The exchange rate is a key policy tool in managing the economy of Singapore.

a) Explain how an appreciation of the exchange rate might affect aggregate demand and aggregate supply in an economy. [10]

b) Discuss whether management of the exchange rate is the most appropriate way of controlling inflation in Singapore. [15]

<u>Question Interpretation for part 'a':</u>

<u>Command Word:</u> "Explain how" → Define, Illustrate, Elaborate

<u>Cue Words/ Key Economic Concepts:</u>
- "appreciation of the exchange rate" → increase in external value of currency
- "affect AD and AS"→ link to AD-AS analysis i.e. AD & AS ↑ or ↓

<u>Requirement (1):</u> Impact of appreciation of exchange rate on AS

<u>Requirement (2):</u> Impact of appreciation of exchange rate on AD

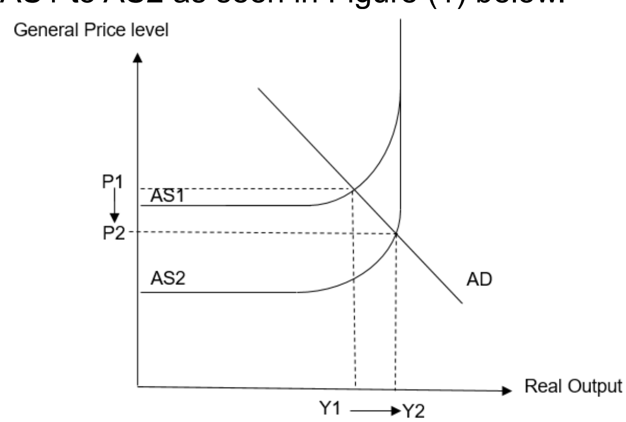
Introduction

Appreciation of an exchange rate refers to an increase in the external value of a currency. An appreciation will impact both aggregate demand (AD) and aggregate supply (AS). This essay seeks to explain how an appreciation of exchange rate might affect AD and AS in an economy.

Body/ Development

<u>Requirement (1): Impact of appreciation of exchange rate on AS</u>

An appreciation of domestic currency will make imported raw materials cheaper which can lead to a fall in unit cost of production of final goods and services for domestic firms. Hence, firms in the economy are willing and able to increase production at every price level, causing a rightward shift of the AS curve from AS1 to AS2 as seen in Figure (1) below.



<u>Figure (1): Rise in SRAS due to appreciation</u>

Requirement (2): Impact of appreciation of exchange rate on AD

Impact on export revenue:

On the other hand, an appreciation of domestic currency will lead to a rise in price of exports in terms of foreign currency. The rise in price of exports will cause foreigners to decrease their demand for the country's exports as long as price elasticity of demand for exports is more than zero (i.e. PEDx>0) leading to a decrease in export revenue (X) measured in the domestic currency.

Impact on import expenditure:

At the same time, an appreciation of domestic currency will lead to a fall in price of imports in the domestic currency. With a fall in price of imports, quantity demanded of imports increases as domestic consumers would now switch their consumption away from domestically produced goods, thereby decreasing domestic consumption (Cd). The larger the XED value i.e. the closer the degree of substitutability, the greater the decrease in Cd. If PEDm>1, a fall in the price of imports brings about a more than proportionate rise in quantity demanded and leads to a rise in import expenditure (M). Assuming Marshall-Lerner condition where the sum of price elasticity of demand for exports and imports is greater than 1 i.e. PEDx + PEDm >1, an appreciation of the domestic currency will lead to a fall in the value of net exports (X-M).

Overall impact:

With a decrease in Cd and (X-M), this will lead to a decrease in AD from AD1 to AD2, ceteris paribus, as shown in the Figure (2) below.

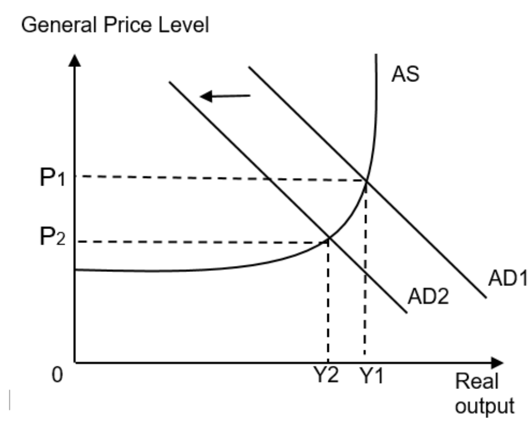


Figure (2): Rise in AD due to appreciation

Conclusion

Overall, an appreciation will lead to a rise in SRAS and a decrease in AD.

Mark Scheme

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	• Analytical explanation of impact on AD **and** impact on AS due to appreciation of domestic currency.	8-10
L2	• Limited rigour in analysing impact on AD **and** impact on AS due to appreciation of domestic currency. • Unbalanced analysis e.g. only 1 requirement is explained • Inaccurate analysis/ analysis has missing gaps	5-7
L1	• Largely descriptive • Some knowledge of impact on AD OR impact on AS due to appreciation of domestic currency.	1-4

(b) Discuss whether management of the exchange rate is the most appropriate way of controlling inflation in Singapore. [15]

<u>Question Interpretation for part 'b':</u>

<u>Command Word</u>: "Discuss" → Thesis, Antithesis, Synthesis (TAS)

<u>Cue Words/ Key Economic Concepts:</u>

- "management of exchange rate" → gradual and modest appreciation
- "controlling inflation" → slow down the increase in price
- "Singapore" = context

<u>Requirement (1):</u> Management of exchange rate ~~is the most~~ could be an appropriate way of controlling inflation in SG

<u>Requirement (2):</u> Other policies could also be appropriate in controlling inflation in SG

Introduction

Inflation refers to a sustained increase in the GPL. Once high inflation sets in, it creates negative impacts on the economy, such as a fall in material standard of living (SOL) and a fall in export-price competitiveness.

As a small, open economy, Singapore's external demand makes up two-thirds of the aggregate demand, i.e. external demand is the driving force of the economy. The aim of monetary policy in Singapore therefore is to achieve some targeted exchange rate that will allow the external demand and AD to increase at a non-inflationary pace and to keep imported inflation at bay.

Hence, it is imperative for the Singapore government to control inflation via appropriate policies. This essay seeks to discuss whether management of exchange rate via gradual and modest appreciation is the most appropriate way of controlling inflation in Singapore.

Body/ Development

<u>Requirement (1): Management of exchange rate could be an appropriate way of controlling inflation in SG</u>

<u>Step (1): What the policy is about</u>

Exchange rate policy involves the deliberate attempt by the Central Bank (MAS in Singapore) to manipulate the external value of a country's currency in order to influence the economy. For example, the Central Bank can deliberately appreciate its domestic exchange rate by selling foreign currencies in the foreign exchange market to overcome inflation due to external factors.

<u>Step (2): How the policy works</u>

Explain how appreciation of S$ dampens demand-pull inflationary pressures that arises from excessive increase in external demand

With an appreciation of S$, the domestically produced goods for exports become relatively more expensive in foreign currencies. As such, it loses its export price competitiveness in the international market. Assuming PEDx>0, foreigners will demand less of Singapore's exports, resulting in a fall in export revenue (X) measured in S$. As seen in part (a), the appreciation of S$ will also cause import expenditure (M) to rise. Assuming Marshall-Lerner condition where the sum of price elasticity of demand for exports and imports is greater than 1 i.e. PEDx + PEDm >1, an appreciation of SGD will then lead to a fall in the value of net exports. Thus, a stronger S$ can help to dampen the rise in AD in Singapore easing inflationary pressure due to rising external demand as shown in Figure (2) above in part 'a'.

Explain how an appreciation of S$ addresses imported cost-push inflation in Singapore
When the Monetary Authority of Singapore (MAS) appreciates its Singapore dollar (SGD), it can lower inflation rate by lowering imported cost-push inflation. A rise in the external value of SGD will make imported raw materials cheaper which can lead to a fall in unit cost of production of final goods and services for domestic firms. Hence, firms in the economy are willing and able to increase production at every price level, causing a rightward shift of the AS curve from AS1 to AS2 as seen in Figure (1) in part 'a'. GPL falls from P1 to P2, hence reducing cost-push inflation and real output increases from Y1 to Y2.

Step (3): How well the policy works
Limitation: *To* allow for a stronger S$, the MAS will need to intervene in the foreign exchange market to buy SGD and sell foreign currencies. Therefore, it is important that Singapore has sufficient foreign reserves to maintain a stronger S$. However, if MAS has insufficient foreign reserves, or that the rate of depletion of foreign reserves is fast, it may not have sufficient foreign reserves in the future to control inflation.

EV1: ***[Criterion: Conflict of macroeconomic goals]*** Whether gradual and modest appreciation is the most appropriate way of controlling inflation in Singapore depends on the conflict of macroeconomic goals. ***[Reasoning]*** This is because if S$ appreciates excessively, it will discourage Singapore exports, especially in the export of services with low import content, as they will be relatively more expensive in foreign currencies. For example, tourists may be deterred from having their holidays in Singapore; foreigners may decide to seek cheaper medical services or pursue their education in other countries where the cost is lower. In addition, overly extensive appreciation can also erode Singapore international cost competitiveness as a business location affecting foreign investment in Singapore which may discourage foreign direct investments (FDIs). ***[Opinion]*** As such, MAS must be mindful that S$ cannot persist to be overly strong for a long period of time as it can hurt Singapore exports and discourage FDI which can lead to contractionary effects on the economy as AD falls, damaging the economy and making the policy inappropriate. Subsequently, it may also give rise to an increase in demand-deficient unemployment. Furthermore, as the export of services decreases, ceteris paribus, this may result in a less favourable balance of trade. ***[EV]*** However, for Singapore exports with high import content, it may not suffer as much since cheaper imported inputs due to stronger S$ can help to offset to some extent the higher price of exports from a stronger S$.

Hence, since managing exchange rate via gradual and modest appreciation may result in some limitations, the Singapore government may consider implementing other policies to control inflation.

Requirement (2): Other policies e.g. SS-side policy could also be appropriate in controlling inflation in SG

Step (1): What the policy is about
Supply side policies is a basket of policies that the government uses to influence aggregate supply so as to control inflation in this case. The Singapore government can choose to implement either short-run or long-run supply-side policies.

Option (1): LR SS-side policy
Long-term supply-side policies target at increasing the productive capacity of the economy, causing a rightward shift of the vertical segment of the AS curve, addressing cost-push inflation arising from presence of structural rigidities e.g. tight labour market in Singapore, which was aggravated by COVID-19 where foreign workers were not mobile. At the same time, LR SS-side policy can also control demand-pull inflation as GPL falls.

Step (2): How the policy works
If the Singapore government provide subsidies for education, training and re-training, such as SkillsFuture, it will raise labour productivity and hence factor quality. Consequently, productive capacity will increase, thereby leading to a rise in LRAS and hence AS curve shifts to the right, resulting in a fall in GPL from P1 to P2 and hence controlling inflation. This is shown in Figure (3) below.

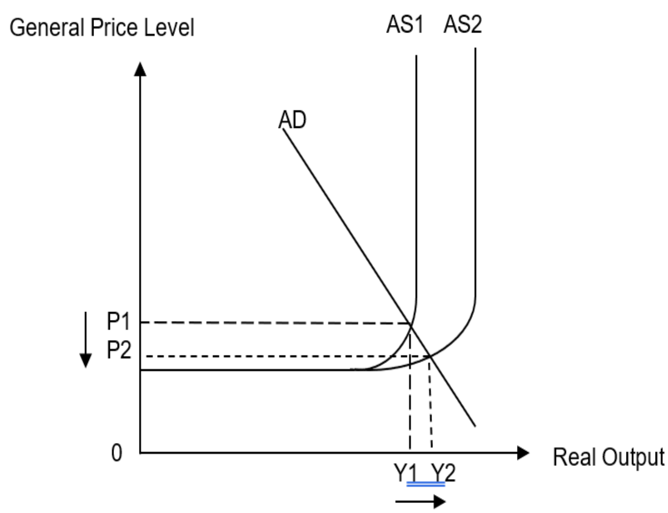


Figure (3): LR SS-side policy controlling inflation

Option (2): SR SS-side policy
This serves to only reduce the cost of production without increasing the productive capacity of the economy, will lead to a shift of the upward-sloping segment of the AS curve to the right. It resolves cost-push inflation in the short run.

Step (2): How the policy works
If the Singapore government provide subsidies to prevent excessive increase in prices of essential inputs such as oil, it may allow this allow the same quantity of output to be produced and sold at a lower price. Therefore, firms are able to supply more goods, thereby increasing the country's aggregate supply. This will lead to a rise in AS from AS1 to AS2, as illustrated in Figure (1) in part 'a'. As a result, there is a fall in the general price level from P1 to P2, thereby controlling inflation, and also an increase in real output from Y1 to Y2 which results in growth.

Step (3): How well it works
Limitation: The attitude, aptitude and age of the workforce matter in order for the education and training to work. For instance, in Singapore, we have an ageing population and hence the receptivity towards learning new skills may be low. Hence, the effectiveness and hence appropriateness of LR SS-side policies via education, training and re-training may be limited.

Limitation: As GPL falls with the increase in AS, this reduces the inflationary pressure in the economy which in turn may help to maintain the country's export competitiveness. As GPL falls, this can also increase the export price competitiveness, bringing about an increase in export revenue, assuming PEDx >1. Furthermore, falling domestic prices will reduce the demand for imports, assuming there is high degree of substitutability between imported goods and domestically produced goods, resulting in a fall in import expenditure. As a result, rising export revenue and falling import expenditure will lead to a more favourable BOT. Hence, supply-side policies can result in unintended consequences of achieving other macroeconomic goals, as opposed to conflict of macroeconomic goals in gradual and modest appreciation, and hence it is a type of appropriate policy to control inflation.

EV: [Criterion: Size of government budget] Whether supply-side policies are appropriate in controlling inflation depends on the size of government budget. ***[Reasoning]*** As supply-side policies may be costly, it may cause a strain on the government budget. If it is funded from a rise in tax revenue collected, it may cause a disincentive to work and invest, thereby resulting in a fall in labour productivity and capital accumulation respectively and hence growth. ***[Opinion]*** However, in the context of Singapore, due to fiscal prudence, the government has accumulated past budget surpluses and hence the likelihood of a budget deficit, at least in the foreseeable future, is low. Thus, this is still an appropriate policy to control inflation.

Synthesis & Evaluative Conclusion

Overall, whether the management of exchange rate via gradual and modest appreciation of S$ in Singapore is an appropriate policy to control inflation depends on:

[Criterion: Root cause of inflation and time period] [Opinion] it is important to note that inflation is multi-casual, and hence it may be wise and rational for the Singapore government to implement a plethora of policies that can control and solve both demand-pull and cost-push inflation to heighten the effectiveness and appropriateness of policies. ***[Reasoning]*** Gradual and modest appreciation may be able to reduce both demand-pull and cost-push inflation easily in the short run, and with the help of short-run supply-side policy. To ensure inflation can continue to be controlled more effectively in the long run, it is also important to implement long-run supply-side policies together.

Mark Scheme:

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For a good analytical assessment of whether the management of exchange rate via gradual and modest appreciation and another policy are appropriate ways to control inflation.	8 – 10
L2	For a correct but underdeveloped explanation. For an explanation on whether the management of exchange rate via gradual and modest appreciation and another policy are appropriate ways to control inflation, but with some missing gaps in analysis. Response may not necessarily link back explicitly to appropriateness of policy. *OR* For 1 requirement that is thoroughly analysed and evaluated---Cap at 6m.	5 – 7
L1	Ability to identify and very briefly explain (show knowledge of) the requirements. Answer lacks depth and content. Smattering of points.	1 – 4
	Evaluation	
E3	Clear and sound justification on whether the management of exchange rate via gradual and modest appreciation is the most appropriate way to control inflation.	5
E2	Some justification on whether the management of exchange rate via gradual and modest appreciation and another policy are appropriate ways to control inflation.	3 – 4
E1	Mainly unexplained judgments. *OR* Assertive evaluative statements without justification.	1 - 2