UNIT 2 MONEY AND FINANCE

Structure

2.0 OBJECTIVES

After going through the unit, you will be able to:

- Distinguish between money and near-money;
- Analyse the relationship between the financial system and economic development;
- List the functions of the financial sector;
- Define financial intermediation;
- Describe the indicators of financial development; and
- Explain the process of attainment of equilibrium in financial markets.

2.1 INTRODUCTION

"What is a system? A system is a collection of objects related by regular interaction and interdependence."

The way to examine the financial system is by imagining a satellite image. We begin by looking at it from 100 kilometres out. From this distance we can only see the major players and the main parts of the system. We then move in and are able to differentiate smaller and smaller details. This idea goes a long ways in explaining what we will be doing in this course as well as successive units.

The study of money is an extremely important part of both economics and finance. There is significant overlap between monetary and financial system of an economy. The two interact with each other and have strong influence on the macroeconomic and financial sector performance of the economy. Research has found money (and finance) to play an important role in the determination of aggregate output, the aggregate price level, the rate of inflation, and the level of interest rates.

2.2 MONEY AND NEAR MONEY

Money can be referred to as one of the greatest innovations of the human society. Money is not needed for its own sake as one needs food, clothes and a house for living. Money is needed to mediate transactions. It has purchasing power which enables us for exchanging goods and services. So this makes money a unique commodity.

By reducing transaction costs and thereby encouraging more trade, it can be argued that money allows the development of specialization of labor that is necessary for rapid economic growth. Thus without money, all must be largely self-sufficient as happens in primitive and tribal societies.

Today we are all familiar with money in our day-to-day transactions. Perhaps the oldest and simplest role of money has been the 'medium of exchange' for all economic transactions as it acceptable to everybody. Besides this money is the commonly used means of transferring purchasing power. It does not need to be converted into something else before it can be spent or used for settlement of debt. What makes money 'money' is the belief held by everyone that it will be accepted as such by all others in the economy.

In all money serves **four** important functions for any society: **Medium of Exchange, Unit of Value, Standard of Deferred Payment, and Store of Value.**

Defining Money: Anything that functions as a means of payment (medium of exchange), unit of account, and store of value. Today money also acts as the legal tender which enhances the trust of people on it.

Measuring Money is not as easy as defining it. What, in your opinion, should we use as money?

- Just currency?
- Currency and other stored form of money?

We find there are multiple definitions of money and what we call money has changed over time as technology and financial instruments have evolved.

Article I

Near Money Definition

Highly liquid assets which are not cash but can easily be converted into cash are referred to as near money assets.

Various sources provide the following examples of near money:

- Money market funds
- Bank and Post Office deposits

- Government treasury securities
- Bonds near their redemption date
- Foreign currencies, especially widely traded ones such as the Euro, Dollar, Pound Sterling or Yen
- Equities/shares of Corporate sector

2.3 FINANCIAL SYSTEM AND ECONOMIC DEVELOPMENT

The financial system is a critical element in a well-functioning economy.

Financial sector and financial markets perform the essential function of channelling funds from people who have saved surplus funds by spending less than their income to people who have a shortage of investible funds because their plans to spend exceed their income.

The people who have surplus savings are called the lender-savers and those who borrow funds to finance their spending are referred to as the borrower-spenders.

The most important source of surplus funds in an economy tends to be the households, but sometimes business enterprises, governments (central, state or local) as well as foreigners also sometimes have excess funds and so they also lend them out. The most important borrower-spenders are various businesses and governments at different levels; however, at times the households and foreigners may also borrow to finance their spending.

The finance could be of twi types:

1) **Direct Finance:** In this case the borrower directly borrow funds from the lender in the financial markets by selling them *securities (also called financial instruments)*, which are claim on the borrower's future income/assets or

2) **Indirect Finance:** In this case the role of channelising the funds from the savers to borrowers is done through financial intermediaries (example commercial banks, such as HDFC Bank, Canara Bank etc.; and non-bank financial institutions such as LIC, IDBI, Mutual Funds etc.).

It is important to understand that **Securities** are assets for person/firm who buys them but liabilities/debts (or IOUs) for individual/firm that sells (issues) them. For example, TATA Motors needs to borrow funds to pay for a new factory to produce cars and trucks, it might needs to borrow from savers selling them bonds or debentures (a debt instrument security) to make payments periodically for a specified period of time.

One may ask why it is important to channelise the funds from savers to borrowers. The answer is as follows: the people who have surplus funds are generally not the people who have the idea about the profitable investment opportunities. The entrepreneurs who have these ideas tend to lack the funds to initiate the projects to make their ideas to take shape.

In the absence of financial markets the savers and borrowers would find it very hard to transfer funds from a person who has surplus funds but does not have the profitable opportunities to invest to one who and lacks adequate funds. The result would be

that both would be stuck and both will be worse off the same will be true for the economy/society. Financial markets, thus, are essential in promoting economic efficiency in any economy.

The existence of financial markets is also beneficial for someone who wants to borrow for a purpose other than starting a business such as for buying a house. Overtime one may not have problem in saving enough for a house of one's dream but by that time the person would have got too old to enjoy it fully. Without the financial markets, one will be stuck and would not be able to buy a house and therefore must continue to stay in the rented accommodation.

If the financial market were to be set up in this situation then it will create an avenue for the persons with surplus to charge certain interest and make these funds available to the individual who wishes to buy the house and is ready to pay interest on the amount borrowed. Without the financial market the savers would have got no or very low rate of interest, the borrower on the other side, would not been able to buy the house as funds would not have been available to him.

From this simple example we can understand the important function played by the financial markets in an economy. So we can see that the financial markets contribute to higher level of production and efficiency in the overall economy. They also directly improve the well being of consumers by allowing them to time their purchases better. Therefore it becomes very important that they operate to their best potential for realizing their full benefit for the economic welfare of the society.

Check Your Progress 1

1) What is the difference between money and near money?

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2) What will be the implications for an economy if financial sector did not exist?

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2.4 FUNCTIONS OF THE FINANCIAL SECTOR

Scope and Coverage of Financial Services

The financial system provides five key services:

a) savings facilities,

b) credit allocation and monitoring of borrowers,

c) payments,

d) risk mitigation, and

e) liquidity services.

Savings mobilization can be assessed by examining the effectiveness with which the financial system provides saving facilities and mobilizes financial resources from households and firms. The extent of financial savings could be ascertained by examining the level and trends in the "ratio of broad money to GDP". As mentioned earlier, this indicator may overstate the true picture if currency constitutes a high proportion of broad money. Other more specific indicators of access to savings facilities include the "ratio of bank deposits to GDP" and "the proportion of the population with bank accounts". Information on the outreach of the financial system can help interpret developments in financial savings. Hence, indicators such as "the total number of bank branches", "the population per bank branch", and "the distribution of branches" and other outlets (e.g., rural or urban) could provide valuable information on the *access of the population to saving facilities*. Further, it is important to assess the range of saving vehicles that are available because, in many countries, traditional bank deposits are the most common form of financial savings. Saving through non-bank forms of financial intermediation are, therefore, crucial to financial diversity, and development indicators for non-bank intermediaries such as insurance, pensions, and capital markets could be useful in gauging the degree to which the population uses non-bank forms of financial savings. Hence, household and corporate holdings of non-bank financial assets (e.g., bonds) could provide extra information on the degree of access to financial savings. The ratio of private sector bank credit to GDP is a common measure of the provision of credit to the economy, as well as of banking depth. Often, this indicator is supplemented by information on the ratio of loans to total bank deposits. Where available, the volume of finance raised through the issuance of bonds and money market instruments should supplement information on bank credit. Analyzing trends in those indicators should reveal the overall degree to which the banking sector provides credit to firms and households. It is also useful to assess the sectoral distribution of private sector credit to gauge the alignment of bank credit with the distribution of domestic output. Therefore, the relative proportion of total credit going to agriculture, manufacturing, and services would be relevant information in evaluating the adequacy of the level of credit provided to the economy.

A key function of financial systems in market economies is to offer fast and secure means of transferring funds and making payments for goods and services. The state of development of the payment system is of special importance here, especially the focus on the various instruments for making payments, including cash, checks, payment orders, electronic (or wire) transfers, and debit and credit cards. The proportion of payments (volume and value) made with different payment instruments can reveal the developmental status of the payment system, with cash-based economies at the lower end of the spectrum. Some indicators such as the number of days for clearing checks, the number and distribution of clearing centres, and the volume and value of checks cleared could provide general information on the effectiveness of existing money transfer mechanisms. In addition, it is relevant to examine the various risks associated with the payments system, through indicators such as access to settlement credit, size of settlement balances, and so forth, thereby complementing the qualitative information from assessments of 'Core Principles for Systemically Important Payment Systems'. The major risk mitigation services offered by the financial system include

insurance (life and non-life) and derivative markets. The "ratio of gross premiums to GDP" is *a popular indicator of development* in the insurance industry, and this indicator could be supplemented with a breakdown of premiums between life and non-life insurance. A deep and well-functioning insurance industry would offer a wide range of products in both the life and non-life business, including motor vehicle, marine, fire, homeowners, mortgage, workers' compensation, and fidelity insurance and life insurance, as well as disability, annuities, medical, and health insurance. In addition, coverage of derivative markets—options, futures, swaps, and structured finance products—where relevant in terms of available instruments, liquidity, and transaction costs, would be important, owing to their role in managing risk and in facilitating price discovery in spot markets. Liquidity service provided by financial systems is reflected in maturity transformation and secondary market arrangements, which facilitate investment in high-yielding projects. Most high-return projects require a long-term commitment of capital; however, savers are often reluctant to give up their savings for long periods of time. The role of the financial system is to transform liquid, short-term savings into relatively illiquid, long-term investments, thus promoting capital accumulation. The availability of liquidity, therefore, allows savers to hold assets that they can sell easily if they need to redeem their savings. Against this background, it is important to examine the degree of access that specified target groups (e.g., farmers, the poor, small and medium enterprises, or different geographic regions) have to those financial services. Access is defined as the availability and cost of financial services and could be measured in a variety of ways. First, relevant measures of the supply of financial services includes the numbers of different types of financial institutions, the number of branches and other service outlets, the number of clients served, and the population per outlet. The volume of services (deposits, credit, money transmission, etc.) provided is another useful measure, especially if it is broken down by clientele and size (i.e., in a breakdown by socioeconomic groups or broad sectors or by size distribution). Second, it is also relevant to consider demand-side measures of access. However, demand-side indicators are not easy to construct and often require surveys to collect relevant data. Those surveys have often focused on collecting relevant information such as the savings and credit needs of households and enterprises, the needs relative to the supply, and the ease or difficulty of meeting those needs. Finally, it is important to examine the costs of financial services, usually by examining the level and trends in spreads between the borrowing and lending rates, the general interest rate structure, and the prices of other financial services (e.g., fees and minimum balances for deposits, as well as cost and time of payment services).

In addition, indicators of the functioning of various elements of financial system infrastructure—the insolvency and creditor rights regime, the systemic liquidity arrangements (other than those of payment systems, which have already been covered as a core financial system function), and the information and governance arrangements (e.g., credit reporting, disclosure rules)—can provide useful insights into costs and efficiency of financial transactions.

2.5 FINANCIAL INTERMEDIATION AND FINANCIAL INTERMEDIARIES

Financial intermediary: The term financial intermediary may refer to an institution, firm or individual who performs financial intermediation between two or more parties in a financial context. Typically the first party is a provider of a financial product or service and the second party is a consumer or customer of it.

A **financial intermediary** is typically an institution that facilitates the channelling of funds between lenders and borrowers. That is, it takes deposits from savers (the lenders). From the pool of deposited money they may lend directly to borrowers. This may be in the form of loans or mortgages. Alternatively, they may lend the money indirectly via the financial markets.

Types of financial intermediary

Financial intermediaries have a lot of variety across different countries.

Typically the financial intermediaries can be:

- Commercial Banks; e.g. State Bank of India, HDFC Bank, ABN AMRO Bank, Citibank, HSBC Bank, etc.
- Development Banks, e.g. IDBI, ICICI, NABARD, SIDBI, etc.
- Financial adviser or broker;
- Insurance Companies; GIC, AIG, Tokio, Peerless etc.
- Life Insurance Companies; LIC, Allianz, AIG
- Mutual Funds; Standard Chartered Mutual Fund, Morgan Stanley Mutual Fund, SBI Mutual Fund etc.
- Pension Funds; e.g. CalPERS (California Public Employee Retirement System), EPF (Employees Provident Fund), PPF (Public Provident Fund)
- Building Societies; HDFC, HUDCO etc.
- Credit Unions;

Check Your Progress 2

1) What are the important services provided by the financial system in an economy?

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2) What are the different types of financial intermidiaries?

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2.6 THE STRUCTURE OF THE INDIAN FINANCIAL SYSTEM

Financial markets can be classified in various ways

1) Debt and equity markets
2) Primary and secondary markets
3) Money and capital markets etc.

In this context it also becomes important to understand the structure of financial system in an economy. In this section we discuss the Indian financial system and how the different financial institutions interact with each other in these markets.

The structure of India's financial sector can be assessed in terms of the institutions that comprise this sector as well as the various financial markets in which these institutions interact and carry out transactions. The most important segment is the banking sector. The latter comprises the Reserve Bank of India, commercial banks, and cooperative banks. Commercial banks include scheduled and nonscheduled banks, which are banks that are required to keep a minimum amount of capital and obey RBI directions concerning the cash reserve requirement (CRR) and are permitted to borrow from the RBI. Most commercial banks in India are in the scheduled category. Commercial banks fall into three groups, namely Regional Rural Banks, which are government sponsored regionally based rural oriented banks, public sector banks, which are banks that are owned by the government, and private banks, which may be Indian branches of foreign banks or domestically owned private banks. Other financial institutions consist of term-lending institutions- some of the largest ones being IDBI and ICICI, mutual funds – a major one being Unit Trust of India (UTI), and the insurance sector which till recently was under government monopoly but today also consists of private insurance companies. The structure of the financial sector is presented below in Figure 2.1.

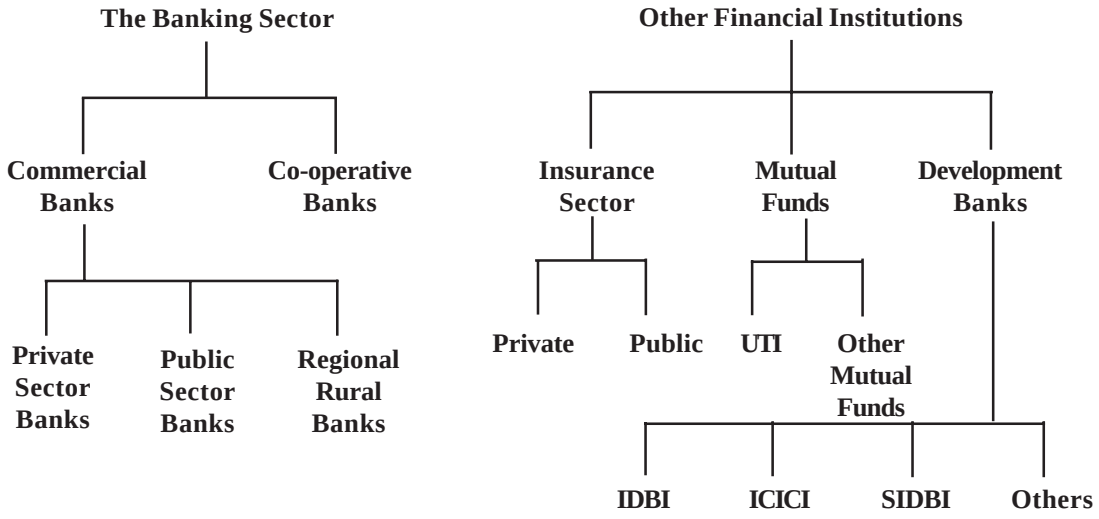

Fig. 2.1: Structure of the Indian Financial Sector

There are three sets of financial markets in which the aforementioned institutional entities interact and carry out transactions. These are, namely, *the money, credit, and capital markets*. The money market consists of call money, certificates of deposit, commercial paper, and commercial bills. The credit market consists of short-term loans by commercial banks and long-term loans by term lending institutions. The capital market consists of the government securities market and the market for corporate stocks and debentures. The structure of the financial market in India is presented below in Figure 2.2.

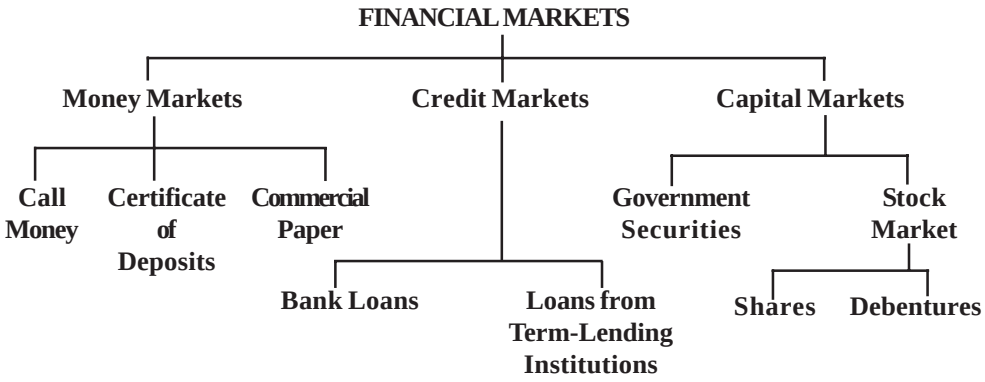

Fig. 2.2: Structure of the Indian Financial Markets

Over the last few decades, the role of the financial services sector has grown in the economy, mainly due to the growth of the banking and non-banking segments. According to CSO statistics on the sectoral distribution of GDP, the share of banking services in total value added in services increased from 6.3 per cent in the 1980s to 11.2 per cent in the 1990s and was close to 12 per cent in 2001-02. The share of insurance services in total services value added, however, declined over this period, from 1.5 per cent in the 1980s to 1.4 per cent in the 1990s and stood at 1.2 per cent of GDP in 2001-02. If one adds to this the value added due to the non banking financial services segment, financial advisory and information services, mutual funds, and other activities which are not reflected in the national accounts statistics in a disaggregated manner, then the share of the financial services sector within the service sector is likely to be much greater.

According to Sen and Vaidya (1998), the segment of financial and business services, which includes commercial banks, non-banking financial organisations, post office savings banks, cooperative credit societies, life and non-life insurance activities and other economic activities such as ownership of dwellings, real estate services and business services, constitutes over 20 per cent of value added. The segment's share in the service sector increased from 24.7 per cent in the 1980-86 period to 27.8 per cent in the 1991-94 period, although its share declined to around 25 per cent for the 1994-98 period. 17 In terms of value added at factor cost, the banking segment grew at an average growth rate of 11.8 per cent during the 1990s and as much as 15.8 per cent in 1999-00, much higher than the average growth rate of around 7-8 per cent for the service sector as a whole during this period. The insurance sector growth was lower at 6.6 per cent during the 1990s, and lower than the average growth rate for the service sector as a whole during this period.

The overall growth in India's financial services sector has been due to various factors. These include in particular the growing monetization and financial intermediation in the economy, due in large part to the financial sector reforms and deregulation of the 1990s. The opening up of the economy has led to increased portfolio and direct investment inflows in the financial services sector. For instance, according to Ministry of Finance sources, this sector has attracted 8 per cent of total cumulative foreign investment during the 1992-01 period. Increased resources have also been mobilized from the capital markets, of which about 52 per cent was directed at banks and financial institutions during the 1992-2000 period.

2.7 INDICATORS OF FINANCIAL DEVELOPMENT

Indicators of financial structure include system-wide indicators of size, breadth, and composition of the financial system; indicators of key attributes such as competition, concentration, efficiency, and access; and measures of the scope, coverage, and outreach of financial services.

2.7.1 System-wide Indicators

Financial structure is defined in terms of the aggregate size of the financial sector, its sectoral composition, and a range of attributes of individual sectors that determine their effectiveness in meeting users' requirements. The evaluation of financial structure should cover the roles of the key institutional players, including the central bank, commercial and cooperative banks, development financial institutions, insurance companies, mortgage entities, pension funds, and financial market institutions such as stock exchanges etc. The functioning of financial markets, including money, foreign exchange, and capital markets (including bonds, equities, and derivative and structured finance products) should also be covered. For financial institutions, the structural overview should focus on identifying the number and types of institutions, as well as growth trends of major balance sheet aggregates; for financial markets, a description of the size and growth trends in various financial market instruments (volume and value) would be appropriate. The overview should also reflect new linkages among financial markets and institutions that may be forged from a variety of sources, including innovations in financial instruments, new entrants into financial markets (e.g., hedge funds), and changing practices among financial market participants (e.g., energy, power trading and investments by financial institutions).

The overall size of the system could be ascertained by the value of financial assets, both in absolute rupee terms and as a ratio of gross domestic product (GDP). Although identifying the absolute rupee amount of financial assets is informative, normalizing financial assets on GDP facilitates benchmarking of the state of financial development and allows comparison across countries at different stages of development. Other indicators of financial size and depth that could be usefully examined include "ratios of broad money to GDP" (M3 to GDP), "private sector credit to GDP", and "ratio of bank deposits to GDP". However, one should be careful in interpreting observed ratios because they are substantially influenced by the state of financial and general economic development in individual countries. Cross-country comparisons of economies at similar stages of development are, therefore, useful in obtaining reliable benchmarks for "low" or "high" ratios. The description of the number and types of financial intermediaries and markets is also useful, and this information should be supplemented by information on the relative composition of the financial system. Even though many countries do have a wide range of non-bank financial intermediaries (NBFIs), banking institutions still tend to dominate overwhelmingly. In advanced markets and in many emerging markets, NBFIs, particularly pension funds or insurance companies, often play a larger part than do banks in domestic and global asset allocation (and, sometimes, in the providing of credit). Similarly, market participants such as hedge funds play an increased role in financial markets and in the performance of various asset classes. Hence, for one to get a true view of financial structure, it is useful to focus on the share of various sub-sectors (banks, non-banks, financial markets, etc.) in total financial assets by using assets of financial institutions in different sub-sectors and value of financial instruments in different markets as numerators. This type of focus on market shares enables the assessor to get a quick indication of the "effective" structure of the financial system. In addition, the presence of large financial conglomerates — sometimes also referred to as large and complex financial institutions — in the domestic market (either foreign-owned or domestic) would warrant special attention to the scope and scale of their activities, including exposures to other domestic institutions, as well as to intra-group and cross-border exposures, to ascertain their local systemic importance.

Evaluating the overall growth of the financial system and of major sub-sectors is important, and valuable information could be obtained by examining changes in the

number and types of financial intermediaries, as well as the growth of financial assets in each sector over time, in both nominal and real terms. Although a description of trends is informative, it is also critical to indicate the driving forces behind

a) observed changes in institutions and their asset positions, and

b) the number of and growth rates of available financial resources and capital market instruments.

One factor that has accounted for the observed growth of financial systems in many countries (number of institutions and size of assets) is financial liberalization, especially the softening of entry conditions for banks and other financial institutions and the liberalization of interest rates, which has stimulated financial markets (especially money markets). In addition, changes in prudential regulation and accounting standards often have provided incentives for developing new ways to manage risks (e.g., asset and liability management for insurance company and pension funds) and have led to development of new risk-transfer instruments in capital markets.

2.7.2 Breadth of the Financial System

Data on the financial breadth or penetration often serve as proxies for access of the population to different segments of the financial sector. Well-functioning financial systems should offer a wide range of financial services and products from a diversified set of financial intermediaries and markets. Ideally, there should be a variety of financial instruments that provide alternative rates of return, risk, and maturities to savers, as well as different sources of finance at varying interest rates and maturities. Evaluating the breadth or diversity of the financial system should, therefore, involve identifying the existing financial institutions, the existing markets for financial instruments, and the range of available products and services. The relative composition of the financial system discussed above is a first-cut approach to determining the extent of system diversification. In addition, comparisons between bank and non-bank forms of financial intermediation are useful, for instance, comparisons between banking credit and issues of bonds by the private sector. Often, significant savings and financing through non-bank forms are indicators of financial diversity because bank deposits and loans constitute the traditional forms of savings and credit in many countries. It is, therefore, useful to compare the extent of financial intermediation through banks with the amount of intermediation through insurance, pensions, collective investment schemes, money markets, and capital markets. In particular, the share of various classes of asset holders—specifically, households, non-financial corporations, banks, and NBFIs—within the total capital market instruments or mutual fund assets can provide valuable information on financial diversification.

To supplement the overall indicators of diversity, assessors should also focus on sectoral indicators of financial development. For instance, the development of the insurance industry could be measured by examining trends in the ratio of gross insurance premiums to GDP, which could be broken down further into life and non-life premiums. Similarly, leasing penetration could be measured by the value of leased assets as a percentage of total domestic investment. **Table 2.1** shows a few sub-sectors of the financial system and suggests relevant indicators of their size and development. The breadth of the financial system also could be analyzed in terms of the outreach of existing financial institutions. A common indicator related to this outreach is the branch network of the banking system, in particular, the total number of branches and the number of branches per thousand inhabitants. A comparison of the distribution of branches between rural and urban areas or among different regions/ states/provinces could also be useful as an indicator of the outreach of banking outlets.

Table 2.1: Sectoral Indicators of Financial Development

Sub-Sector	Indicator
Banking	• Total number of banks • Number of branches and outlets • Number of branches/thousand population • Bank depoists/GDP(%) • Bank assets/total financial assets (%) • Bank assets/GDP(%)
Insurance	• Number of Insuranace Companies • Gross premiums/GDP(%) • Gross life premiums/GDP(%) • Gross non-life premiums/GDP (%)
Pensions	• Types of pension plans • Percentage of labour force covered by pensions • Pension fund assets/GDP(%) • Pension fund assets/total financial assets(%)
Mortgage	• Mortgage assets/total financial assets • Mortgage debt stock/GDP
Leasing	• Leased assets/total domestic investment
Money markets	• Types and value of money market instruments • New issues and growth in outstanding value • Number and value of daily (weekly) transactions in the instrument
Foreign exhange markets	• Volume and value of daily foreign exchange transaction • Adequacy of foreign exchange (reserve in months of imports, as ratio to short-term external debt or to broad money)
Capital markets	• Number of listed securities (bonds and equities) • Share of houshold, corporations, banks, and NBFIs in the holdings of securities • Number and value of new issues (bonds and equities) • Market capitalization/GDP(%) • Value traded/market capitalization (%) • Size of derivative markets
Collective Investment funds	• Types and number of schemes (unique and mixed funds) • Total assets and growth rates (nominal and as percentage of GDP) • Total number of investors and average balance per investor • Share of households, corporatins, banks, and NBFIs, in total mutual funds assets

2.8 COMPETITION, CONCENTRATION, AND EFFICIENCY: EQUILIBRIUM IN FINANCIAL MARKETS

Competition in the financial system can be defined as the extent to which financial markets are contestable and the extent to which consumers can choose a wide range of financial services from a variety of providers. Competition is often a desirable feature because it normally leads to increased institutional efficiency, lower costs for clients, and improvements in the quality and range of financial services provided. There are numerous measures of competition, including the total number of financial institutions, changes in market share, ease of entry, price of services, and so forth. In addition, the degree of diversity of the financial system could be an indicator of competition or the lack thereof because the emergence of vibrant non-bank intermediaries and capital markets often have been a source of effective competition for banking systems in many countries. All things remaining equal, an increase in the number of financial institutions or an expansion in available financial market instruments will increase competition by expanding the available sources of financial services that consumers can access. Ease of entry into the system could be judged by looking at the regulatory and policy requirements for licensing, for example, the required minimum paid-up capital. In many cases, the ownership structure of the financial system can be indicative of competition or lack thereof. For instance, banks of different ownership often have different mandates and clientele, leading to substantial market segmentation. Also, systems dominated by state-owned financial institutions tend to be less competitive than those in which privately owned institutions are very active because state ownership often dampens commercial orientation. In some cases, the shares of domestic- and foreign-owned financial institutions in various financial sub-sectors could be relevant in assessing competition and incentives for financial innovations.

Measures of concentration often have been used as indicators of competition. Concentration is defined as the degree to which the financial sector is controlled by the biggest institutions in the market (as defined by market shares). For example, the three bank concentration ratio measures the market share of the top three banks in the system, defined in terms of assets, deposits, or branches. Deciding what is concentrated and what is not depends a lot on judgment, and benchmarking becomes critical. A more sophisticated measure of concentration is the Herfindahl Index (HI). Higher values of the index indicate greater market concentration. When applied to the financial sector, this index uses information about the market share of each bank to obtain a single summary measure. The concept of concentration also could be applied to financial markets, especially by examining the share of different market instruments in the total outstanding value of financial market instruments. For example, the relative shares of money and capital market instruments in total financial assets could give an indication of the extent to which financial markets are positioned between short-term and long-term intermediation. Information on holdings of the instruments by types of investors and by number of issuers of different instruments also helps assess market competition. The sustainable development of a financial system and the degree to which it provides support to real sector activities depend to a large extent on the efficiency with which intermediation occurs. Efficiency refers to the ability of the financial sector to provide high-quality products and services at the lowest cost. Competition and efficiency of the financial system are related to a large extent because more competitive systems invariably turn out to be more efficient,

ceteris paribus. Quantitative measures of efficiency that could be evaluated include (a) total costs of financial intermediation as percentage of total assets and (b) interest rate spreads (lending minus deposit rates). Components of intermediation costs include operating costs (staff expenses and other overhead), taxes, loan–loss provisions, net profits, and so forth. Those costs can be derived from the aggregated balance sheet and income statements for financial institutions.

However, interest rate spreads sometimes remain high despite efficiency gains because of the need to build loan–loss provisions or charge a risk premium on lending to high-risk borrowers. For money and capital markets, efficiency implies that current security prices fully reflect all available information. Hence, in an efficient financial market, day-to-day movements of market prices tend to be random, and information on past prices would not help predict future prices. The bid–ask spread (i.e., the difference between prices at which participants are willing to buy and sell financial instruments) is often used as a proxy for measuring the efficiency of markets, with more efficient markets exhibiting narrower bid–ask spreads. Because bid–ask spread also reflects market liquidity, as discussed below, additional analysis of the extent of competition in the market and of volatility of price movements would be needed to assess efficiency. In addition, measures of price volatility are sometimes used to substitute for market efficiency, although short-run changes in volatility may reflect shifts in the amount of liquidity in that market. Two important dimensions of market liquidity should be considered: market depth and market tightness. Market depth refers to the ability of the market to absorb large trade volumes without significant impact on market prices. This dimension is usually measured by the ratio of value traded to market capitalization (turnover ratio), with higher ratios indicating more liquid markets. Another dimension of liquidity is market tightness—ability to match supply and demand at low cost that is measured by the average bid–ask spread. More liquid markets usually have narrower bid–ask spreads.

Table 2.2 summarizes the indicators of financial system performance that have been discussed in this section.

Table 2.2: Indicators of Financial System Performance

Sub-Sector	Indicator
Competition and concentration	• Total number of institutions • Intesest rate spreads andprices of financial services • Intermidiary concentration ratios (market share of 3 or 5 of thelargest institutions) • Financial market concentration ratios (market share of the largest financial instruments, as a percentage of total financial assets) • Herfindahi index
Efficiency	• Interest rate spreads • Intermediation costs (as percentage of total assets)
Liquidity	• Ratio of value traded to market capitalization • Average bid-ask spread

Check Your Progress 3

1) What are the indicators of financial development? Give an example of indicator of financial development from banking, insurance, foreign exchange markets, and capital markets?

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2) Why is it important for the financial system to be efficient?

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3) What are the indicators of efficiency and competitive strength of financial system?

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2.9 CRITERIA TO EVALUATE FINANCIAL ASSETS

For evaluating the financial assets of financial institutions there are various indicators which give us an idea about its health and soundness. In the literature sometimes they are referred to as 'financial soundness indicators' (or FSI for short). We discuss more about these in the next section.

2.9.1 Financial Soundness Indicators

Financial soundness indicators (FSIs) are indicators of the current financial health and soundness of the financial institutions in a country, as well as of their corporate and household counterparts, and FSIs play a crucial role in financial stability assessments. FSIs include both aggregated individual institution data and indicators that are representative of the markets in which the financial institutions operate. FSIs are calculated and disseminated for use in macroprudential surveillance, which is the assessment and monitoring of the strengths and vulnerabilities of financial systems.

FSIs are a relatively new body of economic statistics that reflect a mixture of influences. Some of the concepts are drawn from prudential and commercial measurement frameworks, which have been developed to monitor individual entities. Other

concepts are drawn from macroeconomic measurement frameworks, which have been developed to monitor aggregate activity in the economy. A list of FSIs, grouped into a core set and an encouraged set, is presented in **Table 2.3**.

Detailed exposition and guidance on those FSIs can be obtained from the *Compilation Guide on Financial Soundness Indicators* (IMF 2004). It contains a discussion of the distinction between a "core set" for which data are generally available and are found to be highly relevant for analytic purposes in almost all countries and an "encouraged set" for which data are not as readily available and whose relevance could vary across countries.

The list of FSIs discussed herein consists mainly of aggregate balance sheet measures. This type of aggregation of individual institution-level indicators (microprudential indicators) into financial soundness indicators (macroprudential indicators) necessarily involves a loss of information because the distribution of prudential indicators of individual institutions is also a crucial dimension of financial stability. Although aggregation is required for facilitating macroprudential analysis and international comparison, the assessments could be strengthened by allowing some disaggregation through peer groups or through the monitoring of the distributional characteristics of various indicators. In addition, FSIs themselves are either backward-looking or contemporaneous indicators of financial soundness, available often with a lag or low frequency. Therefore, proper interpretation and use of FSIs requires a range of analytical tools[4], which includes conducting stress tests of individual institutions and monitoring the distribution of stress tests results, as well as examining the determinants of FSIs and forecasting their future course. In addition, FSIs can be complemented by various market-based indicators, which are forward-looking indicators of soundness and are available with higher frequency. The various categories of FSIs are discussed in the following sections.

2.9.2 Financial Soundness Indicators (FSIs) for Financial Securities Markets

The stability of financial securities markets can be monitored using a range of quantitative indicators that focus on market liquidity because of the important role that liquid securities play in the balance sheets of financial institutions. Market liquidity can be defined as a measure of volume of securities that can be sold in a relatively short period without having a significant effect on their price. The literature typically recognizes two key dimensions of market liquidity: tightness and depth. Tightness is a market's ability to match supply and demand at low cost. The bid-ask spread FSI may serve as an approximate index of tightness in each market, in that a narrower spread indicates a more competitive market with a larger number of buyers and sellers providing liquidity. Depth relates to the ability of a market to absorb large trade flows without a significant effect on prices. When market participants raise concerns about the decline in market liquidity, they typically refer to a reduced ability to deal without having prices move against them; that is, they refer to reduced market depth. The FSI of market turnover (gross average daily value of securities traded relative to the stock) helps assess the liquidity of banks' balance sheets by giving an indication of the volume of securities that institutions can liquidate in the market. Market depth also can be approximated by other volume variables, quota sizes, on-the run–off-the-run spreads, and volatilities.

Table 2.3: The Core Set of Financial Soundness Indicators

Indicator	Indicates	Comment
Deposit-taking institutions[a]		
Regulatory capital to risk-weighted assets	Capital adequacy	Broad measure of capital, including items giving less protection against losses, such as sobordinated debt, tax credits, and unrealized capital gains
Regulatory Tier I Capital to risk-weighted assets	Capital adequacy	Highest quality capital such as shareholder equity and retained earnings, relative to risk-weighted assets
Nonperforming loans net of provisions to capital	Capital adequacy	Indicates the potential size of additional provisions that may be needed relative to capital
Nonperforming loans to total gross loans	Asset quality	Indicates the credit quality of banks loans
Sectoral distribution of loans to total loans	Asset quality	Identifies exposure concentrations to particular sectors
Return on assets and return on equity	Earnings and profitability	Assesses scope for earnings to offset losses relative to capital or loan and asset portfolio
Interest margin to gross income	Earnings and profitability	Indicates the importance of net interest income and scope of absorb losses
Noninterest expenses to gross income	Earnings and profitability	Indicates extent to which high noninterest expenses weakens earnings
Liquid assets to total assets and liquid assets to short-term liabilities	Liquidity	Assesses the vulnerability of the sector to loss of access to market sources of funding or a run on deposits
Net open position in foreign exchange to capital	Exposure to FX risk	Measures foreign currency mismatch

2.10 LET US SUM UP

This unit carried on the discussion from the previous unit about the basic structure of the financial system and the relationship between money and finance. The unit began by defining money carefully and distinguishing between money and near-money. The unit then explained and discussed the link between the financial system and economic development. It dealt with direct and indirect finance in development.

The unit further went on to list the functions of the financial system. We found that the financial system, among other things helps to provide liquidity and reduce risks. Following this the unit explained the idea of financial intermediation and listed the main intermediaries. After this we were acquainted with the structure of the financial system and learnt that the markets can be classified in several ways like primary-secondary, debt-equity etc. there are capital and money markets; there are banking and non-banking intermediaries etc.

Finally the unit elaborated upon the indicators of financial development, explained the basic criteria to evaluate assets, and discussed in great detail the nature of equilibrium in financial markets.

2.11 KEY WORDS

Capital Markets : the market for financial resources

Credit : borrowing or obtaining loans

Money Markets : the markets for short-run funds

2.12 SOME USEFUL BOOKS

Bhole, L.M. (2004), *Financial Institutions and Markets*, 4th edition, Tata McGraw-Hill, New Delhi.

Jarrow, Robert A. (1988) *Finance Theory*, Prentice-hall, Englewood-Cliffs, New Jersey.

Milne, Frank (2003) *Finance Theory and Asset Pricing*, 2nd edn., Oxford University Press, Oxford.

2.13 ANSWERS / HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Read section 2.2 and answer.

2) Read section 2.3 and answer.

Check Your Progress 2

1) Read section 2.4 and answer.

2) Read section 2.5 and answer.

Check Your Progress 3

1) Read Section 2.7 and answer.

2) Read Section 2.8 and answer.

3) Read section 2.8 and answer.