

PJC 2017 H2 Prelim Exam Paper 2

Question: 4

Singapore's inflation moderated to -0.5% in 2015, from 1.0% in the preceding year. In October 2015, MAS eased policy further by reducing the rate of appreciation of the policy band slightly, in view of reduced price pressures alongside a weaker growth outlook.

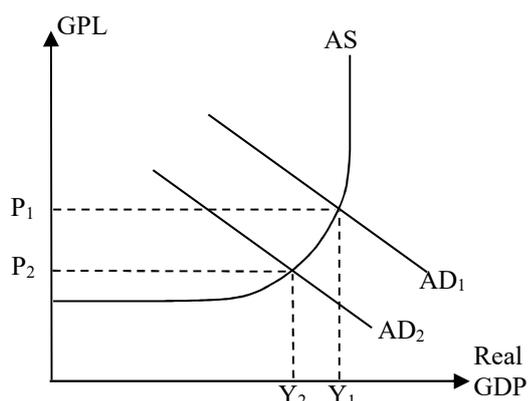
Source MAS Annual Report 2015/16

- (a) Explain the possible causes of deflation in a country. [10]
- (b) Discuss whether exchange rate policy should remain the most important policy in maintaining price stability in Singapore. [15]

Deflation is defined as a sustained decreased in the general price level of an economy. It can be caused by either a fall in aggregate demand or a rise in aggregate supply or both.

Deflation can be caused by a fall in aggregate demand.

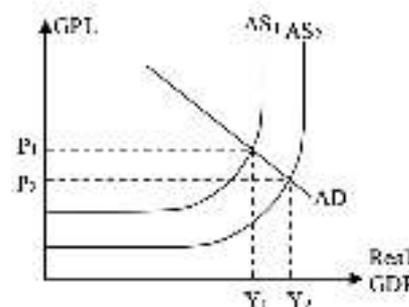
For example, falling C and I due to consumer and business pessimism about the future state of the economy as that witnessed in Japan or debt problem in the euro zone and austerity measures implemented which reduces government spending. All this cause a leftward shift of the aggregate demand (AD) curve from AD_1 to AD_2 , leading to a fall in the general price level from OP_1 to OP_2 .



Thus, one of the causes of falling GPL is falling AD.

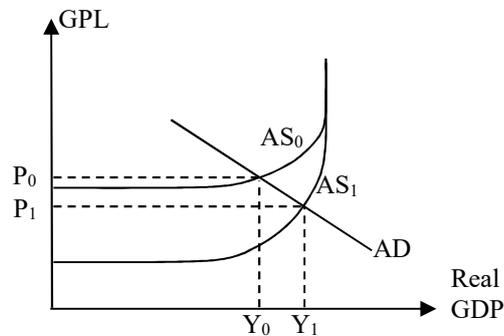
Another cause of deflation is due to rising AS due to improvement in technology. An improvement in technology improves the efficiency of capital, reduces the average cost of production and raises the productive capacity in the economy. The lower cost of production allows firms to lower prices, and this will lead to a downward shift of the aggregate supply (AS) curve. The increased productive capacity increases the full employment output of the economy, hence there is also a rightward shift of AS. AS curve shifts from AS_1 to AS_2 , the equilibrium general price level falls (P_1 to P_2) while the real output increases (Y_1 to Y_2).

Hence another cause of deflation is due to improvement in technology.



The third cause of deflation is due to falling prices of factors of production.

A reduction in the price crude oil for example, reduces the cost of production of most industries as crude oil is a main source of energy. This will increase the profit margin of firms and increase the aggregate supply in the short run. Given aggregate demand curve AD, the AS curve shifts downwards from AS_0 to AS_1 as shown in figure 1 below, leading to a fall in the general price level from OP_0 to OP_1 .



A fall in prices of factors of production is another possible cause of deflation

Deflation is caused by either a fall in AD or / and a rise in AS. The desirability of negative inflation on an economy depends on the cause, extent and duration. If the negative inflation is due to a fall in aggregate demand and a deflation results as seen in the euro zone and Japan, the economies are likely to be in recession and is undesirable.

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(b) Discuss whether exchange rate policy should remain the most important policy in maintaining price stability in Singapore. [15]

Singapore uses exchange rate policy to manage inflation. Being a small and open economy largely reliant on FDI & trade for its growth. Singapore also lacks resources and hence very reliant on imports. Whether the use of exchange rate policy is the most important policy for an economy such as Singapore depends on the context of the economy, cause of inflation and the time period.

Gradual appreciation of the Singapore Dollar is the most important policy in maintaining low inflation in Singapore. As the Singapore economy which lacks natural resources, Singapore has to rely on imports for almost everything. Hence a gradual appreciation of the Singapore dollar can reduce the effects of imported inflation. As Singapore dollar appreciates, imports become cheaper in terms of domestic currency, reducing imported cost of production. Assuming firms pass on cost savings to consumers by reducing prices, the AS curve shifts downwards to alleviate cost push inflation as seen in Fig 1 where a downward shift of AS from AS_2 to AS_1 will reduce general price levels from P_2 to P_1 .

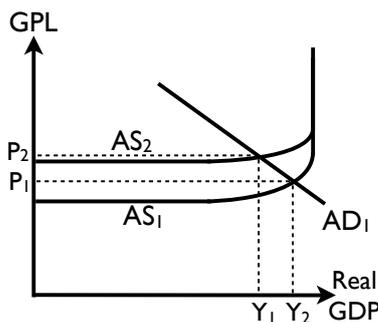


Figure 1

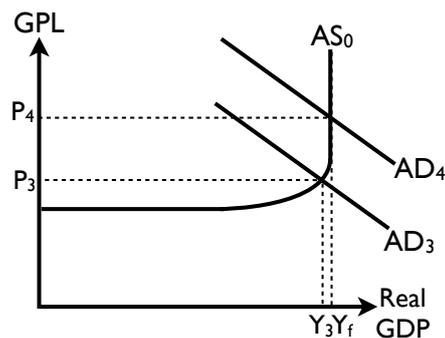


Figure 2

Currency appreciation can also help dampen the rise in AD to control demand pull inflation as an appreciation of currency causes exports to be more expensive in foreign currencies, causing quantity demanded for exports to fall and imports to be cheaper in domestic currencies, causing quantity demanded for imports to rise. If Marshall-Lerner condition holds where $|PED_x + PED_M| > 1$, the appreciation of currency will cause net exports (X-M) to fall, resulting in a fall in AD, controlling the overheating effects in our economy. In Fig 2 above, a fall in AD from AD_4 to AD_3 can reduce the general price levels from P_4 to P_3 .

Therefore, given Singapore's open economy, a gradual appreciation of our currency is an effective and important tool to manage inflation in our economy. This is further supported in the preamble where MAS eased policy further by reducing the rate of appreciation of the policy band slightly in view of reduced price pressures alongside a weaker growth outlook.

Despite the importance of Exchange rate, it does not tackle demand-pull or cost push inflation attributed to domestic reasons (high demand for housing, high labour cost etc), which has been a source of inflation in recent years. Hence it alone might not be enough to maintain price stability.

The Singapore government also make use many cooling measures to tackle high inflation brought about by domestic cost pressures. For example, a higher additional stamp duty was imposed on citizens who are purchasing their second property and this will reduce excessive demand for housing

which subsequently reduces investments. The ease of obtaining a housing loan has also been tightened, tackling the problem of rising housing prices caused by rising demand. Also, measures to restructure the auto vehicle loan limits and additional registration fees system were also targeted at cooling the rising COE prices.

The usage of targeted cooling measures serves to tackle the problems of rising prices caused by domestic cost pressures efficiently. However, sometimes cooling measures may not bring about the intended effects and this requires additional policies. For instance, the housing cooling measures was the seventh cooling measures thus far. On top of that, the effectiveness of such cooling measures depends on the abilities of the authorities to check market trends and to identify appropriate measures.

Supply-side policies like education, training, subsidies and tax incentives to encourage Research & Development allow the economy to shift the AS curve to the right by increasing the quantity and quality of resources. With an increase in AS, Singapore can better meet the rising demands of the country (rise in AD), yet managing high inflation. These lead to outward shifts in the AS curve as rising labour productivity increases the productive capacity of the economy. This means reduced likelihood of demand-pull inflation since when AS shifts from AS_1 to AS_2 , an increase in AD from AD_0 to AD_1 only increases GPL from P_1 to $P_{1,2}$ as shown in Figure 3.

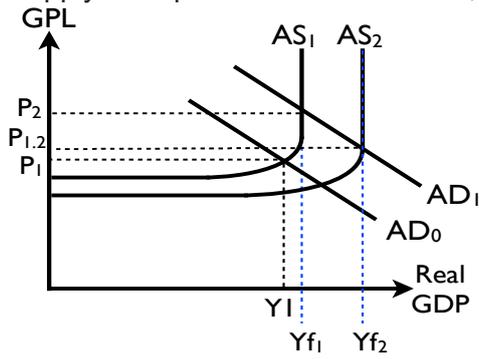


Figure 3

Education and training take time to have an effect, for example, it will take several years before improvements in education result in higher labour productivity. Moreover, subsidies or tax incentives on R&D are costly, R&D takes a long time to take effect and it is often difficult to predict a definite outcome. That said, supply side policies are important policies to use to help the economy maintain price stability as it boosts competitiveness and attracts FDI, and without increasing AS and focusing only on exchange rate policies to manage AD, the economy will not achieve sustained non-inflationary economic growth.

Using exchange rate as a tool is pertinent in Singapore's context due to its small size and high degree of openness to trade and capital flows. As Singapore depends largely on imports for raw materials, as well as the external demand for exports, changes in exchange rate have powerful influence on net exports which has significant impact on aggregate demand. Whether exchange rate policy is the most important tool to maintain low inflation, the government needs to assess the cause of inflation and the context of the economy. For Singapore's economy, ER appreciation might be the most important if inflation experienced is largely caused by external factors.

In the event inflation is identified to be caused by both external & domestic triggers, the approach taken to achieve long term price stability would have to include the plethora of measures mentioned above even in the context of a small and open economy reliant on trade for its GDP growth such as Singapore.