5.2 Aggregate demand, aggregate supply and the business cycle

Name: _____ Class: _____ Date: _____ **Total: 30 marks**

KEY WORDS business cycle • aggregate demand • aggregate supply • potential output • recessionary gap • multiplier

Objective

Build the skills to answer exam questions on the **business cycle**, **aggregate demand** (AD), **aggregate supply** (AS) and macroeconomic equilibrium, using the monetarist and Keynesian models.

You must be able to:

- describe the business cycle and output gaps
- explain the components and determinants of AD
- explain short-run and long-run AS in the monetarist/new classical and Keynesian models
- explain recessionary and inflationary gaps using AD/AS diagrams
- calculate and explain the Keynesian multiplier

1 Key knowledge and worked examples

■ AD, AS and the business cycle

Business cycle: real GDP fluctuates around its long-term trend (**potential output**): expansion → peak → contraction (recession: two quarters of falling real GDP) → trough. **Recessionary (deflationary) gap:** real GDP below potential; **inflationary gap:** above potential.

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Aggregate demand $\mathrm{AD} = C + I + G + (X - M)$, the total spending on a country's goods and services at each price level. AD slopes down (wealth, interest-rate and international trade effects).

component	main determinants
consumption C	income, wealth, consumer confidence, interest rates, household debt, taxes
investment I	interest rates, business confidence, technology, corporate taxes, expected demand
government spending G	political and economic priorities
net exports $X - M$	foreign incomes, exchange rates, trade policies

Short-run aggregate supply (SRAS) slopes up; it shifts with changes in costs (wages, raw material and oil prices), business taxes and subsidies, and supply shocks.

Long-run aggregate supply:

model	shape	meaning
monetarist / new classical	vertical LRAS at potential output Y_p	in the long run, wages and prices adjust, so the economy returns to full employment by itself
Keynesian	flat, then rising, then vertical	in a deep recession output can rise without inflation; prices may not fall, so a recessionary gap can last

LRAS shifts right with more or better factors of production, technology, and institutional change.

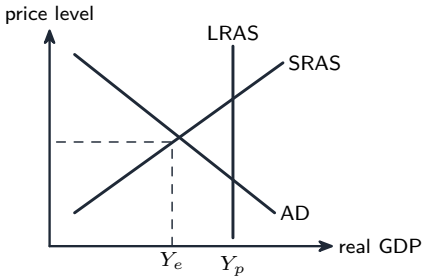
Equilibrium: short run where AD = SRAS; long run (monetarist) where AD = SRAS = LRAS.

AHL – the multiplier: an injection (e.g. more G) creates rounds of extra income and spending. $k = \dfrac{1}{1 - \mathrm{MPC}} = \dfrac{1}{\mathrm{MPS} + \mathrm{MPT} + \mathrm{MPM}}$. Change in real GDP = $k\times$ change in injection.

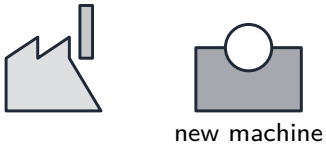
Answer shapes: an AD/AS diagram with axes (price level, real GDP), curves labelled, Y_p marked, the gap shown, and the shift explained step by step.

2 Practice

2.1 Define a **recessionary gap**. [2]



2.2 State **two** determinants of investment. [2]

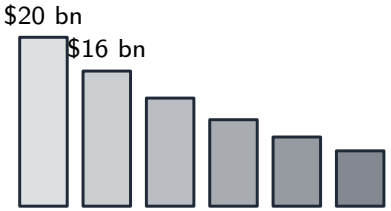


2.3 Using an AD/AS diagram, explain the effect of a large rise in world oil prices on an oil-importing economy. [4]

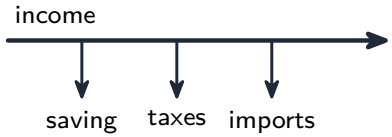


[[drawlines:4]]

2.4 The marginal propensity to consume is 0.8. Calculate the multiplier and the change in real GDP after a \$20 billion rise in government spending. [3]



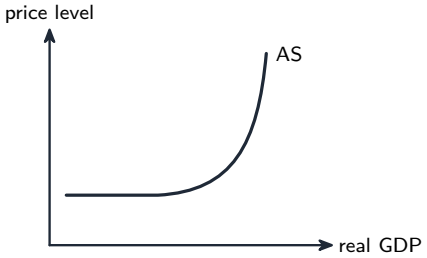
2.5 In another economy MPS = 0.1, MPT = 0.15 and MPM = 0.25. Calculate the multiplier and explain why it is smaller than in the previous question. [3]



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3 Exam-style questions

3.1 An economy is in a deep recession: unemployment is 12% and prices are stable.

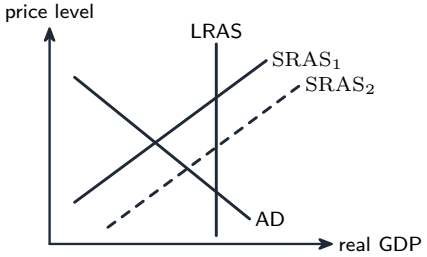


(a) Draw a Keynesian AS curve and label its three sections. [2]

[[drawlines:3]]

(b) Using your diagram, explain why a rise in AD may raise output without causing inflation. [6]

3.2 Monetarist economists believe that an economy in a recession will return to potential output on its own.



Using a diagram, explain this view and evaluate it. [8]

[[drawlines:9]]

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Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

the difference when real GDP is below potential output; so there is unemployment of resources / cyclical unemployment

2.2

any two: interest rates; business confidence / expected demand; technology; business taxes

2.3

oil is a key input, so firms' costs rise; SRAS shifts left; the price level rises and real GDP falls: stagflation / cost-push inflation and higher unemployment; correctly labelled diagram showing $\text{SRAS}_1 \rightarrow \text{SRAS}_2$, higher P, lower Y

2.4

$k = 1 \div (1 - 0.8) = \mathbf{5}$; change in GDP $= 5 \times 20 = \$\mathbf{100}$ bn

2.5

$k = 1 \div (0.1 + 0.15 + 0.25) = \mathbf{2}$; more of each extra dollar of income leaks out as saving, taxes and imports; so each round of spending is smaller and the total effect on GDP is smaller

3.1

(a) AS horizontal at low output, upward-sloping, then vertical at full employment output; all three sections and axes labelled

(b) in a deep recession there are many unemployed resources / spare capacity; firms can raise output without bidding up wages or costs; so AD shifts right along the flat section of AS; real GDP rises and the price level stays about the same; as the economy nears full employment, costs rise, and further AD increases cause more inflation; diagram: $\text{AD}_1 \rightarrow \text{AD}_2$ in the flat section, higher Y, same P

3.2

award up to [8]: diagram: vertical LRAS at Y_p; AD falls, short-run equilibrium below Y_p; with high unemployment, wages and other costs fall over time; SRAS shifts right until the economy is back at Y_p at a lower price level; so no government action is needed in the long run; evaluation: wages are sticky downwards (contracts, minimum wages, unions), so this can take years; falling prices (deflation) can delay spending and raise real debt burdens, deepening the recession; Keynesians argue for government action to close the gap faster

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