Chapter 3: Money and Banking

Exercises — Exercises

Q1 What is a barter system? What are its drawbacks?

A barter system is one in which goods are exchanged directly for other goods, without money acting as a go-between. Its drawbacks are:
1. Double coincidence of wants is needed. A person with surplus rice who wants clothing must find someone who has surplus clothing and wants rice. Search costs become prohibitive as the number of people grows.
2. There is no common unit of account, so the value of goods cannot be expressed uniformly.
3. Wealth is hard to carry forward. Goods like rice are perishable and need a lot of storage space, so they cannot be held for long.
4. Storing goods and finding buyers later costs considerable time and resources.

Q2 What are the main functions of money? How does money overcome the shortcomings of a barter system?

The main functions of money are:
1. Medium of exchange: people sell produce for money and use it to buy what they need.
2. Unit of account: the value of all goods and services is expressed in monetary units, so relative prices are easy to compute (a Rs 10 pen is worth 5 pencils priced at Rs 2).
3. Store of value: money is not perishable, costs little to store, and is accepted by everyone at any time, so wealth can be kept for future use. It does this well only if its value is reasonably stable.

How money overcomes barter's shortcomings: as a medium of exchange it removes the need for a double coincidence of wants and cuts search costs. As a unit of account it gives a common measure of value. As a store of value it solves the problem of carrying wealth forward, since perishable goods need not be held.

Q3 What is transaction demand for money? How is it related to the value of transactions over a specified period of time?

Transaction demand for money is the money people hold to carry out day-to-day transactions. It arises because income is received at discrete points in time while spending goes on continuously. For example, if you earn Rs 100 on the first day of a month and spend it evenly, your balance falls from Rs 100 to 0, so your average holding is Rs 50, which is half the monthly transactions.

It is directly related to the value of transactions: the larger the value of transactions in a period, the larger the transaction demand. In general, $M_{dT} = k.T$, where T is the total nominal value of transactions in the period and k is a positive fraction. Equivalently, $v.M_{dT} = T$, where $v = 1/k$ is the velocity of circulation. Since transactions depend on income, a rise in nominal GDP raises transaction demand ($M_{dT} = kPY$).

Q4 What are the alternative definitions of money supply in India?

The RBI publishes four alternative measures of money supply, where CU is currency (notes plus coins) held by the public and DD is net demand deposits held by commercial banks:
- M1 = CU + DD
- M2 = M1 + savings deposits with post office savings banks
- M3 = M1 + net time deposits of commercial banks
- M4 = M3 + total deposits with post office savings organisations (excluding National Savings Certificates)

M1 and M2 are narrow money; M3 and M4 are broad money. They are listed in decreasing order of liquidity: M1 is the most liquid and M4 the least. M3, also called aggregate monetary resources, is the most commonly used measure. 'Net' means inter-bank deposits are excluded.

Q5 What is a 'legal tender'? What is 'fiat money'?

Legal tender is money that cannot be refused by any citizen of the country for settling any kind of transaction. Currency notes and coins are legal tender. Cheques drawn on savings or current accounts can be refused, so demand deposits are not legal tender.

Fiat money is money that has no intrinsic value, like a gold or silver coin does. The paper of a note, or the metal of a coin, is worth far less than its face value. It is accepted because of the guarantee given by the issuing authority. Every note carries the RBI Governor's promise that RBI will give the holder purchasing power equal to the printed value. Currency notes and coins are therefore fiat money.

Q6 What is High Powered Money?

High powered money is the currency issued by the central bank (RBI), which can be held by the public or by commercial banks. It is also called reserve money or the monetary base. It is called 'high powered' because it acts as the basis for credit creation: banks hold part of it as reserves and create many times that amount as deposits through lending, so a change in it changes the money supply by a multiple. RBI regulates money supply by controlling the stock of high powered money, among other tools.

Q7 Explain the functions of a commercial bank.

Commercial banks are institutions that mediate between those with excess funds and those who need funds.
1. Accepting deposits: they take deposits from the public, which is safer than holding cash at home and often earns interest. Demand deposits also make payment convenient through cheques and debit cards.
2. Lending: they lend part of the deposits as home loans, crop loans and so on. They keep only a portion as reserves to repay depositors, since not everyone withdraws at once.
3. Earning the spread: the interest paid to depositors is lower than the interest charged to borrowers, and this difference (the spread) is the bank's profit.
4. Creating money: when a bank lends, a new deposit is opened in the borrower's name, so deposits and the money supply increase.
5. Meeting reserve requirements: banks must keep a fixed percentage of deposits as reserves (CRR) with the RBI, balancing lending against the need to repay depositors on demand.

Q8 What is money multiplier? What determines the value of this multiplier?

The money multiplier is the number of times the initial reserves are multiplied into total deposits (money supply) by the banking system's lending. In the chapter's example, with a reserve ratio of 20 per cent, reserves of Rs 100 support deposits of Rs 500, so the multiplier is 5 (that is, 1 divided by 0.20). Reserves of Rs 100 create deposits of 5 x 100 = Rs 500.

Its value is determined by the required reserve ratio (CRR) fixed by the RBI. The multiplier equals 1/CRR, so a higher ratio gives a smaller multiplier and a lower ratio gives a larger one. If the ratio rises to 25 per cent, Rs 100 of reserves supports deposits of only Rs 400, so the banks must call back some loans and the money supply falls.

Q9 What are the instruments of monetary policy of RBI?

RBI controls money supply through quantitative and qualitative tools.
Quantitative tools:
1. Reserve ratio (CRR): a higher ratio cuts banks' lending capacity and reduces money supply; a lower ratio does the opposite.
2. Open market operations: buying and selling of government bonds. When RBI buys a bond it pays by cheque, which raises reserves and money supply; selling bonds reduces them. These may be outright (permanent) or repo/reverse repo (with a resale or repurchase agreement). Repo and reverse repo operations are now the main tool of monetary policy.
3. Bank rate: the rate at which RBI lends to commercial banks. Raising it makes loans costlier, reducing reserves and money supply; lowering it can increase money supply.
Qualitative tools: persuasion such as moral suasion, and margin requirements, to make banks discourage or encourage lending.

Q10 Do you consider a commercial bank 'creator of money' in the economy?

Yes. Banks can lend because they do not expect all depositors to withdraw their funds at the same time. When a bank lends to someone, a new deposit is opened in that person's name, so money supply rises by the new deposit on top of the old ones.

In the chapter's example, an initial deposit of Rs 100 with a 20 per cent reserve ratio lets the bank lend Rs 80. That loan returns as a deposit and supports further loans, and the process repeats until deposits reach Rs 500 (loans of Rs 400). Money supply rises from Rs 100 to Rs 500. The creation is not unlimited: it is bounded by the reserve ratio set by the RBI. This works just like the goldsmith Lala's story, where receipts rose to 125 kg against 100 kg of gold.

Q11 What role of RBI is known as 'lender of last resort'?

RBI is the only institution that can issue currency. When commercial banks need more funds to create credit, they can go to the market or to the central bank. RBI's role of being ready to lend to banks at all times, through various instruments, is called the 'lender of last resort'. This assures banks that they can obtain funds when no one else will lend, which helps them meet depositors' demands and supports confidence in the banking system.