

Learning Objectives

In this chapter you should establish an understanding of:

1. The six parts of the financial system
2. The core principles of money and banking
3. Money and its functions
4. Payments system today and tomorrow
5. Money links: inflation and economic growth

Introduction

- Every financial transaction has a story.
- There is a complex web of interdependent institutions and markets making up the foundation of daily financial transactions:
 1. The Six Parts of the Financial System.
 2. The Five Core Principles of Money and Banking.

Six Parts of the Financial System

1. Money

To pay for purchases and store wealth.

2. Financial Instruments

To transfer resources from savers to investors and to transfer risk to those best equipped to bear it.

3. Financial Markets

To buy and sell financial instruments.

4. Financial Institutions

To provide access to financial markets, collect information & provide services.

5. Regulatory Agencies

To provide oversight for financial system.

6. Central Banks

To monitor financial Institutions and stabilize the economy.

Six Parts of the Financial System

1. Money

- Money has changed from gold/silver coins to paper currency to electronic funds.
- Cash can be obtained from an ATM anywhere in the world.
- Bills are paid and transactions are checked online.

Six Parts of the Financial System

2. Financial instruments

- Transfers resources from savers to investors
- Buying and selling individual stocks used to be only for the wealthy.
- Today we have mutual funds and other stocks available through banks or online.
- Putting together a portfolio is open to everyone.

Six Parts of the Financial System

3. Financial Markets

- Allow the buying and selling of financial instruments easily
- Went from being in coffee houses and tavern to well organized markets like the New York Stock Exchange.
- Now transactions are mostly handled by electronic markets.
 - This has reduced the cost of processing financial transactions making the way for a much broader array of financial instruments available.

Six Parts of the Financial System

4. Financial Institutions

- Provide all the services of the financial system like providing access to financial markets and gathering information
- Banks began as vaults, developed into institutions that accepted deposits and gave loans, and evolved to today's financial supermarket.

Six Parts of the Financial System

5. Government regulatory agencies

- Make sure the elements of the financial system operate safely and reliably.
- Government regulatory agencies were introduced by federal government after the Great Depression.
- They provide wide-ranging financial regulation, rules, and supervision; and examine the systems a bank uses to manage its risk.

Six Parts of the Financial System

6. Central banks

- They monitor and stabilize the financial system
- Central banks began as large private banks to finance wars.
- Central banks control the availability of money and credit to promote low inflation, high growth and stability of financial system.
- Today's policymakers strive for transparency in their operations.
- The Financial crisis of 2007-2009 have lead the US central bank to try many new policy tools.

Five Core Principles of Money and Banking

1. **Time** has value.
2. **Risk** requires compensation.
3. **Information** is the basis for decisions.
4. **Markets** determine prices and allocation resources.
5. **Stability** improves welfare.

Five Core Principles of Money and Banking



Core Principle 1: Time has value

- Time affects the value of financial instruments.
- Interest is paid to compensate the lenders for the time the borrowers have their money.
- Latter we will develops an understanding of interest rates and how to use them.

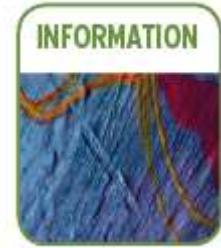
Five Core Principles of Money and Banking



Core Principle 2: Risk requires compensation

- In a world of uncertainty, individuals will accept risk only if they are compensated.
- In the financial world, compensation comes in the form of explicit payments: the higher the risk the bigger the payment.

Five Core Principles of Money and Banking



Core Principle 3: Information is the basis for decisions

- The more important the decision, the more information we gather.
- Collection and processing of information is the foundation of the financial system.

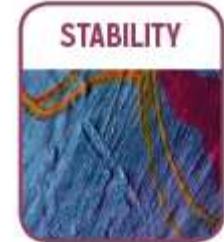
Five Core Principles of Money and Banking



Core Principle 4: Markets determine prices and allocate resources

- Markets are the core of the economic system.
- Markets channel resources and minimize the cost of gathering information and making transactions.
- In general, the better developed the financial markets, the faster the country will grow.

Five Core Principles of Money and Banking



Core Principle 5: Stability improves welfare

- A stable economy reduces risk and improves everyone's welfare.
- Financial instability in the autumn of 2008 triggered the worse global downturn since the Great Depression.
- A stable economy grows faster than an unstable one.
- One of the main roles of central banks is stabilizing the economy.

Money and How We Use It

- Money is *an asset that is generally accepted as payment for goods and services or repayment of debt.*

Money and How We Use It

Money has three characteristics:

1. It is a **means of payment**
2. It is a **unit of account**, and
3. It is a **store of value**.

The first of these characteristics is the most important

Money and How We Use It

Means of Payment

- People insist on payment in money.
 - Barter requires a “double coincidence of wants”.
- Money is easier and finalizes payments so there is no further claim on buyers and sellers.
- The increase in the numbers of buyers and sellers requires something like “money” to make transactions smoother.

Money and How We Use It

Unit of Account

- Money is used to quote prices and record debts - it is a standard of value.
- Prices provide the information needed to ensure resources are allocated to their best uses.

Money and How We Use It

Store of Value

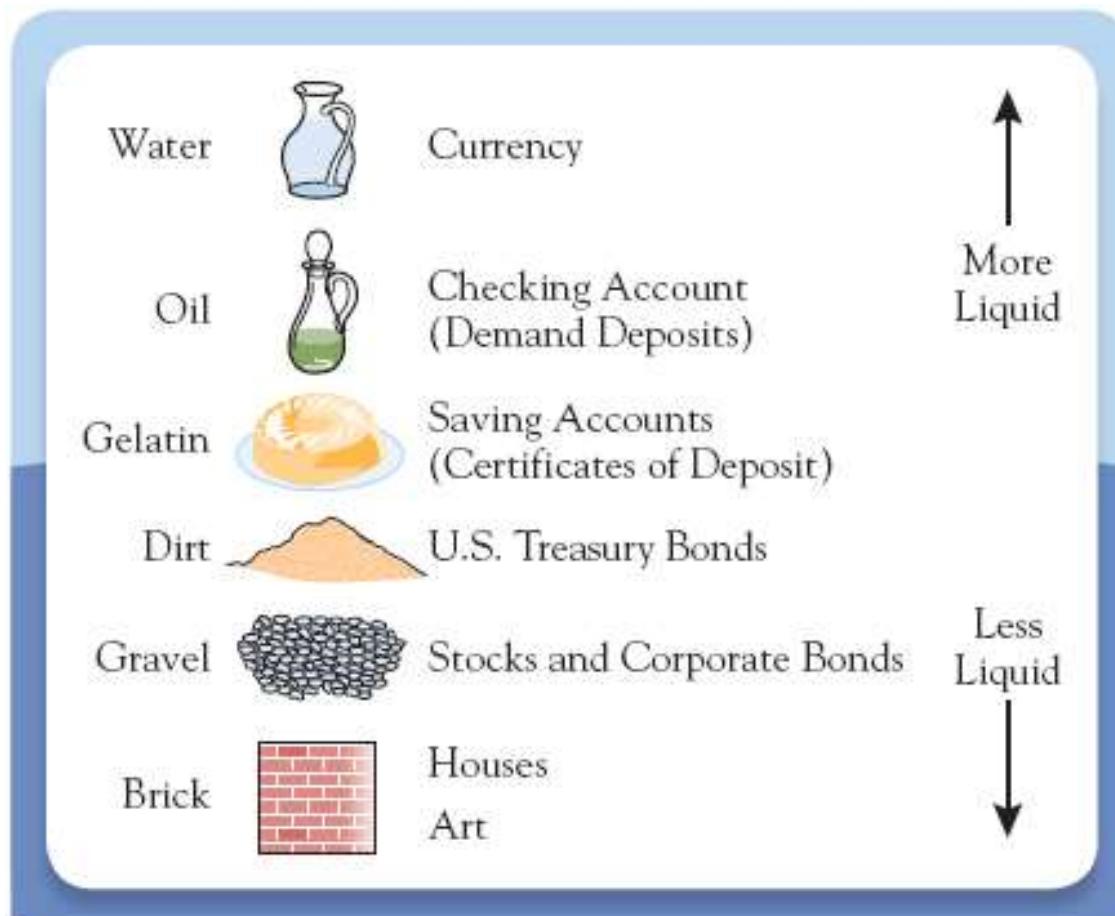
- A means of payment has to be durable and capable of transferring purchasing power from one day to the next.
- Paper currency does degrade, but is accepted at face value in transactions.
- Other forms of wealth are also a store of value: stocks, bonds, houses, etc.

Money and How We Use It

Store of Value (cont.)

- Although other stores of value are sometimes better than money, we hold money because it is liquid.
- Liquidity is *a measure of the ease with which an asset can be turned into a means of payment.*
 - The more costly it is to convert an asset into money, the less liquid it is.

Figure 2.2 - The Liquidity Spectrum



- A demand deposit is an account with a bank or other financial institution that allows the depositor to withdraw his or her funds from the account without warning or with less than seven days' notice.
- A checking account (current account) is a type of bank deposit account that is designed for everyday money transactions
- A checking account is a type of bank deposit account that is designed for everyday money transactions. The money in a savings account, however, is not intended for daily use, but is instead meant to stay in the account — be saved in the account — so that it might earn interest over time.

- Saving Account (certificate of deposits: Fixed Deposits) is a time deposit, a financial product commonly sold by banks.

The Payments System

- The payments system is a web of arrangements that allow for the exchange of goods and services, as well as assets.
 - The efficient operation of the economy depends on the payments system.
- Money is at the heart of the payments system.

The Payments System

The possible methods of payment are:

1. Commodity and Fiat Monies
2. Checks
3. Electronic Payments

Commodity and Fiat Monies

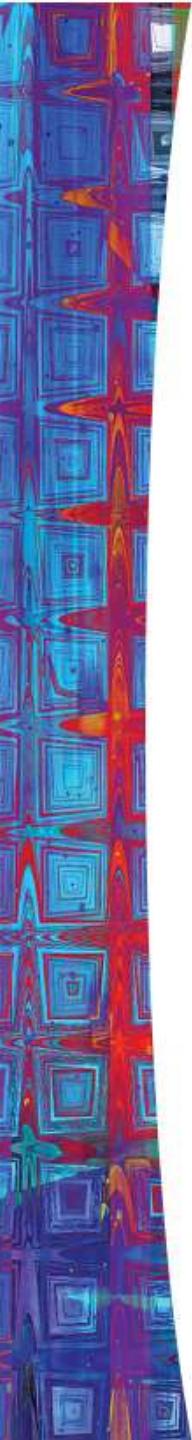
- Commodity monies are things with intrinsic value.
 - Included items like silk and salt.
- To be successful, a commodity money must be:
 - Usable by most people,
 - Durable,
 - Easily transportable, and
 - Divisible into smaller units.

Commodity and Fiat Monies

- Gold coins and notes, backed by gold, were used into the 20th century.
- Today's paper money is called fiat money, because its value comes from government decree, or *fiat*.
- In the end, money is about trust.

Electronic Payments

- Electronic payments take the form of:
 - Credit and debit cards
 - Electronic funds transfers
 - Stored-value card
 - E-money



Electronic Payments

- Debit Cards
 - Works like a check - tells the bank to transfer funds from your account to another.
 - After 2007, the use of debit cards increased significantly
- Credit Cards
 - A promise by a bank to lend the cardholder money to make a purchase.

Electronic Payments

- Electronic funds transfers
 - Movements of funds directly from one account to another.
 - Banks use electronic transfers to handle transaction among themselves.

A Brief Overview of Indian Financial System

A Brief Overview of **Indian Financial System**

- Historically, banks have played the role of intermediaries between savers and the investors.
- Indian Banking System (IBS) consists of commercial banks, co-operative banks, development banks & Post-office saving banks & regulatory banks among others.
- Commercial Banks account for 90 per cent of the banking system assets.
- Public Sector Banks dominate the banking industry in India.
- Since liberalization, private banks and foreign banks have established their niche in Indian Banking Sector.

Structure of Commercial Banks in India

Public Sector Banks

- State Bank of India
- Bank of Baroda
- Bank of Maharashtra
- Punjab Nat. Bank
- Union Bank
- Allahabad Bank
- Central Bank of India

Private Banks (under Indian ownership)

- ICICI Bank
- HDFC Bank
- Kotak Mahindra
- Yes Bank
- ING-Vysya
- Centurion Bank

Foreign Banks

- HSBC
- Bank of Tokyo
- Standard Chartered
- City Bank
- Deutsche Bank
- ABN-AMRO

Basic Terminologies

Item	Description
Deposits	Deposits or rather checkable deposits are bank accounts that allow the owner of the account to write checks to third parties. Includes both interest bearing (savings) & non-interest bearing (current) accounts. It is low cost bearing investment but with high liquidity.
Term deposits	These have a fixed maturity period ranging from several months to over 5 years. It includes penalty for premature withdrawals. These are less liquid than savings account but has a higher return. These are a costly source of funds for the banks.
Borrowings	Banks also obtain funds by borrowing from the Reserve Bank of India & other banks. Borrowings from the RBI are called advances. Banks borrow funds from the RBI overnight and also through short term instruments like repo & reverse repo ranging from a day to 14 days.
Capital	Bank capital is raised by issuing new equity or from retained earnings. It acts as a cushion against a drop in the value of its assets, which could force the banks into insolvency.

Item	Description
Asset	A bank uses the funds it has acquired by issuing liabilities to purchase income earning assets. These are essentially the uses of funds and the interest payments earned on them that enable banks to earn profits.
Reserves	Reserves are the deposits plus some currency that is physically held by banks. These do not earn any interest. It is held in two forms- <i>statutory reserves</i> (CRR & SLR) and <i>excess reserves</i> – these are the most liquid of all bank assets and can be used to meet bank's obligation if funds are withdrawn from the bank by customers.
Securities	An important income-earning asset. They are in the form of Central government securities, state government securities and other securities.
Loans	Main source of Bank's profit. It is a liability for the individual who borrows but an asset for banks at it provides income in the form of interest difference. Less liquid than other assets as its liquidity depends upon maturity of loans.
Other Assets	The physical assets - bank buildings, computers , and other equipment owned by the banks is included in this category.

Money Multiplier Process...

- Money Multiplier – The process of deposit creation by the commercial banks to a certain multiple of the cash ratio.
- Assumptions: (I) Two banks-B₁,B₂ (II) Cash-deposit ratio 10 per cent. (III) n number of individuals.
- Suppose individual X deposits Rs. 100 in bank B₁.
- Reserve ratio being 10 per cent, bank B₁ has excess cash of Rs. 90.
- Now, bank B₁ lends Rs. 90 to bank B₂ to earn profit.
- B₂ receives Rs. 90 in cash and has an excess cash reserve of Rs. 81.
- Thus Bank B₂ can use this to extend loans to credit-worthy borrowers.
- If these loans are used to pay clients of B₁ , then B₁ receives Rs. 81 and holds Rs. 72.90 as excess reserves.
- This excess reserves could be lent again and the cycle continues.
- Total deposit creation is given by initial deposit of cash- Rs.100*10

- Algebraically, we have
- Let D be equal to deposits, C_b cash of banks, b the reserve ratio.
- Then $\Delta D = \Delta C_b + (1-b)\Delta C_b + (1-b)^2\Delta C_b + (1-b)^3\Delta C_b + \dots + (1-b)^n\Delta C_b.$
- To sum, ΔD (Total Money SS) $= 1/b \Delta C_b$
- It implies that a bank can raise deposits by an amount equal to change in cash multiplied by the reciprocal of the banks reserve ratio (b).
- The money multiplier is the reciprocal of the reserve ratio.

The Money Multiplier

- It exhibits the relationship between the aggregate monetary base and the money supply.
- It involves the choice of an appropriate monetary base.
- It is important because changes in money multiplier affects the implementation of the monetary policy.
- Crucial for maintaining price stability in the economy.
- RBI controls large portion of changes in money supply by controlling the changes in the monetary base — M_0 .

Money Supply = Money Multiplier x Monetary Base

The money supply is equal to the money multiplier times the monetary base and is greater than one.

Monetary Aggregates

Monetary Aggregate	Definition
Reserve money (M_0) Or Monetary Base	Currency in Circulation + Bankers' Deposits with the RBI + 'Other' Deposits with the RBI.
Narrow Money ($M1$)	Currency with the Public + Demand Deposits with the Banking System + 'Other' Deposits with the RBI

Monetary Aggregate

Definition

M_2 (Broad Money)

M1 + Saving deposits with post office
saving banks

Monetary Aggregate

Definition

M_3 (Broad Money)

M1+Time deposits with the banking system

The Repo Market

- Introduced in the 1990s in the Indian Financial System.
- A *repo* or *reverse repo* is a transaction in which two parties agree to sell and repurchase the same security.

The contract—

- Seller sells a specified security with an agreement to repurchase the same at a mutually decided future date & price.
- Buyer purchases a specified security with an agreement to resell the same at a mutually decided future date & price.
- Repo – from the view point of seller.
- Reverse Repo – from the view point of buyer.

Repo and Reverse Repo Rate

A Repo is a repurchase agreement in which the central bank **buys** bonds with the agreement that the seller will repurchase within a short period ranging from 1 to 15 days. In a Reverse Repo, the bank **sells** bonds and the buyer agrees to sell them back within a short period.

What is CRR ?

- The CRR refers to the cash which banks have to maintain with the RBI as a percentage of their demand and time liabilities (DTL).
- RBI uses CRR either to drain excess liquidity or to release funds needed for the growth of the economy from time to time. Increase in CRR means that banks have less funds available and money is sucked out of circulation. Thus we can say that this serves duel purposes i.e.(a) ensures that a portion of bank deposits is kept with RBI and is totally risk-free, (b) enables RBI to control liquidity in the system.

- What is SLR ?
- SLR stands for Statutory Liquidity Ratio.
- This term is used by bankers and indicates the minimum percentage of deposits that the bank has to maintain in form of gold, cash or govt approved securities. It regulates the credit growth in India.

- **What is Bank rate?**
- **Bank Rate is the rate at which central bank of the country (in India it is RBI) allows finance to commercial banks.**
- **Bank Rate is a tool, which central bank uses for short-term purposes. Any upward revision in Bank Rate by central bank is an indication that banks should also increase deposit rates as well as Base Rate / Benchmark Prime Lending Rate.**
- **Thus any revision in the Bank rate indicates that it is likely that interest rates on your deposits are likely to either go up or go down, and it can also indicate an increase or decrease in your EMI.**

- Open – Market Operation

Central bank conducts OMO, when it buys or sells government bonds. To increase the MS.

Key Indicators

- Bank rate
- CRR
- SLR
- Repo rate
- Reverse Repo Rate

Functions of RBI

- Currency authority
- Banker to government
- Banker's bank and supervisor
- Custodian of foreign exchange

Targets of Monetary Policy

- Economic growth.
- Price stability.

Sources of Financial News

- Daily
 - The Wall Street Journal
 - Financial Times
 - *Bloomberg.com*
 - *Yahoo! Finance*
- Weekly
 - The Economist
 - Business Week
- Data
 - The Federal Reserve Board of St. Louis (FRED)
 - Bureau of Labor Statistics
 - Bureau of Economic Analysis
- Personal Financial Information
 - www.choosetosave.org
 - www.dinkytown.net
 - www.wsj.com