2.1 How the macroeconomy works: the circular flow of income and AD/AS analysis

AQA 7136 · Calculator allowed · about 90 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 An economy is currently operating with significant spare capacity (its real output is well below its potential/LRAS output).

(a) Explain why an increase in AD in this situation is unlikely to cause significant demand-pull inflation. **(4)**

(b) Explain one reason a government might still prefer a supply-side policy over a demand-side stimulus, even when there is spare capacity. **(3)**

(Total for Question 1 is 7 marks)

2 Components of aggregate demand.

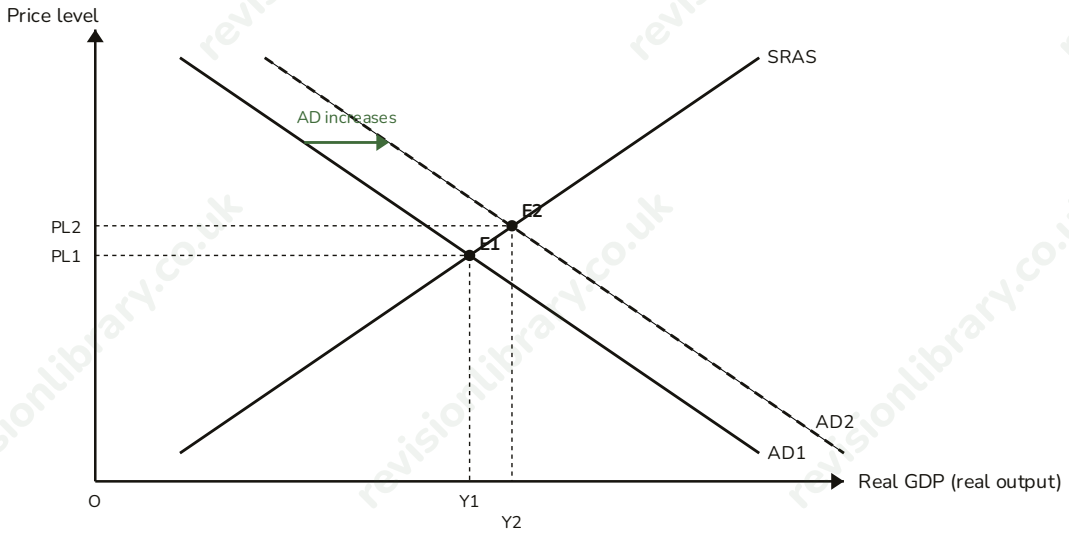
(a) State the equation for aggregate demand (AD), naming each component. **(3)**

(b) State two factors, other than income, that could cause an increase in consumer spending (C). **(2)**

(c) Explain how a fall in interest rates could increase investment (I) spending by firms. **(2)**

(Total for Question 2 is 7 marks)

3 The diagram shows the economy initially in equilibrium at E1. Aggregate demand then rises, shown by a rightward shift of the AD curve from AD1 to AD2, with short-run aggregate supply (SRAS) unchanged. A new equilibrium is reached at E2.



(a) State the change in the equilibrium price level and real output (real GDP) shown by the shift from AD1 to AD2. **(2)**

(b) Using the diagram, and an example, explain ONE factor that could cause the rightward shift in aggregate demand shown from AD1 to AD2. **(4)**

(c) Explain why the increase in aggregate demand shown causes the price level to rise (demand-pull inflation). **(4)**

(Total for Question 3 is 10 marks)

4 Short-run and long-run aggregate supply.

(a) Distinguish between short-run aggregate supply (SRAS) and long-run aggregate supply (LRAS). **(3)**

(b) State two factors that could cause an increase (a rightward shift) in long-run aggregate supply. **(2)**

(c) Explain why an increase in LRAS, unlike an increase in AD, allows an economy to achieve higher real output WITHOUT causing demand-pull inflation. **(3)**

(Total for Question 4 is 8 marks)

5 In a simplified economy, injections (I+G+X) currently total £90 billion and withdrawals (S+T+M) currently total £90 billion, so national income is in equilibrium.

(a) Explain what this equality tells us about the state of national income in this economy. **(2)**

(b) Suppose exports (X) then rise by £4 billion, with no other changes. Explain, step by step, how this disturbs the equilibrium and describe the process by which a new equilibrium is eventually reached. **(7)**

(Total for Question 5 is 9 marks)

6 Evaluate which of these two policies is more likely to achieve a SUSTAINED increase in real GDP without causing demand-pull inflation.

(Total for Question 6 is 7 marks)

7 An economy's marginal propensity to consume is 0.5, marginal propensity to save is 0.2, marginal propensity to tax is 0.2, and marginal propensity to import is 0.1.

(a) Calculate the marginal propensity to withdraw (MPW) for this economy. **(2)**

(b) Calculate the value of the multiplier. **(2)**

(c) State whether an economy with a HIGHER marginal propensity to import than this one would have a larger or smaller multiplier, and briefly explain why. **(2)**

(Total for Question 7 is 6 marks)

8 Explain why, in practice, a currency depreciation may initially WORSEN a country's trade balance before eventually improving it (the J-curve effect).

(Total for Question 8 is 5 marks)

Mark scheme · 2.1 How the macroeconomy works: the circular flow of income and AD/AS analysis

Question 1

(a) with significant spare capacity, firms can increase output to meet higher demand without needing to bid up scarce resources or pay overtime rates, since unused labour and capital are readily available **M1**

(a) so the SRAS curve tends to be relatively flat/elastic at low levels of output relative to potential, meaning a rightward shift of AD mostly increases real output rather than the price level **A1**

(a) as the economy gets closer to full capacity (potential output/LRAS), SRAS becomes steeper, so further increases in AD would then cause a larger rise in the price level relative to output **M1**

(a) since this economy currently has significant spare capacity, it is operating on the relatively flat part of SRAS, so the immediate risk of demand-pull inflation from a further rise in AD is low **A1**

(a) Answer: With spare capacity, SRAS is relatively flat, so AD increases raise output much more than the price level.

(b) a demand-side stimulus may only provide a temporary boost to output, which falls back once the stimulus ends, without permanently raising the economy's potential output **M1**

(b) a supply-side policy instead raises LRAS itself, providing a more permanent/sustainable increase in potential output, which continues to benefit the economy even after spare capacity has been used up **A1**

(b) (allow other valid reasoning, e.g. concerns about a demand stimulus increasing government borrowing/the budget deficit, or about the size of the output gap being hard to measure precisely) **A1**

(b) Answer: A supply-side policy permanently raises potential output (LRAS), unlike a temporary demand-side boost.

Question 2

(a) AD = C + I + G + (X - M) **B1**

(a) C = consumer spending/household consumption; I = investment (spending by firms on capital goods); G = government spending **B1**

(a) X = exports, M = imports, so (X - M) = net exports **B1**

(a) Answer: AD = C + I + G + (X - M).

(b) a fall in interest rates (reduces the cost of borrowing/return to saving, encouraging spending) **B1**

(b) (allow) a rise in consumer confidence, a rise in house/asset prices (a positive wealth effect), or lower income tax rates - any valid, distinct factor **B1**

(b) Answer: E.g. lower interest rates; higher consumer confidence (any two valid factors).

(c) a fall in interest rates reduces the cost of borrowing to finance investment projects (or reduces the opportunity cost of using retained profit rather than saving it) **M1**

(c) more investment projects become profitable, since their expected rate of return now exceeds the lower cost of borrowing, so firms are willing to invest more, increasing I and therefore AD **A1**

(c) Answer: Cheaper borrowing makes more investment projects profitable, raising I and AD.

Question 3

(a) the price level rises, from PL1 to PL2 **B1**

(a) real output (real GDP) rises, from Y1 to Y2 **B1**

(a) Answer: Price level rises (PL1 to PL2); real output rises (Y1 to Y2).

(b) identifies a valid component of AD that could rise, e.g. a rise in consumer confidence increasing C, a fall in interest rates increasing C and I, a rise in government spending (G), or a depreciation of the exchange rate increasing net exports (X-M) **M1**

(b) explains the mechanism: this increases total planned spending in the economy at every price level **M1**

(b) links this explicitly to a rightward shift of the WHOLE AD curve (not a movement along it) **A1**

(b) correctly identifies the resulting new equilibrium as a higher price level and higher real output (ft candidate's own example) **A1**

(b) Answer: Example: a rise in government spending (G) raises total planned spending at every price level, shifting AD1 to AD2.

(c) as aggregate demand rises from AD1 to AD2, firms respond to rising demand for their output by increasing production, moving along the upward-sloping SRAS curve **M1**

(c) as the economy produces more output and moves closer to full capacity, firms face rising costs, e.g. paying overtime, using less efficient machinery/resources, or bidding up scarce raw material prices **M1**

(c) firms pass on some of these higher costs as higher prices, so the general price level rises **A1**

(c) this continues until a new equilibrium is reached at PL2/Y2, where aggregate demand once again equals aggregate supply **A1**

(c) Answer: Rising output pushes up firms' costs as the economy nears capacity, and higher costs are passed on as higher prices, giving demand-pull inflation.

Question 4

(a) SRAS shows the relationship between the price level and real output when the prices of factors of production (e.g. wages) are assumed fixed/have not yet adjusted **B1**

(a) LRAS shows the relationship between the price level and the economy's real output once factor prices have fully adjusted to changes in the price level **B1**

(a) in the (classical) long run, LRAS is generally drawn as a vertical line at the economy's potential/full-employment level of output, since output is then determined by the quantity and productivity of factors of production, not the price level **B1**

(a) Answer: SRAS assumes fixed factor prices; LRAS assumes fully adjusted factor prices, often drawn vertical at potential output.

(b) an increase in the quantity or quality (productivity) of factors of production, e.g. a rise in the size or skill of the labour force **B1**

(b) (allow) an improvement in technology, increased investment in capital/infrastructure, or a reduction in business regulation **B1**

(b) Answer: E.g. a larger/more skilled labour force; improved technology (any two valid supply-side factors).

(c) an increase in LRAS represents a rise in the economy's productive capacity/potential output, rather than a rise in spending at each price level **M1**

(c) this allows the economy to produce more output at the SAME (or even a lower) price level, rather than being limited by existing capacity as an AD increase would be **A1**

(c) so supply-side/long-run economic growth (an outward shift of LRAS) is generally seen as a more sustainable way to raise real output without generating the inflationary pressure associated with demand-pull increases in AD **A1**

(c) Answer: LRAS growth raises potential output itself, so more can be produced without the price level being bid up, unlike a pure AD-driven expansion.

Question 5

(a) the circular flow of income is in equilibrium: national income is stable, since spending leaking back INTO the flow (injections) exactly matches the income leaking OUT of the flow (withdrawals) **B1**

(a) there is no tendency for national income to rise or fall further, unless one of the components changes **B1**

(a) Answer: National income is in a stable equilibrium, with no tendency to change.

(b) exports (X) are an injection, so total injections initially rise from £90 billion to £94 billion, while withdrawals remain at £90 billion, so injections now exceed withdrawals (J > W) **M1**

(b) with injections exceeding withdrawals, national income (and output) begins to rise, as the extra export spending becomes income for domestic firms and workers producing the exported goods **A1**

(b) as national income rises, households' income rises too, so both consumption AND withdrawals (saving, tax, and import spending) rise as income rises **M1**

(b) this process continues, with national income rising by successive (progressively smaller) rounds, in line with the multiplier process **A1**

(b) national income keeps rising until withdrawals have risen enough to once again equal the new (higher) level of injections, i.e. until W has risen by the same £4 billion as the rise in J **A1**

(b) the new equilibrium level of both injections and withdrawals is £94 billion **B1**

(b) at that point, a new equilibrium is reached, with national income permanently higher than before the rise in exports (allow: the eventual rise in income exceeds £4 billion, as explained by the multiplier) **A1**

(b) Answer: J rises to £94bn > W (£90bn); income rises through successive rounds until W also reaches £94bn, at a permanently higher national income.

Question 6

a cut in interest rates is a demand-side policy: it works mainly by increasing AD (via higher C and I), which raises real output only if the economy has spare capacity, but risks causing demand-pull inflation if the economy is close to full capacity/LRAS **M1**

increased spending on infrastructure and education is a supply-side policy: it aims to raise LRAS by improving the quantity/quality of capital and labour, increasing the economy's long-run productive potential **M1**

because a supply-side policy raises the economy's potential output (LRAS) rather than just spending at each price level (AD), it can support a sustained rise in real GDP without the same inflationary pressure as a demand-side policy **A1**

however, supply-side policies such as infrastructure and education spending typically take much longer to feed through into higher output (long time lags), whereas an interest rate cut can affect AD relatively quickly **A1**

additional point: infrastructure/education spending may need to be funded by higher taxes or increased government borrowing, which could partly offset the benefit, e.g. if higher borrowing raises interest rates for private borrowers, partially crowding out private investment **M1**

developed: this crowding-out effect is likely to be much smaller than the direct supply-side benefit if the spending is well targeted and productive **A1**

evaluative conclusion: the supply-side policy is more likely to achieve the sustained, non-inflationary growth described, but a demand-side stimulus may still be useful in the short run if the economy currently has significant spare capacity, so the case depends on the current state of the economy relative to its potential output **A1**

Answer: The supply-side policy (infrastructure/education spending) is more likely to deliver sustained, non-inflationary growth, though it acts more slowly and may involve some crowding-out risk; a demand-side cut works faster but risks inflation nearer full capacity.

Question 7

(a) MPW = MPS + MPT + MPM = 0.2 + 0.2 + 0.1 **M1**

(a) = 0.5 **A1**

(a) Answer: MPW = 0.5.

(b) multiplier = 1 / MPW = 1 / 0.5 **M1**

(b) = 2.0 **A1**

(b) Answer: Multiplier = 2.0.

(c) smaller **B1**

(c) because a higher MPM increases MPW (more of each extra pound of income leaks out of the circular flow via imports), and since the multiplier = 1/MPW, a larger MPW produces a smaller multiplier **B1**

(c) Answer: Smaller, since a higher MPM raises MPW, and the multiplier (1/MPW) falls as MPW rises.

Question 8

in the short run, the volumes of exports and imports are relatively price inelastic, since existing contracts, habits and a lack of immediately available substitutes mean quantities bought/sold do not respond quickly to the changed relative prices	**M1**
so in the short run, imports still cost more (in domestic currency) but the quantity bought has barely fallen, and exports still sell in similar volumes but each now earns less foreign currency, so the trade balance can initially worsen	**A1**
over time, as contracts are renegotiated and consumers/firms find substitutes, demand for exports and imports becomes more price elastic, so the Marshall-Lerner condition becomes more likely to be satisfied	**M1**
once demand is elastic enough, export volumes rise and import volumes fall sufficiently for the trade balance to improve, tracing out a 'J' shape over time when plotted on a graph	**A1**
correctly names this pattern as the J-curve effect	**B1**

Answer: Short-run inelastic demand lets the trade balance worsen at first; as demand becomes more elastic over time, it then improves, tracing a J-curve.