

2023 A Level H1 Economics – CSQ2 (Inflation and Technology)

(a) With reference to Table 1 in Extract 5

- (i) State the two months during the period from July 2020 to June 2021 when prices were at the lowest in Singapore. [1]

November 2020 and December 2020. [1]

- (ii) Compare the inflation rate of Singapore to that of the US over the same period. [2]

Similarity - From January 2021 to June 2021, both Singapore & U.S. had inflation that was generally increasing. [1]

Difference: Singapore experienced deflation from July 2020 to Dec 2020 while the U.S. had inflation but was generally ~~de~~creasing. [1]

Note: There are other ways to rephrase the above that will probably be acceptable (key thing is to explain similarities and differences)

Cambridge Examiner Report:

- (a) (i) Stronger responses were characterised by a sound understanding of the relationship between changes in the value of the CPI and prices. A significant number of candidates selected incorrect months in their responses.
- (ii) Candidates found this comparison a straightforward task and most provided correct responses in the required context.

(b) With reference to Extract 6, explain

- (i) why governments 'embarked on unprecedented scale in fiscal stimulus spending' during the pandemic [4]

Severe macro problem from the pandemic: [1]

During the pandemics, there was a fall in net exports, consumption expenditure (due to lockdowns and travel restrictions) & investments (poor sentiments) → resulting in a fall in AD which triggers successive rounds of fall in output, income, and income-induced consumption → multiplied fall in real national income via the reverse multiplier → **significant negative actual EG**. As real output falls → firms hired less factor inputs like labour / derived demand of labour falls → **large increase in demand deficient unemployment**. [1]

With C, I and (X-M) all falling and thus potentially leading to severe recession/deflation → **governments resorted to large fiscal spending to cushion / offset the extent of fall in AD**. [1]

The unprecedented scale in fiscal stimulus spending was meant to cushion and mitigate the fall in AD via the following (explain 1 will do) [1]

1. Through transfer payments → increasing disposable income → increase C
2. Through tax reliefs, subsidies helped to encourage an increase in investments → increase I
3. Through direct government spending on hiring and infrastructure spending → increase G

As $AD = C + I + G + (X - M)$, the unprecedented rise in G will offset some part of the fall in C , I and $(X - M)$, resulting in a smaller fall in AD and thus real national income $\rightarrow$ negative actual EG and demand-deficient unemployment by smaller extent. [1]

Cambridge Examiner Report:

- (b) (i) The majority of candidates had an idea of what 'fiscal stimulus spending' involved but did not always translate this into an effective response to the question asked. They instead focused on the issue of inflation (Extract 6 identified this as being caused by expansionary fiscal policy brought about by governments), missing the point that the issue at the heart of this question was an explanation of the need for 'fiscal stimulus spending' during the pandemic. The stronger responses

identified weaknesses in aggregate demand and economic growth as outcomes of the pandemic, and the unprecedented scale of fiscal stimulus spending as the expansionary response of choice by many governments.

- (ii) how 'an appreciation in the currency could potentially reduce the costs of imports in domestic currency'. [4]

Definition of Appreciation: An appreciation in the country's currency (eg SGD) means the value of it has now increased relative to other currencies (eg Ringgit). This means one unit of the SGD can buy more units of Ringgit than before. [1]

Example: For example, if 1 SGD used to be exchanged for 3 RM, after appreciation, 1 SGD will now exchange for 3.5RM. [1]

Explain how domestic price of imports is reduced: Theoretically, assuming the prices of imports from overseas is constant in foreign currencies (Ringgit), the appreciation of SGD against Ringgit will now mean the costs of imports in SGD is lower than before. [1]

Explain why the fall in price of imports may be less than expected: However, the costs of imports might not fall given an appreciation of domestic currency as importers may be subject to pre-agreed contracts at domestic currency, or the importers do not pass down the lower costs to consumers. [1]

Cambridge Examiner Report:

- (ii) Many candidates successfully referenced the relationship between an appreciated exchange rate and a reduction in the cost of imports in the local currency. Only the stronger responses went on to fully explain the causality. These responses also successfully addressed the 'potentially' aspect of the question, with weaker responses sidetracked through discussions of relative price elasticity of demand.

- (c) With reference to Extract 6 and using aggregate demand and aggregate supply analysis, comment on the likely impact on economies of countries where 'interest rates were kept nearly zero'. [6]

Positive impact on macroeconomics objectives

When interest rates were kept nearly zero, it will have impact on various macroeconomics goals. As mentioned in Extract 6, the low interest rate

- incentivised households and firms to borrow freely. As the low interest rate leads to low returns to savings and low opportunity cost of spending. Consumers will thus be more willing to spend than to save, hence consumption will increase.
- With the low interest rate, more investment projects are profitable to undertake and thus, this encourages an increase in investment. With the increase in consumption and investment, AD will increase.

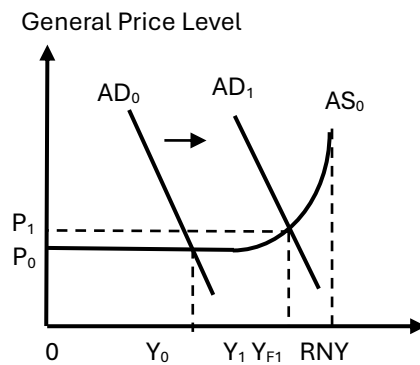


Figure 1

Referring to the Figure above, this results in AD increasing, which can be seen as a rightward shift of AD_0 to AD_1 . Assuming the economy is not at full capacity, firms will employ more factors of production to increase production. This causes the increase in national income, which will increase income-induced consumption and result in further increase in AD. This triggers successive rounds of increases in national income and income-induced consumption. At each round, the increase in both gets smaller. The multiplier process ends when the increase in national income is too small to generate further increase in income-induced consumption. This results in a multiplied increase in RNY from Y_0 to Y_1 . This helps the economy to achieve actual economic growth.

With the rise in production, the derived demand for all factors of production includes labour increase. Thus, demand deficient unemployment decreases, achieving a lower unemployment rate.

Negative impact on macroeconomics objectives

If the increase in AD is sustained, then demand pull inflation might result. Assuming economy moves closer to full employment, factors of production are now scarce. The increase in production will cause greater competition for scarce resources which increase factor prices. Firms will therefore be willing to sell additional units only at a higher price (shown by a movement up the AS curve). The persistent increase in AD will lead to further increase in GPL and resulting in demand-pull inflation.

Cambridge Examiner Report:

- (c) The analytical parts of this question were answered very well by most candidates. They were able to illustrate the impact on economic growth and inflation through a correctly presented aggregate supply/demand diagram. Quality evaluative comment of that economic analysis, however, was not a common feature. Only the stronger responses commented on the possibility of inflation and went on to develop this link through the issue of scarcity of the factors of production and the bidding up of their reward and the impact that this would have on the price level in the economy.
- (d) **Extract 7 states ‘Many activities that workers carry out today have the potential to be automated’.**

Explain why automation may benefit some groups of workers more than others. [5]

Skilled Workers

Automation and technological advancements create a higher demand for skilled workers, such as software developers, engineers, and technicians. [1].

The increase in demand leads to a higher wages and potentially more employment opportunities for skilled workers as the equilibrium quantity of workers increases. [1]

Less skilled Workers

Automation tends to replace tasks that are repetitive and don't require specialized skills, which are often the domain of unskilled workers. This leads to a fall in demand for low skilled labor, as machines and technology take over these tasks. [1]

The new equilibrium in the market for unskilled labor is characterized by lower wages and higher unemployment rates for these workers as the equilibrium quantity of workers falls. [1]

With increased automation, low skilled workers displaced due to automation may not be able to find jobs in expanding industries due to mismatch of skills resulting in occupational immobility and therefore may experience an increase in structural unemployment. [1]

Cambridge Examiner Report:

- (d) Many stronger responses to this question showed a good understanding of the potential disbenefits of automation with respect to groups of lower skilled workers who could face structural unemployment. They also explained the great benefits to groups of higher skilled workers through increased demand for their labour or the ease with which they would move between jobs. Weaker responses seemed to miss the point of the question and focused on the benefits of automation to producers rather than to specific groups of workers.

(e) With reference to Extract 7 and 8, comment on whether these technological shifts 'create considerable uncertainty, alongside the potential benefits' for the economy.
[8]

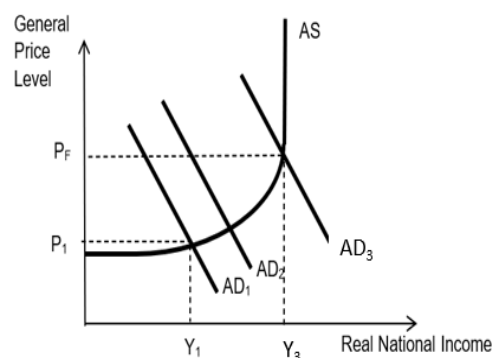
Command	Comment - Two-sided answer with a well-reasoned stand with evaluative insights.
Content	Macro impact on economic growth, unemployment and price stability from technological enhancement
Context	Economy.
Approach	Introduction R1: Unintended Consequences: explain how technology will lead to structural unemployment. Ev of R1: Extent of negative impact depends on extent & effectiveness of retraining and reskilling programmes R2: Benefits: explain how technology will lead to sustained / sustainable EG EV of R2: Extent of benefits depends on fiscal health of government and success of R&D

Introduction

Technological shifts in the form of AI and robotics present both benefits and unintended consequences to an economy through the macroeconomic aims.

R1: Explain what the considerable uncertainty caused by technological shifts refer to

Technological shifts enabled automation resulting in the displacement of labour as workers are replaced by technology in the production process → skills mismatch → occupational immobility → long-term structural unemployment → lower mSOL and perhaps non-material SOLAs demand for skilled workers increase and demand for lower skilled workers fall with technological shifts → widening of income gap → Gini coefficient will increase → economic growth non being inclusive.



In addition, there is uncertainty in business profitability as entire industries face the possibility of being displaced (e.g. copywriters & lawyers replaced by AI) → fall in investment → fall AD, c.p. → firms produce less and employ fewer workers → many rounds of falls in national income and induced-consumption → multiplied fall in RNY from Y1 to Y3 → negative AEG in the short run and demand deficient unemployment

Fall in investment → fall in capital stock, c.p. → fall in quantity and quality of resources → fall in productive capacity and LRAS → negative potential growth in the long run.

The immediate increase in commodities prices due to more intensive use for those such as copper and lithium will drive up the demand and result in shortage and rising prices of these rare factor input → increase in cost of production → decrease SRAS → increase in general price level and cost push inflation as GPL rises to clear the shortage at prevailing GPL. This may also increase costs for firms, reducing their profit margins.

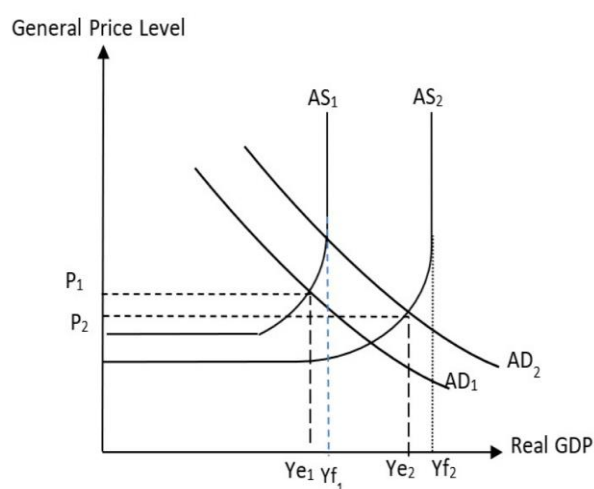
Evaluation of R1: Extent of impact depends on several factors

However, the extent of these negative impact on the economy depends on factors such as the **use of effective supply-side policy by the government to retrain workers to minimize the duration of structural unemployment**. If the government has foreseen this earlier and started on retaining workers in advance, then fewer low skilled workers will be structurally unemployed, slowing down the increase in structural unemployment.

In addition, government may also **provide subsidies to encourage business transformation which will also seek to mitigate the risk such as lower profits for firms from disruptive technologies** as the economy restructures towards niche areas of growth for economic competitiveness. These subsidies will help to cushion firms from the higher costs and therefore lower profits that come with using new technologies in the short run to continue to encourage them to use the new technologies which will help lower costs in the longer term.

R2: Explain the potential benefits from technological shifts

Technological shifts, especially in green and renewable technology will allow the economy to increase investments in green electric vehicles and renewable sources of energy → increase AD from AD₁ to AD₂, c.p. → multiplied increase in real national income from Y_{e1} to Y_{f1} via the multiplier and thus achieving positive actual growth.



As technological advancements (e.g. vertical farms, telehealth, virtual education platforms) start to increase productivity → fall in unit COP → increase in SRAS. Increase in productivity → increase quality of resources → increase in productive capacity and LRAS.

Increase SRAS and LRAS → increase in AS from AS1 to AS2 → actual EG from Ye1 to Ye2, positive potential growth from Yf1 to Yf2 and lower GPL from P1 to P2.

In the long run, the rise in quantity and quality of resources via technology will boost the productive capacity and achieve potential growth that will depress GPL → sustained EG

Investment in green technologies and energy efficient energy sources → reduce negative effects of production on environment → sustainable economic growth

Evaluation of R2: Extent of impact depends on several factors

The potential benefits of technology will most likely materialize in the long run, with short terms unintended consequences in rising GPL and higher structural unemployment an immediate concern for governments. The extent of these trade-offs also depends on the state of economy and spare capacity available, as well as the workforce's attitude towards skills upgrading. Therefore, supplementary short-term policies should be used to address these trade-offs to prevent a fall in the economic performance and living standards of its people.

Brief Conclusion

- Economy may benefit more from these shifts if the government has had the foresight to ensure workers are trained and prepared for these structural changes in the economy.

Cambridge Examiner Report:

- (e) The quality of responses to this question varied considerably. Most responses explained the likely economic benefits through the types of broad shifts in technology identified in Extracts 7 and 8. Only the stronger responses recognised that the creation of considerable 'uncertainty' is different from 'costs' as a potential negative outcome of technological shifts. They explained the 'uncertainty' specified in the question as a potential outcome of the same shifts in technology. For example, some stronger responses developed their explanation of structural unemployment to analyse the uncertainty created by technological shifts and evaluated why/the extent to which it limits the benefit of technological shifts. They also evaluated on 'uncertainty' issues that included the uncertainty associated with the long-term outcomes of innovation, the uncertainty around the inclusive nature of the benefits of technological shifts, the uncertainty around the sustainability of a worker updating their skills in the face of rapid successive technological shifts, or the uncertainty on the firm's profitability of embracing technological shifts. In contrast, weaker responses took 'uncertainty' to simply mean 'downsides'. They simply reversed their argument of economic benefits in their economic analysis or evaluation. As a result, their economic analysis of 'uncertainty' and the quality of the evaluation suffered.

(f) Discuss whether the government's supply-side or fiscal policies could best counter inflation. [10]

Command	Discuss - Two-sided answer with a well-reasoned conclusion.
Content	Government intervention to mitigate inflation
Context	Economy.
Approach	Introduction R1: Explain how supply-side policies can solve cost-push inflation. Ev of R1: Limitations of using supply-side policies to solve cost-push inflation. R2: Explain how fiscal policies can solve inflation. EV of R2: Limitations of fiscal policies. Summative Evaluation (Ev3)

Introduction

- **Contextualisation:** Countries have a number of policies which they could use to counter inflation in an economy including, FP, MP and SSPs
- **Overview:** In this part, I will evaluate if SSP of FP may be best to counter inflation.

R1: Explain how supply-side policies can solve cost-push inflation.

Supply-side policies that provide subsidies for firms to automate or reskill/upskill workers can significantly enhance productivity. Automation can increase output with the same or lower input, while a more skilled workforce can produce more efficiently.

These factors can lead to a rightward shift in LRAS from AS_0 to AS_1 , increasing the economy's capacity to produce goods and services, and thus, lowering general price levels from P_0 to P_1 and reducing inflation.

Note: Students could also include how automation or skills upgrading → increase productivity → fall in unit COP → increase in SRAS → lower GPL and therefore reduce cost-push inflation

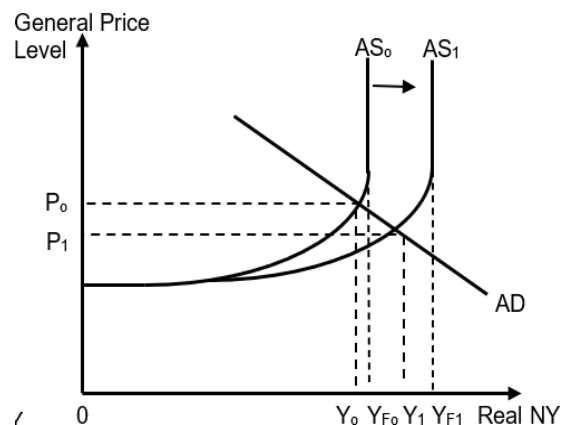


Figure 2

Ev of R1: Limitations of using supply-side policies to solve cost-push inflation.

Subsidies for automation and training programs **can be expensive** for the government. This can **strain public finances**, especially if the government is already dealing with high levels of debt. Increase in debts → loss of confidence in the economy → fall in I → fall in AD in SR and slower growth in capital stock as the fall in I will reduce effectiveness of SSP → unintended consequences like slowdown or negative actual and potential EG

The **benefits of increased productivity from automation and a skilled workforce are not immediate**. It takes time for firms to implement new technologies and for workers to acquire and adapt to new skills.

R2: Explain how fiscal policies can solve inflation.

Contractionary fiscal policy involves reducing government spending, increasing taxes, or a combination of both. This approach aims to decrease Aggregate Demand (AD), thereby reducing the overall demand in the economy. This creates a surplus of goods at the initial GPL (P_1), thus creating a downward pressure on price. Firms will decrease production in response to the lower prices. A decrease production results in less competition for scarce resources, reducing factor prices. Firms would therefore be willing to sell additional units at a lower price (shown by a movement down along the AS curve). Thus, the economy re-equilibrates at lower GPL, P_2 and lowering demand-pull inflation.

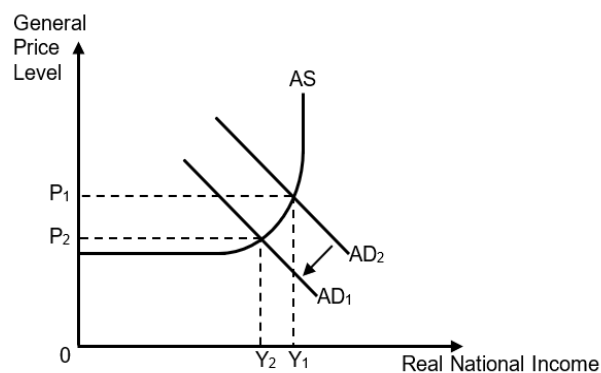


Figure 3: Effect of Contractionary Fiscal Policy

EV of R2: Limitations of fiscal policies

Reducing government spending or increasing taxes can slow down economic growth. This is because government spending is a component of AD and raising taxes can lower consumption and investment in the economy. As demand in the economy decreases, businesses may reduce production, leading to job cuts.

Effectiveness also depends on size of k . If size of multiplier is small due to high MPW → limited fall in AD, reduce effectiveness of the policy in countering inflation.

Overall Evaluation: Clear stand and substantiation (Situation, time period and recommendation)

Stand: In determining whether supply-side or fiscal policies are better at countering inflation, it's crucial to consider the root cause of inflation (demand-pull or cost-push) and the economy's current state.

Substantiation [Situation]: Contractionary fiscal policy is more direct in addressing demand-pull inflation, especially in an economy operating near full capacity. However, its negative impacts on growth and employment are significant considerations.

[Time period] Supply-side policies, on the other hand, offer a more long-term solution to countering both types of inflation by increasing productive capacity and efficiency. However, they require time and investment to be effective.

Something special [Recommendation] : The best approach may involve a combination of both, carefully balancing the need to control inflation with the goals of sustaining growth and employment.

Cambridge Examiner Report:

- (f) This question was generally answered very well, with most responses confidently drawing on knowledge of supply-side policy and (contractionary) fiscal policy as means to counter inflation. Weaker responses tried to either use exchange rate policy without bringing it under supply-side analysis, or present expansionary fiscal policy as a policy option. Most responses were well-structured, beginning with an analysis of the suitable policy operation, followed by some evaluation of the policy's effectiveness. Whereas weaker responses provided cursory explanations of policy operations and effectiveness, the stronger responses provided depth to their economic analysis and evaluation. For instance, stronger responses developed chains of reasoning of how supply-side policy works with explained examples from Extracts 7 and 8 to illustrate how and why increased productivity and innovation can lower (cost-push) inflation. Such depth of economic analysis provides a broader range of potential evaluative comments to be explored and facilitates them to develop the economic links within their evaluation further. The evaluative requirement of 'best' was also addressed successfully in stronger responses where a reasoned decision was presented.