

# **Monetary and Financial System**

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# Monetary and Financial System

## Module-1: Money and Monetary System:

Concept and Functions of Money; Kinds of money; Demand for Money; Measures of money supply: narrow money and broad money; Constituents of Monetary System: Central Bank and Commercial Banks. Creation of Money by Commercial Banks.

## Module-2: Payment System:

Concept, Different payment options, Pros and Cons of different payment types (Cash, Cheques, Debit Card, Credit Card, Mobile payments, On-line payments, Electronic fund transfers). Evolution and Growth of Bangladesh Payment System.

## Module-3: Financial System:

Concern of Finance, Modes of Finance (Direct and Indirect); Concept of Financial System, Relationship among Financial, Monetary and Payment Systems; Constituents of Financial System: Financial Institutions, Financial Instruments and Financial Markets. Financial Infrastructure and Superstructure. Financial System of Bangladesh.

## Module-4: Financial Institutions:

Types of Financial Institutions: Banking Financial Institutions (BFIs) and Non-bank Financial Institutions (NBFIs); Functions and Growth of BFIs and NBFIs in Bangladesh.

## Module-5: Financial Markets:

Functions of Financial Markets; Classifications: Money Market and Capital Market; Banking, Security and Insurance Market; Primary Market and Secondary Market including OTC market; Micro-finance and micro-credit market; International Financial Market.

## Module-6: Islamic Financial System:

Islamic Economics, Finance and Banking; Principles of Islamic Financial System (Prohibition of Interest, Risk Sharing etc.); Relation between Religion and Finance in Islam; Source of Shariah Law; Islamic Financial Instruments.

## Module-7: Regulatory Framework for Financial and Monetary System:

Role of BB, BSEC, IDRA and MRA.

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## **Table of Contents**

<b>Topic</b>		<b>Page</b>
<b>Module-1: Money and Monetary System</b>		
1.1	What is Money	1
1.2	Functions of Money	1
1.2.1	Money as a Medium of Exchange	1
1.2.2	Money as a Unit of Account	2
1.2.3	Money as a Standard of Deferred Payment	2
1.2.4	Money as a Store of Value	2
1.3	Kinds of Money	3
1.4	Demand for Money	4
1.5	Measures of Money Supply	6
1.6	Nominal Vs. Real Interest Rates	8
1.7	Constituents of Monetary System	9
1.8	Creation of Money by Commercial Banks	9
1.9	Review Questions	11
1.10	Probable Questions	13
<b>Module-2: Payment System</b>		
2.1	Concept	16
2.2	Evolution of the Payment System	16
2.2.1	Commodity Money	16
2.2.2	Paper Currency/Fiat Money	17
2.2.3	Checks	17
2.2.4	Electronic Fund Transfer Payment	17
2.2.4.1	Credit or Debit Card Payment	17
2.2.4.2	ACH Payment	18
2.2.4.3	eCheck	18
2.2.4.4	Wire Transfers	18
2.2.5	Mobile Payment	18
2.2.6	QR Code Payment (Contactless Payment)	18
2.3	Advantages and Disadvantages of Different Payment Methods	19
2.3.1	Cash	19
2.3.2	Checks	19
2.3.3	Debit, Credit and Prepaid Cards	20
2.3.4	Mobile Payments	20

2.3.5	Electronic Bank Transfers	21
2.3.6	Mobile Wallet	21
2.3.7	QR “Quick Response” Code	21
2.4	Evolution and Growth of Bangladesh Payment Systems	22
2.5	Review Questions	23
2.6	Probable Questions	24
<b>Module-3: Financial System</b>		
3.1	Concern of Finance	25
3.2	Different Forms of Finance	25
3.2.1	Rudimentary finance	25
3.2.2	Direct Finance	26
3.2.3	Indirect Finance	27
3.2.4	Gains to Lenders and Borrowers	28
3.2.5	The economic Basis of Financial Intermediation	29
3.3	Financial System and Its Constituents	30
3.3.1	Financial Instruments	30
3.3.2	Financial Intermediaries	31
3.3.3	Financial Markets	32
3.4	Functions Performed by Financial Systems	34
3.5	Financial Sector and Economic Development	36
3.6	Financial Development	37
3.6.1	Introduction	37
3.6.2	Meaning and Importance	38
3.6.3	Indicators of Financial Development	40
3.7	An Economic Analysis of Financial System	43
3.7.1	Introduction	43
3.7.2	How Transactions Costs Influence Financial System	44
3.7.3	Asymmetric Information: Adverse Selection and Moral Hazard	45
3.8	Financial System of Bangladesh	46
3.9	Financial System of Bangladesh and Legal Framework of Banking	48
3.10	Development Role of Finance: Development Banking, Microcredit and Microfinance, Inclusive Finance and Sustainable Finance.	49
3.10.1	Development Banking	49
3.10.2	Micro Credit and Micro Finance	50
3.10.3	Micro Finance Providers and Clients	51
3.10.4	Inclusive Finance	52

3.11	Review Questions	56
3.12	Probable Questions	61
<b>Module-4: Financial Institutions</b>		
4.1	Types of Financial Institutions	64
4.2	Theories Reflecting Functions of Banks (Banking Financial Institutions – BFIs):	64
4.3	Different Roles Banks Play in an Economy	67
4.4	Services of Banks	68
4.5	Multiple Deposit Creation by Banks	68
4.5.1	Deposit Creation: The Single Bank	69
4.5.2	Deposit Creation: The Banking System	70
4.6	Trends of Commercial Banking	73
4.7	Trends Reshaping Banking Today	77
4.8	Are Banks Dying?	79
4.9	Are Banks Special?	80
4.10	Fund Management in Financial Institutions	80
4.11	Banks in Bangladesh	86
4.12	Non-Banking Financial Institutions	86
4.12.1	NBFIs in Bangladesh	87
4.13	Review Questions	89
4.14	Probable Questions	91
<b>Module-5: Financial Markets</b>		
5.1	Introduction	93
5.2	Interest Rate Determination	93
5.3	The Money Markets	100
5.4	The Capital Market	105
5.4.1	Debt Part of Capital Market: Bond Market	106
5.4.2	Equity Part of Capital Market: Stock Market	112
5.5	International Financial Market	120
5.5.1	Fixed Exchange Rate System	123
5.5.2	Freely Floating Exchange Rate System	124
5.5.3	Managed Float Exchange Rate System	125
5.5.4	Pegged Exchange Rate System	125
5.6	Review Questions	127
5.7	Probable Questions	130
<b>Module-6: Islamic Financial System</b>		

6.1	Islamic Economics and Finance	133
6.2	Islamic Governing Principles (Shari'ah)	133
6.3	Relationship Between Finance and Religion (Islam)	135
6.4	Sources of <i>Shariah</i> Law	136
6.5	Principles of Islamic Financial System	137
6.6	Role of Money in Islam	138
6.7	Concept and Evolution of Islamic Banking	140
6.8	Distinguishing Features of Islamic Banking	142
6.8.1	Objectives of Islamic Banking	143
6.9	Principles of <i>Shariah</i> as Applied to Islamic Banking Products	144
6.10	Islamic Banking in Bangladesh	147
6.11	Review Questions	149
6.12	Probable Questions	153
<b>Module-7: Regulatory Framework for Financial and Monetary System</b>		
7.1	Concern of Financial Regulations	155
7.2	Need for Financial System Regulations	155
7.3	Types of Financial System Regulations	155
7.4	What is Central Bank?	156
7.5	History of Central Banks	157
7.6	Objectives of Central Bank	157
7.6.1	Price Stability	158
7.6.2	Full Employment	158
7.6.3	Financial Stability	158
7.6.4	Economic Growth	159
7.6.5	Exchange Rate Stability	159
7.7	Functions: Monetary Management, Banking Supervision and Developmental.	159
7.7.1	Monetary Management	159
7.7.2	Banking Supervision	163
7.7.3	Developmental Functions	163
7.7.4	Functions of Central Bank	164
7.8	Should the Central Bank Be Independent?	165
7.9	Regulators of the Financial System of Bangladesh	167
7.9.1	Central Bank	167
7.9.1.1	Core Policies of Central Bank	168

7.9.1.2	Monetary policy	168
7.9.1.3	Reserve Management Strategy	168
7.9.1.4	Interest Rate Policy	169
7.9.1.5	Capital Adequacy for Banks and FIs	169
7.9.1.6	Deposit Insurance	169
7.9.2	Regulator of Insurance Companies	170
7.9.3	Regulator of Capital Market Intermediaries	170
7.9.4	Regulator of Micro Finance Institutions	171
7.10	Review Questions	173
7.11	Probable Questions	175

# **MODULE - 1**

## **Money and Monetary System**

### **1.1 What is Money?**

Monetary System is centered around Money. Therefore, it is imperative to define, first of all, what is Money?

Money is anything that is generally acceptable as a means of payment in the settlement of all transactions, including debt. General acceptability as a means of payment or as a medium of exchange is the unique feature of money. What makes money is the belief held by everyone that it will be accepted as such by all others in the economy. General acceptability as the common means of payment is the sine qua non or the differentia of money.

### **1.2 Functions of Money**

The functions of money have been well summed up in a couplet:

Money is a matter of functions four:

A medium, a measure, a standard, a store.

#### **1.2.1 Money as a Medium of Exchange**

The primary and unique function of money is that of acting as a medium of exchange. A characteristic that will help separate money from other (near-money or non-money) assets. It is this function alone which can help identify money as money. All other attributes or functions of money are derived from this primary function. But they do not help distinguish money uniquely from other assets.

The use of money as a common medium of exchange has facilitated exchange greatly. Without money, exchange will involve a direct barter of goods and services for goods and services. There must occur a double coincidence of wants. This would involve tremendous waste of time and resources in search effort and in making bargains. The use of money as medium of exchange avoids much of this waste by economizing on the use of scarce real resources in carrying out exchanges. This is said to promote transactions efficiency in exchange. In addition, the use of money also promotes allocational efficiency by making it possible to exploit potential gains from specialization in trade and production and emergence of specialized markets (dealers)

in every type of goods and services. Without money, in certain spheres of economic activity, it will be difficult to organize exchange at all, and hence production.

### **1.2.2 Money as a Unit of Account**

Money customarily serves as a common unit of account or measure of value in terms of which the values of all goods and services are expressed. This makes possible meaningful accounting systems. It has been truly said that it has been possible for economics to grow as a science, because it analyses social behaviour concerned with the production, exchange, distribution and consumption of goods and services whose values can be measured in a common unit, money. Prices are only values per unit of goods and services expressed in terms of money. These prices, being expressed in a common unit, can be directly compared with each other and the ratio of exchange between any pair of goods easily computed. In the absence of money as a common denominator, the number of exchange ratios among goods will be several times larger than the number of money prices<sup>1</sup>.

### **1.2.3 Money as a Standard of Deferred Payment**

Money also serves as a standard or unit in terms of which deferred or future payments are stated. This applies to payments of interest, rents, salaries, pensions, insurance premia, etc. In a money-using system, the bulk of deferred payments are stipulated in money terms.

Large fluctuations in the value of money ( i. e., inflation or deflation of prices) make money not only a poor measure of value, but also a poor standard of deferred payment. This makes monetary management for the stable value of money socially very important.

### **1.2.4 Money as a Store of Value**

Money also serves as a store of value, i.e., members of the public can hold their wealth in the form of money. This function is derived from the use of money as medium of exchange in a two-fold manner. First, the use of money as a medium of exchange decomposed a single barter transaction into two separate transactions of purchase and sale. Under barter, purchase and sale are necessarily simultaneous

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<sup>1</sup> The number of exchange ratios under barter will be  $n(n - 1)/2$ , where  $n$  is the number of goods. With money, there will be only  $n$  money prices to contend with.

operations. The use of money necessarily separates the two transactions in time. This will require that the medium of exchange also serve as a store of value. There are other assets of all kinds which also serve as store of value and compete with money in this capacity. But money is unique as a store of value in that it alone is perfectly liquid. That is, it alone serves as a generally acceptable means of payment. The fluctuations in the value of money that affect its functions as a measure of value and as a standard of deferred payment also influence its role as a store of value.

### 1.3 Kinds of Money

Money has had several incarnations. In Bangladesh, money consists of coins, paper currency, and deposit money (cheques).

Coins are not full-bodied, but only token money, because the intrinsic (metallic) value of token coins is less than their face value.

Currency notes are merely pieces of paper that have no intrinsic value of their own. They are not convertible into anything of value at a fixed rate. The issuing authority does not stand ready to buy them back against gold or silver or full-bodied gold or silver coins of equal value at a pre-determined prices. Thus, all paper currency is inconvertible. The legend carried on the face of a currency note of (say) ten taka that 'I promise to pay the bearer the sum of ten taka' (signed by the Governor, BB) is a carry-over from the past when currency notes were convertible into full-bodied silver rupees. Now it simply means that note can be converted into other notes or token coins of equal value.

**Deposit money (cheques)** is not like coins or currency notes that can be passed on from hand to hand for a transfer of purchasing power. Deposits are only entries in the ledgers of banks to the credit of their holders. We are treating only demand deposits of banks on which cheques can be drawn as money. The cheques are an instrument through which these deposits can be transferred from the payer to the payee. Only when the ownership of these deposits has been so transferred is the medium-of-exchange or the means-of payment function of these deposits completed. The transfer is completed by debiting the amount of the cheque to the account of the drawer of the cheque and crediting it to the account of the drawee. This transfer is a simple affair if both the drawer and the drawee of the cheque are account holders in the same bank



(branch). It involves the use of a specially-organized clearing arrangement, when the drawer and the drawee belong to two different banks.

All the three components of present-day money have one feature in common. All of them are fiduciary (credit) money: money that circulates as money on the basis of the trust commanded by its issuers. This illustrates very well the truth of the statement that 'money is what the public believes to be money.' The essential property of money is that it should be generally acceptable as means of payment. The use of fiduciary money is highly economical: it releases precious metal embodied in coins under full-bodied metallic standards for non-monetary uses. All metallic standards were wasteful.

Another useful distinction is between (a) **legal tender or fiat money** and (b) **non-legal tender or credit money proper**. Coins and currency notes are **fiat money**. They serve as money on the fiat (order) of the government. Being legal tender means that, under the law of the land, the money in question must be accepted or cannot be refused in settlement of payments of all kinds. This is not true of demand deposits of banks, which are fiduciary money proper, as they are accepted as money on trust. They are not legal tender. A payee can legally refuse to accept payment in demand deposits (made through a cheque), and insist on payment in cash. This is because there is no guarantee that a cheque will be honoured at the issuer's bank.

Legal tender money may be **limited or unlimited legal tender**. Small coins are usually limited legal tender. That is, they are legal tender for payments upto only a certain maximum amount. Beyond this amount, for a single payment, they cease to be legal tender. Usually currency notes are unlimited legal tender.

## **1.4 Demand for Money**

John Mynard Keynes, in his theory of demand for money, which he called liquidity preference theory, asked the question, why do individuals hold money? He postulated that there are three motives behind the demand for money: i) the transaction motive, ii) the precautionary motive, and iii) the speculative motive.

### **Transactions Motive**

Individuals are assumed to hold money because it is a medium of exchange that can be used to carry out current everyday transactions. Keynes emphasized that this component of the demand for money is primarily determined by the level of people's transactions. The transactions component of the demand for money is proportional to income.

### **Precautionary Motive**

Besides holding money to carry out current transactions, people hold additional money as a cushion against unexpected needs. Precautionary money balances come in handy if you are hit with an unexpected bill, say for major car repair or hospitalization. Keynes believed that the amount of precautionary money balances people want to hold is determined primarily by the level of transactions they expect to make in the future and that these transactions are proportional to income. Therefore, he postulated that the demand for precautionary money balances is proportional to income.

### **Speculative Motive**

Keynes did not end his theory with the transaction and precautionary motives, rather he added that money can be used as a store of wealth and called this motive for holding money as the speculative motive. Keynes, however, looked carefully at the factors that influence the decisions regarding how much money to hold as a store of wealth. Unlike classical (Cambridge) economists, Keynes believed that interest rates have an important role to play here and he concluded that as interest rate rises, the speculative demand for money falls and vice versa.

### **Putting the Three Motives Together**

In putting the three motives for holding money balances together, Keynes considered real quantities. He reasoned people want to hold a certain amount of real money balances (the quantity of money in real terms) - an amount that these three motives indicated would be related to income ( $y$ ) and interest rate ( $i$ ). Keynes used the following demand for money equation or liquidity preference equation

$$M^d/P = f(i, Y)$$

- +

## 1.5 Measures of Money Supply

Money is something measurable. The total stock of moneys of various kinds at a particular point of time can be computed. A whole time series of money supply can be constructed. This will show the time behaviour of money supply.

We must note two things about any measure of money supply. First, that the supply of money refers to its stock at any point of time. Money is a stock variable in contrast with a flow variable. It is the change in the stock of money (say) per year which is a flow.

Second, the stock of money always refers to the stock of money held by the public. This is always smaller than the total stock of money in existence. The term public is defined to include all economic units (households, firms and institutions) except the producers of money (such as the government and the banking system). For the most common definition of money, the government means the govt. of Bangladesh and the banking system means the BB plus all banks which accept demand deposits. This means that the word public is inclusive of all local authorities, non-bank financial institutions, and non-departmental public-sector and even the foreign central banks and governments and the International Monetary Fund who hold a part of Bangladesh money in Bangladesh in the form of 'deposits with the BB. In other words, in the standard measures of money, money held by the government and the banking system is not included.

The primary reason for measuring the stock of money in this way is that this separates the producers or the suppliers of money from the holders or the demanders of it. For both monetary analysis and policy formulation, such a separation is essential.

A single measure of money supply defined as the sum of currency and demand deposits, both held by the public, we call it the narrow measure of money supply ( $M_1$ ). A 'broader' measure of money supply ( $M_2$ ) is defined empirically as money narrowly defined plus the time deposits of banks held by the public.

$$M_1 = \text{COB} + \text{DD}$$

$$M_2 = M_1 + \text{TD}$$

Where;

COB = Currency Outside Banks

DD = Demand Deposit of the Banking System

TD = Time Deposit of the Banking System

## Box – 1

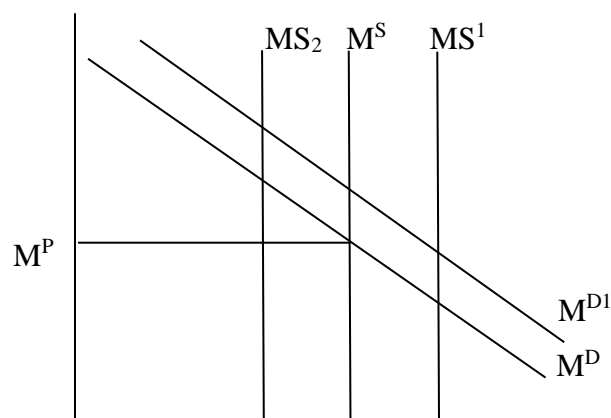
### Measure of Money Supply

Narrow Money (M <sub>1</sub> )	<u>Constituents</u>	Value in Taka Billion <u>as on 30.06.2021</u>
	Currency Outside Banks	2095.2
	+	
	<u>Demand Deposits</u>	<u>1655.1</u>
		3750.3
<u>Broad Money</u> (M <sub>2</sub> )	M <sub>1</sub> + <u>Time Deposits</u>	<u>11849.2</u> 15599.5

Source: Bangladesh Bank Annual Report, 2022 – 2021.

### Price of Money

Rate of interest is known as price of Money. In a market oriented banking system, price of money or rate of interest is determined by intersection between demand for money (M<sup>D</sup>) and supply of money (M<sup>S</sup>) as shown below graphically:



To understand changes in interest rate, we must understand what causes the demand and supply curves for money to shift. Two factors cause the demand for money to shift: income and price level. According to John Mayard Keynes, there are two reasons why income would affect the demand for money. First, as an economy expands and income rises, wealth increases and people will want to hold more money as a store of value.

Second, as the economy expands and income rises, people will want to carry out more transactions using money as a medium of exchange, with the result that they will also want to hold more money. On the other hand, when price level rises, the same nominal quantity of money is no longer as valuable, it cannot be used to purchase as many real goods or services. To restore their holding of money in real terms to the former level, people will want to hold a greater nominal quantity of money.

In regard to supply of money, it is completely controlled by the central bank. Unlike usual upward sloping supply curve, the money supply curve is vertical, as central banks are not motivated by nominal profit, rather they are motivated by national interest. Therefore, an increase (decrease) in the money supply engineered by the central bank will shift the supply curve for money to the right (left).

## 1.6 Nominal Vs. Real Interest Rates

When the interest rate makes no allowance for inflation and it is more precisely referred to as the **nominal interest rate**. It can be distinguished from the **real interest rate**, the interest rate that is adjusted by subtracting expected changes in the price level (inflation) so that it more accurately reflects the true cost of borrowing. This interest rate is more precisely referred to as the *ex ante real interest rate* because it is adjusted for expected changes in the price level. The *ex ante* real interest rate is most important to economic decisions, and typically it is what economists mean when they make reference to the “real” interest rate. The interest rate that is adjusted for *actual* changes in the price level is called the *ex post real* interest rate. It describes how well a lender has done in real terms *after the fact*.

The real interest rate is more accurately defined from the *Fisher equation*, named for Irving Fisher, one of the great monetary economists of the twentieth century. The Fisher equation states that the nominal interest rate  $i$  equals the real interest rate  $r$  plus the expected rate in inflation  $\tilde{\pi}^e$ .

$$i = r + \tilde{\pi}^e$$

Rearranging terms, we find that the real interest rate equals the nominal interest rate minus the expected inflation rate:

$$r = i - \tilde{\pi}^e$$

## 1.7 Constituents of Monetary System

Monetary system is the system which is concerned with issuance and circulation of money. With this process, central bank and banking financial institutions (BFIs) are involved. Central bank prints money (legal tender money or fiat money) and BFIs can create money (deposit) against which cheques (fiduciary money) can be drawn. Therefore, monetary system of a country is comprised of its Central Bank and Banking financial Institutions.

## 1.8 Creation of Money by Commercial Banks

All modern banks create money, and they create credit (the obligation to pay money in the future) as well. Exactly how does this occur?

When and how do banks create money? It happens in two ways. First, when a customer is granted a loan (credit), he or she will receive a bank's demand deposit (checking account). A bank's demand deposit is money and can readily be spend almost anywhere. Thus, in granting loans (creating credit), banks create money as well by setting up a spendable deposit in the name of the borrower.

Second, the entire system of banks also creates money as the deposits generated by lending flow from bank to bank. By law, each bank must set aside only a fractional reserve behind each deposit it receives and the remaining excess reserves can be loaned out. As customers spend the proceeds of their loans, these funds flow out to other banks, giving them deposits from which to create loans (credit) as well. *While no single bank can lend out more than its excess reserves, the entire banking system can create a multiple volume of deposit money through bank lending* (credit creation). If there were no leakages from the banking system (such as customers withdrawing cash from their checking accounts or unutilized reserves), an initial deposit of Tk.1 of new reserves in the banking system would result in:

$$\text{Amount of new money creation} = \frac{1}{RR} \times \text{Amount of new reserves}$$

where RR is the reserve requirement ratio (or percentage of cash banks themselves must keep in reserve) imposed either by the central bank or by bankers themselves. The term  $1/RR$  is often called the *Money multiplier*. If, for example, the reserve

requirement ratio is 10%, then each Taka of new reserves placed in the banking system would result in new money creation in the amount:

$$\frac{1}{0.10} \times \text{Tk.1} = 10 \times \text{Tk.1} = \text{Tk.10}$$

If leakages exits in the form of the public withdrawing cash (pocket money) from their checking accounts and placing some portion of their incoming funds in nonspendable savings instruments, then these leakages (L) from the banking system would reduce the money multiplier to  $1/(\text{RR} + \text{L})$ . If L has a value of 0.20 and RR is 0.10, then the amount of new money creation for each \$1 of new reserves placed in the banking system would be:

$$\frac{1}{0.10 + 0.20} \times \text{Tk.1} = 3.33 \times \text{Tk.1} = \text{Tk.3.33}$$

Given all the leakages from money flows that occur in the real world, most authorities believe that the real-world deposit multiplier the banking system can generate is probably somewhat less than 2. The banking system's capacity to create money is one reason banks are so closely regulated by government.

## 1.9 REVIEW QUESTIONS

### 1. True-False Questions

Circle whether the following statements are true (T) or false (F).

- T F 1. Since checks are accepted as payment for purchases of goods and services, economists consider checking account deposits as money.
- T F 2. Of its four functions, it is as a unit of account that distinguishes money from other assets.
- T F 3. Money is productive because it promotes economic efficiency by lowering transactions costs and thereby encouraging specialization.
- T F 4. Money is a unique store of value, since physical goods depreciate over time .
- T F 5. Money can be traded for other goods quickly and easily compared to all other assets.
- T F 6. Money proves to be good store of value during inflationary episodes, since the value of money is positively related to the price level.
- T F 7. Money is most liquid among all financial instrument.
- T F 8. Crypto currency is a legal tender money.
- T F 9. Not only debit card, credit card is also money.
- T F 10. The problem of defining money has become troublesome now in the past due to financial innovation.

2. Money has three primary functions: It is a medium of exchange, a store of value, and a unit of account. The statements below provide examples of these three functions. Indicate which of the three functions of money illustrated by each statement. Let M-medium of exchange, S-store of value, and U=unit of account.

- \_\_\_\_\_ 1. Raihan calculates that the opportunity cost of his time is Tk. 100 per house
- \_\_\_\_\_ 2. Any sort of transaction is valued by IMF in terms of SDR.
- \_\_\_\_\_ 3. The function of money that measures value of all goods and services.
- \_\_\_\_\_ 4. Mamun purchases tickets of the Black concert by writing a cheque.
- \_\_\_\_\_ 5. The prices of commodities traded are stated in terms of cigarettes.
- \_\_\_\_\_ 6. Sharmin purchases for Tk. 500 videotape she plans to give to her child for Eid.
- \_\_\_\_\_ 7. The role of money that would not be provided if bananas were to serve as money.



- \_\_\_\_\_ 8. Ahsan drops the change from his pocket into the leather bank on his study desk.
- \_\_\_\_\_ 9. This function of money is important if people are to specialize at what they do best.
- \_\_\_\_\_ 10. The traders at the shopping centres agreed to value their brinjals in terms of muttons.

### 3. Multiple Choice Questions

1. Which of the following identifies the unit-of-account function of money?
  - (a) Money is a convenient means of measurement.
  - (b) Money facilitates the exchange of goods and services.
  - (c) Money allows the postponement of consumption.
  - (d) Money provides its holder with perfect liquidity.
2. Which of the following financial assets is not included in the M1 definition of money?
  - (a) Currency in the vaults of Banks
  - (b) Demand deposits
  - (c) Money market mutual fund
  - (d) Both (a) and (c)
3. If cows serve as a medium of exchange, a unit of account, and a store of wealth, cows are said to function as
  - (a) bank deposits.
  - (b) reserves.
  - (c) money.
  - (d) loanable funds.
4. Which of the following is not included in the money aggregate M2?
  - (a) Currency outside Banks
  - (b) Demand Deposit of Banking System
  - (c) Time Deposit of Banking System
  - (d) None of the above.
5. Which one of the following is not a function of Money -
  - (a) A means of fund transfer
  - (b) A store of value
  - (c) A medium of exchange
  - (d) A unit of account
6. Which of the following is not included under M1?
  - (a) Time Deposit
  - (b) Euro Deposit
  - (c) Currency Kept in the vaults of Banks
  - (d) All of the above.

7. Which of the following demand for money is influenced by rate of interest?
  - (a) Transaction demand for money
  - (b) Precautionary demand for money
  - (c) Speculative demand for money
  - (d) None of the above.
8. Banking system creates money to the extent of -
  - (a) excess reserves of the banking system
  - (b) reciprocal times of excess reserve
  - (c) reciprocal times of required reserve
  - (d) instruction given by the central bank
9. The narrow definition of money consists of-
  - (a) Currency Outside Banks
  - (b) Demand Deposit
  - (c) Time Deposit
  - (d) Both (a) and (b)
10. Suppose, a bank has Tk. 1000 as deposit and if its reserve requirement is 20%, then the bank can create credit/money up to-
  - (a) Tk. 200
  - (b) Tk. 5000
  - (c) Tk. 800
  - (d) Tk. 1200
11. Which of the following is a legal tender money?
  - (a) Debit card
  - (b) Credit card
  - (c) Cheque
  - (d) None of the above.
12. Which of the following is not a constituent of monetary system:
  - (a) Banking Financial Institutions
  - (b) Non-Bank Financial Institution
  - (c) Central Bank
  - (d) Only (a) and (b)

#### **1.10 Probable Questions for Examination:**

1. Why is the unit-of-account function of money crucial to the operation of an economy?
2. Explain how money functions as a standard of deferred payments.
3. (a) Explain how money functions as a store of value. (b) Is money the only store of value? (c) What is the difference between money as a store of value and the other assets (d) Are long-term bonds a store of value?
4. (a) Rank the following financial assets in terms of their liquidity: coins and paper currency, common stock, demand deposits, long-term government bonds, long-term corporate bonds, saving deposits at deposit institutions, Treasury bills. (b) Explain your ranking.

5. What effect does inflation have on the use of money as a unit of account, a medium of exchange, a standard for deferred payment, and a store of value?
6. Most of the time it is quite difficult to separate the functions of money. Money performs its functions at all times, but sometimes we can stress one in particular. For each of the following situations, identify which function of money is emphasized.
  - a. Tabinda accepts money in exchange for performing her daily tasks at her office, since she knows she can use that money to buy goods and services.
  - b. Tashfi wants to calculate the relative value of oranges and apples, and therefore checks the price of each of these goods quoted in currency units.
  - c. Tonmoy is currently married, He expects his expenditures to increase in the future and decides to increase the balance in his savings (fixed deposits) account.
7. Which of the Central Bank measures of the monetary aggregates – M1 or M2 – is composed of the most liquid assets? Which is the larger measure?
8. For each of the following assets, indicate which of the monetary aggregates (M1 and M2) includes them:
  - a. Currency outside Banks
  - b. Demand Deposits
  - c. Time deposits
  - d. Checkable deposits
9. Why general people will have demand for money? Which sort of demand for money is influenced by income and which by rate of interest?
10. We must note two things about any measure of money supply. State those two things.
11. What constitutes non-legal tender money and why are they called so?
12. What is a monetary standard?  
A monetary standard is the accepted laws, practices and customs that define money in an economy. That is, a monetary standard is what a country decides to use as money. It could be paper currency, gold, bricks, cows, or anything else accepted as medium of exchange.
13. Why demand deposits are included in the M<sub>1</sub> definition of money?
14. What do you mean by Supply of Money? How do you classify them? Why inter bank deposit is not included in the definition of money supply?
15. How banks can create money? To what extent a single bank can create money? A banking system as a whole?
16. How do you differentiate between Real and Nominal interest rate?

17. How to you define monetary system? What are the constituents of monetary system? How come it is different from financial system?
18. What are near monies?  
Near monies are financial assets which cannot be used as a medium of exchange but are close substitute for money; such financial assets are easily transferred to money with little or no loss of original nominal values near money includes assets such as fixed deposits, time deposits, long-term government bonds etc.
19. Use the information of the following table to calculate  $M_1$  and  $M_2$  money supply for each year and also its growth rates.

	<u>Year</u> (Taka in crore)		
	<u>2019-2020</u>	<u>2020-2021</u>	<u>2021-2022</u>
Currency in Circulation	208094.1	226888.3	256182.3
Money in Vaults of DMBs	15979.6	17370.6	19733.8
Time Deposits of DMBs	1045471.1	1185066.6	1282217.5
Demand Deposits of DMBs	135528.4	165724.5	188859.4

20. If Narrow Money is 25% of Broad Money, which was around Tk. 440,528 crore as on June, 2011, then what was the amount of time deposits as on the same date? If demand deposit was almost 50% of  $M_1$ , then what was the amount of currency outside banks.
21. How do Banks create money? To what extent a single bank can create money? A banking system as a whole?

## **MODULE - 2**

### **Payment System**

#### **2.1 Concept:**

The payment system is the set of institutional arrangements through which purchasing power is transferred from one transactor in exchange to another. This “exchange” is very necessary for achieving specialization in production (See A.2.1). Again, for efficient exchange, a common medium of exchange or means of payment is required. Such common medium of exchange is what we call money. Thus the payment system (like monetary system) is also organized around the use of money. An efficient organization of monetary system is the sine qua non of an efficient payment system. An efficient payment system should permit all kinds of payment (small, large, local, out of the town, foreign etc.) to be made with utmost speed, safely and less cost.

#### **2.2 Evolution of the Payment System:**

The payment system has been evolving over centuries and with it the form of money. At one point, precious metals such as gold were used as the principal means of payment and were the main form of money. Later, paper assets such as checks and currency began to be used in the payment system and viewed as money. Where the payments system is heading has an important bearing on how money will be defined in the future.

##### **2.2.1 Commodity Money**

For any object to function as money, it must be universally acceptable; everyone must be willing to take it in payment for goods and services. An object that clearly has value to everyone is a likely candidate to serve as money and a natural choice is a precious metal such as gold or silver. Money made up of precious metals or another valuable commodity is called **commodity money** and from ancient times until several hundred years ago, commodity money functioned as the medium of exchange in most of the primitive societies. The problem with a payments system based exclusively on precious metals is that such a form of money is very heavy and is hard to transport from one place to another.

### **2.2.2 Paper Currency/Fiat Money**

The next development in the payments system was **paper currency** (pieces of paper that function as a medium of exchange). Initially, paper currency carried a guarantee that it was convertible into coins or into a fixed quantity of precious metal. However, currency has evolved into **fiat money**, paper currency decreed by governments as legal tender (meaning that legally it must be accepted as payment for debts) but not convertible into coins or precious metal. Paper currency has the advantage of being much lighter than coins or precious metal.

### **2.2.3 Checks**

A **check** is an instruction from account holder to her bank to transfer money from her account to someone else's account when she deposits the check. Checks allow transactions to take place without the need to carry around large amounts of currency. The introduction of checks was a major innovation that improved the efficiency of the payments system. The use of checks reduces the transportation costs associated with the payment system. Another advantage of checks is that they can be written for any amount up to the balance in the account, making transactions for large amounts much easier. Checks are also advantageous in that loss from theft is greatly reduced and because they provide convenient receipts for purchases.

### **2.2.4 Electronic Fund Transfer Payment**

An EFT is an electronic transfer of money from one bank account to another, meaning there is no need for direct intervention by staff. EFT payments can be carried out between any two accounts, whether they are based on the same financial institutions or not. It is important to understand that the term EFT payment does not refer to a single type of payment rather refers to different electronic payment. Here are some of the most common types EFT payments.

#### **2.2.4.1 Credit or Debit Card Payment**

A credit or debit card payment is a type of EFT payment for consumers when paying businesses for goods or services, through a device or a mobile card reader. They can also be used to move money from business bank accounts or to pay bills.

#### **2.2.4.2 ACH Payment**

Automated Clearing House (ACH) payments are payments processed through the Automated Clearing House via the ACH network and not through traditional card networks.

#### **2.2.4.3 eCheck**

An electronic alternative to paper checks, eChecks work in similar to a paper check but allow businesses and consumers the ability to use these payments in an increasingly digital world. All you need is the routing number and bank account number, and an eCheck transfer can be made.

#### **2.2.4.4 Wire Transfers**

Wire transfers are typically used when transferring large sums of money from one financial institution account to another. This type of payment is often used for consumers or businesses making a big purchase, such as a new property or new equipment.

#### **2.2.5 Mobile Payment**

A mobile payments (also referred to as mobile money, mobile money transfer or mobile wallet) is a money payment made for a product or service through a portable electronic device such as Tablet or Cell Phone. Instead of paying bills with cash, cheque or credit cards, a consumer can use a payment app on a mobile device to pay for a wide range of service, digital or hard.

#### **2.2.6 QR Code Payment (Contactless Payment)**

QR is the abbreviation for quick response. It is essentially a two dimensioned barcode that contains information such as contact details, website link or payment information (on both the merchant and payment provider). This type of payment functions like a normal POS terminal. A customer can use her/his phone to scan the QR code and completes the payment on the spot. Every modern smartphone has a camera that recognizes QR codes. Once the camera detects the QR code, a push notification comes up taking them to a screen where they input their payment details and complete the purchases.

## 2.3 Advantages and Disadvantages of Different Payment Methods:

No matter which payment types(s) you offer, there will be advantages and disadvantages to each. Here are some of the pros and cons of the main payment types.

### 2.3.1 Cash

#### Advantages

One of the most common and easiest forms of payment.

Many customers will expect you to accept cash

You won't have to pay any fees to accept cash.

#### Disadvantages

Customers might not want to make large purchases with cash

Storing cash at your place of business or home or transporting it to the bank can be dangerous.

Ensuring your register is stocked with bills to make change can tie up money you could use for other business purposes.

Counting money at the end of each day is time-consuming.

### 2.3.2 Checks

May lead customers to make more frequent or target purchases

Allows customers to safely make large purchases

You won't have to keep as much cash in your store

You won't have to pay and fees to accept checks.

After depositing a check, you'll need to wait for the bank to process the check and put the money in your account.

There's risk that someone will try to pay with a fake check, or that a check will "bounce" if the customer doesn't have enough money and you won't receive the payment.



### 2.3.3 Debit, Credit and Prepaid Cards

#### Advantages

May lead customers to make more frequent or target purchases

Allows customers to safely make large purchases

Can be quicker and more convenient for customers at checkout than cash or checks

You won't have to keep as much cash in your store.

You don't have to worry about bad checks or fake cash.

Allows foreign travelers to more easily make purchases.

#### Disadvantages

You'll have to wait for the transaction to process before getting money in your account. This usually takes between one and three days.

You may have to pay transaction fees, a small percentage of the transaction. Debit cards generally have lower fees.

You will need to purchase or rent a device to accept payment (called a point-of-sale device).

You may be responsible if a customer uses a fake or stolen card to make a purchase.

If a customer disputes a charge (i.e., initiates a "chargeback"), the transaction may be reversed and you won't receive a payment.

### 2.3.4 Mobile Payments

May lead customers to make more frequent or larger purchases.

Allows customers to safely make large purchases.

Can be quicker and more convenient than accepting cash or checks.

You won't have to keep as much cash in your store

You don't have to worry about bad checks or fake cash.

Mobile payments may be more reliable than card-based transactions in some areas.

If you sell items at markets, conferences or trade shows, you can bring you mobile payment system with you.

Allows foreign travelers to more easily make purchases.

You'll have to wait for the transaction to process before getting money in your account. This usually takes between one and three days.

You may have to pay transaction fees, which is usually a small percentage of the transaction.

You will need to purchases or rent a device to accept payment (called a point-of-sale device).

You may be responsible if a customer uses a fake or stolen payment information to make a purchase.

If a customer disputes a charge (i.e., initiates a "chargeback"), the transaction may be reversed and you won't receive a payment.

### 2.3.5 Electronic Bank Transfers

#### Advantages

Allow you to receive large payments without paying fees.

Allows customers to safely make large purchases.

Can be quicker and more convenient than accepting cash or checks.

You won't to keep as much cash in your store.

You don't have to worry about bad checks or fake cash.

Could be a good option if you sell products or services to other business.

#### Disadvantages

Non-business customers might not feel comfortable transferring money directly from their bank account to your business.

You'll have to wait for the transaction to process before getting money in your account.

You may need to set up this type of transaction with your bank and the customers bank, which isn't always easy.

### 2.3.6 Mobile Wallet

Mobile wallet payments allow customers to pay without using a physical card.

Requires you to rent or own a device to process the "tap" to complete the transaction.

Often more secure to customers than using a physical card as the data is encrypted and cannot be seen.

All smartphones are now equipped with a mobile wallet.

Quick efficient checkout process can encourage customers to make more frequent purchases.

### 2.3.7 QR "Quick Response" Code

Contactless payment option for customers who want a hands off experience

Requires a strong Wi-Fi connection.

Enable in all smartphones and does not require a specific app for customers to access.

May require customers to input credit or debit card information more than once since information is not automatically stored.

Does not require a POS or payment terminal to complete transactions

## **2.4 Evolution and Growth of Bangladesh Payment Systems:**

Owing to its intrinsic convenience, cash is the most dominant and popular form of medium of transaction in Bangladesh. The domestic cheque system is the second most important medium for national payments. The volume and value of cheques have grown steadily over the years. Apart from non-cash payments like cheques and drafts etc. card-based payments which include credit-card, debit card, ATM transactions, POS etc. are gaining popularity. Prior to 2010, payment and settlement system in Bangladesh was not at par with the international best practices. Most of the payment products were traditional and the numbers of modern technology driven products were not widespread. In order to enhance the efficiency of payment and transaction system and also to raise it at par international standard, Bangladesh Bank has taken several initiatives since 2010.

Bangladesh Bank has started automated clearing system known as BACH (Bangladesh Automated Clearing House) from October, 2010. BACH has two components: Automated Cheque Processing System (ACPS) and Electronic Fund Transfer (EFT). For the smooth operation of ACPS and EFT, a state – of – the art Data Centre (DC) and a Disaster Recovery Site (DRS) have been established. Mobile financial services (MFS) is another electronic platform, where mobile operators network have been used as delivery channels for extending financial services to the unbanked (also banked) population. BB Annual Report 2014-15 states that by this time BB has permitted 28 banks for MFS and the registered customers for MFS are around 29 million. Also, as a part of financial inclusion and offering limited banking services to both rural and urban unbanked people, BB has also initiated Agent Banking. In the meantime, BB has issued directives for the banks for starting E-commerce activities. In addition, new end-user centric and real time payment systems such as National Payment Switch (NPS) and Real Time Gross Settlement (RTGS) have been introduced.

## 2.5 Review Questions

1. What is E-payment?
  - a) Electronic Payment for buying and selling through the internet
  - b) Payment for online software
  - c) Payment for line services
  - d) None of the above
2. A \_\_\_\_\_ is a credit or debit card swipe system that connects to a smart phone but operates under all established financial regulations.
  - a) Credit Card Terminal
  - b) On-line Payment
  - c) Mobile Payment System
  - d) Point of Sale System
3. What do electronic payment systems replace?
  - a) Cash and Checks
  - b) Cash and debit card transactions
  - c) Letters and checks
  - d) Cash and Money Orders
4. Which one of the following is a sine-qua-non for an efficient payment system:
  - a) Efficient financial system
  - b) Efficient credit system
  - c) Efficient fund transfer system
  - d) Efficient monetary system
5. Which one of the following was not a characteristics of Commodity Money:
  - a) It was made up of precious metals
  - b) It was universally acceptable
  - c) It functioned as Medium of Exchange in most of the primitive societies
  - d) It was very easy to carry/transport
6. Which one of the following is not correct?
  - a) Checks allow transactions to take place without the need to carry large amount of currency
  - b) Checks reduces loss from theft
  - c) Checks are fiat/legal tender money
  - d) Checks can be written for any amount up to the account balance
7. Which of the following is not true for EFT payment
  - a) EFT is an electronic transfer of money
  - b) EFT payments can be made between any two accounts
  - c) EFT payment refers to a single type of payment
  - d) EFT payment is done between accounts of same or different financial institutions

8. Which one is the most dominant form of medium of transaction in Bangladesh?
  - a) Cheque
  - b) Mobile payment
  - c) Credit card
  - d) None of the above
9. QR Code Payment:
  - a) is a contactless payment
  - b) is a two-dimensioned barcode
  - c) functions like a normal POS terminal
  - d) All of the above is true
10. Which of the following does not allow a customer to safely make large purchase?
  - a) Check
  - b) Credit card
  - c) Cash
  - d) EFT

## **2.6 Probable Questions**

1. How come payment system is different from Financial system and Monetary System?
2. Describe the evolution of payment system.
3. Describe different components of EFT payment.
4. State the advantages and disadvantages of card payment systems.
5. State the advantages and disadvantages of Mobile Payment System.
6. Write Short Notes on:  
BACH, RTGS, NPS, POS

## **MODULE - 3**

### **Financial System**

#### **3.1 Concern of Finance:**

The concern of finance is to facilitate the provision of fund from one economic unit to another economic unit. The first economic unit which provides the fund must have some surplus fund. That's why the first unit is known as surplus economic unit (SEU) – the economic unit for which income is higher than expenditure ( $I > E$ ). The second unit which is asking for the fund or which receives the fund must be a deficit economic unit (DEU) – the economic unit for which income is lower than expenditure ( $I < E$ ). Ultimately, the concern of finance is to provide fund from SEU to DEU or, the finance is concerned with mobilization of fund from SEU and then providing the fund to DEU. The SEUs and DEUs are “generic” terminologies and they have got different names in different markets. For example in banking, SEUs and DEU are depositors and borrowers/Loanees respectively. But in Security markets, the SEUs are known as investors and DEUs are issuing companies/issuers. From insurance market point of view, the SEUs are policy holders, because a policy can be purchased by those who have surplus funds.

#### **3.2 Different Forms of Finance:**

How do the financial markets perform the function of efficient allocation of funds from the saving-surplus to the saving-deficit units? These can be illustrated with reference to the following three situations: (a) Rudimentary finance (b) Direct finance, and (c) Indirect finance.

##### **3.2.1 Rudimentary Finance**

*Rudimentary finance* refers to the financial system in a rudimentary or traditional economy, that is an economy in which the per capita output is low and declining over a period of time. In the rudimentary financial milieu the basic feature is the absence of an array of financial assets that would stimulate savings and the array of financial markets that would allocate savings competitively to investments. In such a system there are no financial assets other than money. No unit could invest more than its savings because there would be no financial asset in which to put the excess savings. Each spending unit would, therefore, be forced into a balanced budget position with

savings equalling investments. This sort of arrangement would very likely lead to a relatively low level of investments and savings and, hence, to a relatively low growth rate of output.

For an improvement in the situation arising out of the rudimentary finance the financial system must bring the two groups, namely, savers and investors, together and reconcile their conflicting objectives. Two types of basic financial techniques/marketing have been gradually developed. The first of the two basic techniques developed for bringing borrowers and lenders together is direct in the sense that there are no intermediary financial institutions such as banks, unit trusts and investment companies etc. to link them. The second type of financial marketing, as a technique to link the savers and entrepreneurs, involves various financial intermediaries. The former type of arrangement is referred to as **Direct finance** while the second type is designated as **Indirect finance**.

### **3.2.2 Direct Finance**

Direct finance represents an improvement over rudimentary finance in that the obstacles to efficient capital formation in the latter are eliminated in the former. The term 'direct' as applied to the financial organization signifies that collection of savings effected directly from the saving-surplus units without the intermediation of financial institutions like banks, investment companies, insurance companies, unit trusts and so on. The ability of the financial markets to mobilize more savings is improved, under direct finance, through the introduction of three innovations.

The first element in the growth of financial technology under direct finance is the introduction of financial assets/instruments, other than money. Many of the problems cited in rudimentary finance are eliminated consequent upon the introduction of this financial innovation.

The second element of direct finance, namely, brokers aim at bringing ultimate lenders and borrowers together in an efficient manner for improving the flow of savings from savers to users of funds.

Another innovation, as the third element in direct finance, has the objective of serving the needs of the surplus units and, to that extent, enhance the efficiency of the flow of savings. This has a reference to the development of the secondary markets/stock

exchanges where existing securities can be regularly and continuously purchased and sold.

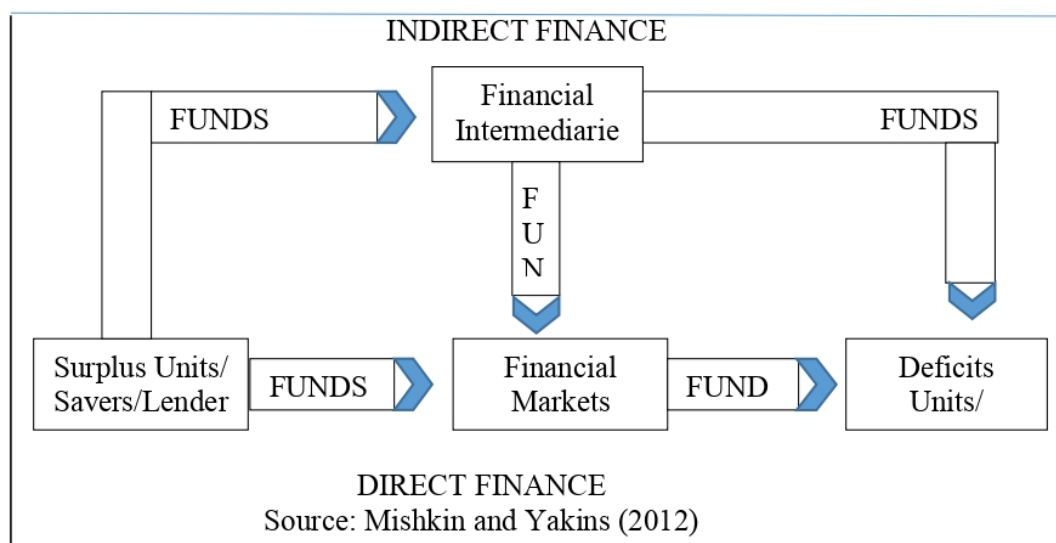
There is, however, a serious constraint on the efficiency of capital formation because collection of savings in direct finance is largely confined to the relatively richer/wealthier sections of the savings populace of the country. Investment of funds by an investor in fulfillment of his investment objectives requires careful selection of securities, a diversification of risk and continuous supervision of the portfolio to keep abreast of changing economic and financial conditions. The relatively smaller investors would find it almost impossible to cope with these requirements of investment management. The implication is that in the absence of intermediary institutions only the investors with relatively larger savings can participate in industrial investment while the relatively small investors would be debarred. If more efficient capital formation is to take place in the sense of the mobilization of savings from as large a section of the investing public as possible, there is a need for intermediary financial institutions which will take care of the problems of investment management of the small investors and thereby contribute to the evolution of a vibrant financial organization on the one hand and speed up economic growth on the other.

### **3.2.3 Indirect Finance**

The second type of financial marketing/technique in the mobilization of saving is 'Indirect finance'. The term indirect finance refers to the flow of saving from savers to the entrepreneurs through intermediary financial institutions like banks, investment companies, unit trusts and insurance companies and so on. Their outstanding feature is that they issue to savers claims whose characteristics may be quite different from those that these institutions buy and hold. In other words, financial intermediaries come, in the saving investment process, between the ultimate borrowers and ultimate lenders.



The gains to ultimate lender and borrower in case of Indirect finance is discussed below.



### 3.2.4 Gains to Lenders and Borrowers

Talking generally, why do surplus units prefer to lend to FIs rather than directly to deficit spenders? In other words, why do they **prefer secondary securities to primary securities**? The main advantages to ultimate lenders are summed up below.

- (1) **Low risk.** Lenders are interested in minimizing all kinds of risk of capital and interest loss on loans or financial investments they make. These risks may arise in the form of risk of default or risk of capital loss on stock-market assets. Such risks on secondary securities are far less than on primary securities for individual lenders. How FIs are able to reduce such risks even though they themselves hold primary securities will be explained later. Besides, government regulation of the organization and working of major FIs helps in reducing risks of their creditors. Any strengthening of the financial system that goes to inspire public confidence in it reduces further any psychological risk suffered by lenders.
- (2) **Greater Liquidity.** FIs offer much greater liquidity on their secondary securities to their lenders. Demand deposits of banks are perfectly liquid. Even time deposits to be drawn upon subject to certain conditions. Primary securities do

not carry any of these features, because primary borrowers need funds for agreed periods to finance their expenditures.

- (3) **Convenience.** Secondary securities sold by FIs are easy to buy, hold, and sell. The information cost and transaction cost involved are very low.
- (4) **Other Services.** In addition, they transfer funds, collect cheques for their clients, offer safe-deposit vaults, and most important of all, are the dominant lenders.

**Borrowers also have a preference for FIs due to the following reasons:**

1. FIs have big pools of funds, so that big individual demands for funds can be satisfied only by the FIs:
2. There is much greater certainty of the availability of funds with the FIs at all times.
3. The rate of interest charged by the FIs is generally lower than that charged by other lenders: and
4. Regulated FIs do not fleece small borrowers in the manner moneylenders do.

**3.2.5 The economic Basis of Financial Intermediation**

The question arises how are the FIs able to offer better financial facilities both to the lenders and borrowers? What is the economic basis of their success or of the financial alchemy whereby they purchase and held primary securities, which are much riskier and far less liquid than the secondary securities they sell as their liabilities to the general public and yet earn handsome profits on their activities?

**The true economic basis of financial intermediation lies in the economies of scale in portfolio management and in the law of large numbers.**

1. **Law of large number.** Bank, insurance companies, unit trusts, and all other FIs operate on the assumption, sported by statistical law of large numbers, that not all the creditors will put forward their claims for cash at the same time. Add to this the fact that if some creditors are withdrawing cash, some others (whether old or new) are paying in cash. Besides, FIs receive regularly interest payments on loans and investments made and repayments of loans due. Fortified by this knowledge, banks and other FIs keep in cash only a small fraction of their demand liabilities and invest or lend the rest.

2. ***Economics of Scale in Portfolio Management.*** The average size of the asset portfolios of banks, insurance companies and other organized-sector FIs is quite large in value. So, these FIs can reap several economies of scale in portfolio management, which improve significantly their net rates of return from their asset holdings. These economies accrue in the following main forms:

(a) **Reduction of Risk through Portfolio Diversification.**

(b) **Professional Management.**

(c) **Indivisibilities and market imperfections.**

(d) **Other cost economics.**

### 3.3 Financial System and Its Constituents:

#### What is a Financial System?

**The financial system is a set of institutional arrangements through which financial surpluses (or commands over real resources) in the economy are mobilised from surplus units and transferred to deficit spenders.** The institutional arrangements include all conditions and mechanisms governing the production, distribution, exchange, and holding of financial assets or instruments of all kinds and the organization as well as the manner of operation of financial markets and institutions of all descriptions. **In concrete terms, financial assets, financial markets, and financial institutions are the three main constituents of any financial system.**

#### 3.3.1 Financial Instruments

Financial instruments or assets are evidences of financial claims of one party against another party. More specifically, these are the financial claims of holders against issuers. Financial assets or claims are generally subdivided under the two heads of primary (or direct) securities and secondary (or indirect) securities. The former are financial claims against real-sector units. The examples are bills, bonds, equities, bank deposits, etc. They are created by real-sector units as ultimate borrowers for raising funds to finance their deficit spending. The secondary securities are financial claims issued by financial institutions or intermediaries against themselves to raise funds from the public. The examples are such diverse financial assets as the currency, bank deposits, life insurance policies, ICB units, and mutual funds, etc.

The financial instruments can also be grouped on the basis of their maturity period: Money Market Instruments and Capital Market Instruments.

The principal money market instruments (debt instruments with maturities of less than one year) are treasury bills, negotiable bank certificates of deposit, commercial paper, bankers' acceptances, repurchase agreements, federal funds (USA), and Euro Currency. The principal capital market instruments (debt and equity instruments with maturities greater than one year) are stocks, mortgages, corporate bonds, government securities, government agency securities, state and local government bonds, and consumer and commercial loans.

### **3.3.2 Financial Intermediaries**

In a modern economy a wide variety of financial institutions, more popularly called financial intermediaries (FIs) have grown.

FIs are generally classified under two main heads: (a) banks and (b) non-banks financial intermediaries (NBFIs).

Financial Intermediaries (FIs) are institutions or firms that mediate or stand between ultimate lenders and ultimate borrowers or between those with budget surpluses and those who wish to run budget deficits. The examples are banks, insurance companies, unit trusts (or mutual funds), investment companies, provident funds, etc. The central function of all FIs is to collect surpluses (savings) of other economic units and to lend them on to deficit spenders. Both the surplus units and the deficit spenders belong to the real sector of the economy. Their principal economic activity is to buy and sell productive factors and current output, whereas the principal economic activity of financial institutions is the purchase and sale of financial assets.

The FIs are dealers in securities. What they buy are primary securities, what they sell are secondary securities. By absorbing primary securities in their asset portfolios and producing secondary securities to finance them, they virtually transmute primary securities into secondary securities. The essence and the success of financial intermediation lie in this asset transformation.

In terms of asset structure, there is no difference between BFIs and NBFs. However, in regard to liabilities, there is a difference. One can easily observe that the liabilities of BFIs (demand deposits) are money, whereas the liabilities of NBFIs are not money. That's why, deposits of BFIs are chequable, whereas deposits of NBFIs are not chequable.

All so-called commercial and specialized banks of Bangladesh are clubbed under BFIs. The investment/merchant banks, leasing companies, finance companies, house finance companies, insurance companies etc. are clubbed as NBFIs.

### **3.3.3 Financial Markets**

**Financial Markets** are the markets where the financial instruments are traded, bought and sold. The financial markets may be viewed as channels through which moves a vast flow of funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds.

#### **The Money Market versus the Capital Market**

One of the most important divisions in the financial system is between the money market and the capital market.

The **money market** is designed for the making of short-term loans. It is the institution through which individuals and institutions with *temporary* surpluses of funds meet the needs of borrowers who have *temporary* funds shortages. Thus, the money market enables economic units to manage their liquidity positions. By convention, a security or loan maturing within one year or less is considered to be a money market instrument.

In contrast, the **capital market** is designed to finance long-term investments by businesses, governments, and households. Financial instruments in the capital market have original maturities of *more than one year* and range in size from small loans to multimillion dollar credits.

#### **Security Versus Non-Security Markets**

The **Security markets** are financial markets where financial instruments (both short and long-term) which are to be traded are security papers, whereas in the non-security

markets, the financial instruments are not security papers, these might be cash or non-cash (leasing).

### **Open versus Negotiated Markets**

Some corporate bonds are sold in the **open market** to the highest bidder and sold any number of times before they mature and are paid off. In contrast, in the **negotiated market** for corporate bonds, securities generally are sold to one or a few buyers under private contract. Banking market may also be identified as Negotiated financial market.

An individual who goes to his or her local banker to secure a loan for a new car enters the negotiated market for auto loans.

### **Primary versus Secondary Markets**

The financial markets (specially security markets) may also be divided into **primary markets and secondary markets**. The primary market is for the trading of new securities never before issued. Its principal function is raising financial capital to support new investment in buildings, equipment, and inventories.

In contrast, the secondary market deals in securities previously issued. Its chief function is to provide liquidity to security investors — that is, provide an avenue for converting financial instruments into ready cash.

### **Spot versus Futures, Forward, and Option Markets**

A **spot market** is one in which securities or financial services are traded for immediate delivery (usually within one or two business days). If you pick up the telephone and instruct your broker to purchase Telecom Corporation shares at today's price, this is a spot market transaction.

A **futures or forward market**, on the other hand, is designed to trade contracts calling for *the future delivery* of financial instruments. The purpose of such a contract would be to reduce risk by agreeing on a price today rather than waiting six months, when bond prices might have risen.

**Options markets** also offer investors an opportunity to reduce risk. These markets on investor the right to either buy from or sell designated securities to the writer of the option at a guaranteed price at any time during the life of the contract.

### **Perfect and Efficient Markets**

A **perfect market** is one in which the cost of carrying out transactions is zero or nearly so and all market participants are *price takers* (rather than being able to dictate prices to the market). In such a market, there are no significant government restrictions on trading and the movement of funds; rather, competition among buyers and sellers sets the terms of trade.

A market in which prices of financial instruments accurately reflect their inherent value and fully reflect all available information is an **efficient market**. In an efficient market, no buyer or seller can expect to reap excess profits from collecting information and then trading on the basis of that information.

### **3.4. Functions Performed by Financial Systems:**

The financial system in a modern economy has seven basic functions

#### **Box – 3**

#### **Functions of Financial System**

<p><b>Savings function</b> Providing a potentially profitable, low-risk outlet for the public's savings</p> <p><b>Liquidity function</b> Providing a means of converting securities and other financial assets into cash balances</p> <p><b>Payments function</b> Providing a mechanism for making payments to purchase goods and services</p> <p><b>Policy function</b> Providing a channel for government policy to achieve high employment, low inflation, and sustainable economic growth</p>	<p><b>Wealth function</b> Providing a means to store purchasing power for future spending.</p> <p><b>Credit function</b> Providing a supply of credit to support both consumption and investment spending</p> <p><b>Risk function</b> Providing a means to protect business and consumers against various risks.</p>
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### **Saving Function**

The system of financial markets and institutions provides a conduit for the public's savings. Bonds, stocks, and other financial claims sold in the money and capital

markets provide a profitable, relatively low-risk outlet for the public's savings, which flow through the financial markets into investment.

### **Wealth Function**

The financial instruments sold in the money and capital markets provide an excellent way to store wealth (i. e., preserve the value of assets) until funds are needed for spending. One may choose to store his wealth in "things" (e.g., automobiles), such items are subject to depreciation and often carry great risk of loss. However, bonds, stocks, and other financial instruments do not wear out over time and usually generate income: moreover, their risk of loss often is much less than for other forms of stored wealth.

### **Liquidity Function**

For wealth stored in financial instruments, the financial marketplace provides a means of converting those instruments into cash with little risk of loss. Thus, the financial markets provide liquidity for savers who hold financial instruments but are in need of money. However, money generally earns the lowest rate of return of all assets traded in the financial system, and its purchasing power is seriously eroded by inflation. That is why, savers generally minimize their holdings of money and hold other financial instruments until they really need spendable funds.

### **Credit Function**

The financial markets furnish credit to finance consumption and investment spending. Credit consists of a loan of funds in return for a promise of future payment. Consumers need credit to purchase a home, buy groceries, repair the family automobile, and retire outstanding debts. Businesses draw on their lines of credit to stock in their shelves, construct new buildings, meet payrolls, and grant dividends to their stockholders.

### **Payments Function**

The financial system also provides a mechanism for making payments for goods and services. Certain financial assets, mainly checking accounts and negotiable order of withdrawal (NOW) accounts, serve as a medium of exchange in making payments. Plastic credit cards issued by banks and credit unions give the customers instant



access to short-term credit but are also widely accepted as a convenient means of payment.

### **Risk Function**

The financial markets offer business, consumers, and governments, protection against life, health, property and income risks. This is accomplished, by the sale of insurance policies. In addition to making possible the sale of insurance policies. In addition, the money and capital markets have been used by businesses and consumers to “self-insure” against risk.

### **Policy Function**

Finally, in recent decades, the financial markets have been the principal channel through which government has carried out its policy of attempting to stabilize the economy and avoid inflation. By manipulating interest rates and the availability of credit, government can affect the borrowing and spending plans of the public, which, in turn influence the growth of jobs, production and prices.

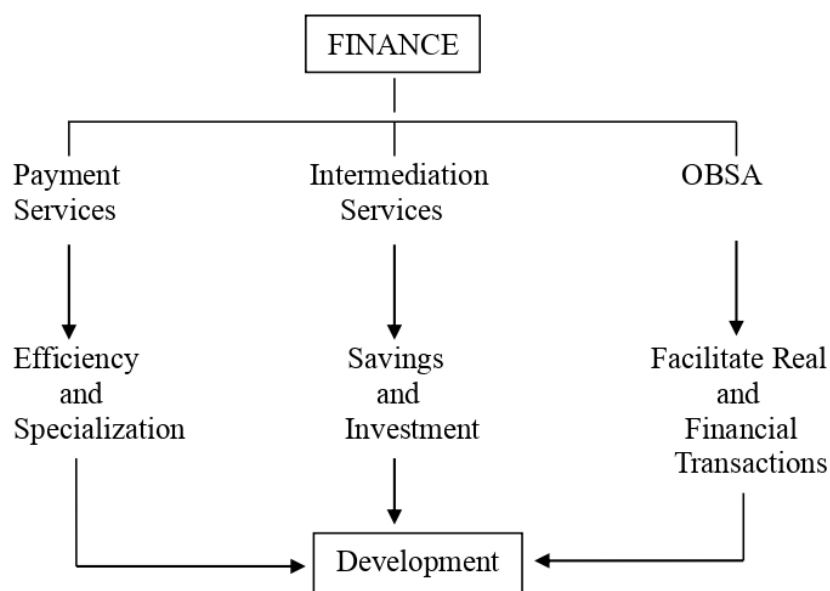
## **3.5 Financial Sector and Economic Development:**

The basic role of the financial sector is to provide payment services to the economy. The financial sector provides the economy with medium of exchange by issuing notes, holding demand deposits and honoring checks drawn upon the latter. Without the financial sector, an economy would be confined to barter and specialization in production would be limited. Economies of scale could not be fully exploited and hence economic growth would be constrained. It is therefore widely recognized that the financial sector helps economic development by providing payment services, thereby improving overall efficiency of the economy.

In addition to the role of the financial sector in facilitating payments, the financial sector also induces and mobilizes financial saving and allocates credit (Figure). A financial system promotes savings by providing a wide array of financial assets with attractive combinations of income and safety. This will induce larger savings out of the same level of real income. The financial sector systemizes the relationship between savers and investors in the economy by providing its own securities to savers and purchasing primary securities from borrowers. Through this intermediary function, the saving activity of savers is facilitated as is the financing of investment

activities of entrepreneurs and enterprises. Without the financial sector, investment will have to be self-financed by individual investors from their own resources. The funds required for undertaking viable investments are, however, often beyond the means of an individual investor. The financial sector creates economies of scale by pooling the relatively small savings of a large number of individuals and making them available for relative large investment.

In regard to resource mobilization, a distinction between financial saving and real saving is to be made. The former is defined as an increase in financial assets held by the public, while the latter refers to an increase in physical assets that are not consumed.



### 3.6 Financial Development:

#### 3.6.1 Introduction

Financial development is a relatively modern concept in economics. The concept attracted the attention of the economists in 1950s when the American economist, R.W. Goldsmith published a series of studies designed to measure the evolution of financial structure in the course of economic development. At the same time, Gurley and Shaw produced a number of stimulating studies focussing the financial aspects of economic development and showing the relationship between financial development and economic development. The idea of financial development has gained a new shape in 1970s (see Shaw 1973 and Mckinnon 1973). It is a historical evidence that

everywhere in the world the financial development has started with the commercial banking system and the diffusion of scriptural money through the economy. In the initial stages of the financial development of a country, the commercial banks are the major institutions for providing financial services to the economy. Though the share of the commercial banks in the total number of financial institutions and financial services decline gradually as the economy steps to the higher stages of financial development, still they are required to play an important role. In this context, it would be pertinent here to discuss the meaning, importance and various measurement techniques of financial development.

### **3.6.2 Meaning and Importance**

According to Raymond W. Goldsmith (1969), financial development consists in the development of financial structure which is composed of financial institutions and financial instruments. Financial institutions are of two major types : (a) financial institutions whose liabilities are “money” in the sense of generally accepted medium of exchange and (b) financial institutions whose liabilities are not money. Financial instruments are also of two basic types – claims (against domestic financial institutions, domestic non-financial sectors and foreigners) and equity securities, which together is known as financial superstructure. Goldsmith also points out that the basic feature in financial development of a country is the change in the relation between its financial superstructure and real infrastructure (i.e. national wealth).

In the matter of the operations of the financial system of a country, Shaw and Mckinnon opined, there should not be any direct government intervention in the forms of controlling bank liquidity and credit, control of interest rates and exchange rates. Because, they argued that such controls hinder the process of financial development. Therefore, Shaw-Mckinnon school advocated financial development in the sense of liberalisation of financial markets from direct government controls – the opposite of “Shallow – finance” (used by Shaw) and “Financial repression” (used by Mckinnon).

As regards the relationship between financial development and economic development, the Gurley – Shaw (1967) thesis may be reproduced here, which states that as countries rise along the scale of wealth and income, their financial structures usually become increasingly rich in financial assets, institutions and markets. At the

same time, the countries also experience more rapid growth in financial assets than in national wealth or national product. That the growth of financial assets or claims is greater than the growth of national wealth or physical assets can be suggested for two reasons (Carter and Partington 1979). Firstly, many individual firms and indeed government will go into debt for the purpose of adding to their level of consumption or current spending. If this occurs, there will be the issue of financial claims but no corresponding increase in the capital stocks. A second reason is that the process of raising funds for use, say, by a firm may well result in several financial firms being involved in the provision of the funds at different stages. However, at each stage in the transmission of such funds there will be an entry in the balance sheet of each of the financial firms. Therefore, if one adds up all the entries in the various balance sheets, the result would be a figure in excess of the actual sum raised.

Substantial differences in the financial accumulation were also observed among countries, which again were found to be correlated with the differences in the per capita income among the countries. It happened mainly due to the adoption of a particular technique among various alternative techniques (such as self-finance, taxation, debt-asset system etc.) available to each country for mobilising its financial surpluses.

More recent studies also seem to accept the relationship between financial development and economic development, for example, Jung (1986), Subrahmanyam and Kamaiah (1985), Viksnins (1980) and Fry (1978). In this regard, Patrick (1966) asked the critical question which sector, financial or real, leads in the dynamic process of economic development, specially in a developing country ? He identified two possible patterns in the causal relationship between the financial development and economic development. In the first pattern, as the economy grows it generates demand for financial services which bring about a supply response in the growth of the financial system. According to this “demand-following” view, the lack of financial institutions in developing countries indicates the lack of demand for their services. It also implies that finance is essentially passive. In this case, the evolution of the financial system is a consequence of economic development. In the second pattern, the expansion of the financial system precedes the demand for its services. Channeling scarce resources from savers to investors according to relative rates of

return, the financial sector precedes and induces real growth. The deliberate establishment and promotion of financial institutions in many less developed countries might reflect this belief in the “supply-leading” relationships between the financial and economic development. Patrick asserted that the direction of causality changed over the course of development. In his view, financial development is able to induce real innovation – type investment before sustained economic growth gets underway and as the process of real growth proceeds, the supply-leading impetus gradually becomes less important, and the demand-following financial response becomes dominant.

Though it is very difficult to measure quantitatively the pattern or course of financial development in a country but the financial development as such in the sense of the rate of accumulation of financial assets can be measured in various ways, which we shall discuss in the following section.

### 3.6.3 Indicators of Financial Development

Financial development of a country can be measured in various ways. Some of the important methods are given below:

a) **Financial Interrelations Ratio (FIR):** The first basic aspect of financial structure of a country is its Financial Interrelations Ratio (FIR), which shows the relations between a country’s financial superstructure and its real infrastructure. The ratio is obtained dividing the total value of all financial assets in existence at one date by the total value of tangible assets plus net foreign balance that is, by national wealth (Goldsmith 1969) symbolically,

$$FIR = \frac{F}{W};$$

Where, F = All financial assets = (D + E);

D = Debt securities (including money);

E = Equity securities;

and

W = National Wealth = (K + X);

K = Domestic tangible assets;

X = Net foreign assets.

The FIR can be measured in flow terms as well, that is, the ratio of the total net issues of financial assets (or instruments) to net national wealth (or physical capital formation), during a particular time period (say, a year).

b) **Financial Intermediation Ratio (FIMR):** Another important characteristics of a country's financial structure and development is called Financial Intermediation Ratio (FMR). It denotes the extent to which the issues of domestic non-financial and foreign sectors are absorbed or held by the domestic financial institutions (Goldsmith 1969). It is this relation which reflects the degree of institutionalization in the country's financial structure and the relative importance of direct and indirect financing. The most general measure of this ratio is the share of all financial institutions in total financial assets. That is,

$$\text{FIMR} = \frac{\text{Financial Assets held by the Financial Institutions}}{\text{All Financial Assets}}$$

c) **New Issues Ratio (NIR):** Another important determinant of the relative size of a country's financial structure is the separation of the functions of saving and investment among different economic units and groups of them. It is reflected in the ratio of new issues of debt and equity securities by the non-financial sector of the economy to national product (Goldsmith 1969). Indirectly, the New Issues Ratio (NIR) indicates the extent to which the external finance is provided by the financial institutions. Thus, the formula used for calculating NIR is :

$$\text{NIR} = \frac{\text{Increase in the Assets of Financial Institutions}}{\text{GNP}}$$

Among the above three ratios, while the FIR measures total level of financial activity in relation to economic activity, but the FIMR and NIR measure financial intermediary activity in relation to economic activity or financial activity (Murthy 1984). In regard to the relative importance of the above three ratios, Goldsmith (1983) himself opined, "The level of the FIR and its movements are of less importance for financial analysis than are the level and trends in the .... NIR and FIMR".

d) **Financialisation Ratio:** The World Bank (1985) in its study on India's Financial System, in addition to above mentioned ratios, also used the Financialisation Ratio as a broad indicator of financial development of India. In his another study on the financial development of India Goldsmith (1983) also used this ratio to show the

financial development of India. It is defined as the ratio of the assets of the financial institutions to national product (GNP). That is,

$$\text{Financialisation Ratio} = \frac{\text{Assets of the all Financial Institutions}}{\text{GNP}}$$

e) **Monetization Ratio:** Monetization ratio can also be used as the broad indicator of the stage of financial development of a country. Asian Development Bank (1983) used this ratio in their study on Financial Development in Asia. It is defined as the ratio of money supply to GNP. That is,

$$\text{Monetisation Ratio} = \frac{\text{Total Money Stock}}{\text{GNP}}$$

f) **Size of the Organized Money Market:** Sometimes, the size of the organized money market is taken as a proxy for the financial development of a country (Ghatak 1976). The criteria which may be used to measure the size of the organized money market can be of two types :

- (1) Liquidity Preference Approach : which considers the matter from the liability side of the balance-sheet of the banks and where the ratio of deposit-money to money supply is taken as the yardstick; and
- (2) Loanable Fund Approach: which treats the matter from the asset side of the balance sheet of the banks and where the ratio of the banking system's claims (which includes loans, advances and bills discounted) on the private sector to national income is considered.

In the context of the availability of financial data in Bangladesh, the application of the first two methods namely, FIR and FIMR for quantitative measurement of the financial development of Bangladesh is not possible. This is because of serious lack of data specially regarding the issues of domestic non-financial sector. Regarding the applicability of the other methods, the data on the assets of the financial institutions is most important. Here also, there is some shortcoming, though not serious in the sense that the data on the assets of some of the financial institutions (say, Investment Corporation of Bangladesh, Insurance companies and Bangladesh Rural Development Board) are not readily available from the published sources. But the share of these left-out financial institutions in total assets of all financial institutions would not be

significant. Moreover, one of them (BRDB) is the ‘financial intermediary of second degree’ in the sense of receiving their loanable funds from other financial institutions, government or central bank and therefore, the omission of the asset figures of BRDB will put down the results of the financial development only to the extent of the layering effect’ (involving a number of entries of the same asset figures in the balance-sheets of different financial firms). However, excepting the first two methods, the rest four may be used for measuring the stage of the financial development in Bangladesh.

### **3.7 An Economic Analysis of Financial System:**

#### **3.7.1 Introduction**

A healthy and vibrant economy requires a financial system that moves funds from people who save to people who have productive investment opportunities. But how does the financial system make sure that your hard-earned savings get channeled to the Productive Investor rather than to worthless investors?

This analysis focuses on a few simple but powerful economic concepts that enable us to explain features of our financial markets such as why financial contracts are written as they are, why financial intermediaries are more important for getting funds to borrowers than are securities markets and why financial crises occur and have such severe consequences for the health of the economy.

Though our financial system is not that complex in structure and function but there are different types of institutions: banks, insurance companies, mutual funds, stock markets, and so on - all of which are regulated by government. The financial system channels billions of Taka per year from savers to those with productive investment opportunities. If we take a close look at our financial system, we find some fundamental “dilemma” which we need to solve in order to understand how our financial system works such as.

Stocks are not an important source of finance for business;

indirect finance, which involves the activities of financial intermediaries, is many times more important than direct finance, in which businesses raise funds directly from lenders in financial markets;

banks are the most important source of external funds to finance businesses;



only large, well established corporations have access to securities markets to finance their activities;

collateral is a prevalent feature of debt contracts for both households and business etc.

As we know, an important feature of financial markets is that the individual transactors have substantial transactions and information costs. An economic analysis of how these costs affect financial markets will provide us with solutions to the above dilemmas, which, in turn, will provide us with a much deeper understanding of how our financial system works.

### **3.7.2 How Transactions Costs Influence Financial System**

TRANSACTION COSTS are a major problem for people who have excess funds to lend. It is very high specially for those who have small amount of excess funds, when they go for loan transactions, security purchase etc. individually. Moreover, since they have only small amount of funds available, they can only make a small number of investments. That is they have to put all their eggs in one basket and their inability to diversify will subject them to a lot of risk.

Financial intermediaries, an important part of the financial structure have evolved to reduce transactions costs and allow small savers and borrowers to benefit from the existence of financial markets because of following two reasons:

#### **Economies of Scale**

One solution to the problem of high transactions costs is to bundle the funds of many investors together so that they can take advantage of economies of scale, that is, the decrease in transactions costs per dollar of investment as the size (scale) of transactions increases. By bundling investors funds together, transactions costs for each individual investor are far smaller. The clearest example of a financial intermediary that arose because of economies of scale is a mutual fund. A mutual funds is a financial intermediary that sells shares to individuals and then invests the proceeds in bonds or stocks. Because it buys large blocks of stocks or bonds a mutual fund can take advantage of lower transactions costs. An additional benefit for individual investors is that a mutual funds is large enough to purchase a widely diversified portfolio of securities.

### **Development of Expertise**

Financial intermediaries also arise because they are better able to develop expertise to lower transactions costs. Banks (depository institutions) and other financial intermediaries that make loans become experts at acquiring appropriate legal advice so that they can inexpensively write ironclad loan contracts.

### **3.7.3 Asymmetric Information: Adverse Selection and Moral Hazard**

The presence of transactions costs in financial markets explains, in part why financial intermediaries and indirect finance play such an important role in financial markets. To obtain a fuller understanding of financial structure, however, we turn to the role of information in financial markets.

In transactions that take place in financial markets, one party often does not know all that he or she needs to know about the other party to make correct decisions. The inequality of the information that each party has is called **ASYMMETRIC INFORMATION**. For example, a borrower who takes out a loan usually has better information about the potential returns and risk associated with the investment projects he plans to undertake than does the lender. Lack of information creates problems in the financial system on two fronts: before the transaction is entered into and after the transaction is entered into.

**ADVERSE SELECTION** is the problem created by asymmetric information before the transaction occurs. Adverse selection in financial markets occurs when the potential borrowers who are the most likely to produce an undesirable (adverse) outcome - the bad credit risks - are the ones who most actively seek out a loan and are thus most likely to be selected. Since adverse selection makes it more likely that loans might be made to bad credit risks, lenders may decide not to make any loans even though there are good credit risks in the market place.

**MORAL HAZARD** is the problem created by asymmetric information after the transaction occurs. Moral hazard in financial markets occurs when the lender is subjected to the hazard that the borrower has incentives to engage in activities that are undesirable (immoral) from the lender's point of view, because these activities make it less likely that the loan will be paid back. Since moral hazard lowers the probability that the loan will be repaid, lenders may decide that they would rather not make a loan.

Adverse selection interferes with the efficient functioning of financial markets. Solutions to the adverse selection problem include private production and sale of information, government regulation to increase information, financial intermediation, and collateral and net worth. The FREE-RIDER problem occurs when people who do not pay for information but take advantage of the information other people have paid for. This problem explains why financial intermediaries and particularly banks play a more important role in financing the activities of businesses than do securities markets.

Moral hazard in equity contracts is known as the PRINCIPAL-AGENT PROBLEM because the manager (the agent) has less incentive to maximize profits than the stock holders (the principals). The principal-agent problem explains why debt contracts are so much more prevalent in financial markets than are equity contracts. Solutions to the principal-agent problem include monitoring, government regulation to increase information and financial intermediation.

Solutions to the moral hazard problem in debt contracts include net worth (the solution that high net worth provides to the moral hazard problem is to say that it makes the debt contract INCENTIVE COMPATIBLE, meaning thereby it aligns the incentives of the borrower to that of the lender), monitoring and enforcement of restrictive covenants and financial intermediaries.

### **3.8 Financial System of Bangladesh:**

A financial structure may be explained from financial superstructure and infrastructure point of view. Generally financial superstructure comprises financial institutions, instruments and markets and financial infrastructure comprises rules regulations, guidelines, legal framework etc. Within the framework of which financial institutions, instruments and market will operate.

The financial system of Bangladesh has been presented below from the above point of view (financial superstructure-infrastructure). The financial institutions of Bangladesh are also categorized into Banking Financial Institutions (BFIs) and Non-Banking Financial Institutions. From the ownership perspective, there are four categories of BFIs in Bangladesh: State Owned Commercial Banks (SCBs), State Owned Specialized Banks (SBs), Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs). Total number of banks operating in Bangladesh and the number of bank

branches stood at 10,752 at the end of December 2020. Different types of banks and their number of branches are shown in the table given below:

Nature of Banks	No. of Banks	No. of Branches
SCBs	6	3798
SBs	3	1492
PCBs	43	5395
FCBs	9	67
Total	61	10752

Source: Bangladesh Bank Annual Report, 2020-21.

At present, there are 35 NBFIs, of which 3 are government owned, 19 are privately owned local companies and the rest 13 are joint ventures with foreign participation.

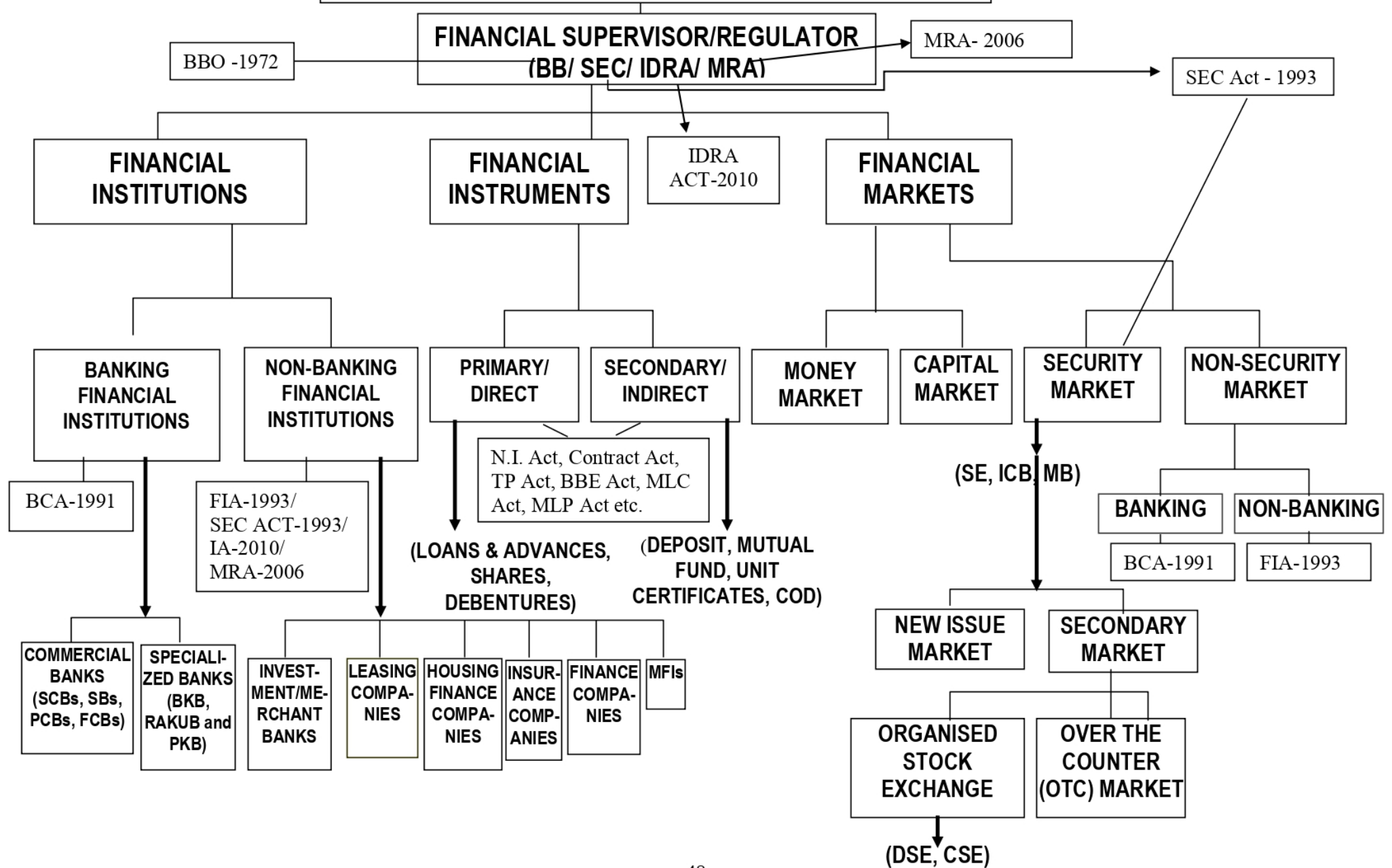
BFI's are regulated by Bank Companies Act-1991 and supervised by Bangladesh Bank. Some of the NBFIs (Leasing, House Finance, Finance Companies) are regulated by Financial Institutions Act-1993, Investment Banks/Merchant Banks are regulated by Securities and Exchange Commission Act-1993, Insurance Companies and Micro-Finance Institutions are guided by Insurance Act-2010 and MRA Act-2006 respectively.

The financial instruments of BFI's are regulated by a varieties of Acts and regulations such as: Negotiable Instrument Act, Contract Act, TP Act, MLP Act, BBE Act, FEX regulation Act, etc. Likewise, the securities market instruments are also guided by some definite rules and regulations.

The whole financial system is supervised by Bangladesh Bank (BB) Bangladesh Securities and Exchange Commission (BSEC), Insurance Development and Regulatory Authority (IDRA), and Micro Credit Regulatory Authority. The jurisdiction of each supervisor and the legal framework under which each supervisor is regulated is shown below:

Nature of Supervisor	Jurisdiction	Legal Framework
BB	BFI's and Part of NBFIs	Bangladesh Bank Order, 1972
BSEC	Securities Markets	SEC Act, 1993
IDRA	Insurance Market	IDRA-Act, 2010
MRA	MFIs	MRA Act-2006

### 3.9 FINANCIAL SYSTEM OF BANGLADESH AND LEGAL FRAMEWORK OF BANKING



### **3.10 Development Role of Finance: Development Banking, Microcredit and Microfinance, Inclusive Finance and Sustainable Finance.**

#### **3.10.1 Development Banking**

By and large, it is a post-second World War phenomenon. The French Credit Mobilizer of 1852, the Japanese Industrial Bank of 1902 and the so-called ‘industrial banks’ of Germany had at one time made a profound appeal to countries which were seeking to set up suitable financial machinery for accelerating the pace of industrial development. But these institutions have to be sharply distinguished from the ‘development banks’ which came to be established in the post-war years in the developing countries of the world. In sharp contrast with the prewar institutional devices the new development banks are intended to provide not simply capital, whether equity or loan, but also technical, managerial and entrepreneurial talent wherever necessary and to assist in building up a financial infrastructure conducive to the rapid economic growth of the respective countries.

Development banks are those banks engaged in the promotion, development of industry, agriculture and other key sectors. These banks differ from commercial banks in the sense that they do not mobilize savings of the people but invest the resources in a productive manner. Additionally, these banks provide all the developmental services, so as to accelerate the growth of economy.

Development banks have a twofold role. By far the more important role is that of a financial institution, providing finance to industrial enterprises in various ways. Equity participations, provisions of medium-and long-term loans, subscription to the bonds and debentures of the companies, underwriting of their shares, ordinary and preference, and of bonds or debentures issued by them, and guaranteeing of loans raised from foreign or domestic sources are the usual forms in which finance is furnished by the development institutions. Apart from the role of a provider of industrial finance, these institutions have a promotional role to play.

Indeed in some cases the promotional role is more significant than the role of the industrial financier. The promotion of industrial enterprises, the provision of various kinds of technical and managerial assistance, the undertaking of economic and technical research, the conducting of survey work and feasibility studies and the fostering of the

capital market, etc., constitute the main features of the promotional role of development banks.

There are 3 (three) specialized banks/DFIs in Bangladesh (according to BB Annual Report, 2020-21).

These are:

- Bangladesh Krishi Bank (BKB)
- Rajshahi Krishi Unnayan Bank (RAKUB)
- Prabashi Kallyan Bank (PKB)

A few years back, Bangladesh Shilpa Bank (BSB), Bangladesh Shilpa Rin Sangstha (BSRS) and Bangladesh Small Industries and Commerce Bank Limited were also clubbed under specialized banks/DFI. However, later on BSB and BSRS were merged and renamed as Bangladesh Development Bank Limited (BDBL) and given permission to operate as full-fledged commercial Bank. BASIC Bank Limited was also started to be recognized as Commercial Bank.

### **3.10.2 Micro Credit and Micro Finance**

Micro credit is targeted retail credit without any traditional collateral. The term Micro Finance refers to the provision of financial services to low income clients, including the self-employed. Financial services generally include savings and credit; however, some microfinance organizations also provide insurance and payment services. In addition to financial intermediation, many MFIs provide social intermediation services such as group formation, development of self-confidence, and training in financial literacy and management capabilities among members of a group. Thus the definition of microfinance often includes both financial intermediation and social intermediation. Microfinance is not simply banking, it is a development tool.

Microfinance arose in the 1980s as a response to doubts and research findings about state delivery of subsidized credit to poor farmers. Governments and international donors assumed that the poor required cheap credit and saw this as a way of promoting agricultural production by small landholders. Beginning in the mid-1980s, the subsidized, targeted credit model supported by many donors was the object of steady criticism, because most programs accumulated large loan losses and required frequent recapitalization to continue operating. It became more and more evident that market-

based solutions were required. This led to a new approach that considered microfinance as an integral part of the overall financial system. Emphasis shifted from the rapid disbursement of subsidized loans to target populations toward the building up of local, sustainable institutions to serve the poor.

Microfinance activities usually involve:

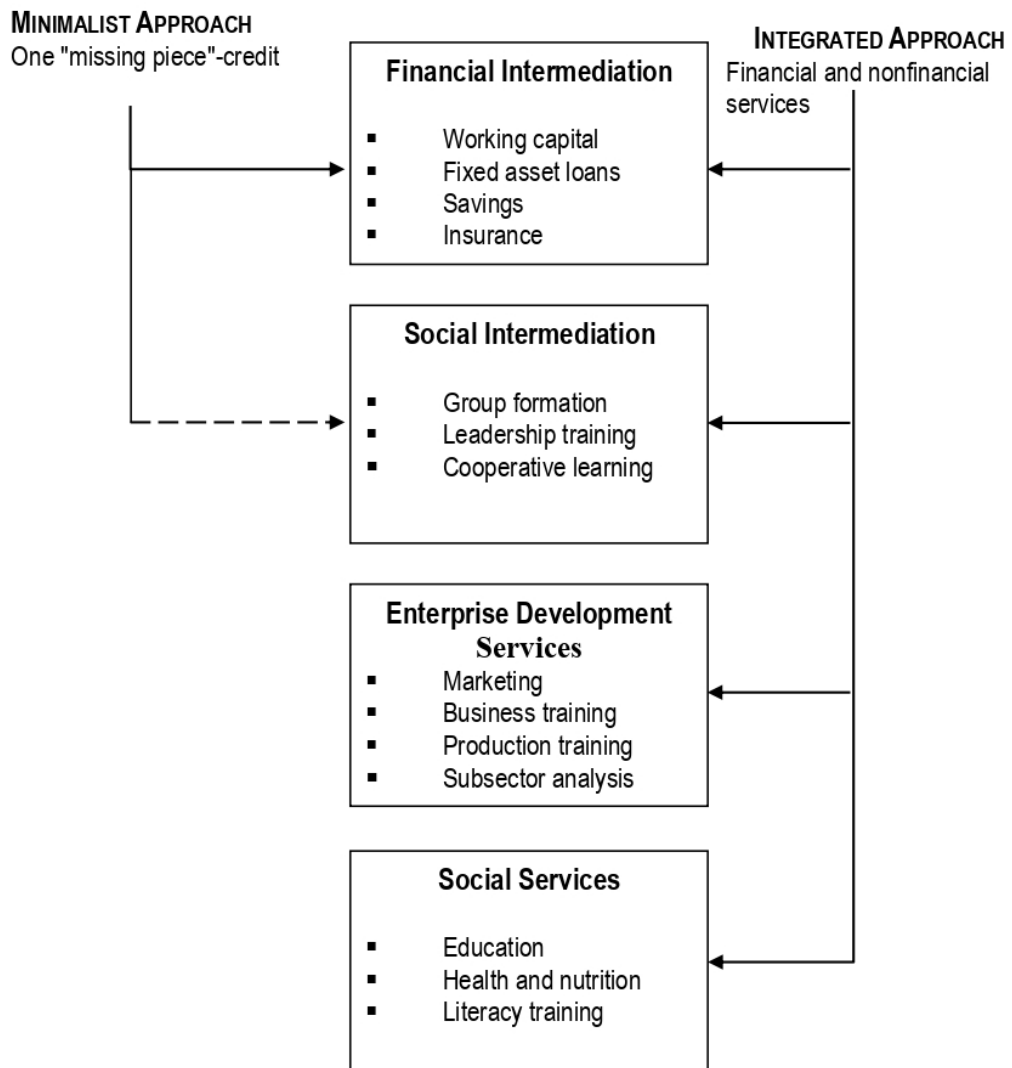
- Small loans, typically for working capital
- Informal appraisal of borrowers and investments
- Collateral substitutes, such as group guarantees or compulsory savings
- Access to repeat and larger loans, based on repayment performance
- Streamlined loan disbursement and monitoring
- Secure savings products

### **3.10.3 Micro Finance Providers and Clients**

MFIs can be nongovernmental organizations (NGOs), savings and loan cooperatives, credit unions, government banks, commercial banks, or nonbank financial institutions. Microfinance clients are typically self-employed, low-income entrepreneurs in both urban and rural areas. Clients are often traders, street vendors, small farmers, service providers (hairdressers, rickshaw drivers), and artisans and small producers, such as blacksmiths and seamstresses. Moneylenders, pawnbrokers, and rotating savings and credit associations are informal microfinance providers.

MFIs by definition provide financial services. However, an MFI may also offer other services as a means of improving the ability of its clients to utilize financial services. There is much debate in the field of microfinance as to whether MFIs should be minimalist – that is, offering only financial intermediation – or integrated – offering both financial intermediation and other services. Most MFIs offer social intermediation to some extent. The decision to offer nonfinancial services determines whether an MFI is minimalist or integrated.



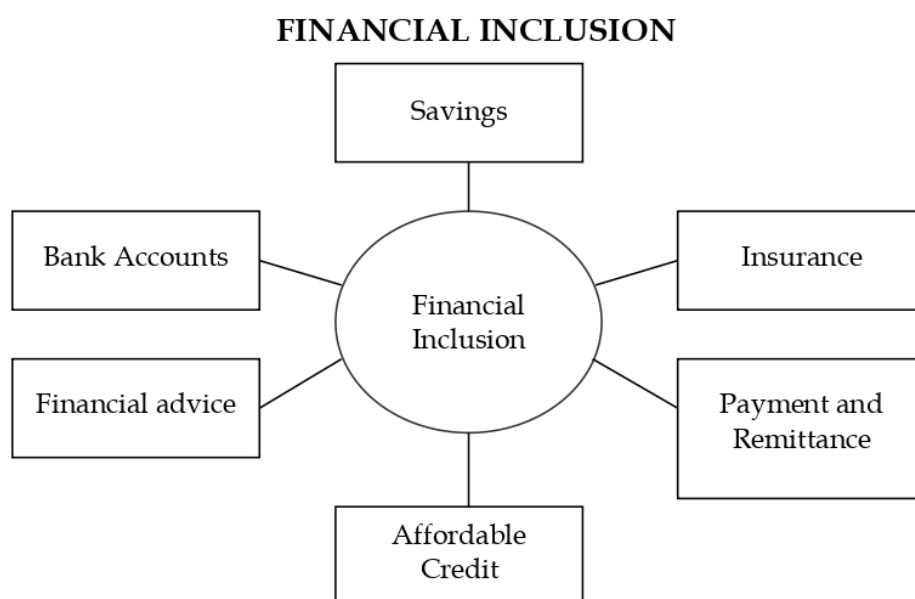


### 3.10.4 Inclusive Finance

In its landmark research titled “Building Inclusive Financial Sector for Development” (2006), popularly known as the Blue Book, the United Nations (UN) had raised the basic question: “Why are so many bankable people unbanked?” “Who are bankable unbanked?” It is estimated that globally over two billion people are currently excluded from access to financial services. Financial Inclusion has become an issue of worldwide concern, relevant equally in economies of the underdeveloped, developing and developed nations. Building an Inclusive Financial Sector has gained growing global recognition bringing to the fore the need for development strategies that touch all lives, instead of a select few.

Why does Inclusive Financial Sector development matter? Access to a well – functioning financial system can economically and socially empower individuals, in particular poor people, allowing them to better integrate into the economy of their countries, actively contribute to their development and protect themselves against economic shocks. Creation and expansion of financial services targeted to poor and low-income populations can play a vital role in enhancing financial access. Inclusive financial sectors- those in which no segment of the population is excluded from accessing financial services – can contribute to attaining the goals contained in the United Nations Sustainable Development Goals, such as halving the proportion of people in the world who live in extreme poverty by 30.

An Inclusive Financial Sector, the Blue Book says, would provide access to credit for all “bankable” people and firms, to insurance for all insurable people and firms and to savings and payment services for everyone. Rangarajan Committee On Financial Inclusion (RBI, 2008) has argued that an open and efficient society is always characterized by the unrestrained access to public goods and services. As banking services are in the nature of public goods, financial inclusion should therefore be viewed as availability of banking and payment services to the entire population without discrimination of any type. Finally, the Rangarajan Committee has defined financial inclusion as “delivery of banking services and credit at an affordable cost to the vast sections of disadvantaged and low income groups. The various financial services include saving, loans, insurance, payments, remittance facilities and financial counseling/advisory services by the formal financial system.”



*Source: RBI, 2008.*

Financial Inclusion is not only the process of ensuring access to financial services or making available timely and adequate credit when needed by vulnerable groups, such as weaker sections and low income groups, at an affordable cost, it must also be appropriate, fair and transparent. What we are needing to do is first improving access to various financial products and services for the entire population and ensuring that such access is provided by mainstream institutional players. Enabling people to get credit from small institutions, money lenders and the like is not financial inclusion. Access has to be through mainstream institutional players and only then such access will be fair, transparent and cost effective. (Kochhar, 2009).

Only opening a bank account is not financial inclusion. Of course, the first thing is a check-in account, what we call a no-frills account. And the next step is immediate credit. Today, what the poor wants is accessibility to immediate credit. However, in most of the cases, the poor does not need credit for business or entrepreneurship, but it is for meeting a financial emergency, like health or urgent domestic needs. This immediate credit stage is followed by the introduction of various savings products, followed by remittances and payment services. This might be followed by insurance, especially health insurance, housing loans etc. Entrepreneurship credit comes at the last. This way, people have to be creditworthy and “financially included”. Therefore, we have to go through all these stages and we have a long way to cover. (Kochhar, 2009).

Subbaro (2013) asserts, financial inclusion does not only mean providing financial services. It also includes “financial literacy”, meaning financial awareness, knowledge about banks and banking channels, facilities provided by banks, advantages of using banking routes etc. It involved educating people financially, making them financially literate. Financial inclusion and financial literacy are integral to each other, they are two elements of an integral strategy. The disadvantage people need both-access to and awareness of financial services. Financial literacy is demand side phenomena and financial inclusion is supply side response.

**Sustainable finance** is a strategy that refers to banking and investment practices for earning profit, while prioritizing social responsibility and/or environmental sustainability. A new “triple bottom line” approach to finance and banking contextualizing the relationship between profit, social equity and environmental accountability. It therefore, focusses on responsible and inclusive lending, promoting projects and programs in line with Environmental, Social and Governance (ESG) issues. An ESG framework guides investment decisions to factor in the impact on the environment, social issues, and overall governance instead of joint potential returns.

**Green Banking** (as a sub-set of Sustainable Finance) is like a normal bank, which considers all the social and environmental/ecological factors with an aim to protect and environment and conserve natural resources. It is also called as an ethical bank or a sustainable bank. Benefits of Green Banking

- Green (Ethical) banks adopt and implement environmental standards for lending, which is really a proactive idea that would enable eco-friendly business practices which would benefit our future generations.
- Ethical banks give more importance to environmental friendly factors - ecological gains. Natural resources conservation is also one of the underlying principles in a green bank while assessing capital/operating loans o extracting/industrial business sector.
- Basically Ethical (Green) banking avoids as much paper work as possible and rely on online/electronic transactions. Less paperwork means less cutting of trees.
- Creating awareness to business people about environmental and social responsibility enabling them to do an environmental friendly business practice.

### 3.11 Review Questions

1. For each of the following financial transaction indicate whether it involves direct finance or indirect finance by writing in the space provided a D for direct finance and an I for indirect finance.

- \_\_\_\_\_ 1. IFIC Bank issues commercial paper to T & T.
- \_\_\_\_\_ 2. You buy a share of a mutual fund.
- \_\_\_\_\_ 3. You buy a life insurance policy.
- \_\_\_\_\_ 4. You buy a share of BEXIMCO.
- \_\_\_\_\_ 5. You borrow TK.1000 from your father.
- \_\_\_\_\_ 6. You obtain a TK. 50, 000 mortgage from DBHL.
- \_\_\_\_\_ 7. You buy a govt. savings bond.
- \_\_\_\_\_ 8. SQUARE sells a share of its stock to APEX.
- \_\_\_\_\_ 9. You take out a car loan from a NBF
- \_\_\_\_\_ 10. T & T issues commercial paper to Petro Bangla.

### 2. Multiple Choice Questions:

- 1. A financial system is concerned with mobilization of fund from:
  - a) Banker to Borrower
  - b) Depositor to Banker
  - c) Saver to Borrower
  - d) Saver to Lender
- 2. The equity gap of your company has been financed by a commercial bank by purchasing the shares. This is an example of:
  - a) Indirect Finance
  - b) Direct Finance
  - c) Direct Financial Instrument
  - d) Both (a) and (c)
- 3. Indirect finance refers to flow of savings
  - a) from savers to entrepreneurs
  - b) from ultimate lenders to ultimate borrowers
  - c) from depositors to financial intermediaries
  - d) from providers to users of funds via agents

4. Financial intermediation is done by -
  - a) Brokers and Jobbers
  - b) Mutual Funds
  - c) Central Bank
  - d) None of the above
5. Who practices direct mode of finance?
  - a) Mutual Fund
  - b) Bond Market
  - c) Stock Market
  - d) All of the above
  - e) Only (b) and (c)
6. Bangladesh Govt. asks banks to offer subsidized credit to farmers and exporters and banks are complying it. It is a/an-
  - a) Intermediation function
  - b) Credit function
  - c) Policy function
  - d) Social function
  - e) All of the above
7. Which one of the following is a direct financial instrument
  - a) Savings Deposit
  - b) Deposit Pension Scheme
  - c) Share of Companies
  - d) Shares of financial institutions
  - e) Both (c) and (d)
8. Which one of the following is not included under financial superstructure
  - a) Regulatory system
  - b) Financial institutions
  - c) Financial instruments
  - d) Leasing companies
  - e) Merchant banks
9. Which of the following is not a feature of rudimentary finance?
  - a) Absence of an array of financial instrument
  - b) No financial instrument other than money
  - c) All economic units are forced to be balanced units
  - d) All economic units can invest more than their savings
  - e) It ends up with low levels of savings and investments.
10. In a financial intermediation process, the ultimate lender is:
  - a) Banks
  - b) Depositors
  - c) Shareholders
  - d) Central Bank

**3. Name the nature of following financial instruments (whether Direct or Indirect):**

i)	Mutual Fund	
ii)	Debenture	
iii)	Certificate of Deposit	
iv)	Bank Loan	
v)	Prize Bond	
vi)	Currency Notes and Coins	
vii)	Bill of Exchange Drawn on importer	
viii)	Treasury Bill	
ix)	Cheque	
x)	Lottery Slip	

**4. Indicate whether the following terms belong to financial infrastructure or financial superstructure:**

i)	Bank Company Act – 1991	
ii)	Currency Notes	
iii)	Mutual Fund	
iv)	Bangladesh Shilpa Bank	
v)	IAS – 30 for Bank Accounting	
vi)	Bangladesh Bank Circulars	
vii)	Banking Financial Institutions	
viii)	OTC market	
ix)	Bill of Exchange	
x)	Janata Bank General Banking Mannuals	

5. Put the following financial instruments in the appropriate box or boxes below:

Treasury Bill  
Mutual Fund  
Common Stock  
Inter Bank Loan  
Cheque

6 Months Fixed Deposits  
Working Capital Loan  
Syndicated Term Loan  
Inter Bank Deposit  
Corporate Bond

	Direct Financial Instrument	Indirect Financial Instrument
Banking Market		
Security Market		

6. Please look at the following financial transactions and decide whether they fit in (a) the money market or the capital market, (b) the primary or the secondary market, and (c) the debt or equity market. 1×5= 5

- a. You visit a local bank today and secure a three-year loan to finance the purchase of a new car and some furniture.

MM/CM

PM/SM

DM/EM

- b. You purchase a new Treasury bill for Tk.800 through the Central bank in a neighboring city for delivery today.

MM/CM

PM/SM

DM/EM

- c. You have purchased 100 shares of a company's stock through a phone call to your broker, who is linked to a major stock exchange.

MM/C

PM/SM

DM/EM

- d. You contact a local bank and purchase a Tk.15,000 two-year CD bearing an interest rate on which you and the bank's officer have agreed.

MM/CM

PM/SM

DM/EM

- e. The corporation you represent needs to raise Tk.25 million immediately to purchase raw materials. You contact a securities dealer who agrees to advertise the sale of Tk. 25 million in commercial paper and maturing in 90 days.

MM/C

PM/SM

DM/E



**7. What functions of the financial system do the following transactions illustrate or represent?**

**1×7= 7**

- a) Mamun purchases health and accident insurance policies through the company where he works.
- b) Sharmin uses her credit card to purchase wallpaper for a home remodeling project.
- c) Dynamic Corporation places some of its current earnings in a bank CD, anticipating a need for funds in about a year to build a new warehouse.
- d) The Treasury sells new bonds in the open market to cover a large deficit.
- e) Mr. and Mrs. Habib hope to put their three young children through college someday. Accordingly, they begin buying Govt. Savings bonds.
- f) Needing immediate spending power, a Corporation sells its holdings of Beximco bonds through a security broker.
- g) Banks have been asked to report central bank all suspicious transactions in order to prevent money launder.

**8. Circle whether the following statements are true (T) false (F).**

- T   F   1.   Stocks are the most important source of external finance for businesses.
- T   F   2.   Bonds are a more important source of external finance for business than stocks in Bangladesh.
- T   F   3.   Most households own financial market securities.
- T   F   4.   Financial intermediaries benefit savers by reducing transactions costs.
- T   F   5.   The “lemons problems” is a term used to describe moral hazard.
- T   F   6.   The free-rider problem helps to explain why adverse selection cannot be eliminated solely by the private production and sale of information.
- T   F   7.   Banks avoid the free-rider problem by primarily making private loans rather than purchasing securities that are traded in financial markets.
- T   F   8.   Collateral, which is property promised to the lender if the borrower defaults, reduces the consequences of adverse selection because it reduces the lender’s losses in the case of default.
- T   F   9.   Firms with higher net worth are the ones most likely to default.
- T   F   10.   Equity contracts are subject to particular example of moral hazard called the principal-agent problem.

**9. For each of the following puzzles, indicate whether the puzzle can be explained by adverse selection (A), moral hazard (M), or both (B).**

- \_\_\_\_\_ 1. Stocks are not an important source of finance for businesses.
- \_\_\_\_\_ 2. Issuing marketable securities is not the primary way businesses finance their operations.
- \_\_\_\_\_ 3. Indirect finance, which involves the activities of financial intermediaries, is many times more important than direct finance, in which businesses raise funds directly from lenders in financial markets.
- \_\_\_\_\_ 4. Banks are the most important source of external funds to finance businesses.
- \_\_\_\_\_ 5. The financial system is among the most heavily regulated sectors of the economy.
- \_\_\_\_\_ 6. Only large, well-established corporations have access to securities markets to finance their activities.
- \_\_\_\_\_ 7. Collateral is a prevalent feature of debt contracts for both households and businesses.
- \_\_\_\_\_ 8. Debt contracts are typically extremely complicated legal documents that place substantial restrictions on the behavior of the borrower.
- \_\_\_\_\_ 9. Banks are subjected to hazards because of immoral activities of borrowers.
- \_\_\_\_\_ 10. Lack of availability of information may prevent a good borrower to be selected for getting loan.

**3.12 Probable Questions**

- 1. In terms of concerns of Finance, differentiate between Direct and Indirect Mode of Finance. What are the distinguishing features of Rudimentary Finance?
- 2. Why do both surplus units and deficit units prefer Indirect Mode of Finance to Direct Mode of Finance?
- 3. In a formal financial system, who does practice direct mode of finance? Which one is more risky (between direct and indirect mode of finance) from surplus economic unit point of view and why?
- 4. Why are NBFIs also known as financial intermediaries? In terms of intermediation, is there any difference between BFIs and NBFIs?

5. Why do deficit economic units have preferences for Indirect Mode of Finance
6. Describe the economic reasons for which financial intermediaries have been able to offer better financial services to both depositors and borrowers and also earn reasonable profits.
7. What do you mean by financial institutions? Discuss the similarities and differences between BFIs and NBFIs.
8. How do you define financial instruments? In how many ways, financial instruments can be classified? Explain with examples.
9. What are the main purpose of Secondary financial markets? How come they are different from primary financial markets.
10. Differentiate between:
  - a) Open Market and Negotiated Market
  - b) Spot Market and Forward Market
  - c) Future Market and Forward Market
  - d) Future Market and Option Market
  - e) Perfectly Competitive Market and Efficient Market.
  - f) Money and Credit
  - g) Money and Financial Instrument
11. State and explain the functions of a financial system in a modern economy.
12. Explain, in what way, a financial system can contribute towards economic development of a country.
13. How come the payment role of financial system can contribute towards economic development of a country?
14. How can you explain “financial development”? How it can be differentiated between “demand-following” and “Supply-lending” financial development?
15. Name and explain the financial development indicators. Which is the most appropriate for indicating financial development of a country like Bangladesh.
16. How did Goldsmith and Show-Mackinnon interpret “Financial Development”? Is there any difference?
17. In terms of relationship between financial development and economic development, state Gurley-Shaw thesis.
18. Patrick identified two possible patterns in the causal relationship between financial development and economic development. Explain the patterns.

19. From the following data of Bangladesh how many financial development indicators you can calculate. Also interpret the ratios.

(Figures in Billion Taka)

Year	GDP at Market Price	Money Supply (M <sub>2</sub> )	Bank Credit	Bank Deposit
FY 2019	29514	12196	10103	11474
FY 2020	31705	13731	10973	12692
FY 2021	35301	15599	11888	14470

Source: Bangladesh Bank Annual Report, 2020-21.

20. What is Asymmetric Information problem of financial market? Define the problems asymmetric information can generate for banks before and after lending.
21. For mitigating asymmetric information problems of financial markets, which mode of finance is more effective and why?
22. In what ways monetary system is similar to and different from financial system.
23. Write Short Notes On:
- Sustainable Banking
  - Inclusive Banking
  - Green Banking
  - Adverse Selection
  - Moral Hazard
  - Asymmetric Information
  - Financial Development
  - Rudimentary Finance
  - Financial Infrastructure
  - Financial Superstructure

## **MODULE - 4**

### **Financial Institutions**

#### **4.1 Types of Financial Institutions**

Financial institution is an institution which mobilizes funds from SEUs and then deploys funds to the DEUs. In order to be a financial institution, it must perform these two functions: firstly mobilization of fund from SEU and secondly, deployment of funds to DEU. It reflects that the mode of finance on the part of financial institutions is indirect. Since they practice indirect mode of finance, that's why, financial institutions are also known as financial intermediaries. Banks are the financial intermediaries as they intermediate between SEU (depositors) and DEU (borrowers). In fact, all financial institutions are financial intermediaries. Financial institutions are basically of two types: banking financial institution (BFIs) and non-banking financial institutions (NBFIs). Both of them are financial institutions – mobilize funds from SEUs and deploy funds to DEUs, both of them practice indirect mode of finance, even then they are different from each other in the context of their liabilities. As we discussed it earlier, the liability of BFIs is money, whereas the liability of NBFIs is not money. That is also the reason for which we are unable to write cheque against the liabilities of NBFIs. Moreover, we also know that banks can create money, but NBFIs cannot create money. (By looking meticulously at the constituents of money supply, one can find the justification of above arguments).

#### **4.2 Theories Reflecting Functions of Banks (Banking Financial Institutions – BFIS):**

In all standard banking and finance literatures, banks have been theorized as financial intermediaries. The term financial intermediary simply means a business that interacts with two types of individuals and institutions in the economy: (i) *deficit-spending individuals and institutions*, whose current expenditures for consumption and investment exceed their current receipts of income and who, therefore, need to raise funds externally through borrowing; and (ii) *surplus-spending individuals and institutions*, whose current receipts of income exceed their current expenditures on goods and services so they have surplus funds to save and invest. Banks perform this indispensable task of intermediating between these two groups, offering convenient financial services to surplus-spending individuals and

institutions in order to attract funds and then loaning those funds to deficit-spending individuals and institutions.

Theoretically, banks intermediation may be treated as “risk arbitrage”, as they accept risky loans from borrowers, while issuing low-risk securities to their depositors. Banks' intermediation activities will take place if there is a positive spread between the expected yields on the loans banks make to deficit-spending individuals and institutions and the expected interest rate (cost) on the funds banks borrow from surplus-spending individuals and institutions. This positive spread will reduce uncertainty about the expected profits of the banks and will encourage the banks to continue borrowing from and lending funds to their customers.

Like banks, non-bank financial institutions are also financial intermediaries. They can also render this intermediation services alike banks. If both of them – BFIs and NBFIs – provide the same services in the same manner, then what is the specialty and superiority of banks over NBFIs? What essential services do banks provide that NBFIs like merchant banks, investment banks, finance companies etc. cannot provide?

Unlike NBFIs, banks can provide payment services by issuing and clearing check. The payment services can contribute towards economic growth through facilitating “specialization” and “economies of scale” in the production process of a country. The liabilities of the banks are money, that’s why, one can write cheques against their deposit balances in the banks. Moreover, banks can also create money (deposit). Therefore, banks are part of the monetary system, in addition to financial system. Since NBFIs cannot create money nor their liabilities are money, they only belong to financial system, but not a part of monetary system.

Most current theories explain the existence of banks or superiority of banks by pointing to the fact that the banks can better address the market imperfections and asymmetric information problems of the financial system. For example, in regard to market imperfection all loans and securities are not perfectly divisible into small denominations that everyone can afford. To take one well-known example, Treasury bonds—one of the most popular marketable securities —usually have minimum denominations of Tk. 100,000, which is beyond the reach of many small

savers. Banks provide a valuable service in dividing up such instruments into smaller securities (in the form of deposits) that are readily affordable for millions of people. In this instance a less-than-perfect financial system creates a role for banks in serving small savers and depositors.

Another reason for which banks have prospered is their superior ability to evaluate information. Pertinent data on financial investments is both limited and costly. Some borrowers and lenders know more than others, and some individuals and institutions possess inside information that allows them to choose exceptionally profitable investments while avoiding the poorest ones. This uneven distribution of information and the talent to analyze information is known as *informational asymmetry*. Informational asymmetries reduce the efficiency of markets, but provide a profitable role for banks that have the expertise and experience to evaluate financial instruments and to choose those with the most desirable risk-return features.

Moreover, the ability of banks to gather and analyze financial information has given rise to another view of why banks exist in modern society—the *delegated monitoring theory*. Most borrowers and depositors prefer to keep their financial records confidential, shielded especially from competitors and neighbors. Banks are able to attract borrowing customers, this theory suggests, because they pledge confidentiality. Even a bank's own depositors are not privileged to review the financial reports of its borrowing customers. Bank depositors often have neither the time nor the skill to evaluate the credentials of a borrower and to choose good loans over bad loans. They turn the monitoring process over to a bank that has invested human and reputational capital in this process. Thus, a bank serves as an *agent* on behalf of its depositors, monitoring the financial condition of those customers who do receive loans to ensure that the depositors will recover their funds. In return for monitoring services, depositors pay a fee to the bank that is probably less than the cost they would incur if they monitored borrowers themselves.

By making a large volume of loans, banks as delegated monitors can diversify and reduce their risk exposure, resulting in increased safety for their depositors. Moreover, when a borrowing customer has received the bank's stamp of approval, it is easier and less costly for that customer to raise funds elsewhere. This *signals* the

financial marketplace that the borrower is trustworthy and likely to repay his or her loans. This *signaling effect* of bank lending seems to be strongest, not when a bank makes the first loan to a new borrower, but when it grants renewal of a maturing loan.

### 4.3 Different Roles Banks Play in An Economy

While many people believe that banks play only a narrow role in the economy – taking deposits and making loans- the modern bank has had to adopt new roles to remain competitive and responsive to public needs. Banking’s principal roles today are as follows:

The intermediation role	Transforming saving received primarily from households into credit (loans) for business firms and others in order to make investments in new building, equipment, and other goods.
The payments role	Carrying out payments for goods and services on behalf of their customers (such as by issuing and clearing checks, wiring funds, providing a conduit for electronic payment, and dispensing currency and coin)
The guarantor role	Standing behind their customers to pay off customer debts when those customers are unable to pay (such as by issuing letters of credit).
The risk management role	Assisting customers in preparing financially for the risk of loss to property and persons.
The saving/investment advisor role	Aiding customers in fulfilling their long-range goals for a better life by building, managing, and protecting savings.
The safekeeping/certification of value role	Safeguarding a customer’s valuables and appraising and certifying their true market value
The agency role	Acting on behalf of customers to manage and protect their property or issue and redeem their securities (usually provided through the bank’s trust department).
The policy role	Serving as a conduit for government policy in attempting to regulate the economy and pursue social goals.



#### **4.4 Services of Banks**

Generally services of banking financial institutions (banks) are classified into core banking services (taking deposit and lending fund) and Ancillary Services (such as opening letter of credit, issuing bank guarantee, etc.). The Ancillary services are also popularly known as non-fund business/commission or fee based services. However, the internationally accepted terminology for ancillary services, now-a-days, are Off-balance sheet activities (OBSA). Therefore, banking services are to be broadly classified as: Core banking (balance sheet activities) and Off-Balance Sheet activities.

Miskhin (1992) observes, OBSA involve trading financial instruments and the generation of income from fees and loan sales, all of which affect bank profits but are not visible on bank balance sheet. OBSA may be market oriented (such as asset-securitization, loan sailing, future and option market operation, interest rates swaps etc.) and non-market oriented (such as opening L/C, issuing bank guarantees etc.). In Bangladesh, local banking financial institutions do not have any market oriented OBSA exposure.

Rose (2002) has classified the banking services into two categories: 1) the services bank have offered throughout history (currency exchange, discounting commercial notes, making business loans, offering saving deposits, safekeeping of valuables, trust services and extending credit to governments) and the services banks have offered more recently (offering consumer loans, financial advising, cash management, leasing, venture capital, selling insurance services, investment and merchant banking services).

#### **4.5 Multiple Deposit Creation by Banks**

A general idea has been given in Module-A (Money and Monetary System) regarding how banks create money or deposit. Now, the money creation process has been explained in details here. When Central Bank supplies the banking system with additional reserves (monetary base), Monetary Base (also called High Powered Money) equals currency in circulation (c) plus total Reserves (R) of the banking system.  $MR = C+R$ , deposits (money) increase by a multiple of this amount a process called Multiple Deposit Creation.

#### 4.5.1 Deposit Creation: The Single Bank

Suppose that the Tk. 100 million open market purchase has been conducted (by the Central Bank) with the Gumti Bank. After the Central Bank has bought the Tk. 100 million bonds from the Gumti Bank, the bank finds that it has an increase in reserves of Tk. 100 million. To analyze what the bank will do with these additional reserves, assume that the bank does not want to hold excess reserves because it earns little interest on them. We begin the analysis with the following T-account:

GUMTI BANK	
Assets	Liabilities
Securities -Tk. 100 m	
Reserves +Tk.100 m	

Because the bank has no increase in its checkable deposits, required reserves remain the same and the bank finds that its additional Tk. 100 million of reserves means that its excess reserves have risen by Tk. 100 million. Let's say that the bank decides to make a loan equal in amount to Tk. 100 million rise in excess reserves. When the bank makes the loan, it sets up a checking account for the borrower and puts the proceeds of the loan into this account. In this way, the bank alters its balance sheet by increasing its liabilities with Tk. 100 million of checkable deposits and at the same time increasing its assets with the Tk. 100 million loan. The resulting T-account looks like this:

GUMTI BANK	
Assets	Liabilities
Securities -Tk.100 m	Checkable deposits +Tk.100 m
Reserves +Tk.100 m	
Loans +Tk.100 m	

The bank has created checkable deposits by its act of lending. Because checkable deposits are part of the money supply, the bank's act of lending has, in fact, created money.

In its current balance sheet position, the Gumti Bank still has excess reserves and so might want to make additional loans. However, these reserves will not stay at the bank for very long. The borrowers took out loans not to leave Tk.100 million sitting idle in a checking account at the Gumti Bank but to purchase goods and services from other individuals and corporations. When the borrowers make these purchases by

writing checks, the checks will be deposited at other banks, and the Tk.100 million of reserves will leave the First National Bank. *As a result, a bank cannot safely make a loan for an amount greater than the excess reserves it has before makes the loan.*

The final T-account of the Gumti Bank is:

GUMTI BANK	
Assets	Liabilities
Securities -Tk.100 m	
Loans +Tk.100 m	

The increase in reserves of Tk.100 million has been converted into additional loans of Tk.100 at the Gumti Bank, plus an additional Tk.100 million of deposits that have made their way to other banks. (All the checks written on accounts at the Gumti Bank are deposited in banks rather than converted into cash, because we are assuming that the public does not want to hold any additional currency.) Now let's see what happens to these deposits at the other banks.

#### 4.5.2 Deposit Creation: The Banking System

To simplify the analysis, let's assume that the Tk.100 million of deposits created by Gumti Bank's loan is deposited at Bank A and that this bank and all other banks hold no excess reserves. Bank A's T-account becomes

Bank A	
Assets	Liabilities
Reserves +Tk.100 m	Checkable deposits +Tk.100 m

If the required reserve ratio is 10%, this bank will now find itself with a Tk.10 million increase in required reserves, leaving it Tk.90 million of excess reserves. Because Bank A (like the Gumti Bank) does not want to hold on to excess reserves, it will make loans for the entire amount. Its loans and checkable deposits will then increase by Tk.90 million, but when the borrowers spend the Tk.90 million of checkable deposits, they and the reserves at Bank A will fall back down by this same amount. The net result is that Bank A's T-account will look like this:

Bank A	
Assets	Liabilities
Reserves +Tk.10 m	Checkable deposits +Tk.100 m
Loans +Tk.90m	

If the money spent by the borrowers to whom Bank A lent Tk.90 million is deposited in another bank, such as Bank B, the T-account for Bank B will be

<b>Bank B</b>			
<b>Assets</b>		<b>Liabilities</b>	
Reserves	+Tk.90 m	Checkable deposits	+Tk.100 m

The checkable deposits in the banking system have risen by another Tk.90 million, for a total increase of Tk.190 million (Tk.100 million at Bank A plus Tk.90 million at Bank B). In fact, the distinction between Bank A and Bank B is not necessary to obtain the same result on the overall expansion of deposits. If the borrowers from Bank A write checks to someone who deposits them at Bank A, the same change in deposits would occur. The T-accounts for Bank B would just apply to Bank A, and its checkable deposits would increase by the total amount of Tk.190 million.

Bank B will want to modify its balance sheet further. It must keep 10% of Tk.90 million (Tk.9 million) as required reserves and has Tk.90% of Tk.90 million (Tk.81 million) in excess reserves and so can make loans of this amount. Bank B will make loans totaling Tk.81 million to borrowers, who spend the proceeds from the loans. Bank B's T-account will be

<b>Bank B</b>			
<b>Assets</b>		<b>Liabilities</b>	
Reserves	+Tk.9 m	Checkable deposits	+Tk.90 m
Loans	+Tk.81 m		

The Tk.81 million spent by the borrowers from Bank B will be deposited in another bank (Bank C). Consequently, from the initial Tk.100 million increase of reserves in the banking system, the total increase of checkable deposits in the system so far is Tk.271 million (=Tk.100 m + Tk.90 m + Tk.81 m).

Following the same reasoning, if all banks make loans for the full amount of their excess reserves, further increments in checkable deposits will continue (at Banks C, D, E and so on), as depicted in the following table. Therefore, the total increase in deposits from the initial Tk.100 increase in reserves will be Tk.1,000 million: The increase is tenfold, the reciprocal of the 10% (0.10) reserve requirement.

If the banks choose to invest their excess reserves in securities, the result is the same. If Bank A had taken its excess reserves and purchased securities instead of making loans, its T-account would have looked like this:

Bank A			
Assets		Liabilities	
Reserves	+Tk.10 m	Checkable deposits	+Tk.100 m
Securities	+Tk.90 m		

Creation of Deposits (assuming 10% reserve requirement and a Tk.100 million increase in reserves)			
Bank	Increase in Deposits (Tk.)	Increase in Loans (Tk.)	Increase in Reserves (Tk.)
Gumti	0.00	100.00 m	0.00
A	100.00 m	90.00 m	10.00 m
B	90.00 m	81.00 m	9.00 m
C	81.00 m	72.90 m	8.10 m
D	72.90 m	65.61 m	7.29 m
E	65.61 m	59.05 m	6.56 m
F	59.05 m	53.14 m	5.91 m
Total for all banks	1,000.00 m	1,000.00 m	100.00 m

When the bank buys Tk.90 million of securities, it writes Tk.90 million in checks to the sellers of the securities, who in turn deposit the Tk.90 million at a bank such as Bank B. Bank B's checkable deposits increase by Tk.90 million, and the deposit expansion process is the same as before. ***Whether a bank chooses to use its excess reserves to make loans or to purchase securities, the effect on deposit expansion is the same.***

You can now see the difference in deposit creation for the single bank versus the banking system as a whole. Because a single bank can create deposits equal only to the amount of its excess reserves, it cannot by itself generate multiple deposit expansion. A single bank cannot make loans greater in amount than its excess reserves, because the bank will lose these reserves as the deposits created by the loan find their way to other banks. However, the banking system as a whole can generate a multiple expansion of deposits, because when a bank loses its excess reserves, these reserves do not leave the banking system, even though they are lost to the individual

bank. So as each bank makes a loan and creates deposits, the reserves find their way to another bank, which uses them to make additional loans and create additional deposits. As you have seen, this process continues until the initial increase in reserves results in a multiple increase in deposits.

The multiple increase in deposits generated from an increase in the banking system's reserves is called the **simple deposit multiplier**. In our example with a 10% required reserve ratio, the simple deposit multiplier is 10. More generally, the simple deposit multiplier equals the reciprocal of the required reserve ratio, expressed as a fraction (for example,  $10 = 1/0.10$ ), so the formula for the multiple expansion of deposits can be written as follows.

$$\Delta D = \frac{1}{rr} \times \Delta R \text{ ----- (1)}$$

where  $\Delta D$  = change in total checkable deposits in the banking system

$rr$  = required reserve ration (0.10 in the example)

$\Delta R$  = change in reserves for the banking system (Tk.100 million in the example)

#### 4.6 Trends of Commercial Banking

In the context of the developing countries, the pattern of commercial banking had undergone considerable changes in the last three/four decades. Firstly, it was the replacement of the expatriate banks by the national/local banks. The commercial banking system in the developing countries which became independent after the Second World War was mainly composed of expatriate banks. The most important characteristic of expatriate banking (with their head offices almost always in the respective metropolitan countries) was its close relation to and its general integration with the banking system of the metropolitan country through capital control and interlocking directorship (Basu 1976). In other words, they operate as 'single international entities' and could not distinguish between deposits obtained in the colonial countries and the same obtained in the metropolitan country. Their chief line of business consisted in the provision of working capital to expatriate industries and export finance. Consequently, there was an undercurrent of feeling among the indigenous industrialists and traders that the foreign banks were unsympathetic to their interests and always favoured expatriate enterprises, even though the local

enterprises were credit worthy. That is, they failed to meet the growing demand for bank credit in the newly independent developing countries. It was, in this context, necessary on the part of the national governments of the developing countries to take over the charges of expatriate banks or to impose legal controls on the expatriate banks regarding their operation. Moreover, after their independence, in many of the developing countries such as India, Pakistan, Zambia, Morocco, Tunisia etc. national governments started developing their own commercial banking system in line of their own needs, either by direct participation or by supporting the institutions (Nwankwo 1973).

Secondly, the pattern of commercial banking of the developing countries has been changing in the functional sphere. In the past, the commercial banks were used to provide credit only for short-term and trade and commerce purposes. These loans were used to be risk-free and self-liquidating. Such loans were secured by physical goods in the process of production or in the process of orderly marketing and were repayable out of the price fetched by their sales and considered to liquidate themselves automatically. This principle was known as 'Real-Bills Doctrine'. Gradually, they shifted to the 'Shiftability Theory', so far as the liquidity of the commercial banks were concerned. In course of time, it was acknowledged by the commercial banks that their liquidity really dependent upon the holding of the assets which could be sold or 'shifted' irrespective of their dates of maturity, not on the 'real-bills'. According to the 'shiftability Theory' as long as the assets of the commercial banks can be shifted for necessary liquidity, the banks can extend the period of lending. Clearly, the application of this principle would enable the commercial banks to engage in 'medium term' lending. Finally, the commercial banks became adhered to 'Anticipated Income Theory' for the purpose of term lending (i.e. long time period). These loans are usually given for the purpose of financing capital equipment's and machinery. Such loans are provided in anticipation of smooth repayment out of future income from assets and hence term lending is actually based on anticipated income theory of liquidity (Ghatak 1981).

Thirdly, the changes occurred in the pattern of their participation in an increasing way in the development process. The commercial banks in the developing countries are not only the traditional repositories of savings and purveyors of credit, but by

encouraging the savings of the community and channeling credits into nationally desired directions, they participate effectively in the economic development. In order to accelerate the process of development, the commercial banks are now required to function more and more as development institutions. That is why, they are sometimes also called 'development-cum-commercial banks' (Basu 1976). In order to participate in the development process, the commercial banks in the developing countries have been restructuring and diversifying their functions. Side by side of short-term commercial lending, they are now-a-days operating development oriented short, medium and long-term loans. The total structure of commercial bank lending has also been changing in favour of industry at the expense of commerce in the developing countries in the recent years. Not only that, the commercial banks in the developing countries are now also moving in a big way to finance the agriculture/primary sectors. Most remarkable is that in some of the countries, they have been participating in the establishment of egalitarian society. In order to achieve social equality, not only their lending structure, but also their lending procedures, outlook etc. are required to be changed. In this regard, the bankers have been urged to go to the disadvantaged group of people and small customers and serve them. They are also urged to devote more attention to the 'purpose' for which they make loans or credits available rather than to 'security' in the customary sense, since the disadvantaged group of people have nothing tangible to offer as security (Jha 1970).

The moment it is accepted that the commercial banks are very important tools of economic development and help achieve social equality, the question of ownership of commercial banks by the government becomes quite relevant (Agrawal 1981). Because individual private owners of the commercial banks are not expected to give importance to the social considerations and thus social interests will definitely suffer. Again, social interest has got no universal meaning for all countries. It will differ from country to country depending on their particular socio-economic conditions. However, for the purpose of serving social interest and also playing due role in the economic development process, the commercial banks as well as the whole banking system have been nationalized in a number of developed and developing countries. It is assumed that the nationalization process would help in the conscious adoption and reorientation of the banking and financial system to the varied and newer needs of development of the countries. There are however, some strong arguments against



nationalization also, which can be summed up in the words of a British banker as “. . . surely nationalization cannot necessarily be the best and only way of encouraging the banks to be socially responsible and efficient” (Catto 1974). Still, there is another group of economists and bankers who do not believe in extreme cases of nationalization or privatization. According to them, “the case for nationalization is unproven and the case against it is weak . . .” (Robertson 1974 and Mikado 1974). However, it can be said, “it is not the question of whether the banks are in private or government ownership, if development is accepted as a national goal, all banks have to be committed to development” (Mubiru 1972). Therefore, the role and performance of the banks in an economy should be judged in the context of the objectives of development and the socio-economic conditions prevailing in that country.

While judging the performances of the commercial banks, not only their allocative or intermediative functions, but also their operational efficiency in the sense of profitability should be taken into consideration. It is true that when the banks are committed to achieve national goals, the question of conventional profitability cannot be given more importance (than allocative functions). Even then, the profitability has got some relevance not for the sake of commercial viability of the commercial banks, but more so for the fact of better performances of their allocative functions determined in terms of the socio-economic objectives of a country.

Fourthly, the commercial banks which were operating under the government ownership expanded their networks in a big way to serve economic purposes of the governments. However, their overall performance such as customer service, financial strength, managerial efficiency, profitability etc. had been deteriorating day by day. Further, they could not meet the changing demands of the customer or society as a whole under the government ownership. In order to improve the financial and overall performances of the banks, many developing countries have started taking decontrol/deregulatory measures (that is, removing government control over the banks) since mid 1980s. The reform measures were also felt necessary to prepare the banking sectors ready for facing the challenge of globalization (which means integrating the own economy with the rest of the world). However, the major aim of the financial sector in the developing countries was to “liberalize” the financial sector

for the matter of improving savings investment process and thus enhancing the efficiency of the working of the financial system of developing countries.

Bangladesh too adopted a number of financial sector reform measures since 1990 as a part of its overall economic stabilization and structural adjustment program. In fact, restructuring of financial institutions started in Bangladesh in the first quarter of 1980s through privatization (which allows new PCBs to operate) and denationalization (selling out government banks to private entrepreneurs) of financial institutions. Autonomy in fixation of interest of deposits and loans by the banks, new rules for classification of debts, restructuring of capital, market orientation of banking transactions, techniques for evaluating the bank performance (CAMEL Rating), adoption of some legal measures such as Bank Companies Act, Financial Institutions Act, Artha Rin Adalat, Bankruptcy Act etc. are some of the important reforms measures so far undertaken, in Bangladesh, however, they are still going on.

#### **4.7 Trends Reshaping Banking Today**

Banks are currently undergoing sweeping changes in function and form. In fact, the changes affecting the banking business today are so important that many industry analysts refer to these trends as a banking revolution, one that may well leave banks of the next generation almost unrecognizable from those of today. What are these key trends reshaping banking today?

##### **Service Proliferation**

Banks have been rapidly expanding the menu of financial services they offer to their customers. This proliferation of new services has accelerated in recent years under the pressure of increasing competing technology. It has also increased bank costs and posed greater risk of bank failure. The new services have had a positive effect by opening up a major new source of bank revenue-non-interest service fees (what bankers call fee income).

##### **Rising Competition**

The level and intensity of competition in the financial services field have grown as banks and their competitors have expanded their services offering. The local bank offering business and consumer credit, savings and retirement plans, and financial counseling faces direct competition for all of these services today from other banks,

credit unions, securities firms like Merrill Lynch, finance companies like GE Capital, and insurance companies and agencies. These competitive pressures have acted as a spur to develop still more services for the future.

### **Deregulation**

Rising competition and the proliferation of banking services have also been spurred on by deregulation, a loosening of government control of the financial services industry. Deregulation began with the lifting of government-imposed interest rate ceilings on savings deposits in an effort to give the public a fairer return on their savings. At the same time, new types of checkable deposits were developed to permit the public to earn interest on transaction (payments) accounts. Almost simultaneously, the services that many of banking key competitors, could offer were sharply expanded by legislation so they too could remain competitive with banks.

### **Rising Funding Costs**

Deregulation, in combination with increased competition, dramatically increased the real average cost of selling deposit, the principal source of funds for most banks. With deregulation bankers have been forced to pay competitive market determined interest rates for the bulk of the deposit funds. These more expensive source of funds have encouraged banks to look for ways to cut other operative expenses. Bankers have also been forced to find new sources of funds, such as securitization.

### **A Technological Revolution**

Banks faced with higher operating costs in recent years have increasingly turned toward automation and electronic networks to replace labor based production systems, especially for taking deposits, dispensing payments, and making credit available. The most prominent examples include ATMs point -of -sale (POS) terminals in stores and shopping centers that replace paper based means of paying for goods and services; and computer networks that rapidly process millions of transactions around the globe.

Thus, banking is becoming more of a capital-intensive, fixed-cost industry and less of a labor-intensive, variable-cost industry. Many experts believe that traditional brick-and-mortar bank buildings and face-to-face meetings between bankers and their customers production and service delivery will be fully automated.

### **Consolidation and Geographic Expansion**

Making efficient use of automation and other technological innovations requires high-volume banking. So banks have had to expand their customer base by reaching into new and more distant markets and by increasing account volume. The result has been a dramatic increase in bank branching activity to provide multiple offices, the information of holding companies that bring smaller institution together into larger conglomerates offering multiple services and mergers between some of the largest bank and nonbank financial service firms in existence.

### **Globalization of Banking**

The geographic expansion and consolidation of banking units have reached well beyond the boundaries of a single nation to encompass the globe. Today the largest banks in the world compete with each other for business on every continent. During the 1980s Japanese banks, grew much faster than most of their competitors worldwide. Huge banks headquartered in France, Germany and Great Britain have also become heavy-weight competitors in the global market for corporate and government loans. Deregulation has helped all of these institutions compete more effectively against U.S. banks and capture growing shares of the global market for banking services.

### **Increased Risk of Failure**

While consolidation and geographic expansion have helped to make many banks less vulnerable to local economic conditions, increasing competition between banks and nonbanks coupled with problem loans and a volatile economy have led to bank failures in nations all over the world. Deregulation of the financial sector has expanded the range of opportunity for bankers, but only at the cost creating a more treacherous financial marketplace where bank failures may be more likely to occur.

## **4.8 Are Banks Dying?**

Banking's share of the market for financial services appears to be declining, while security firms and non-bank financial institutions have shared a growing share of available customers. Some analysts have declared that banking as we know it today is "dying".

Many economists have argued that excessive regulation of banks and little or no regulation of many of their competitors is a primary cause of these recent developments and that greater deregulation of the industry is a *must* if banking is to remain strong and viable. Many banks, especially the largest, are trying to fight back and slow the loss of market share by (1) offering new services (such as selling shares in mutual funds and insurance policies), (2) charging higher user fees for many former “free” services, (3) offering more services through subsidiary business that are not as closely regulated as banks, or (4) entering into joint ventures with independent companies and thereby avoid at least some burdensome regulations.

In short, traditional banking may be dying, but if banks are given greater freedom to respond to the public’s changing demands for new services, they need *not* pass away.

#### **4.9 Are Banks Special?**

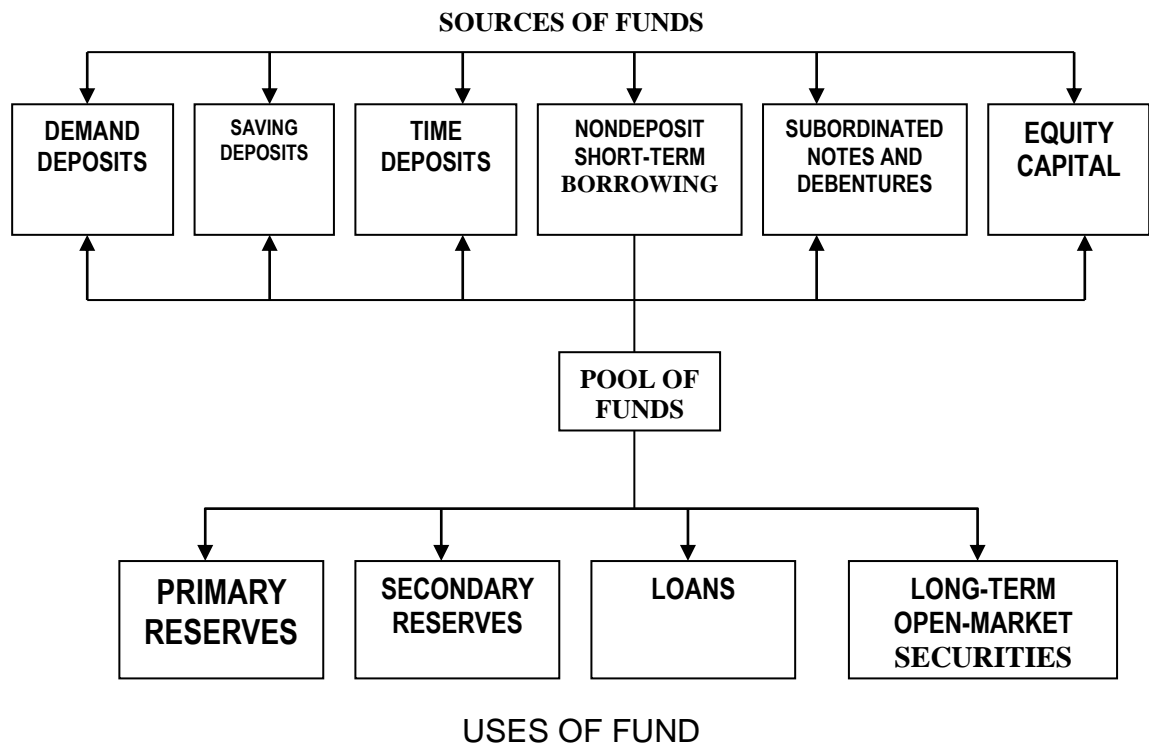
The overall financial system of Bangladesh is overwhelmingly dominated by banks. That’s why, financial system of Bangladesh is identified as the bank based financial system. Moreover, monetary system of Bangladesh is also captured by the banking system, as the banks can only create money. Consequently, payment system of the country is also largely dominated by the banks. Again, as compared to Securities Markets, banks can better address asymmetric information and market imperfection problems of the financial markets. For all these reasons, really banks are special.

#### **4.10 Fund Management in Financial Institutions**

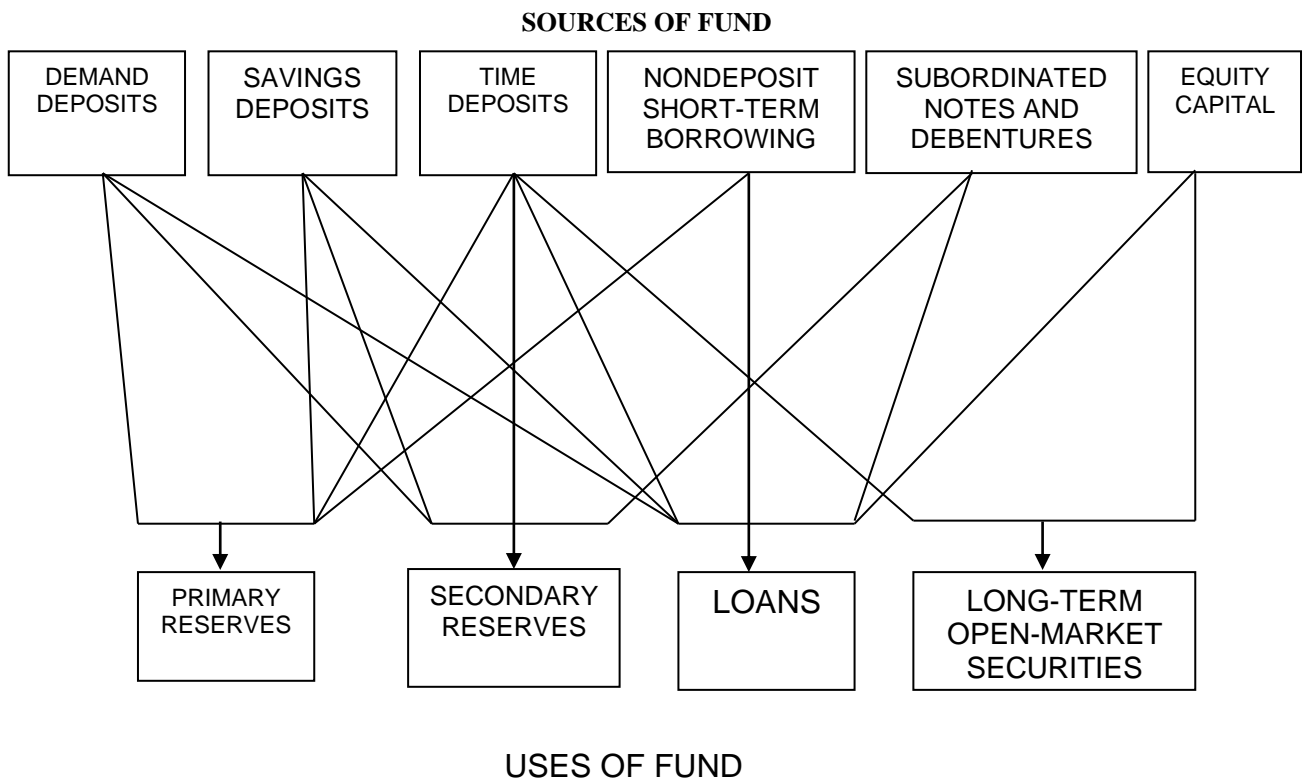
Financial institutions deal with the funds. They raise fund from SEUs and deploy funds to DEUs. They primarily intermediate between SEUs and DEUs. Their sources of funds (SEU) are their liabilities and uses of funds are their assets. That’s why, fund management on the part of financial institutions are also known as Asset-Liability Management or ALM management. Linked with the fund management, the financial institutions are also engaged in non-fund business or OBSAs. (such are L/C opening, providing bank guarantees etc.)

There are two approaches for managing funds in financial institutions: 1) Pool of Fund Approaches or 2) Conversion of Fund Approach. Both the approaches have been presented below:

## **POOL OF FUNDS APPROACH**



## **CONVERSION OF FUND APPROACH**



In the first approach (Pool of Fund Approach), financial institutions first, pool together funds from different sources (deposits, borrowings, capital) and then distribute the pooled funds into various uses (reserves, loans etc.) according to regulatory directions and business objectives. But in the second approach, each sources and uses of funds are matched and linked in order to maximize return and minimize risk. The second approach appears to be very clumsy, but from practical point of view is more scientific than the first approach.

Fund management of a financial institution cannot be accomplished by a single strategy, because of differential characteristics of different segments of the balance sheet of a financial institution. For example, the way liability management of a financial institution will be accomplished, the asset management cannot be done following the same way. Even within the asset or liability structure, there are substantial differences among the asset or liability items. The liability structure may easily be bifurcated between outside liability and inside liability. Sources of funds like deposit and borrowings are the liability of financial institutions to the outsiders, as depositors others are outsiders to the financial institutions. On the other hand, as capital is contributed by the owners (insiders), it is inside liability of a financial institution. In terms of asset structures, it can also be divided between Non-earning asset and earning assets. While earning assets may be used for maximizing earning, but non-earning assets are unable to generate earnings. Keeping in mind the characteristics, a typical and simplified balance sheet (along-with OBSA) of a financial institutions indicating its different segments has been shown below:

### **DIFFERENT ASPECTS OF ALM**

#### **Balance Sheet**

		Asset	Liability		
Non-Earning Asset	{	Cash & Liquid Reserve	Deposit /Borrowing	{	Outside Liability
		Loans/ Advances / Lease / Investment	Capital		Inside Liability
Earning Asset	{	Off-Balance Sheet			

Bottom - Line: Profit

Financial Institutions are also profit-earning entities. Therefore, they will all try to maximize profit and minimize risk. Financial Institutions can maximize profit either by increasing revenue or by decreasing cost or by both. Keeping in mind the above broad objective of running a Financial Institutions, the specific intention, and process of managing each segments of an Financial Institution are mentioned below:

- i) **Outside Liability:** Deposits and borrowing are two main constituents of outside liabilities of Financial Institutions. All Financial Institutions will try to mobilize these liabilities at a minimum cost, ultimately to maximize profit. But the risk of mobilizing low cost funds is instability that is, it can be withdrawn at any amount of time. With a high degree of volatile fund, Financial Institutions cannot construct very stable asset structure, which is essential for maximizing revenue. Therefore, for managing outside liability, Financial Institutions will have to make a trade-off or balance between minimization of cost and stability of fund.
- ii) **Inside Liability:** Capital constitutes inside liability of a Financial Institution. Capital is defined as the fund which is to be contributed by the owners of Financial Institutions. The most important function of capital is to absorb any sort Financial Institutions business loss. Therefore, owners of Financial Institutions are not to decide how much fund they will allocate for capital purpose. Rather the central bank in each country will decide the issue. In fact, now-a-days, in the globalized world as not of Financial Institutions have international exposure, the issue is rather settled by Basel Committee, a committee of G-20 central bank governors and the international standard setter in banking. Based on Basel Committee's guide line, each central bank is deciding about the size of Financial Institutions capital. In Bangladesh, the capital requirement for BFIs is 10% of Risk weighted Assets or Tk. 400 crore whichever is higher and for NBFIs, the capital requirement is 10% of RWA, out of which minimum 5% will be core capital.
- iii) **Non-Earning Asset:** Financial Institutions require to keep some cash reserves and most liquid assets in hand or with central bank so that they can fulfill the depositors withdrawal demand and perform other urgent responsibilities. In order to do that if Financial Institutions keep a huge amount of fund, then the Financial Institutions will definitely look very "liquidity" but their profitability will be reduced (as lot of funds will not be available for investment). On the other hand, if Financial Institutions invest most of the funds, their profitability might be



increased but their “liquidity” purpose may be disregarded for which Financial Institutions may face “bank run”. In order to overcome the dilemma (Liquidity vs. Profitability), the central bank might dictate how much liquid fund the Financial Institutions must always keep in hand. In Bangladesh, according to Bangladesh Bank direction, BFIs are required to maintain Cash Reserve Ratio (CRR) of 5% (of total demand and time liability) with the central bank and Statutory Liquidity Ratio (SLR) of 15% (TDTL) with themselves. NBFIs are required to maintain SLR equivalent to 5% of their total liability, out of which CRR is 2.5% of total term deposits.

- iv) **Earning Assets:** These assets (such as loans, investment etc.) earn revenues for Financial Institutions and therefore, Financial Institutions should try to maximize revenue from earning assets. At the sometime, Financial Institutions must keep in mind about soaring of risk levels as they go for maximization of revenues. If the Financial Institutions are not fully aware of the risks, their asset quality will deteriorate and ultimately profit will decline. Therefore, all Financial Institutions, while managing their earning assets, must be careful of maintaining appropriate balance between “maximization of revenues and minimization of risks”.

One important issue relating to earning assets management is the pricing of earning assets. From the revenue of earning assets, Financial Institutions must cover their all sorts of costs including costs of capital (profit). Therefore, the pricing of earning assets must consider Financial Institutions cost of funds (COF), cost of Administration (COA) and cost of capital (COC). In addition, cost of bad debt may be included in order to accommodate lending risks.

- v) **Matching between Asset and Liability Structure:** Financial Institutions must also be aware of matching between asset and liability structure in terms of their maturity and interest rate. For example, having short-term liability, the Financial Institution should not go for creating long-term assets structure. Or, with high cost liability Financial Institutions cannot opt for low yielding assets. Mismatch between assets and liabilities in terms of maturity and interest rate structure may bring disaster for Financial Institutions. Matching strategy is, therefore, a very significant part of successful fund management on the part of Financial Institutions.
- vi) **Off-Balance Sheet Activity:** Though OBSAs are basically non-fund based (L/C, guarantee etc.), however, they are, in most of the cases, linked with the balance

sheet activities (taking deposits and lending funds). From OBSA, Financial Institutions can earn lot of revenue, but at the same time, they should not be oblivious about risk emanating from these activities (OBSA).

**Finally**, it appears that out of all these aspects of fund management of Financial Institutions, capital management (inside liability) and liquidity management (non-earning asset) are regulatory requirement and Financial Institutions are bound to comply these. The rest of the aspects of fund managements are to be decided by the management of Financial Institutions based on their respective business strategies. As shown in above table, the bottom-line of any Financial Institution is profitability, which can be ensured by managing all the different aspects of fund management properly.

<u>Aspects</u>	<u>Objectives</u>
1. Outside Liability	Minimization of Cost & Stability (Volatility) of Fund
2. Inside Liability	Regulatory Requirement: For BFI 10% of RWA or Tk. 4 Billion whichever is higher
3. Non-Earning Asset	Regulatory Requirement: For NBFI: SLR 10% of RWA out of which 5% is core capital For BFIs: CRR-5%, SLR-13% For NBFIs: SLR: 5% of Total Liability CRR: 2.5% of total term deposit
4. Earning Asset	Maximization of Return & Minimization of Risk
5. Matching Strategy	Matching Between Asset & Liability: Interest Risk and Maturity Matching
6. Pricing of Earning Asset	Based on Liability Cost: COF, COA, COC & Risk Premium
7. Off-B/S Activity	Increase Fee Income and Reduce Risk
8. Profitability Mgt./Bottom Line Banking	Based on Above All

#### 4.11 Banks in Bangladesh

According to Banking Companies Act, 1991, “Banking Company” means any company transacting the business of banking in Bangladesh, [and includes all new banks and special banks] and ‘banking’ means the accepting, for the purpose of lending or investing, of deposits of money from the public, repayable on demand or otherwise, and withdrawable by cheque, draft, order or otherwise.

From the ownership perspective, there are four categories of banking institutions in Bangladesh, State-owned Commercial Bank (SCBs), State owned Specialized Banks (SBs), Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs). Total number of banks operating in FY 22 is 63. The number of bank branches stood at 10,752 at the end of December, 2020. Bank types, number of banks and their assets and deposits shares are shown in the table given below.

##### Structure of Banking System, Assets and Deposits

(As on December 2020)

Nature of Banks	No. of Banks	No. of Branches	Total * Assets	Share in %	Total* Deposits	Share in %
SCBs	6	3798	4616.7	25.1	3570.2	25.9
SBs	3	1492	401.0	2.1	350.6	2.5
PCBs	43	5395	12378.7	67.3	9287.0	67.3
FCBs	9	67	1009.6	5.5	590.1	4.3
Total	61	10752	18406.0	100	13797.9	100

\* In Billion Taka

Source: Bangladesh Bank Annual Report, 2020-2021.

#### 4.12 Non-Banking Financial Institutions

Non-bank financial institutions (NBFIs) comprise a wide variety of financial institutions such as Equipment leasing, Hire-purchase Companies, Investment Companies, Mutual Funds, Merchant Banks, Pension Funds, Loan and Finance Companies etc. In India and Srilanka, even the indigenous banks named as Chit funds, Nidhis etc. are also included under NBFIs. In some countries, specially in Europe, many individual financial institutions offer both banking and non-banking financial services, popularly known as universal banks. NBFIs, are therefore considered as generic term in economic literature and refer to those financial institutions, the liabilities of which are not accepted or used as means of payment (or money) in the settlement of debts. This definition is not invariable and all inclusive because the term

“means of payment” (or money) can itself be interpreted in various ways. There is thus an element of arbitrariness in the definition of NBFIs. On the other hand, the liabilities of the banking financial institutions (BFIs) are considered as money. Indeed, the main difference between the BFIs and NBFIs arises due to the differences in the nature of their liabilities. However, this criterion of distinguishing NBFIs from BFIs by itself is also not adequate because all the liabilities of BFIs cannot be used as means of payments.

In spite of the differences between BFIs and NBFIs, the role of both the categories of financial institutions/intermediaries is same for the matter of financial and economic development of a country. They play a significant role in the progress of an economy by influencing its savings-investment process. In the process of influencing savings – investment level of a country, the existence of BFIs and NBFIs should be thought of competitive as well as complementary to each other. Both BFIs and NBFIs compete to each other for attracting funds from same set of customers and they complement each other to bring forth financial development by way of increasing the choice base of the customers through providing a wider range of financial instruments. In this regard, Goldsmith (1969) observes that financial development in different countries of the world starts with BFIs and as it (financial development) proceeds, the role of NBFIs becomes prominent alongwith that of BFIs. Other than widening the choice base of the investors/depositors, the establishment of NBFIs or adoption of non-banking financial activity by BFIs themselves, would reduce overall credit and liquidity risks of the financial system. In fact, the role of NBFIs should be discussed in relation to above.

#### **4.12.1 NBFIs in Bangladesh**

In the context of Bangladesh, its financial system is still undiversified and significantly dominated by traditional banking system. Its journey with NBFIs (other than two public sector NBFIs viz. ICB and HBFC) started only in the end of 1980s with establishment of some multinational leasing companies and two local based investment companies named BCI and NCL. However, within a few years both the investment companies went into crisis and were closed and later decided to be converted into banks. In 1993, a new Financial Institution Act has been enacted (repealing Non-Bank Financial Institutions Order – 1989 and Chapter V of

Bangladesh Bank order 1972) for better regulation and ensuring of the growth of the NBFIs sector of the country. The new FIA – 1993 defines a NBFIs as an institution which:

- (i) gives loans or advances for industry, commerce, agriculture or housing, or
- (ii) carries on business of the underwriting or acquisition of, or the investment or investment in shares, stock, bonds, debentures or debenture stock or securities issued by the Government or any local authority, or
- (iii) carries on business of hire purchase transactions including leasing of machinery or equipment, or
- (iv) finances venture capital, and includes merchant bank, investment company, mutual association, mutual company, leasing company or building society.

The FIA – 93 has empowered Bangladesh Bank to grant license and regulate the activities of the aforesaid NBFIs. They are regulated and supervised by Bangladesh Bank under two core departments namely Department of Financial Institutions and Markets (DFIM) and Financial Institution Inspection Department (FIID).

NBFIs are working as multi-product financial institutions in Bangladesh. At present, there are 35 NBFIs, of which 3 are government owned, 19 are privately owned local companies and the rest 13 are joint ventures with foreign participation, operating in Bangladesh. Though the market is very small as compared to banking market, yet the market (NBFIs) is expanding rapidly. The number of branches of NBFIs stood at 277 as on June 30, 2021. Their total assets and liabilities were around Tk. 915 billion and Tk. 829 billion respectively at the end of June-2021.

For establishing a new NBFIs the minimum paid-up capital is Taka 1 billion. Bangladesh Bank has asked all the existing NBFIs to maintain 10% of RWA as their capital, out of which 5% would constitute core capital. The major sources of funds of NBFIs are term deposits, issuance of commercial papers, bonds and debentures. They can also borrow from BFs and other participants of Money Market. Though NBFIs have invested in different sectors of Bangladesh economy, yet they are mostly concentrated in the industrial sector (around 48%). In addition to industrial lending, NBFIs are providing funds to Housing sector (19%), trading sector (14%), merchant banking (3%), agriculture (2.5%) and margin loan (1%).

## 4.13 REVIEW QUESTIONS

### 1. Multiple Choice Questions:

1. Which of the following statement is not correct for financial institutions?
  - a) Financial Institutions practice Indirect Mode of Finance.
  - b) They mediate between SEU and DEU.
  - c) They are also known as financial intermediaries.
  - d) All of their liability is money.
2. In the midst of so many financial intermediaries, banks are specially needed because of their:
  - a) ability to address market imperfection.
  - b) superior ability to evaluate information
  - c) signalling effect of bank lending to borrower is highest
  - d) All of the above.
3. Suppose, a bank has opened a letter of credit on behalf of its customers. It is a \_\_\_\_
  - a) payment role
  - b) guarantor role
  - c) agency role
  - d) policy role
4. Suppose, GoB has asked all banks to provide subsidized credit to COVID affected trader and banks have complied. It is a \_\_\_\_
  - a) Intermediation role
  - b) Policy role
  - c) Lending role
  - d) Agency role
5. In addressing asymmetric information problems of financial markets, which one of the following has got superior ability-
  - a) Banking Financial Institutions
  - b) Non-banking Financial Institutions
  - c) Market Intermediaries of Securities Market
  - d) Central Bank of the country.
6. Which of the following does not belong to core banking service?
  - a) Taking deposit from general people
  - b) Lending fund to borrowers
  - c) Issuing bank guarantees
  - d) Providing credit to businessmen
7. Which of the following does not represent OBSA of banks?
  - a) Interest Rate Swap
  - b) Providing subsidized loan
  - c) Issuing bank guarantee
  - d) Opening of Letter of credit.

8. Which of the following is correct in case of OBSAs?
  - a) They do not generate from balance sheets
  - b) They affect profit and loss accounts
  - c) They represent non-interest income
  - d) All of the above
9. Which of the following is not true for monetary base?
  - a) It includes currency in circulation (C)
  - b) It includes reserves (R) of the banking system
  - c) It is the aggregate of C and R
  - d) It is also known as High Powered Money
10. If a bank chooses to use its excess reserves to purchases securities, rather than making loans, the effect on deposit expansion:
  - a) is same as that of making loan
  - b) is higher in case of making loans
  - c) is lower in case of making loans
  - d) is uncertain
11. With a fifteen percent required reserve of a banking system, the simple deposit multiplier is -
  - a) 0.15%
  - b) 6.66
  - c) 15
  - d) 0.06
12. Which one of the following is not a characteristics of an “expatriate bank”?
  - a) It was closely related to and integrated with the banking system of metropolitan country
  - b) It could distinguish between deposits obtained from colonial countries and metropolitan countries.
  - c) It's chief line of business consisted in the provision of working capital and expect finances to expatriate industries
  - d) It failed to meet the growing demand of bank credit of the local enterprises.
13. Which one of the following is not a characteristics of Real Bill Doctrine?
  - a) This indicates short term lending
  - b) This indicates risk free loans
  - c) This indicates self-liquidating loans
  - d) This indicates unsecured loans.
14. The performances of the commercial banks should be judged from the following point of view:
  - a) allocative efficiency
  - b) intermediative efficiency
  - c) operational efficiency
  - d) all of the above.

15. Which one of the following does not indicate “deregulation” of banking:
  - a) loosening of govt. control over BFIs
  - b) lifting of govt. imposed interest rates
  - c) withdrawal of directives in relation to product pricing
  - d) none of the above is correct.
16. Which of the following factors is not responsible for globalization of banking?
  - a) Deregulation
  - b) Automation
  - c) Service proliferation
  - d) Increased risk of failure

#### **4.14 Probable Questions for Examination:**

1. Why we cannot write cheques against the liabilities of Non-bank financial institutions?
2. What is the precondition for successful intermediation activities of banking financial institutions?
3. In spite of existence of so many financial intermediaries, why would banks be needed at all?
4. Explain briefly the “delegated monitoring theory” in relation to the significance of banking financial institutions in a financial system.
5. Explain the intermediation and payment roles of banks in an economy.
6. Explain the agency and policy roles of banks in an economy. Do these represent core banking roles in an economy?
7. Banks intermediation may be treated as “risk arbitrage”. What does it mean?
8. What is meant by simple deposit multiplier?
9. The commercial banking system of the developing countries before Second World War was mainly comprising of “expatriate banks”. State the characteristics of the expatriate banks.
10. Describe the trends of Commercial Banking of developing countries after the end of Second World War till today.
11. The pattern of commercial banking of the developing countries after the Second World War had undergone a lot of changes specially in the “functional sphere”. Describe those changes in the context of functional sphere.
12. Distinguish among “Real Bills Doctrine”, “Shiftability Theory” and “Anticipated Income Theory” of bank lending.



13. Explain the basis of providing long-term lending according to Anticipated Income Theory.
14. Show how come a bank balance between its liquidity and medium term lending according to Shiftability Theory.
15. Explain the “Real Bills Doctrine” in terms of providing short-term loans.
16. In course of evolution of commercial banking in developing countries, they were asked to participate in the economic development process of those countries. How did they (commercial banks) do it?
17. During 70,s and 80,s commercial banks in many developing countries were “nationalized”. State the back ground and objectives of banks nationalization in developing countries.
18. State the consequences of banks nationalization and the subsequent steps of the government of the developing countries in order to improve the overall performance of the banks.
19. Explain the trends/factors which are reshaping commercial banking all over the world now-a-days.
20. What do you mean by Globalization of Banking? Explain the factors that may cause globalization of banking. Does globalization increase the risk of failure of bank?
21. Why is it argued that banks are dying?
22. Why is it argued that Banks are Special?
23. How do you differentiate between Pool of Fund and Conversion of Fund Approach for the matter of fund management in financial institutions?
24. How do you define Multiple Deposit Creation Process?
25. How do you differentiate between:
  - a) Inside and Outside liability
  - b) Earning and Non-earning assets.
26. Give examples of the following role of banks
  - a) Policy role:
  - b) Payment role:
  - c) Guarantor role:
  - d) Intermediation role:
  - e) Safe keeping role:

## **MODULE - 5**

### **Financial Markets**

#### **5.1 Introduction**

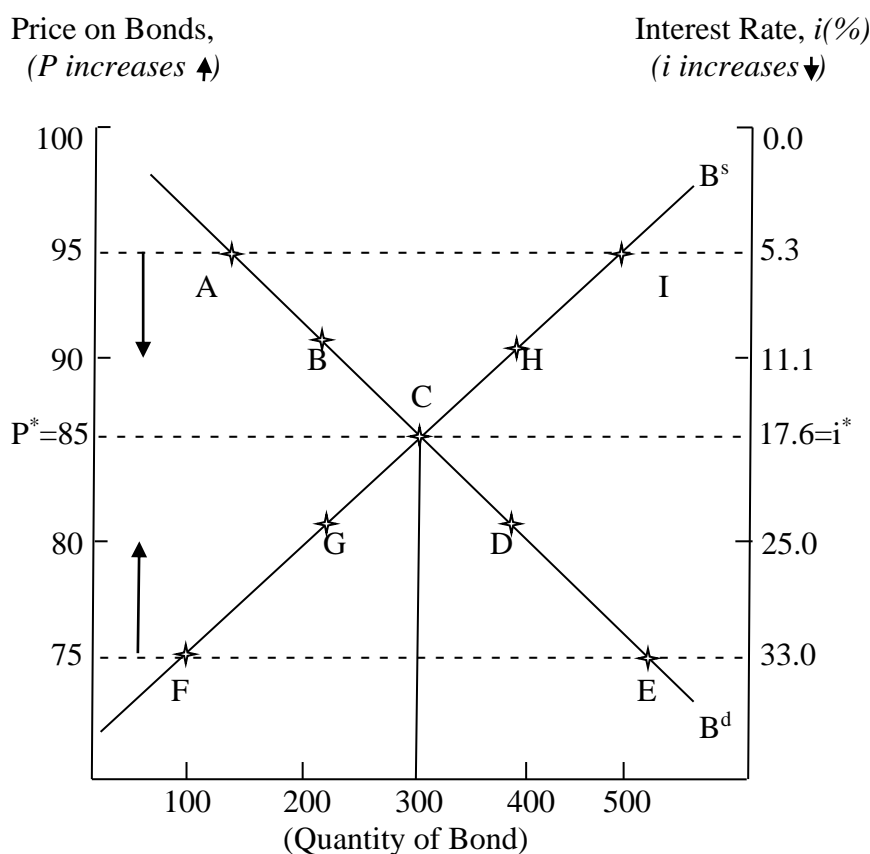
Financial markets are the markets where financial instruments are traded or bought and sold. Financial instruments are the evidences of financial claims of one party against another party. Therefore, in order to become a financial instrument, “evidence of financial claim” is a must. It is also to keep in mind that evidencing financial claim will make it financial instrument, but not money or medium of exchange. Different forms of money (coins, currency notes and cheques) are also financial instruments as they show the evidence of financial claims. But other financial instruments (other than different forms of money) are only evidencing financial claims, but unable to be used as medium of exchange and therefore, are not money (such as share, debenture, sanchay patra, letter of credit, bill of exchange, promissory notes etc.). That’s why, it is said, “all forms of money are financial instruments but all financial instruments are not money”.

The most important way of classifying the financial markets is on the basis of maturity period of financial instruments which are traded, namely money markets and capital markets. The classification like banking market and security market is on the basis of mode of finance – indirect and direct. Irrespective of maturity of financial instruments or mode of finance, the most important task of financial market is to allocate funds most efficiently from SEUs to DEUs. Like real sector markets, the financial markets also determine their price – rate of interests.

#### **5.2 Interest Rate Determination**

There are various approaches for determining interest rates. These are discussed below:

1. **Bond Market Approach:** Demand for bond and supply of bond will determine price of bond and since price of bond is inversely related to rate of interest, higher the bond price, lower is the interest rate and lower the bond price, higher is the interest rate.



In terms of above figure  $D^B$  (supply of bond) determines  $P^B$  (price of bond) at Tk. 85. Corresponding to Tk. 85 rate of interest is 17.6%. Now if  $P^B$  goes up to Tk. 95, rate of interest will become 5.3% and if  $P^B$  declines to Tk. 75, rate of interest will become 33.0%.

$D^B$  is supply of loanable fund and  $S^B$  is demand for loanable fund, that's why, Bond Market approach of interest determination is also known as loanable fund theory.

Changes in the demand for bonds and supply of bonds may cause changes in the rate of interest.

Demand for bonds might be changed because of changes in:

- Wealth,
- Expected returns on bonds relative to alternative assets
- Risk of bonds relative to alternative assets
- Liquidity of bonds relative to alternative assets

Supply curve for bonds may shift because of following factors;

- Expected profitability of investment opportunities
- Expected inflation
- Government activities (deficit financing).

## 2. Macroeconomic Loanable Fund Approach:

By analyzing a national income equation, we get:

$$Y = C + I + G + NX;$$

where,  $C$  = Consumption expenditure  
 $I$  = Business expenditure  
 $G$  = Government expenditure  
 $NX$  = Net exports.

$$Y - C - G = I + NX$$

$$\text{or, } S = I + NX;$$

where  $S$  = National savings

We know,  $NX = NCO$  (Net capital outflow)

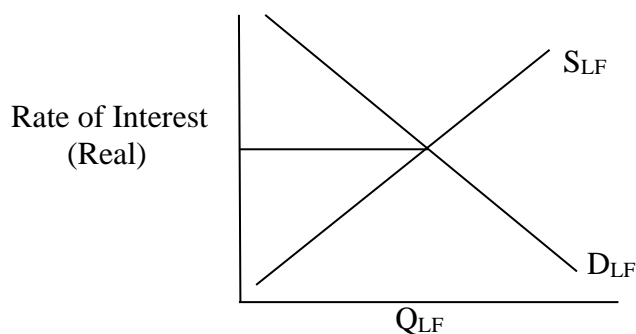
$NCO$  is also known as net foreign investment. It is equal to purchase of foreign assets by domestic residents minus the purchase of domestic assets by foreigners.

In a closed economy  $NCO = 0$ , therefore  $S = I$ . But in an open economy, national savings has got two uses: domestic investment and net capital outflow ( $NCO$ ).

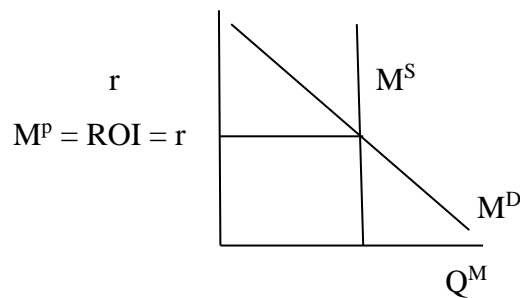
Therefore,  $S = I + NCO$

National savings is the supply of loanable fund. On, the other hand, National investment is the demand for loanable fund comprising of domestic investment and net capital outflow. At equilibrium,

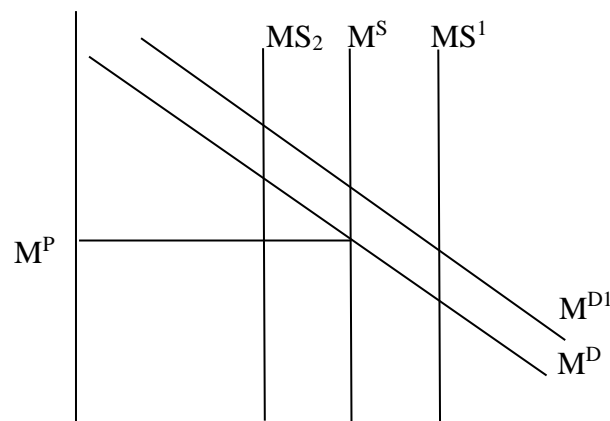
$$D_{LF} = S_{LF}$$



3. An alternative theory of how interest rates are determined is provided by the **liquidity Preference Framework**, which analyzes the supply of and demand for money.



In terms of above diagram, interest rates will change when the demand for money changes or price level or when the supply of money is changed.



To understand changes in interest rate, we must understand what causes the demand and supply curves for money to shift. Two factors cause the demand for money to shift: income and price level. According to John Maynard Keynes, there are two reasons why income would affect the demand for money. First, as an economy expands and income rises, wealth increases and people will want to hold more money as a store of value.

Second, as the economy expands and income rises, people will want to carry out more transactions using money as a medium of exchange, with the result that they will also want to hold more money. On the other hand, when price level rises, the same nominal quantity of money is no longer as valuable, it cannot be used to purchase as many real goods or services. To restore their holding of money in real terms to the former level, people will want to hold a greater nominal quantity of money.

In regard to supply of money, it is completely controlled by the central bank. Unlike usual upward sloping supply curve, the money supply curve is vertical, as central banks are not motivated by nominal profit, rather they are motivated by national interest. Therefore, an increase (decrease) in the money supply engineered by the central bank will shift the supply curve for money to the right (left).

### **Yield to Maturity**

Of the several common ways of calculating interest rates, the most important is the **yield to maturity** (YTM), the interest rate that equates the present value of cash flow payments received from a debt instrument with its value today. Because the concept behind the calculation of the yield to maturity makes good economic sense, economists consider it (YTM) as the most accurate measure of interest rates. YTM for different credit instruments\* are calculated as follows:

### **Simple Loan**

A simple loan is a loan where the lender provides the borrower with an amount of fund which the borrower is required to repay to the lender (both principal and interest) at the maturity date.

The yield to maturity on a simple loan is:

$$PV = \frac{FY}{(1 + i)^n}$$

where	PV = amount borrowed	= Tk. 100
	CF = cash flow in one year	= Tk. 110
	n = number of years	= 1

- 
- According to Mishkin and Eakin (2006), there are four types of credit instruments: Simple loan, Fixed payment loan, Coupon Bond and Discount Bond.

An important point to recognize is that for simple loans, the simple interest rate equals the yield to maturity.

### Fixed-Payment Loan

This type of loan has the same cash flow payment every period throughout the life of the loan. In a fixed payment loans the borrower makes the same payment to the bank every month until the maturity date, when the loan will be completely paid off. To calculate the yield to maturity for a fixed payment loan, the following formula is used: For any fixed-payment loan,

$$LV = \frac{FP}{(1+i)} + \frac{FP}{(1+i)^2} + \frac{FP}{(1+i)^3} + \dots + \frac{FP}{(1+i)^n}$$

where            LV = loan value  
                    EP = fixed yearly payment  
                    n = number of years until maturity

For a fixed-payment loan, the loan value, the fixed yearly payment and the number of years until maturity are known quantities, and only the yield to maturity is not. So we can solve this equation for the yield to maturity  $i$ .

### Coupon Bonds:

The issuer of the coupon bond pays the bond holder a fixed coupon payment (interest payment) every year until the maturity date, when the face value is also repaid.

More generally, for any coupon bond, the following equation is used:

$$P = \frac{C}{1+i} + \frac{C}{(1+i)^2} + \frac{C}{(1+i)^3} + \dots + \frac{C}{(1+i)^n} + \frac{F}{(1+i)^n}$$

where            P = price of coupon bond  
                    C = yearly coupon payment  
                    F = face value of the bond  
                    n = years to maturity date

In the equation the coupon payment, the face value, the years to maturity, and the price of the bond are known quantities and the yield to maturity is not. Hence we can solve this equation for the yield to maturity  $i$ .

There are three interesting facts about relationship between YTM and coupon bond:

1. When the coupon bond is priced at its face value, the yield to maturity equals the coupon rate.
2. The price of a coupon bond and the yield to maturity are negatively related; that is, as the yield to maturity rises, the price of the bond falls. As the yield to maturity falls, the price of the bond rises.
3. The yield to maturity is greater than the when the bond price is below its face value.

One special case of a coupon bond is worth discussing because its yield to maturity is particularly easy to calculate. This bond is called a **consol** or a **perpetuity**; it is a perpetual bond with no maturity date and no repayment of principal that makes fixed coupon payments forever. The formula for the price of the consol  $P_c$  is as follows:

$$P_c = \frac{C}{i_c}$$

where

$P_c$  = price of the perpetuity (consol)

$C$  = yearly payment

$i_c$  = yield to maturity of the perpetuity (consol)

We can also rewrite this formula as:

$$i_c = \frac{C}{P_c}$$

### Discount Bond

A discount bond (also known as zero coupon bond) is sold at discount (less than face value) and the face value is repaid at the maturity date. Unlike a coupon bond, a discount bond does not make any interest payment.

The yield-to-maturity calculation for a discount bond is similar to that for the simple loan.

For any one-year discount bond, the yield to maturity can be written as

$$i = \frac{F - P}{P}$$

where

$F$  = face value of the discount bond

$P$  = current price of the discount bond



In other words, the yield to maturity equals the increase in price over the year  $(F - P)$  divided by initial price  $(P)$ .

Our calculations of the yield to maturity for a variety of bonds reveal an important fact: *current bond prices and interest rates are negatively related: When the interest rate rises, the price of the bond falls, and vice versa.*

### 5.3 The Money Markets

Money markets are used to facilitate the transfer of short-term funds from individuals, corporates or government with excess funds to those with deficits funds. Even investors who focus on long-term securities tend to maintain some money market securities for liquidity. Money market securities are short-term, low-risk, and very liquid. Because of the high degree of safety and liquidity these securities exhibit, they are close to money.

#### Money Markets Defined

The term money market is actually a misnomer. Money-currency-is not traded in the money markets. Because the financial instruments that do trade there are short-term and highly liquid, and are close to money. Money market securities have three basic characteristics in common:

- They are usually sold in large denominations.
- They are very liquid and have low default risk.
- They mature in one year or less from their original issue date.

Money market securities usually have an active secondary market. This means after the money market security have been sold initially, it is relatively easy to find buyers who will purchase it in the future. Another characteristic of the money markets is that they are **wholesale markets**. This means that most transactions are very large, usually in excess of Tk.1 million. Flexibility and innovation are two important characteristics of any financial market, and the money markets are no exception. Despite the wholesale nature of the money market, innovative securities and trading methods have been developed to give small investors access to money market securities.

#### The Purpose of the Money Markets

The money markets provide a means to invest idle funds and to reduce the opportunity cost of keeping idle fund (lost interest income). The sellers of money

market securities find that the money market provides a low-cost source of temporary funds. The primary reason on the part of corporations and the government for using money market is that cash inflows and outflows are rarely synchronized. The government can borrow short-term funds that it will pay back when it receives tax revenues. Business also face problems caused by revenues and expenses occurring at different times. The money markets provide an efficient, low-cost way of solving these problems.

### **Participants in the Money Markets and their Roles:**

<u>Participant</u>	<u>Role</u>
Treasury Department	Sells Treasury Bills (T-Bills) to finance government debt.
Central Banks	Buys and sells treasury securities for the purpose of controlling money supply.
Commercial Banks	Buy T-Secs, sell certificate of Deposit, avail Repo, make short-term loans; offer money market services to individuals.
Business/Corporates	Buy and sell various money market securities as a part of cash management.
Individuals	Buy and sell various money market securities.
Invest Companies (Brokerage Houses)	Trade on behalf of commercial accounts.
Finance Companies	Raising funds and lending funds to small business.

### **Money Markets Instruments**

A variety of money market instruments are available to meet the diverse needs of the market participants. Some of them are discussed below:

#### **Treasury Bills**

When a government needs to borrow funds, the treasury frequently issues short-term securities known as Treasury Bills (T-bills). These are generally sold weekly through an auction. T-bills are attractive to investors because they are virtually free of credit (default) risk. Another attractive feature of T-bills is their liquidity, due to their short maturity and strong secondary market.

Most money market securities including T-Bills do not pay interest. Instead, the investor pays less for the securities than it will be worth when it matures, and the increase in price provides a return. This is called **discounting** and is common to all short-term securities.

The annualized yield on T-Bills ( $Y_T$ ) as well as other money market instruments may be calculated as follows:

$$Y_T = \frac{SP - PP}{PP} \times \frac{365}{n}$$

where SP = selling price

PP = purchase price

n = number of days of the investment (holding period)

An investor purchases a T-bill, six-month (182-day) maturity and \$10,000 par value for \$9,600. If this T-bill is held to maturity, its yield is

$$Y_T = \frac{\$10,000 - \$9,600}{\$9,600} \times \frac{365}{182} = 8.36\%$$

If the T-bill is sold prior to maturity, the selling price and therefore the yield are dependent on market conditions at the time of the sale.

Suppose the investor plans to sell the T-bill after 120 days and forecasts a selling price of \$9,820 at that time. The expected annualized yield based on this forecasts is

$$Y_T = \frac{\$9,820 - \$9,600}{\$9,600} \times \frac{365}{120} = 6.97\%$$

The higher the forecasted selling price, the higher the expected annualized yield.

### **Federal Funds**

Usually, a central bank used to set minimum reserve requirements that all banks must maintain to ensure that they have adequate liquidity.

Federal funds are short-term funds transferred (loaned or borrowed) between financial institutions, usually for a very short period of time, in order to fulfill the reserve requirements at a central bank. If therefore, means banks with excess reserves provide

loan to reserve shortfall bank for fulfilling the reserve requirement. The interest rate for borrowing these funds is close to the rate that the central bank charges on discount loans.

### **Repurchase Agreements**

In a Repurchase agreements (repos) one financial institution sells securities to another with an agreement to repurchase the securities at a specified date and price. In essence a repo transaction represents a loan backed by the securities. If the borrowing financial institution defaults on the loan, the lending financial institution can claim on the securities. Most repo transactions use government securities, however, other securities such as Commercial Paper or Negotiable Certificate of Deposits may also be used . A reverse repo refers to the purchase of securities by one financial institution from another with an agreement to sell them.

The repo rate is determined by the difference between the initial selling price of the securities and the agreed-upon repurchase price, annualized with a 360-day year.

An investor initially purchased securities at a price (PP) of \$9,852,217, with an agreement to sell them back at a price (SP) of \$10,000,000 at the end of a 60-day period. The yield (or repo rate) on this repurchase agreement is

$$\begin{aligned} \text{Repo rate} &= \frac{SP - PP}{PP} \times \frac{365}{n} \\ &= \frac{\$10,000,000 - \$9,852,217}{\$9,852,217} \times \frac{365}{60} \\ &= 9\% \end{aligned}$$

### **Negotiable Certificates of Deposit**

A negotiable certificate of deposit is a bank-issued security that documents a deposit and specifies the interest rate and the maturity date. Because a maturity date is specified, a CD is a term security as opposed to a demand deposit. Term securities have a specified maturity date; demand deposits can be withdrawn at any time. A negotiable CD is also called a bearer instrument. This means that whoever holds the instrument at maturity receives the principal and interest. The CD can be bought and sold until maturity.

## Commercial Paper

Commercial paper securities are unsecured promissory notes, issued by corporations, that mature in no more than 270 days. Because these securities are unsecured, only the largest and most creditworthy corporations issue commercial paper. The interest rate the corporation is charged reflects the firm's level of risk. Some firms place commercial papers directly with investors. Some other firms rely on commercial paper dealers to sell their commercial papers. If an investor purchases 30-day commercial paper with a par value of \$1,000,000 for a price of \$990,000, the yield ( $Y_{cp}$ ) is

$$Y_{cp} = \frac{\$1,000,000 - \$990,000}{\$990,000} \times \frac{365}{30}$$
$$= 12.12\%$$

## Banker's Acceptances

A **banker's acceptance** indicates that a bank accepts responsibility for a future payment. Banker's acceptances are commonly used for international trade transactions. An exporter that is sending goods to an importer whose credit rating is not known will often prefer that a bank act as a guarantor. The bank therefore facilitates the transaction by stamping ACCEPTED on a draft, which obligates payment at a specified point in time. In turn, the importer will pay the bank what is owed to the exporter along with a fee to the bank for guaranteeing the payment.

Exporters can hold a banker's acceptance until the date at which payment is to be made, but they frequently sell the acceptance before then at a discount to obtain cash immediately. The investor who purchases the acceptance then receives the payment guaranteed by the bank in the future. The investor's return on a banker's acceptance, like that on commercial paper, is derived from the difference between the discounted price paid for the acceptance and the amount to be received in the future. Maturities on banker's acceptances often range from 30 to 270 days.

## Comparing Money Market Securities

Money Market Security	Issuer	Buyer	Usual Maturity	Secondary Market
Treasury bills	Government	Consumers and companies	13 weeks, 26 weeks, 1 year	Excellent
Federal funds	Banks	Banks	1 to 7 days	None
Repurchase agreements	Business and banks	Business and banks	1 to 15 days	Good
Negotiable certificates of deposit	Large money center banks	Businesses	14 to 120 days	Good
Commercial paper	Finance companies and business	Businesses	1 to 270 days	Poor
Banker's acceptance	Banks	Businesses	30 to 180 days	Good

## 5.4 The Capital Market

### Introduction

Capital markets are for securities with an original maturity that is greater than one year. These securities include bonds, stocks, and mortgages. Firms that issue capital market securities and the investors who buy them have very different motivations than those who operate in the money markets. By contrast, firms and individuals use the capital markets for long-term investments.

### Capital Market Participants

The primary issuers of capital market securities are federal/central and local governments and corporations. The federal government issues long-term notes and bonds to fund the national debt. State and municipal governments also issue long-term notes and bonds. Governments never issue stock because they cannot sell ownership claims.

Corporations issue both bonds and stock. One of the most difficult decisions a firm faces can be whether it should finance its growth with debt or equity. The distribution of a firm's capital between debt and equity is its capital structure. The largest purchasers of capital market securities are households.

### Capital Market Trading

Capital market trading occurs in either the primary market or the secondary market. The primary market is where new issues of stocks and bonds are introduced. Investment funds, corporations and individual investors can purchase securities offered in the

primary market. When firms sell securities for the very first time, the issue is an initial public offering (IPO).

The capital markets have well-developed secondary markets. A secondary market is where the sale of previously issued securities takes place. There are two types of exchange in the secondary market for capital securities: organized exchanges and over-the-counter exchanges.

#### **5.4.1 Debt Part of Capital Market: Bond Market**

##### **Types of Bonds**

Bonds are securities that represent a debt owed by the issuer to the investor. Bonds obligate the issuer to pay a specified amount at a given date, generally with periodic interest payments. The par, face, or maturity value of the bond is the amount that the issuer must pay at maturity. The coupon rate is the rate of interest that the issuer must pay. This rate is usually fixed for the duration of the bond and does not fluctuate with market interest rates. If the repayment terms of a bond are not met, the holder of a bond has a claim on the assets of the issuer. Long-term bonds traded in the capital market include long-term government notes and bonds, municipal bonds, and corporate bonds.

##### **Treasury Bonds**

The U.S. Treasury issues notes and bonds to finance the national debt. The difference between a note and bond is that notes have an original maturity of 1 to 10 years while bonds have an original maturity of 10 to 20 years. Treasury bonds have very low interest rates because they have no default risk. Most of the time the interest rate on Treasury notes and bonds is above that on money market securities because of interest-rate risk.

##### **Agency Bonds**

Sometimes government may authorize a number of government agencies (like TET, Bangladesh Air lines etc.) to issue bonds. The government does not explicitly guarantee agency bonds, though most investors feel that the government would not allow the agencies to default. The risk on agency bonds is actually very low. Despite this low level of risk, these securities offer interest rates that are significantly higher than those available on Treasury securities.

## Municipal Bonds

Municipal bonds are securities issued by local, county, and state governments. The proceeds from these bonds are used to finance public interest projects such as schools, utilities, and transportation systems. Municipal bonds that are issued to pay for essential public projects are exempted from government taxation.

Equivalent tax-free rate = taxable interest rate  $\times$  (1 – marginal tax rate)

**Example:** Suppose that the interest rate of a taxable corporate bond is 9% and that the marginal tax is 28%. Suppose a tax-free municipal bond with a rate of 6.75% were available. Which security would you choose?

The tax-free municipal interest rate is 6.48%.

Tax-free Municipal Interest rate = taxable interest rate  $\times$  taxable interest rate  $\times$   
(i – marginal tax rate)

where

Taxable interest rate = 0.09

Marginal tax rate = 0.28

Thus

Tax-free Municipal interest rate =  $0.09 \times (i - 0.28) = 0.0648 = 6.48\%$

Since the tax-free municipal bond rate (6.75%) is higher than the equivalent tax-free rate (6.48%), choose the municipal bond.

There are two types of municipal bonds: general obligation bonds and revenue bonds. General obligation bonds do not have specific assets pledged as security or a specific source of revenue allocated for their repayment instead, they are backed by the “full faith and credit” of the issuer. Revenue bonds, by contrast, are backed by the cash flow of a particular revenue-generating project. Municipal bonds are not default-free.

## Corporate Bonds

When large corporations need to borrow funds for long periods of time, they may issue bonds. Most are also, callable, meaning that the issuer may redeem the bonds after a specified date.

The bond indenture is a contract that states the lender’s rights and privileges and the borrowers obligations. Any collateral offered as security to the bond holders will also be described in the indenture.



A sinking fund is a requirement in the bond indenture that the firm pay off a portion of the bond issue each year. This provision is attractive to bondholders because it reduces the probability of default when the issue matures.

The degree of risk varies widely among issues because the risk of default depends on the company's health, which can be affected by number of variables. The interest rate on corporate bonds varies with the level of risk.

Some bonds can be converted into shares of common stock.

### **Types of Corporate Bonds**

**Secured Bonds** Secured bonds are ones with collateral attached. Mortgage bonds are used to finance a specific project.

**Unsecured Bonds** Debentures are long-term unsecured bonds that are backed only by the general creditworthiness of the issuer. No specific collateral is pledged to repay the debt.

**Subordinated debentures** are similar to debentures except that they have a lower priority claim. This means that in the event of a default, subordinated debenture holders are paid only after nonsubordinated bondholders have been paid in full. As a result, subordinated debenture holders are at greater risk of loss.

**Variable-rate bonds** (which may be secured or unsecured) are the bonds where the interest rates are tied to another market interest rate, such as the rate on Treasury bonds, and are adjusted periodically. The interest rate on these bonds will change over time as market rates change.

**Junk Bonds** Bonds at or above Moody's Baa or Standard and Poor's BBB rating are considered as investment grade bonds. Those rated below this level are usually considered speculative. Speculative-grade bonds are often called junk bonds.

Financial weaker security issuers frequently purchase financial guarantees to lower the risk of their bonds. A financial guarantee ensures that the lender (bond purchaser) will be paid both principal and interest in the event the issuer defaults. Large, well-known insurance companies write what are actually insurance policies to back bond.

## Bond Yield Calculations

### Current Yield

The current yield is an approximation of the yield to maturity on coupon bonds. It is defined as the yearly coupon payment divided by the price of price bond.

$$i_c = \frac{C}{P}$$

where  $i_c$  = current yield,  
P = price of the coupon bond and  
C = yearly coupon payment

It is exactly the calculation of the yield to maturity for a perpetuity. Hence for a perpetuity, the current yield is an exact measure of the yield to maturity. The current yield better approximates the yield to maturity when the bond's price is nearer to the bonds par value and the maturity of the bond is longer. It becomes a worse approximation when the bond's price is further from the bond's par value and the bond's maturity is shorter.

**Example:** What is the current yield for a bond that has a par value of \$1000 and a coupon interest rate of 10.95%?. The current market price for the bond is \$921.01.

The current yield is 11.89%.

$$i_c = \frac{C}{P}$$

where

C = yearly payment =  $0.1095 \times \$1000 = \$109.50$

P = price of the bond = \$921.01

Thus

$$I_c = \frac{\$108.50}{\$921.01} = 0.1189 = 11.89\%$$

### Yield on a Discount Basis

A yield on a discount basis (or discount yield) is defined:

$$i_{db} = \frac{F - P}{F} \times \frac{360}{\text{Days to Maturity}}$$

where

$i_{db}$  = yield on a discount basis

F= face value of the discount bond

P = purchase price of the discount bond

This method for calculating interest rates has two peculiarities. First, it uses the percentage gain on the face value of the bill,  $(F - P)/F$ , rather than the percent gain on the purchase price of the bill,  $(F - P)/P$ , used in calculating the yield to maturity. Second, it puts the yield on an annual basis by taking the year to be 360 days long rather than 365 days.

$$i_{db} = \frac{\$1000 - \$900}{\$1000} \times \frac{360}{365} = 0.099 = 9.9\%$$

**Example:** What is the discount yield (or yield on a discount basis) for a one-year bond that was purchased for \$875 and has a face value of \$1000?

The discount yield (or yield on a discount basis) is 12.33%,

$$i_{db} = \frac{F - P}{F} \times \frac{360}{\text{Days to Maturity}}$$

where

F = face value of the bond = \$1000

P = purchase price of the bond = \$875

Days to Maturity = one year = 365 days

Thus

$$i_{db} = \frac{\$1000 - 875}{\$1000} \times \frac{360}{365}$$

$$i_{db} = 0.1250 \times 0.9863 = 0.1233 = 12.33\%$$

The characteristics of the yield on a discount basis can be summarized as follows: Yield on a discount basis understates the more accurate measure of the interest rate, the yield to maturity; and the longer the maturity of the discount bond, the greater this understatement becomes. Even though the discount yield is a somewhat misleading measure of the interest rates, however, a change in the discount yield always indicates a change in the same direction for the yield to maturity.

### Finding the Value of Coupon Bonds

Specifically at how to price bonds. The current price is the present value of all future cash flows. The current price must be such that the seller is indifferent between continuing to receive the cash flow stream provided by the asset or receiving the offer price.

Let us summarize how to find the value of a security

1. Identify the cash flows that result from owning the security
2. Determine the discount rate required to compensate the investor for holding the security.
3. Find the present value of the cash flows estimated in step 1 using the discount rate determined in step 2.

### **Finding the Price of Semiannual Bonds**

The technique for computing the price of a simple bond with annual cash flows was discussed earlier. Most bonds pay interest semiannually to adjust the cash flows for semi-annual payments, divide the coupon payment by 2 since only half of the annual payment is paid each six months. Similarly, to find the interest rate effective during one-half of the year, the market interest rate must be divided by 2. The final adjustment is to double the number of periods because there will be two periods per year. The following equation shows how to compute the price of a semiannual bond:

$$P = \frac{C/2}{1+i} + \frac{C/2}{(1+i)^2} + \frac{C/2}{(1+i)^3} + \dots + \frac{C/2}{(1+i)^n} + \frac{F}{(1+i)^n}$$

where

- $P_{\text{semi}}$  = price of semi annual coupon bond
- $C$  = yearly coupon payment
- $F$  = face value of the bond
- $n$  = years to maturity date
- $i$  =  $\frac{1}{2}$  annual market interest rate

When a bond sells for less than par value, it is selling at *discount*, when the market price exceeds the par value, the bond is selling at *premium*.

### **Bond Terminology**

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Coupon interest rate	The stated annual interest rate on the bond. It is usually fixed for the life of the bond.
Current yield	The coupon interest payment divided by the current market price of the bond
Face amount	The maturity value of the bond. The holder of the bond will receive the face amount from the issuer when the bond matures. Face amount is synonymous with par value.
Indenture	The contract that accompanies a bond and specifies the terms of the loan agreement. It includes management restrictions, called covenants.
Market rate	The interest rate currently in effect in the market for securities of like risk and maturity. The market rate is used to value bonds.
Maturity	The number of years or periods until the bond matures and the holder is paid the face amount.
Par value	The same as face amount
Yield to maturity	The yield an investor will earn if the bond is purchased at the current market price and held until maturity.

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### **5.4.2 Equity Part of Capital Market: Stock Market**

#### **Investing in Stocks**

A share of stock in a firm represents ownership. A stockholder owns a percentage interest in a firm, consistent with the percentage of outstanding stock held. Investors can earn a return from stock in one of two ways. Either the price of the stock rises over time, or the firm pays the stockholder dividends. Frequently, investors earn a return from both sources.

Stock is riskier than bonds because stockholders have a lower priority than bondholders when the firm is in trouble, the returns to investors are less assured because dividends can be easily changed, and stock price increases are not guaranteed. Despite these risks, it is possible to make a great deal of money by investing in stock, whereas that is very unlikely by investing in bonds. Another distinction between stock and bonds is that stock does not mature. Ownership of stock gives the stockholder certain rights regarding the firm. One is the right of a residual claimant: Stockholders have a claim on all assets and income left over after all other claimants have been satisfied. If nothing is left over they get nothing. Most stockholders have the right to vote for directors and on certain issues, such as amendments to the corporate charter, whether new shares should be issued.

## Common Stock Versus Preferred Stock

There are two types of stock, common and preferred. A share of *common stock* in a firm represents an ownership interest in that firm. Common stockholders vote, receive dividends, and hope that the price of their stock will rise.

**Preferred stock** is a form of equity from a legal and tax standpoint. However, it differs from common stock in several important ways. First, because preferred stockholders receive a fixed dividend that never changes, a share of preferred stock is as much like a bond as it is like common stock. Second, because the dividend does not change, the price of preferred stock is relatively stable. Third, preferred stock-holders do not usually vote unless the firm has failed to pay the promised dividend. Finally, preferred stockholders hold a claim on assets that has priority over the claims of common shareholders but after that of creditors such as bondholders.

## Computing the Price of Common Stock

One basic principle of finance is that the value of any investment is found by computing the value today of all cash flows the investment will generate over its life. Similarly, we value common stock as the value in today's Taka of all future cash flows. The cash flows a stockholder may earn from stock are dividends, the sales price, or both.

To discuss the issue of stock valuation, we begin with the simplest possible scenario. This assumes that you buy the stock, hold it for one period to get a dividend, then sell the stock. We call this the one-period valuation model.

## The One-Period Valuation Model

Suppose that you have some extra money to invest for one year. The cash flows of one dividend payment plus a final sales price, which, when discounted back to the present, leads to the following equation that computes the current price of the stock.

$$P_0 = \frac{Div_1}{(1+K_g)} + \frac{P_1}{(1+K_g)}$$

where

- $P_0$  = the current price of the stock. The zero subscript refers to time period zero, or the present.
- $Div_1$  = the dividend paid at the end of year 1.
- $K_e$  = the required return on investments in equity
- $P_1$  = the price at the end of the first period. This is the assumed sales price of the stock.

## Stock Valuation

Find the price of the Intel stock given the figures reported above. You will need to know the required return on equity to find the present value of the cash flows. Since a stock is more risky than a bond, you will require a higher return than that offered in the bond market. Assume that after careful consideration you decide that you would be satisfied to earn 12% on the investment.

**Example:** Putting the numbers into equation, I yields the following:

$$P_o = \frac{0.16}{1 + 0.12} + \frac{60}{1 + 0.12} = .14 + 53.57 = 53.71$$

Based on your analysis you find that the stock is worth \$53.71. Since the stock is currently available for \$50 per share, you would choose to buy it. Why is the stock selling for less than \$53.71? It may be because other investors place a different risk on the cash flows or estimate the cash flows to be less than you do.

## The Gordon Growth Model

The generalized divided valuation model requires that we compute the present value of an infinite stream of dividends, a process that could be difficult, to say the least. Therefore, simplified models have been developed to make the calculations easier. One such model, is the Gordon growth model that assumes constant dividend growth.

Many firms strive to increase their dividends at a constant rate each year. The following equation reflects this constant growth in dividends.

$$P_o = \frac{D \times (1 + g)}{(1 + K_e)} + \frac{D(1 + g)^2}{(1 + K_e)^2} + \dots + \frac{D(1 + g)^n}{(1 + K_e)^n}$$

Where;  $D_o$  = the most recent dividend paid  
 $g$  = the expected constant growth rate in dividends  
 $K_e$  = the required return on an investment in equity

The above equation has been simplified as follows:

$$P_o = \frac{D_o (1+g)}{(K_e + g)} = \frac{D_1}{(K - g)}$$

This model is useful for finding the value of stock, given a few assumptions:

1. Dividends are assumed to continue growing at a constant rate forever.
2. The growth rate is assumed to be less than the required return on equity  $k_e$ .

**Example:** Find the current market price of Coca-cola stock assuming dividends grow at a constant rate of 10.95%,  $D_0 = \$1.00$ , and the required return is 13%,

$$P_0 = \frac{D(1+g)}{(k-g)}$$
$$P_0 = \frac{\$1.00 \times (1.1095)}{13 - 10.95}$$
$$P_0 = \frac{\$1.1095}{0.0205} = \$54.12$$

Coca Cola stock should sell for \$54.12 if the assumptions regarding the constant growth rate and required return are correct.

### Price Earnings Valuation Method

Theoretically, the best method of stock valuation is the dividend valuation approach. Sometimes, however, it is difficult to apply. If a firm is not paying dividends or has a very erratic growth rate, the results may not be satisfactory. Other approaches to stock valuation are sometimes applied. Among the more popular is the price/earnings multiple.

The price earnings ratio (PE) is a widely watched measure of how much the market is willing to pay for Taka 1 of earnings from a firm. A high PE has two interpretations.

1. A higher than average PE may mean that the market expects earnings to rise in the future. This would return the PE to more normal level.
2. A high PE may alternatively indicate that the market feels the firm's earnings are very low risk and is therefore willing to pay a premium for them.

The PE ratio can be used to estimate the value of a firm's stock. Note that algebraically the product of the PE ratio times expected earnings in the firm's stock price.

$$\frac{P}{E} \times E = P$$



Firms in the same industry are expected to have similar PE ratios in the long run. The value of a firm's stock can be found by multiplying the average industry PE times the expected earnings per share.

**Example: Stock Valuation, PE Ratio Approach**

The average industry PE ratio for restaurants similar to Applebee's pub restaurant chain, is 23. What is the current price of Applebee's earnings per share are projected to be \$1.13?

Using equation and the data given we find:

$$P_a = P/E \times E$$

$$P_a = 23 \times \$1.13 = \$26$$

The PE ratio approach is especially useful for valuing privately held firms and firms that do not pay dividends. The weakness of the PE approach to valuation is that by using an industry average PE ratio, firm-specific factors that might contribute to a long-term PE ratio above or below the average are ignored in the analysis. A skilled analyst will adjust the PE ratio up or down to reflect unique characteristics of a firm when estimating its stock price.

**Yield to Maturity and the Yearly Payment on a Fixed-Payment Loan**

You decide to purchase a new home and need a \$100,000 mortgage. You take out a loan from the bank that has an interest rate of 7%. What is the yearly payment to the bank to pay off the loan in twenty years?

**Solution**

The yearly payment to the bank is \$9,439.29.

$$LV = \frac{FP}{(1+i)} + \frac{FP}{(1+i)^2} + \frac{FP}{(1+i)^3} + \dots + \frac{FP}{(1+i)^n}$$

where            LV = loan value amount            = 100,000  
                       i = annual interest rate            = 0.07  
                       n = number of years                 = 20

Thus

$$\$100,000 = \frac{FP}{(1 + 0.07)} + \frac{FP}{(1 + 0.07)^2} + \frac{FP}{(1 + 0.07)^3} + \dots + \frac{FP}{(1 + 0.07)^{20}}$$

To find the monthly payment for the loan using a financial calculator.

$$\begin{aligned}n &= \text{number of years} &&= 20 \\PV &= \text{amount of the loan (LV)} &&= -100,000 \\FV &= \text{amount of the loan after 20 years} &&= 0 \\i &= \text{annual interest rate} &&= .07\end{aligned}$$

Then push the PMT button = fixed yearly payment (EP) = \$9,439.29.

### Yield to Maturity and the Bond Price for a Coupon Bond

Find the price of a 10% coupon bond with a face value of \$1000, a 12.25% yield to maturity, and eight years to maturity.

### Solution

The price of the bond is \$889.20. To solve using a financial calculator.

$$\begin{aligned}n &= \text{years to maturity} &&= 8 \\FV &= \text{face value of the bond (F)} &&= 1,000 \\i &= \text{annual interest rate} &&= 12.25\% \\PMT &= \text{yearly coupon payments (C)} &&= 100\end{aligned}$$

Then push the PV button = price of the bond = \$889.20.

Alternatively, you could solve for the yield to maturity given the bond price by putting in \$889.20. for PV and pushing the I button to get a yield to maturity of 12.25%

### Yields to Maturity on a 10%-coupon-Rate Bond Maturing in Ten Years

(Face Value = \$1,000)

Price of Bond (\$)	Yield to Maturity (%)
1,200	7.13
1,100	8.48
1,000	10.00
900	11.75
800	13.81

## Perpetuity

What is the yield to maturity on a bond that has a price of \$2,000 and pays \$100 of interest annually forever?

### Solution

The yield to maturity would be 5%

$$i_c = \frac{C}{P_c}$$

where  $C$  = yearly payment = \$100

$P_c$  = price of perpetuity (consol) = \$2,000

Thus

$$i_c = \frac{\$100}{\$2,000}$$

$$i_c = 0.05 = 5\%$$

## The Distinction between Interest Rates and Returns

*The return on a bond will not necessarily equal the yield to maturity on that bond.*

We now see that the distinction between interest rate and return can be important, although for many securities the two may be closely related.

More generally, the return on a bond held from time  $t$  to time  $t + 1$  can be written as

$$R = \frac{C + P_{t+1} - P_t}{P_t}$$

Where  $R$  = return from holding the bond from time  $t$  to time  $t + 1$

$P_t$  = price of the bond at time  $t$

$P_{t+1}$  = price of the bond at time  $t + 1$

$C$  = coupon payment

A convenient way to rewrite the return formula in the Equation is to recognize that it can be split into two separate terms:

$$R = \frac{C}{P_t} + \frac{P_{t+1} - P_t}{P_t}$$

The first term is the current yield  $i_c$  (the coupon payment over the purchase price):

$$\frac{C}{P_t} = i_t$$

The second term is the **rate of capital gain**, or the change in the bond's price relative to the initial purchase price:

$$\frac{P_{t+1} - P_t}{P_t} = g$$

where  $g$  is the rate of capital gain. Equation can then be rewritten as

$$R = i_c + g$$

which shows that the return on a bond is the current yield  $i_c$  plus the rate of capital gain  $g$ . This rewritten formula illustrates the point we just discovered: Even for a bond for which the current yield  $i_c$  is an accurate measure of the yield to maturity, the return can differ substantially from the interest rate. Returns will differ from the interest rate, especially if the price of the bond experiences sizable fluctuations that produce substantial capital gains or losses.

### The Distinction between Real and Nominal Interest Rates

So far in our discussion of interest rates, we have ignored the effects of inflation on the cost of borrowing. What we have up to now been calling the interest rate makes no allowance for inflation, and it is more precisely referred to as the **nominal interest rate**. We distinguish it from the **real interest rate**, the interest rate that is adjusted by subtracting expected changes in the price level (inflation) so that it more accurately reflects the true cost of borrowing. This interest rate is more precisely referred to as the *ex ante real interest rate* because it is adjusted for expected changes in the price level. The *ex ante* real interest rate is most important to economic decisions, and typically it is what economists mean when they make reference to the “real” interest rate. The interest rate that is adjusted for *actual* changes in the price level is called the *ex post real interest rate*. It describes how well a lender has done in real terms *after the fact*.

The real interest rate is more accurately defined from the *Fisher equation*, named for Irving Fisher, one of the great monetary economists of the twentieth century. The Fisher equation states that the nominal interest rate  $i$  equals the real interest rate  $r$  plus the expected rate of inflation  $\tilde{n}^e$ .

$$i = r + \tilde{n}^e$$

Rearranging terms, we find that the real interest rate equals the nominal interest rate minus the expected inflation rate:

$$r = i - \tilde{n}^e$$

### Calculating Real Interest Rates

What is the real interest rate if the nominal interest rate is 8% and the expected inflation rate is 10% over the course of a year?

#### Solution

The real interest rate is -2%. Although you will be receiving 8% more dollars at the end of the year, you will be paying 10% more for goods. The result is that you will be able to buy 2% fewer goods at the end of the year, and you will be 2% worse off in real terms.

$$r = i - \tilde{\pi}^e$$

where  $i$  = nominal interest rate = 0.08

$\tilde{\pi}^e$  = expected inflation rate = 0.10

Thus

$$r = 0.08 - 0.10 = -0.02 = -2\%$$

## 5.5 International Financial Market

International Financial Markets are primarily required for making foreign investments, foreign borrowing, providing credit in the foreign markets, in addition to settlement of international transactions like exports and imports. In the last few decades, various international financial markets have been developed due to rapid growth of international business and financial transactions. These markets are:

- **Foreign Exchange Market:** is a market where exchange between national currencies takes place.
- **Euro Currency Market:** currency of one country deposited, borrowed and traded in another country.
- **Euro Security Market:** Security paper floated (for raising fund) in one country, but denominated in the issuing country's currency.
- **International Security Market:** security papers floated by the outsiders but denominated in local currency.
- **Foreign Exchange Derivative Market:** By definition FEX derivative product is a special product created out of a core product. FEX derivative market is a market where FEX derivative products are traded.

Excepting Eurozone countries (consisting of 19 European Countries) who adopted euro as their currency, each country in the world has its own currency. When they are

engaged in international transactions, they commonly need to exchange their local currency for a foreign currency or exchange a foreign currency for their local currency. The **Foreign Exchange Market** allows for the exchange of one currency for another. At any point of time, there must be an **exchange rate** at which one currency can be exchanged for another.

The system for establishing exchange rates has changed over time. It has evolved from the **Gold Standard to an agreement on fixed exchange rate (Bretton-Woods system) to a floating rate system.**

**Gold Standard** From 1876 to 1913, exchange rates were dictated by the gold standard. Each currency was convertible into gold at a specified rate. Thus the exchange rate between two currencies was determined by their relative convertibility rates per ounce of gold. Each country used gold to back its currency.

When World War I began in 1914, the gold standard was suspended. Some countries reverted to the gold standard in the 1920s but abandoned it as a result of the U.S. and European banking panic during the Great Depression.

After the abandonment of Gold Stand, exchange rate system used to be classified in terms of the extent to which the exchange rates are government controlled. Exchange rate systems normally fall into one of the following categories, each of which has been discuss below:

- fixed,
- freely floating,
- managed float, or
- pegged.

Foreign Exchange Market is a market where trades, corporate and individual exchange one currency for another usually through a commercial bank. Interbank transactions are also common in Foreign Exchange Market. The largest Foreign Exchange Market trading centers are in London, New York and Tokyo, but Foreign Exchange Market transaction occur on a daily basis in all cities around the world. The most common type of Foreign Exchange Market transaction is for immediate exchange. The market where the transaction occur is known as spot market. The exchange rate at which one currency is traded for another in the spot market is known as **spot rate**. In some cases, a transactor may prefer to lock in an exchange rate at

which it can obtain a currency in the future. The rate at which this foreign currency will be obtained in the future is known as **forward rate**. In some instances, a transactor may be concerned about the exchange between two non-local currencies. This type of rate is known as **cross rate** because it reflects the amount of one foreign currency per unit of another foreign currency. The exchange rate quotations on the part banks should contain both buying and selling price of the bank. The quotations that report the values of a foreign currency in local currency (number of local currency per unit of foreign currency) are referred to as **Direct Quotations** whereas quotations that report number of units of a foreign currency per local currency are known as **Indirect Quotations**.

**Euro-Currency Markets** Cover both international money market and credit market. The international money markets have been developed to accommodate the needs of big corporates having multinational presence. First, they need to borrow short term funds in different currencies to pay for imports denominated in those currencies. Second, they also need funds to support local operations which require borrowing a non-local currency that exhibit lower interest rates. To facilitate international trade between European and America, **Eurodollar** markets have been developed (dollar deposits in European banks and also in other continents) known as Euro-Dollars. Like Euro-dollar market, The **Petrodollar markets** and Asian Money Market/Dollar market (Hong Kong and Singapore) have also been evolved.

**Euro Security Market and International Security Market** facilitates the flow of funds between borrowers who need long-term funds and investors who are willing to supply long-term funds. Euro-securities are securities that are sold in countries other than the country whose currency is used to denominate security papers (stocks and bonds). An international security paper (stock and bond) issued by a borrower foreign to the country where the security paper is placed is known as or foreign/international security papers. The currency denominating each type of security paper is determined by the country where it is sold. The foreign securities in these cases are sometime referred to as **parallel bonds**.

**A Currency Derivative** is a contract whose price is partially derived from the value of underlying currency that it represents. Some individuals and corporates may take

positions in currency derivative to speculate on future exchange rate movements, while others take positions to hedge their exposure to exchange rate risk.

### **5.5.1 Fixed Exchange Rate System**

In a **fixed exchange rate system**, exchange rates are either held constant or allowed to fluctuate only within very narrow boundaries. A fixed exchange rate system requires central bank intervention in order to maintain a currency's value within narrow boundaries.

**Bretton Woods Agreement, 1944-1971** From 1944 to 1971, most exchange rates were fixed according to a system planned at the Bretton Woods conference (held in Bretton Woods, New Hampshire, in 1944) by representatives from various countries. Because this arrangement, known as the **Bretton Woods Agreement**, lasted from 1944 to 1971, that period is sometimes referred to as the Bretton Woods era. Each currency was valued in terms of gold; for example the U.S. dollar was valued as 1/35 ounce of gold. Because all currencies were valued in terms of gold, their values with respect to each other were fixed. Governments intervened in the foreign exchange markets to ensure that exchange rates drifted no more than 1 percent above or below the initially set rates.

**Smithsonian Agreement, 1971-1973** During the Bretton Woods era, the United States often experienced balance-of-trade deficits. These deficits indicated that the dollar may have been overvalued, because the use of dollars for foreign purchases exceeded the demand by foreign countries for dollar-denominated goods. By 1971, it appeared that some currency values would need to be adjusted in order to restore a more balanced flow of payments between countries. In December 1971, a conference of representatives from various countries concluded with the **Smithsonian Agreement**, which called for a devaluation of the U.S. dollar by about 8 percent against other currencies. In addition, boundaries for the currency values were expanded to within 2.25 percent above or below the rates initially set by the agreement. Nevertheless, the imbalances in international payments continued and, as of February 1973, the dollar was again devalued. By March 1973 most governments of the major countries were no longer attempting to maintain their home currency values within the boundaries established by the Smithsonian Agreement, thereby allowing exchange rates to move more freely. Since that time, the currencies of most



countries have been allowed to fluctuate in accordance with market forces; however, some countries' central banks still periodically intervene in the foreign exchange market to influence the market-determined exchange rate or reduce the volatility in their respective currency's exchange rate movements.

**Advantages of Fixed Exchange Rates** A fixed exchange rate would be beneficial to a country for several reasons. First, exporters and importers could engage in international trade without concern about exchange rate movements of the currency to which their local currency is linked. A second benefit is that firms could engage in direct foreign investment, without concern about exchange rate movements of that currency. Third, investors would be able to invest funds in foreign countries without concern that the foreign currency denominating their investments might weaken over time.

**Disadvantages of Fixed Exchange Rates** One disadvantage of a fixed exchange rate system is that there is still a risk of the government altering its currency's value. A second disadvantage is that if exchange rates are fixed and expected to remain fixed, institutional investors would invest funds in whatever country had the highest interest rate. Consequently, governments of countries with low interest rates would need to impose capital flow restrictions to prevent all local funds from flowing to countries with high interest rates. A third disadvantage is that a fixed exchange rate system may render each country (and its MNCs) more vulnerable to economic conditions in other countries.

### **5.5.2 Freely Floating Exchange Rate System**

In a **freely floating exchange rate system**, exchange rate values are determined by market forces without intervention by governments. This system is the opposite extreme of the fixed exchange rate system. Whereas a fixed exchange rate system allows only limited exchange rate movements, a freely floating exchange rate system allows for complete flexibility. A freely floating exchange rate adjusts on a continual basis in response to the demand and supply conditions for that currency.

**Advantages of a Freely Floating System** One advantage of a freely floating exchange rate system is that a country is more insulated from the inflation of other countries.

Another advantage of freely floating exchange rates is that a country is more insulated from unemployment problems in other countries.

A country's economic problems can sometimes be compounded by freely floating exchange rates. Under such a system, MNCs will need to devote substantial resources to measuring and managing exposure to exchange rate fluctuations.

### **5.5.3 Managed Float Exchange Rate System**

A **managed float** exchange rate system allows its currency's value to float on a daily basis, but the government can periodically intervene to achieve specific objectives. A central bank may intervene in order to maintain the currency's value within specific boundaries (that are not necessarily disclosed to the public) or as an attempt to influence local economic conditions. The managed float system differs from the freely floating exchange rate system (as defined earlier) in that governments can and sometimes do intervene to prevent their currencies from moving too far in a certain direction, or to achieve other economic conditions.

**Criticisms of the managed Float System** Critics argue that the managed float system allows a government to manipulate exchange rates in order to benefit its own country at the expense of others. A government may attempt to weaken its currency to stimulate a stagnant economy. The increased aggregate demand for products that results from such a policy may cause a decreased aggregate demand for products in other countries, because the weakened currency attracts foreign demand. This is a valid criticism but could apply as well to the fixed exchange rate system, where governments have the power to devalue their currencies.

### **5.5.4 Pegged Exchange Rate System**

Some countries use a **pegged exchange rate** in which their home currency's value is pegged to one foreign currency or to an index of currencies. Although the home currency's value is fixed in terms of the foreign currency to which it is pegged, it moves in line with that currency against other currencies.

A government may peg its currency's value to that of a stable currency, such as the dollar, because doing so stabilizes the value of its own currency. First, this forces the pegged currency's exchange rate with the dollar to be fixed. Second, that currency will move against non-dollar currencies to the same extent as the dollar does. Because

the dollar is more stable than most currencies, it will make the pegged currency more stable than most currencies. Governments might implement a pegged exchange rate when its currency is very volatile due to uncertain economic or political conditions.

**Limitations of Pegged Exchange Rate** Although countries with a pegged exchange rate may attract foreign investment because the exchange rate is expected to remain stable, weak economic or political conditions can cause firms and investors to question whether the peg will hold. A country that suffers a sudden recession may experience capital outflows as some firms and investors withdraw funds because they believe other countries offer better investment opportunities. These transactions result in an exchange of the local currency for dollars and other currencies, which puts downward pressure on the local currency's value. The central bank would need to offset this pressure by intervening in the foreign exchange market (as explained shortly), but it might not be able to maintain the peg. If the peg is broken and if the exchange rate is dictated by market forces, then the local currency's value could immediately decline substantially.

If foreign investors fear that a peg may be broken, they will quickly sell their investments in that country and convert the proceeds into their home currency. These transactions place more downward pressure on the local currency of that country. Even its own residents may consider selling their local investments and converting their funds into dollars (or some other currency) if they fear that the peg may be broken. They can exchange their currency for dollars to invest in the United States before the peg breaks, and they can leave that investment there until after the peg breaks and their local currency's value is reduced. Then these residents can sell their U.S. investments and convert the dollar proceeds into their home currency at a more favorable exchange rate. Their initial actions of converting their home currency into dollars also put downward pressure on that local currency.

For the reasons just explained, it is difficult for a country to maintain a pegged exchange rate while experiencing major political or economic problems. Even though a country whose pegged exchange rate is stable can attract foreign investment, investors will move funds to another country if they are concerned that the peg will break. Thus a pegged exchange rate system could ultimately create more instability in a country's economy.

## 5.6 REVIEW QUESTIONS

### 1. Circle whether the following statements are true (T) or false (F).

- T F 1. A bond that pays the bondholder the face value at the maturity date and makes no interest payments is called a discount bond.
- T F 2. The yield to maturity of a coupon bond that is selling for less than its face value is less than the coupon rate.
- T F 3. Tk.100 tomorrow is worth more to you today if the interest rate is 10 percent than if it is 5 percent.
- T F 4. The present value of a security that pays you Tk.55 next year and Tk.133 three years from now is Tk.150 if the interest rate is 10%.
- T F 5. You would prefer to own a security that pays you Tk.1000 at the end of 10 years than a security that pays you Tk.100 every year for 10 years.
- T F 6. The yield to maturity on a Tk.20,000 face value discount bond that matures in one year's time and currently sells Tk.15,000 is 33 1/3 percent.
- T F 7. The yield to maturity on a coupon bond can always be calculated as long as the coupon rate and the price of the bond are known.
- T F 8. The current yield is the most accurate measure of interest rates, and it is what economists mean when they use the term interest rates.
- T F 9. The yield on a discount basis understates the yield to maturity, and the longer the maturity of the discount bond the greater is the understatement.
- T F 10. The current yield is a more accurate approximation of the yield to maturity, the nearer the bond's price is to the par value and the shorter the maturity of the bond.
- T F 11. You would prefer to hold a 1-year Treasury bond with a yield on a discount basis of 10% to a 1-year Treasury bond with a yield to maturity of 9.9%.
- T F 12. A 5-year Tk.1000 coupon bond selling for Tk.1008 with a 9% current yield has a higher yield to maturity than a 1-year discount bond with a yield on a discount basis of 8.9%.
- T F 13. When interest rates rise from 4 to 5%, bondholders are made better off.
- T F 14. If interest rates on all bonds fall from 8 to 6% over the course of the year, you would rather have been holding a long-term bond than a short-term bond.
- T F 15. Business firms are more likely to borrow when the interest rate is 2% and the price level is stable than when the interest rate is 15% and the expected inflation rate is 14%.

## 2. Multiple Choice Questions

1. A discount bond
  - a) pays the bondholder the same amount every period until the maturity date.
  - b) at the maturity date pays the bondholder the face value of the bond plus an interest payment
  - c) pays the bondholder a fixed interest payment every period and repays the face value at the maturity date.
  - d) pays the bondholder the face value at the maturity date.
2. A Tk.5000 coupon bond with a coupon rate of 5% has a coupon payment every year of
  - a) Tk.50.
  - b) Tk.500.
  - c) Tk.250.
  - d) Tk.100.
  - e) None of the above.
3. With an interest rate of 5%, the present value of a security that pays Tk.52.50 next year and Tk.110.25 two years from now is
  - a) Tk.162.50.
  - b) Tk.50.
  - c) Tk.100.
  - d) Tk.150.
4. If a security pays you Tk.105 next year and Tk.110.25 the year after that, what is its yield to maturity if it sells for Tk.200?
  - a) 4%
  - b) 5%
  - c) 6%
  - d) 7%
5. Which of the following Tk.1000 face value securities has the lowest yield to maturity?
  - a) 5% coupon bond selling for Tk.1000
  - b) 5% coupon bond selling for Tk.1200
  - c) 5% coupon bond selling for Tk.900
  - d) 10% coupon bond selling for Tk.1000
  - e) 10% coupon bond selling for Tk.900
6. If a Tk.5000 face value discount bond maturing in 1 year is selling for Tk.4000, then its yield to maturity is
  - a) 5%
  - b) 10%
  - c) 25%
  - d) 50%
  - e) none of the above.

7. The current yield on a Tk.5000 10% coupon bond selling for Tk.4000 is
  - a) 5%
  - b) 10%
  - c) 12.5%
  - d) 15%
8. The yield on a discount basis of a 180-day Tk.1000 Treasury bill selling for Tk.975 is
  - a) 5%
  - b) 10%
  - c) 20%
  - d) 50%
  - e) none of the above.
9. What is the return on a 15% coupon bond that initially sells for Tk.1000 and sells for Tk.700 next year?
  - a) 15%
  - b) 10%
  - c) -5%
  - d) -15%
  - e) none of the above.
10. In which of the following situations would you rather be borrowing?
  - a) the interest rate is 20% and expected inflation rate is 15%
  - b) the interest rate is 4% and expected inflation rate is 1%
  - c) the interest rate is 13% and expected inflation rate is 15%
  - d) the interest rate is 10% and expected inflation rate is 15%

**3. Calculate the real interest rate in the following situations:**

1. The interest rate is 3% and the expected inflation rate is -3% \_\_\_\_\_
2. The interest rate is 10% and the expected inflation rate is 20% \_\_\_\_\_
3. The interest rate is 6% and the expected inflation rate is 3% \_\_\_\_\_
4. The interest rate is 15% and the expected inflation rate is 15% \_\_\_\_\_

In which of these situations would you (everything else equal) be a lender?

\_\_\_\_\_ A borrower? \_\_\_\_\_

## 5.7. Probable Questions

1. Write down the formula that is used to calculate the yield to maturity on a 20-year 10% coupon bond with Tk.1000 face value that sells for Tk.2000.
2. If there is a decline in interest rates, which would you rather be holding, long-term bonds or short-term bonds? Why? Which type of bond has the greater interest-rate risk?
3. A financial adviser has just given you the following advice: “Long-term bonds are a great investment because their interest rate is over 20%”. Is the financial adviser necessarily right?
4. If mortgage rates rise from 5% to 10% but the expected rate of increase in housing prices rises from 2% to 9%, are people more or less likely to buy house?
5. “The more risk-averse people are, the more likely they are to diversify”. Is this statement true, false, or uncertain? Explain your answer.
6. An important way in which a Central Bank decreases the money supply is by selling bonds to the public. Using a supply and demand analysis for bonds, show what effect this action has on interest rates.
7. Using the supply and demand for bonds framework, show why interest rates are procyclical (rising when the economy is expanding and falling during recessions).
8. Why should a rise in the price level (but not in expected inflation) cause interest rates to rise when the nominal money supply is fixed?
9. Explain what effect a large govt. deficit might have on interest rates.
10. Using a supply and demand analysis for bonds, show what the effect is on interest rates when the riskiness of bonds rises.
11. What characteristics define the money markets?
12. Why do govt. and businesses use the money markets?
13. Which of the money market securities is the most liquid and considered the most risk-free? Why?
14. Who issues commercial paper and for what purpose?
15. Contrast investors’ use of capital markets with their use of money markets.
16. Distinguish between the primary market and the secondary market for securities.
17. A bond provides information about its par value, coupon interest rate, and maturity
18. What basic principle of finance can be applied to the valuation of any investment asset?

19. Discuss the features that differentiate organized exchanges from the over-the-counter market.
20. What distinguishes stocks from bonds?

## 5. Quantitative Problems

1. Calculate the present value of a Tk.1000 zero-coupon bond with 5 years to maturity if the yield to maturity is 6%.
2. A lottery claims its grand prize is Tk.10 million, payable over 20 years at Tk.500,000 per year. If the first payment is made immediately, what is this grand prize really worth? Use a discount rate of 6%.
3. Consider a bond with a 7% annual coupon and a face value of Tk.1000. Complete the following table.

Years to Maturity	Yield to Maturity	Current Price
3	5	
3	7	
6	7	
9	7	
9	9	

What relationships do you observe between maturity and discount rate and the current price?

4. Consider a coupon bond that has a Tk.1000 par value and a coupon rate of 10%. The bond is currently selling for Tk.1150 and has eight years to maturity. What is the bond's yield to maturity?
5. What is the price of a perpetuity that has a coupon of Tk.50 per year and a yield to maturity of 2.5%? If the yield to maturity doubles, what will happen to its price?
6. What would be your annualized yield on the purchase of a 182-day Treasury bill for Tk.4925 that pays Tk.5000 at maturity?
7. What is the annualized yield on a Treasury bill that you purchase for Tk.9940 that will mature in 91 days for Tk.10,000?
8. The price of 182-day commercial paper is Tk.7840. If the annualized yield is 4.04%, what will the paper pay at maturity?
9. The price of Tk.8000 face value commercial paper is Tk.7930. If the annualized yield is 4%, when will the paper mature?
10. How much would you pay for a Treasury bill that matures in one year and pay Tk.10,000 if you require a 3% return?



11. A bond makes an annual Tk.80 interest payment (8% coupon). The bond has five years before it matures, at which time it will pay Tk.1000. Assuming a discount rate of 10%, what should be the price of the bond?
12. A zero-coupon bond has a par value of Tk.1000 and matures in 20 years. Investors require a 10% annual return on these bonds. For what price should the bond sell?
13. Consider the two bonds described below:
 

	Bond A	Bond B
Maturity (yr)	15	20
Coupon rate (%)		
(paid semiannually)	10	6
Par value	\$1000	\$1000

  - a. If both bonds has a required return of 8%, what would the bond's prices be?
  - b. Describe what it means if a bond sells at a discount a premium, and at its face amount (par value). Are these two bonds selling at a discount, premium, or par
  - c. If the required return on the two bonds rose to 10%, what would the bonds' price be?
14. The yield on a corporate bond is 10%, and it is currently selling at par. The marginal tax rate is 20%. A par value municipal bond with a coupon rate of 8.5% is available. Which security is a better buy?
15. If the municipal bond rate is 4.25% and the corporate bond rate is 6.25%, what is the marginal tax rate, assuring investors are indifferent between the two bonds?
16. A ten-year Tk.1000 par value bond with a 5% annual coupon is trading to yield 6%. What is the current yield?
17. A Tk.1000 par bond with an annual coupon has only one year until maturity. Its current yield is 6.713%, and its yield to maturity is 10%. What is the price of the bond?
18. A one-year discount bond with a face value of Tk.1000 was purchased for Tk.900. What is the yield to maturity? What is the yield on a discount basis?

## **MODULE - 6**

### **Islamic Financial System**

#### **6.1 Islamic Economics and Finance:**

It is difficult to understand and study Islamic economics and the structure of the Islamic financial mechanism in isolation; unlike in 'Western' type economies where it is done with some degree of ease. Islamic Economics differs fundamentally from man-made laws and systems in defining economic problem.

While Islam is one of the principal global religions, more importantly it is a wholly integrated way of life, where various principles are interrelated and dictate under one aspect e.g. family, can logically be relevant to another e.g. jurisprudence. For starters it can be put that Islamic economics is based on the socio-economic paradigm. In this approach Islam is seen as a system of ethics.

Possibly one of the starting points to understand Islam and Islamic economics, is what can be considered as the central theme – The Quran, where it states that dominion of the cosmos belongs to God (Allah) and therefore we are but His vice-regents (or trustees) of all this dominion, whether we seemingly own some part of this individually, jointly or otherwise. Naturally therefore, all economic and financial activities that would effect and regulate our lives, must be driven by this key principle.

There are many contributory verses that guide and lay down the economic and financial principles, to human beings as individuals or collectively as a society or as a nation. These principles form the Islamic law which is known as Shari'ah (the corpus of Islamic law based on Divine guidance, as given by the Quran and the Sunnah).

#### **6.2 Islamic Governing Principles (Shari'ah)**

There are a few key principles that directly set down the economic guidelines and hence determine the central structure of Islamic economics as well as regulate business and financial transactions.

- i) The first is the principle of RIBA. Literally, in Arabic, Al Riba means an increase or addition. In Islam it is interpreted as usury or a loan with the condition that the borrower will return to the lender more than and better than the quantity borrowed. This

act of *riba* is prohibited in Islam. There are many verses in the various chapters of the Quran that make *riba* illegal - *haram*

There are two significant implications of this ruling of prohibiting *riba* / charging of interest. (1) Without interest there are no “debt based” contracts and (2) the absence of interest focuses on the value of an “asset”, rather than the value of ‘money’, as it is

Islam recognizes man's need to acquire wealth. It therefore allows people to make money through the avenue of profit. Simply put, a ‘lender’ of funds may only give money to a ‘borrower’ of funds, if the lender shares in the risk of the business for which the money is being lent. The lender can determine before lending the money, as to what his share of the profit will be. If however the business fails, then the investor loses his investment. It follows then that Islam promotes equity based, risk-sharing and stake-taking economic system, to a debt-based system.

- ii) The next important principle is the principle of *Gharar*. The Arabic word *Gharar* has a multiplicity of meanings - risk, uncertainty hazard and deception. Unlike *riba*, *gharar* is not specifically and extensively defined. While the prohibition of *riba* is absolute, some degree of *gharar* or uncertainty is acceptable in the Islamic framework. Only conditions of excessive *gharar* must be avoided. This includes *Maysir* or *Qimar* which refers to gambling or any games of chance.

For example a transaction involving deception or excessive uncertainty – or a ‘zero’ sum transaction – in which one party must lose for the other to gain – are prohibited under Shari'ah law.

- iii) The third key principle is the principle of *ZAKAT* (*Zakah*). *Zakat* is one of the five key pillars of Islam. It is a form of ‘religious tax’ making it a requirement of every Muslim to give a percentage of their income to a charitable cause, provided such income or wealth is above a defined amount. During the Islamic period, *Zakat* payments were collected by the State and the funds were used to alleviate all kinds of human distress including setting free the slaves by paying off their masters. The objective is to take away a part of the wealth of the well-to-do and to distribute it among the poor and the needy.

Therefore, the Islamic world view of economics are based on these key principles –

- vice regent (trustees) of all that is Allah
- prohibition of *riba* – charging of interest
- prohibition of *gharar* - gambling and taking of undue risk
- giving of *Zakat* – a moral tax

The Islamic concept of economics and economic growth and development follows from its concept of “*tazkiyah*” as it addresses to the problem of economic aspect of human life “in all its dimensions”; *tazkiyah* is “concerned with growth towards perfection through purification of attitudes and relationships. The result of *tazkiyah* is *falah*, prosperity in this world and the hereafter”.

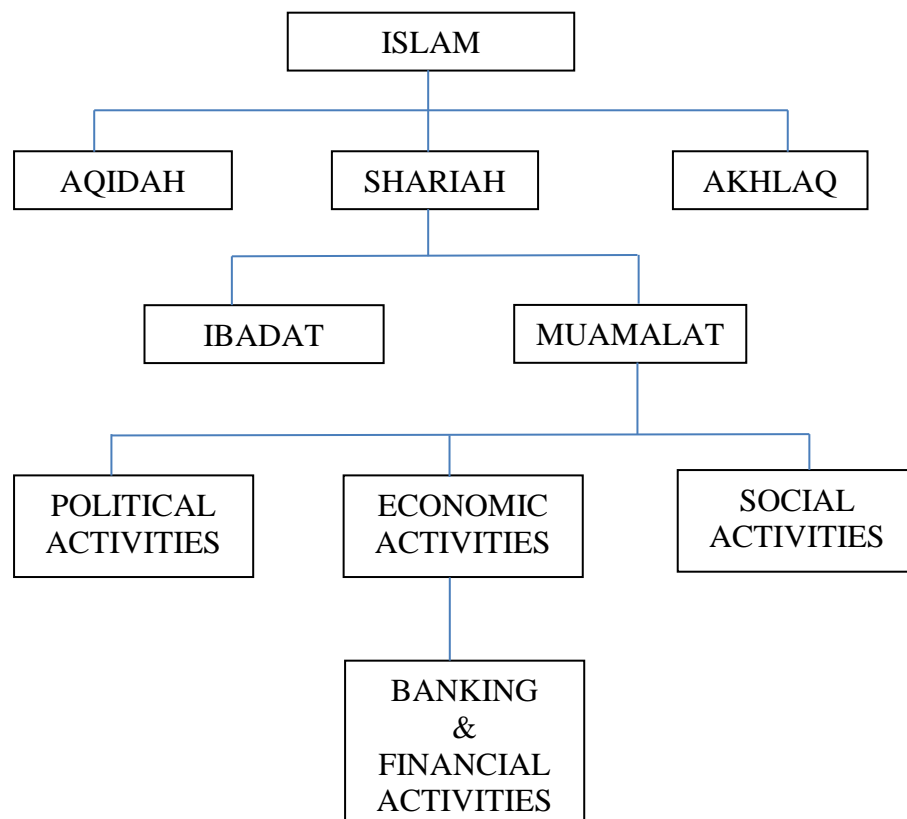
Islamic economics is thus based on the principles and norms for human welfare derived from Islamic sources. Fundamentally different from the secularly defined system, it offers a comprehensive and coherent alternative to conventional, or Western economics. There are many similarities between Islamic economics and Western economics – for example, the question of allocation and distribution of resources, the fulfilment of material needs and the importance of the market mechanism. Islamic finance does not seek to abolish private property, nor does it attempt to prevent the individual from serving his own self-interest. The emphasis of Islamic economics, however, is a concentration on human brotherhood and social economic justice. While it recognizes the role of the market in the efficient allocation of resources, it does not find competition to be a sufficient safeguard of social interests. Moreover, based on a religious world view, Islamic economics incorporates a belief in ‘the day of the hereafter’, something which renders a great many of the theories of traditional Western economics unacceptable.

### **6.3 Relationship Between Finance and Religion (Islam):**

Ismail (1992) in his elaboration on the root of Islamic banking and finance perceived Islam as comprising of three basic elements namely, *Aqidah*, *Shariah*, and *Akhlaq*. *Aqidah* concerns all aspects of faith and belief of a Muslim. *Shariah* is concerned with all forms of practical actions by a Muslim. *Akhlaq* covers all aspects of Muslim behavior, attitude and work ethics with which he performs his practical actions. Aspects of *Shariah* can be further divided into two, namely *ibadat* and *Muamalat*. *Ibadat* is concerned with the practicalities of a Muslim’s worship of Allah, whereas *Muamalat* is concerned with the man-to-man relationship.

Consequently, political, economic and social activities will be under the ambit of *Muamalat*. The Islamic financial system, therefore, being part of economic activities is linked to Shariah principles through *Muamalat*. The linkages between Islamic finance and the whole gamut of Islam are shown below:

#### The Relationship Between the Banking System and Religion



*Source: Islmail (1992), page 250.*

#### 6.4 Sources of *Shariah* Law

Basically, there are four fundamental sources of *Shariah* law. The first source is the Islami Holy Book called Qur'an. The Holy Qur'an is the original and eternal source of *Shariah* law. It constitutes messages that *Allah* presented to the Prophet (*pbuh*) for the guidance of mankind. These messages are universal, eternal, and fundamental. The *Hadith*, the second foundation of *Shariah*, is next in importance to the Qur'an. It refers to information, accounts, narratives, stories and records of *Sunnah* of the Prophet (*pbuh*). These were handed down from generation to generation to become the rule of faith and practice of Muslims. The *Sunnah* signifies the customs, habits and usages of the Prophet (*pbuh*). It describes his behavior, modes of action, his sayings and declarations under a variety of circumstances in

life. The third source of *Shariah* law is the *Ijma*, which means a consensus of opinion of *mujtahids* (learned scholars of Islam or those authorized to exercise independent legal reasoning), or an agreement of Muslim jurists of a particular age on a question of law. The fourth and last source of *Shariah* is the *Qiyas* which literally means ‘measuring by’ or ‘comparing with’, *Qiyas* is the process of reasoning by analogy of the *mujtahids* with regards to difficult and doubtful questions of doctrine or practice, by comparing them with similar cases already settled by the authority of the Qur’an and *Hadith* and thus arriving at solutions of undecided questions.

Both the Qur’an and the *Hadith* are called *al-adillat-al-qatiyyah* or absolutely sure arguments or infallible proof. This is because these sources contain absolute truth and the undoubted fundamental doctrines of Islam. The *Ijma* and *Qiyas* on the other hand are called *al-adillat-alijtihadiyyah* or arguments obtained by exertion. The former are also known as *usul* or the ‘roots’, whereas the latter are the *puruq* or the ‘branches’.

Beside these four sources of *Shariah*, there are other sources such as *ijtihad* (to strive to the utmost), *ma’ruf* (well known or customary), *maslahat* (general good or welfare), and *istihasan* or *istislah* (public interest). The usage of these sources however, is often limited to certain schools of law. Sometimes these concepts are incorporated within the principles of *ijma* and *qiyas*.

### **6.5 Principles of Islamic Financial System:**

Based on the above discussion, the basic principles of an Islamic financial system can be summarized as follows:

#### ***Prohibition of Interest.***

Prohibition of *riba*, a term literally meaning “an excess” and interpreted as “any unjustifiable increase of capital whether in loans or sales” is the central tenet of the system. More precisely, any positive, fixed, predetermined rate tied to the maturity and the amount of principal (i.e., guaranteed regardless of the performance of the investment) is considered *riba* and is prohibited. The general consensus among Islamic scholars is that *riba* covers not only usury but also the charging of “interest” as widely practiced.

This prohibition is based on arguments of social justice, equality, and property rights. Islam encourages the earning of profits but forbids the charging of interest because profits,

determined ex post, symbolize successful entrepreneurship and creation of additional wealth whereas interest, determined ex ante, as a cost that is accrued irrespective of the outcome of business operations and may not create wealth if there are business losses. Social justice demands that borrowers and lenders share rewards as well as losses in an equitable fashion and that the process of wealth accumulation and distribution in the economy be fair and representative of true productivity.

***Risk sharing.***

Because interest is prohibited, suppliers of funds become investors instead of creditors. The provider of financial capital and the entrepreneur share business risks in return for shares of the profits.

***Money as “potential” capital.***

Money is treated as “potential” capital – that is, it becomes actual capital only when it joins hands with other resources to undertake a productive activity. Islam recognizes the time value of money, but only when it acts as capital, not when it is “potential” capital.

***Prohibition of speculative behavior.***

An Islamic financial system discourages hoarding and prohibits transactions featuring extreme uncertainties, gambling, and risks.

***Sanctity of contracts.***

Islam upholds contractual obligations and the disclosure of information as a sacred duty. This feature is intended to reduce the risk of asymmetric information and moral hazard.

***Shariah-approved activities.***

Only those business activities that do not violate the rules of shariah qualify for investment. For example, any investment in businesses dealing with alcohol, gambling, and casinos would be prohibited.

**6.6 Role of Money in Islam:**

The theme of money was tackled very early in history by a number of Muslim thinkers.

Al-Ghazali has highlighted two functions for money: means of exchange and a measure of value. He argues that money becomes a necessary means of exchange to overcome the problems of a barter economy Al-Ghazali says that money also constitutes a unit of value and

an instrument of measurement whose role is to increase exchange and commercial relations. That is why al-Ghazali insists on the fact that money should not be considered as a commodity, an object of transaction and a source of profit (interest), not hoarded and withdrawn from the commercial circuit.

Ibn Taymiyya examines two functions of money, namely, a standard of measurement and a means of exchange, and condemns the trade in money. Furthermore, he examined the problem of money erosion and also its impact on the general economic situation and on the welfare of the population: 'The authorities should issue the money (other than gold and silver) up to the level that is just necessary to correspond to the volume of transactions of the peoples without causing them any injustices'. This lead Ibn Taymiyya to describe the principle, 'bad money chases good money', known as Gresham's Law in the textbooks of political economy.

Ibn al-Qayyim recognizes the two functions of money described by the earlier scholars, but he was more precise in his formulation. He wrote that 'money is issued not for its own sake but to be used in transactions (that is to say that it constitutes only a means of exchange)'. Therefore money should be stable so as to facilitate the evaluation of the products and their exchange.

According to Ibn Khaldun, God created gold and silver to serve as a standard (or yardstick) of measurement for all goods. Contrary to the Mercantilists, Ibn Khaldun demonstrated, well before them, that gold and silver do not constitute wealth as such, but have a value of exchange like other metals or precious stones.

Taqi al-Din Ahmad al-Maqrizi (1364-1444) is known for his works on money and prices. He considers that only gold and silver constitute money which could be used as a standard of value, 'in the nature of things and according to Shari'ah.

Central to Islamic economics and finance is the fact that money itself has no intrinsic value. As a matter of faith, a Muslim cannot lend money to, or receive money from someone and expect to benefit through any increase, such as interest (commonly referred to as *riba*) is not allowed. To make money from money is strictly forbidden, wealth can only be generated through legitimate trade and investment in assets. Money must be used in a productive way. The principal basis of Islamic finance is based on the concept of trading involving the sharing



of profit and risk (loss). The profit is shared between the person providing the capital and the person providing the management expertise.

The key characteristic of Islamic economics is that economic and financial activities are linked to real economic sector activities and there is encouragement to equity based structures backed by tangible assets instead of debt based ones in investment where in the conventional world the transactions may not necessarily have to be backed by any real asset. The conventional investment practices, very often encouraged by uncontrolled greed to make excessive profits, are the main reason for the global financial crisis (for example, 2008-09 global financial crisis), that is bringing misery to millions.

### **6.7 Concept and Evolution of Islamic Banking:**

Islamic banking has been defined in a number of ways. The definition of Islamic bank, as approved by the General Secretariat of the OIC, is stated in the following manner. “An Islamic Bank is a financial institution whose status, rules and procedures expressly state its commitment to the principle of Islami Shariah and to the banning of the receipt and payment of interest on any of its operations”. Dr. Ziauddin Ahmed says, “Islamic banking is essentially a normative concept and could be defined as conduct of banking in consonance with the ethos of the value system of Islam.

It appears from the above definitions that Islamic banking is a system of financial intermediation that avoids receipt and payment of interest in its transactions and conducts its operations in a way so that it helps achieve the objectives of an Islamic economy. Alternatively, this is a banking system whose operation is based on Islamic principles of transactions of which profit and loss sharing (PLS) is a major feature, ensuring justice and equity in the economy. That is why Islamic banks are often known as PLS-banks.

The first attempt to establish an Islamic financial institution took place in Pakistan in the late 1950s with the establishment of a local Islamic bank in a rural area. The experiment was initiated by some pious landlords. Although the experience was encouraging, but the effort failed because non repayment by the borrowers.

The second pioneering experiment of putting the principles of Islamic banking and finance into practice was conducted in Egypt from 1963 to 1967 through the establishment of the Mit Ghamr Savings Bank in a rural area of the Nile Delta. The experiment combined the idea of

German savings banks with the principles of rural banking within the general framework of Islamic values. The bank's operation was based on the same Islamic principles of no-interest to depositors or from the borrowers. Unlike the Pakistan bank the experiment soon became successful; more branches were opened in different parts of the country, and the amounts of deposits increased. Although the project made a good start and initial results were more than encouraging it suffered a setback owing to changes in the political atmosphere. Nevertheless, the project was revived in 1971 under the name of Nasser Social Bank.

Islamic banking with a very different approach contemporary to that in Egypt, emerged in Malaysia. It was financial institution developed for the pilgrims of Malaysia. Pilgrims Saving Corporation was established in 1963. Next to follow was the Dubai Islamic bank in 1975. Since then, a number of Islamic banks and financial institutions have been established in different parts of the world and have been functioning successfully.

A significant development in Islamic banking has been the granting of an Islamic bank license in Saudi Arabia to the fifty-year old "Al-Rajhi Company", a firm noted for its currency, exchange and commercial activities. The firm started operation in 1985 under the name of "Al-Rajhi Banking Investment Corporation". The emerging success of Al-Rajhi in operating profitably in different regions of the world has increased pressure on the Saudi government to go for full-fledged Islamic banking.

An example of multi-cooperation at the governmental level in the field of Islamic banking, is the Islamic Development Bank, which was founded in 1975 as a multinational corporation by several Muslim countries.

In addition, an Islamic bank/investment company was established in Bahamas in 1977 as a multi-national holding company under the name of *Islamic Investment Company, ICC limited*.

A second example of Islamic banking in the West comes from Luxembourg, where the Islamic Banking System International Holding was established in 1978 as a joint stock company. Its purpose was to establish international Islamic banks in different parts of the western countries where there are communities of *Muslims*, and to participate in investment projects in Islamic and Non-Islamic countries. The company's investment operations are spread over different parts of the world. As a holding company, it established a new affiliated

company in London in June 1983 under the name of Islamic Finance House, and another in Denmark in 1982 under the name of the Islamic Bank International of Denmark.

Dar-al-mal-al-Islami (DMI), based in Geneva, was established in 1981. DMI aims to foster an Islamic financial system based on equity and social justice by incorporating three types of institutions – banking, investment and insurance. Thus, DMI may be considered as a major multi-national company, the activities of which, consist of Islamic investments, Islamic solidarity (insurance) and Islamic banking operations. DMI group has adopted a high profile and ambitious campaign to open an Islamic bank and investment in over thirty countries.

Another dynamic Islamic banking conglomerate is the “Al-Baraka’ group, which operate banks, investment companies, financial advisory and management companies in more than a dozen countries.

A development of complete Islamization of banking at national levels had been gaining momentum since the second half of the 1970s. The movement took basically two forms. First, an attempt was made to establish Islamic financial institutions side-by-side with traditional banking. In such attempts, two types of institutions were evolved: Islamic banks were established mostly in Muslim countries; and Islamic investment and holding companies started operating in some Muslim but mostly in non Muslim countries. These institutions claimed to be operating without interest in their transactions and competed with conventional banks to attract deposits. The majority of these institutions were established through private initiatives. Second, an attempt was made to restructure the whole financial system of the economy in accordance with the teachings of Islam. This second approach was accomplished in two distinct ways, as exemplified by the changes in Iran and Pakistan.

## **6.8 Distinguishing Features of Islamic Banking:**

An Islamic bank has several distinctive features as compared to its conventional counterpart. Chapra (- - -) has outlined six essential differences as below:

- i) *Abolition of interest (Riba)*: Since *riba* is prohibited in the Holy Quran and interest in all its forms is akin to *riba*, the first distinguishing feature of an Islamic bank must be interest-free.
- ii) *Adherence to Public Interest*: Activity of commercial banks being primarily based on the use of public funds, public interest rather than individual or group interest will be served by Islamic commercial banks. The Islamic banks should use all deposits,

which come from the public for serving public interest and realizing the relevant socio-economic goals of Islam.

- iii) *Multi-purpose bank*: Another distinguishing feature is that Islamic banks will be universal or multi-purpose banks and not purely commercial banks. These banks are conceived to be a crossbreed of commercial and investment banks, investment trusts and investment-management institutions, and would offer a variety of services to their customers. A substantial part of their financing would be for specific projects or ventures. Their equity-oriented investments would not permit them to borrow short-term funds and lend to long-term investments.
- iv) *More Careful Evaluation of Investment Demand*: Another very important feature of an Islamic bank is its very careful attitude towards evaluation of applications for equity oriented financing. It is customary that conventional banks evaluate applications, consider collateral and avoid risk as much as possible. Since the Islamic bank has a built in mechanism of risk sharing, it would need to be more careful in how it evaluates financing requests.
- v) *Work as Catalyst of Development*: Profit-loss sharing being a distinctive characteristic of an Islamic bank fosters closer relations between banks and entrepreneurs. It helps develop financial expertise in non-financial firms and also enables the bank to assume the role of technical consultant and financial adviser, which acts as catalyst in the process of industrialization and development.

### **6.8.1 Objectives of Islamic Banking**

The primary objective of establishing Islamic banks all over the world is to promote, foster and develop the application of Islamic principles in the business sector. More specifically, the objectives of Islamic banking when viewed in the context of its role in the economy are listed as following:

- To offer contemporary financial services in conformity with Islamic Shari'ah;
  - To contribute towards economic development and prosperity within the principles of Islamic justice;
  - Optimum allocation of scarce financial resources;
  - To help ensure equitable distribution of income.
1. *Offer Financial Services*: Interest-based banking, which is considered a practice of *riba* in financial transactions, is unanimously identified as anti-Islamic. That means, all transactions made under conventional banking is unlawful according to Islamic

Shari'ah. Thus, the emergence of Islamic banking is clearly intended to provide for Shari'ah approved financial transactions.

2. *Islamic Banking for Development*: Islamic banking is claimed to be more development oriented than its conventional counterpart. The concept of profit sharing is a build-in development promoter since it establishes a direct relationship between the bank's return on investment and the successful operation of the business by the entrepreneurs.
3. *Optimum Allocation of Resources*: Another important objective of Islamic banking is the optimum allocation of scarce resources. The foundation of the Islamic banking system is that it promotes the investment of financial resources into those projects that are considered to be most profitable and beneficial to the economy.
4. *Islamic Banking for Equitable Distribution of Resources*: Another important objective of Islamic banking is to ensure equitable distribution of income and resources among the participating parties: the bank, the depositors and the entrepreneurs.

#### **6.9 Principles of *Shariah* as Applied to Islamic Banking Products:**

Muslim jurists and scholars have suggested a number of *Shariah* principles to be adopted by Islamic banks in delivering their products and services. Among the most widely used *Sharia* principles recommended by these scholars are *mudaraba*, *musharaka*, *murabaha*, *bai-mua'zzal*, *ijara*, *ijara wa-iktina*, *qard hassan*, *wadian*, and *rahn*. Basically these principles can be broadly classified into four categories as below:

- i. Profit and loss sharing principles,
  - a. *Mudaraba*
  - b. *Musharaka*
- ii. Fees or charges based principles,
  - a. *Murabaha*
  - b. *Bai mu'azzal*
  - c. *Ijara*
  - d. *Ijara wa-iktina*
- iii. Ancillary principles,
  - a. *Wadiah*
  - b. *Rahn*

Besides the above principles, there are other isolated principles applicable to Islamic banking, but the usage of these principles is limited to specific Muslim countries. A brief explanation of the most widely used *Shariah* principles are as follows:

### **Mudaraba**

*Mudaraba* means ‘profit-sharing’ or ‘trust finance’ or ‘investment through self-employed entrepreneur’. This is basically an agreement between at least two parties, one being a lender or sometimes known as an investor and an entrepreneur also known as an agent-manger. In the agreement, the investor agrees to finance or entrust money to the entrepreneur who is to trade in an agreed manner and then return to the investor the principal and pre-agreed proportion of profits and keep for him-self the remainder. The distribution of profit between two parties must necessarily be on a proportional basis and cannot be a lump sum or a guaranteed amount. In the case of loss as a result of circumstances beyond the control of entrepreneur, the investor will bear all financial risks and the entrepreneur loses the time and his efforts only.

### **Musharaka**

*Musharaka* is normally translated in English as ‘partnership’. In the context of Islamic banking, however, *musharaka* means ‘participating financing’. Literally, *musharaka* means a joint-venture agreement between two parties to engage in a specific business activity with an aim of making profit. The termination of the agreement may be based on time or after fulfilment of certain conditions. In this principle, both parties will provide the capital and the investor or lender may also participate in the management. As in the case of *mudaraba*, all parties agree through negotiation on the ratio of distribution of profits generated from the business activity which need not coincide with the ratio of participation in the financing of the activity. However, in the event of loss, all parties bear the loss in proportion to their share in the financing.

### **Murabaha**

*Murabaha* or ‘cost-plus financing’ or ‘financing resale of goods’ refers basically to the sale of goods at a price covering the purchase price plus a profit margin agreed upon by both parties concerned. This arrangement transforms a traditional lending activity into a sale and purchase agreement, under which the lender buys goods wanted by the borrower for resale to the borrower at a higher price, agreed upon by both parties. In this principle, Islamic bank

play the same role as any other business entity i.e. giving services or sale of goods to customers with the aim of making profit.

### ***Bai Mua'zzal***

*Bai-mua'zzal* or 'deferred payment sale' is a variant concept of *murabaha* and in this case the borrower is allowed to defer settlement of payment for goods purchased within the period, and in a manner determined and agreed by both parties.

### ***Ijara***

This is the *Shariah's* concept of leasing finance, whereby the bank purchases the asset required by the customer, and then leases the asset to the customer for a given period. The lease, rental and other terms and conditions having been agreed upon by both parties.

### ***Ijara wa-iktina***

*Ijara wa-iktina* or 'lease purchase financing' refers to a contract where the bank purchases an asset for the purpose of renting the same to the customer against an agreed rental, together with the client's agreement to make payments which will eventually lead to the transfer of ownership from bank to customer.

### ***Qard hassan***

This is a benevolent loan that obliges a borrower to repay the lender the principal sum borrowed on maturity of the loan. The borrower, however has the discretion to reward the lender for his loan by paying any sum over and above the amount of the principal.

### ***Wadiah***

*Wadiah* or 'trusteeship' refers to an agreement between the owner of assets (excluding immovable fixed assets) and another party, whereby the owner will deposit and give consent to the custodian to make use of their assets (funds) as long as these assets remain in the custodian's hands.

### ***Rahn***

*Rahn* means pledge or pawn. It is a contract of pledging a security and becomes binding when possession of the pledge has taken place. In this principle the ownership of the security is not transferred to the pledgee. The transfer occurs only under certain conditions.

### **6.10 Islamic Banking in Bangladesh:**

Islami Bank Bangladesh Limited is considered to be the first interest free bank in Southeast Asia. It was incorporated on 13-03-1983 as a Public Company with limited liability under the companies Act 1913. The bank began operations on March 30, 1983.

Bangladesh Bank Annual Report, 2020-21, reports that there are eight (8) full fledged Islamic Banks operating in Bangladesh. In addition, there are 22 conventional banks who have also Islamic Banking widows. The total number of branches of Islamic banking (off all types) is around 15 percent of all bank branches.

#### **Source of Funds:**

The sources of funds of the Islamic Banks of Bangladesh are:

- i) Paid-up Capital and Reserves.
- ii) Deposits

Paid-up capital consists of Share-money which conforms to the nature of Musharaka principles of Islamic Shariah. Musharaka means a joint-venture of two or more persons who subscribe to the capital fund and have right to participate in profit and management and have obligation to bear proportionate loss, if there be any.

Deposits are mobilised through the application of the following two Shariah principles:

- i) Al – Wadia and
- ii) Mudaraba

Al – Wadia principle implies that the Bank receives funds with undertaking to refund the deposit on demand and also with authorization from the depositors to use the funds for benefit of and at the risk of the bank. Bank's Current Account Deposits are managed on this principle.

Mudaraba principle implies that the bank receives deposits from the depositor with the authority that the bank will have exclusive right to manage the fund and the profit resulting from such deposits will be shared between the bank and the depositor at a pre-agreed ratio and the loss, not resulting from the negligence of the Bank or any of its representative, will be borne by the depositors. PLS accounts and various term deposits of these banks are conducted on this principle. Of the total deposits of the six Islamic Banks, Mudaraba funds constitute around 85% to 90% and the share of AL-Wadia deposits vary from 10% to 15%.



### Uses of Funds:

After making provision for Statutory Liquidity Reserve and Till Money, the remaining funds are invested through mechanics conforming to the following principles of Shariah:

- i) Murabaha (Cost plus sales)
- ii) Bai-Muajjal (Deferred payment sales)
- iii) Ijara – bil – Bai (Hire-Purchase)

The Mudaraba principle used by Islamic Banks in collecting deposits is totally absent from the investment side. Similarly the Musharaka investment constitutes very insignificant part of the total volume of banks' investment. Murabaha means resale of goods with the addition of a fixed surcharge on the stated original cost. Bai-Muajjal means deferred payment sales and Ijara-bil-Bai means leasing ending in purchase of the leased asset. We find that the classical modes of investment i.e. Mudaraba, Musharaka and Quard have yet to get due place in Bangladesh and naturally the socio-economic benefits associated with these modes are also equally absent.

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## 6.11 REVIEW QUESTIONS

**Multiple Choice Questions. Tick (✓) the best answer:**

1. Islamic Finance is strongly \_\_\_\_\_ oriented.
  - a) profit
  - b) money
  - c) equity
  - d) interest
  - e) both equity and debt
2. The Islamic finance system regards “the time value of money” as
  - a) interest
  - b) rent
  - c) loss
  - d) profit
  - e) not acceptable
3. The Islamic finance system works on the basis of
  - a) sharing return
  - b) sharing risk
  - c) sharing risk and return
  - d) predetermined risk and return
4. In Islamic banking and finance, any deal must have an underlying \_\_\_\_\_ backing the deal.
  - a) asset
  - b) profit
  - c) risk
  - d) currency
  - e) money
5. A “sukuk” is basically a Shariah-compliant
  - a) loan
  - b) profit
  - c) bank cheque
  - d) investment certificate
6. “Takaful” is basically a Shariah-compliant
  - a) loan
  - b) insurance
  - c) investment
  - d) ownership
7. Which from the following is/are NOT permitted under Islamic Financial Principles?
  - I. Interest
  - II. Short selling
  - III. Non-asset backed derivatives
  - (A) I only
  - (B) I and II
  - (C) I and III
  - (D) I, II and III

8. The Islamic finance system is founded on
  - a) Cancellation and revocation of debt
  - b) Absolute prohibition of the payment or receipt of any predetermined, guaranteed rate of return
  - c) Imposition of an obligatory tax on earnings
  - d) Land and property tax levied by the state
9. Ijarah literally means
  - a) Price of goods
  - b) Type of transaction
  - c) Risk or loss or fraud
  - d) To give something on rent
10. A type of partnership where one party offer funds while other gives expertise and management is
  - a) murabaha
  - b) musharika
  - c) ijarah
  - d) mudarabah
11. The Islamic finance system prohibits transactions featuring
  - a) Extreme uncertainties resulting from speculation and gambling
  - b) Sharing of profit and risk of loss
  - c) Partnership agreements
  - d) Trading for profit
12. Which of the following is a type of investing instruments?
  - a) Musharakah
  - b) Tawarruq
  - c) Kafalah
  - d) Qimar
13. Amanah in Islamic banking refers to
  - a) A deposit held in trust which creates various fiduciary duties.
  - b) An expert who is consulted for advice on Islamic law.
  - c) An interest-free loan.
  - d) A loan that does not have to be repaid.
14. The Arabic term Huq means
  - f) Legal rights
  - g) Credit proposal
  - h) Taking full responsibility
  - i) Kind of sale
15. Islamic finance system seeks to
  - a) Encourage wasteful expenditure
  - b) Administer land revenue
  - c) Postpone debt repayment
  - d) Enhance equality an fairness in financial dealings for the good of society as a whole.

16. Which of the following refers to uncertainty and deception in Islamic Economics?
  - a) Zakat
  - b) Gharar
  - c) Sadaqa
  - d) Sakath
17. In ..... the profit ratio is fixed while loss ratio is according to capital contribution.
  - a) Musharaka
  - b) Ijrah
  - c) Mudarabah
  - d) Bai Muhajjal
18. According to ....., anything that has economic value is considered wealth.
  - a) Shariah
  - b) Qiyas
  - c) Ijma
  - d) Ijthihad
19. One of the core aims or objectives (maqasid) of the Shariah is the preservation of.
  - a) Wealth (Maal)
  - b) Sunnah
  - c) Imaan
  - d) Value
20. Buying shares (stock) on a short term price fluctuations is considered speculation (rather than investment) and thus is a ..... trading practice.
  - a) Prohibited
  - b) None of these above
  - c) Allowed
  - d) Not a matter
21. Man is the Khalifah of God or Vicegerent on earth and the resources at his disposal are.
  - a) A trust (Amanath)
  - b) Property
  - c) A profit
  - d) A commodity
22. Who must utilize them according to the will of the Creator and he will be held accountable for any misuse of these resources.
  - a) Man
  - b) Prophet
  - c) God
  - d) Angels
23. All resources in nature are means for man to attain his falah (happiness) in this world and in the.....
  - a) Hereafter
  - b) Friends
  - c) Death
  - d) Family

24. Islamic Economics is a social science which studies the economic problems of people imbued with the values of.
- Islam
  - Pragmatic
  - Iman
  - Rational
25. It is the study of social science which enables people to perform their obligation to Allah (God) and to their society.
- Islamic Economics
  - Micro Economics
  - Macro Economics
  - E-commerce
26. In Islamic Philosophy Zakat is the ..... of poor.
- Right
  - Mercy
  - Duty
  - Principle
27. Which is the third source of Islamic Jurisprudence?
- Quran
  - Ijma
  - Hadith
  - Qiyas
28. What is fiqh.
- Jurisprudence
  - Shirk
  - Tawheed
  - Tasawuff
29. Profit-loss sharing financing is known in Islamic concept by the term.
- Riba
  - Mudharabah
  - Zakat
  - Saddaka
30. What is word meaning of 'Falah'?
- Prosperity or victory
  - Development
  - Economics
  - Finance
31. What is the literal meaning of Zakat?
- Charity
  - Purification
  - Obedience
  - Kindness

32. Ushr is charged on
- Agricultural production
  - Loan and Interest
  - Savings
  - Zakat

### **6.12 Probable Questions**

1. State and briefly explain the key principles that directly set down the central structure of Islamic economics and finance.
2. What do you mean by Riba? How is it interpreted in Islam and what are the significant implications of prohibiting Riba in Islam?
3. Explain the principle of Gharar and how it is different from Maysir or Qimar.
4. What is the role of Zakat in establishing equality in society?
5. State and explain the basic features of Islamic world view of economics.
6. What is the concern of “tazkiyah” and what is its end result?
7. What is Islamic Economics and how come it is different from and similar to conventional western economies?
8. Islam is perceived to be comprising of certain basic elements. State and briefly explain those elements.
9. What do you mean by Muamalat? What role does it play in Islam?
10. State and explain the fundamental sources of Shariah law.
11. How come Ijma and Qiyas (as sources of Shariah Law) are different from Quaran and Sunnah?
12. State and explain the principles of Islamic financial system.
13. Explain the role of “Money” in Islamic economics.
14. Why is money treated as “potential capital” and is trading of money prohibited in Islam?
15. Please state OIC definition of Islamic Banking. Why is it also known as PLS banking?
16. Islamic Banks have served distinctive features as compered to its conventional counterpart. State and explain those features.
17. Briefly explain the objectives of Islamic Banking.

18. Based on PLS principles, what are the available Islamic financial instruments? How do you differentiate between them?
19. Which Shariah Principles are used by Bangladeshi Islamic Banks for mobilization and deployment of fund?
20. Explain the following Islamic financial instruments:
- i) Murabaha
  - ii) Bai Muazzal
  - iii) Qard Hassan
  - iv) Rahn

## **MODULE - 7**

### **Regulatory Framework for Financial and Monetary System**

#### **7.1 Concern of Financial Regulations**

Regulation means imposing rules and laws which limit the freedom of individuals and businesses to make decisions. Financial regulation involves limiting the freedom of banks and financial institutions to follow certain policies and procedures. Regulations ensure banks have relatively good risk management so they don't make bad investments. Bank capital acts as a shock absorber to help deal with bad investments.

Regulations are also used so that people are less likely to withdraw a lot of money unexpectedly. Moreover, there are deposit guarantee schemes that ensure the protection of banks if they fall short of a certain deposit level. Banks also have to hold cash or quick assets to cover any unexpected withdrawals.

#### **7.2 Need for Financial System Regulations**

All of us depend on the financial system. For instance, we need banking in our daily lives, for savings and investments or even to borrow funds. Businesses need banks to borrow money for expansions or for investment purposes. Consumers taking out a mortgage or insurance need advice on the best product for them. In the case of insurances, policyholders rely on receiving the claims for which they had taken insurance.

A lack of proper regulatory oversight of financial institutions has the potential to jeopardize the stability of the financial system, thus causing harm to consumers and damaging the prospect for the economy. Hence, strong financial regulation is important to safeguard the consumers and protect the shareholders of the financial system.

#### **7.3 Types of Financial System Regulations**

- The **microprudential regulation** is the regulation and oversight of individual financial institutions to ensure that they remain solvent and act in the best interests of their customers. In essence, this implies ensuring that each bank's balance sheet is resilient to economic and financial shocks.
- **Macroprudential regulation**, on the other hand, is concerned with the entire financial system. The ultimate goal of macroprudential regulation, according to the



IMF, is to prevent long-term wealth losses by minimizing the accumulation of system-wide financial risk.

Sometimes, financial regulations may also be discussed from the point of view of:

- Prudential regulation
- Consumer protection

**Prudential regulation** ensures that firms have the funds they need to trade securely, as well as the right risk controls and oversight.

**Consumer protection** entails ensuring that businesses treat customers fairly throughout the sales process and in the handling of complaints.

Authorization is an essential element of prudential regulation. This means that only organizations that have met certain conditions are able to operate in the financial system. Consumer protection rules are also established, which advise businesses on how they should handle their customers.

Firms must be supervised to ensure that they follow the rules and regulation. Supervision is frequently stringent and intrusive in order to ensure that financial service providers follow the rules.

Risk-based supervision refers to the degree to which enterprises are monitored based on the level of risk they pose to the financial system. In the financial services industry, enforcement attempts to reduce undesirable behaviour. When a company does not follow the regulations, efforts are made to ensure that the rules are enforced.

Finally, there is resolution, which is the process through which a financial organization is reorganized to prevent it from causing more economic harm.

## **7.4 What is Central Bank?**

The Central Bank is the supreme monetary and banking authority. According to De Cock, "a central bank is a bank which constitutes the apex of the monetary and banking structure." A central bank controls the supply of money as well as how it reaches the consumer. It can not only print and inject money into the economy but also regulate how commercial banks distribute it. In the statutes of Bank for International Settlement (BIS), a central bank is

defined as "the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country."

### **7.5 History of Central Banks**

In 1668, Sweden founded the first ever central bank, called Sveriges Riksbank. Its foundation stems from the failure of Swedens first bank, Stockholms Banco in 1656. Shortly after its inception, Stockholms Banco became the first bank to formally introduced banknotes to Europe in 1661.

### **7.6 Objectives of Central Bank**

The objectives of central banks have largely changed over the years, due to disastrous economic events. For example, back in the 1970s, the main goal of central banks was to ensure full employment. However, the focus on employment blinded central banks attention on inflation. Rather than maintain price stability, central banks would pump money into the economy to ensure people were being employed. Yet this came at the cost of inflation.

For example, in 1973, there was a massive oil crisis that was to be named the 'OPEC crisis'. It led to a sharp increase in the unemployment rates across the developed world. In retaliation, central banks opened the taps and supplied the economy with money in the hope of boosting investment and jobs.

Whilst the plan worked, it boosted employment in the short-term, but created long-term effects. Double digit inflation occurred into the 1980s and employment equally suffered. As a result, central banks learnt that a more balanced approach is needed – one that focuses on several objectives rather than one.

Examples of the central banks objectives include:

- Price Stability
- Full Employment
- Financial Stability
- Economic Growth
- Exchange Rate Stability

### **7.6.1 Price Stability**

Price stability is probably one of the leading objectives of central banks. After the high levels of inflation in the 1970s and 1980s, control over prices is a key element of central banking policy. Central Banks aim to keep prices stable so that consumers are confident prices will not increase or decrease rapidly and change their behaviors abruptly.

Now, through most of the developed world, the target rate of inflation is 2 percent. The reason for this is that it is high enough to encourage consumption, but not too high to cause panic buying, thereby creating a cycle of greater inflation. Yet it is not too low so as to cause an excessive amount of saving.

### **7.6.2 Full Employment**

Going back through history, full employment was one of the leading objectives of the central bank. However, as the welfare state has expanded and the understanding of monetary policy increased, it has taken a backwards step.

Nevertheless, full employment is still a relatively important objective. Most central banks would take action if unemployment starts creeping up. Usually, this is done by lowering the interest rates to fuel cheaper credit to businesses. In turn, businesses would use the cheap credit to invest and expand its operations, thereby stimulating jobs in the process.

### **7.6.3 Financial Stability**

The central bank often acts as lender of last resort in order to maintain financial stability. For instance, most commercial banks need short-term loans in order for them to be able to align their assets and liabilities. Acting as the lender of last resort, the central bank ensures that short-term financial difficulties do not force banks to go bankrupt and causes wider panic.

On occasion, a commercial bank may have to pay a loan to another financial institution, but their assets are tied up in long-term loans and other illiquid assets. As a result, they need some short-term liquidity to meet their obligations, which is where the central bank comes into play.

This is crucial in the private sector as some short-term mis-payments could cause severe consequences. One small short-term default may lead other institutions to stop doing business with them, and customers may start to go elsewhere. It can destroy the firms

reputation and hence the confidence in it as an organization. So the central bank plays an important role in ensuring confidence remains and banks remain stable.

#### **7.6.4 Economic Growth**

Economic growth is important to central banks as it generally means more jobs and better living conditions. When there is economic growth, it is often associated with increased business investment, improving employment, and increasing demand.

Now economic growth is an objective for central banks but is not necessarily its main one. They often have to weigh up the pros and cons, as controlling inflation and prices may be more beneficial than stimulating the economy. Nevertheless, central banks will often look to prop up the economy if they can do so whilst also maintaining price stability.

#### **7.6.5 Exchange Rate Stability**

For one reason or another, a nation may face a currency shock by which the demand for its currency declines rapidly. This may be due to a domestic political output or a financial crisis. In turn, this creates instability within the markets, which central banks look to avoid.

Exchange rate instability can lead to lower levels of business confidence as they are unable to adequately plan their investments or business strategy. This is an even more important factor in today's inter-connected economies that rely heavily on international supply chains.

When the exchange rate falls heavily, the central bank may look to buy the domestic currency from the exchange market in a bid to increase its demand and value. This can help create stability in the market, which could significantly affect importers, the supply chain, and exporters alike.

### **7.7 Functions: Monetary Management, Banking Supervision and Developmental.**

#### **7.7.1 Monetary Management**

##### ***Note issuance***

Previously almost every bank could issue notes. It led to over issue of notes very often and as such it created many troubles. Then Government decided to give the power of issuing notes to a single institution. Now the central bank enjoys the sole right to issue notes. Notes are issued according to requirements on the basis of a certain principle.

The notes issued by the central bank represent cash. This cash constitutes the assets of other banks. Hence, the note-issue function is necessary for the central bank to control the banking system by being the ultimate source of cash.

### ***Banker to the Government***

The central bank acts as the banker to the government in the following ways:

- a) It acts as the custodian of all the funds of the government. The bank usually pays no interest on these balances.
- b) All payments of the government are made through the central bank.
- c) The central bank also acts as the lender to the government in times of financial difficulties. The loans are allowed on short-term basis against treasury bills and other securities.
- d) It acts as the adviser to the government about financial matters.
- e) It manages the public debt on behalf the government.

### ***Banker's Bank***

The central bank acts as the banker to the commercial banks. The commercial banks, either by law or custom, have to maintain a certain percentage of their deposits as cash reserves with the central bank. The reserve maintenance allows the central bank to exercise control over the activities of those banks.

### ***Clearing House Operation***

The central bank acts as the clearing house for other banks. Its function in this respect is to help the settlement of their mutual claims that arise by way of collection and payment to cheques. All banks have their reserves with the central bank. They settle their clearing differences by drawing cheques on the central bank. The central bank will clear up these differences by means of debit and credit entries in their accounts with it.

### ***Lender of the last Resort***

The central bank not only maintains the reserves of the commercial banks, it also acts as the lender of the last resort to them. Sometimes they fail to meet the depositor's demand for cash. They may not get funds from other sources to meet their demand. Then they can approach the central bank for help in such and other emergency needs. The purpose of the central bank is not to compete with them but to help them. Hence, the central bank will come forward to provide these banks with necessary funds. The funds are allowed by rediscounting their bills of exchange, promissory notes and other commercial papers or against approved securities. Thus, the central bank acts as the lender of the last resort or the ultimate source of cash to other banks.

In times of financial crisis and panic, the central banks help the commercial banks not only by granting advances but by giving them the benefit of advice as well.

### ***Foreign Exchange Operations***

The value of national currency may fluctuate both at home and abroad. The central bank is to keep certain reserves for maintaining confidence in home currency. This reserve is the safeguard against domestic monetary circulation. Similarly, it is to keep necessary foreign exchange reserves for maintaining stability in the external value of national currency. Hence, the central bank acts as the custodian of the foreign exchange reserves and conducts foreign exchange operations in such a way as to keep the external value of the currency stable.

### ***Controller of Credit.***

The very important function of a central bank is that it acts as the controller of credit. Expansion and contraction of credit may be associated with many evils. As the leader of the money market, the central bank controls the volume of credit according to the total needs of the economy. The supply of credit takes place through the commercial banks. Hence, the central bank regulates their credit creation activities through different instruments of control, such as the bank rate, open market operation, variable reserve ratio and selective methods.

### ***Methods of Credit Control:*** Quantitative and Qualitative.

#### Quantitative or General Methods

- (i) **Bank rate policy:** Bank rate is the rate at which the central bank will rediscount bills of exchange or promissory notes and grant loans on approved securities. Bank rate is also known as discount rate. Sometimes, there may be more volume of credit in the economy. This will lead to higher prices, higher wages and unusual economic activities. Then the central bank may raise up the bank rate. With the rise in the bank rate, the market rates will also go up. This will restrict new investment or expansion or replacement. The ultimate result is that prices will fall due to reduction in the volume of credit, employment and income. The reverse will happen when bank rate is lowered.
- (ii) **Open market operations:** Open market operations refer to purchase and sale of securities by the central bank in the open market on its own initiative. When

commercial banks possess more reserves for credit expansion purpose, the central bank will sell securities in the market. The buyers will pay the central bank with cheques drawn on their own banks. As a result the reserves of these banks will fall, and this will reduce their credit operations. Similarly, when it buys securities it will pay the sellers in cash or with cheques drawn on itself. This will increase credit expansion capacity.

- (iii) **Variable reserve ratio:** The central bank can control volume of credit by varying cash reserve ratio whenever necessary. If central bank raises the reserve ratio, it will lead to a reduction in the supply of credit. Similarly, by an opposite process the supply of credit may be expanded.

### ***Qualitative or Selective Methods***

- (i) **Rationing of credit:** Rationing of credit means that central bank puts restrictions on accommodation for credit. The credit is now rationed, and as such it will not be available as a general rule. Here central bank limits the amount of credit for each applicant.
- (ii) **Direct action:** Some of the commercial banks conduct their activities against the instructions as laid down by the central bank. Direct action means that central bank will penalize these banks by charging penalty rates over and above the official discount rate.
- (iii) **Moral suasion:** This refers to central bank's policy of persuading the commercial banks to conduct their business in a particular way.
- (iv) **Regulation of consumer's credit:** Consumer's credit is created through the purchase and sale of consumer's durable goods like cars, TV. etc. Their prices are repayable in installments. The central bank may impose strict terms and conditions for restricting this credit or liberalize terms and conditions for encouraging this credit.
- (v) **Fixation of Margin requirements:** The central bank can also control the flow of credit by varying the 'margin' on borrowing against certain types of securities which are offered by a particular class of borrowers for taking loans.

### **7.7.2 Banking Supervision**

Supervising and regulating the operation of financial institutions are one of the important functions of a central bank. Bank regulation and supervision has three important objectives: first, promoting the soundness of banks to protect the interests of the depositors. Second, encouraging the economic efficiency of financial institutions and third, ensuring that banks comply with the monetary policy measures.

The process of bank supervision takes two forms. One is the regulatory or off-site monitoring process, while the other is on-site inspection or bank examination process. Bank regulation usually deals with the formulation and implementation of specific rules and regulations for the conduct of banking business, including the monitoring of the compliance with such rules. Bank examination, on the other hand, ensure compliance with the rules and regulations and assesses the soundness of individual institutions. Sometimes, the function of bank regulation and examination are centered in one department, while in some central banks, they are separated into different departments as a matter of policy.

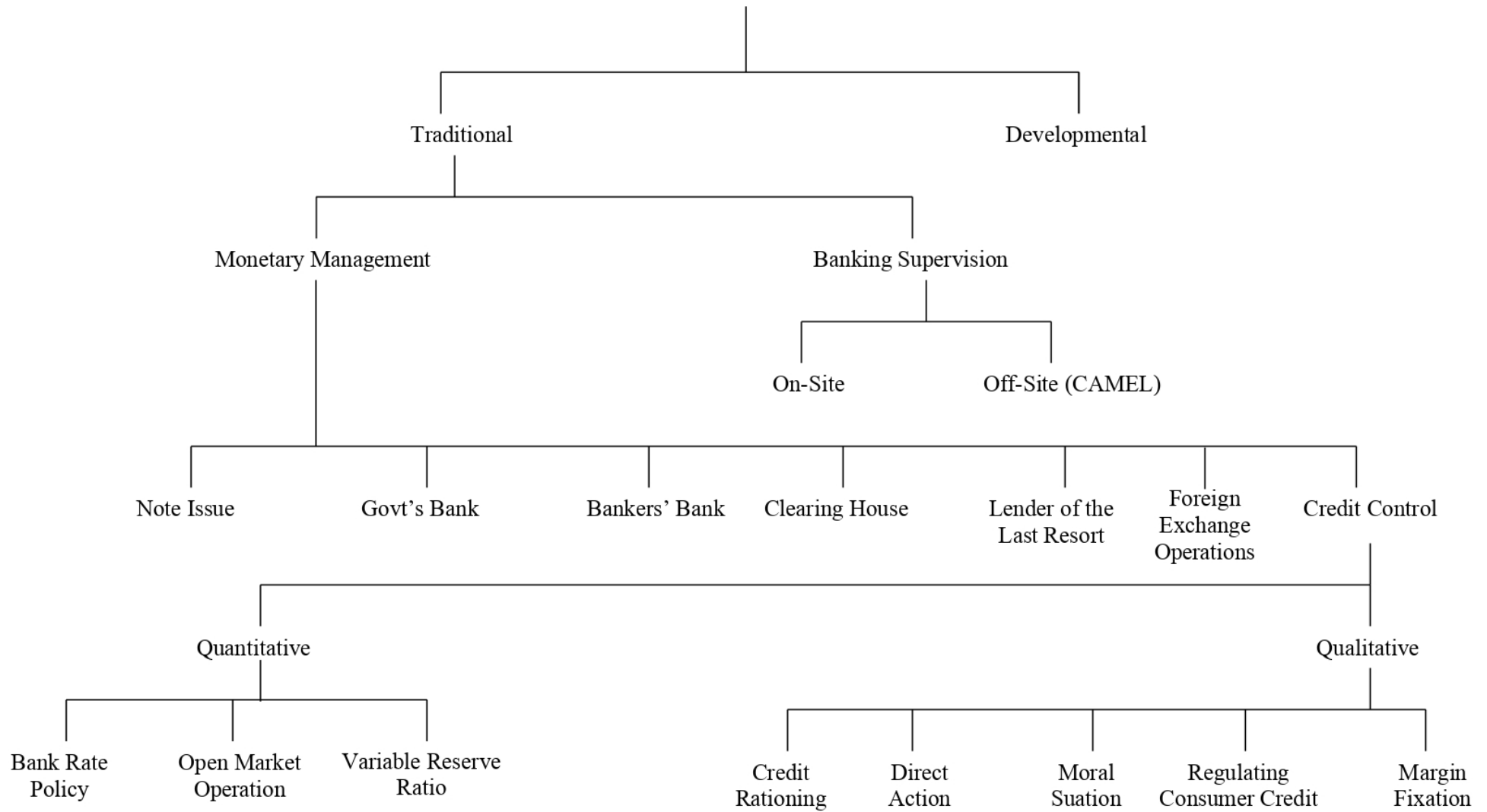
### **7.7.3 Developmental Functions**

A central bank is commonly seen in terms of its traditional functions as issuer of currency, government's banker, bankers' bank, controller of credit and a lender of last resort. However, it can also be viewed as a developer of the financial system and promoter of economic development. Conjunctural objectives (of a central bank) are spelt out in central bank statutes in both developed and developing countries, whereas the developmental objectives normally are started only in the statutes of developing country central banks.

The promotional role of central bank should be guided by supply rather than demand considerations. A central bank has to be an innovator as well as catalyst in its promotional role for which there is a wide variety of techniques available such as deposit insurance, credit guarantee, establishment of DFIs, differential interest rates and reserve requirements, establishment of CIB etc. Although the developmental rationale of central banks is well grounded, but in case of any conflict between allocation of credit and control of credit, the control of credit should be the first priority of the central bank.



## Functions of Central Bank



## 7.8 Should the Central Bank Be Independent?

Should the central bank be independent, or would we be better off with a central bank under the control of the government?

### The Case for Independence

The strongest argument for an independent central bank rests on the view that subjecting the central bank to more political pressures would impart an inflationary bias to monetary policy. In the view of many observers, politicians in a democratic society are shortsighted because they are driven by the need to win their next election. With this as the primary goal, they are unlikely to focus on long-run objectives, such as promoting a stable price level. Instead, they will seek short-run solutions to problems, like high unemployment and high interest rates, even if the short-run solutions have undesirable long-run consequences. For example, high money growth might lead initially to a drop in interest rates but might cause an increase later as inflation heats up. Would a central bank under the control of government be more likely to pursue a policy of excessive money growth when interest rates are high, even though it would eventually lead to inflation and even higher interest rates in the future? The advocates of an independent central bank say yes. They believe that a politically insulated central bank is more likely to be concerned with long-run objectives and thus be a defender of a stable price level.

A variation on the preceding argument is that the political process in a country leads to the so-called **political business cycle**, in which just before an election, expansionary policies are pursued to lower unemployment and interest rates. After the election, the bad effects of these policies – high inflation and high interest rate – come home to roost, requiring contractionary policies and politicians hope the public will forget before the next election. There is some evidence that such a political business cycle exists in the United States, and a Federal Reserve under control of Congress or the president might make the cycle even more pronounced.

Putting the central bank under the control of the government (making it more subject to influence by the Treasury) is also considered dangerous because the central bank can be used to facilitate Treasury financing of large budget deficits by its purchases of Treasury bonds. Treasury pressure on the central bank to “help out” might lead to

a more inflationary bias in the economy. An independent central bank is better able to resist this pressure from the Treasury.

Another argument for central bank independence is that control of monetary policy is too important to leave to politicians, a group that has repeatedly demonstrated a lack of expertise at making hard decisions on issues of great economic importance, such as reducing the budget deficit or reforming the banking system. Another way to state this argument is in terms of the principal-agent problem. Both the central bank and politicians are agents of the public (the principals), and both politicians and the central bank have incentives to act in their own interest rather than in the interest of the public. The argument supporting central bank independence is that the principal-agent problem is worse for politicians than for the central bank because politicians have fewer incentives to act in the public interest.

Indeed, some politicians may prefer to have an independent central bank which can be used as a public “whipping boy” to take some of the heat off their shoulders. It is possible that a politician who in private opposes an inflationary monetary policy will be forced to support such a policy in public for fear of not being reelected. An independent central bank can pursue policies that are politically unpopular yet in the public interest.

### **The Case Against Independence**

Proponents of a central bank under the control of the government argue that it is undemocratic to have monetary policy (which affects almost everyone in the economy) controlled by an elite group responsible to no one. The current lack of accountability of the central bank has serious consequences: If the central bank performs badly, there is no provision for replacing Governor or Deputy Governors.

The public holds the government responsible for the economic well-being of the country, yet they lack control over the government agency (like central bank) that may well be the most important factor in determining the health of the economy. In addition, to achieve a cohesive program will promote economic stability, monetary policy must be coordinated with fiscal policy (management of government spending and taxation). Only by placing monetary policy under the control of the politicians

who also control fiscal policy can these two policies be prevented from working at cross-purposes.

Another argument against central bank independence is that an independent central bank has not always used its freedom successfully. For example, the central bank failed miserably in its stated role as lender of last resort during the Great Depression, and its independence certainly did not prevent it from pursuing an overly expansionary monetary policy in the 1960s and 1970s that contributed to rapid inflation in this period.

There is, however, no consensus on whether independence is a good thing, although public support for independence of the central bank seems to have been growing in almost all countries.

## **7.9 Regulators of the Financial System of Bangladesh**

### **7.9.1 Central Bank**

Bangladesh Bank acts as the Central Bank of Bangladesh which was established on December 16, 1971 through the enactment of Bangladesh Bank Order 1972-President's Order No. 127 of 1972(Amended in 2003).

The general superintendence and direction of the affairs and business of BB have been entrusted to a 9 members' Board of Directors which is headed by the Governor who is the Chief Executive Officer of this institution as well. BB has 45 departments and 10 branch offices.

In Strategic Plan (2010-2014), the vision of BB has been stated as, "To develop continually as a forward looking central bank with competent and committed professionals of high ethical standards, conducting monetary management and financial sector supervision to maintain price stability and financial system robustness, supporting rapid broad based inclusive economic growth, employment generation and poverty eradication in Bangladesh".

The main functions of BB are (Section 7A of BB Order, 1972) -

1. to formulate and implement monetary policy;
2. to formulate and implement intervention policies in the foreign exchange market;
3. to give advice to the Government on the interaction of monetary policy with fiscal and exchange rate policy, on the impact of various policy measures on the

economy and to propose legislative measures it considers necessary or appropriate to attain its objectives and perform its functions;

4. to hold and manage the official foreign reserves of Bangladesh;
5. to promote, regulate and ensure a secure and efficient payment system, including the issue of bank notes;
6. to regulate and supervise banking companies and financial institutions.

#### **7.9.1.1 Core Policies of Central Bank**

#### **7.9.1.2 Monetary policy**

The main objectives of monetary policy of Bangladesh Bank are:

1. Price stability both internal & external
2. Sustainable growth & development
3. High employment
4. Economic and efficient use of resources
5. Stability of financial & payment system

Bangladesh Bank declares the monetary policy by issuing Monetary Policy Statement (MPS) twice (January and July) in a year. The tools and instruments for implementation of monetary policy in Bangladesh are Bank Rate, Open Market Operations (OMO), Repurchase agreements (Repo) & Reverse Repo, Statutory Reserve Requirements (SLR & CRR).

#### **7.9.1.3 Reserve Management Strategy**

Bangladesh Bank maintains the foreign exchange reserve of the country in different currencies to minimize the risk emerging from widespread fluctuation in exchange rate of major currencies and very irregular movement in interest rates in the global money market. BB has established Nostro account arrangements with different Central Banks. Funds accumulated in these accounts are invested in Treasury bills, repos and other government papers in the respective currencies. It also makes investment in the form of short term deposits with different high rated and reputed commercial banks and purchase of high rated sovereign/supranational/corporate bonds. A separate department of BB performs the operational functions regarding investment which is guided by investment policy set by the BB's Investment Committee headed by a Deputy Governor. The underlying principle of the investment policy is to ensure the optimum return on investment with minimum market risk.

#### **7.9.1.4 Interest Rate Policy**

Under the Financial sector reform program, a flexible interest policy was formulated. According to that, banks are free to charge/fix their deposit (Bank /Financial Institutes) and Lending (Bank /Financial Institutes) rates other than Export Credit. At present, except Pre-shipment export credit and agricultural lending, there is no interest rate cap on lending for banks. Yet, banks can differentiate interest rate up to 3% considering comparative risk elements involved among borrowers in same lending category. With progressive deregulation of interest rates, banks have been advised to announce the mid-rate of the limit (if any) for different sectors and the banks may change interest 1.5% more or less than the announced mid-rate on the basis of the comparative credit risk. Banks upload their deposit and lending interest rate in their respective website.

#### **7.9.1.5 Capital Adequacy for Banks and FIs**

Basel-III has been introduced with a view to strengthening the capital base of banks with the goal of promoting a more resilient banking sector. The Basel III regulation will be adopted in a phased manner starting from the January 2015, with full implementation of capital ratios from the beginning of 2019. Now, scheduled banks in Bangladesh are required to maintain minimum capital of Taka 4 billion or Capital to Risk Weighted Assets Ratio (CRAR) 10%, whichever is higher. In addition to minimum CRAR, Capital Conservation Buffer (CCB) of 2.5% of the total RWA is being introduced which will be maintained in the form of CET1. Besides the minimum requirement all banks have a process for assessing overall capital adequacy in relation to their risk profile and a strategy for maintaining capital at an adequate level.

For FIs, full implementation of Basel-II has been started in January 01, 2012 (Prudential Guidelines on Capital Adequacy and Market Discipline (CAMD) for Financial Institutions). Now, FIs in Bangladesh are required to maintain Tk. 1 billion or 10% of Total Risk Weighted Assets as capital, whichever is higher.

#### **7.9.1.6 Deposit Insurance**

The deposit insurance scheme (DIS) was introduced in Bangladesh in August 1984 to act as a safety net for the depositors. All the scheduled banks Bangladesh are the member of this scheme Bank Deposit Insurance Act 2000. The purpose of DIS

is to help to increase market discipline, reduce moral hazard in the financial sector and provide safety nets at the minimum cost to the public in the event of bank failure. A Deposit Insurance Trust Fund (DITF) has also been created for providing limited protection (not exceeding Taka 0.01 million) to a small depositor in case of winding up of any bank. The Board of Directors of BB is the Trustee Board for the DITF. BB has adopted a system of risk based deposit insurance premium rates applicable for all scheduled banks effective from January - June 2007. According to new instruction regarding premium rates, problem banks are required to pay 0.09 percent and private banks other than the problem banks and state owned commercial banks are required to pay 0.07 percent where the percent coverage of the deposits is taka one hundred thousand per depositor per bank. With this end in view, BB has already advised the banks for bringing DIS into the notice of the public through displaying the same in their display board.

#### **7.9.2 Regulator of Insurance Companies**

Insurance Development and Regulatory Authority (IDRA) was instituted on January 26, 2011 as the regulator of insurance industry being empowered by Insurance Development and Regulatory Act, 2010 by replacing its predecessor, Chief Controller of Insurance. This institution is operated under Ministry of Finance and a 4 member executive body headed by Chairman is responsible for its general supervision and direction of business. IDRA has been established to make the insurance industry as the premier financial service provider in the country by structuring on an efficient corporate environment, by securing embryonic aspiration of society and by penetrating deep into all segments for high economic growth. The mission of IDRA is to protect the interest of the policy holders and other stakeholders under insurance policy, supervise and regulate the insurance industry effectively, ensure orderly and systematic growth of the insurance industry and for matters connected therewith or incidental thereto.

#### **7.9.3 Regulator of Capital Market Intermediaries**

Securities and Exchange Commission (SEC) performs the functions to regulate the capital market intermediaries and issuance of capital and financial instruments by public limited companies. It was established on June 8, 1993 under the Securities and Exchange Commission Act, 1993. A 5 member commission headed by a

Chairman has the overall responsibility to administer securities legislation and the Commission is attached to the Ministry of Finance.

The mission of SEC is to protect the interests of securities investors, to develop and maintain fair, transparent and efficient securities markets and to ensure proper issuance of securities and compliance with securities laws. The main functions of SEC are:

1. Regulating the business of the Stock Exchanges or any other securities market.
2. Registering and regulating the business of stock-brokers, sub-brokers, share transfer agents, merchant bankers and managers of issues, trustee of trust deeds, registrar of an issue, underwriters, portfolio managers, investment advisers and other intermediaries in the securities market.
3. Registering, monitoring and regulating of collective investment scheme including all forms of mutual funds.
4. Monitoring and regulating all authorized self regulatory organizations in the securities market.
5. Prohibiting fraudulent and unfair trade practices in any securities market.
6. Promoting investors' education and providing training for intermediaries of the securities market.
7. Prohibiting insider trading in securities.
8. Regulating the substantial acquisition of shares and take-over of companies.
9. Undertaking investigation and inspection, inquiries and audit of any issuer or dealer of securities, the Stock Exchanges and intermediaries and any self regulatory organization in the securities market.
10. Conducting research and publishing information.

#### **7.9.4 Regulator of Micro Finance Institutions**

To bring Non-government Microfinance Institutions (NGO-MFIs) under a regulatory framework, the Government of Bangladesh enacted "Microcredit Regulatory Authority Act, 2006" (Act no. 32 of 2006) which came into effect from August 27, 2006. Under this Act, the Government established Microcredit Regulatory Authority (MRA) with a view to ensuring transparency and accountability of microcredit activities of the NGO-MFIs in the country. The Authority is empowered and responsible to implement the said act and to bring the microcredit sector of the country under a full-fledged regulatory framework. MRA's mission is to ensure transparency and accountability of microfinance operations of NGO-MFIs as well as foster sustainable growth of this sector. In order to achieve its mission, MRA has set itself the task to attain the following goals:



1. To formulate as well as implement the policies to ensure good governance and transparent financial systems of MFIs.
2. To conduct in-depth research on critical microfinance issues and provide policy inputs to the government consistent with the national strategy for poverty eradication.
3. To provide training of NGO-MFIs and linking them with the broader financial market to facilitate sustainable resources and efficient management.
4. To assist the government to build up an inclusive financial market for economic development of the country.
5. To identify the priorities in the microfinance sector for policy guidance and dissemination of information to attain the MRA's social responsibility.

According to the Act, the MRA will be responsible for the three primary functions that will need to be carried out, namely:

1. Licensing of MFIs with explicit legal powers;
2. Supervision of MFIs to ensure that they continue to comply with the licensing requirements; and
3. Enforcement of sanctions in the event of any MFI failing to meet the licensing and ongoing supervisory requirements.

## 7.10 REVIEW QUESTIONS

**Multiple Choice Questions. Tick (✓) the best answer:**

1. Which of the following is a step that the central bank will take to encourage greater investment in the economy?
  - a) It will look to increase the cash reserve ratio
  - b) It will look to reduce the cash reserve ratio
  - c) It will look to increase the bank rate
  - d) It will sell the government securities in the open market
2. Which of the following is a step that the central bank will take to increase the overall availability of credit?
  - a) It will sell the government securities in the market
  - b) It will buy more government securities from the market
  - c) It will raise the reverse repo rate
  - d) It will raise the repo rate
3. Which of the following statements represents the main function of the central bank in a country?
  - a) It is responsible for the regulation over the supply of money in the market
  - b) It is responsible for the issuance of notes within the country
  - c) It acts as a banker both to the government and to other banks in the country
  - d) All of the above
4. Which of the following statements is true about the central bank?
  - a) It regulates the entire banking system in the country
  - b) It is under the ownership of the government of a country
  - c) It is the apex bank of a country
  - d) All of the above
5. Which of the following statements about the bank rate is true?
  - a) Bank rate is different from interest rate
  - b) Bank rate is the discount rate provided by the central bank of a country
  - c) Bank rate is defined as the rate at which the central bank of a country gives credit to the commercial banks
  - d) All of the above
6. Which of the statements gives a true picture of the effect of the central bank selling securities in the market?
  - a) The credit creation capacity of commercial banks will fall
  - b) The credit creation capacity of commercial banks will rise
  - c) The credit creation capacity of commercial banks may rise or fall
  - d) There is no effect on the credit creation capacity of commercial banks
7. Which of the statements gives a true picture of the effect of lowering the cash reserve ratio by the central bank of a country?
  - a) The lending capacity of commercial banks will increase
  - b) The lending capacity of commercial banks will decrease
  - c) The lending capacity of commercial banks may increase or decrease
  - d) There is no effect on the lending capacity of commercial banks

8. Which of the statements gives an accurate picture of the effect of the rise of the reverse repo rate by the central bank of a country?
  - a) The demand for goods and services in the country will decrease
  - b) The demand for goods and services in the country will increase
  - c) The demand for goods and services in the country may increase or decrease
  - d) There is no effect on the demand for goods and services in the country
9. Which of the statements gives an accurate picture of the effect of the increase in the repo rate?
  - a) The money supply in the country will decrease
  - b) The money supply in the country will increase
  - c) The money supply in the country will increase initially and then decrease
  - d) There is no effect on the money supply in the country
10. Which of the following statements is true about credit creation by banks?
  - a) Banks create credit on the basis of their total assets
  - b) Banks create credit on the basis of their total deposits
  - c) Banks create credit on the basis of their total securities
  - d) Banks create credit out of nothing
11. Which of the following is not the function of the central bank of a country?
  - a) Being the custodian of foreign exchange reserves
  - b) Accepting deposits from the general public
  - c) Both a and b are correct
  - d) Both a and b are incorrect
12. Which of the following statements is true about the money supply?
  - a) It is the total volume of money that is held by the government of a country
  - b) It is the total volume of money that is held by the general public of a country over a time period
  - c) It is the total volume of money that is held by the general public of a country at a particular point in time
  - d) All of the above
13. A widely used monetary policy tool among the following is?
  - a) Open market operations
  - b) Issuing of notes
  - c) Close market operations
  - d) Fixation of Exchange rate
14. Credit can be created by:
  - a) Central Bank
  - b) Grameen Banks
  - c) Commercial Banks
  - d) Investment Banks

15. Repo Rate means?
  - a) Rate offered by banks to their premium customers.
  - b) Rate at which BB offers loan facilities to commercial banks against government securities, with the condition that banks need to repurchase the securities in a short period.
  - c) Banks having excess cash can buy securities from BB with a condition of reselling securities to RBI on a prefixed day and price.
  - d) Banks can discount bills of exchange and avail loan from BB at times when cash is needed.
16. Increase in cash reserve ratio (CRR) by the BB will result in:
  - a) Initially increase the supply but later on decrease automatically.
  - b) No impact on the supply of money in the economy
  - c) Decrease the supply of money in the economy
  - d) Increase the supply of money in the economy
17. Current CRR rate in Bangladesh is:
  - a) 5
  - b) 2
  - c) 4
  - d) 3
18. Which among these is not a monetary tool?
  - a) SLR
  - b) Deficit financing
  - c) Open market operations
  - d) CRR
19. Rate of interest is increased by BB at times of:
  - a) Lower inflation
  - b) Higher inflation
  - c) From the pressure of commercial banks
  - d) All of the above
20. Which one is not a function of the BB?
  - a) Printing of currency
  - b) Controller of credit
  - c) Issuance of coins
  - d) Custodian of foreign currency

### 7.11 Probable Questions

1. Why is Central Bank considered as supreme monetary and banking authority?
2. Can you state the BIS definition of central bank?
3. Explain the “Banker to the Government” function of a Central Bank.
4. Why is Central Bank known as Bankers’ Bank?

5. How do you explain the “lender of the last resort” function of a Central Bank?
6. How do central banks act as controller of credit?
7. Explain the qualitative credit control measures of a Central Bank.
8. Explain the quantitative credit control measures of a Central.
9. Please narrate the open market operations as a quantitative credit control measure of a Central Bank.
10. State the objectives of Central Bank regulation and supervision of commercial banks.
11. State and explain the processes of banking supervision by Central Bank.
12. What do you mean by Central Bank Independence? Why a central bank should be independent?
13. Explain the arguments against Central Bank Independence.
14. Who are the regulators of following financial markets of Bangladesh?  
i) Micro Credit Market, ii) Insurance Market.
15. State the objectives of BSEC as regulators of securities markets in Bangladesh.