5.6 Demand management: monetary policy

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

KEY WORDS central bank • monetary policy • policy interest rate • open market operations • quantitative easing • real interest rate

Objective

Build the skills to answer exam questions on **monetary policy** : the goals and tools of central banks, the money market, how interest rate changes affect the economy, and the strengths and limits of the policy.

You must be able to:

- outline the goals of central banks and the tools of monetary policy
- explain how interest rates are set in the money market
- explain how expansionary and contractionary monetary policy affect AD, output and inflation
- evaluate monetary policy, including its limits in a deep recession
- calculate real interest rates and the money created by banks

1 Key knowledge and worked examples

■ Monetary policy

Central banks (e.g. the European Central Bank, the US Federal Reserve) usually aim for **low and stable inflation** (often about 2%), plus low unemployment, stable growth and a stable financial system. Many are **independent** of the government, so decisions are not driven by elections.

Tools:

tool	how it works
policy interest rate (the rate the central bank charges commercial banks)	changes all borrowing and saving rates
open market operations	buying government bonds adds money to banks; selling bonds removes it
minimum reserve requirements	the share of deposits banks must keep; lower reserves allow more lending
quantitative easing (QE)	large-scale buying of bonds to push long-term interest rates down when the policy rate is already near zero

Money market: the interest rate is set where the **demand for money** (downward sloping) meets the **supply of money** (vertical, fixed by the central bank). More money supply lowers the interest rate.

Expansionary (easy) policy cuts interest rates → borrowing is cheaper and saving less attractive → **consumption and investment rise**; the currency may fall, so **net exports rise** → **AD shifts right** → higher real GDP, lower unemployment, some inflation. **Contractionary** (tight) policy does the opposite to fight inflation.

Strengths: small, quick, step-by-step changes; independent central bank; no direct effect on the budget.

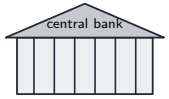
Limits: **time lags** (often 1–2 years for the full effect); in a deep recession low confidence means people do not borrow even at very low rates (rates cannot go much below **zero**); it cannot fix **cost-push** inflation without hurting output; high rates hurt borrowers and can push up the exchange rate.

AHL – calculations: real interest rate ≈ nominal rate − inflation rate. **Money creation:** banks lend most deposits, which are re-deposited; maximum new money $= \text{new deposit} \times \dfrac{1}{\text{reserve ratio}}$.

Answer shapes: money market diagram → interest rate change → the transmission to C, I and $(X - M)$ → AD/AS result → evaluation.

2 Practice

2.1 Outline **two** tools of monetary policy. [2]



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2.2 Explain why many central banks are made independent of government. [2]



2.3 Using a money market diagram, explain how an increase in the money supply affects the interest rate. [4]

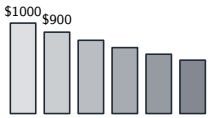


[[drawlines:4]]

2.4 A bank pays 4% interest on savings. Inflation is 6%. Calculate the real interest rate and explain what it means for savers. [3]



2.5 A new deposit of $1000 is made. The reserve requirement is 10%. Calculate the maximum total new money that the banking system can create from it, and state **one** reason why actual money creation is smaller. [3]

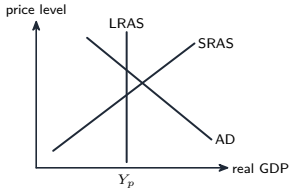


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3 Exam-style questions

3.1 Inflation has risen to 7%, well above the central bank's target of 2%.

(a) Define **contractionary monetary policy**. [2]

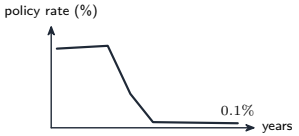


(b) Using an AD/AS diagram, explain how raising interest rates could bring inflation down. [6]

[[drawlines:6]]

3.2 After a financial crisis, a central bank cut its policy rate to 0.1%, but borrowing and spending stayed low.

Evaluate the effectiveness of monetary policy in a deep recession. [8]



Solutions

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

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

2.1

any two: changing the policy interest rate; open market operations: buying or selling government bonds; changing minimum reserve requirements; quantitative easing

2.2

governments may want lower interest rates before elections, even if this causes inflation; an independent bank can take unpopular decisions to keep inflation low, so its targets are more credible

2.3

diagram: interest rate on the vertical axis, quantity of money on the horizontal; downward-sloping D_m and vertical S_m; the central bank increases the money supply: S_m shifts right; at the old rate there is excess money supply, so people buy bonds and the interest rate falls; new equilibrium at a lower interest rate

2.4

real rate $\approx 4 - 6 = \mathbf{-2}\%$; savers' money grows by less than prices rise; so the purchasing power of their savings falls

2.5

multiplier $= 1 \div 0.1 = 10$; maximum money = $\mathbf{\$10\,000}$; any one: banks keep extra reserves; people hold some cash; firms and households may not want to borrow

3.1

(a) action by the central bank to reduce aggregate demand; e.g. raising interest rates / reducing the money supply

(b) higher rates make borrowing dearer and saving more attractive; consumption and investment fall; the currency may rise, so net exports fall; AD shifts left; the price level rises more slowly / inflation falls, but real GDP falls too; correctly labelled diagram showing $\text{AD}_1 \rightarrow \text{AD}_2$ with lower P and Y

3.2

award up to [8]: low rates should make borrowing cheaper and raise C and I; but in a deep recession confidence is very low: firms do not invest and households save to pay off debt; banks may be unwilling to lend after losses; rates cannot be cut much below zero (the zero lower bound); QE can lower long-term rates and raise asset prices; but the benefits go mainly to asset owners, raising wealth inequality; fiscal policy may be more effective here: government spending enters AD directly; judgement: monetary policy is weaker in a deep recession and works best with fiscal policy

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