1. What is special about banks?

- A bank is a financial intermediary whose core activity is to provide loans to borrowers and to collect deposits from savers.

**Lenders' requirements:**
1. The minimisation of the risk of default and the risk of the assets dropping in value.
2. Lenders aim to minimise their costs.
3. Lenders prefer holding assets that are more easily converted into cash; preferring short-term lending to long-term.

**Borrowers' requirements:**
1. Funds at a particular specified date.
2. Funds for a specific period of time; preferably long-term.
3. Funds at the lowest possible cost.

- To reconcile the conflicting requirements of lenders and borrowers a financial intermediary will hold the long-term, high-risk claims of borrowers and finance this by issuing liabilities, called deposits, which are highly liquid and have low default risk.
- Deposits typically have the characteristics of being small-size, low-risk and high-liquidity. Loans are of larger-size, higher-risk and illiquid.
- Banks bridge the gap between the needs of lenders and borrowers by performing a transformation function:
  a) size transformation
  b) maturity transformation
  c) risk transformation.

Size transformation
- Savers/depositors are willing to lend smaller amounts of money than the amounts required by borrowers.
- Banks collect funds from savers in the form of small-size deposits and repackage them into larger size loans.
- Banks perform this size transformation function exploiting economies of scale associated with the lending/borrowing function, because they have access to a larger number of depositors than any individual borrower.

Maturity transformation
- Banks transform funds lent for a short period of time into medium- and long-term loans. E.g., they convert demand deposits (i.e., funds deposited that can be withdrawn on demand) into 25-year residential mortgages.
- Banks' liabilities (i.e., the funds collected from savers) are normally repayable on demand or at relatively short notice. Banks' assets (funds lent to borrowers) are mainly repayable in the medium to long term.
- Banks are ‘borrowing short and lending long’ and in this process they ‘mismatch’ their assets and liabilities. This mismatch can create problems in terms of liquidity risk, which is the risk of not having enough liquid funds to meet one’s liabilities.
Risk transformation

- Individual borrowers carry a risk of default (credit risk), i.e., the risk that they might not be able to repay the amount of money they borrowed.
- Savers, on the other hand, wish to minimise risk and prefer their money to be safe.
- Banks are able to minimise the risk of individual loans by diversifying their investments, pooling risks, screening and monitoring borrowers and holding capital and reserves as a buffer for unexpected losses.

Transaction costs

- The presence of transaction costs makes it very difficult for a potential lender to find an appropriate borrower. There are four main types of transaction costs:
  1. Search costs: both lender and borrower will incur costs of searching for, and finding information about, a suitable counterparty.
  2. Verification costs: lenders must verify the accuracy of the information provided by borrowers.
  3. Monitoring costs: once a loan is created, the lender must monitor the activities of the borrower, in particular to identify if a payment date is missed.
  4. Enforcement costs: the lender will need to ensure enforcement of the terms of the contract, or recovery of the debt in the event of default.

Reduction of transaction costs

- Secondary securities are less risky, more convenient and more liquid than primary securities, because banks benefit from economies of scale in transaction technologies and are able to carry out a rational diversification of risks.
- This allows them to offer lower loan rates relative to direct financing. However, most bank assets are illiquid (non-negotiable).
- Banks provide an important source of external funds used to finance business and other activities. One of the main features of banks is that they reduce transaction costs by exploiting scale and scope economies and often they owe their extra profits to superior information.

Economies of scale and economies of scope

- Financial intermediaries reduce transaction, information and search costs mainly by exploiting economies of scale. By increasing the volume of transactions, the cost per unit of transaction decreases.
- Moreover, by focusing on growing in size, financial intermediaries are able to draw standardised contracts and monitor customers so that they enforce these contracts.
- They also train high-quality staff to assist in the process of finding and monitoring suitable deficit units (borrowers).
- It would be very difficult, time-consuming and costly for an individual to do so.

- There is an extensive literature and debate on the degree to which scale economies are present in banking. The term is a long-run concept, applicable when all the factor inputs that contribute to a firm’s production process can be varied. Assuming all factor inputs are variable, a firm is said to exhibit:
  1. Increasing Returns to Scale or Scale Economies: if proportionate increases in factor inputs yield a greater than proportionate increase in output. However, at some point scale diseconomies may set in, i.e., if a bank increases its output, average costs will rise.
  2. Decreasing Returns to Scale or Scale Diseconomies: if proportionate increases in factor inputs yield less than proportionate increases in output.
  3. Constant Returns to Scale: if proportionate increases in factor inputs yield an proportionate increase in output.
• **Economies of scope** refer to a situation where the joint costs of producing two complementary outputs are less than the combined costs of producing the two outputs separately.
• Let us consider two outputs, Q1 and Q2 and their separate costs, C(Q1) and C(Q2). If the joint cost of producing the two outputs is expressed by C(Q1,Q2), then economies of scope are said to exist if:
\[ C(Q1,Q2) < C(Q1) + C(Q2) \]
• This may arise when the production processes of both outputs share some common inputs, including both capital (e.g., the actual building the bank occupies) and labour (such as bank management).
• However, the literature indicates that economies of scope are difficult to identify and measure.

**Relationship and transaction banking**
- Relational contracts are informal agreements between the bank and the borrowers sustained by the value of future relationships.
- Modern financial intermediation theory has emphasised the role of banks as relationship lenders: when banks invest in developing close and long-term relationships with their customers.
- Such relations improve the information flow between the bank and the borrower and thus are beneficial to both parties.

**2. Theories of financial intermediation**

There are four main theories of financial intermediation:

I. **Delegated monitoring**
- One of the main theories put forward as an explanation for the existence of banking relates to the role of banks as ‘monitors’ of borrowers.
- Since monitoring credit risk (likelihood that borrowers default) is costly, it is efficient for surplus units (depositors) to delegate the task of monitoring to specialised agents such as banks.
- Banks have expertise and economies of scale in processing information on the risks of borrowers, and as depositors would find it costly to undertake this activity, they delegate responsibility to the banks.

II. **Information production**
- If information about possible investment opportunities is not free, then economic agents may find it worthwhile to produce such information.
- For example, instance surplus units could incur substantial search costs if they were to seek out borrowers directly.
- If there were no banks, then there would be duplication of information production costs as surplus units would individually incur expense in seeking out the relevant information before they committed funds to a borrower.
- An alternative is to have a smaller number of specialist agents (banks) that choose to produce the same information.
III. Liquidity transformation

- Banks provide financial or secondary claims to surplus units (depositors) that often have superior liquidity features compared to direct claims (like equity or bonds).
- Banks’ deposits can be viewed as contracts that offer high liquidity and low risk that are held on the liabilities side of a bank’s balance sheets.
- Banks can hold liabilities and assets of different liquidity features on both sides of their balance sheet through diversification of their portfolios.
- In contrast, surplus units (depositors) hold relatively undiversified portfolios.
- The better banks are at diversifying their balance sheets, the less likely it is that they will default on meeting deposit obligations.

IV. Consumption smoothing

- Banks are institutions that enable economic agents to smooth consumption by offering insurance against shocks to a consumer’s consumption path.
- The argument goes that economic agents have uncertain preferences about their expenditure and this creates a demand for liquid assets.
- Financial intermediaries in general, and banks in particular, provide these assets via lending and this helps smooth consumption patterns for individuals.

Commitment mechanisms

- Another theory that has recently developed aims to provide a reason as to why illiquid bank assets (loans) are financed by demand deposits that allow consumers to arrive and demand liquidation of those illiquid assets.
- It is argued that bank deposits (demand deposits) have evolved as a necessary device to discipline bankers.
- To control the risk-taking propensity of banks, demand deposits have evolved because changes in the supply and demand of these instruments will be reflected in financing costs and this disciplines or commits banks to behave prudently (ensuring banks hold sufficient liquidity and capital resources).

Benefits to ultimate lenders (surplus units)

1. Greater liquidity is achieved by lending to a financial intermediary rather than directly to an ultimate borrower.
2. Less risk is involved, due to the pooling of risk, the improved risk assessment and the portfolio diversification. This reduction in risk may be reflected in guaranteed interest rates on deposits with a financial intermediary.
3. Marketable securities may be issued as the counterpart to deposits with a financial intermediary.
4. Transaction costs associated with the lending process are likely to be reduced significantly.
5. The lending decision is simplified, since there are fewer lending opportunities to financial intermediaries than there are ultimate borrowers.

The benefits to ultimate borrowers (deficit units)

1. Loans will be available for a longer time period from financial intermediaries than from the ultimate lenders.
2. Financial intermediaries will be prepared to grant loans of larger amounts than will ultimate lenders.
3. Using financial intermediaries will involve lower transaction costs than would be incurred if borrowers had to approach ultimate lenders directly.
4. The interest rate will be lower when borrowing from financial intermediaries, compared with borrowing directly from ultimate lenders.
5. When borrowing from financial intermediaries, there is a greater likelihood that loans will be available when required.

The benefits to society as a whole

- Financial intermediation is not only beneficial to borrowers and lenders, but it is likely to:
  1. Cause a more efficient utilisation of funds within an economy.
  2. Cause a higher level of borrowing and lending to be undertaken, due to the lower risks and costs associated with lending to financial intermediaries.
  3. Cause an improvement in the availability of funds to higher-risk ventures, due to the capability of financial intermediaries to absorb such risk. High-risk ventures are widely considered to be important for creating the basis of future prosperity for an economy.