# 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.



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**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.

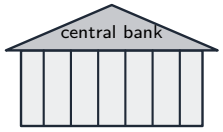
**Limits:** **time lags** (often 1–2 years for the full effect); in a deep recession low confidence means people do not borrow even at very low rates (rates cannot go much below **zero**); it cannot fix **cost-push** inflation without hurting output; high rates hurt borrowers and can push up the exchange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

**AHL – calculations: real interest rate** ≈ nominal rate − inflation rate. **Money creation:** banks lend most deposits, which are re-deposited; maximum new money = 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]

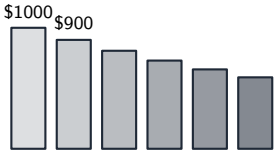



[[drawlines:4]]

**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]



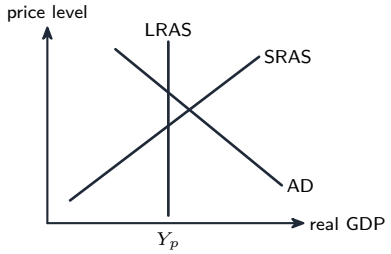



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## 3 Exam-style questions

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

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

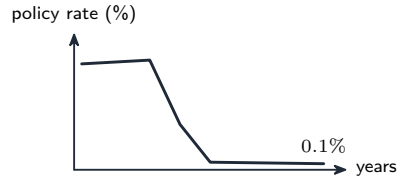



(b) Using an AD/AS diagram, explain how raising interest rates could bring inflation down. [6]

[[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]






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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**

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 $\text{AD}_1 \to \text{AD}_2$ 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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