates compared to its external economy.

Mark Scheme

Levels	Descriptors	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: • A balanced and well-developed answer • Correct application of the consequences of changing interest rates in other countries on both the domestic and external economy in Singapore • Accurate and fully labeled diagrams • Use good examples to support analysis on the consequences in Singapore's economy	8-10
L2	Displays AO1, AO2 and AO3 skills: • An under-developed response • Inconsistent of application of the consequences of changing interest rates in other countries on both the domestic and external economy in Singapore • Incorrect diagrams drawn • No examples given	5-7
L1	Uneven display of AO1 and AO2 skills: • Many conceptual errors • No economic framework in analysis • Superficial explanation • Question requirement is not addressed	1-4
Evaluation		
E3	Well-reasoned judgements: • A well-reasoned judgement on how significant the consequences are on Singapore's domestic and external economy, due to changes in interest rates in other countries. • Question any unstated assumptions to arrive at this well-reasoned judgement. Good explanation of the limitations of the analysis	4-5
E2	Largely unexplained judgements: • Some attempt to explain their judgement on the significance the consequences are on Singapore's domestic and external economy, due to changes in interest rates in other countries.	2-3
E1	An unsupported judgement: • Mere evaluative statements or judgements that are neither supported nor relevant to any specific context	1