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Collegedunia NCERT Solutions

Step-by-step solutions, alternate methods & exam tips for Class 12 Economics

Chapter 2: Money and Banking

About this Chapter

This chapter walks through what money is, why a barter system fails, and how a modern banking system creates money. You will learn the three classical functions of money, the RBI's measures of money supply (M_1, M_2, M_3, M_4), the meaning of **high-powered money** and the **money multiplier**, the role of a commercial bank as a credit creator, and the standard instruments of monetary policy (CRR, SLR, repo rate, reverse repo rate, OMO, bank rate).

Topics covered: Barter system • Functions of money • Money supply (M_1-M_4) • Legal tender and fiat money • High-powered money • Commercial banks • Money multiplier • RBI and monetary policy

Quick Formula Sheet

Money multiplier:
$m = \frac{1}{\text{CRR}}$ (simple case); $m = \frac{1+c}{c+r}$ (full)

Money supply M_s:
$M_s = m \times H$, where H is High-Powered Money

Components of M_1:
M_1 = Currency with public + Demand deposits + Other deposits with RBI

Transaction demand for money:
$L_T = kT$, where T is total transactions value

Also see for this chapter: Revision Notes

Exercises

Q 2.1 **What is a barter system? What are its drawbacks?**

SOLUTION

Concept used. A **barter system** is an exchange arrangement in which goods or services are traded directly for other goods or services without the intervention of any common medium of exchange. The defining feature of barter is the absence of money.

Step 1. The basic act of barter is "my apple for your orange" or "my labour for your grain". Each transaction is a bilateral swap valued in physical units of the two goods.

Step 2. The system requires a **double coincidence of wants**: person A must have what person B wants, AND person B must simultaneously have what person A wants, AND the two parties must agree on the exchange ratio.

Step 3. Drawbacks. (i) Double coincidence of wants is rare in a complex economy. (ii) No common unit of account: the price of cloth must be quoted separately in units of rice, of oil, of iron, etc.; with n goods we need $n(n-1)/2$ exchange ratios. (iii) Indivisibility: trading one cow for a few books is awkward. (iv) No store of value: most goods spoil or take up space. (v) No standard of deferred payment: future contracts (loans, wages) need a stable unit.

> **Final Answer:** Barter = direct goods-for-goods exchange without money. Drawbacks: lack of double coincidence of wants, no common unit of account, indivisibility, no store of value, no standard of deferred payment.

☞ Exam Tip

CBSE wants you to name the *double coincidence of wants* explicitly: it is the single phrase most often graded. Pair it with "no common unit of account" for full marks on a 3-mark question.

EXPERT'S SOLUTION *: Aman Verma, M.A. Economics, Delhi School of Economics*

Strategic angle. Frame barter as "trade without infrastructure": in a barter world every pair of households has to solve a separate matching problem and a separate pricing problem. Money replaces the entire pair-wise infrastructure with one shared ledger that everyone reads.

Step 1. In an n-good economy under barter, the number of pair-wise exchange ratios is $\binom{n}{2} = \dfrac{n(n-1)}{2}$. For $n = 100$ goods, that is 4,950 separate price quotations every household must remember.

Step 2. Money collapses this to n money-prices, one per good $(P_1, P_2, \ldots, P_n)$. Any cross-ratio follows from $\frac{P_i}{P_j}$.

Step 3. Indivisibility example: a barter system cannot easily exchange a cow for half a sack of rice. Money allows any amount, down to one paisa.

Step 4. Time problem: barter cannot store today's purchasing power for use next month, because most goods perish; a holder of money carries that purchasing

power forward at near-zero cost.

Step 5. Loans and contracts: a wage of "two sacks of grain per month" is meaningless if grain prices fluctuate. A money wage is a stable promise that supports a credit market.

Why this matters. Almost every later concept in this chapter (M_1 definitions, money multiplier, monetary policy) exists because money solves the four barter problems listed above.

> **Final Answer:** Barter fails because it needs double coincidence of wants, has no common unit of account, no store of value and no standard of deferred payment.

Q 2.2 What are the main functions of money? How does money overcome the shortcomings of a barter system?

SOLUTION

Concept used. Money is any commodity or token that performs four standard functions: medium of exchange, unit of account, store of value and standard of deferred payment. Each function directly cures a barter drawback.

Step 1. **Medium of exchange.** Money is universally accepted in payment for goods, services and debts; this removes the need for double coincidence of wants. A teacher accepts rupees in pay, and the rupees buy whatever the teacher wants.

Step 2. **Unit of account (measure of value).** Prices are quoted in money, so every household needs to remember only n rupee-prices, not $n(n-1)/2$ exchange ratios.

Step 3. **Store of value.** Money holds purchasing power over time at near-zero storage cost (compared to perishable goods). It is not the *best* store of value (assets and inflation-linked bonds may yield more) but it is a cheap and liquid one.

Step 4. **Standard of deferred payment.** Loans, wages and rents can be specified in fixed money amounts so future obligations have a clear, stable size; this enables a credit market.

Step 5. **Mapping drawback to function:**

- Double coincidence of wants $\rightarrow$ medium of exchange.
- No common unit of account $\rightarrow$ unit of account.
- Goods spoil $\rightarrow$ store of value.
- Unstable contracts $\rightarrow$ standard of deferred payment.

> **Final Answer:** Money's four functions (medium of exchange, unit of account, store of value, standard of deferred payment) each cure a corresponding barter defect.

☞ **Primary vs secondary**

NCERT groups "medium of exchange" and "unit of account" as the two *primary* functions; "store of value" and "standard of deferred payment" are the *secondary* functions. CBSE often tests this 2 + 2 split.

EXPERT'S SOLUTION *: Priya Singh, M.Sc. Economics, LSE*

Strategic angle. Think of money as a special-purpose ledger token: it is whatever an entire community agrees will count as one unit of generalised purchasing power. The four functions all flow from that single property of *general acceptability*: the moment everyone agrees on a token, swap matching collapses, prices become readable, and intertemporal contracts become writable.

Step 1. *Medium of exchange.* Because every seller accepts the same token, no buyer needs to find a seller who also wants what the buyer has. The matching market collapses from quadratic to linear.

Step 2. *Unit of account.* Posting a single rupee-price for each good is a network economy of scale: every buyer and seller reads the same scale.

Step 3. *Store of value.* Modern money (currency notes, deposits) is durable, divisible and portable, none of which is true of, say, perishable grain or live cattle.

Step 4. *Standard of deferred payment.* A loan denominated in rupees can be repaid in rupees, with interest priced in rupees, making the credit market viable.

Step 5. *Contingent qualifier.* Money is a good store of value only when inflation is low. In hyperinflations people return to dollars or to commodity money, which proves that the four functions can detach from any one token if confidence in it collapses.

Why this matters. The functions of money provide the microeconomic "why" for the macroeconomic story of the rest of the chapter: the central bank manages money precisely to keep these four functions running smoothly.

> **Final Answer:** Four functions of money: medium of exchange, unit of account, store of value and standard of deferred payment, which fix the four barter drawbacks.

Q 2.3 What is transaction demand for money? How is it related to the value of

transactions over a specified period of time?

SOLUTION

Concept used. **Transaction demand for money** (L_T) is the quantity of money households and firms wish to hold for routine, day-to-day purchases of goods and services. The standard linear approximation is $L_T = k\,T$, where T is the total value of transactions in the period and $k > 0$ is the proportionality constant.

Step 1. In any period (say one year) the household has a stream of expenditures spread out over time. Income arrives in lumps (salary on the first), but spending is spread out.

Step 2. To bridge the gap, the household must carry an average cash balance during the period. This balance is exactly the transaction demand for money.

Step 3. Algebraically, the higher the value of transactions T, the higher the average balance L_T that has to be carried: $L_T = k\,T$.

Step 4. The constant k depends on the frequency of receipts and the payment habit (cards vs cash). If salary is paid weekly instead of monthly, k falls because the same T can be supported by a smaller average balance.

Step 5. Hence L_T varies positively with T and inversely with the velocity of money $V = 1/k$.

> **Final Answer:** Transaction demand for money is the cash balance held to finance routine purchases. $L_T = k\,T$: it is directly proportional to the value of transactions T over the period.

☞ Exam Tip

Do not confuse L_T with the *precautionary* and *speculative* demands. Keynes's full demand for money is $L = L_T + L_P + L_S$. CBSE often tests only L_T in a 3-mark question on the linear relation $L_T = kT$.

EXPERT'S SOLUTION *: Rohan Sharma, M.A. Economics, JNU*

Strategic angle. The transaction demand is best understood through the velocity-of-money identity $M_sV = PT$. Treating V as roughly constant in the short run pins down the ratio of money holdings to transactions value, which is exactly what $L_T = kT$ says.

Step 1. Start from the quantity equation: $M_sV \equiv PT$, where M_s is money supply, V is velocity, P is the price level, PT is nominal transaction value.

Step 2. Money market equilibrium: $L_T = M_s$. Combine: $L_T \cdot V = PT$, so

$L_T = (1/V) \cdot PT = k \cdot (PT)$ with $k = 1/V$.

Step 3. Therefore transaction demand is exactly proportional to the value of transactions, with the constant of proportionality equal to the reciprocal of velocity.

Step 4. Intuition: a household that "turns over" its rupees more times per year (high V) holds less average cash for the same T; a household that pays in cash (low V) holds more.

Step 5. Policy hook: if cashless payments rise, V rises, k falls, and the central bank can keep the same nominal T with less M_s. This is why digitisation pushes RBI to re-estimate its money-supply targets.

Why this matters. The transaction demand for money is the microfoundation of the LM curve, which (with the IS curve) sets the short-run equilibrium interest rate in the next chapter.

> **Final Answer:** $L_T = kT$: transaction demand for money is proportional to the value of transactions, with constant $k = 1/V$ where V is the velocity of money.

Q 2.4 What are the alternative definitions of money supply in India?

SOLUTION

Concept used. RBI publishes four progressively broader measures of money supply, denoted M_1, M_2, M_3 and M_4. Each successive measure adds a less-liquid item to the previous one.

Step 1. M_1 = Currency with the public + Demand deposits with the banking system + Other deposits with RBI. This is the most liquid measure, also called **narrow money**.

Step 2. $M_2 = M_1+$ Savings deposits with post office savings banks. Adds a small but liquid component.

Step 3. $M_3 = M_1+$ Time deposits with the banking system. This is the **broad money** concept used as the principal target of monetary policy in India.

Step 4. $M_4 = M_3+$ All deposits with post office savings organisations (excluding NSCs).

Step 5. Liquidity ordering: $M_1 > M_2 > M_3 > M_4$ in liquidity but $M_1 < M_2 < M_3 < M_4$ in magnitude.

> **Final Answer:** M_1 (narrow money), M_2, M_3 (broad money) and M_4 are RBI's four money-supply measures, each adding less-liquid items to the previous one.

♥ Why This Matters

RBI mainly targets M_3 for monetary policy because it best captures total purchasing power in the economy; M_1 moves with day-to-day cash demand and is too volatile to anchor policy.

EXPERT'S SOLUTION *: Neha Kapoor, M.A. Economics, Jawaharlal Nehru University*

Strategic angle. The four measures form a *liquidity ladder*: as you climb from M_1 to M_4 you include progressively less-liquid claims, gaining coverage of total purchasing power at the cost of timeliness. Each rung adds a new sub-aggregate of claims that can still be redeemed for cash, just not as instantly.

Step 1. Step on rung 1: *currency with the public* is the most-liquid claim, instantly spendable.

Step 2. Add *demand deposits* (cheque-issuable savings and current accounts): equally spendable via cheque or UPI.

Step 3. Add *other deposits with RBI* (deposits of foreign central banks, IMF, etc.): small but technically money. That gives M_1.

Step 4. M_2 adds post-office savings deposits (almost as liquid as bank deposits but smaller in volume).

Step 5. M_3 adds *time deposits with banks* (fixed deposits with maturity). They are less liquid because of penalties for early withdrawal, but they represent stored purchasing power.

Step 6. M_4 adds remaining post-office deposits (excluding NSCs). This is the broadest measure RBI publishes.

Why this matters. Tracking M_3 growth gives RBI a read on aggregate demand pressures; tracking M_1 growth gives a read on transactions activity. Each measure has a separate policy use.

> **Final Answer:** $M_1 \to M_2 \to M_3 \to M_4$: each measure adds a less liquid claim to the previous one. M_1 is narrow money; M_3 is broad money, RBI's main policy aggregate.

Q 2.5 What is a 'legal tender'? What is 'fiat money'?

SOLUTION

Concept used. **Legal tender** is any form of money that the law of the land mandates a creditor to accept in discharge of a debt. **Fiat money** is money that has value by government decree rather than by commodity backing.

Step 1. **Legal tender.** In India, Reserve Bank of India notes and Government of India coins are legal tender. A creditor cannot refuse them in settlement of a debt denominated in rupees.

Step 2. Two sub-types of legal tender:

- *Limited legal tender*: coins, accepted only up to a statutory limit (you cannot pay an entire large bill in one-rupee coins).
- *Unlimited legal tender*: currency notes, acceptable up to any amount.

Step 3. **Fiat money.** Modern paper currency has no commodity backing (gold, silver). It circulates because the central bank declares it acceptable and the public trusts the central bank's promise. The note itself is worth very little as paper.

Step 4. Every fiat-money system also makes the currency legal tender, but not every legal tender is fiat: gold coins used to be commodity-backed legal tender.

Step 5. The Indian Rupee today is both fiat and legal tender.

> **Final Answer:** Legal tender = money law forces creditors to accept; fiat money = money that has value purely by government decree, not by commodity backing.

☞ Exam Tip

A common one-mark trap: "Is a Rs 2,000 note legal tender after demonetisation?" The answer is contextual; the RBI withdraws or de-notifies tender status. Watch the wording: "legal tender" status is set by RBI / Government notification, not by who is holding the note.

EXPERT'S SOLUTION *: Karan Mehta, M.A. Economics, Madras School of Economics*

Strategic angle. Separate the legal claim ("you must take it") from the economic claim ("why it has value"). Legal tender is the first; fiat money is the second. The two concepts overlap in modern systems but are conceptually distinct, and exam questions often turn on the distinction.

Step 1. Legal tender is a *property of the medium* set by law: RBI notes and Government coins for India.

Step 2. Within legal tender, distinguish unlimited (notes) from limited (coins above a statutory threshold may be refused).

Step 3. Fiat money is a *property of the value backing*: intrinsic worth is zero, the value rests on confidence and on the legal-tender status that compels acceptance.

Step 4. Historical contrast: gold coins under the gold standard were commodity money (intrinsic value $\approx$ face value); they were also legal tender, but they were not fiat.

Step 5. Modern contrast: a bitcoin in India is fiat-like in the sense that it has no commodity backing, but it is not legal tender in India because the law does not compel its acceptance.

Why this matters. The combination "fiat + legal tender" gives the central bank both the levers needed to run modern monetary policy: it can print without commodity-backing limits and it can be sure the issued notes will circulate.

> **Final Answer:** Legal tender = law-mandated acceptance; fiat money = value by decree, no commodity backing. The Indian Rupee is both.

Q 2.6 What is High Powered Money?

SOLUTION

Concept used. **High-powered money** (H), also called **monetary base** or **reserve money**, is the sum of all liabilities of the central bank that are usable as the foundation for the rest of the money supply.

Step 1. In India, H = Currency held by the public + Cash reserves of banks held at RBI + Other deposits with RBI.

Step 2. Currency is the part of H that has already escaped into the public's hands; cash reserves are the part still held by banks (vault cash plus deposits at RBI).

Step 3. The money supply M_s is related to H by the **money multiplier** m:
$M_s = m \times H, \quad m > 1.$

Step 4. Because every additional rupee of H can support multiple rupees of M_s via fractional-reserve banking, H is called *high-powered*.

Step 5. RBI controls H through open-market operations (purchase / sale of government securities) and via its balance-sheet items (foreign-exchange purchases, lending to government, lending to banks).

Final Answer: High-powered money H = currency with public + bank reserves with RBI + other deposits with RBI. It is the foundation on which the money multiplier builds the broader money supply M_s.

☞ **Multiplier identity**

Money supply $M_s = m \cdot H$. With reserve ratio r and currency-to-deposit ratio c, $m = (1 + c)/(c + r)$.

EXPERT'S SOLUTION *: Anjali Nair, M.A. Economics, IGIDR Mumbai*

Strategic angle. Think of H as the *seed* from which the banking system grows the money supply: only the central bank can plant new seeds; commercial banks merely multiply them through fractional-reserve lending.

Step 1. H is created exclusively by RBI, on the liability side of its balance sheet. No commercial bank can manufacture H.

Step 2. Once issued, H either ends up as currency held by the public (it has left the banking system) or as bank reserves with RBI (it remains available for credit creation).

Step 3. Each rupee of bank reserves can support $\frac{1}{\text{CRR}}$ rupees of deposits in the simple deposit-multiplier model. With a CRR of 4%, one rupee of H allows up to 25 rupees of deposits.

Step 4. Cash drain (people keeping more currency, less in banks) reduces m: the formula $m = (1 + c)/(c + r)$ shows that as c rises, m falls.

Step 5. Policy implication: an open-market purchase by RBI buys government bonds from banks and pays in H, raising H and (assuming m steady) raising M_s by $m \times \Delta H$.

Why this matters. The identity $M_s = mH$ is the backbone of the entire monetary-policy toolkit: every CRR change, every OMO and every change in RBI's foreign assets works through this equation.

Final Answer: H = currency with public + bank reserves with RBI + other RBI deposits. H is "high-powered" because each rupee supports $m > 1$ rupees of money supply through fractional reserve banking.

Q 2.7 Explain the functions of a commercial bank.

SOLUTION

Concept used. A **commercial bank** is a profit-seeking financial intermediary that accepts deposits from the public and uses them to make loans. Functions split into *primary* (accept deposits, advance loans) and *secondary* (agency and general utility).

Step 1. **Accepting deposits.**

- Demand (current) deposits: payable on demand, cheque-issuable, no interest.
- Savings deposits: payable on demand, modest interest, withdrawal restrictions.
- Fixed (time) deposits: payable on maturity, highest interest.

Step 2. **Advancing loans and overdrafts.** Loans against collateral, cash credits, overdrafts on current accounts, discounting bills of exchange. This is the credit-creation function of banks.

Step 3. **Agency functions** (secondary). On behalf of customers: collect cheques and bills, pay utility bills, buy and sell securities, remit funds.

Step 4. **General-utility functions** (secondary). Issue drafts, traveller's cheques, debit and credit cards; safe deposit lockers; underwriting; foreign exchange facilities; ATM and internet banking.

Step 5. **Credit creation.** By holding only a fraction of deposits as reserves and lending the rest, banks "create money" in the sense that each new loan generates a new deposit elsewhere in the system. This is the foundation of the money multiplier.

> **Final Answer:** Primary functions: accepting deposits (demand, savings, time) and advancing loans. Secondary functions: agency services and general utility services. Banks also create money through the fractional-reserve system.

☞ Exam Tip

For a 4-mark answer, list two primary functions and two secondary functions, then close with one sentence on credit creation. CBSE graders reward the clear split.

EXPERT'S SOLUTION *: Vikram Patel, M.A. Economics, Gokhale Institute Pune*

Strategic angle. A commercial bank is best understood as a *maturity-transformation machine*: short-term liabilities (deposits) are transformed into longer-term assets (loans), and the bank earns the spread. Every other function (credit cards, forex, lockers) is a by-product of running this machine.

Step 1. Deposit side: collect liquidity from many savers at low cost. Demand deposits at

near-zero interest, savings at a small interest, fixed deposits at higher interest. Diversity of maturities lets the bank manage liquidity.

Step 2. Loan side: deploy collected liquidity into loans of various maturities, sectors and risks. The interest earned exceeds the interest paid on deposits; the gap (*net interest margin*) funds operating costs and profit.

Step 3. Risk management: the bank screens borrowers, holds capital against losses and keeps a reserve buffer against large withdrawals.

Step 4. Agency and general-utility functions are by-products of the bank's accounts infrastructure: it already has every customer's account, so cheque clearing, fund transfers and forex services come at low marginal cost.

Step 5. Credit creation: each loan disbursed becomes a new deposit somewhere in the system, expanding M_s. This is the macro reason banks are regulated so heavily.

Why this matters. Every part of the money-multiplier story flows from these functions: deposits become reserves, reserves are partially loaned out, loans become new deposits, and so on.

> **Final Answer:** Primary: accepting deposits, advancing loans. Secondary: agency and utility services. Net effect: maturity transformation and credit creation.

Q 2.8 What is money multiplier? What determines the value of this multiplier?

SOLUTION

Concept used. The **money multiplier** m is the ratio of the broad money supply M_s to high-powered money H: $m = M_s/H$, equivalently $M_s = m \cdot H$. It tells us how many rupees of M_s are supported by each rupee of H.

Step 1. Define two key ratios:

- $r =$ reserve-to-deposit ratio (banks' reserves as a fraction of their deposits; set partly by CRR and partly by banks' own prudence).
- $c =$ currency-to-deposit ratio (households' preference for cash vs deposits).

Step 2. The two-stage balance-sheet derivation in NCERT gives $m = \dfrac{1+c}{c+r}$.

Step 3. In the simplest closed-system case where everyone banks everything ($c = 0$), $m = \dfrac{1}{r}$. With $r = 0.04$ (4% CRR), $m = 25$.

Step 4. Determinants:

- Higher CRR or SLR $\Rightarrow$ higher $r \Rightarrow$ lower m.

- Higher cash preference (festival cash, large informal sector) $\Rightarrow$ higher $c \Rightarrow$ lower m.
- Higher excess reserves held by banks $\Rightarrow$ higher $r \Rightarrow$ lower m.

Step 5. Hence m is endogenous: it shifts with household behaviour and bank prudence, even if the CRR is held fixed.

> **Final Answer:** $m = M_s/H = (1+c)/(c+r)$. Determinants: the required reserve ratio (CRR), banks' excess reserves, the public's currency-to-deposit ratio.

✗ Common Mistake

Students often write $m = 1/r$ as if it is the only formula. That is the special case $c = 0$. In the Indian context cash demand is substantial, so the full formula $(1+c)/(c+r)$ is needed for quantitative work.

EXPERT'S SOLUTION *: Shreya Reddy, M.Sc. Economics, University of Warwick*

Strategic angle. The money multiplier is best derived from the two identities $M_s = D + C$ and $H = R + C$, then dividing the first by the second. The algebra is short and brings out exactly how m depends on the two behavioural ratios c and r.

Step 1. Money supply: M_s = currency with public (C) + demand deposits (D). $M_s = D + C$.

Step 2. High-powered money: H = currency with public (C) + bank reserves with RBI (R). $H = R + C$.

Step 3. Define $c = C/D$ and $r = R/D$. Then $\dfrac{M_s}{H} = \dfrac{D+C}{R+C} = \dfrac{D(1+c)}{D(c+r)} = \dfrac{1+c}{c+r} = m.$

Step 4. Comparative statics: $\partial m/\partial r < 0$ (higher reserve ratio shrinks m), $\partial m/\partial c < 0$ (cash drain shrinks m).

Step 5. Policy reading: when RBI cuts CRR, r falls and m rises; an unchanged H now supports a larger M_s. Conversely, festival-season cash hoarding raises c and lowers m, contracting M_s unless RBI offsets with OMO.

Why this matters. The same algebra explains why the "effective" multiplier in India varies from quarter to quarter even when RBI's announced CRR is constant: households' cash habits and banks' excess reserves both move.

> **Final Answer:** Money multiplier $m = (1+c)/(c+r)$. Determined by CRR (and SLR), banks' excess reserves and the public's currency-to-deposit ratio.

Q 2.9 What are the instruments of monetary policy of RBI?

SOLUTION

Concept used. **Monetary policy** is RBI's control of money supply, interest rates and credit to achieve macro objectives (price stability, growth, financial stability). Its instruments are split into **quantitative** (work on M_s as a whole) and **qualitative** (work on the direction of credit).

Step 1. **Quantitative instruments.**

- *Bank rate.* Rate at which RBI lends long-term to commercial banks; raising it makes refinance costlier, reducing M_s.
- *Repo rate.* Rate at which RBI lends overnight to banks against government securities; the policy rate today.
- *Reverse repo rate.* Rate at which RBI borrows overnight from banks; floor of the LAF corridor.
- *Cash Reserve Ratio (CRR).* Fraction of net demand and time liabilities banks must keep with RBI in cash.
- *Statutory Liquidity Ratio (SLR).* Fraction of liabilities banks must hold in approved liquid securities.
- *Open-Market Operations (OMO).* Purchase or sale of government securities by RBI in the secondary market.

Step 2. **Qualitative instruments.**

- Margin requirements on loans (haircuts on collateral).
- Moral suasion (RBI's persuasion of banks).
- Selective credit controls (sector-specific credit limits).
- Direct action (penalties on errant banks).

Step 3. Each instrument changes either H (OMO), the multiplier m (CRR, SLR) or the cost of credit (repo, bank rate).

Final Answer: Quantitative: bank rate, repo, reverse repo, CRR, SLR, OMO. Qualitative: margin requirements, moral suasion, selective credit controls, direct action.

♥ Why This Matters

Since the 2016 Monetary Policy Agreement, the repo rate is RBI's single *primary* policy instrument; CRR and OMO are supplementary. CBSE one-mark questions love this hierarchy.

EXPERT'S SOLUTION *: Aditya Iyer, M.A. Economics, CDS Thiruvananthapuram*

Strategic angle. Map every instrument to the variable it moves in the identity $M_s = mH$: OMO moves H directly, CRR / SLR move m, and repo / bank / reverse-repo move the cost of funds. With this map you can predict the direction of any policy change in one line.

Step 1. OMO: a purchase of bonds by RBI prints H; a sale drains H.

Step 2. CRR change: raises r in the multiplier formula and lowers m, contracting M_s for the same H.

Step 3. SLR change: raises required holdings of approved securities; functionally similar to CRR for m.

Step 4. Repo rate: this is the price RBI charges for short-term liquidity. Higher repo $\rightarrow$ higher inter-bank rate $\rightarrow$ higher lending rate $\rightarrow$ lower credit demand.

Step 5. Reverse repo: floor for the LAF corridor; sets the opportunity cost of bank reserves and so the floor for the call-money rate.

Step 6. Qualitative tools: targeted at specific sectors (e.g. higher margin on speculative commodities) when blunt quantitative tools would over-tighten the rest of the economy.

Why this matters. These instruments are how RBI implements its inflation-targeting mandate (4% $\pm$ 2% headline CPI). Each policy review tweaks the repo rate and may adjust CRR / SLR or run OMOs.

> **Final Answer:** Quantitative: bank rate, repo, reverse repo, CRR, SLR, OMO. Qualitative: margin requirements, moral suasion, selective credit controls, direct action.

Q 2.10 Do you consider a commercial bank 'creator of money' in the economy?

SOLUTION

Concept used. A commercial bank "creates money" in the sense that under fractional-reserve banking each new loan generates a new deposit somewhere in the system, expanding the broad money supply M_s for a given high-powered money H.

Step 1. Start with a primary deposit of Rs 100 in Bank A, CRR $= 20\%$ (illustration only). The bank keeps Rs 20 as reserves and lends Rs 80 to a borrower.

Step 2. The borrower spends the Rs 80; the recipient deposits it in Bank B. Bank B keeps Rs 16 as reserves and lends Rs 64. The process continues indefinitely.

Step 3. Geometric series: total deposits created $= 100 + 80 + 64 + \cdots = 100 \times \dfrac{1}{1 - 0.8} = 100 \times 5 =$ Rs 500. That is, the original Rs 100 of primary deposit has supported Rs 500 of demand deposits.

Step 4. Equivalently, $m = 1/r = 1/0.2 = 5$, and $M_s = m \times H = 5 \times 100 = 500$. The banking system as a whole has "created" Rs 400 of new money beyond the original Rs 100.

Step 5. Important caveat: an individual bank cannot lend more than its excess reserves. The money creation is a *system-level* property: it emerges when many banks each lend out their excess reserves.

> **Final Answer:** Yes. Commercial banks collectively create money under fractional-reserve banking. The process is captured by the money multiplier $m = 1/r$ (simple case) or $m = (1 + c)/(c + r)$ (full case).

☞ Exam Tip

The CBSE marking scheme always awards a step for the geometric series ($100+80+64+\ldots$). Include those three terms explicitly; do not skip straight to the closed-form 500.

EXPERT'S SOLUTION *: Megha Joshi, M.A. Economics, University of Hyderabad*

Strategic angle. Distinguish "creation of money" from "creation of high-powered money". Banks create only the former; RBI alone creates the latter. The two-step illustration below shows how a single primary deposit grows into a chain of secondary deposits.

Step 1. Step 1: RBI prints Rs 100 of H. This is the only money-creation step that adds to H.

Step 2. Step 2: Bank A receives the Rs 100 as a deposit. M_s now stands at Rs 100 (deposit) but H is also Rs 100, so $m = 1$ for now.

Step 3. Step 3: Bank A lends Rs 80. The borrower's account at Bank B credits Rs 80, raising total deposits to Rs 180, while H remains Rs 100. Now $m = 1.8$.

Step 4. Step 4: Bank B lends Rs 64. Deposits = Rs 244, $m = 2.44$. Continuing to infinity gives $m = 5$ and $M_s =$ Rs 500.

Step 5. Single-bank constraint vs system constraint: any one bank can lend only its own excess reserves. But because loans return as new deposits at other banks, the system cycles each loan back as a new asset for the next bank. The constraint is the system-wide reserve ratio r.

Why this matters. This is the mechanism through which monetary policy (changing H

or r) propagates from RBI's balance sheet to actual money supply growth and from there to aggregate demand and inflation.

> **Final Answer:** Yes, banks create money. With reserve ratio r, Rs 1 of primary deposit supports Rs $1/r$ of total deposits; banks collectively turn H into mH of M_s.

Q 2.11 What role of RBI is known as 'lender of last resort'?

SOLUTION

Concept used. The **lender of last resort** (LOLR) function refers to the central bank's commitment to lend to solvent but illiquid commercial banks during a financial panic, to prevent a contagious bank run.

Step 1. When depositors lose confidence in a bank, they demand their money back en masse. The bank's loans are illiquid (cannot be sold quickly without large losses), so a solvent bank may still fail purely for lack of cash.

Step 2. As LOLR, RBI provides short-term liquidity to such banks against good collateral (government securities, approved bills), usually at a penalty rate (Marginal Standing Facility, MSF).

Step 3. Conditions historically associated with LOLR (Bagehot's rule):

- Lend freely.
- Against good collateral.
- At a penalty rate.
- Only to solvent (not insolvent) institutions.

Step 4. By guaranteeing emergency liquidity, RBI prevents runs on healthy banks from spreading; the mere knowledge that LOLR exists keeps depositors calm.

Step 5. Modern variants of LOLR include the MSF window, the Liquidity Adjustment Facility (LAF) and special liquidity windows during crises (e.g. COVID-19 targeted long-term repo operations).

> **Final Answer:** Lender of last resort: RBI lends short-term to solvent but illiquid banks during panics, against collateral and usually at a penalty rate, to prevent contagious bank runs.

☞ **Bagehot's rule**

"Lend freely, against good collateral, at a penalty rate, to solvent institutions": the classical statement of the LOLR principle is still the textbook test you can use to recognise whether a central-bank intervention is functioning as LOLR.

EXPERT'S SOLUTION *: Ravi Bhardwaj, M.A. Economics, Ambedkar University Delhi*

Strategic angle. LOLR is the central bank's role as the *ultimate* provider of liquidity: the safety net that prevents a liquidity squeeze from turning into a solvency crisis and a single failing bank from triggering a system-wide panic.

Step 1. Run a thought experiment. Imagine 20% of a bank's depositors withdraw on the same day. The bank's loans cannot be sold instantly without large losses; without external liquidity it would have to suspend payments.

Step 2. Without LOLR, news of one bank's suspension spreads, depositors at other banks rush to withdraw, and the liquidity shock becomes a system-wide bank run.

Step 3. Enter LOLR: RBI accepts the suspended bank's good collateral (government securities, AAA bills) and advances cash. The bank meets the rush and re-opens.

Step 4. Penalty rate matters: by charging more than the market rate, RBI ensures that banks treat LOLR as a last resort and not as a routine funding source.

Step 5. Limits: LOLR cannot save an insolvent bank (one whose loan losses exceed its equity); for those, deposit insurance and resolution authorities take over.

Why this matters. LOLR is one of the three classical roles of a central bank (currency issue, monetary policy, LOLR). A board-exam answer that lists all three earns full marks even on short questions.

> **Final Answer:** LOLR role: RBI provides emergency liquidity to solvent banks against good collateral, usually at a penalty rate, to prevent panic-driven bank runs.

Key Takeaways

- Barter fails on double-coincidence-of-wants, common unit of account, store of value and standard of deferred payment; money's four functions cure these.
- RBI publishes M_1, M_2, M_3, M_4; broad money M_3 is the main policy target.
- High-powered money H = currency with public + bank reserves with RBI + other RBI deposits.
- Money multiplier $m = (1 + c)/(c + r)$. Money supply $M_s = m \cdot H$.
- RBI instruments: quantitative (bank rate, repo, reverse repo, CRR, SLR, OMO) and

qualitative (margins, moral suasion, selective credit controls).

- Lender of last resort: RBI lends to illiquid-but-solvent banks during panics to stop bank runs.

End of Exercises

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