MONEY, BANKING AND INTERNATIONAL TRADE

BA

Second Year

Paper - II

RAJIV GANDHI UNIVERSITY

Arunachal Pradesh, INDIA - 791 112

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About the University

Rajiv Gandhi University (formerly Arunachal University) is a premier institution for higher education in the state of Arunachal Pradesh and has completed twenty-five years of its existence. Late Smt. Indira Gandhi, the then Prime Minister of India, laid the foundation stone of the university on 4th February, 1984 at Rono Hills, where the present campus is located.

Ever since its inception, the university has been trying to achieve excellence and fulfill the objectives as envisaged in the University Act. The university received academic recognition under Section 2(f) from the University Grants Commission on 28th March, 1985 and started functioning from 1st April, 1985. It got financial recognition under section 12-B of the UGC on 25th March, 1994. Since then Rajiv Gandhi University, (then Arunachal University) has carved a niche for itself in the educational scenario of the country following its selection as a University with potential for excellence by a high-level expert committee of the University Grants Commission from among universities in India.

The University was converted into a Central University with effect from 9th April, 2007 as per notification of the Ministry of Human Resource Development, Government of India.

The University is located atop Rono Hills on a picturesque tableland of 302 acres overlooking the river Dikrong. It is 6.5 km from the National Highway 52-A and 25 km from Itanagar, the State capital. The campus is linked with the National Highway by the Dikrong bridge.

The teaching and research programmes of the University are designed with a view to play a positive role in the socio-economic and cultural development of the State. The University offers Undergraduate, Post-graduate, M.Phil and Ph.D. programmes. The Department of Education also offers the B.Ed. programme.

There are fifteen colleges affiliated to the University. The University has been extending educational facilities to students from the neighbouring states, particularly Assam. The strength of students in different departments of the University and in affiliated colleges has been steadily increasing.

The faculty members have been actively engaged in research activities with financial support from UGC and other funding agencies. Since inception, a number of proposals on research projects have been sanctioned by various funding agencies to the University. Various departments have organized numerous seminars, workshops and conferences. Many faculty members have participated in national and international conferences and seminars held within the country and abroad. Eminent scholars and distinguished personalities have visited the University and delivered lectures on various disciplines.

The academic year 2000-2001 was a year of consolidation for the University. The switch over from the annual to the semester system took off smoothly and the performance of the students registered a marked improvement. Various syllabi designed by Boards of Post-graduate Studies (BPGS) have been implemented. VSAT facility installed by the ERNET India, New Delhi under the UGC-Infonet program, provides Internet access.

In spite of infrastructural constraints, the University has been maintaining its academic excellence. The University has strictly adhered to the academic calendar, conducted the examinations and declared the results on time. The students from the University have found placements not only in State and Central Government Services, but also in various institutions, industries and organizations. Many students have emerged successful in the National Eligibility Test (NET).

Since inception, the University has made significant progress in teaching, research, innovations in curriculum development and developing infrastructure.

SYLLABI-BOOK MAPPING TABLE

Money, Banking and International Trade

Syllabi	Mapping in Book
UNIT 1 **Money:** Barter Economy and Money Economy, Functions of Money; Money and Price Level: Quantity Theory (Cambridge and Fisherian Versions); Money Supply and its Components: Currency and Bank Deposits.	**Unit 1:** Money **(Pages 3-40)**
UNIT 2 **Theory of Interest:** Classical Theory of Interest and its Limitations, Keynesian Model of Interest and its Shortcomings.	**Unit 2:** Theory of Interest **(Pages 41-51)**
UNIT 3 **Banking:** Principles of Commercial Banking, Credit Creation Process, Specialized Banks (IDBI and NABARD), Central Bank, Functions of RBI; Its Monetary Policy.	**Unit 3:** Banking **(Pages 53-102)**
UNIT 4 **Inflation:** Causes of Inflation, Demand Pull, Cost Push; Inflationary Gap; Effects of Inflation on Production and Distribution; Measures of Controlling of Inflation.	**Unit 4:** Inflation **(Pages 103-119)**
UNIT 5 **International Trade:** Smith's and Ricardo's Theories of International Trade; Terms of Trade; Balance of Trade and Balance of Payments; Disequilibrium in the Balance of Payments and Corrective Measures.	**Unit 5:** International Trade **(Pages 121-163)**
UNIT 6 **Rate of Exchange:** Floating Exchange Rate and Problems of Balance of Payments; Foreign Exchange Reserve and its Determinants, Functions of IMF.	**Unit 6:** Rate of Exchange **(Pages 165-175)**

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INTRODUCTION

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Money is any object or record that is generally accepted as payment for goods and services and repayment of debts in a given country or socio-economic context. The main functions of money are distinguished as: a medium of exchange; a unit of account; a store of value; and, occasionally in the past, a standard of deferred payment. The money supply of a country consists of currency (banknotes and coins) and bank money (the balance held in checking accounts and savings accounts). Bank money usually forms by far the largest part of the money supply. One cannot begin to understand how money is created and how it works without a good understanding of the banking system, and the special role of the central bank. Banking in India originated in the last decades of the 18th century. The first banks were The General Bank of India, which started in 1786, and Bank of Hindustan, which started in 1790; both are now defunct. The Government of India issued an ordinance and nationalized the fourteen largest commercial banks with effect from the midnight of 19 July 1969. A second dose of nationalization of six more commercial banks followed in 1980.

The concept of international trade theory and policy deals with the different standards of international trade conceptualized to explain the different ideas of exchange of goods and services across the global boundaries. The theories of international trade have undergone rapid changes over time. The basic purpose of trade is to increase the gains from trade for the benefit of the parties involved in the buying and selling of goods and services. Whether domestic or international, the underlying motivation for trade remains constant.

This book, *Money, Banking and International Trade*, has been designed keeping in mind the self-instruction mode (SIM) format and follows a simple pattern, wherein each unit of the book begins with the Introduction followed by the Unit Objectives for the topic. The content is then presented in a simple and easy-to-understand manner, and is interspersed with 'Check Your Progress' questions to reinforce the student's understanding of the topic. A list of Questions and Exercises is also provided at the end of each unit. The Summary and Key Terms further act as useful tools for students and are meant for effective recapitulation of the text.

UNIT 1 MONEY

Structure

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1.0 INTRODUCTION

An object or record that is considered as payment for goods and services and repayment of debts in a given country is known as money. The primary functions of money can be seen as a medium of exchange, a unit of account, a store of value and a standard of deferred payment. Inflation is regarded as an increase in the general level of prices of goods and services in an economy over a period of time. Each unit of currency buys less goods and services as the general price level rises. Inflation's effects can be positive or negative.

In this unit, you will learn about the concept and functions of money. This unit will also discuss quantity theory, money supply and its components.

1.1 UNIT OBJECTIVES

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

- Understand the various definitions and concepts of money
- Discuss the four important approaches to the definition of money
- Explain the important functions of money
- Analyse the quantity theory of money
- State the concept of money supply and its components

1.2 BARTER ECONOMY AND MONEY ECONOMY

Money ranks first among man's most important inventions and its evolution through time is an epitome of the history of human civilization. Supporting this view, John Maynard Keynes has stated that 'money, like certain other elements in civilization, is a far more ancient institution than we were taught to believe some few years ago. Its origins are lost in the mists when the ice was melting, and may well stretch back into, the paradisaic intervals in human history of the interglacial periods when the weather was delightful and the mind free to be fertile of new ideas—in the Islands of the Hesperides or Atlantis or some Eden of Central Asia.'

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The serious shortcomings or inconveniences of the barter system convinced people of the great necessity of finding some alternative efficient method of managing the affairs of the economy. The too many arbitrarily fixed separate exchange ratios; the frequent waste of substantial time and effort in locating the persons and transactions requiring the double coincidence of wants; the want of some common measure of value and lack of a suitable store of value caused unbearable hardships to people. It did not perhaps matter much so long as people were satisfied with their primitive way of life and living. Barter was, however, outmoded as a way of life for those who were keen to grow and were impatient to conduct trade in many commodities.

The birth of money came as a multifold blessing to mankind. It was first introduced as the unit of account—numeraire—to do away with the necessity of having to state separately the value of each good and service in terms of the other goods and services creating an unmanageable number of separate exchange ratios even in a simple economy where people produced and consumed only a few goods and services. It was the ingenuity, perhaps, of some lazy man who was tired of remembering a needlessly large number of separate exchange ratios in a pure barter economy, who by seriously thinking to determine the values of different goods and services in terms of a single good or service whose value being determined in its own terms was a fixed unit, became the inventor of money which has showered numerous blessings on mankind. Thus, by acting as the unit of account—numeraire—the values of different commodities were stated in terms of some chosen central commodity—money—and the confusion resulting from a senselessly large number of arbitrarily determined separate exchange ratios was removed. For example, in a pure barter economy, to make the transactions possible even with as small a number of commodities as ten, it needed 45 separate exchange ratios. When everything is valued in terms of one commodity chosen as money, only nine separate exchange ratios emerge. Consequently, 45 is reduced to nine, as it were, by a magic wand. The magic becomes indeed astounding when the number of commodities meant for exchange is overwhelmingly large. For example, if there are 10,000 commodities available for exchange, in the absence of money acting as the accounting unit there will be 49,995,000 separate exchange ratios. However, the moment money begins to function as an accounting unit or as a measuring rod, these vast exchange ratios are drastically reduced to only 9,999 separate exchange ratios. The strategy worked and society moved out of the shackles of barter. The invention of money liberated the 'inferior' orders of people from servile or semi-servile conditions and substituted values expressed in terms of money for obligations expressed in terms of custom or tradition. Equating the birth of money with a great invention, Geoffrey Crowther has stated: 'Let us suppose that this one commodity is goat (as it is today among some East African tribes). Everything is valued in terms of the goat, and the terms of exchange between any pair of commodities can thus be easily established. A hunting-knife is worth ten goats, fifty bananas are worth one goat, five bushels of corn are worth two goats, a wife, if she is young and comely, is worth six goats and so on for every commodity. To us this invention seems very simple. It is merely the application to the sphere of the value of the same idea that has produced the foot or the metre to measure length, the pound or gram to measure weight, the degree to measure temperature, and so forth. However, at the time it was doubtless radical—the invention, perhaps of some lazy genius who found himself oppressed by the task of calculating how many bushels of corn should exchange for one tiger-skin, if three bushels of corn were equal to five bananas, twenty bananas to one goat and twenty goats to one tiger-skin. And it undoubtedly was an invention; it needed the conscious reasoning power of man to make the step from simple barter to money-accounting.'

Concept of Money

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The concept of money is very difficult to define. It belongs to the category of things which are not amenable to any single definition. It is partly so because money performs not one but four important functions in the economy with each function providing a criterion of moneyness and partly because these criteria are satisfied in different degrees by different assets. Since moneyness is at best a matter of degree, it is possible to draw only an arbitrary dividing line between money and the other non-money assets. Money is only one among many kinds of financial assets which consumers, business firms, governments and other economic units hold in their asset portfolios. However, the economists' emphasis on money per se is justified because unlike the other financial assets (savings bank deposits, government and corporate bonds) money is the essential ingredient in conducting most of the economic transactions in the economy. Furthermore, the demand for money, like that for an input, is a derived demand.

Money is a species of a large genus—one among the class of things which perform monetary functions in the economy. Some goods perform all the four essential monetary functions—act as the unit of account, a medium of exchange, a store of value and a standard of deferred payments–and no other, e.g., paper currency, while other goods perform one or more monetary and non-monetary functions in the economy. The Venn diagram in Figure 1.1 clarifies the position. In the diagram, A is the class of things which perform one or more monetary functions in the economy while B is a class of things, included in A, which perform all the four monetary functions in the economy. It is easier to understand what money consists of than to give any universally acceptable definition of money. As Harry G Johnson has rightly stated, the definition of money is one of the three unresolved issues in the monetary theory. Consequently, economists have been in open disagreement on the issue of defining money. According to Harry G Johnson and Edgar L Feige, there are the following four important approaches to the definition of money:

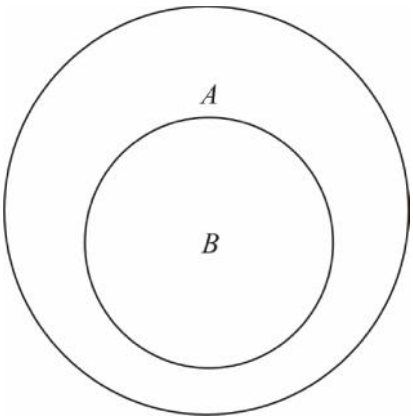

Fig. 1.1 *Monetary Functions*

Each one of these four principal approaches to the definition of money may be briefly described as below.

1. **Conventional approach:** The conventional approach to the definition of money is the oldest known approach. According to this approach, the most important function of money in society is to act as the medium of exchange. Money is what money uniquely does. It pays for all the goods and services that are transacted in

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the community. Consequently, anything is money which functions generally as a medium of exchange in the economy. According to Ralph George Hawtrey, 'money is one of those concepts which, like a teaspoon or umbrella, but unlike an earthquake or a buttercup, are definable primarily by the use or purpose which they serve'. Following this approach, Geoffrey Crowther has stated that money is 'anything that is generally acceptable as a means of exchange (i.e., as a means of settling debts) and that at the same time acts as a measure and a store of value.' The important words in this definition are those in italics. Thus, anything can be money if it is generally acceptable by the community in payment for anything. The only essential requirement, according to this definition of money, is the general acceptability of a thing as a means of payment.

John Maynard Keynes has defined money as 'that by delivery of which debt contracts and price contracts are discharged and in the shape of which general purchasing power is held.' Dennis Holme Robertson has defined money as 'anything which is widely accepted in payment for goods, or in the discharge of other kinds of business obligations. If things which are intended to be money—the notes of certain governments—cease to be widely accepted in discharge of obligations, they cease to function as money,' According to Raymond P Kent, 'money is anything that is commonly used and generally accepted as a medium of exchange or as a standard of value.'

To be money, a thing need not itself be valuable. It must, however, be relatively scarce since it would hardly do if money could be plucked off every tree. Provided steps are taken to keep it relatively scarce and invariant in quantity, things as worthless as a scrap of paper or a tree leaf can serve as money. Historically, many thing like cigarettes, banana shells, goat, metals, stones, etc., have served as money. Animal money had, however, the disadvantage of indivisibility and it was susceptible to disease, old age and death. It was also expensive to store. Minted coins, on the other hand, had the advantages of durability, divisibility and cognizability. Paper money also has some of the advantages of being a good money material.

Defined on the basis of its function as a medium of exchange, a nation's total money stock would comprise those things which are generally accepted as the means of payment. This definition of money includes only the currency and the demand deposits in commercial banks as constituting the supply of money, i.e., $M = C + D$. It excludes the time deposits in commercial banks and postal savings bank deposits. The reason for excluding the time deposits from the aggregate money supply is that such deposits must be converted into either currency or demand deposits before these can be spent. Many other assets like short-term treasury securities, prime commercial papers, savings, bonds, etc., possess high liquidity in as much as these can be converted into cash or demand deposits with little loss or risk. Thus, it is argued that if time deposits are included in the money supply there is no justification for excluding all these other near-liquid assets from the money supply.

2. **Chicago approach:** The Chicago approach to the concept of money is associated with the views of Professor Milton Friedman, his students, including David Meiselman, Phillip Cagan, David Fand, Anna Jacobson Schwartz and other monetary theorists of the University of Chicago. The Chicago economists have adopted a broader definition of money by including in it, besides the currency and

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chequeable or demand deposits, the commercial bank time deposits—fixed interest-bearing deposits placed with the commercial banks. Obviously, the Chicago approach to the definition of money conflicts with the conventional approach to the definition of money since the commercial bank time deposits are not directly spendable—these do not function directly as a medium of exchange in the economy. For example, if a person owns a fixed time deposit receipt worth ₹ 2,000 in a commercial bank and wants to use it to buy a refrigerator, he must first exchange his time deposit for currency or demand deposit which can be used to make the payment for making the purchase of the refrigerator. The economists of the Chicago School have advanced two reasons for including the time or term deposits placed with the commercial banks in their definition of money.

First, according to the Chicago School theorists, national income is more highly correlated with money as they have defined it than with money when it is alternatively defined. Since, the Chicago monetary theorists have hypothesized that changes in the money supply bring about predictable changes in the national income, their definition of money, it is argued by these theorists, come closest to satisfying the empirical criterion of putting the monetary theory in a good light. Secondly, the Chicago approach is based on the theoretical criterion of including in the definition of a single commodity all those things which are perfect substitutes for each other. It is argued by the supporters of the Chicago approach that the commercial bank time deposits are very close substitutes for currency and demand deposits. In practice, the time deposits are almost as readily available for spending as are the demand deposits or currency since most commercial banks make the time deposits available to their customers on demand, although they may require a waiting period of 30 to 60 days. In India, the time deposits are encashable when money is needed by the deposit holders provided they are willing to forgo a small percentage of interest income accrued on such deposits. Consequently, it is better to treat the time deposits in banks as if these were perfect substitutes for currency and demand deposits rather than not to treat them so. The relatively timeless and costless ease with which time deposits can be converted into currency or demand deposits together with the universally held notion that a savings deposit account is 'money in the bank' lends credibility to the close substitutability argument. However, it is still correct to say that the time deposits held with the commercial banks are not perfect substitutes for the currency and demand deposits because had it been so people would not have preferred holding the zero interest-bearing currency and/or demand deposits to holding the positive interest-bearing time deposits in the banks.

3. **Gurley and Shaw approach:** This approach, associated with the names of Professors John G Gurley and Edward S Shaw, was evolved through a series of articles and the book titled *Money in a Theory of Finance* by the two learned professors. According to the Gurley and Shaw approach, currency and demand deposits are just two among the many claims against the financial intermediaries. They emphasize the close substitution relationship between the currency, demand deposits, time deposits, savings bank deposits, credit institutions' shares, bonds, etc., all of which are regarded as alternative liquid store of value by the public.

   The Gurley and Shaw approach to the definition of money is akin to the Chicago approach in its objective. Both the approaches include in money the means of payment and those assets which are close substitutes for the means of payment.

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Despite this similarity, the Gurley and Shaw approach is, however, different from the Chicago approach in its analysis. Unlike the Chicago approach which considers only the time deposits held with the commercial banks as close substitutes for the means of payment, the Gurley and Shaw approach includes in the close substitutes for the means of payment the deposits of and the claims against all types of financial intermediaries.

It is necessary for taking account of the substitution relationship to define money supply as the weighted sum of currency, demand deposits and their substitutes, with the weights being assigned to each item on the basis of the degree of substitutability.Thus a unit weight would be assigned to currency, demand deposits and their perfect substitutes, if any. Zero weight would be assigned to each one of those assets which were completely unrelated to currency and demand deposits. Weights ranging between one and zero would be assigned to those assets which were imperfect substitutes for currency and demand deposits. As an illustration of this approach we may assume that the public's total assets consist of (1) ₹200 crore in the form of currency; (2) ₹400 crore worth of bank shares; and (3) ₹1,000 crore worth of ceiling fans such that public's total assets are worth ₹1,600 crore. It may be further assumed that the asset demands for currency and for the ceiling fans are quite independent of one another while the degree of substitutability between the bank shares and currency is 0.50. The weighted sum of the money supply would be equal to ₹400 crore or 25 per cent of the total assets because currency would be assigned a weight of one, bank shares a weight of 0.5 and the ceiling fans a weight of zero.

The Gurley and Shaw approach is superior to the Chicago approach because unlike the Chicago approach in which currency, demand deposits and time deposits all have been lumped together, the Gurley and Shaw approach refuses to lump the currency, bank deposits and close substitutes together; instead, it circumvents the problem of making arbitrary assumptions regarding the degree of substitutability by assigning the weights to different assets on the basis of their closeness to the means of payment. No effort has, however, been made by the authors of this approach to test the operational merit of the weighted sum definition of money. The concept has neither been used for testing the monetary theory nor for applying the monetary policy.

4. **Central bank approach:** This approach, which has been favoured by the central banking authorities, takes the broadest possible view of money as though it was synonymous with credit-funds lent to the borrowers. The supporters of the central bank approach have argued that similarity between money and the other means of financing the purchases justifies the use of a much broader concept of money measurable or immeasurable. As an example of the measurable concept, they mention the long established theory of the Federal Reserve Board according to which what matters is the total amount of credit outstanding with the quantity of money exercising its influence only because bank credit is a part of total credit. The example of the unmeasurable concept is the Radcliffe Committee's concept of liquidity of the economy and credit can be substituted for money without limit. Consequently, money is identified with the credit extended by a wide variety of sources. The reason for identifying money with credit used in the broadest possible sense of the term lies in the central bank's historic position that the 'total credit availability' constitutes the key variable for regulating the economy.

CHECK YOUR PROGRESS

1. What are the four important approaches to the definition of money?
2. What is the conventional approach to the definition of money?

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1.3 FUNCTIONS OF MONEY

It is inconceivable to imagine a modern economy operating without the use of money. Money serves as the great instrument of commerce and industry in the economy by performing the four essential specific functions which have removed the manifold difficulties, more particularly the 'double coincidence of wants', of the pure barter system.

These four functions of money emerge from its serving in the economy as:

- A unit of value or account
- A medium of exchange
- A standard of deferred payments
- A store of value

The first two of these functions are usually called the primary functions of money while the remaining two are called the derivative functions of money as these are derived from the primary functions. We may now discuss each one of these four basic functions of money.

1. **Money as unit of value or account:** This function of money has been variously called the 'unit of account', 'standard of value', 'common measure of value' and 'common denominator of value. The common idea present in all these terms is that money unit serves as a unit of measurement in terms of which the 'values' of all the goods and services exchanged in the economy are measured and expressed. As soon as a money unit, such as a rupee, dollar, or franc is adopted as a numeraire in the economy, the value of each commodity and service is expressed as a price which expresses the number of money units for which it will exchange or sell in the economy.

   The introduction of the unit of account in terms of which the values of different goods and services were to be assessed and stated was as important for the development of economic life of the community as was the invention of the wheel for the development of technology. The existence of a common unit of account is quite indispensable for the emergence of an orderly pricing system which is essential both for rational economic calculation and choice by the individuals and for transmitting the economic information between individuals. For a rational individual choice, it is essential that different goods and services not otherwise comparable should be rendered comparable. By serving as a common unit of account—numeraire—money has made such a comparison possible because prices of different goods and services expressed in terms of money as a common unit of account are comparable since the worth of different goods and services is converted into a common scale for purposes of reckoning.

   A common unit of account and prices stated in terms of this unit facilitates transmission of economic information between people and consequently extends the scope of specialization and division of labour beyond the narrow confines of

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the family or household. The prices of different goods and services stated in terms of money enable the individual to decide on what he should specialize as a seller and in what proportions he should buy and combine different goods as a buyer. The importance of money prices as the efficient means of economic communication in enabling the people in society to decide what to produce and on what to spend the proceeds of their economic efforts is realised only when these cease to fulfil this function. For example, in the German hyperinflation when money prices ceased to serve as the means of economic communication, the Germans were separated from one another living like solitary predatory beasts. Giving a graphic description of the state of Germans, Richard Hughes has stated thus: 'Money was rapidly ebbing away from between men, leaving them desperately incommunicable like men rendered voiceless by an intervening vacuum: millions still heaped on top of each other in human cities yet forced to live separate, each like some solitary predatory beast.'

No less than the households, the producers also depend on money to provide them the lines of communication. They look on the money prices of goods and services to furnish them vital information on the basis of which they make production decisions which maximize their profits. In the absence of money or when money ceases to function as a unit of account, it becomes much more difficult and costly to obtain this information. Again, the German hyperinflation can be cited as an illustration. The German hyperinflation had created an environment in which the money prices and values had become virtually meaningless. Consequently, the German firms had to expand their office staff in order to deal with the greatly expanded task of procuring and interpreting the market information. It raised greatly the ratio of the non-productive to productive workers. For example, in the famous German firm of Siemens-Schuckert producing the electric goods this ratio had increased by 43 per cent.

It shows that the existence of money is a necessary condition for an efficient economic organization and development. Money prices are essential for a person to know in order to decide in which one of his many possible activities he would be most productive for the economy. He needs money prices in order to determine how best to perform this activity and how best to mix his own labour and know-how with the other factors of production. He must also know the money prices in order to choose the best form in which to consume his income and enjoy most his labour's fruits.

2. **Money as medium of exchange:** The speciality which distinguishes money from other commodities and places it in a separate class inherent in its role as the means of payment. Although, it has no inherent power to satisfy human wants, but by acting as the medium of exchange in the economy it commands power to purchase those goods and services which satisfy human wants. By performing its role as the medium of exchange in society, money removes the clumsiness, inconvenience and inefficiency which barter entails. The introduction of money as a medium of exchange in the economy by decomposing the single barter transaction into two separate transactions of sale and purchase eliminates the need for the double coincidence of wants. Consequently, much time and effort wasted in barter is saved. However, what is more important is the fact that separation of a single barter transaction into two money exchange transactions involves more than a simple separation of sale and purchase elements which were implicit in the barter transaction. The use of money as a medium of exchange

also necessarily separates the transactions both in time and place. It is no longer necessary for a seller of a commodity simultaneously to act also as a buyer of some other commodity and equal to the value of the commodity he wishes to sell.

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It must be remembered that money will not be required as a means of payment unless we want to sell at one time and place and buy at some different time and place. It means that there is time-lag between our buying and selling activities. In the pure barter, buying and selling had to coincide both in time and place. By serving as the means of payment, money has relieved society of the colossal waste of time and effort which double coincidence of wants necessarily involved under the barter system. However, in order to serve as the means of payment money has also to serve as the temporary abode or store of the purchasing power.

The use of money as a medium of exchange and the consequent decomposition of every single barter transaction into two separate purchase and sale transactions allows for the use of division of labour in the decision-making process which yields returns in the form of increased rationality. It is possible for one to deal more effectively with the problem of how best to sell his services while free from the worry about how best to spend the proceeds. At the same time, however, one also needs to know generally how valuable, in terms of the spending power, the proceeds will be. Money is helpful on both these counts. Money enables one to deal with the separate problems of buying and selling one at a time. Furthermore, the use of money as a medium of exchange reduces the number of transactions required to achieve a given degree of specialization. Notwithstanding that a single barter transaction equals a sale and a purchase transaction, such persons trading who would be satisfied by a single barter transaction can very rarely be found because only in the extremely rare case would the goods and services which one person had to offer be exactly those goods and services which another person wanted to obtain. More generally, before a mutually satisfactory barter transaction became possible, a person had to engage in the whole complex chain of complementary barter transactions to acquire the bundle of goods and services that was most acceptable as a means of payment to the other party. Such chains of complementary barter transactions were often long and complex involving the huge waste of time and effort. By splitting every single barter transaction into two separate money transactions of a sale and a purchase, the use of money by greatly reducing the number of transactions has effected substantial saving of time and effort. It has enabled people to sell at one place and time and to buy at another place and time. By serving as a medium of exchange in the economy, it has relieved the community of the vast inconvenience faced by it due to the double coincidence of wants inherent in the barter system. As a medium of exchange, money has opened the floodgates of free multilateral trade and the substantial advantages that flow from it.

The study of hyperinflations, when money ceases to serve as a medium of exchange because people refuse to accept money as the means of payment and the economy reverts back to barter system, provides the basis for quantitative measurement of the welfare gain enjoyed by people by having a medium of exchange which avoids the clumsiness and complexity of pure barter. According to Martin J Bailey, who estimated this gain or 'the cost to society of abandoning money entirely' for the seven different hyperinflations, ranged between 14 and 48 per cent of the national product.

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The use of money as the medium of exchange by increasing the number of similar transactions increases competition thereby increasing the uniformity of the terms of contract. For example, when 2,000 people buy tea in a money economy, they make similar transactions in the same one market and by the sheer largeness of number, create a highly competitive situation on buyers' side in the market. In a barter economy, the same 2,000 people would have formed dozens of smaller, separate and non-competing groups depending on whether they paid for their tea with bread, wine, clothes, shoes or some other commodity. Consequently, in this process, competition would have greatly diminished causing the loss of collective welfare.

The above mentioned advantages of having money as a medium of exchange would be greater larger the number of people who accepted money as a medium of exchange and larger the territory in which it was accepted as the means of payment. The advantages of having a medium of exchange explain why every society sooner or later adopts a commodity particularly suitable for this purpose and uses it as money in addition to its other uses. These other uses are not essential for the moneyness of money although these facilitate its gradual adoption by the society as a medium of exchange.

The value of money—its acceptance as the medium of exchange—is a matter of social convention. Each person accepts money as the means of payment because he is confident that others will also accept it in payment from him. The circulatory chain involved means that in order to raise something to money's high status, it is necessary to establish a social convention requiring every member of society to accept that commodity as the means of payment. The social convention could be established through a formal pledge made by all members of the society to accept a certain agreed-upon commodity as the medium of exchange among themselves. Alternatively, such a social convention could be enforced by the legal authority of the state.

This is the basis of legal tender and the courts in the country enforce the acceptance of national currency in the discharge of all present and deferred payments. A social convention giving general acceptability to money as the means of payment could also be established if some important member of the group unilaterally accepts in payment a certain form of money. If he is important enough and his money is convenient enough, the other group members will follow suit. The use of the reserve currency whereby the other countries use one important country's currency as their external reserves is an example of establishing the social convention of accepting a particular form of money—the US dollar or British pound-sterling—in the discharge of payment obligations.

3. **Money as standard of deferred payments:** As soon as money comes to be used as a unit of value and a medium of exchange, it is also inevitably used as the unit in terms of which future payments are stated. In a modern economy, a large number of transactions relate to future contractual payments which are stated in terms of money unit. Thus, by functioning as a unit in terms of which all future payments are expressed, money also serves as a unit or standard of deferred payments. However, money as a standard of deferred payments is satisfactory only if its value or purchasing power remains stable over time. When the purchasing power of money either increases or decreases through time, the interests of debtors or creditors are injured and people may mention certain safeguard clauses in

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future contractual obligations. For example, in Germany during hyperinflation the creditors insisted on mentioning the amount of debt payable in equivalent dollars or francs—currencies whose values were relatively stable— to protect themselves against the injury that may be caused to the creditors by the debtors by paying their debt money and interest in the fast depreciating German mark. According to the safeguard clause included in the agreement, the payment had to be made in the currency of the country of creditor's choice.

4. **Money as store of value:** It has been stated earlier that the introduction of money as a unit of account separates a single barter transaction implying simultaneous sale and purchase of equal value into two separate transactions of sale and purchase. This separation of a single barter transaction into two transactions enables one to act as a seller of one good at one place and time without being forced to act simultaneously as a buyer of another good. This separation, therefore, means separation both in time and place. Money as the medium of exchange has made it possible for people to sell goods and services at one place and time and to buy goods and services at another place and time. It is, however, not possible to do so unless it is also possible to store the means of payment, i.e., purchasing power during the intervening time. It is, therefore, obvious that money necessarily acts as a temporary store of value by virtue of its use as the medium of exchange. In other words, in order to perform the function of the medium of exchange, the value or purchasing power has to be stored in the form of money for a temporary period in order to enable people to buy and sell at different times and places. Consequently, money also has to function as the temporary abode of purchasing power in order to function efficiently as the medium of exchange in the economy.

   The role or function of money as the permanent store of value—permanent abode of purchasing power—was least stressed by the early classical economists. Even the neoclassical economists, to some extent Alfred Marshall excepted, ignored the demand for money arising from wealth-holders' choosing to hold a part of their total assets in the form of money. It was argued by the classical economists that no one outside a lunatic asylum will hold his assets in the unproductive or barren form of money in the face of availability of alternative interest and dividend bearing assets such as riskless government bonds, corporate debentures and shares of the well-known companies. It was Keynes who first fully realized and drew attention to the significance of money's function as a permanent store of value for economic analysis and policy. The great significance of this role arises from the fact that only this function of money creates the demand for money which can be analysed in terms similar to those which are employed for analysing the demand for other goods and services. In its role as a permanent store of value, i.e., as one of the many forms in which assets may be held, money has many close substitutes in other productive assets—government bonds, quasi-government securities, shares and debentures of well-established corporations, bank deposits of various kinds, etc. Consequently, money has to compete with these assets and the proportion in which money is held together with these other assets depends on their differential advantages (such as yield) over money. The demand for holding money for asset purposes is, therefore, a continuous and elastic function of the yield of other assets. This fact both provides a demand curve for money and renders its supply a policy tool with which the yields on other assets can be influenced.

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In contrast to its function as the permanent store of value where it faces competition from other assets, it has no serious competitor in other assets in its role as a unit of account and a medium of exchange. Moreover, the use of money as a unit of account is independent of its supply. Although, money's use as a medium of exchange is not independent of its supply, but a shortage of supply as a medium of exchange, apart from causing inconvenience, does not cause ordinary market reactions to an excess of demand over supply such as raising the market rate of interest.

As the permanent store of value or asset, money has both certain advantages and disadvantages over its other competing yield-giving assets such as bonds, fixed deposits in banks, shares, debentures, house, land, furniture, etc. As the store of value, the chief advantages of these assets are that unlike money, these yield income in the form of interest, rent, profit or utility to their owners. They also sometimes yield capital gains to their owners. However, compared with money, these assets also suffer from certain disadvantages as store of value. First, their holding involves storage costs. Secondly, these may depreciate in money value. Thirdly, they are illiquid—lack in perfect liquidity or moneyness—because these are not acceptable as money. Consequently, all assets other than money lack in quick convertibility into money without involving some loss of value.

In face of the above mentioned advantages possessed by the other assets, if money is demanded as a permanent store of value in the community, it must be due to the comparative advantages of holding money which other assets lack. These advantages are collectively called liquidity. The main aspect of liquidity follows from the fact that money acts as a medium of exchange in the economy. First, as an asset it commands the unique advantage of ready and immediate acceptance as the means of payment. Secondly, since it is accepted as the means of payment in the economy, as an asset its value can be easily predicted at some unspecified future period. Thirdly, as an asset its value in payment equals its value in receipt. It is so because money is perfectly liquid. In other words, as an asset money commands reversibility. All assets other than money lack perfect reversibility in the sense that their value in payment is not equal to their value in receipt. Real assets—land, consumer durables like car or television—lack reversibility the most. For example, the moment a car is driven out of the dealer's showroom, it loses in value because (abstracting from scarcity conditions) the purchaser will find it difficult to sell it at the price at which he had bought it a minute earlier. Even financial assets like the riskless government bonds do not command perfect reversibility as their purchase and sale are subject to certain brokerage cost although this may be quite small. Perfect liquidity arising from the general acceptability of a good as the means of payment in the economy gives rise to perfect reversibility. Since no asset other than money acts as the medium of exchange in the economy, it lacks in perfect reversibility. It is, however, necessary that in order to serve as the permanent store of value in the economy the purchasing power or the value of money should either remain stable or else should monotonically rise over time.

Finally, it is necessary to emphasize that money is anything that is generally accepted in exchange. In the past, astounding variety of money—ranging from sea shells and round stones to cigarette ends—have been used. The most essential feature of money is its general acceptability in the community or society in which it circulates.

Check Your Progress

3. What are the two primary functions of money?
4. What is the most essential feature of money?

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1.4 QUANTITY THEORY (CAMBRIDGE AND FISHERIAN VERSION): MONEY AND PRICE LEVEL

The intermittent occurrence of wide movements in the general price level has attracted special attention ever since the economists first began to write on economic matters. These price movements have been largely ascribed to the monetary and non-monetary factors. According to the monetary explanation, changes in the general price level in the economy are caused by changes in the total quantity of money in circulation. According to the other explanation, changes in prices are caused by the non-monetary factors such as war, famine, weather changes or some other special circumstance. The first explanation of changes in the prices has been labelled as the quantity theory of money. According to the quantity theorists, the principal thrust of any given change in the total supply of money is to cause changes in the level of prices in the economy.

The origin of the quantity theory of money as an explanation of changes in the value of money (prices) as a function of changes in its quantity can be found in the writings of early mercantilist writers. In his monumentally scholarly work titled *The Theory of Prices,* Arthur W Marget has traced the origin of the quantity theory of money to the 15th century. There is, however, dispute among the economists as to who was the first writer to formulate the theory.

According to Angell and Monroe, eminent French philosopher John Locke was the first to formulate the theory in 1691. This view has, however, been disputed by Jacob Viner who has shown that the quantity theory of money in its several variants was stated earlier by Gerard de Malynes, Thomas Mun, Robert Bruce Cotton, Henry Robinson and others. In support of his assertion, Jacob Viner has quoted from the writings of these writers which presented in some form the quantity theory of money ante-dating John Locke by 40 to 90 years.

According to Joseph A Schumpeter, Jean Bodin was the first discoverer of the quantity theory of money because Bodin had recognized the connection between an influx of the precious metals and the rising prices in France in 1568. This is not, however, to deny that the doctrine was not attacked; in fact, it was repeatedly attacked ever since Thomas Tooke criticized it in his famous work titled *History of Prices*.

After John Locke had propounded it, the quantity theory of money, suffering additions and modifications at the hands of several writers, attained the status of an important doctrine of the classical political economy. Although Dudley North in 1661, Issac Gervaise in 1720, Richard Cantillon in 1730 and Jacob Vanderlint in 1734 had stated the quantity theory of money with varying degrees of completeness and correctness, it was David Hume who systematized and popularized the doctrine by formulating it precisely in 1752 in his well-known work titled Political Discourses. The doctrine was propounded to explain the balance of payments adjustment mechanism. David Hume's

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version of the pure quantity theory of money held a prominent position in the 19 century classical economic thought and his essay entitled 'Of Money', can still be read for pleasure and profit by every serious student of economics.

Hume introduced the notion of causality between the total money supply (*M*) and the general price level (*P*) laying down this commonly accepted version: *T* and *V* being insensitive or non-responsive to monetary changes, *M* and *P* will vary equi-proportionately. This proposition is, however, valid only so long as money in the economy is merely a standard of value and a medium of exchange. In such a situation, this proposition is a tautology.

However, as soon as money is considered to be demanded as a store of value, *M* and *P* will not necessarily vary equi-proportionately. The quantity theory of money in the sense of a fairly rigid connection between *M* and *P* was considered at the time as a verifiable and indeed as an obvious statement concerning the real world. If nothing else, the 'price revolution' of the 16th century was regarded as a strong evidence of a direct casual relationship between the variations in *M* and *P*.

In the earlier versions of the doctrine, although a positive relationship between the aggregate money supply and the general level of prices was established so that an increase in the former always led to a rise in the latter and *vice versa,* these versions did not assert that this positive relationship between the aggregate money supply and the general price level was one of strict proportionality. The early quantity theorists were aware of the possibility of the increase in the aggregate output over time due to the technological improvements. They also realized that the velocity of money would change due to the changing nature of the monetary institutions. Consequently, they did not assert that the general price level would change equi-proportionately to changes in the aggregate money supply.

Subject to these limitations, it was, however, stated that the general price level *P* would change in some dependable manner in response to changes in the total quantity of money in circulation *M* (or *MV*) such that an increase (decrease) in the total money supply in the economy would cause the general price level to rise (fall). In other words, changes in the value or the general purchasing power of money (1/*P*) depended on changes in its supply in such a way that an increase (decrease) in the aggregate money supply in circulation would result in the fall (rise) in the purchasing power of money. This means that the value of money was an inverse function of its total quantity or supply. The naïve quantity theory of money asserts that the money elasticity of the general price level is positive. This statement is, however, very different from the statement which asserts an equi-proportionality relationship between changes in the quantity of money and the general price level. The early quantity theory of money in its naive form can be explained with the help of Figure 1.2 showing that when the total quantity of money in circulation increases, the general price level also rises. The relationship between these two macroeconomic variables is positive.

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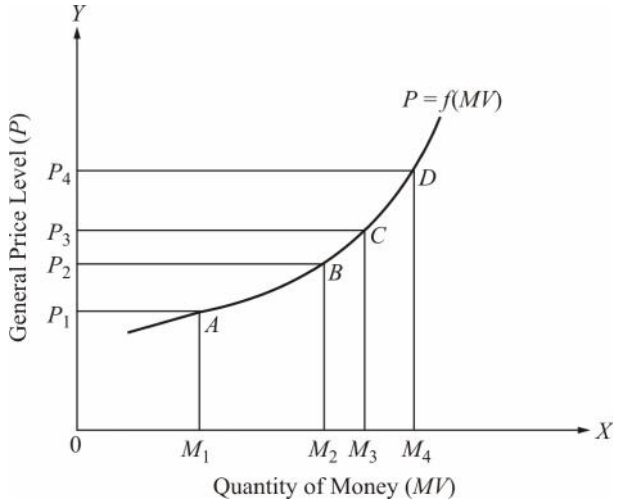

Fig. 1.2 *Quantity and Price Level*

The curve $P = f(MV)$ shows that initially the increase in the general price level is less than equi-proportional to the increase in the money supply. Furthermore, with progressive increase in the money supply, the increase in the general price level becomes higher although it still remains short of the equi-proportional increase. This is explained by the fact that initially the impact of the increase in the money supply is more on increasing the economy's aggregate output rather than on raising the general price level with the emphasis progressively shifting from the former to the latter as the economy approaches its optimum capacity output. After the full employment output is achieved in the economy, the increase in the general price level will be equi-proportional to the increase in the aggregate money supply.

The later-day classical and the neoclassical economists in their vain bid to reduce the economic phenomena to a few broad principles stated the relationship between changes in the money supply and changes in its value in terms of the rigid proportionality relationship between the total money supply and the general price level. In fact, the rigid quantity theorists asserted that the demand curve for money was a rectangular hyperbola so that the purchasing power of money varied in inverse ratio to changes in the quantity of money. The naive quantity theory of money has been illustrated in Figures 1.3 and 1.4.

Figure 1.3 shows that changes in the general price level (P) are equi-proportional to changes in the total quantity of money (MV) in circulation. When the total quantity of money in circulation is $0M_1$, the general price level is $0P_1$. When the total money supply increases from $0M_1$ to $0M_3$, the general price level in the economy rises from $0P_1$ to $0P_3$. The proportionate (percentage) rise in the general price level $\frac{0P_3 - 0P_1}{0P_1}$ is equal to the proportionate increase in the total money supply $\frac{0M_3 - 0M_1}{0M_1}$. Similarly, when the total quantity of money in circulation falls from $0M_1$ to $0M_2$, the general price level falls from $0P_1$ to $0P_2$ and the proportionate fall $\frac{0P_1 - 0P_2}{0P_1}$ in the general price level is equal to the proportionate fall $\frac{0M_1 - 0M_2}{0M_1}$ in the aggregate money supply.

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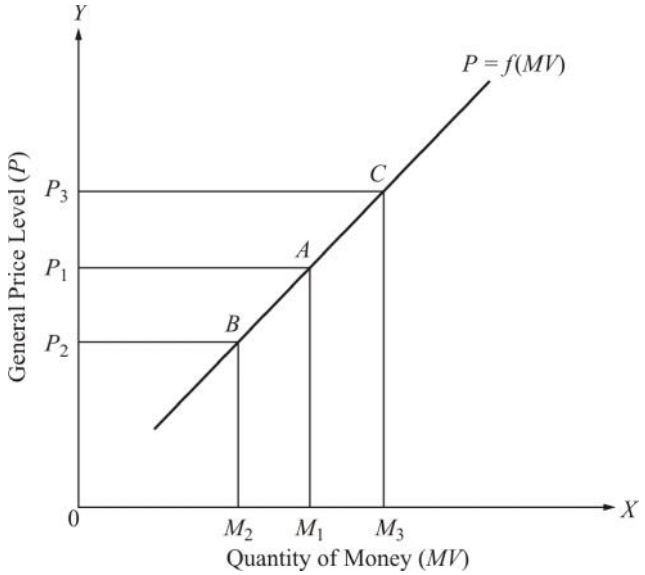

Fig. 1.3 *General Price Level and Quantity*

Figure 1.4 is simply a transformation of Figure 1.3. It shows the relationship between changes in the aggregate money supply (*MV*) and resulting changes in the value (purchasing power), of money (1/*P*). It is evident that when the quantity of money increases from $0M_1$ to $0M_2$, the value or purchasing power of money falls from $1/0P_1$ to $1/0P_2$, i.e., when the quantity of money is doubled its value is halved. Conversely, when the supply of money is halved from $0M_1$ to $0M_3$, the value of money is doubled from $l/0P_1$ to $1/0P_3$. All this necessarily assumes that the demand for real cash balances (*M/P*) remains constant while changes in the nominal money supply take place. In other words, money acts only as a medium of exchange in the economy and it does not influence the given total real output.

Expressed differently, the money elasticity of the aggregate real output is zero. The *LL* curve in Figure 1.4 can also be interpreted as a demand function for the nominal cash balances whose elasticity throughout its length is unitary or one. Such a function assumes the form of a rectangular hyperbola showing that while the demand for the nominal cash varies in the inverse proportion to changes in the value of money, the total demand for the real cash balances (*M/P*) remains constant. Since, the demand for the real cash balances in the economy arises from the need to exchange the aggregate real output, it follows that the aggregate real output is assumed as constant in the rigid quantity theory of money model which the quantity theorists explained in the form of the quantity equations.

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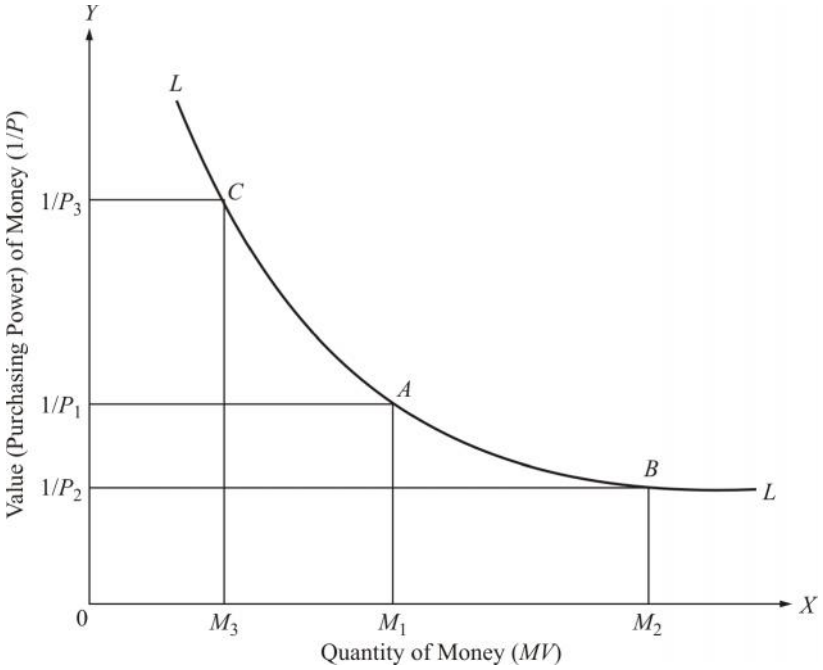

Fig. 1.4 *Value and Quantity of Money*

The direct mechanism of the classical monetary theory which was expounded by Richard Cantillon and David Hume, related the quantity of money to the general price level by stating that an increase in the quantity of money raises prices directly through its prior effect on the aggregate demand. Since, in the economy money is demanded only as the means of payment and not *per se*, the increase in people's money incomes causes an increase in the aggregate money expenditure flow because people's existing cash holdings are in excess of their desired cash holdings. To bring the increased actual cash balances into equilibrium with their desired cash balances, people must get rid of their unwanted (excess) cash balances by spending. In the process of spending, these cash balances increases the aggregate money spending flow in the economy. The effect of this, in the absence of any corresponding increase in the aggregate real output, will be seen in the rise in the prices of goods and services.

The 18th century doctrine which stated that the quantity of money was determined by the 'needs of trade' was based on the assumption that there was a stable demand for transactions cash balances. Both David Hume and Richard Cantillon had studied the manner in which a cash injection in the circular flow of money in the economy was disbursed and the various lags which were involved in the process. In fact, they showed that an increase in the quantity of money would raise the general price level equi-proportionately only if the additional money supply was neutrally distributed—if everyone's initial money balances were equi-proportionately increased. As David Hume described it: imagine everyone's money holdings doubled overnight; prices would start rising and in this special case, would continue rising until they had doubled.

Quantity Theory Equations

The quantity theory of money, which is fundamentally a theory of the demand for money, has been stated in various forms of equations of exchange. The two most well-known forms of the quantity theory equations are the cash-transactions equation of exchange of the form $MV = PT$ and the cash-balances equation of exchange variously written as $M = KPT$; $M = KPO$ or $M = KY$. The cash-transactions version is associated with the

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name of the American economist Irving Fisher who developed it in his well-known work entitled *The Purchasing Power of Money* published in 1911. The cash-balances approach, also known as the Cambridge approach, is associated with the names of the Cambridge economists Alfred Marshall, Arthur Cecil Pigou, Dennis Holme Robertson and John Maynard Keynes who taught at Cambridge University. These two versions of the quantity theory equations may now be discussed in detail.

Cash-Transactions or Fisher's Equation

The cash-transactions approach to the quantity theory of money, usually ascribed to Simon Newcomb and Irving Fisher, was stated by the early economists, including David Ricardo, John Stuart Mill and others. In his theory of the demand for money, Irving Fisher primarily emphasized the role of money as the medium of exchange—money is demanded in the economy because it serves as the means of effecting payments. In the cash transactions equation version no attention has been given to the asset demand for money. Fisher's explanation of changes in the general price level relate changes in the general price level P to changes in the total quantity of money in circulation M, its velocity of circulation V and the volume of transactions T which depended on the volume of trade so that his fundamental equation of exchange is:

$$MV = PT$$

According to Fisher, the nominal quantity of money in circulation (M) is an autonomous variable determined by the central bank. The total number or volume of transactions being a function of the level of income which is assumed to be the full employment income, the value of T is fixed in the short period. The velocity of money V is also constant being determined by the institutional and technological factors of the transactions process that do not change in the short period. Under these assumptions, the above equation of exchange can be transformed into a theory of the determination of the general price level (value of money) where,

$$P = \frac{MV}{T}$$

which states that the general price level is determined exclusively by the nominal quantity of money and is equi-proportional to it. Later, Fisher introduced the bank deposits M' and their velocity V' in his equation so that finally his equation of exchange became

$$MV + M'V' = PT$$

and this yielded the quantity theory equation

$$P = \frac{MV + M'V'}{T}$$

According to Fisher, in virtually all cases of substantial price changes, M was the active variable in the equation of exchange while P was 'normally the one absolutely passive element in the equation of exchange'. Furthermore, V and V' reflecting the community's spending habits, were short-run constants. According to Fisher, M' cannot change autonomously since there was a stable relationship between the primary money, bank reserves and the volume of bank demand deposits. Under these assumptions, changes in the quantity of money were the exclusive cause of changes in the general price level in the economy.

Criticism: The cash-transactions equation of exchange has been subjected to various criticisms, mostly emanating from the assumptions embodying the equation. It

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has been said against the equation that it says nothing about the cyclical fluctuations in prices. In depression, prices fall while the monetary authority increases the quantity of money in circulation. This paradox is explained by the steep fall in the velocity of circulation of money *V* which more than offsets the increase in the money supply *M*. It has also been argued that contrary to the assumption made in the equation, the price level *P* might rise without the quantity of money *M* having increased and at any rate *P* might rise more than proportionately to the increase in *M* as was actually witnessed during the German hyperinflation when the general price level rose incredibly high due to the rapid increase in the velocity of the fast depreciating German mark. Crowther has correctly stated that 'the quantity theory might be relegated to the position of explaining the longer secular movements in the average price level, while some other explanation was sought for the shorter and more violent swings of the trade cycle.'

It has also been said in criticism of the quantity theory that it concentrates too much attention on the general price level as if changes in prices were the most critical and important phenomenon of the economy. It is true that changes in prices induce changes in the tempo of economic activities leading to changes in the volume of production. Rising prices lead to increased economic activity resulting in the creation of wealth and *vice versa*. The quantity theory of money is, however, defective because taking these undeniable truths it proceeds to assume that all changes in the level of general economic activity are the result of changes in the general price level. In Marget's opinion, 'the quantity equations themselves are nothing more or less than short-hand expression designed to indicate the nature of the variables whose operations can be shown to influence prices. Each of the variables in these equations is merely a chapter heading, a rubric for detailed analysis designed to explain why the variable in question will be of a different magnitude under different circumstances, and to indicate the circumstances under which, and the sequence in which, changes in the magnitude of one variable may be expected to be associated with changes in other variables.'

George N Halm has criticized the equation of exchange by pointing out certain inconsistencies. Criticizing the quantity equation he says that 'the importance of the equation of exchange must by no means be overrated. Otherwise we are bound to get into difficulties. We have to note that *M* refers to a point of time, whereas *V* refers to the turnover of money during a period of time: consequently, the expression *MV* would involve the inconsistency of multiplying non-comparable factors unless the assumption is made that *M* is an average amount of money in circulation during the period in question or is the same amount during the whole period. However, these assumptions are not comparable with all possible purposes of the equation'.

According to the equation of exchange, the general price level can be controlled by the monetary authority by controlling the money supply. According to the quantity theorists, monetary policy alone is sufficient to ensure price stability in the economy. The general price level is not, however, a function of money supply alone being influenced by many other monetary and non-monetary factors which might cancel out the influence of changes in the money supply on the level of prices. Criticizing the equation of exchange Friedrich A Von Hayck has in his book *Prices and Production* stated that it concentrates too much attention on the general magnitudes. The equation of exchange establishes an unreal causal nexus between the total quantity of money, volume of trade and general price level without realizing that monetary factors can influence the economy's general price level through first affecting the innumerable single price-making decisions. There is no mention in the equation of exchange of the changes in the relative prices caused by the changes in the quantity of money.

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Geoffrey Crowther has criticized the quantity theory (both the cash-transactions and the cash-balances equation) on different grounds. According to him, the 'Quantity theory can only explain the 'How it works' of fluctuations in the value of money and in the activity of industry. However, it cannot explain the 'Why it works', except in the long-period and in those exceptional short-period fluctuations that are manifest due to large-scale creations or contractions of money. It cannot even explain why it is that a creation of money will sometimes 'take' and start off a rise in prices, while at another time an equal creation may have no effect at all.' Again he states: 'The quantity theory is at best an imperfect guide to the causes of the trade cycle. Shortage of money may cause the recovery to turn into depression. However, it is not the sole cause, and depressions may begin when there is no shortage of money.....the quantity of money in existence seems to be the dominant influence on the price level on the average of long periods. But in the short period of the trade cycle, it may or may not control the movements of prices. And whether it does or does not depends on whether changes in the quantity of money are offset by changes in the velocity of its circulation.' Crowther concludes that according to modern thinking, the quantity of money is not a determinant of the value of money. The value of money is a consequence of the total income rather than of the total quantity of money.

Criticizing the quantity theory of money, Keynes has stated that 'for the purposes of the real world it is a great fault in the quantity theory that it does not distinguish between changes in prices which are a function of changes in output, and those which are a function of changes in the wage-unit. The explanation of this omission is, perhaps, to be found in the assumptions that there is no propensity to hoard and that there is always full employment. For in this case, O being always constant and M_2 being zero, it follows, if we can take V also as constant, that both the wage-unit and the price-level will be directly proportional to the quantity of money.'

Explaining the shortcoming of the quantity equations, particularly the cash-transactions approach to the quantity theory of money, Don Patinkin has very correctly stated that 'the familiar equation $MV = PT$ can be looked upon as determining the equilibrium price level P as the resultant of forces represented by the aggregate demand for goods MV, on the one hand, and their aggregate supply T on the other. This equation, however, does little to exploit the full potentialities of the theme. It restricts monetary theory to the case of an aggregate demand function for goods which, to outward appearances, is independent of the rate of interest and directly proportionate to the quantity of money. This is as misleading as it is unrealistic, for it gives the false impression that the results obtained by analysing this equation are necessarily dependent upon these extreme assumptions.'

Criticizing the quantity equation in his review of Irving Fisher's book *The Purchasing Power of Money* Findlay Shirras wrote: 'The quantity of money is a secondary factor compared with the volume of expenditure. The notion that the quantity of money is a causative factor in the state of business has given way to regarding it is a consequence. Changes in the level of prices are not the most important phenomenon of the economic system, and we hold today that it is the lack of spending, a lack of income rather than lack of money that produces a depression. The quantity of money, in short, is not a dominant cause of the fluctuations of prices and is a very imperfect guide to the causes of the trade cycle.' The quantity theory of money does not explain the process by which an increase in the quantity of money causes an increase in the aggregate money spending which, with the given aggregate real output, raises the general level of prices in the economy.

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The quantity theory of money emphasizes only the medium of exchange function of money. In its role as the medium of exchange, money is needed only for transactions purposes. In the classical economic theory, of which the quantity theory of money was a crucial part, the asset demand for money was not at all recognized. The quantity theory of money reflects the classical view that since money has no inherent utility, the only rational motive of holding cash balances on the part of people is to facilitate the transactions. It was argued that since money was barren, no one outside a lunatic asylum would hold his assets in the barren form of money as compared to adding interest-bearing riskless government bonds or company shares on which an individual wealth-holder would earn dividend income. The classicists assumed that the interest elasticity of the demand for money was zero. This was a serious gap in their analysis. One of the major contributions of the Keynesian economics is the demonstration that there are circumstances, depending on the current rate of interest, where it is rational for the wealth-holders to hold cash balances as part of their asset portfolio as well as for transactions purposes. If the quantity theorists had recognized the asset demand for money they would have integrated it with the transactions demand for money in order to obtain the total demand function for money. Consequently, they would have developed an altogether different theory of the determination of the value of money.

The theory is open to further criticism for it divorces the theory of the value of money from the general theory of value causing the classical dichotomy between the real and monetary sectors of the economy. The fact is that like any other commodity, the value of money is also determined by the demand for and the supply of money. The general theory of value with its supply and demand tools can explain the determination of the value of money. There is, therefore, no case for a separate theory to explain the determination of the value of money.

Evaluating the traditional cash-transactions equation in 1930 in his well-known work, *A Treatise on Money*, John Maynard Keynes wrote the following:

'The great advantage of this formula is the fact that one side of it, namely *MV*, fits in better than most with the actually available banking statistics. For quantitative inquiries it is possible, therefore, to make more progress with this formula than with any other. *MV* corresponds, more or less, to the volume of bank clearing and *M* to the volume of deposits, for both of which figures are available, so that the value of *V* can be deduced.

Its weakness, on the other hand, is to be found on the other side of it, namely *PT*. For neither *P* nor *T* corresponds to quantities in which we are likely to be interested for their own sake. *P* is not the Purchasing Power of Money and *T* is not the Volume of Output. Professor Fisher has not, indeed, been oblivious to those defects, but he has not, I think, rated them as high as he should. Nor do the approximations which he has employed for their evaluation command confidence....'

Cash-balances or Cambridge Equation

Associated with the names of the Cambridge economists Alfred Marshall, Arthur Cecil Pigou, Dennis Holme Robertson and John Maynard Keynes, the cash-balances quantity equation has 'a much longer descent, being derived from William Petty, John Locke, Richard Cantillon, and Adam Smith.' The main propelling force behind developing the cash-balances equation approach was to integrate the theory of money with the theory of value. This is evident from Alfred Marshall's attempt to show that the usual technique of the demand and supply curves could be utilized to determine the value of money. Keynes, who was Marshall's distinguished student, tells us that Marshall used to teach

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'the quantity theory of money as a part of the general theory of value.' Following Marshall, Pigou also analysed the value of money in terms of the demand for and the supply of money. Robertson also regarded the theory of the value of money merely as a special case of the general theory of value.

The cash-balances approach, representing the neoclassical quantity theory of money, has been ably summarized by Don Patinkin in the following words.

'In its cash-balances version-associated primarily with the names of Walras, Marshall, Wicksell, and Pigou—neoclassical theory assumed that for their convenience, individuals wish to hold a certain proportion, *K*, of the real volume of their planned transactions, *T*, in the form of real money balances. The demand for these balances thus equals *KT*.

Correspondingly, the demand for nominal money balances is *KPT*, where *P* is the price level of the commodities transacted. The equating of this demand to the supply of money, *M*, then produced the famous Cambridge equation $M = KPT$.....'

Alfred Marshall, who headed the Cambridge school of economists, has beautifully summarized the cash-balances version of the quantity theory of money in the following words.

'In every state of society there is some fraction of their income which people find it worthwhile to keep in the form of currency: it may be a fifth, or a tenth or a twentieth. A large command of resources in the form of currency renders their business easy and smooth, and puts them at an advantage in bargaining, but on the other hand it locks up in a barren form resources that might yield an income or gratification if invested, say in extra furniture; or a money income; if invested, in extra machinery or cattle.' A man fixes the appropriate fraction 'after balancing one against another, the advantage of a further ready command and the disadvantages of putting more of his resources into a form in which they yield him no direct income or other benefit.'..... 'Let us suppose that the inhabitants of a country, taken one with another (and including, therefore, all varieties of character and of occupation), find it just worth their while to keep by them on the average ready purchasing power to the extent of a tenth part of their annual income, together with a fifteenth part of their property; then the aggregate volume of the currency of the country will tend to be equal to the sum of these amounts.'

According to Alfred Marshall, people in a country hold in the form of currency or 'ready purchasing power' a certain fraction of their annual money income and a certain fraction of their property or wealth. The total amount of money demanded by the people is, therefore, functionally related to their annual money income and to the amount of their property, i.e.,

$$M = f(Y, A)$$

where *Y* represents the community's annual aggregate money income and *A* is the money value of its total wealth or assets. Treating the demand for money as a stable function of the money income and property, Alfred Marshall has expressed it in terms of the following equation:

$$M = KY + K'A$$

where *K* is the fraction of their total money income and *K′* is the fraction of their total assets expressed in terms of the money value which people find it worthwhile to keep in the form of currency. Both *K* and *K′* are short-run constants determined by the institutional factors such as the payments and transactions patterns and procedures,

(*e.g., K* would be larger if the wage and salary payments are less frequently received; it would be smaller if most expenditures are made immediately following the income receipts rather than being spread out over time; again it would be smaller the greater is the extent of the vertical integration between the business units.)

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The asset or wealth component of the equation was ignored by Marshall's followers. Consequently, the demand for money was functionally related only to the money income reducing the above equation to the following simple equation:

$$M = KPO, \quad \text{where} \quad O = \text{Output}$$

$$\text{or} \quad P = \frac{M}{KO}$$

Stating the quantity theory of money, Pigou has stated that, 'an increase in the supply of legal tender ought always, since the elasticity of demand for legal tender is equal to unity, to raise prices in the proportion in which the supply is increased.' The unit elasticity of demand for money simply means that if the purchasing power of money (1/*P*) is doubled, its demand is halved and *vice versa*. In other words, any given proportionate change in money's purchasing power causes an equi-proportionate change in the opposite direction in the total amount of money demanded. In other words, the product of the purchasing power of money (1/*P*) and the amount of money demanded (*M*) is always constant, i.e., the demand for real cash balances $M/P = KO$ = constant. This is the equation of a rectangular hyperbola demand curve for money. Pigou has stated the cash-balances equation in the following form:

$$M = \frac{KR}{P}$$

$$\text{or} \quad P = \frac{KR}{M}$$

where *R* is the total real income in terms of wheat, *K* is the fraction of *R* which the community chooses to hold in the form of legal tender; *M* is the amount of legal tender (money) and *P* is the value of money in terms of wheat. It is, therefore, obvious that *P* in Pigou's equation is the inverse of *P* in Marshall's and Robertson's equations. There is, however, no basic difference between Pigou's and the other Cambridge economists' equations. According to Pigou's equation $\frac{1}{P}$ is the general price level which equals $\frac{M}{KR}$. This is the same thing as $\frac{M}{KO}$ in Marshall's equation or $\frac{M}{KT}$ in Robertson's equation.

The above equation was modified to make it applicable to those situations in which *K* is held partly in the form of currency and partly in the form of bank deposits. In its modified form, the equation was:

$$M = \frac{KR}{P}\,[c + h\,(1 - c)]$$

$$\text{or} \quad P = \frac{KR}{M}\,[c + h\,(1 - c)]$$

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where c is the proportion of K which the community holds in the form of actual legal tender so that $1 - c$ is the proportion of K kept in the form of bank deposits and h is the proportion or ratio of their total deposits which the banks hold in the form of cash reserves.

Dennis Holme Robertson, another leading member of the Cambridge school of economists, gave the following equation:

$$M = KPT$$

or $$P = \frac{M}{KT}$$

where M, P, T and K denote the total quantity of money, the general price level, the amount of goods and services purchased during one year and the fraction of T which people hold in the form of cash balances.

Stating the quantity theory of money John Maynard Keynes wrote:

> The quantity theory of money states that the amount of cash which the community requires, assuming certain habits of business and of banking to be established, and assuming also a given level and distribution of wealth, depends on the level of prices. If the consumption and production of actual goods are unaltered but prices and wages are doubled, then twice as much cash as before is required to do the business. The truth of this, properly explained and qualified, it is foolish to deny. The theory infers from this that the aggregate real value of all the paper money in circulation remains more or less the same irrespective of the number of units of it in circulation, provided the habits and propensity of the people are not changed.

Thus according to Keynes, the correspondence of the quantity theory of money with the facts of life was not assailable. He explained the quantity theory of money in the form of the following two equations:

$$n = pK; \text{ and}$$

$$n = p\,(K + rK')$$

where n is the total quantity of money in circulation, p is the price of consumption units, K is the amount of consumption units which the public holds in the form of money, K' is the amount of consumption units which the public holds in the form of bank deposits and r is the ratio of cash reserves of banks to their deposit liabilities K'. With K, K' and r remaining constant, the quantity theory conclusion that n and p rise and fall together equi-proportionately follows. This equation has some resemblance with the quantity theory equations of Marshall, Pigou and Robertson.

Criticism: Although, an improvement over the cash-transactions equation of Fisher, the cash-balances equation is not unassailable. As the monetary theory, the cash-balances equation is inadequate in explaining the dynamic price behaviour in the economy. The equation is merely an exercise in comparative statics and is much too simple to deal with the dynamic economic system. Consequently, it cannot explain the cyclical changes in prices.

Second, the cash-balances equation is defective since it does not analyse the total demand for cash balances, it neglects the asset or speculative demand for cash-balances which frequently causes sudden and violent changes in the community's liquidity preference schedule. By neglecting the important role of the speculative motive in determining the total demand for money, the cash-balances equation does not explain

the behaviour of all the forces influencing the total demand for money and consequently the value of money.

According to this approach, money serves only as a medium of exchange in the economy. In the equation, the precautionary motive for holding money has been treated only slightly and incidentally while the asset motive for holding money involving the speculative decisions has not been mentioned at all. Notwithstanding that Marshall conceived of an asset demand for money, i.e., the demand for money to satisfy the speculative acquisition for cash assets he made virtually nothing of it and it was practically forgotten by his followers.

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By not paying sufficient attention to the asset or speculative demand for money, the cash-balances equation did not recognize the role of interest rate in determining the demand for cash balances. Consequently, the equation remains separate from the whole corpus of the monetary theory dealing with the rate of interest. 'The omission of the rate of interest from the cash-balance equation creates the misleading impression that the classical invariance of this rate holds only in the special case where it does not affect the demand for money... no such restriction is necessary. This is not to deny that in other contexts neoclassical economists did recognize the influence of the rate of interest on the demand for money and did make other significant extensions of classical interest theory. But it is to stress that these contributions found no place in those fundamental equations which, more than anything else, are the hallmark of the neoclassical monetary theory.' The neglect in treating the demand for money as a function of the rate of interest explains the failure of the quantity theorists to integrate the monetary theory with the theory of income and output, a task which was successfully achieved by Keynes.

Third, like the cash-transactions equation the cash-balances equation assumes K and T or Y as given. In the equation, K is determined by the institutional factors which are assumed constant in the short period while the aggregate output Y is also assumed as given.

Fourth, in the equation the cash balances of all groups of people have been lumped together. In fact, different people's cash balances are subject to different behaviour patterns showing the influence of substantially different sets of underlying determinants. Furthermore, even the changes in the proportions in which the cash balances are held between the different groups of cash balances holders may be of great significance, apart from changes in the total cash balances held by the entire community.

Cash-transactions and Cash-balances Equations Compared

According to some economists, the two quantity equations are fundamentally the same. While, the cash-transactions equation of the quantity theory of money emphasizes the value of money over a period of time by incorporating the velocity of money, the cash-balances equation explains the value of money at a point of time by including the concept of the demand for cash balances K. Mathematically, the two equations can be reconciled by substituting $1/K$ for V in the cash-transactions equation and $1/V$ for K in the cash-balances equation. Marshall thought that the essential reason why people demand cash or, in modem lingo, have preference for liquidity, is to bridge the time gap between the discrete receipt of money income and its continuous or, at any rate, less discrete spending. If the transactions demand for money is such that the total money stock turns over, say, at the rate of six times a year, then an equivalent of one-sixth of the annual money value of output will be kept in cash balances at any given point of time. Thus, the demand for the cash balances represented by K is the reciprocal of V, the velocity of money in

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circulation, i.e., $V = 1/K$. By substituting $1/K$ for V in the cash-transactions equation $MV = PT$, we get $M = KPT$ which is simply the cash-balances equation. Similarly, by substituting $1/V$ for K in the cash-balances equation $M = KPT$, we get $MV = PT$ which is simply the cash-transactions equation.

According to Robertson, the two equations are different observations of the same phenomenon. The cash-balances equation emphasizes the 'money sitting' while the cash-transactions equation looks at the 'money on the wings'. The cash-transactions equation is concerned with money as a flow while the cash-balances equation is concerned with money as a stock. While the cash-transactions equation stresses the transactions velocity of money V, the cash-balances approach emphasizes the demand for cash balances K. Both the equations, however, regard money as serving only as the medium of exchange in the economy. The cash-balances approach stresses the role of money as a temporary abode of generalized purchasing power.

According to Alvin H Hansen, the Marshallian cash-balances quantity equation is superior to Fisher's cash-transactions equation. Stressing this point Hansen has stated: 'The Marshallian version of the quantity theory, i.e., $M = KY$ represents a fundamentally new approach to the problem of money and prices. It is not true, as is often alleged, that the 'cash-balances' equation is merely the quantity theory in a new algebraic dress. Substituting PO (price level times output) for Y, the Marshallian equation becomes $M = KPO$. Arithmetically K is, therefore, simply the reciprocal of V in the equation $MV = PO$. However, it does not follow from the mere fact that $V = 1/K$ as an arithmetical identity that, therefore, the Marshallian analysis is in fact the same thing as the Hume-Fisher analysis. To assert this is to miss entirely the significance of K in the Marshallian equation.'

The crucial difference between the two quantity equation approaches and the superiority of the cash-balances approach as compared with the cash-transactions approach can be stated in these words: 'In terms of the Marshallian approach, sudden and rapid shifts in the desire of public to hold money may profoundly affect prices even though the monetary authority successfully maintains a high stability in the money supply. The desire of public to hold cash balances–liquidity preference–enters as a powerful factor. Drastic and sudden shifts in the desire to hold money, reflected in a change in K, may produce large and quickly moving changes in the level of income and prices. Shifts in public psychology, in expectations, must be taken into account no less than changes in the money supply. In the Marshallian analysis a shift in K may start an upward or downward movement. It is K, not M, that holds the stage.'

Although, formally the cash-balances equation $M = KPO$ is simply a transformation of the cash-transactions equation $MV = PT$ and most writers who have used one of the two approaches have regarded them so, yet the two approaches are very different. The cash-balances equation is not simply a transformation of the cash-transactions equation. The two approaches stress different aspects of money, make different definitions of money seem natural and emphasize the different variables and analytical techniques.

The cash-transactions approach defines money in terms of anything which serves as the medium of exchange in discharging obligations. On the other hand, the cash-balances approach lays stress on money's function as the temporary abode of purchasing power. Consequently, according to the cash-balances approach, it is quite appropriate to include in money such stores of value as the demand and time deposits in the banks which are not transferable by cheques although it clearly does not require their inclusion.

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In short, while the cash-transactions approach confines itself to the narrow definition of money, the cash-balances approach looks at money in a broader perspective.

Moreover, the cash-transactions equation stresses such variables as the payment practices, financial and economic arrangements for effecting the transactions, and the speed of communication and means of transportation as it affects the time required to make the payment, i.e., it essentially emphasizes the mechanical aspects of the payments process. On the other hand, the cash-balances approach emphasizes those variables which affect the usefulness of money as an asset—the cost of and the income received from holding money instead of holding the other alternative assets, uncertainty in future and other such variables.

Analytically, the cash-balances approach fits in more readily with the general Marshallian demand-supply apparatus than does the cash-transactions approach. The equation $M = KPO$ can be regarded as a demand function for money, with P and O on the right-hand side being two of the variables on which the demand for money depends and with K representing all the other variables so that K is to be regarded not as a numerical constant but itself a function of still other variables. To complete the analysis, we require another equation showing the supply of money as a function of other variables. The general price level then becomes the consequence of the interaction of the demand and supply functions. Thus treated, the quantity theory of money as embodied in the cash-balances equations $M = KPO$ or $M = KPy$ is a theory of the demand for money, not a theory of the general price level or of the money income.

Marshall's introduction of the cash balances into the equation of exchange has the obvious advantage of facilitating the examination of those changes in the price level which are brought about by shifts in the liquidity preference of the public as well as those changes which are initiated by changes in the quantity of money. The importance given to K in the cash-balances equation approach emphasizes the human motives for holding the cash balances which cannot be analysed in money terms in sharp contrast to the highly mechanical nature of the concept of velocity V in the cash-transactions approach. This important fact–the analysis of human motives for holding the cash balances–led the Cambridge economists to study those factors which constituted the foundation for the development of the monetary theory during the past six decades. Marshall's introduction of the concept of the demand for cash balances was a step forward towards the Keynesian concept of the liquidity preference in which the primary emphasis was given to the speculative motive for holding the cash balances. Keynes made the demand for money a function of the interest rate (bond prices) and by showing the relationship between the rate of interest and investment demand, he integrated the monetary theory with the general theory of income and output.

The cash-balances equation $M = KPT$ or $M = KPO$ is a more useful tool than the cash-transactions equation $MV = PT$ for explaining the value of money because it is easier to know the cash-balances relative to the money income which are held by the individuals than to know how much they spend on all the transactions. The cash-balances approach is superior to the cash-transactions approach because by focussing attention on the cash balances which people like to hold—by comparing at the margin the relative advantage of holding money as against spending or investing—the approach focusses attention on the discussion of the 'velocity' of money. This shift in the viewpoint led the economists subsequently to remove many confusions which were still latent in the analysis and to the identification of qualitatively distinct motive for holding the cash balances as well as to synthesize the 'monetary' and 'price' theories.

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Although, mathematically identical with the cash-transactions equation, the development of the cash-balances equation was a break with the earlier approach. In the cash-balances equation, the emphasis shifted from the institutional and technological factors to the psychological factors as the main determinants of the demand for money. The demand to hold money became formally identical to the demand to hold any asset in which the principal determinants are, in addition to preferences, the individual's total wealth, the yield of the asset and the yields of the relevant alternatives.

In the cash-balances equation, the transactions demand for money has been relegated to secondary importance. The relationship between the amount of money held and the volume of transactions conducted during any given time period is a very loose one as these can be carried with the help of other devices such as by increasing the velocity of money in circulation or through the resort to barter as certainly happens during hyperinflations.

According to Alfred Marshall, the chief merit of the cash-balances equation of the quantity theory of money is that it removes the serious complications which arise when we establish a relationship between the velocity of money in circulation and the value of money as has been done in the cash-transactions equation. The cash-balances equation explains that the value of money is a function of its supply and its demand as measured by 'the average stock of command over commodities which persons care to keep in a ready form.' The emphasis placed on *K* in the cash-balances equation is more significant for understanding the phenomenon of cyclical fluctuations than is *V* in the cash-transactions equation. The cash-balances equation focusses attention on how changes in the value of real cash balances cause cyclical changes in the level of prices. A distrust of the people in the money unit in the country by diminishing their willingness to hold it increases prices and vice versa.

In the cash-balances approach, the demand to hold money is formally identical to holding any asset in which the main determinants, apart from wealth-holders' preferences, are their total wealth and the yields made available on the alternative forms of assets. The cash-balances equation is the forerunner of the modern liquidity preference theory which is significant in the explanation of the determination of equilibrium income and employment and also in explaining the limitations of the monetary policy in controlling the slumps and booms in the economy. Moreover, the cash-balances approach with its emphasis on the demand for money is more realistic than the cash-transactions approach because the fundamental truth about money is that someone must always hold it in the economy.

The cash-balances equation can also be recast to explain people's behaviour. Let us give any positive value of less than one to *K*, say $K = 0.5$. This shows that the community prefers to hold one-half of its total annual money income in the form of cash balances. With the value of *K* given as 0.5, we can derive the following liquidity preference schedule for the community showing the different amounts of total cash balances which the community will hold at the different levels of aggregate money income.

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(Rupees crores)

Money Income (Y)	***Demand for Cash Balances (KY) K = 0.5***
400	200
300	150
200	100
100	50
50	25

The demand schedule for money, showing relationship between the money income and the demand for money has been shown by the *KY* curve in Figure 1.5. If the total money supply which is autonomously determined by the central banking authority, is shown by the vertically drawn $\bar{M}_s$ $\bar{M}_s$ curve, the equilibrium money income will be $0Y_2$ since at this money income the total demand for cash balances ($K0Y_2$) equals the given total money supply ($\bar{M}_s$). At any money income lower than $0Y_2$, say at $0Y_1$, the demand for cash balances will be less than the total money supply, i.e., $K0Y_1 < \bar{M}_s$. Consequently, people will find themselves in the possession of superfluous or unwanted cash.

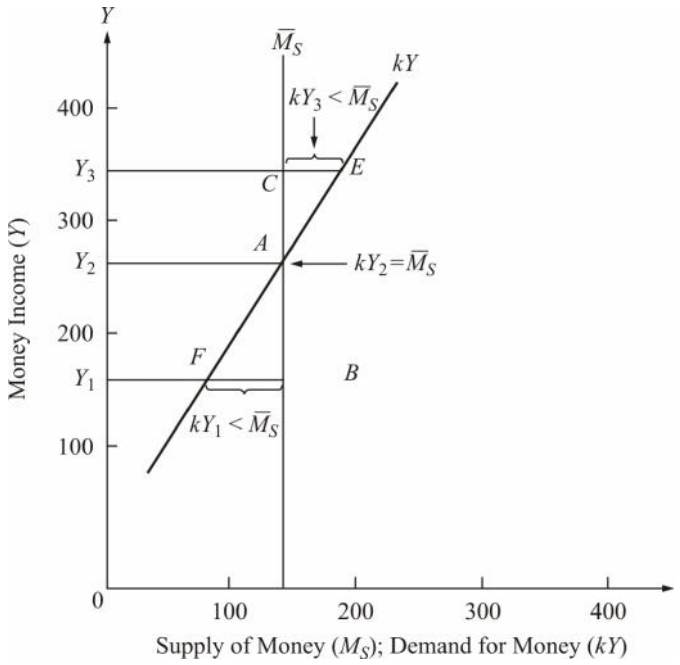

Fig. 1.5 *Relationship between Money Income and Demand for Money*

Since money is not demanded per se, to get rid of this unwanted cash they will increase their spending, thereby raising the level of aggregate money income in the process of spending. Since the aggregate money income equals the aggregate real income or output times the price level and since the real output is fixed, prices will rise in the same proportion in which the aggregate money spending increases. Thus money income will rise until it once again becomes $0Y_2$ where the total demand for money equals the given total supply of money, i.e., $K0Y_2 = \bar{M}_s$. On the contrary, at any money income higher than $0Y_2$ say at $0Y_3$, the total demand for cash balances will exceed the total

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money supply, i.e., $K0Y_3 > \bar{M}_s$. Consequently, people will try to equate their actual cash balances with their desired cash balances by reducing their total spending as a result of which the aggregate money income will fall. Since the total real output is fixed, the fall in the aggregate money income will represent only the fall in prices. The aggregate money income will continue to fall until at the lower money income $0Y_2$ equilibrium between the demand for money and the fixed supply of money $\bar{M}_s$ is restored, i.e., $K0Y_2 = \bar{M}_s$.

Check Your Progress

5. When was *The Purchasing Power of Money* published?
6. Write any one drawback of the cash-balances equation.

1.5 MONEY SUPPLY AND ITS COMPONENTS: CURRENCY AND BANK DEPOSITS

In the literature on monetary theory, while the analysis of the demand for money—motives for holding cash balances—has been the main focus of economists' attention, study of the supply of money has received relatively scant attention. For one thing, the factors influencing the demand for money have been assumed as not influencing the supply of money with the result that in the monetary theory, the supply of money and the demand for money have remained separate and mutually exclusive. The classical economists and the quantity theorists believed that the important factors affecting the supply of money did not affect the demand for money. In this connection, the views of Milton Friedman—one of the leading monetarists—are worth repeating. According to Milton Friedman, the quantity theorist.... holds that there are important factors affecting the supply of money that do not affect the demand for money... A stable demand function is useful precisely in order to trace out the effect of changes in supply, which means that it is useful only if supply is affected by at least some factors other than those regarded as affecting demand.' Although, Milton Friedman recognizes that the conditions affecting the demand for money do influence the supply of money, all the same he states that 'it seems useful to regard the nominal quantity of money as determined primarily by conditions of supply, and the real quantity of money and the income velocity of money as determined primarily by conditions of demand.'

Secondly, the supply of money has been considered as an exogenous variable, being autonomously determined by the monetary authority whose policy actions were largely non-responsive to the monetary needs of the economy. In other words, the supply of money did not change in response to changes in the demand for it, i.e., in response to changes in the economy's monetary requirements as the economy expanded or shrank. Don Patinkin has succinctly expressed it in the words mentioned in the following page.

'....in most discussions of monetary theory the nominal quantity of money supplied is taken as an exogenous variable. Although, we continuously shy away from this fact in our theoretical work, we do nevertheless know that in the real world this is not the case for money is largely the creature of a banking system which responds to such endogenous variables as the rate of interest, the wages of clerks, etc. How then can we take account of these responses? And in particular, is there a limit to the extent to which endogenous influences can be assumed to operate? Conversely, must a determinate monetary system

necessarily retain some exogenous element.'In the mentioned lines, Don Patinkin has pointed out to the tradition of treating the money supply as an exogenous variable. He, however, holds that the endogenous variables exert their influence on the supply of money no less than do the exogenous variables. In fact, Don Patinkin has praised Gurley and Shaw for their penetrating study in which the authors have focussed on the influence of the endogenous variables on the supply of money which has traditionally been treated as an exogenous variable. As a matter of fact, interest rate is a strategic endogenous variable which influences both the demand for and the supply of money in the economy.

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Under a full-fledged gold-coin standard, with either gold coins actually in circulation or with banks keeping 100 per cent reserves against the full-bodied representative money circulating in the economy, the banks are virtually powerless to create the credit money. Consequently, the total money supply (*M)* would comprise the gold coins minted by the monetary authority. However, even under these restrictive conditions the public could influence the money supply to suit the total needs of the economy by influencing—by increasing or decreasing the rate (*V*) per time unit each coin circulated in the economy as the medium of transactions. This naturally gives the total money supply as a product of the total high-powered money *M* issued by the monetary authority and its transactions velocity *V*, i.e., *MV.* However, in a monetary system operating under a fractional reserves system the banking system acquires the power to influence significantly the total money supply in the economy by creating deposit money since every rupee of legal reserve is a high-powered money in the sense that each rupee of reserves can support several rupees of the derived bank deposits. Apart from the power of banks to create credit, the public also influences the size of total bank deposits by influencing the velocity of these bank-created deposits. Consequently, the total money supply becomes the sum of the high-powered money issued by the monetary authority multiplied by its velocity, i.e., *MV* and the bank-created deposit money M' multiplied by its velocity V', i.e., $M'V'$. In short, the total money supply in circulation in the economy equals $MV + M'V'$.

Even if it is assumed that the supply of high-powered money (*M*) is exogenously determined by the monetary authority whose actions are non-responsive to economy's needs (demand for money), the other components of the money supply being endogenously determined (*V* and V' are directly under public's control while the M' is responsive to the interest rate changes and other endogenous variables), the total money supply cannot be treated entirely as an exogenous variable without inviting the legitimate criticism.

There is an overwhelming evidence that lends support to the hypothesis concerning the commercial banks' supply response to interest rate changes albeit the exact nature of this response is not yet fully understood. A rise (fall) in the interest rate, *ceteris paribus*, induces the commercial banks in the economy to increase (decrease) their total credit. Consequently, it is not correct to assume that the total stock of money in the economy is determined exogenously only by the monetary authority without any reference to credit creation by the commercial banking system.

As opposed to the views of the monetarists who argue that the total supply of money is primarily determined exogenously by the monetary authority—central bank—are the views of the Keynesians who hold that the total money supply in the economy is largely determined endogenously in response to the economy's needs. Led by Professor Nicholas Kaldor, the Keynesians have strongly asserted their point and have argued the issue *ad nauseam.* To cite as a case, A B Cramp hammers the point that 'it is strongly arguable that, in practice, whatever, textbook theory says, the quantity of money has been largely determined 'endogenously' by the demands/needs of the economy, rather

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than 'exogenously' imposed on the economy by the Central Bank as the monetarist doctrine presumes.'

The views of the monetarists are sharply opposed to those of the Keynesians. This divergence of the two views is due to the fact that while the monetarists stress the power of the central bank to control the issue of money to an extent that it can ignore the monetary needs of the economy (it should, however, be noted that in the final analysis, the total stock of money depends on the willingness of the central bank to acquire assets), the Keynesians believe in a responsible central bank which responds to the monetory requirements of the economy that are strictly determined by the portfolio analysis. A critical evaluation of the two approaches to the supply of money leads us to the conclusion that neither of these two approaches is entirely correct and the truth lies somewhere in between. In fact, the supply of money in the economy depends on (a) the degree of responsibility of the central bank; and (b) the judgement, effectiveness and scientific authority with which the central bank performs its functions. It also depends on the supply response of the commercial banks to the interest rate changes which might be initiated by the central bank itself as a necessary part of its monetary policy action in order to influence the total money supply in the economy.

Position in India

In India, the Reserve Bank of India (RBI) has adopted the narrow and broad concepts of the money supply. According to the narrow approach, the money supply (M_1) comprises of the, (i) currency with the public (C), and (ii) demand deposits with the banks (D) while the major components of the broad money supply (M_3) comprise the (i) currency with the public, (ii) demand, deposits with the banks, and (iii) time deposits with the banks. Major sources of supply of M_3 comprise the (i) net RBI credit to government; (ii) other banks' credit to government; (iii) other banks' commercial credit; and (iv) net foreign exchange assets of the banking sector.

Besides the familiar concepts of M_1 and M_3 pertaining to the supply of money, the second working group set up by the RBI in 1977 propounded the money supply concepts of M_2 and M_4. The concept of the M_2 comprises M_1 and deposits in post office saving banks while the concept of M_4 comprises the M_3 and total deposits of post office savings organization (excluding national savings certificates). In other words,

M_1 = currency with public (C) + demand deposits with banks (D):

M_2 = M_1 + deposits with post office savings banks;

M_3 = M_1 + time deposits with banks: and

M_4 = M_3 + deposits with post office savings organization.

The Reserve Bank of India publishes the statistics relating to the major components and major sources of supply of the M_1 and M_3 fortnightly.

Currency with the public is the most important component of money supply as it can be used directly, instantly and without any restrictions to make the payment. Its close substitutes—demand deposits in banks, traveller's cheques issued by banks and other known non-banking firms, like the American Express Company are also included in the definition of money.

Included in the broad money supply are the time or fixed deposits in the banks, funds in the savings banks accounts in the banks; bank drafts, commercial papers, short-term treasury deposits credit cards issued by the banks, etc., are also included in the

concept of broad money supply as these can be converted in to money proper at short notice.

Determinants of Money Supply

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The total supply of nominal money in the economy is determined by the joint behaviour of the central bank which controls the total issue of the high-powered money, the commercial banks which by creating the credit determine the total amount of nominal demand deposits and the public which by influencing the size of the nominal currency in hand is in a position to influence the amount of the nominal demand deposits of the commercial banks through effecting their excess cash reserves. We derive here a simple accounting model in order to show how this joint behaviour of the three parties determines the total supply of money in the economy.

Since, the total supply of nominal money consists of the currency held by the public (C) and the demand deposits of the commercial banks (D), the total supply of money held by the public (M) may be denoted as:

$$M = C + D \quad ...(1.1)$$

where, M = the nominal money supply;

C = nominal currency; and

D = nominal demand deposits.

The total supply of nominal high-powered money (H) issued by the central bank consists of the nominal currency held by the public (C) and the nominal cash reserves held by the commercial banks against their deposit liabilities (R), i.e.,

$$H = C + R \quad ...(1.2)$$

where, H = nominal supply of the high-powered money;

C = nominal currency held by the public; and

R = nominal cash reserves kept by the commercial banks.

By dividing both sides of equation (1.2) by M, we get–

$$\frac{H}{M} = \frac{C}{M} + \frac{R}{M} \quad ...(1.3)$$

By simultaneously adding and subtracting the term $\frac{R}{D}$, the last term of equation (1.3) can be rewritten as–

$$\frac{R}{M} = \frac{R}{D} - \frac{R}{D} + \frac{R}{M} \quad ...(1.4)$$

In the same manner, by multiplying the second term on the right-hand side of equation (1.4) by M/M and the third term by D/D, we obtain equation (1.5) without altering the equality as follows:

$$\frac{R}{M} = \frac{R}{D} - \frac{RM}{DM} + \frac{RD}{MD} \quad ...(1.5)$$

$$\frac{R}{M} = \frac{R}{D} - \frac{R(M-D)}{MD} \quad ...(1.6)$$

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Since it follows from equation (1.1) that $(M - D) = C$ equation (1.6) can be rewritten as:

$$\frac{R}{M} = \frac{R}{D} - \frac{CR}{MD} \quad ...(1.7)$$

By substituting equation (1.7) into equation (1.3), we obtain:

$$\frac{H}{M} = \frac{C}{M} + \frac{R}{D} - \frac{CR}{MD} \quad ...(1.8)$$

or $$\frac{M}{H} = \frac{1}{\frac{C}{M} + \frac{R}{D} - \frac{CR}{MD}} \quad ...(1.9)$$

Finally, by multiplying both sides of equation (1.9) by H, we get:

$$M = \frac{H}{\frac{C}{M} + \frac{R}{D} - \frac{CR}{MD}} \quad ...(1.10)$$

Equation (1.9) expresses the nominal money supply held by the public in terms of the behaviour of the central bank, commercial banks and the public itself. The behaviour of the central bank is reflected in the supply of the nominal high-powered money. Given the behaviour of the public and the commercial banks, the total supply of nominal money in the economy will vary directly with the supply of the nominal high-powered money issued by the central bank. The behaviour of the public is determined by the ratio of currency to the money supply C/M, designated as the currency ratio C_r. As long as the total nominal money supply comprises the nominal currency and nominal demand deposits, i.e., $M = C + D$, the currency ratio will be less than 1.0. The behaviour of the commercial banks in the economy is reflected in the ratio of their cash reserves to deposits R/D, known as the reserves ratio and denoted by the symbol R_r. We know that the central bank in the country has the statutory authority of determining the minimum value of this ratio which is called the minimum legal or required reserves ratio $RR_r = (RR/D)$.

In actual practice, however, the commercial banks keep only a part or fraction of their total deposits in the form of cash reserves. Consequently, the value of the reserves ratio R_r is less than 1.0. However, for the commercial banking system as a whole the actual reserves ratio R_r is greater than the required reserves ratio RR_r since the banks keep with them a higher than the statutorily required percentage of their deposits in the form of cash reserves.

By substituting the term C_r for the term C/M and the term R_r for the term R/D in equation (1.10) we derive the following equation (1.11) showing the total nominal money supply.

$$M = \frac{H}{C_r + R_r - C_r R_r} \quad ...(1.11)$$

Since the value of C_r and R_r is less than unity, the value of their product $C_r R_r$ must be less than the value of either of the individual values of C_r and R_r It means that if either C_r or R_r increases and H remains constant, the nominal money supply will decrease. Consequently, the conclusion follows that the nominal money supply varies directly with the quantity of the high-powered money and inversely with the currency and reserves

ratios. Although these three variables do not completely explain changes in the nominal money supply, nevertheless they serve as useful devices for analysing such changes Consequently, these variables—the high-powered money (H), the currency ratio (C_r) and the reserves ratio (R_r)—are designated as the proximate determinants of the nominal money supply in the economy.

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According to the monetarists—Milton Friedman, Anna Jacobson Schwartz, Phillip Cagan, to mention only a few—the above method of studying the variables which cause changes in the nominal money supply is very helpful because the determinants are not rigidly linked by either the accounting or the institutional arrangements. In practice, however, some interdependence undoubtedly exists. However, whatever small interdependence exists between these three variables, it results from certain behaviour on the part of central bank, the commercial banks and the public. It is possible to determine the nature of this interdependence among the three proximate determinants of the nominal money supply by examining the data which measures the actions of the central bank, the commercial banks and the public in the economy.

CHECK YOUR PROGRESS

7. What is the main reason behind the divergence in the views of monetarists and Keynesians?
8. How is the nominal money supply denoted as an equation?

1.6 SUMMARY

- Money ranks first among man's most important inventions and its evolution through time is an epitome of the history of human civilization. Supporting this view, John Maynard Keynes has stated that 'money, like certain other elements in civilization, is a far more ancient institution than we were taught to believe some few years ago.
- The concept of money is very difficult to define. It belongs to the category of things which are not amenable to any single definition.
- It is partly so because money performs not one but four important functions in the economy with each function providing a criterion of moneyness and partly because these criteria are satisfied in different degrees by different assets.
- The conventional approach to the definition of money is the oldest known approach. According to this approach, the most important function of money in society is to act as the medium of exchange. Money is what money uniquely does.
- The Chicago approach to the concept of money is associated with the views of Professor Milton Friedman, his students, including David Meiselman, Phillip Cagan, David Fand, Anna Jacobson Schwartz and other monetary theorists of the University of Chicago.
- Money serves as the great instrument of commerce and industry in the economy by performing the four essential specific functions which have removed the manifold difficulties, more particularly the 'double coincidence of wants', of the pure barter system.

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- As the permanent store of value or asset, money has both certain advantages and disadvantages over its other competing yield-giving assets such as bonds, fixed deposits in banks, shares, debentures, house, land, furniture, etc.
- The intermittent occurrence of wide movements in the general price level has attracted special attention ever since the economists first began to write on economic matters.
- The direct mechanism of the classical monetary theory which was expounded by Richard Cantillon and David Hume, related the quantity of money to the general price level by stating that an increase in the quantity of money raises prices directly through its prior effect on the aggregate demand.
- The cash-transactions approach to the quantity theory of money, usually ascribed to Simon Newcomb and Irving Fisher, was stated by the early economists, including David Ricardo, John Stuart Mill and others.
- The cash-transactions equation of exchange has been subjected to various criticisms, mostly emanating from the assumptions embodying the equation. It has been said against the equation that it says nothing about the cyclical fluctuations in prices.
- Associated with the names of the Cambridge economists Alfred Marshall, Arthur Cecil Pigou, Dennis Holme Robertson and John Maynard Keynes, the cash-balances quantity equation has 'a much longer descent, being derived from William Petty, John Locke, Richard Cantillon, and Adam Smith.'
- The crucial difference between the two quantity equation approaches and the superiority of the cash-balances approach as compared with the cash-transactions approach can be stated in these words: 'In terms of the Marshallian approach, sudden and rapid shifts in the desire of public to hold money may profoundly affect prices even though the monetary authority successfully maintains a high stability in the money supply.
- In the cash-balances approach, the demand to hold money is formally identical to holding any asset in which the main determinants, apart from wealth-holders' preferences, are their total wealth and the yields made available on the alternative forms of assets.

1.7 KEY TERMS

- **Barter:** Barter is a system of exchange where goods or services are directly exchanged for other goods or services without using a medium of exchange, such as money.
- **Money:** Money is an officially-issued legal tender generally consisting of notes and coin, and is the circulating medium of exchange as defined by a government.
- **Quantity theory of money:** In monetary economics, the quantity theory of money (QTM) states that the general price level of goods and services is directly proportional to the amount of money in circulation, or money supply.

1.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The following are the four important approaches to the definition of money:
   - Conventional approach
   - Chicago approach
   - Gurley and Shaw approach
   - Central Bank approach
2. The conventional approach to the definition of money is the oldest known approach. According to this approach, the most important function of money in society is to act as the medium of exchange.
3. The two primary function of money are as follows:
   - Money as a unit of value or account
   - Money as a medium of exchange
4. The most essential feature of money is its general acceptability in the community or society in which it circulates.
5. *The Purchasing Power of Money* was published in 1911 by Irving Fisher.
6. One of the drawbacks of the cash-balances equation is that it is inadequate in explaining the dynamic price behaviour in the economy.
7. The views of the monetarists are sharply opposed to those of the Keynesians. This divergence of the two views is due to the fact that while the monetarists stress the power of the central bank to control the issue of money to an extent that it can ignore the monetary needs of the economy (it should, however, be noted that in the final analysis, the total stock of money depends on the willingness of the central bank to acquire assets), the Keynesians believe in a responsible central bank which responds to the monetary requirements of the economy that are strictly determined by the portfolio analysis.
8. The nominal money supply is denoted as:

$$M = C + D$$

Where, M = the nominal money supply;

C = nominal currency; and

D = nominal demand deposits.

1.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. Briefly summarize the invention of money.
2. What is money? Examine its functions and importance in the economy.
3. 'Money is what money does.' How far is this definition of money suitable?
4. Write a short not on the four important approaches to the definition of money.
5. Identify the two primary and derivative functions of money.

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Long-Answer Questions

1. Examine the importance of a properly organized and well-developed money market with particular reference to its functions.
2. Discuss the functions which are performed by money in the economy. Can money alone perform them?
3. 'Money is anything that is commonly used and generally accepted as a medium of exchange or as a standard of value.' (Raymond P. Kent). Discuss this statement with examples.
4. Give reasons for excluding the time deposits from the aggregate money supply.
5. Describe the most essential feature of money.

1.10 FURTHER READING

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UNIT 2 THEORY OF INTEREST

Structure

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2.0 INTRODUCTION

In the previous unit, you learnt about the concept of money and its various functions in the economy. The previous unit also discussed the quantity theory, money supply and its components.

In this unit, you will learn the classical theory of interest and Keynesian model of interest with their limitations. The classical theory of interest also known as the demand and supply theory was propounded by the economists like Marshall and Fisher. Later on, Pigou, Cassel, Knight and Taussig worked to modify the theory. According to this theory, rate of interest is determined by the intersection of demand and supply of savings. It is called the real theory of interest in the sense that it explains the determination of interest by analysing the real factors like savings and investment. Although, the theory is accepted by most economists per se, Keynes criticized the classical theory. According to him the rate of interest as the reward for parting with liquidity for a specified period of time. According to him, the rate of interest is determined by the demand for and supply of money.

2.1 UNIT OBJECTIVES

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

- Define the classical theory of interest and its limitations
- Explain the Keynesian model of interest and its shortcomings

2.2 CLASSICAL THEORY OF INTEREST AND ITS LIMITATIONS

The classical theory of interest rate cannot be ascribed to any one single writer belonging to the classical school. It has, in fact, to be distilled from the scattered writings of many writers. According to John Maynard Keynes, it is 'difficult to state it precisely or to discover an explicit account of it in the leading treatises of the modern classical school'. Following Adam Smith, the classical writers being interested in those fundamental forces which determined the long term interest rate, disregarded those factors of temporary

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and 'secondary' nature which characterized the short-run disequilibrium situations. Consequently, the monetary factors, although these were important in influencing the short-term or market rate of interest, were ignored by these writers as unimportant trivial elements in the determination of the long-run level of the rate of interest. For example, Henry Thornton while emphasizing the importance of bank credit in relation to short-term interest rate stated that creation or destruction of the bank credit did not influence the long-term interest rate. Similarly, John Stuart Mill writing in 1848 observed that although an increase in currency tends to lower the market rate of interest, in the long period 'the greater or less quantity of money makes in itself no difference to the rate of interest.' In short, treating the monetary factors as an unimportant causative element in the determination of the long-term interest rate, the classical writers propounded the non-monetary theory of interest rate which involved the real flow variables of the saving supply and investment demand.

The main propelling force behind the demand for investible funds was the physical productivity of present capital goods which provided incentive for the firms to undertake investment and add to their capital stock. Since, *ceteris paribus*, the productivity of capital diminishes with each addition to the capital stock, firms will increase their capital stock—make investment—when the rate of interest at the margin equals the productivity of capital that is diminishing. In other words, the investment demand function was negatively related to the rate of interest.

As regards the saving supply function, it was positively related to the rate of interest. Generally speaking, everybody prefers the present satisfaction of a given amount over the future satisfaction of an equal amount even when the uncertainty about the occurrence of the latter is zero and the present satisfaction of any given magnitude is no greater than future satisfaction of the same magnitude. This preference for the present pleasures over future pleasures is explained by the fact that on account of their 'defective telescopic vision of the future', individuals preferred a given amount of the present goods over the same amount of future goods. Expressed differently, individuals preferred a certain given sum in the present to a similar sum in the future. The difference between these two sums represented their degree or extent of time preference. To overcome this difference in valuation, the future payment sum must exceed the present sum sacrificed by some given amount called the rate of interest. It was also argued that even if the individual savers' time preference was zero, since saving involved waiting, some inducement in the form of interest payment was necessary as a compensation for the sacrifice involved in the waiting for the enjoyment of material possessions.

Taking the position that interest was a payment for overcoming the sacrifice involved in waiting that accompanied saving Alfred Marshall observed: '....human nature being what it is, we are justified in speaking of the interest on capital as the reward of the sacrifice involved in the waiting for the enjoyment of material resources, because few people would save much without reward; just as we speak of wages as the reward of labour, because few people would work hard without reward.' As the reward made for the sacrifice involved in waiting increased, people would be induced to increase their saving. Highlighting this view, Alfred Marshall has stated that 'a rise in the rate of interest offered for capital, i.e., in the demand price for saving, tends to increase the volume of saving. For in spite of the fact that a few people who have determined to secure an income of a certain fixed amount for themselves or their family will save less with a high rate of interest than with a low rate, it is a nearly universal rule that a rise in the rate increases the desire to save; and it often increases the power to save, or rather

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it is often an indication of an increased efficiency of our productive resources; but the older economists went too far in suggesting that a rise of interest (or of profits) at the expense of wages always increased the power of saving....'. In other words, the saving supply function was positively related to the rate of interest.

According to the classical approach, the rate of interest was a factor which brought into equilibrium the demand for investment and the supply of savings. Investment represented the demand for investible funds and savings represented the supply of these funds, while the rate of interest was that 'price' of the investible funds at which the supply of and the demand for investible funds were equated. Under the play of free market forces, the long-run equilibrium rate of interest rested at that point where the total amount of investment at that rate was equal to the total amount of saving at that rate. The classical interest rate theory which was developed under the assumption of full employment of labour and capital is a flow analysis in which both investment and saving are flow variables directing attention to a period of time rather than to a point of time. Since, both investment and saving are flow variables, these can only be expressed as quantities per time unit. In short, the equilibrium relates to the capital market which must be continuously cleared of saving which represents flow on to the market and investment which represents flow off the market.

The classical theory of interest rate can be diagrammatically explained as shown in Figure 2.1 where the negatively sloping linear investment demand function II is a negative function of the rate of interest while the positively sloping linear saving supply function SS is a positive function of the rate of interest. In other words,

$I = f(r)$; and $\frac{dI}{dr} < 0$

$S = g(r)$; and $\frac{dS}{dr} > 0$

In Figure 2.1, the positively sloping saving supply curve *SS* and the negatively sloping investment demand curve *II* intersect each other at point *A* corresponding to which the long-run equilibrium rate of interest is $0r_e$ which will come to stay in the capital market since at this interest rate, the demand for and the supply of investible funds are equal leaving no scope for deviation of the rate of interest from the 'norm' as long as the underlying supply and demand schedules do not alter their position. The market rate of interest was regarded as fluctuating around this long-run equilibrium rate of interest.

The classical theory of the rate of interest has three important features. In the first place, it is a purely flow theory, i.e., the saving supply and investment demand variables which determine the rate of interest are the flow quantities as distinct from the stock quantities.

Secondly, both saving and investment are the real variables as distinct from the monetary variables. Savings represent the real resources which become available as a result of voluntary saving on the part of people. These are governed by the distribution of income and wealth, the nature of expected future income streams and wealth-owners' time preferences between the present and future goods. Investment represents net addition to economy's total capital stock involving an increase in the economy's total productive capacity. Although, both saving and investment are reckoned in money units, money does not matter and it is neutral in the economy. Expressed differently, operations in the capital market relate to the supply of and the demand for real securities. Those

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who borrow capital funds are the suppliers or sellers of real securities while the suppliers of capital funds are the purchasers of these securities. Money acts only as a mediating agent—as a mere veil. In the classical theory, the rate of interest is not determined by the quantity of money in circulation. Consequently, it is invariant with respect to changes in the money supply because any change in the money supply is neutralized by equi-proportionate change in the prices leaving the quantity of real money in the economy unchanged. Consequently, the demand and supply curves of money intersect at the same rate of interest.

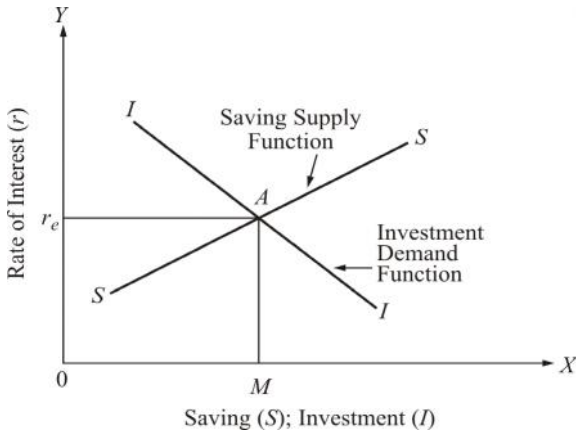

Fig. 2.1 *Classical Theory of Interest Rate*

Thirdly, if the equilibrium between saving and investment is disturbed due to the shift in any one of the functions, it is re-established exclusively through changes in the rate of interest without in any way affecting any other variable. In other words, the theory is self-contained and is relevant only to the equilibrium of economy's real sector while the monetary sector of the economy is completely left out of the purview of the theory.

Limitations of Classical Theory of Interest

The classical theory of interest rate has been criticized on several grounds. Besides others, it has been severely criticized by Keynes. In the first place, the classical theory of interest rate is incomplete because it considers only the real as distinct from the monetary and only the flow as distinct from the stock variables. The result is that both the stock as well as the monetary variables which affect the rate of interest are completely left out from the discussion of interest rate determination. Any complete theory worth its name should be broad enough to include both the stock and the money variables. This weakness of the theory which flows from its excluding the consideration of monetary factors was recognized by the neo-classical economists, including the Swedish economist Knut Wicksell and the noted Cambridge economist Dennis Holme Robertson. These economists attempted to synthesize the monetary and non-monetary or real variables by developing the loanable funds theory according to which the equilibrium rate of interest is that rate which equates the supply of and the demand for the loanable funds. It was recognized that the classical theory was faulty because it considered the current voluntary savings as the only source of supply and investment as the only source of demand for the loanable funds.

Starting from a more realistic understanding of the operations taking place in the capital market, the exponents of the loanable funds theory recognized that the flow of

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money on to the market could be increased or decreased by the activities of the monetary authorities—central bank and the commercial banks—through the credit creation or credit squeeze and through the hoarding or dishoarding on the part of wealth-owners. Similarly, the flow of securities on to the market did not exclusively represent the issue of new securities to borrow the funds for investment; it was also fed by hoarding (borrowing in order to accumulate the surplus cash balances) on the part of wealth-owners.

Second, the classical theory of interest rate has been criticized by Keynes on several grounds. Keynes has questioned the nature of the classical saving supply and investment demand functions which are regarded as interest-elastic. According to Keynes, saving is more a function of income rather than of the rate of interest for at very low levels of income, people will not save at all (they will rather dissave) even if they are offered inducement in the form of high rate of interest. Similarly, according to Keynes, investment is largely autonomous and at any rate the investment and interest rate relationship is a very weak and unreliable relationship. Had this relationship been strong, the monetary policy alone would have sufficed to ensure full employment in the economy and there would have been no necessity to resort to fiscal policy measures.

Besides questioning the form of the classical saving supply and investment demand schedules, Keynes has criticized the classical view that rate of interest is the 'price' which equates the demand for and the supply of investible resources. According to Keynes, 'the rate of interest is not the 'price' which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption.' Asserting that the rate of interest is a purely monetary phenomenon as distinct from the classical real phenomenon Keynes has stated that 'it is the 'price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash...' He has criticized the classical approach of regarding the rate interest as a return on saving on the ground that a man who hoards his savings in the from of cash earns no interest although he saves. In Keynes' view 'the mere definition of the rate of interest tells us in so many words that the rate of interest is the reward for parting with liquidity for a specified period.'

According to Keynes, the classical theory of interest rate was faulty and misleading in another respect also. According to the theory, an upward or a downward shift in the investment demand schedule would result in the new equilibrium rate of interest determined by the point of intersection between the new investment demand curve and the given saving supply curve. In other words, when the investment demand curve shifts the saving supply curve does not shift. Keynes' criticism of this approach was that the assumption of a given saving supply curve corresponding to a shifting investment demand curve was faulty and untenable. Consequently, the conclusions that followed were also faulty. Keynes argued that when the aggregate investment outlay changed, the aggregate income also changed. Thus, the amount saved at different interest rates also changed resulting in the shift of the saving supply curve simultaneously. If the aggregate investment outlay increases (decreases), the aggregate income must also increase (decrease) the multiplier time of the increase in investment outlay. In other words, it was faulty to assume the aggregate income as given when the aggregate investment was changing. And, if the aggregate income changed when the aggregate investment changed (represented by shift in the investment demand curve), the saving supply curve would also appropriately shift because people would save different amounts out of the changed income at the different rates of interest. When both the saving supply and the investment demand curves shift simultaneously, the whole position becomes indeterminate.

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Keynes' criticism of the classical theory of the rate of interest may be stated in his own words. He writes: 'The independent variables of the classical theory of the rate of interest are the demand curve for capital and the influence of the rate of interest on the amount saved out of a given income; and when, (e.g.,) the demand curve for capital shifts, the new rate of interest, according to this theory, is given by the point of intersection between the new demand curve for capital and the curve relating the rate of interest to the amounts which will be saved out of given income. The classical theory of the rate of interest seems to suppose that if the demand curve of capital shifts or if the curve relating the rate of interest to the amounts saved out of a given income shifts or if both these curves shift, the new rate of interest will be given by the point of intersection of the new positions of the two curves. However, this theory does not make any sense. For the assumption that income is constant is inconsistent with the assumption that these two curves can shift independently of one another. If either of them shifts, then, in general, income will change; with the result that the whole schematism based on the assumption of given income breaks down.... In truth, the classical theory has not been alive to the relevance of changes in the level of income or the possibility of the level of income being actually a function of the rate of the investment.'

Illustrating his above views diagrammatically, Keynes has further, stated that 'the functions used by the classical theory, namely, the response of investment and the response of amount saved out of a given income to change in the rate of interest, do not furnish material for a theory of the rate of interest...'

Thirdly, the classical theory of rate of interest is faulty because it ignores the influence which the bank created money (credit) exerts on the rate of interest.

The classical theory is also faulty, since it completely ignores the consideration of the asset demand for money and regards money as being demanded exclusively for the transactions purpose in order to remove the difficulties of barter. In short, the classical theory of the rate of interest is at best a half-baked faulty explanation of determination of the long-run equilibrium rate of interest. It cannot be accepted as a complete and scientific explanation of the complicated process through which the interest rate is determined in an economy where, far from being neutral, money plays an important and active role in shaping the entire processes of production and distribution by acting not only as the medium of exchange but also as the permanent store of value.

Check Your Progress

1. What are the three important features of the classical theory of the rate of interest?
2. Give any one weakness of the classical theory of interest.

2.3 KEYNESIAN MODEL OF INTEREST AND ITS SHORTCOMINGS

Keynes had criticized the classical theory and he was not satisfied with the neo-classical or loanable funds theory of rate of interest. According to him, the rate of interest was not a return on saving or waiting. 'It is the 'price' which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash.' In other words, the rate

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of interest is purely a monetary phenomenon and its determination does not have anything to do with saving and investment.

In its simple form, the liquidity preference theory of interest rate states that the equilibrium rate of interest is determined at that point where the liquidity preference or the demand schedule for money intersects the supply schedule of money. The demand for money or the liquidity preference arises due to the transactions motive, the precautionary motive and the speculative motive. The transactions motive relates to the demand for money for transactions purpose which in the case of business firms depends upon the size or volume of total turnover and in the case of individuals depends upon their income, the frequency with which income is received or the time interval between pay periods and the general practice of making payments. The precautionary motive gives rise to the demand for money for facing unforeseen contingencies such as sudden sickness, arrival of guests, accidental loss of life and property, etc.

Keynes lumps together these two demands and relates these to the level of income. The transactions demand and the precautionary demand for money are interest-inelastic. The speculative motive which is defined as 'the object of securing profit from knowing better than the market what the future will bring forth' gives rise to the speculative demand for money which is interest-elastic with the elasticity increasing as the rate of interest falls until at some low enough rate of interest (around two per cent) the demand becomes perfectly interest-elastic. In other words, while the transactions and precautionary demand for money (M_1) are a positive function of the level of income (Y), the speculative demand for money (M_2) is a negative function of the rate of interest (r). Thus the total demand for money (M_d)is composed of M_1 which is a positive function of income and M_2 which is a negative function of the rate of interest. Thus,

$$M_d = M_1 = L_1(Y) + M_2 = L_2(r)$$

The supply of money in the economy is autonomously determined by the monetary authority. It comprises the currency and commercial banks' demand deposits, i.e., $M_s = C + D$. It is taken as fixed and is non-responsive to changes in the interest rate. Consequently, the money supply curve $M\overline{M}_S$ is a vertical straight line as shown in Fig. 2.2. The equilibrium rate of interest is determined corresponding to the point of intersection of the negatively sloping demand curve for money $M_d = M_1 + M_2 = L_1(Y) + L_2(r)$ and the vertical supply curve of money $M\overline{M}_S$ as has been shown in Figure 2.2.

Figure 2.2 shows the determination of the equilibrium rate of interest according to the liquidity perference theory of interest rate. In the figure, the demand curve for money $M_d = M_1 + M_2 = L_1(Y) + L_2(r)$ is negatively sloping, showing that the liquidity preference or the demand for money is a negative function of the rate of interest. The interest-elasticity of the curve increases as the rate of interest falls until at some critically low enough rate of interest (in the figure it is $0r_c$) it becomes perfectly horizontal, showing that the demand for money has become perfectly interest-elastic. In the figure at point C and beyond, the demand curve for money is perfectly interest-elastic. This situation in literature is known as the liquidity trap which has given rise to fierce controversy among the economists.

In Figure 2.2, $M\overline{M}_S$ is the autonomously determined supply curve of money. Its interest elasticity is zero. The two curves intersect at point A corresponding to which the rate of interest is $0r_e$. This rate of interest is the equilibrium rate of interest because the total amount of money demanded by the public at this rate of interest is just equal to the

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total supply of money made available by the monetary authority to satisfy the demand for money. At any rate of interest other than this particular rate, there will be disequilibrium between the demand for and the supply of money—either the total demand for money will exceed or fall short of the total supply of money available in the system. It is clear that the liquidity preference function remaining unchanged, any increase (decrease) in the money supply represented by the rightward (leftward) shift in the money supply function will cause a fall (rise) in the equilibrium rate of interest unless the equilibrium rate of interest has already touched the *l*iquidity trap rate of interest. In Figure 2.2, when the money supply function shifts rightward from $M\overline{M}_S$, to $M'\overline{M}'_s$ the equilibrium rate of interest falls from $0r_e$ to $0r'_e$ showing that an expansionary monetary policy is effective in raising the level of aggregate employment and output in the economy by causing an increase in the aggregate investment depending upon the interest elasticity of the investment demand function.

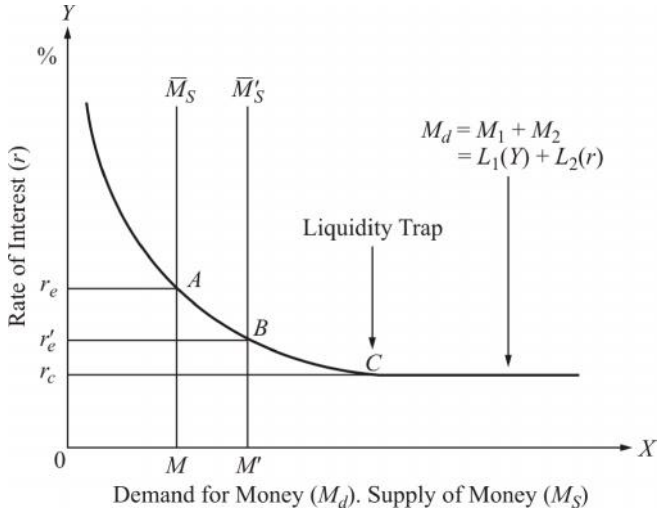

Fig. 2.2 *Supply Curve of Money*

Criticism

The liquidity preference theory of interest rate has not escaped criticisms. *First*, being completely a stock theory, the rate of interest in this theory is as much indeterminate as it was in the classical theory. According to Alvin H Hansen, 'the Keynesian theory, like the classical, is indeterminate. In the Keynesian case the money supply and demand schedules cannot give the rate of interest unless we already know the income level; in the classical case the demand and supply schedules for saving offer no solution until income is known. Keynes' criticism of the classical theory applies to his own theory.'

Second, the theory cannot explain the determination of the rate of interest in the long period because it focusses attention only on those factors which are relevant only in the short period.

Third, the theory cannot explain the co-existence of the different interest rates on the basis of liquidity preference because interest rates will have to be perfectly uniform due to the perfect uniformity of money or cash balances.

The Fourth criticism of this theory is that it is wrong to say that rate of interest is not the reward for 'saving or waiting as such.' Keynes blissfully forgets that without saving or waiting, investment funds cannot be obtained. Jacob Viner stated the correct

position when he asserted that 'without saving there cannot be liquidity to surrender... the rate of interest is the return for saving without liquidity.'

The Fifth criticism of the theory is that although in the short period at any given point of time the rate of interest will be such that the community's total holding of cash must be equal to the total existing stock of money, but it is equally true that over a long period the rate of interest must tend to that level where the saving and investment flows are in equilibrium.

Last, Keynes' basic proposition in his theory is that the rate of interest and the demand for money, more particularly the speculative demand for money, are inversely related. According to Don Patinkin, 'Keynes' analysis of the implication of this dependence is repeatedly marred by a confusion (which characterizes the later Keynesian literature as well) between his basic proposition that the amount of money demanded is inversely dependent upon the rate of interest and the completely different proposition that the equilibrium rate of interest is inversely dependent on the amount of money. His discussion of the liquidity preference in *The General Theory* shifts uninhibitedly from one proposition to the other with never an indication that they are in any way not identical. More specifically, there is never a recognition that, in our terminology, the first of these propositions describes an individual experiment and the second a market experiment, and that the truth of the first does not imply the truth of the second.'

CHECK YOUR PROGRESS

3. What does the liquidity preference theory of interest state?
4. What is the basic proposition of Keynes's theory?

2.4 SUMMARY

- The classical theory of interest rate cannot be ascribed to any one single writer belonging to the classical school.
- According to John Maynard Keynes, it is 'difficult to state it precisely or to discover an explicit account of it in the leading treatises of the modern classical school'. Following Adam Smith, the classical writers being interested in those fundamental forces which determined the long term interest rate, disregarded those factors of temporary and 'secondary' nature which characterized the short-run disequilibrium situations.
- The main propelling force behind the demand for investible funds was the physical productivity of present capital goods which provided incentive for the firms to undertake investment and add to their capital stock.
- According to the classical approach, the rate of interest was a factor which brought into equilibrium the demand for investment and the supply of savings.
- Investment represented the demand for investible funds and savings represented the supply of these funds while the rate of interest was that 'price' of the investible funds at which the supply of and the demand for investible funds were equated.
- The classical theory of interest rate has been criticized on several grounds. Besides others, it has been severely criticized by Keynes.'

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- In the first place, the classical theory of interest rate is incomplete because it considers only the real as distinct from the monetary and only the flow as distinct from the stock variables.
- Besides questioning the form of the classical saving supply and investment demand schedules, Keynes has criticized the classical view that rate of interest is the 'price' which equates the demand for and the supply of investible resources.
- The classical theory is also faulty since it completely ignores the consideration of the asset demand for money and regards money as being demanded exclusively for the transactions purpose in order to remove the difficulties of barter.
- Keynes had criticized the classical theory and he was not satisfied with the neo-classical or loanable funds theory of rate of interest. According to him, the rate of interest was not a return on saving or waiting.
- Keynes lumps together these two demands and relates these to the level of income. The transactions demand and the precautionary demand for money are interest-inelastic.
- The liquidity preference theory of interest rate has not escaped criticisms. First, being completely a stock theory, the rate of interest in this theory is as much indeterminate as it was in the classical theory.

2.5 KEY TERMS

- **Investment:** An investment is an asset or item that is purchased with the hope that it will generate income or will appreciate in the future. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth.
- **Interest rate:** Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets. Interest rates are typically noted on an annual basis, known as the annual percentage rate (APR).
- **Equilibrium:** Equilibrium is a condition in which all influences acting cancel each other, so that a static or balanced situation results. In physics, equilibrium results from the cancellation of forces acting on an object.

2.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The three important features of the classical theory of the rate of interest are as follows:
   - It is a purely flow theory, i.e., the saving supply and investment demand variables which determine the rate if interest are the flow quantities as distinct from the stock quantities.
   - Both saving and investments are the real variables as distinct from the monetary variables.
   - If the equilibrium between saving and investment is distributed due to the shift in any of the functions, it is re-established exclusively through changes in the rate of interest without any way affecting any other variable.
2. The classical theory of interest rate is incomplete because it considers only the real as distinct from the monetary and only the flow as distinct from the stock

variables. The result is that both the stock as well as the monetary variables which affect the rate of interest are completely left out from the discussion of interest rate determination. Any complete theory worth its name should be broad enough to include both the stock and the money variables.

3. The liquidity preference theory states that the equilibrium rate of interest is determined at that point where the liquidity preference or the demand schedule for money intersects the supply schedule of money.
4. The basic proposition of Keynes' theory is that the rate of interest and the speculative demand for money are inversely related.

2.7 QUESTIONS AND EXERCISES

Short-Answer Questions

1. Define classical theory of interest.
2. Why is Keynesian theory considered superior to the traditional quantity theory of money? Give reasons or your answer.
3. State the arguments of Keynes for deficit spending.

Long-Answer Questions

1. Discuss the classical theory of rate of interest. On what grounds did Keynes criticize it?
2. Explain critically the liquidity preference theory of interest rate.
3. Explain the merits of the Keynes' version of the quantity theory of money.

2.8 FURTHER READING

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UNIT 3 BANKING

Structure

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3.0 INTRODUCTION

The word 'bank' is generally used in the sense of a commercial bank. The word is of Germanic origin. Although, some historians trace its origin to the French word 'Banqui' and the Italian word 'Banca'. A bank is referred as an establishment authorized by a government for keeping, lending, and exchanging of money or coins in the marketplace by money lenders and money changers.

A commercial bank, which is also known as business bank, is a kind of financial institution and intermediary. It is a bank that offers transactional, savings and money market accounts and accepts time deposits. The understanding of the business conducted by the commercial banks is very significant in today's conditions. Banks are said to be departmental stores of financial services as they render a wide variety of such services to their customers. The range of these services differs from bank to bank, depending mainly on the different size and the types of banks. They are also the most important function of a bank.

In this unit, you will learn about the different functions of commercial banks. This unit will also discuss the nature of the banking systems and the various services provided by them including the credit creation process. The role, functions, and monetary policy of RBI have also been explained in this unit.

3.1 UNIT OBJECTIVES

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

- Define the principles of commercial banking
- Identify the credit creation process of commercial banks
- Explain the role of specialized banks like IDBI and NABARD
- Discuss the various features and functions of RBI
- State the monetary policy of RBI

3.2 PRINCIPLES OF COMMERCIAL BANKING

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Commercial banks are organized on a joint stock company system, primarily for the purpose of earning a profit. They can be either of the branch banking type, as seen in most of the countries, with a large network of branches, or of the unit banking type, as seen mainly in the USA, where a bank's operations are confined to a single office or to a few branches within a strictly limited area. Although, the commercial banks attract deposits of all kinds—current, savings and fixed—their resources are chiefly drawn from current deposits which are repayable on demand. So, they attach much importance to the liquidity of their investments and as such they specialize in satisfying the short-term credit needs of business rather than the long-term.

The two essential functions of a commercial bank may best be summarized as the borrowing and the lending of money. They borrow money by taking all kinds of deposits. Deposits may be received on current account whereby the banker incurs the obligation to repay the money on demand. Interest is not payable on current account deposits. When deposits are received on savings bank account as well, the bank undertakes the obligation to repay them on demand. Interest is usually allowed on savings bank deposits although there are usually restrictions on the total amount that can be withdrawn and/or the number of times withdrawals are allowed during a defined period. When deposits are received on fixed deposit accounts, the banker incurs the obligation to repay the money together with an agreed rate of interest after the expiry of a fixed period. When deposits are received on deposit accounts, the banker undertakes to repay the customer together with an agreed rate of interest in return for the right to demand from him an agreed period of notice for withdrawals. Thus, a commercial bank mobilizes the savings of the society. This money is then provided to those who are in need of it by granting overdrafts or fixed loans or by discounting bills of exchange or promissory notes. In short, the primary function of a commercial bank is that of a broker and a dealer in money. By discharging this function efficiently and effectively, a commercial bank renders a very valuable service to the community by increasing the productive capacity of the country and thereby accelerating the pace of economic development. It gathers the small savings of the people, thus reducing the quantity of idle money to the lowest limits. Then, it combines these small holdings in amounts large enough to be profitably employed in those enterprises where they are most called for and most needed. Here, it makes capital effective and gives industry the benefits of capital, both of which otherwise would have remained idle. For instance, take the practice of discounting bills of exchange. By converting future claims into present money, the commercial bank bridges the time element between the sale and the actual payment of money. This will enable the seller to carry on his business without any hindrance; and the buyer will get enough time to realize the money.

Thus, a commercial bank receives deposits which it has to repay according to its promise and makes them available to those who are really in need of them. The bank is actually distributing its deposits between the borrowers and its own vaults. Herein, lies the most delicate of the functions of a commercial bank.

Besides these two main functions, a commercial bank performs a variety of other functions which may broadly be grouped under two main heads, viz., the agency services and the general utility services.

Agency Services

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A commercial bank provides a range of investment services. Customers can arrange for dividends to be sent to their bank and paid directly into their bank accounts, or for the bank to detach coupons from bearer bonds and present them for payment and to act upon announcements in the press of drawn bonds, coupons payable, etc. Orders for the purchase or sale of stock exchange securities are executed through the banks' brokers who will also give their opinions on securities or lists of securities. Similarly, banks will make applications on behalf of their customers for allotments arising from new capital issues, pay calls as they fall due and ultimately obtain share certificates or other documents of title. On certain agreed terms, the banks will allow their names to appear on approved prospectuses or other documents as bankers for the issue of new capital; they will receive applications and carry out other instructions.

A commercial bank undertakes the payment of subscriptions, premia, rent, etc., on behalf of its customers. Similarly, it collects cheques, bills of exchange, promissory notes, etc., on behalf of its customers. It also acts as a correspondent or representative of its customers, other banks and financial corporations.

Most of the commercial banks have an 'Executor and Trustee Department'. Some may have affiliated companies to deal with this branch of business. They aim to provide a complete range of trustee, executor or advisory services for a small charge. The business of banks acting as trustees, executors, administrators, etc., has continuously expanded with considerable usefulness to their customers. By appointing a bank as an executor or trustee of his/her will, the customer secures the advantage of continuity, avoiding to have made changes, impartiality in dealing with beneficiaries and in the exercise of discretions and the legal and specialized knowledge pertaining to executor and trustee services. When a person dies without making a will, the next-of-kin can employ the bank to act as administrator and to deal with the estate in accordance with the rules relating to intestacies. Alternatively, if a testator makes a will but fails to appoint an executor, or if an executor is unable or unwilling to act, the bank can usually undertake the administration with the consent of the persons who are immediately concerned. Banks will act solely or jointly with others in these matters, as also in the case of trustee for stocks, shares, funds, properties or other investments. Under a declaration of trust, a bank undertakes the supervision of investments and distribution of income; a customer's investments can be transferred into the bank's name or control, thus enabling it to act immediately upon a notice of rights issue, allotment letters, etc. Alternatively, where it is not desired to appoint the bank as nominee, these services may still be carried out by appointing the bank as attorney. Where business is included in an estate or trust, a bank will provide for its management for a limited period, pending its sale to the best advantage as a going concern or transfer to a beneficiary.

Private companies wishing to set up pension funds may appoint a bank as custodian, trustee and investment advisor, while retaining the administration of the scheme in the hands of the management of the fund.

Most banks will undertake the preparation of income tax returns on behalf of their customers and claim for the recovery of overpaid tax. They also assist the customers in checking the assessments. In addition to the usual claims involving personal allowances and reliefs, claims are prepared on behalf of residents abroad, minors, charities, etc.

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General Utility Services

These services are those in which the bank's position is not that of an agent for his customer. They include the issue of credit instruments like letters of credit and travellers' cheques, the acceptance of bills of exchange, the safe custody of valuables and documents, the transaction of foreign exchange business, acting as a referee as to the respectability and financial standing of customers, providing specialized advisory service to customers, etc.

Banker's Drafts and Letters of Credit

By selling drafts or orders and by issuing letters of credit, circular notes, travellers' cheques, etc., a commercial bank is discharging a very important function. A banker's draft is an order, addressed by one office of a bank to any other of its branches or by any one bank to another, to pay a specified sum to the person concerned. A 'letter of credit' is a document issued by a banker, authorizing some other bank to whom it is addressed, to honour the cheques of a person named in the document, to the extent of a stated amount in the letter and charge the same to the account of the grantor of the letter of credit. A letter of credit includes a promise by the issuing banker to accept all bills of exchange to the limit of credit. When the promise to accept is conditional on the receipt of documents of title to goods, it is called a 'documentary letter of credit'. When the promise is unconditional, it is called a 'clean letter of credit'. Letters of credit may again be classified as revocable and irrevocable. A 'revocable letter of credit' is one which can be cancelled at any time by the issuing banker. However, the banker will still be liable for bills negotiated before cancellation. An 'irrevocable letter of credit' is one which cannot be cancelled before the expiry of the period of its currency. 'Circular letters of credit' are generally intended for travellers who may require money in different countries. They may be divided into 'travellers letter of credit' and 'guarantee letters of credit'. A 'travellers letter of credit' carries the instruction of the issuing bank to its foreign agents to honour the beneficiary's drafts, cheques, etc., to a stated amount which it undertakes to meet on presentation. While issuing a 'guarantee letter of credit', the bank secures a guarantee for reimbursement at an agreed rate of interest, or it may insist on sufficient security for the grant of credit. There is yet another type which is known as 'revolving credit'. Here, the letter is so worded that the amount of credit available automatically reverts to the original amount after the bills negotiated under them are duly honoured.

Circular Notes, Travellers Cheques, Circular Cheques

Circular notes are cheques on the issuing banker for certain round sums in his own currency. On the reverse side of the circular note is a letter addressed to the agents specifying the name of the holder and referring to a letter of indication in his hands, containing the specimen signature of the holder. The note will not be honoured unless the letter of indication is presented. Travellers' cheques are documents similar to circular notes with the exception that they are not accompanied by any letter of indication. Circular cheques are issued by banks in certain countries to their agents abroad. These agents sell them to intending visitors to the country of the issuing bank.

Safe Custody of Valuables

Another important service rendered by a modern commercial bank is that of keeping in safe custody valuables such as negotiable securities, jewellery, documents of title, wills,

deed-boxes, etc. Some branches are also equipped with specially constructed strong rooms, each containing a large number of private steel safes of various sizes. These may be used for a small fee. Each user is provided with the key of an individual safe and thus not only obtains protection of his/her valuables but also retains full personal control over them. The safes are accessible at any time during banking hours, and often longer.

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Night Safes

For shopkeepers and other customers who handle large sums of money after banking hours, 'night safes' are available at many banks. Night safe takes the form of a small metal door on the outside wall of the bank, accessible from the street, behind which there is a chute connecting with the bank's strong room. Customers who require this service are provided with a leather wallet, which they lock before placing in the chute. The wallet is opened by the customer when he calls at the bank the next day to get the contents credited to his account.

Referee as to the Respectability and Financial Status of the Customer

Another function of great value, both to banks and businessmen, is that of the bank acting as a referee as to the respectability and financial status of the customer.

Bank Giro

Among the services introduced by a modern commercial bank during the last quarter of a century or so, the 'bank giro' and 'credit cards' deserve special mention. The 'bank giro' is a system by which a bank customer with many payments to make, instead of drawing a cheque for each item, may simply instruct his bank to transfer to the bank accounts of his creditors the amount due from him. He writes one cheque debiting his account with the total amount. Credit advices containing the name of each creditor with the name of his bank and branch will be cleared through the 'credit clearing' of the clearing house, which operates in a similar way as for the clearing of cheques. Even non-customers of a bank may make use of this facility for a small charge. A direct debiting service is also operated by some banks. This service is designed to assist organizations which receive large number of payments on a regular basis. A creditor is thereby enabled, with the prior approval of the debtor, to claim any money due to him direct from the debtor's bank account. To some organizations, for example, insurance companies, which receive, say, six equal sums on six dates in a year, the scheme is only an extension of the standing order facility but for the public utilities and traders which send out invoices for valuable amounts at differing times, the scheme is an entirely new one.

Credit Cards

A credit card is basically a payment mechanism which allows the holder of the card to make purchases without any immediate cash payment. Credit limit is fixed by the issuing bank and the limit is determined by the financial history as well as the type of card. Users are issued with a card on production of which their signatures are accepted on invoices in merchant establishments participating in the scheme. The issuing bank makes the payment to the merchant establishment selling the relevant goods or services. The holder to whom the card is issued, in turn, reimburses the bank on receipt of the billing statement. Generally, it is not necessary to reimburse the bank with the entire amount on the billing statement. After making payment of the minimum amount due every month,

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the balance could be staggered over a period. Of course, outstanding balance plus any overdue will attract service charge at a certain rate. Also, users are generally required to pay a regular subscription for the use of the service. Different types of cards are available. The benefits attached to the card vary according to the type of the card.

Often, the bank which issues the card will be a member of a payments brand. For instance, VISA is a payments brand with global payments system. Its cards are accepted at numerous locations (about 23 million merchant establishments) all over the world. All establishments displaying VISA logo accept VISA cards for all transactions. Of course, VISA itself does not offer cards or financial services; it only advances new payment products and technologies on behalf of its members.

On every card transaction conducted, the merchant establishment will give a commission which will be shared by the issuing bank and the acquirer bank (i.e., the bank which approaches the merchant establishment for its acceptance of the card). If it is a branded card, a part of the commission will go to the payments brand. For instance, if it is a VISA card, a part of the commission will go to VISA. Suppose Bank 'A' has convinced merchant establishment 'X' to accept VISA cards. This means that all VISA cards will be accepted by establishment 'X'. In case establishment 'X' accepts the VISA card issued by Bank 'B', then the commission will be shared by Bank 'A', Bank 'B' and VISA. Establishment 'X' will collect the amount due to it from Bank 'A' and Bank 'A' will collect the amount from Bank 'B' (the bank which has issued the card). Bank 'B' will collect the amount from the card holder. The entire transaction is routed via VISA.

Kisan Credit Cards and Laghu Udyami Credit Cards

A Kisan Credit Card (used to be designated as 'green card' by some banks) issued by Indian banks, aimed at providing adequate and timely support from the banking system to the farmers for their cultivation needs including purchase of inputs in a flexible and cost effective manner. More specifically, kisan credit cards will facilitate farmers in the purchase of agricultural inputs such as seeds, fertilizers and pesticides and to draw cash for other production and ancillary needs as many times as they wish. Unlike the usual credit cards, kisan credit cards are issued based on the landholding of agriculturists. As such, the provision of one-by-six scheme (i.e., the provision requiring the holder of a credit card to furnish income tax return) is not applicable to holders of kisan credit cards. The credit extended in the case of a kisan credit card would be revolving cash credit and provides for any number of drawals and repayments within the limit. The quantum of limit is based on operational landholding, the cropping pattern and scales of finance approved for the area. The cards are valid for three years and subject to an annual review.

Encouraged by the kisan credit card scheme, Laghu Udyami Credit Cards have been introduced in India for providing simplified and borrower-friendly credit facilities to retail traders, artisans, professionals and self-employed persons, small industrial units and small businessmen including those in the tiny sector.

Debit Cards

The main difference between credit cards and debit cards lies in the words 'credit' and 'debit'. In case of a credit card, the card holder makes the cash payment at the end of the month. On other hand, in the case of a debit card, it runs down ones deposit account the moment the sale is made. In other words, while using a debit card, one is using ones

own money in the bank account. Thus, while making a payment to a merchant establishment by using a debit card, it assumes the form of a transaction between the establishment and ones bank account. Debit cards are more readily accepted by merchant establishments since they get instant payment. Debit cards free the card holder from carrying cash for his/her purchases. Although, debit cards are convenient in one sense, the card holder has to be extremely careful with the card. If the card is lost or is stolen, the entire balance in the bank account could be emptied with a single purchase by an unscrupulous person.

ATM Cards

An ATM (Automatic Teller Machine) Card is a variation of a debit card which one can use in a cash machine by punching in ones PIN (Personal Identification Number) for making cash withdrawals from ones bank account. ATM cards have the advantage over debit cards in that a person other than the card holder will not be able to use it for cash withdrawals because of the secrecy surrounding the card holder's Personal Identification Number. Also, most banks limit the amount of cash that can be withdrawn on any single day.

Budget Accounts

Some banks are opening budget accounts for credit-worthy customers. The bank guarantees to pay, for a specific charge, certain types of annual bills (e.g., fuel bills, rates, etc.,) promptly as they become due, while repayments are spread over a twelve-monthly period from the customer's account.

All these money transmission services have particular regard to the developments in computerised book-keeping which the banks in most countries have already introduced.

EFT (Electronic Funds Transfer) Service

Another important service which is of comparatively recent origin is the Electronic Funds Transfer (EFT) service. This is a service under which funds are transferred electronically over the telephone, either nationally or internationally. International funds transfers from applicant to beneficiary are made in as little as a few seconds. The international network known as 'SWIFT' (Society for Worldwide Interbank Financial Telecommunications), an organization promoted by banks and financial institutions around the world, is utilized to facilitate the speedy transfer of funds across international destinations without any paper work and expeditious efficiency. SWIFT is the largest network in the world which has around 4,800 users in 130 countries. This is a path breaking technology that will ultimately pave the way for paperless banking. In addition to the service which it renders to individual customers, it will go a long way in curing the corporate sector's headaches of cash management in multiple locations.

Overseas Trading Services

Recognition of overseas trade has encouraged modern commercial banks to set up branches specializing in the finance of foreign trade. Banks in some countries have taken interest in export houses and factoring organizations. Assisted by banks affiliated to them in overseas territories, they are able to provide a comprehensive network of services for foreign banking business, and many transactions can be carried through from the start to finish by a home bank or subsidiary. In places where banks are not directly represented by such affiliated undertakings, they have working arrangements

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with correspondents so that the banks are in a position to undertake foreign banking business in any part of the world.

The banks provide more than just a means for the settlement of debts between traders, both at home and abroad for the goods they buy and sell. They are also providers of credit and enable the company to release the capital which would otherwise be tied up in the goods exported. An outline of some of the services provided by banks for overseas traders is given.

For centuries, the bill of exchange has been one of the chief means of settlement in trade. Its function is to enable a seller or exporter of goods to obtain cash as soon as possible after the dispatch of goods, and yet enable the buyer or importer to defer payment until the goods reach him or later.

There are many ways in which trade may be financed with bills of exchange. Two common ways are as follows:

1. The exporter will draw a bill of exchange on the importer, or, by arrangement between the parties, on the importer's bank, for the amount of the exporter's invoice for the goods. Shipping documents (usually the invoice, marine insurance policy and the 'bill of lading' which is the shipowner's receipt for the goods) which will convey title to the goods are attached to the bill of exchange. The exporter will sell ('negotiate' in technical terms) the bill with the documents to a local banker. The receipt of the documents of title along with the bill means that, in effect, goods are in possession. Thus, the bank will be willing to pay the exporter practically the full amount of his invoice and bill. The bank will immediately forward the bill and the documents to its banking correspondents or agents in the importer's country to be presented to the importer, or the importer's bank as the case may be, for payment if the bill is payable on demand , or for acceptance if the bill is a 'term bill'.
2. The importer's bank, at its request, will arrange for its banking correspondents or agents in the exporter's country to accept a term bill drawn on them by the exporter, and to be accompanied by shipping documents mentioned in (1) above. (Such an arrangement is an example of 'opening credit' which is mentioned below). When the bill is accepted, it will be returned to the exporter who can either keep it until the period of the bill expires and then claim payment from the accepting bank, or, as is more likely in practice, sell the bill to his own or other banks. The accepting bank, upon accepting the bill, will detach the shipping documents and send them to the importer's bank.

If a bill is payable on demand (i.e., a 'demand bill'), the importer, or his bank on his behalf if the bill is drawn on that bank, has to pay the whole amount when the bill is presented.

If the bill is drawn payable at a later date (i.e., a 'time bill' or a 'term bill'), for example three months after presentation, it is, upon presentation, accepted by the importer if it is drawn on him, or by his bank on his behalf if it is drawn on it by special arrangement. However, the importer is not called upon to pay until the three months are up.

Usually, the arrangement between the buyer and the seller will be that the shipping documents which accompany the bill are to be detached upon payment or acceptance of the bill by the importer or by a bank on his behalf. The documents thus become available to the buyer so that he can take delivery of the goods when the ship arrives, resell them in the ordinary way; and from the proceeds recoup himself or his bank, or make funds available to meet the bill when it matures.

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An overseas buyer may arrange through his bank in the home country to open a documentary credit in favour of the seller. This is an undertaking that the bank will honour drafts drawn in accordance with the terms of credit, if accompanied by stipulated shipping documents, insurance policies, etc., and presented not later than the date of expiry of the credit. The terms usually cover the nature, price and quantity of the goods, the method of shipment, the documents to be attached and the date by which shipment must be effected. The creditor may undertake payment of a demand draft or acceptance of a term draft. It may be expressed in home currency or in foreign currency, this depending on the condition of sale. It may be either revocable or irrevocable. The former may be cancelled at any time, but the latter cannot be cancelled without the consent of both the parties. Therefore, an irrevocable credit provides much greater protection to the exporter.

If, for instance, a foreign importer has no account with an Indian bank, he will open the credit with his local bank. The exporter may, however, prefer to receive a corresponding advice that the credit is opened from an Indian bank. Consequently, it is usual for the foreign bank to instruct its Indian banking correspondent to advise the credit to the exporter. As an additional safeguard, an Indian exporter may require his bank not only to advice but also to undertake responsibility by adding its confirmation. This is known as a 'confirmed credit'. Having received the advice on shipment of the goods, the exporter must lodge the documents within the time allowed by the credit. If the documents are in order as stipulated in the credit, the exporter will receive immediate payment if it provides for sight payment. If it calls for a bill drawn payable after sight, the bank will accept the bill which will then be available for discount. If, for any reason, the exporter is unable to present the document he must request the importer to instruct the relevant bank to extend or amend the credit.

In case where it is not possible to arrange a documentary credit and the arrangement is for payment to be made only when the goods have been sold, a bank can usually undertake the dispatch of the shipping documents and arrange the goods to be warehoused and insured in the name of a correspondent bank, pending delivery of the goods in part or in whole to the exporter's agent against payment. The correspondent bank will then remit proceeds of sales as and when they are made by the agent. Exporters who are dealing with first-class agents may be prepared to ship their goods on open account. In such cases, the exporter usually sends the documents directly by air mail to the consignee, who acts as his agent for the sale of the goods. Remittances, in order to avoid the inconveniences of collection, may be by a cheque on an Indian bank or by a telegraphic transfer.

Information and Other Services

As part of their comprehensive banking services, many banks act as a major source of information on overseas trade in all its aspects. Some banks produce regular bulletins on trade and economic conditions at home and abroad, and special reports on commodities and markets. In some cases, they invite enquiries from those wishing to extend their foreign trade, and are able through their correspondents to furnish the names of reputable and interested dealers of goods and commodities and to advise on the appointment of suitable agents. For businessmen travelling abroad, letters of introduction indicating the purpose of journey undertaken, can be issued addressed to banking correspondents in the various centres it is proposed to visit. In this way, it is often possible to establish new avenues of business. On request, banks obtain confidential opinions on the financial

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standing of companies, firms or individuals at home or overseas for customers for the purpose of business.

Commercial banks furnish advice and information of trade, outside its scope. If it is desired to set up a subsidiary or branch overseas(or, for an overseas company to set up in the home country) they provide detailed information on local legal requirements on company formation, tax requirements, exchange control and insurance, helping to establish contact with local banking organizations.

To sum up, the services rendered by a modern commercial bank is of inestimable value. It constitutes the very life blood of an advanced economic society. In the words of Walter Leaf:

'The banker is the universal arbiter of the world's economy.'

Certain Sound Commercial Principles

Just as in the case of any other commercial enterprise, the commercial banks strive to earn a profit. However, is profitability everything which a bank should pay attention to? Can we justify a commercial bank in employing its funds in a risky manner in anticipation of windfall profits? The answer is definitely in the negative. A commercial bank is a custodian of others' surplus funds. Therefore, while earning a profit, the bank should never forget the fact that it is doing business with the funds of others, which it acquires because of its credit. It has been seen that these funds (deposits) are either repayable on demand or after the expiry of a fixed period. In either case, the bank must be ready to meet the liabilities whenever necessary. In other words, it means that the bank has many outstanding contracts for the future delivery of money. In case of failure, it will suffer in its credit which is the very basic foundation on which its business stands. Not only will it feel the shock of such a failure, but it will also be transmitted to the other links of the banking system, thereby precipitating nation-wide bank failures. Hence, a commercial bank should always bear in mind that it is the guardian of a very delicate mechanism which paves the way for future economic development and which, if disturbed, will create monetary disequilibrium with all the evil effects incidental thereto. Obviously, a commercial bank should take the necessary precautions to keep its assets as liquid as possible. Now, the question arises as to what exactly is meant by the term 'liquidity.'

By 'liquidity' one means the capacity to produce cash on demand. No doubt, the most liquid asset is cash in the vaults of a bank. It is necessary for a bank to keep a certain percentage of the deposits in the form of liquid cash as reserve, either in its own vaults or with his bank, generally the Central Bank. However, such liquid cash does not earn anything and as such it is purely idle money, intended to provide the necessary liquidity by meeting the immediate withdrawals of deposits. As a rule, successful banking is dependent on the capacity of these reserves to meet the immediate requirements. When liquidity is provided by the cash reserves as above, a bank should invest its excess money in some assets which are liquid in nature and at the same time which could earn an income.

'Liquid assets' may be explained briefly. These are which can be turned into cash quickly and without loss, to meet the claims of the customers. However, if an asset is to be turned into cash quickly, it must be shiftable in nature. In other words, the liquidity of an asset depends on the question of shifting it to the central bank or to others willing to supply cash in exchange for it. For example, if a bank holds a first class bill of exchange, among its other assets, which satisfies the eligibility rules of the central bank, it can be rediscounted with the central bank when the bank is short of funds. Again, a government

security satisfies the quality of an ideal liquid asset since it is in great demand in the stock exchange and as such shiftable. However, it is important to remember that liquidity implies not only shiftability but also shiftability without loss. To take an example, the ordinary shares of an industrial enterprise may be shiftable but only at a discount. Here shiftability is possible only at a loss and hence it cannot be considered as an ideal banking asset.

The conclusion that one arrives at from the above analysis, is that commercial banks, while employing their funds, should pay regard both for profitability and liquidity. Liquidity in its turn is dependent on shiftability without loss. An important point to be remembered in this connection is that liquidity should not be sacrificed at the altar of profitability. At the same time no less important is it to remember that to maintain excessive liquidity is to sacrifice earnings, without which banking operations cannot be carried on successfully. An efficient and effective commercial bank would, therefore, follow a via media between liquidity and profitability while employing its funds and selecting its assets.

Employment of Funds by Commercial Banks

Generally, following are the important items seen on the assets side of the balance sheet of a commercial bank:

- Cash in hand
- Money at call and short notice
- Bills discounted
- Investments
- Loans and advances

The above items are given in the order of liquidity.

The first item appearing on the asset side of a commercial bank's balance sheet is 'cash in hand', including cash reserve at the central bank and demand deposits with other banks. This is the most liquid of all assets. From the point of view of profitability, a banker is tempted to minimize his cash holdings, while from the point of view of liquidity, he is tempted to maximize his cash holdings. To maintain more reserves than what is necessary is to impair the profits. The English bankers usually maintain a cash ratio of 8 per cent while in India, a higher cash ratio is desirable owing to the undeveloped and unpredictable nature of the money market.

A banker is generally guided by experience in deciding what proportion of his deposits in cash will enable him to meet all demands readily. In addition to the minimum requirements indicated by experience, a wise banker must necessarily allow for unpredictable needs. In this connection, certain important considerations influencing the cash reserves of a banker may be pointed out.

In the first place, if the customers are highly banking minded, the need for liquid cash will be small because in that case, depositors will seldom demand the payment of cash and will content themselves by the transfer of rights which the bank can do by mere book entries. Second, the banking habits of the customers and the business conditions of the locality will have an important bearing on the cash reserves. Certain businesses carried on by the depositors may make heavy occasional demands for cash which the banker will have to meet with adequate provision of liquid cash. Thirdly, it is also dependent on the reserves kept by other banks of the locality. If, certain banks are keeping higher amounts of cash reserves, other banks will be compelled to increase their cash ratio in

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their bid for popularity. Further, the nature of the accounts and the size of average deposits also influence cash reserves. For instance, if the accounts are of a fluctuating nature, a higher cash reserve may be required. So also the cash reserves of a bank having only a few large deposits will be generally large because of the chances of heavy withdrawals. On the other hand, if the bank has a large number of small sized deposits, the danger of large withdrawals by any individual customer will be less and hence it need not maintain a large amount of liquid cash. Again, the presence of a bankers' clearing house greatly reduces the need for liquid cash to be kept by a bank because it has only to provide for the difference between the cheques drawn on it and the cheques drawn by it on other banks. Even this difference is settled by mere book entries by the clearing house. Lastly, the bank has to take into account probable receipts of cash by it and probable demands upon it, in the near future.

Thus, the ratio of liquid cash to deposits which a banker should maintain is dependent upon a number of considerations. It varies from place to place and from bank to bank. Therefore, it is not possible to lay down any hard and fast rule regarding the exact cash reserve ratio which a bank should maintain. It has to give due consideration to the various factors discussed above and has to come to a conclusion as to the amount of liquid cash which it should maintain. In this connection, it may be pointed out that commercial banks, in most countries, are statutorily required to maintain a minimum reserve of liquid cash.

Earning Assets of a Bank

The cash reserves of a bank may be strengthened by a judicious selection of certain earning liquid assets. Among these 'money at call and short notice' stands first. This item represents largely the amounts lent to the discount market and/or to stock exchange which are recoverable either on demand or on serving a short notice. This constitutes the second line of defence. This asset has an advantage over 'cash reserves', the first line of defence of a commercial bank in so far as it satisfies, to a certain extent, both the attributes of a sound banking asset, viz., profitability as well as liquidity. It is liquid in the sense that it is recoverable at call or short notice; it is profitable in the sense that it earns interest.

'Bills discounted' is also considered as a highly earning liquid asset and is included among the 'money market assets.' It is considered to liquidate itself automatically out of the sale of the goods covered by such a bill (i.e., a first class bill of exchange is considered to be a self liquidating paper). Again, it is readily shiftable to the central bank (by rediscounting it with the central bank) without much loss because of the very short length of life of such a bill. As a matter of fact, a bill of exchange is generally of three months duration and as such the loss involved in rediscounting it will not be very great, even when it is not shifted. All this indicates that 'bills discounted' is one of the most earning liquid assets, satisfying both the qualities of an ideal banking asset.

It is not unusual for a commercial bank to invest its funds in stock exchange securities like government securities, semi-government securities, industrial securities, etc. These are represented by the term 'investments'. They enable the bank to obtain more earning than that afforded by 'loans at call and short notice' or 'bills discounted', although they are less liquid. Here the bank gives importance not only to the safety of the investment, but also to the possibility of easy conversion into cash without loss. The principles that influence a bank in rating these securities while selecting them are the safety of capital, easy marketability, stability of price and stability of income. The bank

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should always bear in mind that in buying these securities it is not its primary object to gain by a possible rise in the prices of these securities. Consideration should be given to this factor only if it is satisfied with the safety and stability of capital. Generally, commercial banks prefer government securities to the shares and stocks of joint stock companies. The reasons are manifold. Firstly, the repayment of capital is ensured because this depends on the creditworthiness of the whole nation, whereas in the case of an ordinary stock exchange security, safety of capital is entirely dependent on the creditworthiness of a single institution. Secondly, the yield from a government security is steady and reasonable. Thirdly, they are easily saleable without causing a glut in their market prices, whereas in the case ordinary industrial securities, sale of a large block of shares is likely to depress their prices.

The item 'loans and advances' comes next in the order of liquidity. For all practical purposes they are not shiftable. Of course, this is the most profitable of a bank's assets, and a bank's earnings are mainly derived from these assets. As a rule, a commercial bank will lend only for short-term commercial purposes. It is not considered to be its duty to provide long-term loans for investment purposes. Such loans are provided by specialized agencies such as industrial banks. The reason advanced in support of this view is that in the case of long-term loans, the bank will find it difficult to realize them when emergencies arise. For example, in the case of a mortgage, the mortgaged property may cover the loan with a safe margin. However, when the bank needs liquid cash most, it may find it difficult to convert the mortgaged property into liquid cash. Herein, lies the meaning of the oft-quoted statement. 'The art of banking lies in knowing the difference between a mortgage and a bill of exchange.' In the case of a bill of exchange, it is of a self liquidating character and offers an ideal security for a bank's investment for reasons already explained.

Certain general principles may be laid down which should guide a commercial bank when it is making loans and advances. Before granting a secured loan, it should carefully consider the margin of safety offered by the security, possibility of fluctuations in its vale and possibility of shiftability. In case of an unsecured loan, its repayment entirely depends on the credit of the borrower. As such, the cardinal principles which the bank should consider are 'character', 'capacity' and 'capital' (usually referred to as the three Cs) of the borrower. In either case the bank should aim at spreading these loans as widely as possible over many industries and localities. It is also advisable for a bank to advance moderate amounts to a large number of customers than advance large amounts to a small number of customers.

In addition to the above items, certain other items also appear on the assets side of a bank balance sheet, viz., 'acceptances and endorsements as per contra' and 'furniture, premises, etc'. Among these items, the item 'acceptances and endorsements as per contra' refers to the amounts due from the customers on whose behalf the bank has accepted bills of exchange. These amounts are due from the customers and hence they are considered as assets. In a certain sense, this item represents a liability of the bank also since the liability to honour these obligations will fall upon the bank if the customers fail to meet them on the due dates.

The other items such as furniture, premises, etc., are not important from the point of view of the investment portfolio of a bank as they are the least liquid of all the assets. Further, they are not intended for conversion into cash to meet an emergency.

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Self Liquidating Paper Theory *vs* Anticipated Income Theory

Traditional banking theory favoured by the conservative bankers holds that the earning assets of a bank should be limited to short-term self liquidating productive loans. These include self liquidating commercial papers or short-term loans intended to provide the current working capital, which in itself is of a self liquidating nature. The merit of the 'self liquidating theory' of commercial bank loans is derived from the fact that such loans are considered to liquidate themselves automatically out of the sale of goods covered by such a transaction. For instance, look at the case of a bill of exchange, a typical example of a self liquidating paper, drawn for the purpose of purchasing raw materials. The bill is covered by a genuine commercial transaction. And a bank is justified in giving a loan against such a paper because such self liquidating papers automatically provide the bank with liquidity through loan repayments. Not only that but they are also shiftable to the central bank in times of emergencies since the central bank, being the lender of the last resort, is willing to rediscount such self liquidating papers. The loss avoiding aspect of liquidity is also present here because of the very short periods for which these loans are given. Moreover, they protect the business world against inflation because of their elastic nature to correspond with trade demands. Their volume increases as production increases and decrease as production decreases. No wonder, the traditional bankers heavily favoured the claims of self liquidating theorists.

The validity of the self liquidating theory, however, has been challenged by certain modern writers. They are contend that the transaction covered by a self liquidating paper does not by itself always guarantee the liquidity of the loan, especially when there is an abnormal fall in the prices of those commodities covered by the transaction. It is said that customers' loans to provide their current working capital are not a safe and reliable source of bank liquidity. The contention that self liquidating commercial loans provide protection against inflation has also been challenged by the critics. They argue that during boom periods, when the business conditions are prosperous, the borrowers increase their loans by offering more and more self liquidating papers. As full employment is reached, the prices increase because of the increase in the money supply as compared to the output, introducing inflationary tendencies in the economy. They conclude by saying that the theory of self liquidating loans has fallen out of date. And as an alternative, they advocate a new theory of bank liquidity, viz., 'Anticipated Income Theory of Liquidity.' The origin of this theory lies in the extension of term loans by the commercial banks of the USA for financing long-term capital needs of industry. The loans are granted on the specific condition on the part of the borrower to conduct the financial and other affairs in such a manner as agreed upon between him and the bank. The loans are to be liquidated out of the anticipated earnings of the borrowing enterprise.

Whatever be the merits of such a theory, a point may be said in favour of the traditional theory of commercial bank assets. When a bank provides short-term self liquidating productive loans, it is fairly easy for the bank to gauge the liquid position of its customer because of the short length covered by such loans. In the case of long-term loans granted on the basis of anticipated incomes of such loans, the question involved is not one of gauging the current liquidity position of the borrower, but the future earning capacity of the borrower. This depends on the correct assessment of a number of factors which may go wrong. Due to this, conservative bankers still find favour with the view that it is always good commercial banking to make short-term self liquidating productive loans.

CHECK YOUR PROGRESS

1. What is the primary function of a commercial bank?
2. Define a 'letter of credit'.
3. What is a bank giro?
4. What is the main difference between credit cards and debit cards?

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3.3 CREDIT CREATION PROCESS

From the previous analysis, it is clear that commercial banks always try to maintain their holdings of idle cash to the lowest extent possible. In their attempt to achieve this end, they unwittingly increase the total amount of money in circulation in the community. It, however, does not mean that they increase the total amount of legal tender currency which is an exclusive prerogative of the central bank.

When it is said that a banker is lending money, he is actually lending money in the deposit credit with a right to the borrower to draw cheques against it. For instance, let us take the case of a loan granted to a customer. Instead of paying away the whole loan in the form of liquid cash, the bank will place the amount to the credit of the borrower. Thus, the borrower acquires a claim against the bank, just as a sum of money deposited by him with the bank creates a claim against the bank. Assuming the borrower draws cheques in favour of other people, they pay these cheques into their own banks for collection, and their deposits go up. Here, one may agree with Hartley Withers in that 'every loan creates a deposit'. Again, by purchasing securities or any other banking assets also a bank is adding to the total supply of money.

When the bank buys securities, it pays for them by its own cheque. This cheque, like a currency note issued by the central bank, is an IOU ('I Owe You') of the bank issuing it. And this is accepted by the seller of the securities because of his faith in the ability of the bank to produce cash on demand. The seller deposits this cheque in the very same bank or with any other bank where he has an account, thereby creating additional deposit money. Thus, the commercial banks as a system can and do increase the total amount of money in circulation by increasing the purchasing power of the people through the deposit money created by them.

A close analytical study of the mechanism of banking will simplify matters more. Let us take the case of a community where there is only one bank and where the people are highly banking minded so that all transactions are settled by means of cheques. Further, let us assume that that total amount of legal tender currency in circulation is ₹ 10,000 and the bank knows by experience that 10 per cent of its deposits as cash reserves is sufficient to meet the demands of its customers.

Since, there is only one bank in the community, people will deposit all their money in this particular bank. The balance sheet of the bank would then be:

Liabilities	₹	*Assets*	₹
Deposits	10,000	Cash in Hand	10,000

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According to our assumption, the bank need maintain a cash reserve of only 10 per cent of the deposits and can safely lend the balance amount of ₹ 9,000 to those who are in need of funds. The bank will place this amount to the credit of the borrowers, giving them the right to operate their accounts with cheques. Their deposits will consequently go up by this amount. The balance sheet of the bank, then, would be:

Liabilities	₹	*Assets*	₹
Deposits (original)	10,000	Cash in Hand	10,000
Deposits (i.e. credit Balance of borrowers)	9,000	Loans to clients	9,000
	19,000		**19,000**

These deposits, now standing to the credit of the borrowers are, as we know, claims against the bank. As such they command a purchasing power and hence they may be considered as good as money. Suppose the borrowers draw cheques in favour of their creditors. The payees of these cheques will not require liquid cash over the counter since they are highly banking minded, according to our supposition. On the other hand, they will deposit these cheques with our supposed single bank for collection. Here, what happens is merely a transfer of the credit balance of the borrowers to the credit of the accounts of the payees of their cheques. In short, although the total amount of legal tender currency in circulation is only to the order of ₹ 10,000, our bank, through the process of creating additional deposit money, has brought into effective circulation an additional amount of ₹ 9,000, thereby raising the total supply of money from ₹ 10,000 to ₹ 19,000. The power of the bank to increase the amount of money in circulation does not come to an end here. It can further increase the supply of money.

As shown in the above balance sheet, the amount of the deposits of the bank is now ₹ 19,000. The assumption is that the bank should maintain a cash reserve ratio of only 10 per cent. To maintain this, the bank only needs to provide an additional amount of ₹ 900 over and above the amount of ₹ 1,000 which it already maintains. Even then there is a balance of ₹ 8,100 in the vaults of the bank which it can lend without undergoing any risk. Now, the balance sheet position would be:

Liabilities	₹	*Assets*	₹
Deposits (original)	10,000	Cash in Hand	10,000
Deposits (deposited by the Payees of the cheques issued by the first borrowers	9,000	Loans to Clients.	
Deposits (credit balance of		9,000	
Subsequent borrowers)	8,100	8,100	17,100
	27,100		**27,100**

Here, the bank has to keep an additional cash reserve of ₹ 810. The total cash reserves increase to ₹ 2,710. Still there is a balance of loanable funds with the bank, amounting to ₹ 7,290.

Thus, the bank can go on increasing the creation of additional money. However, there are questions that crop up. Is it possible for the bank to increase credit without any limit? Is the power of the bank to increase the supply of deposit money unlimited? The answer is definitely in the negative.

Limitations on the Creation of Credit

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The power of commercial banks to create credit is limited mainly by the cash reserves which they have to hold against their deposits and the total amount of legal tender currency issued by the central bank. Every bank has to meet the demands of its customers to pay cash over the counter. Thus, a working reserve of liquid cash is always necessary for a bank. Of course, if the people are highly banking minded, a lower cash reserve will be sufficient. However, in the case of a community where the habits are not well developed, a higher cash reserve will be essential. In either case, a cash reserve is necessary. This acts as a brake on the power of the banks to create credit. To revert to the previous illustration, our supposed bank can go on creating further and further credit money till it finds that it has no more liquid cash to maintain the 10 per cent cash reserve ratio. In other words, it is in a position to supply more and more credit up to an additional amount of ₹ 90,000. If it wants to expand credit still further, either there should be an additional supply of liquid cash, which entirely is the sole prerogative of the central bank, or the cash ratio should be lowered which can be done only at its own peril. Moreover, a minimum cash reserve ratio is prescribed by law in most countries. Thus, a bank's power to create credit is limited by two factors, viz., the cash reserve ratio and the total amount of legal tender currency.

So far the analysis was confined to a community where there is only one bank. This is not a realistic assumption. However, admittedly, the multiplicity of banks will not make any material alteration in the mechanism of credit creation and the limitations on it. The banking system, taken as a whole, will be conducting its operations on the very same lines. The only difference is that if any bank tries in an isolated manner to expand credit more than the other banks, it will lose cash to other banks. So, in the case of a network of branches, each bank will have to keep in step with the others whenever it is creating credit.

In conclusion, commercial banks can increase the total amount of money in circulation through the process of credit creation. In the words of Sayers, 'Bankers are not merely purveyors of money, but also, in an important sense, manufacturers of money.'

Check Your Progress

5. Name the two factors restricting credit creation by banks.
6. How do commercial banks increase the total amount of money in circulation?

3.4 SPECIALIZED BANKS (IDBI AND NABARD)

There are many banks in India. However some of them are termed as the apex banks in India, such as IDBI, NABARD, EXIM Bank, IRBI, SIDBI, NHB, etc. Out of them the specialized bank as, i.e., IDBI and NABARD one discused in detail in the following section.

IDBI

The IDBI, which commenced operations in July 1964, provides term credit to industry. Though, the other institutions specializing in the field of industrial finance have been discharging their duties fairly efficiently, the help provided by them has been inadequate

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in relation to the needs of new and growing industrial enterprises in a dynamic economy like ours. In view of the dimensions of the problem that rapid industrialization was posing a new institution with wider functions and larger resources than those of the existing ones appeared necessary. Such an institution would be able to coordinate the activities of all other agencies which are or may be concerned with the provision of finance for industrial development. Accordingly, the Industrial Development Bank of India Act was passed in 1964.

Originally, the IDBI was established as a fully owned subsidiary of the RBI. In order to enlarge the role of the IDBI as the apex financial institution and to achieve more effective coordination among all financial institutions in the country, IDBI was delinked from the RBI with effect from February 1976, and made an autonomous corporation owned by the Government of India.

For enabling the IDBI to finance all types of industrial enterprises, these have been widely defined to include manufacturing, mining, processing and service industries covering shipping, transport and hotel industries, both in the private and public sectors and incorporated under the Indian Companies Act or any other law. Unlike other financial institutions, no restrictive provisions have been written in its statute. The Bank will thus be in a position to exercise a large degree of discretion in these matters.

The IDBI will provide direct assistance in the form of loans and advances or by subscribing to, purchasing or underwriting issues of stocks, shares, bonds or debentures. Such loans and advances and debentures could at the opinion of the Bank be converted into equity stocks and shares. It is empowered to guarantee deferred payment due from industrial concerns, loans raised by them in the public market or from scheduled banks, state cooperative banks and other notified institutions. It can also accept, discount or rediscount bonafide commercial bills or promissory notes of industrial concerns. The bank gives fresh strength to term lending institutions by providing refinance facilities for all periods, other than purely short-term, and by supplementing their capital and other resources.

A distinct feature of the IDBI Act is the provision for the creation of a special fund known as 'Development Assistance Fund'. This fund is intended to provide assistance for industries, which, for various reasons, such as heavy investments involved or low anticipated rate of return on capital, may not be able to obtain funds in the normal course but nevertheless be of such importance as to justify special assistance. The resources of the fund consist primarily of amounts received by way of loans, gifts, grants, donations, etc. Assistance from the fund requires prior approval of the government. Before seeking the approval, the bank should satisfy itself that banks or other financial institutions are not likely to provide finance to the enterprise concerned in the ordinary course of business.

The role of IDBI extends beyond the provision of financial and other assistance to industrial concerns. The bank can undertake promotional activities such as marketing and investment research and surveys as well as techno-economic studies. It can also provide technical and administrative assistance to any industrial enterprise for promotion, management or expansion. Above all, it has been assigned a positive role in the process of industrialization through planning and promoting of new industries to fill the gaps in the industrial structure of the country.

Since its inception, IDBI has been performing the role of the apex development bank of the country as well as that of a coordinator of the activities of the other term

financing institutions. The IDBI's role as an apex development bank may be summarized as follows:

- The functioning as the apex development bank of the country involves for the IDBI, the granting of substantial financial assistance besides the assumption of the role of leadership in several cases. This dual responsibility is particularly apparent in the provision of assistance to industrial project which because of technological compulsions are of a large size and call for substantial investment;
- The role of a coordinator is mainly performed through the machinery of a monthly inter-institutional meeting under the leadership of the IDBI;
- In the case of small projects all over the country, the IDBI fulfils its role of surveyor of supplementary resources and coordinator—through its schemes of refinancing of industrial loans and machinery bills rediscounting;
- In the field of medium and long-term export financing for engineering goods, the IDBI has been playing its dual role through its scheme of refinancing banks' assistance as well as direct participation with the banks in providing export finance.

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Bills Rediscounting Scheme of the IDBI

The Bills Rediscounting Scheme was introduced in April 1965, in terms of the powers vested in the IDBI under Section 9 (1) (b) of its statute, which authorizes it to accept, discount and rediscount bills of exchange and promissory notes of industrial concerns subject to such conditions as may be prescribed. The objective of the scheme is two fold. The manufacturers of indigenous machinery/capital equipment can push up the sales of their products by offering to the prospective purchase users deferred payment facilities. The manufacturer, of course, gets the value of the machinery within a few days of the delivery of the machinery by discounting the bill of exchange/promissory note arising out of the sale of the machinery with his banker. On the other hand, the manufacturer is enabled to utilize the machinery acquired and repay its cost over a number of years. The scheme thus facilitates the sale of machinery thereby contributing to the industrial progress of the country.

Other activities

IDBI's technology driven commercial bank adjunct — the IDBI Bank Ltd. — became functional during 1995–96. Its stock broking subsidiary, IDBI Capital Market Services Ltd., commenced operations in March 1995. The bank had set up a domestic Mutual Fund and an Asset Management Company in 1994–95.

NABARD

On the recommendations of the committee to review arrangements for Institutional Credit for Agriculture and Rural Development, the National Bank for Agricultural and Rural Development Act, 1981 was passed by the Parliament and the National Bank for Agricultural and Rural Development (NABARD) was established in July 1982 with an initial capital of ₹ 100 crore. The capital has been subsequently raised to ₹ 2,000 crore. NABARD started its operations in November 1982 by taking over the developmental and refinancing functions of the ARDC on the one hand and the RBI on the other. The Bank was organized with the basic objective of establishing an apex institution in the field of agricultural and rural development finance in such a way as to integrate the financing of various institutions involved in the development of rural areas.

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The paid-up capital of NABARD is shared equally by the Government of India and the RBI. It can augment its resources by drawing funds from the central government, the state governments, the RBI, international agencies including the World Bank group and by raising funds from the market through bonds and debentures. In addition, the resources of the National Agricultural (long-term operations) and the National Agricultural (stabilization) Funds of the RBI stand transferred to the National Rural Credit (long-term operations) and the National Rural Credit (stabilization) Funds of the NABARD. It can also borrow from the RBI for financing its short-term lending operations. In short, NABARD is well equipped with adequate financial resources to meet its commitments in the field of agricultural and rural development.

The management of NABARD is vested in a Board of Directors, consisting of the following members:

- A Deputy Governor of the RBI as Chairman
- Three nominees of the RBI
- Three nominees of the central government
- Three members, two with experience in cooperative banking and one in commercial banking
- Two nominees of the state governments
- Two experts in rural economics and rural development
- A managing director
- One or more full time directors

Functions

NABARD is established as a development bank, in terms of the preamble of the Act, 'for providing and regulating credit and other facilities for the promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas and for matters connected therewith or incidental thereto'. As an apex institution, it is accredited with all matters concerning policy, planning and operations in the field of credit for agriculture and other economic activities in rural areas. It performs all the functions performed by the erstwhile ARDC as well as those performed by the Agricultural Credit Department of the RBI in the field of agricultural and rural credit. Briefly, these include the following:

- Provision of short-term, medium-term and long-term financial assistance to cooperative credit institutions, RRBs and commercial banks for promoting agricultural and rural development;
- Provision of long-term loans to state governments for contribution to the share capital of cooperative credit institutions;
- Provision of long-term loans to any institution approved by the central government
- Contribution to the share capital of ordinary/rural debentures issued by any institution involved in agricultural and rural development;
- Provision of necessary resources by way of refinance to the institutions providing investment and production credit for promoting the various developmental activities in rural areas;
- Participation in institution building for improving absorption capacity of the credit delivery system including monitoring, formulation of rehabilitation schemes, restructuring of credit institutions, training of personnel, etc.;

- Coordination of the rural financing activities of all the institutions engaged in developmental work at the field level and maintaining liaison with Government of India, state governments, RBI and other national level institutions concerned with policy formulation;
- Preparation, on an annual basis, rural credit plans for all districts in the country (these plans form the basis for annual credit plans of all rural financial institutions);
- Undertaking monitoring and evaluation of projects refinanced by it;
- Promotion of research in agricultural and rural development;
- Inspection of cooperative credit institutions and RRBs.

It is gratifying to note that NABARD has played its dual role as an apex institution and as a refinancing agency creditably by participating actively in the development of policy formulation, planning, coordination, monitoring research, training and consultancy as well as refinancing areas relating to agricultural and rural development. The Research Cell of the Bank is paying particular attention to ensure that weaker sections of the rural population benefit more by schemes of refinance by the Bank, that there is simplification of procedures so that quick disposal of applications is possible and that the government's programmes of poverty eradication are supported in a meaningful way.

Rural Infrastructure Development Fund (RIDF)

RIDF was initially set up in NABARD in 1995–96 with a corpus of ₹ 2,000 crore with the major objective of providing funds to state governments and state-owned corporations at reasonable rates to enable them to complete various types of rural infrastructure projects pertaining to irrigation, flood protection, rural roads, bridges, etc. Under the scheme, the central government, through budgetary outlays, contributes to the corpus fund of RIDF. Commercial banks can, in turn, deploy their shortfalls in priority sector lending target to the fund. In order to encourage commercial banks towards direct lending to agriculture/priority sector, interest rates earned by commercial banks on RIDF deposits are kept inversely related to the shortfall in lending to agriculture. Furthermore, for ensuring parity in risk weights assigned to direct priority sector lending and RIDF deposits, credit risk weights for both types of fund deployments by commercial banks have been fixed at 100 per cent.

The fund has completed thirteen years of operation by 2007–08. The total corpus of the RIDF under Tranches I to XIII (excluding for Bharat Nirman) aggregated ₹ 72,000 crore. It was announced in the budget speech for the year 2008–09 that RIDF XIV, with a corpus of ₹ 14,000 crore, and a separate window under RIDF XIV for rural roads component under Bharat Nirman, with a corpus of ₹ 4,000 crore would be set up with NABARD for the year 2008–09. It was also announced that another fund would be set up with NABARD, viz., Short-term Cooperative Rural Credit (STCRC) (Refinance) Fund with a corpus of ₹ 5,000 crore.

Credit extended by NABARD

NABARD provides short-term credit facilities to State Cooperative Banks (STCBs) for financing seasonal agricultural operations, marketing of crops, pisciculture activities, production/procurement and marketing activities of industrial cooperatives, financing of individual artisans through PACs, purchase and distribution of fertilizers and allied activities and marketing activities. Medium-term facilities were provided to StCBs and RRBs for converting short-term loans for financing seasonal agricultural operations to medium-

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term (conversion) loans and approved agricultural purposes. Long-term loans are provided to the state governments for contributing to share capital of cooperative credit instituions. During 2007–08, NABARD sanctioned total credit limits of ₹ 18,689 crore for various short and medium-term purposes to StCBs and RRBs. The interest rate charged by NABARD has been uniform irrespective of the size and purpose of the loan.

Kisan Credit Card Scheme

The Kisan Credit Card (KCC) scheme introduced in August 1998 aims at providing adequate, timely and cost effective and hassle-free credit support to the farmers and is being implemented across India by all public sector commercial banks, RRBs and cooperative banks. The scheme is popular among both farmers and issuing bankers. Farmers have the flexibility to avail of production credit and also avoid procedural delays in getting credit sanctioned. For bankers, the need for repeated processing of credit applications is avoided. To cater to the comprehensive credit requirements of farmers under a single window, the scope of KCC is broadened by NABARD from time to time. In addition to short-term credit needs and term loans for agriculture and allied activities, a certain component of loans through KCC also covers consumption needs of the farmers, including defaulters, oral lessees, tenant farmers and share croppers, among others, who might have left out of the KCC scheme as also to identify new farmers. Banks were also advised to issue KCCs in a hassle-free manner and extend crop loans only through KCCs. To further expand the coverage of borrowers under KCC, the scheme was extended to borrowers of long-term cooperative credit structure, viz., PCARDBs and SCARDBs.

Gramin Tatkal Scheme

The Gramin Tatkal scheme formulated by NABARD is a unique loan product combining investment, production and consumption needs of rural families. The approach towards lending is 'family-centric' and the credit needs are assessed and loan decisions and repayment potential are determined on the basis of family cash flow, thus, allowing banks to decide the loan size and interest rate payable. The scheme is being implemented from 2006–07.

Check Your Progress

7. Give a distinct feature of IDBI Act.
8. What is the Bill Rediscounting Scheme of IDBI?
9. Why was NABARD established?

3.5 CENTRAL BANK AND ITS FUNCTIONS

Central banking is of comparatively recent origin in India. The Hilton Young Commission recommended the establishment of a Central Bank in India. In compliance with this recommendation, a Bill was introduced in the Legislative Assembly by the then finance minister in 1927. Unfortunately, it had to be abandoned owing to fundamental disagreement between the Assembly and the Government of India. The question assumed importance again with the unanimous recommendation of the Central Banking Enquiry Committee (1931) which viewed the matter 'to be of supreme importance from the point of view of

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the development of banking facilities in India, and of her economic development generally, that a Central or Reserve Bank shall be created at the earliest possible date'. Moreover, the White Paper on Indian Constitutional Reforms reiterated the importance of a Reserve Bank free from political influence. Accordingly, a fresh bill was introduced in the Legislative Assembly in 1933 and the Reserve Bank commenced its operations from 1 April 1935. Thus, the Reserve Bank of India (RBI) took a long time to come to fruition and perhaps the longest incubation period for any central bank in the world.

Objectives

The preamble to the Reserve Bank of India Act, 1934, lays down the object of the RBI to be 'to regulate the issue of bank notes and the keeping of reserve with a view to securing monetary stability in British India and generally to operate the currency and credit system of the country to its advantage'. The financial system of India, before the establishment of the RBI, had been utterly inadequate mainly because of the dual control of currency by the government and of credit by the Imperial Bank. The Hilton Young Commission pointed out the inherent weakness of a system in which the control of currency and credit is in the hands of two distinct authorities, whose policies may be widely divergent and in which the currency and banking services are controlled and managed separately from one another. Under the circumstances, the necessity of a single institution regulating the financial policy from the point of view of the economic development of the nation as a whole was keenly felt, and the RBI was constituted mainly with this object in view.

Secondly, according to Paragraph 32 of the introduction to White Paper on Indian Constitutional Reforms, the proposal for transfer of responsibility at the Centre from British to Indian hands was made dependent on the condition that a Reserve Bank, free from political influence, be established and be in successful operations. It was a 'fundamental condition of the success of the constitution that no room should be left for doubts as to the ability of India to maintain her financial stability and credit, both at home and abroad'.

Thirdly, the inadequacy of the Imperial Bank of India in controlling the money market was patent, because of the lack of confidence of other joint-stock banks on the Imperial Bank. The success of a central banking institution depends on the confidence which it inspires on the member banks and the influence which it exercises on them. But the Imperial Bank, which was acting as the central bank, was for all practical purposes a commercial bank competing with other joint-stock banks. Under these circumstances, it was decided to establish a Reserve Bank with the object of discharging purely central banking functions and thereby initiating a fresh start in the field of Indian central banking.

Organization

The RBI was originally constituted as a shareholders' bank with a share capital of ₹ 5 crore divided into 5 lakh fully paid up shares of ₹ 100 each. The entire share capital was owned by private individuals with the exception of shares of the nominal value of ₹ 2,30,000, which were allotted to the government for disposal at par to Directors of the Central Board of the Bank seeking to obtain the minimum share qualification.

For the successful operation of the Bank, the country was divided into five areas, viz., Mumbai, Kolkata, Chennai and Yangoon (the Yangoon office was closed in 1947). With a view to securing more or less even basis to shares all over the country, the shares were allotted on an even basis to shareholders registered in the five regions. To prevent

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concentration of shares in a few hands, it was further provided in the Act that each shareholder should be entitled to one vote for every five shares held, subject to a maximum of 10 votes. However, in course of time, the shares got concentrated in the Mumbai region. Even the amendment to the RBI Act in 1940 did not stop this evil concentration of shares in the Mumbai register. This defect was effectively remedied only with the nationalization of the RBI in 1949.

Nationalization of the RBI

In order to have a close integration between the policies of the RBI and those of the government, it was decided to nationalize the Bank immediately after the attainment of independence. In terms of the Reserve Bank (Transfer to Public Ownership) Act, 1948, the entire share capital of the Bank was acquired by the central government. From 1 January 1949, the RBI began functioning as a state-owned and state-controlled central bank. The nationalization of the RBI was in keeping with the contemporary world-wide tendency towards nationalization of central banks.

The affairs of the RBI are controlled by a central Board of Directors, consisting of the following members:

- One governor and not more than four deputy governors appointed by the central government for such periods not exceeding five years as may be fixed by the central government at the time of their appointment.
- Four directors nominated by the central government, one from each of the four local boards. The term of office of these directors is related to their membership in the local boards.
- Three other directors, nominated by the central government. These directors hold office for four years and there is provision in the Act for their retirement by rotation.
- One government official.

Besides the Central Board, there are local boards for the four regional areas of the country with headquarters at Mumbai, Kolkota, Chennai and New Delhi. Local board consists of five members appointed by the central government for a term of four years to represent, as far as possible, territorial and economic interests and interests of cooperative and indigenous banks. The functions of the local boards are to advise the Central Board on such matters as may generally or specifically be referred to them and to perform such duties as the Central Board may by regulations delegate to them.

3.5.1 Functions of the RBI

The RBI performs all the typical functions of a central bank. Its main function is to regulate the monetary mechanism comprising of the currency, banking and credit systems of the country. For this, the Bank is given the monopoly of note issue and has wide powers over the banking system. Another important function of the Bank is to conduct the banking and financial operations of the government. The Bank discharges certain other functions like maintaining the external value of the rupee, collection and publication of monetary and financial information, etc. The range of functions of the Bank has come to be steadily enlarged with the task of economic development assuming new urgency and dimensions. Implementation of appropriate monetary policies, no doubt, remains its most important function. At the same time, the Bank is taking an active part in fostering an adequate banking structure capable of meeting the needs of trade, industry, agriculture and commerce.

Monopoly of Note Issue

Under Section 22 of the RBI Act, the RBI has the sole right for the issue of currency other than one rupee notes and one rupee coins and subsidiary coins. As in the case of Bank of England, the RBI maintains two departments, viz., the Issue Department and the Banking Department. The notes are a liability of the Issue Department alone. The assets of the Issue Department which form the backing for the note issue are kept separate from those of the Banking Department. According to Section 33 of the RBI Act, the assets of the Issue Department against which bank notes are issued should consist of gold coin and bullion, foreign securities, rupee coins, Government of India securities and such bills of exchange and promissory notes payable in India and as are eligible for purchase by the Bank. Under the original Act of 1934, not less than 2/5th of the assets of the Issue Department were required to be held in gold coin, gold bullion or foreign securities. The value of gold coin and gold bullion was not allowed to fall below ₹ 40 crore. In order to facilitate the Second Five Year Plan, a change in the currency reserve position was brought about by the RBI (Amendment) Act, 1956. This Amendment Act provided for two changes in the monetary system, viz.:

1. The revaluation of gold reserves held by the RBI from the original very low price of ₹ 21.24 per tola to ₹ 62.50 per tola which was the rupee equivalent of the price agreed by the International Monetary Fund.
2. A shift from the Proportionate to the Minimum Reserve System with regard to the issue of currency.

Simultaneously, with the revaluation of gold, the minimum reserve to be held in gold was fixed at ₹ 115 crore. According to the second change, there would be no limit to the volume of currency that could be issued by the RBI provided it maintained a minimum of ₹ 115 crore of gold and ₹ 400 crore of foreign exchange. There was a further provision in the Amendment Act that the foreign exchange could be allowed to fall below ₹ 400 crore up to a limit of ₹ 300 crore under certain conditions and with the previous approval of the Government of India.

In October 1957, the RBI Act was further amended. According to this amendment, the aggregate value of gold coin, gold bullion and foreign securities held in the Issue Department should not at any time be less than ₹ 200 crore, of which the value of gold coin and gold bullion should, at no time, be less than ₹ 115 crore. The provision to Section 37 stipulating a floor limit on the value of foreign securities to be held in the Issue Department at ₹ 300 crore was deleted. The net effect of the amendment, therefore, is that while the provision about gold reserves remains unaltered, the effective minimum limit for foreign securities will be ₹ 85 crore. Provision has also been made, as in other countries, for the suspension of the requirement regarding reserves of foreign exchange to meet unforeseen contingencies. It must, however, have gold equivalent to ₹ 115 crore.

Currency Management

As an extension to the mentioned function, the RBI is entrusted with the task of currency management in India. Currently, it involves management of 3,800 crore pieces of currency notes valued at ₹ 2,33,000 crore. While currently 1,200 crore pieces are being printed every year, the printing capacity has been built up to a futuristic level of 1,800 crore pieces annually. The current position of supply of fresh notes is comfortable. Hence, the Bank is concentrating on faster and better distribution of notes and coins by augmenting its capacity to withdraw soiled notes from circulation and processing them in faster

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ways through increased mechanization and automation. Apart from maintaining adequate supply of fit notes in circulation and disposal of soiled notes, preventing counterfeiting of high denomination bank notes is another challenge faced by the RBI in the context of currency management. There are reports of organized counterfeiting from across the border. In order to combat this problem, the RBI has initiated a series of steps in cooperation with the central government. These include, among others, strengthening the security features on the currency notes and launching awareness campaigns about the available identifiable features in genuine bank notes.

Banker to Government

The RBI also manages the banking needs of the government. Its duty is to maintain and operate the government's deposit accounts. It also gathers receipts of funds and makes payments on behalf of the government.

Custodian of Cash Reserves

The RBI is the custodian of the country's reserves of international currency. This allows the bank to deal with crises that may occur with adverse balance of payments position. In addition, the RBI also has custody of cash reserves of the country's nationalized and private banks.

Lender of Last Resort

When commercial banks face financial difficulties, they approach the RBI for loans. However, the RBI may charge a higher rate of interest.

Central Clearance and Accounts Settlement

Since commercial banks have cash reserves deposited in the RBI, it is easier to deal with each other and settle the claim of each on the other through book keeping entries in the books of the RBI. Thus, the clearing of accounts is also a critical function of the RBI.

3.5.2 Monetary Policy of RBI

There appears to be a general consensus today that the primary objective of monetary policy should be domestic price stability. Maintenance of price stability and ensuring availability of adequate credit to the productive sectors of the economy are the major objectives of monetary policy in India. The stated objectives of monetary policy in India are 'to promote sufficient credit for growth while ensuring that there is no emergence of inflationary pressures on this account'. The relative emphasis between the objectives depends on the underlying economic conditions and is spelt out from time to time. As far as inflation is concerned, as compared to many other developing countries, India has been able to maintain a moderate level, and inflation rates in India rarely touched double digit. Although, the policy objectives of the Reserve Bank of India remained broadly unchanged over the years, there is some change in emphasis from time to time. In addition to the traditional objectives of growth and price stability, a third objective that has been gaining importance in the post-reform period is that of financial stability. While in the short run, there may exist some trade-off between the stated objectives, in the long run, the complementarities among them became more pronounced. The focus on growth and stability continues to be reflected in the overall stance of monetary policy in recent years. The policy statementsas well as mid-term reviews of the RBI have been

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focussing on the structural and regulatory measures to strengthen the financial system. The policy measures have been guided by the objectives of increasing operational efficiency of monetary policy, redefining the regulatory role of the RBI, strengthening prudential norms, and developing technological and institutional infrastructure. It may be noted in this connection that the policy statements of the RBI provide a framework for the monetary, structural and prudential measures that are initiated from time to time consistent with the overall objectives of growth, price stability and financial stability. In recent years, monetary management had to be constantly fine-tuned to keep pace with the fast evolving changes, accentuated by growing sophistication of financial markets and integration of domestic economy with the international economy.

Operating Procedures: Pre-reform Period vis-à-vis Post-reform Period

Before the early 1990s (i.e., during the pre-reform period), major monetary instruments used by the RBI were direct methods such as interest rate regulations, selective credit controls and cash reserve ratio system so as to neutralize the monetary impact of the government's budgetary operations. The administered interest rate regime during that period kept the yield rate of government securities artificially low. Demand for these securities was created through increases in Statutory Liquidity Ratio (SLR).

To be more precise, the logical evolution of the monetary policy setting in India in the 1970s were in the direction of credit rationing as an internal element of developmental planning. The rationing of credit evolved with food credit being given the first charge, followed by the prescribed priority sector lending, sectoral limits for credit deployment and selective credit controls. Sectoral credit limits became the proximate targets for monetary policy which were operated through allocation of non-food commercial bank credit. Selective credit controls were strengthened by the institution of Credit Authorization Scheme in 1966–68. With the nationalization of banks, the institutional apparatus for conducting monetary policy through the credit channel, with the virtual exclusion of other channels, was complete. Refinance was provided in order to make up for the shortfall of credit targets in relation to demand. The interest rate structure was administered, rendering it inflexible and sterile as an instrument of monetary policy. The policy of setting up interest rate ceilings up to 1997–98 in situations of excess demand reinforced the rationing of bank credit in order to influence aggregate demand.

The situation during the post-reform period (since the early 1990s) has changed. The government securities were made market related. Also, an array of other market related products was created. Simultaneously, the interest rate structure was rationalized and deregulated. Banks were given a free hand in the determination of the major rates. These developments enable the RBI to make use of open market operations as an effective instrument for liquidity management. The impact of large capital inflows during this period has been sterilized through open market operations.

In short, the conduct of monetary management has undergone significant changes in the 1990s in terms of objectives, framework and instruments, reflecting broadly the progressive liberalization of the economy. The RBI announced a multiple indicator approach in 1998–99, which accord the necessary flexibility to respond to changes in domestic and international economic and financial market conditions more effectively. The monetary stance of the RBI in the recent period has been to ensure that all legitimate requirements for credit are adequately met without affecting adversely the objective of price stability.

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During the pre-reform period, the bank rate had only a limited role as an instrument of monetary policy. It was activated in 1997. Along with the bank rate, open market operations have also been actively used. With the stance of the RBI to move away from sector-specific refinance scheme, the liquidity in the system is managed through the 'liquidity adjustment facility' (LAF). As explained in detail subsequently, the RBI influences liquidity on a day-to-day basis through this facility. The facility is being used as an effective flexible instrument for smoothening interest rates. The liquid adjustment facility has evolved as an effective mechanism for absorbing and/or injecting liquidity on a day-to-day basis in a flexible manner and, in the process, providing a corridor for the call money market and other short term interest rates. The operating procedures of the liquid adjustment facility are refined periodically to make it more efficient. As such, the repo and the reverse repo rates emerging from the LAF auctions essentially reflect the market conditions of availability of liquidity in the system along with the rate at which liquidity is available from the RBI.

The LAF operations coupled with judicious use of open market operations are expected to evolve into a principal operating procedure of monetary policy of the RBI. To this end, the RBI may have to reduce substantially the liquidity through refinance to banks and primary dealers. As cash reserve ratio gets lowered and repo market develops, the refinance facilities should also be lowered imparting more effectiveness to the conduct of monetary policy. The bank rate changes combined with cash reserve ratio and repo rate changes have emerged as signalling devices for interest rate changes and important tools of liquidity and monetary management.

Several landmark initiatives have been recently announced to make the conduct of monetary policy more effective. The decision to divest ownership functions in commercial banking, development of finance and securities trading activities, separation of supervisory functions in regard to cooperative banks, separation of public debt management functions from monetary policy, changes in operational conduct of monetary and fiscal policies suggested by Advisory Group on Transparency in Monetary and Fiscal Policies (Chairman being Shri M.Narasimham) and the tabling of Fiscal Responsibility and Budget Management Legislation mark a new phase in the evolution of monetary policy in India in the new millennium.

As observed in the report on Currency and Finance 2000–01: 'The conduct of monetary policy in India would continue to involve the constant rebalancing of objectives in terms of the relative importance assigned, the selection of instruments and operating frameworks, and a search for an improved understanding of the working of the economy and the channels through which monetary policy operates.'

In conclusion, it may be observed that in the conduct of monetary policy, a number of common features could be identified. The more important among them are as follows:

- There have been significant reductions in the reserve ratio to relieve the pressure on the banking sector and reduce the costs of intermediation. As a matter of fact, many countries now have no reserve requirements. And, in some countries, the level of minimum deposit at the central bank has fallen to such low levels that it is no longer considered to be an active monetary policy instrument.
- The deepening of financial markets and the growth of non-bank intermediation has induced the central banks to increase the market orientation of their instruments. A consequence of this is greater activism of central banks in liquidity management.

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- The greater activism through indirect instruments led to more intensive use of open market operations through flexible instruments like repo. The open market operations can be used for net injection or absorption of liquidity and can be resorted to irrespective of whether the operating target works through the rate channel or quantity channel.
- The market environment has induced many central banks to focus more on the interest rates rather than bank reserves in trying to influence liquidity.

Monetary Policy Making Process

In this context, it would be enlightening to have a brief idea on the process of monetary policy making in India, especially in order to get an idea as to the extent to which India complies with international standards and codes in the area of transparency in monetary and fiscal policies.

The process of making monetary policy in India is an elaborate one and there are a number of technical, analytical, institutional and dynamic inputs that go into the process. At the apex of making monetary policy making process is the Governor of the RBI, assisted by Deputy Governors and guided by deliberations of the Board of Directors. Monetary, economic and financial conditions are reviewed every week by a Committee of the Board of Directors so that advices are given or decisions are taken appropriately. There are Standing and Ad-hoc Committees or groups of the Board of Directors and Board for Financial Supervision as well, which play a critical role in regard to institutional developments. Periodical consultations with academics, market participants and financial intermediaries take place through Standing Committees and Ad-hoc groups, in addition to mechanisms such as resource management discussions with banks. Financial Markets Committee focusses on day-to-day market operations and tactics while a Monetary Policy Strategy Group analyses strategies on an on-going basis. In order to ensure coordination, periodical consultations with the government, mainly with Ministry of Finance, are made.

The stance on monetary policy and the rationale are communicated to the public mainly through the annual policy statement by the Governor of the RBI in April and the mid-term review in October. These statements are analytical, at times introspective and elaborate.

As part of the ongoing process of reforms, one of the Advisory Groups with Shri M. Narasimham as Chairman assessed the extent to India's compliance with international standards and codes in the area of 'Transparency in Monetary and Fiscal Policies'. The group, while noting that the policies and operations of the RBI largely conform to the IMF Code, made a set of recommendations for making India fully compliant with the Code. The main points covered in the recommendations and the follow-up actions in relation to them are summarized as follows:

(i) The objective of monetary policy should be set out by the government, as part of its overall economic policy package, and the government should be obliged to seek parliamentary debate on these objectives as also any changes in these objectives thereafter. The government should also consider prescribing to the RBI single objective such as medium term inflation while the government would have for itself a clearly set out hierarchy of objectives for which it could use other instruments of policy.

In relation to this recommendation, the RBI is of the view that at the current stage of institutional development and fiscal stance, coordination and harmony

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are of paramount importance though there is need for clear demarcation of responsibilities and accountability between the RBI and the government with appropriate degrees of transparency. Moving in this direction, the RBI is divesting all ownership functions in commercial banks as also term lending institutions, subject to approval by the government.

(ii) Amendment to relevant legislation to accord greater operational flexibility to the RBI for the conduct of monetary policy and regulation of the financial system.

The RBI has transmitted proposals for legislative changes in the RBI Act, which is under consideration of the government. These proposals, if endorsed by the Parliament, would accord greater operational flexibility to the RBI for conduct of monetary policy.

(iii) The government should set up its own independent debt management office to take over the functions being discharged by the RBI in order to avoid conflict of interest in conduct of monetary policy.

An enabling proposal to delink the function of debt management of the government from the RBI has been made in the Reserve Bank of India (Amendment) Bill, 2001. The government has decided, in principle, to delink these functions.

(iv) The RBI should set up a Monetary Policy Committee as a Committee of the Board of Directors, requiring no specific changes in the law.

In relation to this recommendation, the RBI has not taken any view. However, it needs to be noted that, as mentioned earlier, the transparency and consultative process in the RBI have been deepened and widened significantly in recent years.

The reconstituted Technical Advisory Committee on Monetary Policy (TACMP) with tenure up to January 2009 has strengthened the consultative mechanism for monetary policy in India as important issues are discussed in its meeting held from time to time. TACMP's role is, however, advisory in nature and the responsibility and accountability of the decision-making rests with the RBI. The Committee is headed by the RBI Governor with the Deputy Governor in charge of monetary policy as Vice-Chairman and comprises the other three Deputy Governors, two members of the Central Board of the RBI and five external members with expertise in the areas of monetary economics, central banking, financial markets and public finance.

Conclusion

The interest rate regime is made more flexible and responsive to economic fundamentals. The interest rate policy is evolving and at the present stage of development, it may not be as effective as it could be in more deregulated environment mainly because the financial markets lack depth and far from being fully integrated. Moreover, the public sector dominates the financial sector. This has a tendency to impede responses based on either market considerations or regulatory incentives. In the context of deceleration in industrial activity, the role of monetary policy in enabling the revival by marking down interest rates has been widely discussed. In this context, it is worth noting that the RBI has created a number of instruments, as a package, to ensure adequate liquidity and appropriate interest rates. Allowing for lending below prime lending rates (PLR), for instance, has resulted in a significant amount of lending at sub-PLR rates.

In recent years, the operating procedures of monetary policy have undergone significant changes. A major transformation has also taken place in the form of an

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expansion in the array of monetary instruments. The gradual switch over to indirect market-based instruments in the conduct of monetary policy was made possible because of simultaneous efforts at developing various segments of the financial market, particularly money, foreign exchange and government securities market. Reforms in the call money market when fully implemented in the next few years would mean completion of transition towards indirect instruments of monetary policy. The increasing responsibility of the RBI in undertaking reform in the financial market is to be seen essentially in the context of improving the effectiveness of the transmission channels of monetary policy. Development of financial markets has, therefore, encompassed regulatory and legal channels, building up of institutional infrastructure, constant fine tuning in market microstructure and massive upgradation of technological infrastructure. An important development in the evolution of monetary policy in India is the activation of the Bank Rate as an instrument of monetary policy in 1997. This was followed-up with a more active recourse to repo operations, leading to an orderly progress to a fullfledged liquid adjustment facility. With the emergence of financial markets with depth and sophistication , the Bank Rate would perform the critical function of the principal signalling variable and the LAF rates, setting a corridor for short term money market, would be the operating instruments of monetary policy.

Against the backdrop of risks to inflation and inflationary expectations because of upside pressures from international food and energy prices, the Annual Policy Statement for the year 2008–09 emphasized that the stance of monetary policy was geared towards maintenance of monetary and interest rate environment that accorded high priority to price stability, well-anchored inflation expectations and orderly conditions in financial markets while being conducive to continuation of growth momentum. In accordance with the policy stance, it was reiterated that the RBI would continue with its policy of active demand management of liquidity through appropriate use of the cash reserve ratio (CRR) stipulations and open market operations, including the market stabilization scheme and the liquidity adjustment facility (LAF), using all the policy instruments at its disposal flexibly, as and when warranted by the situation.

3.5.3 Instruments of Monetary Policy

In the following section, we will discuss the various instruments of monetary policy.

Bank Rate

Bank Rate is the rate at which the Reserve Bank of India rediscounts certain defined bills. The Bank Rate policy has been defined as 'the varying of the terms and of the conditions, in the broadest sense, under which the market may have temporary access to the central bank through discounts of selected short-term assets or through secured advances'. By manipulating the Bank Rate, the Reserve Bank can, to a certain extent, regulate commercial bank credit and the general credit situation in the country.

At the very outset, it may be pointed out that the bank rate policy has not been very successful in the past, as from its very inception the Bank had to maintain a cheap monetary policy under which the bank rate was maintained constantly at three per cent. The announcement of the Bank in 1951 increasing the bank rate to a three and a half per cent marks an important turning point in the bank rate policy hitherto followed by the Bank. Simultaneously, a drastic change had been effected in the Bank's policy of providing finance to the commercial banks in order to make the bank rate policy effective. The Bank announced that it would refrain from purchasing government securities to meet

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the seasonal requirements of scheduled banks but would, as a normal practice, advance money at the prevailing bank rate on government and other securities specified in the Reserve Bank of India Act. This was definitely a new step in the monetary policy pursued by the Bank till 1951. These measures had the immediate effect of making credit dearer. There was a general increase in the market rates also.

The bank rate was further increased to four per cent with effect from May 1957. As in the previous change, the market rates responded to this change. Thus, after a long period of cheap monetary policy, the Bank assumed a 'flexible interest rate' policy in the realm of monetary policy, acquiring thereby a greater measure of control over the banking system than it had ever before.

A summary of the history of the bank rate policy pursued by the Reserve Bank of India since 1957 is given as follows:

Oct.	1960	Introduction of slab rates system under which scheduled banks' access to the Reserve Bank is regulated under a three-tier structure of rates related to the extent of borrowing. This system combined the feature of direct limitations on borrowing and raising the cost of borrowing. It provided a technique whereby the objectives of credit restraint could be achieved without too large an adjustment in government security prices.
July	1962	Readjustment of slab rates and introduction of a four-tier system. The quota for each quarter would be 25 per cent of the average of the reserves required to be kept by each bank during each week in the previous quarter. Borrowings up o 100 per cent of the quotas would be at the Bank Rate. Any borrowing upto 200 per cent of the quotas would be at 1 per cent above the Bank Rate. From 200 to 400 per cent of the quotas would be at 2 per cent above the Bank Rate. Further borrowings would be at 2 per cent above Bank Rate. The new lending rate structure, in effect, meant a raising of the average lending rate of the Bank by about ½ per cent or more.
Oct.	1962	Revision of the lending rates.
January	1963	Bank Rate increased to 4 ½ per cent. Revised system of lending rates. Two-tier system replaces the then existing four-tier system.
Oct.	1963	Changes in the system of quotas and lending rates.
Sept.	1964	Bank Rate increased to 5 per cent. Withdrawal of the quota system. Introduction of the Differential Interest Rate system whereby banks would pay a progressively higher rate for their borrowings, the level of the rate depending on the real impairment of their liquidity position. ('Net Liquidity Position' is the total of a bank's cash balances in current account with other banks and investments in government securities less its total borrowings from the Reserve Bank of India and the State Bank of India and time liabilities.)
Feb.	1965	Bank Rate raised to 6 per cent. Terms of accommodation to banks tightened. Differential interest rate adjusted.
March	1968	Bank Rate lowered to 5 per cent.
Jan.	1971	Bank Rate raised to 6 per cent.
May	1973	Bank Rate raised to 7 per cent.
July	1974	Bank Rate raised to 9 per cent.
July	1976	Net Liquidity Ratio discontinued.
June	1981	Bank Rate raised to 10 per cent. Statutory Liquidity Ratio (SLR) raised to 35 per cent in October 1981 and to 36 per cent in September 1984.
July	1991	Bank Rate raised to 11 per cent.
Oct.	1991	Bank Rate raised to 12 per cent.
April	1997	Bank Rate lowered to 11 per cent.
June	1997	Bank Rate lowered to 10 per cent.
Oct.	1997	Bank Rate lowered to 9 per cent.
Jan.	1998	Bank Rate raised to 11 per cent.

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March	1998	Bank Rate lowered to 10.5 per cent.
April	1998	Bank Rate lowered to 10 per cent.
April	1998	Bank Rate further lowered to 9 per cent.
March	1999	Bank Rate lowered to 8 per cent.
April	2000	Bank Rate lowered to 7 per cent.
Oct.	2001	Bank Rate lowered to 6.5 per cent.
Oct.	2002	Bank Rate lowered to 6.25 per cent. This is the lowest Bank Rate since 1973. Over the last 4 ½ years, the Bank Rate has been reduced from 11 per cent to 6.25 per cent. This is the sharpest reduction in Bank Rate since independence.
April	2003	Bank Rate lowered to 6 per cent.

Thus, since 1951, the RBI resorted to changes in bank rate from time to time in order to exercise a restraining influence in an environment of serious imbalance in the economy. Along with these changes, adjustments had also been brought about in the interest rate structure through official measures.

Nevertheless, the fact has to be admitted that during the pre-reform period (i.e., prior to early 1990s), the bank rate had only a limited role as a monetary policy instrument. Interest rates as an instrument of monetary policy were activated during the post-reform period. In more precise terms, bank rate was activated and made a signalling and reference rate in April 1997 linking it to the rates at which accommodation is provided by the RBI. Since then changes in bank rate are seen as an integral part of the monetary policy stance of the RBI announced from time to time and provide a direction to general level of interest rates in the system. In other words, the importance of bank rate which influences the cost and availability of credit in the economy has increased since the 1990s. The bank rate was used to signal the stance of policy in association with other supporting instruments. In the recent period, given the surplus liquidity conditions in the financial market, coupled with the fact that discretionary liquidity was being provided at the reverse repo rate as and when required, the importance of bank rate as a signalling rate declined. It is desirable that the liquidity injections take place at a single rate. Accordingly the internal group on liquidity adjustment facility suggested that the bank rate, normal circumstances, be aligned to the reverse repo rate, and accordingly the entire liquidity support including refinance could be made available at the reverse repo rate/bank rate. The bank rate/reverse repo rate would, therefore, provide the upper bound to the interest rate corridor. The group also suggested that the RBI may continue to announce the bank rate independently. The activation of bank rate as an instrument of monetary policy was followed up with a more active recourse to repo operations, leading to an orderly progress to a fullfledged liquidity adjustment facility. In this connection, it would be relevant to trace the recent development of liquid adjustment facility.

Liquidity Adjustment Facility (LAF)

The RBI had agreed in principle with the recommendation of the Second Narasimham Committee (1998) that the RBI's support to the market should be through a Liquidity Adjustment Facility (LAF) operated by way of repo and reverse repo providing a reasonable corridor for market players. Pending further upgradation in technology and legal/procedural changes to facilitate electronic transfer and settlements, it was decided to introduce an Interim Liquidity Adjustment Facility (ILAF) in April 1999 through lending against collateral of government securities. The ILAF provided a mechanism by which liquidity would be injected at various rates, so that volatility in the money market was minimized and the market operated within a reasonable range. Under the ILAF, while

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liquidity was injected into the system through export credit refinance facility, collateralized lending facilities and liquidity support to primary dealers, the absorption of liquidity from the market was done through fixed rate repos supplemented by open market operations in dated government securities and treasury bills.

In line with the recommendation of the Narasimham Committee II, mentioned above, the RBI decided in June 2000 to introduce a liquidity adjustment facility to set a corridor for money market rates. LAF replaced the ILAF introduced in April 1999.

In the light of the experience gained during 1999–2000, the introduction of LAF by the RBI represented the first stage of transition to a fullfledged LAF. In this stage, the additional collateralized lending facility for banks and level II support to primary dealers were replaced by reverse repo auctions, while the fixed rate repo was replaced by variable rate repos, effective 5 June 2000. Thus, effective 5 June 2000, the first stage of LAF was operationalized. Initially, repos/reverse repos auctions were conducted on a daily basis and with one day maturity. Subsequently in August 2000, multiple repo/reverse repo auctions with 3–7 day maturity were introduced.

After extensive consultations with experts and market participants, the policy statement of April 2001 announced the decision to move over to the second phase in graduated steps. For more effective functioning of LAF, certain changes were effected in the operating procedures. In the second phase of LAF which commenced in May 2001, the minimum bid size was reduced from ₹ 10 crore to ₹ 5 crore to enable small level operators to participate in LAF auctions. The auction format for LAF was changed from the uniform price auction method to the multiple price auction method to ensure more responsible bidding. The second phase of LAF was introduced in synchronization with the rationalization of standing liquidity facilities. These facilities have been split into normal and backstop components. The switch over to the modified operating procedures has been smooth. The medium term objective is to move gradually towards a full fledged LAF and to do away with sector specific standing liquidity facilities.

The LAF, which has been increasingly emerging as the principal operating instrument of monetary policy, allow the RBI to manage market liquidity on a daily basis while helping the short-term money market interest rates to move within a corridor. Taking into account the recommendations of the Internal Group on LAF, referred to earlier, and the suggestions from the market participants and experts, the revised LAF scheme came into effect from 29 March 2004. The scheme outlined: (a) 7-day fixed rate repo to be conducted daily in place of daily LAF auctions; and (b) overnight fixed rate reverse repo to be conducted daily, on week days. Also the 14-day repo, which was reintroduced in 2001, conducted at fortnightly intervals, was being continued for some time in order to enable market participants to meet their prior commitments. With effect from October 2004, it has been decided to adopt the international usage of 'repo' and 'reverse repo' terms under LAF operations. Accordingly, absorption of liquidity by the RBI in the LAF window is termed as 'reverse repo' and injection of liquidity as 'repo'.

Although, repo auctions can be conducted at variable or fixed rates on overnight longer-term, given market preference and the need to transmit interest rate signals quickly, the LAF has settled into a fixed rate overnight auction mode since April 2004. The Second LAF (SLAF) which was introduced in 28 November 2005 to enable market participants to fine-tune their liquidity management during the day, was withdrawn with effect from 6 August 2007. With a view to fine-tuning the management of bank reserves on the last day of the maintenance period, the SLAF was reintroduced on 1 August 2008, to be conducted on reporting Fridays for banks. The salient features of the SLAF

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are the same as those of the LAF. However, the settlement for the LAF and SLAF is conducted separately and on a gross basis. The SLAF is conducted on a daily basis with effect from 17 September 2008. LAF operations continue to be supplemented by access to the RBI's standing facilities linked to the repo rate, export credit refinance to banks and standing liquidity facility to the primary dealers. The repo and reverse repo rates are revised in the light of the evolving macroeconomic and monetary conditions. These rates were kept unchanged during 2007–08. During 2008–09, up to July 2008, the repo rate was raised by 125 basis points in the light of evolving macroeconomic and monetary conditions. On 20 October 2008, however, the repo rate was cut by 100 basis points to 8 per cent. The repo rate was further reduced by 50 basis points to 7.5 per cent on 3 November 2008. On 8 December 2008, both repo and reverse repo rates were reduced by 100 basis points each to 6.5 per cent and 5.0 per cent, respectively.

Open Market Operations

'Open market operations' implies the purchases and sales of government securities. In a broader sense, these operations may be said to cover purchases and sales of equities, gold and foreign exchange, besides government securities. However, in most countries, these operations are confined to the sales and purchases of government securities.

According to Section 17 (8) of the RBI Act, the RBI is authorized to engage in the purchases and sales of securities of the central government or a state government or of such securities of a local authority as may be specified in this behalf by the central government on the recommendations of the Central Board of the RBI. Securities fully guaranteed as to principal and interest by any such government or authority is deemed for the purpose of this clause to be securities of such government or authority. Further, in terms of Section 17 (8) of the Act, the RBI is authorized to make purchases and sales of shares in, or capital of the State Bank of India or any other bank or financial institution notified by the central government in this behalf.

Before the Second World War, the volume of the RBI's open market operations was rather negligible. The Bank's operations assumed significant dimensions from 1944–45. During the pendency of war, the commercial banks were employing their excess funds by investing in government securities and the RBI's operations were mainly intended to assist the successful floatation of government loans. In the immediate post-war years there were large scale withdrawals of deposits from commercial banks owing to the turbulent political conditions in the country resulting in the general lack of confidence of dealers in the money market and the pent-up demand of trade and industry. Under these circumstances, commercial banks had to sell securities in the market to replenish their cash resources. In order to maintain security prices and to stabilize the financial structure of the country, the RBI increased its open market operations on a substantial scale.

In 1951, simultaneously with the raising of the bank rate, the RBI announced a change in its open market policy, of which reference has already been made in the previous section. According to this, it was decided to provide seasonal finance to banks not by making purchases of government securities but by granting temporary accommodation against the collateral of government securities. Since this change in policy, the RBI's open market operations have been, by and large, flexible and meaningful.

Nevertheless, during the pre-reform period, open market operations were not designed to suit the role of a full fledged instrument of monetary policy. They were carried out more for the purpose of assisting the government in its borrowing operations as well as for maintaining orderly market conditions in the government securities market

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than for influencing the availability and cost of credit. Till 1992, there were very large switch operations under which holders of government securities sold the securities to the RBI and bought an equivalent amount of securities. Such open market operations were totally neutral to overall monetary control. Again, under the administered interest rate regime, the RBI would purchase a large volume of securities in the primary market and sell the securities in the secondary market as part of its open market operations. As far as monetary control was concerned, the net effect of all these operations was generally neutral and as such open market operations were not an effective instrument of monetary control.

During the post-reform period, the situation has changed. Along with the activation of bank rate, discussed in the previous section, open market operations have also been actively used. The government securities market has been made market related. And an array of other market related instruments has been created. Simultaneously, the administered interest rate structure has been abolished and commercial banks have been given virtual freedom to determine the major rates. The cumulative effect of all these developments has enabled the RBI to make use of open market operations as an effective instrument for liquidity management. Through the instrument of open market operations now being conducted, together with LAF explained earlier, the RBI is able to withdraw liquidity or inject liquidity in the system as part of a conscious policy of monetary control.

Success of Open Market Operations

An important pre-requisite for the successful operation of open market operations is the stability of cash reserves of commercial banks. In India, banks maintain cash reserves with the RBI which are over above the statutory minimum, fluctuating with seasonal changes in monetary conditions. This constitutes a limiting factor in the successful operation of open market operations because the operations would only serve to reduce the excess reserves of commercial banks.

It is true that the presence of the unorganized sector of the Indian financial system has a dampening effect on the policies pursued by the RBI. However, the institutional setting in India, with all its shortcomings, may be said to be suitable for the conduct of open market operations. To quote the RBI:

> …the foremost condition for the effective conduct of open market operations is the presence of an active money and capital market. The financial markets in India, though not so well developed and closely integrated as those of the UK and the US, they are sufficiently broad and active to enable the Reserve Bank to buy and sell government securities in appropriate amounts without wide price fluctuations. The Reserve Bank itself has contributed significantly to the development of the money and capital markets in India both by helping to create a proper institutional framework and by assisting their further growth... .

The setting up of the Discount and Finance House of India and the Securities Trading Corporation are instances in this connection. Besides, the RBI has taken initiatives for the development of a system of Primary Dealers. The Primary Dealers' basic function is to purchase securities and to access them deeper into the market.

Another element for effective open market operations is the introduction of a Delivery Versus Payment (DVP) system under which the transfer of securities from the seller to the buyer and the payment therefore by the buyer to the seller would be simultaneous in respect of those who have an SGL Account and a Current Account with

the RBI. This will reduce the counter party risk and risk of diversion of funds through security transactions.

An important factor which may cause serious dislocation in the open market policies of a central bank is the lack of sufficient securities of different maturity with which it can conduct its operations. As regards the adequacy of this, it is observed that the RBI had always been equipped with sufficient securities. Although, it can not be denied that toward the early years of the Bank's existence, its portfolio of investments was small, since the war the volume and variety of securities in the Bank's portfolio have considerably increased, thus augmenting its capacity to undertake open market operations.

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The legal setting in India for the conduct of open market operations may also be considered as favourable. At present there are no restrictions either as to the quantity or the maturity of government securities which the RBI can buy or sell, and the Bank enjoys full discretion in this respect.

Variable Reserve Ratio Method

The limited efficacy of the bank rate policy and open market operations because of the peculiarities in the institutional and structural framework of the financial system during the pre-reform period, the RBI was vested with powers to vary the ratio of minimum cash reserves which the commercial banks are statutorily obliged to keep with the RBI. The original Act required the scheduled banks to maintain 5 per cent of their demand and 2 per cent of their time liabilities in deposit with the RBI, free of interest. The Amendment Act, 1956 empowered the RBI to vary the reserves between 5 and 20 per cent in respect of demand liabilities and between 2 and 8 per cent in respect of time liabilities. In addition to this, the RBI was also allowed to require the scheduled banks to keep additional reserve up to 100 per cent against any increase in deposits accruing to them after a certain specified date. The overall reserves to be maintained should not, however, exceed 20 per cent of demand and 8 per cent of time liabilities. Provision has been made for payment of interest on these reserves at the discretion of the RBI.

This amendment was necessitated owing to the growth of deposit money in relation to legal tender currency in circulation and the consequent power of the banks to increase credit money. The total notes in circulation which amounted to ₹ 1,189.84 crore in 1951–52 increased to ₹ 1,339.39 crore in 1955–56. The corresponding figures of scheduled banks' deposits were 859.20 crore and ₹ 1,003.54 crore. This evidently indicated the increase in the power of banks to accelerate the creation of credit money. Naturally, the authorities feared that the situation, if not checked in time, would accentuate the inflationary spiral. In this context, flexibility in the minimum reserve ratios was found essential. As was admitted by the then Minister for Revenue and Expenditure, while presenting the RBI (Amendment) Bill, 1956, in the Lok Sabha, 'under the present economic conditions, the bank rate policy and open market operations may not prove quite effective or feasible means of credit control…the Central Bank should be authorized to vary the percentage of deposits with it by the commercial banks from time to time'.

Subsequently, in September 1959, the Banking Regulation Act and the RBI Act were amended. In terms of these amendments, banks were required to keep with the RBI an average daily balance of 3 per cent of their total time and demand liabilities in India as against the previous requirement of 5 per cent of demand and 2 per cent of time liabilities. The cash reserve ratio (CRR) could be varied between 3 and 15 per cent. While fixing this ratio, changes in the pattern of deposits, viz., the large increase in time

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liabilities and the fall in the issuance period of fixed deposits were also borne in mind. Since this amendment, the statutory cash reserve ratio and the statutory liquidity ratio (SLR) had been changed from time to time according to the developing circumstances.

In brief, because of the very limited role of bank rate policy and open market operations, the RBI had to resort to frequent increases in CRR to freeze a part of the lendable resources of the banks in order to neutralize the expansionary impact of large fiscal deficits and the consequent generation of inflationary pressures. The CRR which had been at a minimum of 3 per cent of net time and demand liabilities in June 1973 was successively increased and reached the statutory maximum of 15 per cent in July 1989. In addition, the Bank prescribed incremental CRR. The CRR was brought down in phases to 4.5 per cent on 4 June 2004. On a review of the macroeconomic situation, the CRR was increased to 4.75 per cent effective 27 October 2004. The RBI chose to increase the CRR, partly for absorbing liquidity, but more importantly for signalling the RBI's concern at the unacceptable levels of inflation so that inflationary expectations are moderated while reiterating the importance of stability in financial market conditions. The CRR for scheduled commercial banks was increased by a cumulative of 150 basis points during 2007–08. During 2008–09, the CRR was first increased by 150 basis points in six phases of 25 basis points each to 9.0 per cent before a sharp reduction of 250 basis points to 6.5 per cent from the fortnight beginning 11 October 2008. The CRR was further reduced in two phases of 50 basis points each to 6.0 per cent and 5.5 per cent with effect from the fortnights beginning 25 October 2008 and 8 November 2008, respectively. The Annual Policy Statement for 2008–09 announced an increase in the CRR to 8.25 per cent with effect from the fortnight beginning 24 May 2008. As wholesale price index inflation continued to surge in the months following the policy announcement, the RBI in accordance with its pre-emptive and calibrated approach to contain inflation expectations, raised the CRR in two stages to 8.50 per cent and 8.75 per cent from the fortnights beginning 5 July 2008 and 19 July 2008, respectively. In view of the then macroeconomic and overall monetary conditions, the RBI increased the CRR of scheduled commercial banks to 9.0 per cent with effect from the fortnight beginning 30 August 2008. The measure was expected to impart a stabilizing influence on the economy in the period ahead.

The amendment made to the RBI Act, 1934 during 2006–07 enhanced the RBI's operational flexibility in monetary management. Provisions of Section 3 of the RBI (amendment) Act, 2006, came into force on 1 April 2007 following which, the floor and the ceiling on CRR to be prescribed by the RBI ceased to exist and no interest was payable on the CRR balances of banks with effect from the fortnight beginning 31 March 2007. The following table illustrates, at a glance, recent changes in Policy Rates and Cash Reserve Ratio:

Effective From	*Reverse Repo Rate*	*Repo Rate*	*Cash Reserve Ratio*
1	*2*	*3*	*4*
18 September 2004	4.50	6.00	4.75 (+0.25)
2 October 2004	4.50	6.00	5.00 (+0.25)
27 October 2004	4.75 (+0.25)	6.00	5.00
29 April 2005	5.00 (+0.25)	6.00	5.00
26 October 2005	5.25 (+0.25)	6.25 (+0.25)	5.00
24 January 2006	5.50 (+0.25)	6.50 (+0.25)	5.00
9 June 2006	5.75 (+0.25)	6.75 (+0.25)	5.00

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25 July	2006	6.00 (+0.25)	7.00 (+0.25)	5.00
31 October	2006	6.00	7.25 (+0.25)	5.00
23 December	2006	6.00	7.25	5.25 (+0.25)
6 January	2007	6.00	7.25	5.50 (+0.25)
31 January	2007	6.00	7.50 (+0.25)	5.50
17 February	2007	6.00	7.50	5.75 (+0.25)
3 March	2007	6.00	7.50	6.00 (+0.25)
31 March	2007	6.00	7.75 (+0.25)	6.00
14 April	2007	6.00	7.75	6.25 (+0.25)
28 April	2007	6.00	7.75	6.50 (+0.25)
4 August	2007	6.00	7.75	7.00 (+0.50)
10 November	2007	6.00	7.75	7.50 (+0.50)
26 April	2008	6.00	7.75	7.75 (+0.25)
10 May	2008	6.00	7.75	8.00 (+0.25)
24 May	2008	6.00	7.75	8.25 (+0.25)
12 June	2008	6.00	8.00 (+0.25)	8.25
25 June	2008	6.00	8.50 (+0.50)	8.25
5 July	2008	6.00	8.50	8.50 (+0.25)
19 July	2008	6.00	8.50	8.75 (+0.25)
30 July	2008	6.00	9.00 (+0.50)	8.75
30 August	2008	6.00	9.00	9.00 (+0.25)
11 October	2008	6.00	9.00	6.50 (-2.50)
20 October	2008	6.00	8.00 (-1.00)	6.50
25 October	2008	6.00	8.00	6.00 (-0.50)
3 November	2008	6.00	7.50 (-0.50)	6.00
8 November	2008	6.00	7.50	5.50 (-0.50)
8 December	2008	5.00 (-1.00)	6.50 (-1.00)	5.50

Note: 1. With effect from 29 October 2004, the nomenclature of repo and reverse repo was changed in keeping with international usage. Now, reverse repo indicates absorption of liquidity and repo signifies injection of liquidity. The nomenclature in this chapter is based on the new usage of terms even for the period prior to 29 October 2004.

2. Figures in parentheses indicate change in policy rates.

Alongside, the SLR was also raised from time to time. The SLR which was at a statutory minimum of 25 per cent of net time and demand liabilities in February 1970, reached 38.5 per cent in July 1989 as against the statutory maximum of 40 per cent. The SLR has been progressively brought down to the statutory minimum of 25 per cent in October 1997. Thus, the statutory pre-emption by way of SLR was significantly reduced over the years.

The Banking Regulation (Amendment) Act, 2007, which came into force on 23 January 2007, removed the floor rate of 25 per cent for SLR and empowered the RBI to determine SLR-eligible assets, among others. The RBI had maintained that the pre-emption under SLR at 25 per cent till the first week of November 2008. Banks, however, have continued to hold more than the prescribed minimum, though the amount exceeding the prescribed minimum has come down in recent years. The RBI began offering to banks additional liquidity support under the LAF from 17 September 2008. Banks obtain liquidity from the RBI under the LAF against the collateral of eligible securities that are in excess of their prescribed SLR. It was decided that, in addition purely as a temporary measure, scheduled commercial banks could avail additional liquidity support under the

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LAF to the extent of 1.0 per cent of their net demand and time liabilities and seek waiver of penal interest. In November 2008, it was decided to make the reduction permanent and accordingly, the SLR was reduced to 24 per cent of net demand and time liabilities, with effect from the fortnight beginning 8 November 2008. Furthermore, till end-June 2009, banks have been allowed relaxation in maintenance of SLR up to 1.5 per cent of their net demand and time liabilities to meet funding requirements of MFs, NBFCs and HFCs.

It may be recalled here that the Narasimham Committee (I) on Financial Sector Reforms recommended a progressive reduction in CRR and SLR over a period and an increase in the interest rate paid to banks on their SLR investments and, on CRR in respect of impounded deposits. Subsequent to the implementation of the financial sector reforms, CRR was gradually brought down to 12 per cent and effectively stands at 4.75 per cent on 16 November 2002. SLR has also been brought down to the statutory minimum level of 25 per cent.

In this connection, the fact has to be admitted that high reserve requirements create distortions in the financial system. Hence, even the abolition of reserve requirements is demanded by some quarters on the plea that with capital adequacy and prudential norms now in place, reserve requirements are no longer necessary. They point out that the market environment has induced many central banks to focus more on the interest rates rather than bank reserves in trying to influence liquidity. As a matter of fact, many countries now have no reserve requirements. And, in some countries, the level of minimum deposit at the central bank has fallen to such low levels that it is no longer considered to be an active monetary policy instrument. The above discussion abundantly makes it clear that even in India, there have been significant reductions in the reserve ratio to relieve the pressure on the banking sector and reduce the cost of intermediation.

Liquidity Management by the Reserve Bank of India: A Summing-up

Active liquidity management is a key element of the current monetary policy stance. The RBI manages liquidity through appropriate use of cash reserve ratio (CRR), open market operations (OMO) and market stabilization scheme (MSS) and policy instruments at its disposal flexibly, as and when the situation warrants. In the context of the uncertain and unsettled global situation and its indirect impact on the domestic economy in general and the financial market in particular, the RBI closely and continuously monitors the situation to respond swiftly and effectively to developments, employing both conventional and unconventional measures.

The Indian experience with liquidity management has been unique in several ways. First, unlike in several countries, the RBI Act, 1934 does not permit the monetary authority to float its own securities. Second, a combination of several instruments, viz., the LAF window, outright open market operations, MSS and CRR, is used for liquidity management. The RBI has now assigned the task of day-to-day liquidity management to LAF, while using MSS for addressing semi-durable liquidity mismatches. Third, liquidity management is presently done on a burden sharing basis where the costs of sterilization operations are shared by all stakeholders, i.e., the government in case of MSS, the RBI in case of LAF reverse repo and the banking system in case of CRR. Fourth, monetary measures are supplemented by regulatory and prudential measures whereby calibrated deceleration in credit to sensitive sectors were brought about through changes in risk weight and provisioning norms. Fifth, by adopting a more gradual and a phased approach towards

capital account liberalization, it has been possible to sustain capital inflows on a more stable basis even with the imposition of temporary capital controls.

While LAF and MSS have been able to bear a large part of the burden, some modulations in CRR and SLR have also been resorted to in order to meet the liquidity mismatches. For instance, on 16 September 2008, in regard to SLR, the RBI permitted banks to use up to one per cent of their NDTL, for a temporary period, for drawing liquidity support under LAF from the RBI, which was made a permanent reduction by one per cent to 24 per cent, with effect from the fortnight beginning 8 November 2008. The CRR which had been gradually increased from 4.5 per cent in 2004 to 9 per cent by August 2008 was cut by 350 basis points during 11 October to 9 November 2008 on review of the liquidity situation in the context of global and domestic developments. Thus, as the very recent experience shows, in the prudential ratios such as CRR and SLR combined with flexible use of the MSS, could be considered as a vast proof of back-up liquidity that is available for liquidity management as the situation may warrant for relieving market pressure at any given time. The recent innovation with respect to SLR for combating temporary systemic illiquidity is particularly noteworthy.

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Qualitative Credit Controls

Besides quantitative controls discussed above, the RBI may resort to qualitative restrictions to make effective its monetary policy measures.

Under the Banking Regulation Act, 1949, the RBI is vested with powers to control the entire banking system. In pursuance of Section 21 of the Act, the RBI may give directions to banking companies with regard to their lending policies, which they are bound to comply with. The section runs as follows:

1. Where the Reserve Bank is satisfied that it is necessary or expedient in the public interest so to do, it may determine the policy in relation to advances to be followed by banking companies generally or by any banking company in particular and when the policy has been so determined, all banking companies or the particular company concerned, as the case may be, shall be bound to follow the policy so determined.
2. Without prejudice to the generality of the power vested in the Reserve Bank under sub section (1), the Reserve Bank may give directions to banking companies, either generally or to any banking company or group of banking companies in particular, as to the purpose for which advances may or may not be made, the margins to be maintained in respect of secured advances and the rates of interest to be charged on advances, and each banking company shall be bound to comply with any directions as so given.

Again,

1. Where the Reserve Bank is satisfied that:
   (a) in the national interest or;
   (b) to prevent the affairs of any banking company being conducted in a manner detrimental to the interests of depositors or in a manner prejudicial to the interests of the banking company or;
   (c) to secure the proper management of any banking company generally.

It is necessary to issue directions to banking companies generally or to any banking company in particular, it may, from time to time, issue such directions as it deems fit, and the banking companies or the banking company, as the case may be, shall be bound to comply with such directions.

2. The Reserve Bank may, on representation made to it or on its own motion, Modify or cancel any directive issued under sub section (1), and in so modifying or cancelling any directive may impose such conditions as it thinks fit, subject to which the modification or cancellation shall have effect.

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Further, under Section 36 (1) (a) of the RBI Act, the RBI is empowered to caution or prohibit banking companies generally, or any banking company in particular against entering into any particular transaction or class of transactions. It may call for periodical as well as ad hoc returns and in the public interest may also publish such information as it deems fit.

Implementation of Selective Credit Controls

In order to enforce the policy of selective credit controls, the RBI used to issue directives to scheduled banks since the beginning of the Second Five Year Plan. The first such directive was issued on 17 May 1956, to all scheduled banks not to increase any credit limit they had already sanctioned and not to issue any fresh credit limit against rice and paddy in excess of ₹ 50,000 to any party. In September, this control was further extended to cover bank advances against other foodgrains, gram and other pulses, and cotton manufactures. Since then, the Bank continued to issue directives; some were by way of replacement or modification of previous ones and dome by way of extension of control measures to new sectors.

Objective of Selective Credit Controls

By and large, selective credit controls are employed for the purpose of controlling inflationary tendencies which appear owing to an increase in the total amount of money in circulation through an over expansion of bank credit. However, in a developing country like India, they are primarily intended to prevent the anti-social use of credit, which is associated with the speculative hoarding of stocks of strategic commodities like foodgrains, and to push down prices or at least to check an unwarranted increase in their prices. The bank rate policy, open market operations and variable reserve ratio system, which are employed in controlling the quantity of credit, are not effective in controlling the quality of credit and canalizing its flow into those lines where they are most called for and most needed, whereas selective credit controls are effective in controlling the quality of lending and investment operations of the banks and in restricting credit against particular commodities.

Salient Features of Selective Credit Controls

The policy of the RBI, while instituting selective credit controls, had been one of flexibility. In other words, the directives were promptly withdrawn when circumstances no longer needed their continuance. For instance, the Bank, while maintaining the broad framework of controls regulating advances against foodgrains by banks, had made from time to time suitable modifications to the structure of control to meet the needs of the changing situations. In other words, there was no rigid formula for the Bank while instituting selective credit controls. On the other hand, the measures had been essentially flexible so that they were modified according to the developing circumstances.

Another salient feature of the control technique had been the endeavour of the Bank to ensure that the measures did not hamper production.

The Bank had also been careful to make the necessary modifications in the controls according to the circumstances prevailing in different areas.

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Limitations of Selective Controls

The success of selective controls in arresting upward trends in prices does not depend on the availability of bank credit alone, but also on a variety of other factors including aggregate and individual demand and supply. It is unequivocally admitted that monetary techniques are no panacea for curing all ills in the economy caused by the scarcity of particular commodities in relation to their demand. In India, shortage of supply has always been one of the important factors contributing to hectic movements in prices.

Another limitation of this monetary technique arises from the fact that in so far as stocks of commodities are self-financed or privately financed, the role of bank finance is negligible.

Above all, it is a necessary pre-requisite for successful employment of the control measures that there should be an effective machinery for the preparation of the directives according to the peculiar circumstances of each commodity and for the monitoring of these measures.

Moral Suasion and Credit Rationing

'Moral suasion' implies persuasion of banks to follow certain lines of policies, impressing upon them the necessity to do so. There is no element of compulsion in this persuasion and as such the efficacy of this measure depends on the active cooperation of banks and their goodwill to fall in line with the advices of the RBI. That is why certain quarters have expressed doubts about the success of this instrument of monetary policy. However, the success which the RBI could achieve has been somewhat encouraging. A brief discussion of the activities of the Bank in this direction is, it is hoped, not out of place in this context.

After the devaluation of the rupee, as speculative activities were feared, the banks were advised to restrict their advances to genuine trade requirements and not to grant accommodation for any speculative purposes. During the recent years, the Governor of the RBI advises informally the commercial banks to follow the policy measures generally. The effect which these advices invoked has been, by and large, satisfactory; if not spectacular. The Bank's activities in this direction are facilitated by the concentration of resources in the hands of a few big banks which enables the Bank officials to have frequent informal consultations with the officials of these big banks and achieve satisfactory results.

'Direct action' implies the refusal of the RBI to extend rediscounting facilities and other financial accommodation to banks following unsound banking principles, or to grant further accommodation to banks whose capital and reserves are considered inadequate. The Bank is not resorting to this weapon very often, but cases of wilful and persistent violations of the rules could be met with the sharp blades of direct action with which the Bank is armoured.

Report of the Committee to Review the Working of the Monetary System

In 1982, the RBI constituted a Committee under the chairmanship of Prof Sukhamoy Chakravarty to review the working of the monetary system in India. The terms of reference of the committee were as follows:

- To review critically the structure and operations of the monetary system in the context of the basic objectives of planned development;

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- To evaluate the various instruments of monetary and credit policies;
- To assess the interaction of monetary policy and debt management;
- To recommend suitable measures for the formulation and operation of monetary and credit policies and for strengthening the instruments of monetary and credit policies.

The committee submitted its report in April 1985. The major findings and recommendations of the committee may be summarized as under:

1. In the context of planned economic development, the primary objective of the monetary policy should be price stability in the broader sense. Price stability in this context does not imply constant price level; it only implies that it should be consistent with annual increase of 4 per cent in the wholesale price index. Also, the objective of price stability should not come into conflict with the other socio-economic goals embodied in the Five Year Plans. The major factor that has contributed to the inflationary pressures has been the increase in money supply mainly through Reserve Bank's credit to the government. Hence, it is necessary that the government should aim at raising output level and the Reserve Bank should aim at controlling the expansion in reserve money and money supply.
2. The target for increase in money supply during any particular year should be announced in advance. The target should be in terms of a range, based on anticipated growth in output and in the light of the price situation. There could be modifications in the target range; but the circumstances under which such modifications are made should also be announced in advance. This type of monetary targeting will assist the Reserve Bank in making use of its monetary policy instruments effectively.
3. The government should restrict its recourse to Reserve Bank credit at predetermined levels so that monetization of debt could be restricted. With this end in view, the yield rate of government securities and treasury bills should be made more attractive. Thus, the government should raise the necessary financial resources by tapping the savings of the people and/or by increasing tax revenues or by incurring budget deficit financed from sources other than the Reserve Bank.
4. At present the official concept of budgetary deficit does not give a clear picture of the monetary impact of fiscal operations. This is because at present the budget deficit is measured in terms of increase in the level of treasury bills outstanding. This overstates the extent of monetary impact of fiscal operations, since no distinction is made between the absorption of treasury bills and the increase in the holdings of treasury bills by the Reserve Bank. Therefore, a change in the definition of budget deficit is necessary. Closer coordination of fiscal and monetary policies would be achieved if the government and the Reserve Bank could determine in advance the desired monetary impact of the government's borrowing programme as part of annual budget exercise.
5. Banks should have greater freedom in fixing their lending rates. This would prevent unnecessary use of credit which is possible at present due to relatively low rates of interest. Simultaneously, savers should be able to earn reasonable returns on their long-term savings. To achieve this, the rate of interest fixed by banks for deposits for five years and above should offer the saver a minimum positive real return of 2 per cent per annum. The nominal deposit rates should be fixed by the

Reserve Bank accordingly. Innovative schemes should be devised by banks to provide the small saver a better return.

6. There is an urgent need to improve productivity in all aspects of banking operations. Strict discipline should be enforced in the use of credit needs. Loan requests, for example should be carefully appraised. Also, it should be ensured that creation of additional capacity is not induced by the availability of funds at concessional rates. Preventive measures rather than remedial measures should be adopted to tackle the growing incidence of industrial sickness.
7. Concessional interest rates as a redistributive device should be used in a selective manner. There is need to provide adequate and timely credit to the priority sectors and the present preoccupation with concessional interest rates should be given up. A detailed review of overdues by areas and activity should be undertaken to initiate remedial action by the concerned departmental agencies and banks.
8. Continuance of cash credit as the predominant form of bank credit should be discouraged. This is because cash credit system makes it difficult to supervise the end use of bank credit. Appropriate measures should be undertaken to encourage loans and bill finance forms of bank credit. The procedural obstacles standing in the way of developing the bill market should be removed.
9. Money market in India should be restructured. A well-structured money market would pave the way for transmission of the impact of monetary regulation measures to the rest of the economy. In the restructured system, the treasury bills market, the call money market, the commercial bills market and the inter-corporate funds market should play an important role in the allocation of short-term resources with minimum transaction cost and minimum of delays. The Reserve Bank should take the necessary steps to develop an efficient money market in the country.
10. To protect the interests of the depositors, a proper system of licensing should be adopted in the case of traditional non-banking financial intermediaries such as chit funds, investment trusts, etc.
11. Monetary regulations should be the major responsibility of the Reserve Bank. It should not depend excessively on any single instrument of monetary policy. In addition, the Reserve Bank should use the regulatory measures early and gradually so that the effects of such regulations may not be too drastic and cause unintended hardship to specific sectors of the economy.
12. Reserve Bank's role in supporting developmental institutions should only be secondary. They should obtain their working funds ordinarily from sources other than the Reserve Bank.

The government has accepted the major recommendations of the committee and they are being implemented. Thus, the government has carried out an exercise to evolve aggregate monetary targets to ensure orderly monetary growth in consultation with the RBI. Further, the government has announced its acceptance of the new definition of budgetary deficit. As recommended by the committee, the yields on long-term government securities have been increased and the maximum maturity has been reduced. Also, the RBI has started issuing a new form of 182 days' treasury bill. The announcement by the RBI of its decision to compel large companies to meet 25 per cent of their working capital needs by discounting bills of exchange has been another step following the recommendation of the committee to discourage cash credit system. The establishment

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of the Discount and Finance House of India Ltd, has been yet another step in popularizing bill financing as recommended by the committee.

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CHECK YOUR PROGRESS

10. What is the main objective of the Reserve Bank of India?
11. What are the major objectives of the monetary policy in India?
12. Why was a multiple indicator approach announced by the RBI in 1998-99?
13. Define the bank rate policy.
14. What are open market operations?
15. What is an important factor which may cause serious dislocation in the open market policies of the central bank?

3.6 SUMMARY

- Commercial banks are organized on a joint stock company system, primarily for the purpose of earning a profit.
- The two essential functions of a commercial bank may best be summarized as the borrowing and the lending of money. They borrow money by taking all kinds of deposits.
- Besides these two main functions, a commercial bank performs a variety of other functions which may broadly be grouped under two main heads, viz., the agency services and the general utility services.
- A commercial bank provides a range of investment services. Customers can arrange for dividends to be sent to their bank and paid directly into their bank accounts, or for the bank to detach coupons from bearer bonds and present them for payment and to act upon announcements in the press of drawn bonds, coupons payable, etc.
- By selling drafts or orders and by issuing letters of credit, circular notes, travellers' cheques, etc., a commercial bank is discharging a very important function.
- Another function of great value, both to banks and businessmen, is that of the bank acting as a referee as to the respectability and financial status of the customer.
- A credit card is basically a payment mechanism which allows the holder of the card to make purchases without any immediate cash payment. Credit limit is fixed by the issuing bank and the limit is determined by the financial history as well as the type of card.
- The main difference between credit cards and debit cards lies in the words 'credit' and 'debit'. In case of a credit card, the card holder makes the cash payment at the end of the month. On other hand, in the case of a debit card, it runs down ones deposit account the moment the sale is made.
- An ATM (Automatic Teller Machine) Card is a variation of a debit card which one can use in a cash machine by punching in ones PIN (Personal Identification Number) for making cash withdrawals from ones bank account.

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- The first item appearing on the asset side of a commercial bank's balance sheet is 'cash in hand', including cash reserve at the central bank and demand deposits with other banks.
- 'Bills discounted' is also considered as a highly earning liquid asset and is included among the 'money market assets.'
- When the bank buys securities, it pays for them by its own cheque. This cheque, like a currency note issued by the central bank, is an IOU ('I Owe You') of the bank issuing it.
- The power of commercial banks to create credit is limited mainly by the cash reserves which they have to hold against their deposits and the total amount of legal tender currency issued by the central bank.
- The IDBI, which commenced operations in July 1964, provides term credit to industry.
- Originally, the IDBI was established as a fully owned subsidiary of the RBI. In order to enlarge the role of the IDBI as the apex financial institution and to achieve more effective coordination among all financial institutions in the country, IDBI was delinked from the RBI with effect from February 1976, and made an autonomous corporation owned by the Government of India.
- On the recommendations of the committee to review arrangements for Institutional Credit for Agriculture and Rural Development, the National Bank for Agricultural and Rural Development Act, 1981 was passed by the Parliament and the National Bank for Agricultural and Rural Development (NABARD) was established in July 1982 with an initial capital of ' 100 crore.
- The RBI performs all the typical functions of a central bank. Its main function is to regulate the monetary mechanism comprising of the currency, banking and credit systems of the country.
- Bank Rate is the rate at which the Reserve Bank of India rediscounts certain defined bills. The Bank Rate policy has been defined as 'the varying of the terms and of the conditions, in the broadest sense, under which the market may have temporary access to the central bank through discounts of selected short-term assets or through secured advances'.
- The RBI had agreed in principle with the recommendation of the Second Narasimham Committee (1998) that the RBI's support to the market should be through a Liquidity Adjustment Facility (LAF) operated by way of repo and reverse repo providing a reasonable corridor for market players.
- 'Open market operations' implies the purchases and sales of government securities. In a broader sense, these operations may be said to cover purchases and sales of equities, gold and foreign exchange, besides government securities.
- 'Moral suasion' implies persuasion of banks to follow certain lines of policies, impressing upon them the necessity to do so. There is no element of compulsion in this persuasion and as such the efficacy of this measure depends on the active cooperation of banks and their goodwill to fall in line with the advices of the RBI.

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3.7 KEY TERMS

- **Credit cards**: A credit card is basically a payment mechanism which allows the holder of the card to make purchases without any immediate cash payment.
- **Circular notes:** Circular notes are cheques on the issuing banker for certain round sums in his own currency.
- **Demand bill:** Demand bill is a bill of exchange that is payable on demand.
- **Statutory liquidity ratio** (**SLR**): Statutory liquidity ratio is the Indian government term for reserve requirement that the commercial banks in India require to maintain in the form of gold, government approved securities before providing credit to the customers.
- **Cash reserve ratio** (**CRR**): Cash Reserve Ratio is a specified minimum fraction of the total deposits of customers, which commercial banks have to hold as reserves either in cash or as deposits with the central bank. CRR is set according to the guidelines of the central bank of a country.
- **Repo rate:** Repo rate is the rate at which the central bank of a country (Reserve Bank of India in case of India) lends money to commercial banks in the event of any shortfall of funds. Repo rate is used by monetary authorities to control inflation.

3.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The primary function of a commercial bank is that of a broker and a dealer in money.
2. A 'letter of credit' is a document issued by a banker, authorizing some other bank to whom it is addressed, to honour the cheques of a person named in the document, to the extent of a stated amount in the letter and charge the same to the account of the grantor of the letter of credit.
3. The band giro is a system by which a bank customer with many payments to make, instead of drawing a cheque for each time, may simply instruct his bank to transfer to the bank accounts of his creditors the amount due from him.
4. The main difference between credit cards and debit cards lies in the words 'credit' and 'debit'. In case of a credit card, the card holder makes the cash payment at the end of the month. On other hand, in the case of a debit card, it runs down ones deposit account the moment the sale is made.
5. A bank's power to create credit is limited by two factors, viz., the cash reserve ratio and the total amount of legal tender currency.
6. Commercial banks can increase the total amount of money in circulation through the process of credit creation.
7. A distinct feature of IDBI Act is the provision for the creation of a special fund, known as 'Development Assistance Fund'.
8. The Bills Rediscounting Scheme was introduced in April 1965, in terms of the powers vested in the IDBI under Section 9 (1) (b) of its statute, which authorizes it to accept, discount and rediscount bills of exchange and promissory notes of industrial concerns subject to such conditions as may be prescribed.

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9. On the recommendations of the committee to review arrangements for Institutional Credit for Agriculture and Rural Development, the National Bank for Agricultural and Rural Development Act, 1981 was passed by the Parliament and the National Bank for Agricultural and Rural Development (NABARD) was established in July 1982 with an initial capital of '100 crore.
10. The main objective of the Reserve Bank of India is 'to regulate the monetary mechanism comprising of the currency, banking and credit systems of the country'.
11. Maintenance of price stability and ensuring availability of adequate credit to the productive sectors of the economy are the major objectives of the monetary policy in India.
12. A multiple indicator approach was announced by the RBI in 1998–99 to accord the necessary flexibility to respond to changes in domestic and international economic and financial market conditions more effectively.
13. The bank rate policy has been defined as 'the varying of the terms and of the conditions, in the broadest sense, under which the market may have temporary access to the central bank through discounts of selected short-term assets or through secured advances'.
14. Open market operations imply the purchase and sale of government securities. In a broader sense, these operations may be said to cover purchases and sales of equities, gold and foreign exchange, besides government securities.
15. An important factor which may cause serious dislocation in the open market policies of the central bank is the lack of sufficient securities of different maturity with which it can conduct its operations.

3.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. Outline the monetary policy pursued by the Reserve Bank of India.
2. State the limitations of monetary policy.
3. Write a short note on the monetary policy making process in India.
4. What are the limitations on the creation of credit by commercial banks?
5. State the basic features of a credit card.
6. Write a short note on ATM.

Long-Answer Questions

1. Explain the monetary transmission mechanism of the central banks.
2. Describe the mechanism of bank rate policy.
3. Discuss the open market operations of the Reserve Bank of India with special emphasis on their success.
4. Explain the mechanism of credit creation by commercial banks and point out the limitations in credit creation.

5. Explain the concept of credit planning, bringing out clearly the objectives and operation of credit planning.
6. Analyse the difference between the credit cards and debit cards.

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3.10 FURTHER READING

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UNIT 4 INFLATION

Structure

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4.0 INTRODUCTION

According to the public understanding, inflation means a condition which produces a rising trend in the general price level in the economy. Inflation may, however, be present in the economy if the sustained price rise, which would have otherwise occurred, is prevented from occurring by imposing the price and physical controls in the economy. Such a situation is called 'suppressed inflation'. Inflation is not amenable to any one definition.

According to the Chambers' Twentieth Century Dictionary, inflation is an 'undue increase in quantity of money in proportion to buying power, as on an excessive issue of fiduciary money.' Gardner Ackley has defined inflation 'as a persistent and appreciable rise in the general level or average of prices.' According to this definition, a sporadic price spurt or an imperceptible rise in prices will not be inflation. Elaborating further, Ackley has stated: 'We define inflation as rising prices, not as 'high' prices. In some sense, then inflation is a disequilibrium state; it must be analysed dynamically rather than with the tools of statics.' According to Crowther, 'inflation is a state in which the value of money is falling, i.e., prices are rising.' According to Pigou, inflation exists 'when money income is expanding relatively to the output of work done by the productive agents for which it is the payment.' In general, inflation may, therefore, be defined as a sustained rise in the general price level brought about by high rates of expansion in the aggregate money supply although in the contemporary discussions on inflation it is defined as a sustained rise in the general price level, howsoever generated. All these definitions have a common feature of stressing the point that inflation is a process of rising prices and not a state of high prices, showing a state of disequilibrium between the aggregate supply and the aggregate demand at the existing or current prices necessitating a rise in the general price level in the economy.

In this unit, you will learn about the concept of inflation, its causes and effects. This unit will also discus the measures used for controlling inflation.

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4.1 UNIT OBJECTIVES

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

- Define the concept of inflation and its various forms
- Identify the various causes of inflation
- List the effects of inflation on various classes
- Explain the measures for controlling inflation

4.2 CAUSES OF INFLATION

Inflation is a persistent rise in the general price level rather than a once-for-all rise in it. It should be noted that most economists all around the world have assumed that price stability is the main objective of economic policies.

The value of money can be divided into four parts, which are as follows:

- Inflation
- Deflation
- Reflation
- Disinflation

Forms of Inflation

In economic life there are several forms of inflation. Some of them are as follows:

- **Production inflation:** Sometimes the production of goods and services decrease, that time the disequilibrium between the demand and the supply exist. At the time of lower level of production, the demand exceeds the supply; this situation is known as inflation. Production inflation can also exist when the production is fixed and the money income of the consumers increases.
- **Currency inflation:** As it is clear from the name, the inflation due to increase in the currency is known as currency inflation. When the government or the central bank of a country increases the money supply in a high volume, it will increase the general price level. This inflation is known as currency inflation. Normally, in the case of war or in some economic difficulties, central bank increases the money supply in a high volume.
- **Credit money:** The total money stock of a country is the sum of high power money (money supply by the central bank), and the credit creation by the commercial banks. In today's world, credit money has a significant value in the monetary system.

Inflation on the basis of motion

On the basis of motion, inflation can be divided into four parts:

- **Creeping inflation:** When there is a slow increase in the general price level due to inflation, then it is known as creeping inflation. The rate of increase in this inflation is not more than 2 per cent in a year. According to Keynes, it is a must for the development of an economy.

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- **Walking inflation**: When the government and other monetary authorities are not able to control the creeping inflation, it takes the form of walking inflation. The rate of increase in the inflation is more in walking inflation, in comparison with creeping inflation. It affects the people adversely. According to Keynes, this is the form of real inflation.
- **Running inflation:** In running inflation, the rate of increase in the inflation increases at a higher rate. It affects the fixed income group adversely.
- **Galloping inflation:** It is the worst form of inflation, which is possible in any country after the failure of central bank, and other monetary authorities. In this situation, the increase in price affects people very badly and the prices became uncontrollable. According to Keynes, 'this condition of inflation is possible only after the point of full employment.'

Inflationary and Deflationary Gap

It should be noted that equilibrium cannot be on the full employment level. It should be considered that the equilibrium level may involve much unemployment and waste of natural resources. It means that the only level of equilibrium that can be considered desirable is that which provides the near full employment.

Inflationary Gap

The concept of inflationary gap has been propounded by Keynes. According to Keynes, inflationary gap arises when consumption and investment spending together are greater than the full employment gross national product level.

In other words, it is a gap between money incomes of the community and the available supply of output of goods and services. In this situation, more goods will be demanded than the economic system can produce. The result will be that the prices will begin to rise and an inflationary situation will emerge.

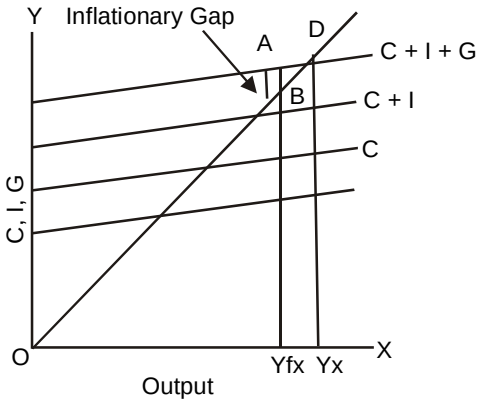

Fig. 4.1 *Inflationary Gap*

In Figure 4.1, the inflationary gap has been shown. C, I, G stand for the consumption, Investment and the Government Expenditure. (C+I+G), shows the total expenditure on demand in the economy. At this level Yx is the total real output. Yfx shows a full employment limit on real output Yfx. Real income of the economy cannot reach Yx, so the total demand (C+I+G), exceeds total output, leaving a gap AB, which is known as inflationary gap.

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Deflationary Gap

Similarly, you can show the deflationary gap with the help of a graph. This would come into existence, if total aggregate demand is insufficient to create the full employment. Yx is the total output at full employment. Let us assume that the total demand is (C+I+G)' which cuts the 45° line at B, with real output Y'x. AB is the deflationary gap.

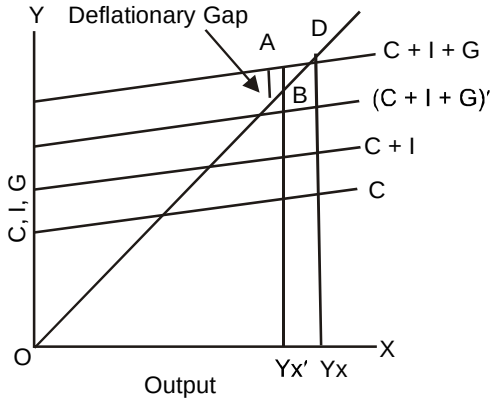

Fig. 4.2 *Deflationary Gap*

In figure 4.2, the deflationary gap has been shown. The output has been assumed on X axis, on the other hand consumption, investment and the government expenditure have been shown on the Y axis. The deflationary gap has been shown in the graph as AB.

Demand Pull Inflation

This represents the situation where the basic factor at work is the increase in the aggregate demand for output either from the government or the entrepreneur or the households. The result is that the pressure of demand is such that it cannot be met by the currently supply of output.

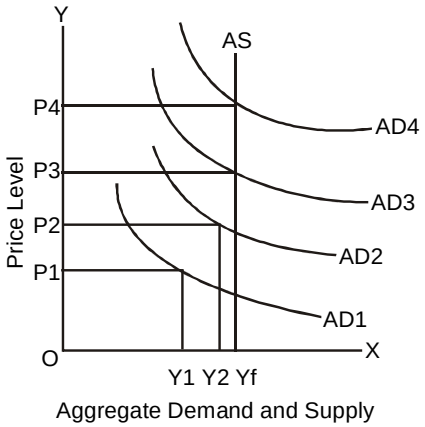

Fig. 4.3 *Demand Pull Inflation*

It should be noted that Keynes has propounded the concept of demand pull inflation in his booklet, *How to Pay for war*, and it is surprising that it was published during the Second World War. In this theory, Keynes has explained the inflation in terms of excess demand for goods to the aggregate supply of their output.

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In Figure 4.3, you have assumed the aggregate demand and aggregate supply on the X axis; on the other hand you have assumed the price level on the Y axis. Aggregate supply curve is upward in the beginning but became vertical after the full employment level. According to the figure when it intersects the AD3, it becomes vertical, because after the full employment, the supply of output cannot be increased.

When the aggregate demand was AD1, the equilibrium is at the level less than full employment and the price decided is P1. When the aggregate demand increased from AD1 to AD2, the price level also increased from P1 to P2. it should be noticed in this case the aggregate output supplied also increased from OY1 to OY2. If the aggregate demand further increased to AD3, the price level rises to P3, and the output increased to OYf.

If the aggregate demand further increases, say to AD4, only price level rises to OP4 , and the output remains constant at Yf. OYf is the full employment level of output and aggregate supply curve is perfectly inelastic at Yf.

Factors that Increase or Decrease Aggregate Demand

Aggregate demand can increase or decrease depending on several factors. These factors cause upward or downward shifts in the aggregate demand curve. These are as follows:

Exchange Rates: When the exchange rate increases, this results in a decrease in net exports. Thus, aggregate expenditure will go down at all prices, that is, aggregate demand will decrease.

Distribution of Income: When the real wages of people increase, they have more money to spend and consume. This results in an increase in the consumption expenditures to increase.

Expectations: Consumers adjust their spending in accordance with their expectations of the economy. If they expect the economy to not do so well in the future, savings would increase thus overall expenditures will decrease. Rising price levels will cause aggregate demand to increase. If consumers foresee the price level to rise in the near future, they might just go out and buy that good now, increasing the consumption expenditures in aggregate demand.

Monetary and Fiscal Policies: Government policies have an effect on aggregate demand. Government spending or increase in taxes influence how consumers spend or save. An expansionary fiscal policy of the government causes aggregate demand to increase, while a contractionary monetary policy causes it to decrease.

Cost Push Inflation

In the early theories of inflation, the emphasis was given only on the inflation created by the demand. In the classical quantity theory of money and also in the Keynesian theory of money, both suggested that the reason of inflation is the excess of aggregate demand over the supply. However, after 1950, a new theory came into existence, the cost push inflation or in other words new inflation theory. The theory explains that inflation occurs because of the rise in the cost of goods by an increase in the cost of production.

Some economists have found nothing new in the new inflation theory as Martin Bronfenbrenner and F. D. Holzman stated. cost inflation has been the layman's instinctive explanation of general price increase, since the dawn of the monetary system.

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The cost push inflation can be divided into three parts, such as follows:

- Wage push inflation
- Profit push inflation
- Increase in prices raw materials, like crude oil prices and energy prices

Wage Push Inflation

In today's world, trade unions are very strong, and they push the producers for higher wages. In this theory, it has been discussed that mainly the trade unions are responsible for wage push inflation. When trade unions push for higher wages, which are not justifiable either on the grounds of a prior rise in productivity or of cost of living, they produce a cost push effect.

In the above situation, the employer is bound to increase the wages, because of the competition in the labour market. Employers also like to think that they can pass on these cost to the consumers in the form of hike in prices. This situation is known as wage push inflation. Wage push inflation is a major cause of cost push inflation. Cost push inflation tell us that even if the aggregate demand is not increasing, prices may be able to rise, because of the increase in the cost of production.

It should be noted that with the increase in the wages, the aggregate supply curve shifts towards left, with a given aggregate demand curve. This results in higher prices of output.

Profit Push Inflation

The profit push inflation is one of the causes of cost push inflation; firms operating under the monopoly market or in oligopolistic market can charge a higher price to increase their profits. In the above case because of the increase in wages of the employees, the cost push inflation exists. However, in this case, the cause of cost push inflation is the increase of profit. Also, in this case the aggregate supply curve shifts towards left with the fixed aggregate demand curve, and the result is increase in price (Figure 4.4).

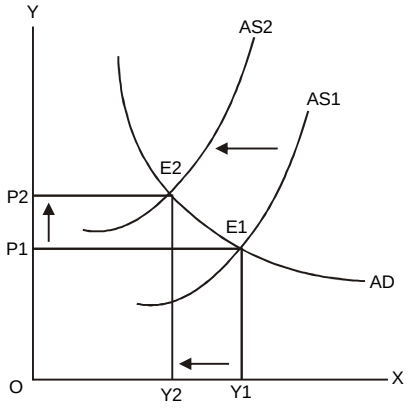

Fig. 4.4 *Cost Pull Inflation*

Rise in Raw Material Prices

In addition to the rise in wage rate of labour and increase in profit margins, you have one more reason of cost push inflation, and that is the rise of raw material prices. The same happened in the seventies, when the OPEC increased the price of crude oils. As a result, the aggregate supply decreased, resulting in cost push inflation.

It should be noted that an important feature of cost push inflation is that this not only causes rise in price level, but brings about a fall in aggregate output.

Generally speaking, the cost push inflation in the economy occurs as a result of the combination of all the factors discussed above: wage push inflation, profit push inflation and the rise in the price on raw materials. According to those who feel that prices are pushed up by rising costs rather than by the demand pull forces, some control in the form of prices and incomes policy is necessary to bring the spiral of rising prices to a halt.

Both the demand pull and the cost push inflations are closely related, and intertwined with the now widely held view that the problem of inflation is more sociological than economic in nature.

Check Your Progress

1. List some of the forms of inflation.
2. What do you understand by creeping inflation?

4.3 EFFECTS AND CONTROL OF INFLATION

The future of the governments and the political parties depend on how they tackle the problem of inflation. Many aspects of our everyday activities are in some way influenced by the level of and changes in the rate on inflation.

A high rate of inflation makes the life of the poor very miserable. During mild inflation, consumers generally cut their spending on luxurious goods, corporate profits increases sharply due to the increase in price and they build up new inventories. Also in government sector, the tax collected from indirect tax also rises. It also affects the income distribution of the economy.

We can divide the effects of inflation into six parts, as given below:

1. Effects of inflation on producers and traders class
2. Effects of inflation on investors class
3. Effects of inflation on laboures and other fixed income groups
4. Effects of inflation on consumers class
5. Effects of inflation on debtors and creditors class
6. Other effects of inflation

Before discussing the effects of inflation on different classes of the economy, this section will discuss the concepts of anticipated and unanticipated inflation.

Anticipated Inflation

If the people know that in the coming time period the rate of inflation is going to increase, this inflation is known as anticipated inflation. If rate of inflation is anticipated, people take steps to make suitable adjustment in their contracts to avoid the adverse effects which inflation could bring to them.

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For instance, a worker correctly anticipates that in the coming year the rate of inflation will be 15 per cent. Suppose, his income in the existing year is ₹ 10,000, then he can make a contract with his employer to increase the wage by 15 per cent in next year, so he will get ₹ 11,500 in the next year. This way he will not be affected by the rise in the inflation rate.

Unanticipated Inflation

Suppose, a worker is not able to anticipate the inflation rate, it means in next year he will also get the same wage, i.e., 10,000. However, in real term, his real income was decreased by 15 per cent, due to the increase in the rate of inflation.

Effects of Inflation on Producers and Traders Class

From the view point of producers and traders, inflation is always very useful, in the period of inflation they earn much profit and soon they became financially strong. There are many reasons for this such as follows:

- In the period of inflation, the cost of production and price both increase, but the rate of increase in price is much higher than the increase in the cost of production. That's why a lower cost of production producer charges a higher price and earns a higher rate of profit.
- In the period of inflation, the demand is much higher even at a higher price; the result is same as above, a higher rate of profit.
- In the period of inflation the liquidity increases. That's why people can purchase more, so the demand of the consumer increases. The producer can sell all the goods easily even at a higher price.

Effects of Inflation on Investor's Class

Here, the meaning of investor class is those people who invest their capital in the industry. On the basis of investment, investor class can be divided into two parts, (i) investors of fixed income and (ii) investors of variable income.

Investors of Fixed Income

Those investors received fixed return from their investment, like investment in the debentures; they receive a fixed income for their investment. In the period of inflation this type of investors are in loss, because their real income decreases.

Investors of Variable Income

The incomes of the investors of variable income depend on the change in the value of money and on the business. They usually invest into the shares of a company. Because they earn in the period of inflation and they earn their share through increase in the price of the share.

Effects of Inflation on Labourers and other Fixed Income Groups

Generally, this sector includes the service sector; the persons who sell their services like, agricultural labour, industrial worker, teachers all come under this group. Because they belong to fixed income group, it means in the period of inflation the purchasing power of this group decreased. It is also true that they can have more new job offers in the period

of inflation, and the employers also pay the dearness allowances for this inflation, but that dearness allowance cannot off-set the inflation, that's why the labourer's do the strikes.

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Effects of Inflation on Consumer Class

Every person in this world is a consumer. No matter he is a producer or the supplier of the factors of production. From the view point of a consumer inflation is always bad.

Effects of Inflation on Debtors and Creditors Class

In the period of inflation the purchasing power of the money decrease. That's why the real burden of the tax decreases. In other words, in the period of inflation the payment of debt is not a tough task; in this period the debtor is in a better position than the creditor. For example, you lend ₹ 20,000 to a person at a rate of 5 per cent per annum, after one year you will receive ₹ 21,000. However, if there will be 4 per cent rate of inflation then your 4 per cent of income will be offset by the rise in prices, and effectively you will get only 1 per cent real rate of interest.

Other Effects of Inflation

The following are the other effects of inflation.

- **Unequal distribution of wealth:** Because of the inflation, there can be a centralization of the economic power, producers and the traders earn a higher profit and persons who belong to the fixed income group have to bear the loss. As a result, there will be unequal distribution of income and wealth.
- **Increase in taxation:** In the period of taxation, governments generally revise the old taxes and it also implements new taxes, to decrease the purchasing power of the consumers.
- **Increase in immorality:** This effect can be understand with the help of some definitions. According to Michael Levy; many people lose their health and happiness trying to accumulate money and that makes it most expensive thing on earth.

Effect of Inflation on Growth of Banking Sector

In the period of inflation, the monetary income of the people increase very fast. Hence, the insurance and the banking sector have changed completely.

Effect of Inflation on Balance of Payment (BOP)

Because of the inflation the balance of payment of any country can be adverse. Inflation leads to the increase in the price level, it affects the export very badly on the other hand it attracts the imports. As a result the balance of payment became negative or in other words adverse.

Adverse Effect on Savings

In the time period of inflation, the purchasing power of the consumers decrease, they have to pay more for the same amount of commodities. That's why they have to decrease the amount of savings. In other words, inflation affects the rate of savings adversely.

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Control of Inflation

With the help of above discussion, you can conclude that the inflation is very bad from the view point of economy, it can affect the economic and social structure of the economy adversely. There are several measures to check the inflation; some of them are as follows:

- Monetary measures
- Fiscal measures

Monetary Measures

In monetary measures the government of a country tries to control the inflation through the central bank of that country. The central bank follows a strict monetary policy, through which central bank takes the excess money supply from the economy.

Instruments of Money Control

There are many instruments to control the money supply in the economy. Some of the main instruments of money control are as follows:

1. **Open market operation**: The term open market operation means the purchase and sale of government securities by the RBI from and to the public and also from and to the banks. When there is a situation of inflation in the economy, that time government can sell the government securities to the public and also to the bank to soak the excess liquidity interms of excess money supply from the economy.

   As you know that because of excess money supply, price of the goods and services increase, because of increase in demand for goods and services. With the sale of government securities to the public and to the bank, government takes back the excess money supply from the economy. Through this process government can check the inflation by using this instrument of money control.

   On the other hand, if there is a recession in economy. In this situation, government can correct the situation by purchasing the government securities from the public and from the banks. In recession, aggregate demand for the goods and the services decrease and because of this the production also decrease and consequently the employment.

   To correct the condition of unemployment, decrease in aggregate demand of goods and services government purchase the government securities from the public and from the banks. By the help of this process, the government injects liquidity into the economy, and it corrects the situation of recession. In most of the developing countries open market operation is regarded as the most efficient instrument of the monetary policy.

2. **Variation in reserve requirement:** Banks have to keep certain proportion of their assets in the form of cash. It is for two reasons. The first reason of holding the cash is to meet their daily transactions and the second reason of holding the cash reserve is statutory reserve requirement. Balance with the RBI is known as reserve requirement. This reserve requirement is known as CRR. According to the RBI Act 1956, the RBI can impose the CRR between 3 to 15 per cent on their net demand and time liabilities. The working of CRR can be explained with the help of two conditions of the economy. In the condition of inflation, when there is an excess money supply in the economy, RBI increases the CRR. With the increase

in CRR, the lending power of the commercial banks decrease, the availability of the credit to the public also decrease.

On the other hand, if there is a condition of recession in the economy. In this condition RBI decreases the CRR, so that the lending power of the commercial banks increase, and also the availability of credit to the public. By increasing and decreasing the rate of the CRR, RBI can affect the availability of the credit to the public.

3. **Bank rate policy:** The instrument of bank rate also plays a crucial role in money control. Bank rate is a rate at which RBI should be prepares to buy or rediscount eligible bills of exchange and other commercial papers. The bill market in India is not well developed in comparison with other developed countries, that's why RBI has to makes advances to banks mainly in other forms.
4. **Working of bank rate:** An increase in the bank rate raises the cost of borrowed reserves by the commercial banks, and subsequently the commercial banks increase the PLR (prime lending rate), which discourages the public to take loans from banks. By increasing bank rate, RBI can decrease the money supply in the economy.

   On the other hand, a decrease in bank rate decreases the cost of borrowed reserves by the commercial banks, and subsequently the commercial banks decrease the PLR. Hence, people can avail loans at a lower interest rate. By decreasing the bank rate, RBI can increase the money supply in to the economy.
5. **Statutory liquidity ratio:** Statutory liquidity ratio is another instrument of money control. According to this instrument each and every commercial bank has to require statutory to maintain a minimum proportion of their daily total demand and time liabilities in the form of liquid assets.

   Liquid assets can be as follows:
   - Other approved securities
   - Current-account balances with other banks

By increasing and decreasing of statutory liquidity ratio the RBI can increase or decrease the money supply in to the economy.

In the condition of excess money supply, RBI increases the statutory liquidity ratio, to decrease the lending power of the banks. In controlling the money supply, statutory liquidity ratio works indirectly rather than directly.

Moral Suasion

Moral suasion is a combination of persuasion and pressures. The central bank of any country is always in a position to use this on commercial banks. In this instrument, the bank uses discussions, letters and speeches. The RBI issues letters to banks making clear its policy and urging banks to fall in line.

Selective Credit Control

Normally selective credit control is used in western countries. The working of this instrument is very simple; the availability of bank finance for purchasing and holding some commodities is restricted. In India, the holding of food grains, agricultural raw material and other essential commodities is restricted to control the undue rise in their prices.

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Fiscal Measures

The fiscal policy is prepared by the union finance minister. The first goal of the fiscal policy is to increase tax revenue as well as non-tax revenue. On the other hand, the other goals of fiscal policy are to maintain public services like food, shelter, safe drinking water, to bridge the gap between rich and poor, to control the money in circulation, full employment and to increase the rate of saving and rate of investment.

The fiscal policy is a projected balance sheet of the nation or a country. It is a study of allocation of the resources and generating those resources. The Finance Minister implements the fiscal policy through the budget. The budget is a future statement of revenue and expenditure of the state or a nation. According to Harvey and Johnson changes in government expenditure and taxation are designed to influence the patterns and level of activity.

With the help of fiscal policy, a government tries to bridge the gap in income levels, which affects the development of the country. With the equal distribution of income and wealth, a country can perform well in all the sectors. According to Otto Eckstein, changes in taxes and expenditure which aim at short-run goals of full employment, price level and stability.

Meaning of Budget

Budget has an important role in the economy of any country. It is the central point of the financial administration. The government can affect the economic activities of the country with the help of budget in terms of allocation and administration of the available resources. The budget is vertically divided into two parts: revenue and expenditure. Horizontally, it is divided into two part revenue account and capital account.

Objectives of Fiscal Policy

The major objectives of the fiscal policy are as follows.

- To finance various developmental projects, mobilization of resources is needed
- To get the maximum utilization of the available resources
- To get full employment
- To decrease regional disparities
- To control the inflationary pressure in the economy
- To reduce the per centage of below poverty line (BPL) population
- To increase the rate of capital formation with the increasing rate of saving and investment

Aspects of Fiscal Policy

There are mainly four aspects of fiscal policy, which are as follows:

1. **Taxation policy:** Taxation policy plays a vital role in the collection of revenue for the government in any country. Government can impose a direct tax and indirect tax. Direct tax is the tax in which impact and incidence of tax burden are on the individual person. In other words, he or she cannot shift the tax burden to others. In indirect tax, shifting of tax burden is possible.

The main objectives of the tax policy are as follows:

- To mobilize idle resources
- To bridge the gap between rich and poor
- To check the inflation by adopting an anti-inflationary taxation policy
- Public expenditure policy
- Public debt policy
- Deficit financing policy

2. **Public expenditure policy:** In developing countries fiscal policy has a vital role in the economic development of the countries. After collecting the revenue from the public, government engages in public expenditure, which can be developmental or non-developmental expenditure. Developmental expenditures are generally related with developmental activities like roads, hospitals, bridges, infrastructure, railway. Non-developmental expenditures are generally related with maintenance of law and order, defence and so on.
3. **Public debt policy:** Mostly in developing countries, people have a low taxable capacity. They cannot afford a higher rate of tax imposed by the government. To finance the developmental projects governments take loans from the public. It is known as public debt. Public debt helps the government in two ways, firstly it soaks the excess liquidity from the market that creates the inflationary pressure, and secondly it helps the government in financing the developmental projects, which are necessary for the economic development of the country. This debt can be internal or external. Government can also take the loan from the external resources like, World Bank, IMF, IDA etc.
4. **Deficit financing policy:** When the government expenditure exceeds the government revenue, this condition is known as deficit, and to finance that deficit government apply this policy. In this policy government can take the loan from the central bank in the form of issuing the fresh currency to finance the deficit. In the developing countries, where the taxable capacity, as well as rate of saving and the rate of investment are low, deficit financing policy is very useful for the economic development of those countries.
5. **Increase in taxation:** With an increase in the taxation, the disposable income of the consumers decreased, now because the purchasing power of the consumer decreased they can purchase a lesser amount of goods. Both the taxes have the adverse effect on purchasing power, direct tax and indirect tax.

   Direct tax decreased the disposable income of the consumer and on the other hand, indirect tax increased the prices of the commodities. Thus, by increasing the rate of tax, government can control the inflation.
6. **Decrease in the public expenditure:** In the period of inflation, the government should decrease the amount of public expenditure, so that the velocity of the money decreased. The main policy in the period of inflation should be decrease in the unproductive expenditure.
7. **Increase in public debt:** In the period of inflation, the government should take the public debt in larger amount. It affects the inflation in two ways, first it reduces the purchasing power of the consumers and secondly, after collecting the debt from the public, government can invest that into the manufacturing process, so that the output of the economy increased. With an increment in the output government can control the inflation.

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8. **Balanced budget policy:** In the period of inflation, government should follow the balanced budget policy. Government should not prepare the deficit budget in the inflation, because it leads to the inflation.
9. **Control over consumption:** In the period of inflation, the government should control the consumption, especially unproductive and demonstration expenditure.
10. **Encouragement to savings:** In the period of inflation, government should encourage saving, it can be through launching of new saving schemes. Government should also increase the deposit rates.
11. **Overvaluation:** In the period of inflation, government can also over valuate the value of the currency, through over valuation will cause exports to decrease and imports to increase.
12. **Control over investment:** You have seen that in the period of inflation, investment increased in a larger amount. Because of this the profit as well as the inflation both increases. Banks and other financial institutions also provide the loan easily in this time period, the government should control it.

    Some other measures to curb inflation are as follows:

    - **Increase in production:** The best and the most convenient way to control inflation is to increase the amount of production. In the time period of inflation, the agriculture and the industrial sectors should be promoted through tax relief and subsidy.
    - **Proper use of tariffs and quotas:** In the time period of inflation, imports should be promoted and on the other hand, exports should be minimized through proper use of tariffs and quotas.

Check Your Progress

3. What are the two types of investor class?
4. Name the two measures that can be used to check the inflation.
5. Write any three objectives of fiscal policy.

4.4 SUMMARY

- Inflation is a persistent rise in the general price level rather than a once-for-all rise in it. It should be noted that most economists all around the world have assumed that price stability is the main objective of economic policies.
- The concept of inflationary gap has been propounded by Keynes. According to Keynes, inflationary gap arises when consumption and investment spending together are greater than the full employment gross national product level.
- In today's world trade, unions are very strong, and they push the producers for higher wages. In this theory, it has been discussed that mainly the trade unions are responsible for wage push inflation.
- The profit push inflation is one of the causes of cost push inflation; firms operating under the monopoly market or in oligopolistic market can charge a higher price to increase their profits.

NOTES

- Both the demand pull and the cost push inflations are closely related, and intertwined with the now widely held view that the problem of inflation is more sociological than economic in nature.
- The future of the governments and the political parties depend on how they tackle the problem of inflation. Many aspects of our everyday activities are in some way influenced by the level of and changes in the rate on inflation.
- The incomes of the investors of variable income depend on the change in the value of money and on the business. They usually invest into the shares of a company. Because they earn in the period of inflation and they earn their share through increase in the price of the share.
- In the period of inflation, the monetary income of the people increase very fast. Hence, the insurance and the banking sector have changed completely.
- In monetary measures the government of a country tries to control the inflation through the central bank of that country.
- The term open market operation means the purchase and sale of government securities by the RBI from and to the public and also from and to the banks.
- The instrument of bank rate also plays a crucial role in money control. Bank rate is a rate at which RBI should be prepares to buy or rediscount eligible bills of exchange and other commercial papers.
- Statutory liquidity ratio is another instrument of money control. According to this instrument each and every commercial bank has to require statutory to maintain a minimum proportion of their daily total demand and time liabilities in the form of liquid assets.
- The fiscal policy is prepared by the union finance minister. The first goal of the fiscal policy is to increase tax revenue as well as non-tax revenue.
- Budget has an important role in the economy of any country. It is the central point of the financial administration. The government can affect the economic activities of the country with the help of budget in terms of allocation and administration of the available resources.

4.5 KEY TERMS

- **Currency inflation:** The inflation due to increase in the currency is known as currency inflation. When the government or the central bank of a country increases the money supply in a high volume, it will increase the general price level.
- **Running inflation:** In running inflation, the rate of increase in the inflation increases at a higher rate. It affects the fixed income group adversely.
- **Inflationary gap:** An inflationary gap, in economics, is the amount by which the actual gross domestic product exceeds potential full-employment GDP. It is one type of output gap, the other being a recessionary gap.
- **Direct tax:** Direct tax is the tax in which impact and incidence of tax burden are on the individual person.

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4.6 ANSWERS TO 'CHECK YOUR PROGRESS'

1. In economic life there are several forms of inflation. Some of them are as follows:
   - Production inflation
   - Currency inflation
   - Credit money
2. When there is a slow increase in the general price level due to inflation, then it is known as creeping inflation. The rate of increase in this inflation is not more than 2 per cent in a year. According to Keynes, it is a must for the development of an economy.
3. On the basis of investment, investor class can be divided into two parts, such as follows:
   - Investors of fixed income
   - Investor of variable income
4. The two measures that can be used to check the inflation are monetary and fiscal measures.
5. The three objectives of fiscal policy are as follows:
   - To finance various developmental projects, mobilization of resources is needed
   - To get the maximum utilization of the available resources
   - To get full employment

4.7 QUESTIONS AND EXERCISES

Short-Answer Questions

1. State the main objectives of fiscal policy.
2. What are the effects of inflation and how can inflation be controlled?
3. Write short notes on the following:
   - Cost push inflation
   - Wage push inflation
   - Profit push inflation
4. Differentiate between anticipated and unanticipated inflation.
5. What do you understand by the concept of inflationary gap?

Long-Answer Questions

1. Describe the forms of inflation on the basis of motion.
2. Discuss the effects of inflation on various classes.
3. Explain the various aspects of fiscal policy.
4. List some of the main instruments of money control.

4.8 FURTHER READING

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UNIT 5 INTERNATIONAL TRADE

Structure

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5.0 INTRODUCTION

International trade, as it indicates, pertains to only bilateral or multilateral trade activities. Trade activities between two or more countries can be understood both at macro level, i.e., country level, and also at micro level, i.e., firm or company level. The trade between two countries (India's trade with the US, UK, France, etc.,) means export and import of various goods and services at country level, terms of trade and balance of trade, and also balance of payments.

In this unit, you will analyse international trade theories and its policies and strategies. Two traditional or classical theories of international trade are those of absolute advantage and comparative advantage. These theories were put forward by two classical economists, Adam Smith (1776) and David Ricardo (1817). Apart from this, you will learn about the balance of trade and balance of payments. This unit will also deal with the disequilibrium in the balance of payments and its corrective measures.

5.1 UNIT OBJECTIVES

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

- Identify Smith's and Ricardo's theories of international trade
- Analyse the reasons for the gains in trade
- Explain the concept of terms of trade, balance of trade, and balance of payments
- Discuss the disequilibrium in the balance of payments and its corrective measures

5.2 SMITH'S AND RICARDO'S THEORIES OF INTERNATIONAL TRADE

Adam Smith, the father of economics, was the first to formulate a theory of international trade. His theory of foreign trade is known as the theory of absolute advantage. According to his theory, the basis of trade between any two countries is the absolute cost advantage a country has in the production of a commodity compared to costs in the other country.

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In simple words, trade between any two countries takes place because each one can produce a commodity at a comparatively lower cost.

To explain this further, let us say it is possible for all countries to produce most of the commodities they need, in spite of their resource constraints. However, given the resources of a country, the cost of production will vary from commodity to commodity. While the cost of production of some goods is relatively low, that of others is relatively high. In Adam Smith's terminology, while a country has an absolute advantage in the production of some goods, it has an absolute disadvantage in the production of some other goods. Therefore, there is a general tendency for countries to specialize in the production and export of goods in which they have an absolute cost advantage and import goods in which they an absolute disadvantage. For example, India can produce garments at a lower cost, but pearls and precious stones only at comparatively higher cost. It is therefore gainful for India to produce and export garments and import pearls and precious stones.

Adam Smith's absolute advantage theory of trade can be illustrated through a simple example of two countries and two commodities. Going by the reasoning of the theory of absolute advantage, let us make the following assumptions:

- There are only two countries, A and B, producing and consuming only two commodities, X and Y
- Labour is the only factor of production, available in both countries
- Cost of production is measured in terms of labour cost
- Labour cost is measured in terms of man-hours per unit of output

To illustrate Adam Smith's theory of international trade, let us suppose that the labour cost of production of the two commodities, X and Y, in the two countries, A and B, is given as shown in Table 5.1.

Table 5.1 *Labour Cost (Man-Hours) Per Unit of Output*

Country	**Commodity**	
	X	*Y*
A	30	60
B	50	20

As Table 5.1 shows, country *A* can produce one unit of commodity *X* at the cost of 30 man-hours whereas country *B* can produce one unit of *X* at the cost of 50 man-hours. Obviously, the production cost of commodity *X* in country *A* is much lower than in country *B*. This means that country *A* has an absolute advantage in producing commodity *X* compared to country *B*. In case of commodity *Y*, country *A* needs 60 man-hours to produce one unit of *Y*, and country *B* needs only 20 man-hours. Thus, country *B* has an absolute advantage in producing commodity *Y*. Under these cost conditions, if there is trade option, country *A* would specialize in the production of commodity *X* and country *B* in commodity *Y*. Given their specialization in the production of goods, country *A* will export commodity *X* and import commodity *Y*, and country *B* would export commodity *Y* and import commodity *X*. This is how trade takes place between any two nations.

Gains from Trade

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According to Smith's theory of absolute advantage, trade between the two countries, *A* and *B*, benefits both of them. The gains from trade arises on account of the following two factors:

- Increase in the aggregate supply of both the goods, *X* and *Y*
- Low price of both the goods because of lower costs in both countries

Let us now look at the reasons for these gains.

1. **Increase in aggregate supply:** The aggregate supply of both the goods, *X* and *Y*, increases because each country employs its labour force to produce a commodity whose labour cost is lower. Country *A* employs its labour force to produce commodity *X* and country *B* to produce commodity *Y*. Since, the labour cost of these commodities is comparatively lower, given their labour supply, country *A* can produce more of commodity *X* and country *B* can produce more of commodity *Y*. This increases the overall supply of both the commodities.
2. **Availability of goods at a lower price:** When trade opens between the two countries, they specialize in the production of the low-cost goods. Therefore, the cost of production goes down. When the barter rate is determined on the basis of production costs, the price for each good goes down. For example, in the absence of trade, country *A*, given its labour cost structure, will have to sacrifice 2 units of *X* to produce 1 unit of *Y*. However, in case of foreign trade, country *A* will get 5 units of *Y* by exporting 2 units of *X*, or may be less, if the barter exchange rate is fixed otherwise. What happens in country *B*? When there is no trade, country *B* will also have to produce both the goods, *X* and *Y*. Given its labour cost structure, the exchange rate in domestic trade in country *B* will be $1X = 50/20 = 2.5Y$, or $1Y = 20/50 = 0.4X$. That is, country *B* will get only 0.4 units of *X* for 1 unit of *Y*. With trade, it will be 2 units of *X*.

   Thus, foreign trade enables both countries to produce and consume a larger quantity of both the goods at a lower price. This is how countries gain from foreign trade. The overall gain to each country depends on their total exports and imports.

Weaknesses of the Absolute Advantage Theory

The absolute advantage theory of trade is undoubtedly logically sound. However, economists have pointed out some serious drawbacks of this theory.

First, the absolute advantage theory implies that trade between any two countries would be mutually gainful only if each country has absolute advantage in the production of at least one good and absolute disadvantage in another. It implies that if a country has absolute advantage in the production both the goods and the other country has absolute disadvantage in the production of both the goods, there is no basis of trade between them. However, this has not been found to be the case in reality.

Second, the absolute advantage theory is based on the labour theory of value. This implies that labour is the only factor used in the production of a commodity. In reality, however, capital is also used in the production of goods. Although Adam Smith ignored capital as a factor of production and the capital cost of production.

Third, even if it is assumed that labour is the only factor of production, as it used to be in agricultural production in olden times, the labour theory of value has been found

to be invalid for value determination, especially in the case of foreign trade as it also involves the cost of transportation.

Ricardian Theory of Foreign Trade: Theory of Comparative Advantage

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Adam Smith's theory of absolute advantage, formulated in 1776, prevailed for four decades, in spite of its weaknesses, until Ricardo formulated his own theory of international trade in 1817 in his book *Principles of Political Economy and Taxation*. Ricardo pointed out the deficiencies in Adam Smith's theory of foreign trade and formulated his own theory, known as the comparative advantage theory of trade.

According to the Ricardian theory of comparative advantage, gainful trade is possible between any two nations even if one of them has absolute advantage in producing all the goods, but has comparative cost disadvantage in producing one of the goods. By using a two-country, two-commodity model, Ricardo demonstrated that there can be gainful trade if one of the countries has an absolute advantage in producing both the goods, but a comparative disadvantage in producing one of the goods and the other country has a comparative disadvantage in producing both the goods.

Assumptions

Before we proceed to explain Ricardo's theory of comparative advantage, let us look at the assumptions on which Ricardo postulated his theory of trade:

- The world consists of only two nations, *A* and *B*.
- Countries *A* and *B* produce and consume only two goods, *X* and *Y*.
- Labour is the only factor of production used by the two countries.
- Labour is homogenous in both the nations.
- Production technology in respect of both goods is given in each country.
- The value of commodities is determined only in terms of their labour cost.
- Labour supply in both the countries is given and labour is fully employed.
- Labour is freely mobile within the country between industries, but absolutely immobile between countries.
- Production of the two goods, *X* and *Y*, is subject to constant returns and constant costs.
- Markets for both goods are perfectly competitive in both the countries.
- Both countries follow a free-trade policy and there are no trade barriers.
- There is no transportation cost, i.e., goods are transportable at zero cost.

The Comparative Advantage Theory

To elaborate his theory, David Ricardo used a model of two countries, viz., England and Portugal, producing and consuming two goods, viz., wine and cloth. However, we use our own model consisting of two countries (*A* and *B*) and two commodities (*X* and *Y*) to elaborate on the Ricardian theory of comparative advantage. Let us assume that the cost structure for goods *X* and *Y* in the two countries, *A* and *B*, is given as presented in Table 5.2.

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Table 5.2 *Labour Cost (Man-Hours) Per Unit of Output*

Country	Man-hour cost per unit of commodity	
	X	*Y*
A	30	45
B	60	50

As the table shows, country *A* is more efficient in producing both the goods as its cost of production is lower for both goods. However, a comparison of the comparative cost of the goods (in terms of labour cost) in the two countries shows that country *A* has a comparative advantage in producing commodity *X* and country *B* has a comparative advantage in commodity *Y*. Country *A* has a comparative advantage in the production of *X* because its comparative production cost of *X* is only 30/45 = 2/3 of the production cost of *Y*, but its comparative cost of *Y* is 45/30 = 1.5 times higher than the cost of commodity *X*. This means that country *A* has a comparative disadvantage in producing commodity *Y*.

By the same logic, country *B* has a comparative advantage in producing commodity *Y* as its production cost of *Y* is lower (50/60) than the production cost of *X* (60/50) and it has a comparative disadvantage in producing *X* because its relative cost is higher.

Thus, a comparison of the relative costs of the two goods in the two countries reveals that the comparative cost of *X* is lower in country *A* and the comparative cost of *Y* is lower in country *B*. This means that country *A* has a comparative advantage in commodity *X* and country *B* has a comparative advantage in commodity *Y*.

The comparative advantages of countries *A* and *B* in producing commodities *X* and *Y*, respectively, can be explained further by using the concept of opportunity cost. Given the labour supply, the opportunity cost of producing a commodity is the quantity of the other commodity that has to be sacrificed. For example, in country *A*, the opportunity cost of producing 1 unit of *Y* is 45/30 = 1.5 units of *X*, i.e., the opportunity cost of 1*Y* = 1.5*X*, and the opportunity cost of *X* is 30/45 = 2/3 units of *Y*. The opportunity costs of *X* and *Y* in countries *A* and *B* are given in Table 5.3.

Table 5.3 *Opportunity Cost* of X and Y*

Country	Per unit opportunity cost	
	X	*Y*
A	30/45 = 0.67 units of *Y*	45/30 = 1.5 units of *X*
B	60/50 =1.2 units of *Y*	50/60 = 0.83 units of *X*

* Opportunity cost calculated as labour-cost ratio.

As Table 5.3 shows, the opportunity cost of *X* (= 0.67 units of *Y*) in country *A* is lower than the opportunity cost of *Y* (=1.5 units of *X*). This means, that country *A* has to sacrifice only 0.67 units of *Y* to produce 1 unit of *X* whereas, in absence of trade, it has to forego 1.5 units of *X* to produce 1 unit of *Y*. This shows that country *A* has a comparative advantage in commodity *X* and a comparative disadvantage in commodity *Y*.

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In the case of country *B*, the opportunity cost of *Y* (0.83 units of *X*) is lower than the opportunity cost of *X* (1.2 units of *Y*). This means that country *B* has to sacrifice only 0.83 units of *X* to produce 1 unit of *Y* whereas in the absence of trade, the country has to forego 1.2 units of *Y* to produce 1 unit of *X*. This means that country *B* has a comparative advantage in commodity *Y* and a comparative disadvantage in commodity *X*.

Thus, from the labour-cost structure of the two goods in the two countries as given in Table 5.2, it may be concluded that there is no ground for trade between countries *A* and *B*. However, according to the Ricardian principle of comparative advantage, there is a strong basis for gainful trade between the two countries. Country *A* would specialize in the production of commodity *X* and import commodity *Y*; and country *B* would specialize in the production of commodity *Y* and import commodity *X*. Both countries will benefit from trade.

Gains from Foreign Trade

We have discussed above the theory of comparative advantage and proved theoretically that trade is gainful for both the nations. Let us now show how countries *A* and *B* gain from foreign trade. The gains from trade can be assessed by comparing the barter exchange rate of the two goods in the two countries without and with trade. To begin with, let us suppose that both countries pursue autarky, i.e., the policy of no foreign trade. They produce and consume both goods. Under these conditions, the domestic barter exchange rate will be determined on the basis of their labour cost (see assumptions). The domestic barter exchange rates in the two countries under autarky are given below:

Domestic barter rate in country A

$1X = 30/45 = 0.67Y$ (1 unit of *X* can be exchanged for 0.67 units of *Y*)

$1Y = 45/30 = 1.5X$ (1 unit of *Y* can be exchanged for 1.5 units of *X*)

Domestic barter rate in country B

$1X = 60/50 = 1.2Y$ (1 unit of *X* can be exchanged for 1.2 units of *Y*)

$1Y = 50/60 = 0.83X$ (1 unit of *Y* can be exchanged for 0.83 units of *X*)

Given these barter rates between goods *X* and *Y* in countries *A* and *B*, let us drop the assumption of autarky and assume that there is free trade between the two nations. Under free trade conditions, going by the principle of comparative advantage, country *A* would specialize in commodity *X* and import *Y* from country *B*. Similarly, country *B* would specialize in commodity *Y* and import commodity *X*.

Now, whether the two countries gain from foreign trade depends on whether the external barter rate (EBR), i.e., the terms of trade, is higher or lower than the internal barter rate (IBR). As a rule, if the external barter rate is higher than the internal barter rate for both nations, both of them gain from trade and vice-versa. In simple terms, if $EBR > IBR$, the countries gain from foreign trade. By this criterion, the gains of a country from foreign trade equals the difference between the internal barter rate and external barter rate. That is, gains from trade = $EBR - IBR$. Let us now compare the internal and external barter rates assuming country *A* specializes in commodity *X* and country *B* in commodity *Y*. The internal and external barter rates for both the nations and per unit gains from foreign trade, are given in Table 5.4.

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Table 5.4 *Gains from Foreign Trade*

Country	Internal barter rate (*IBR*)	External barter rate (*EBR*)	Gain from trade*
A	$1X = 0.67Y$	$1X = 1.20Y$	$0.53Y$ per unit of X
B	$1Y = 0.83X$	$1Y = 1.50X$	$0.67X$ per unit of Y

***** Gains from trade = *EBR* – *IBR*.

As Table 5.4 shows, in country *A*'s domestic market, 1*X* is exchanged for 0.67*Y*. However, when country *A* specializes in commodity *X* and exports it to country *B*, it can get 1.20 units of *Y* in exchange. So country *A* gains 1.20*Y*–0.67*Y* = 0.53*Y* per unit of *X*. Similarly, in *B*'s domestic market, 1*Y* is exchange for 0.83*X*. However, when country *B* specializes in *Y* and exports it to country *A*, it gets 1.50*X* in exchange for 1*Y*. So country *B* gains 0.67*X*. This hypothetical example shows how foreign trade, under Ricardo's theory of comparative advantage, benefits the trading nations. The total gain of each country depends on their total export and total import.

Distribution of Gains: Which Country Gains More?

In the preceding section, it has been shown that foreign trade is gainful for both the trading partners—countries *A* and *B*. A question that arises here is: Do both the trading partners gain equally from trade? If not, what determines the distribution of gains from trade between the trading partners?

The distribution of the gains from trade depends on the terms of trade, i.e., the external barter rate. In case of our two-country, two-commodity example, if the terms of trade between countries *A* and *B* is determined exactly on the basis of comparative advantage (as given in Table 5.4), both countries gain equally as per their comparative advantage. For example, if country *A* exports 1*X* for 1.20*Y*, its gain equals *EBR*–*IBR* = 1.20*Y*–0.57*Y* = 0.53 units of *Y* per unit of *X* exported. Similarly, when country *B* exports 1*Y* for 1.50*X*, it gains in terms of 0.67 units of *X* per unit of *Y* exported. Thus, both countries will gain as per their comparative advantage. No country gains at the cost of the other.

However, if the terms and conditions of trade between the two countries are such that the terms of trade are determined differently, one country would gain more and the other country less. For example, for country *A*, the possible gainful range of terms of trade (i.e., external exchange rate) lies between 0.67*Y* and 1.20*Y* for 1*X* and, for country *B*, the gainful terms of trade ranges between 0.83*X* and 1.50*X* for 1*Y*. Given the lower and upper limits of the term of trade, the gains from trade depends on how close the actual barter rate is to the upper limit of the gainful barter rate. For example, if the terms of trade are so fixed that country *A* exports 1*X* for import of 1.20*Y*, and imports 1*Y* for 0.83*X*, it gets the total possible gains from trade. Similarly, if country *B* exports 1*Y* for 1.5*X* and imports 1*X* for 0.63*Y*, then it gets the total possible gains. In this case, both countries enjoy equal gains from trade. However, if the barter exchange rate is fixed differently within the gainful range, the gains from trade get distributed unequally between the countries.

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This discussion takes us to the end of Ricardo's theory of comparative advantage. To sum up, according to Ricardo's theory, a country specializes in the production of commodities in which it has a comparative advantage over other countries and exports its surplus output. In return, it imports those goods in which it has a comparative disadvantage or least comparative advantage. This kind of specialization is gainful to all the trading partners. This leads to the international division of labour.

An Exception to the Law of Comparative Advantage

The Ricardian theory of comparative advantage appears to be theoretically sound. There is, however, one exception to the law of comparative advantage. If one of the two countries, *A* and *B*, has absolute advantage in both products, but their comparative advantage (measured in terms of labour-cost ratios) is the same, then trade between them would not be gainful. For example, recall our labour-cost data given in Table 5.5 with one modification. Say, the labour cost of commodity *Y* changes from 45 man-hours to 25 man-hours. This modified table is reproduced as Table 5.5.

Table 5.5 *Labour Cost (Man-Hours) Per Unit of Output*

Country	Man-hour cost per unit of commodity	
	X	*Y*
A	30	25
B	60	50

Note that the labour-cost ratios for the two goods in both the nations are the same. As shown in the table, in country *A*, the labour cost-ratios for goods *X* and *Y* is 30/25 which is exactly the same as 60/50. The reverse is also true as the labour cost-ratio of 25/30 in *A* = 50/60 in *B*. Under these conditions, trade will not benefit wither country.

Weaknesses of the Comparative Advantage Theory

Although, Ricardo's theory of comparative advantage is theoretically sound and still retains the interest of economists, it has been severely criticized over time for its simplifying assumptions. Ricardo's critics have suggested many improvements, which are briefly mentioned here along with the criticism.

Labour not homogeneous: Ricardo assumed homogeneity of labour, which he considered as an 'approximation of reality.' This is, in fact, unrealistic. Labour is not homogeneous throughout the world. It varies in skill and productivity. Besides, owing to a high degree of specialization, labour is not mobile between occupations. Therefore, wage differentials are quite likely to exist in the short-run, which affect the domestic and external rate of exchange between commodities. Thus, the non-homogeneity of labour limits the relevance and applicability of Ricardo's theory of comparative advantage.

Labour not the only factor of production: Even if one assumes that labour is homogeneous and wages are uniform, labour is not the only factor of production. Capital is another and equally important factor of production. Ricardo's treatment of capital as being either insignificant or being used in fixed proportion to labour is again unrealistic. The factor combination varies from industry to industry, depending on the technology used. Production of some goods may be highly capital-intensive resulting in capital

accounting for a large part of its cost. Under such conditions, the labour theory of comparative advantage would not apply.

Marshall tried to remove this shortcoming by expressing the value of traded commodities in terms of 'bales' (a bundle of goods) which invariably represents the labour and capital in the cost. Another way out has been provided by Haberler through the introduction of the concept of opportunity cost to the theory of trade. According to him, the cost of each commodity should be expressed in terms of loss of production of other commodities. For example, if per worker and per day productivity in India is 10 kg of rice or 20 kg of wheat, then the opportunity cost of 1 kg of rice is 2 kg of wheat and vice versa.

Demand-side ignored: The theory of comparative advantage concentrates only on the supply side of trade. This means that as long as there is comparative advantage in the production of a good, two countries will trade their products. It also suggests that barter rates of exchange based on comparative advantage would be beneficial to the trading partners. The theory however does not answer the questions: (i) how are the price ratios between trading partners determined? and (ii) what quantities would be traded? Attempts were made by Mill, and then by Edgeworth and Marshall to provide answer to these questions. Mill introduced the concept of reciprocal demand, e.g., the demand by country *A* for the product of country *B* creates demand for the product of country *A*. Later, Edgeworth and Marshall translated the concept of reciprocal demand into offer curves and used them for determining the quantum of trade between the two countries and the prices thereof.

Invalid labour theory of value: The most serious attack on Ricardo's theory of comparative advantage was that it is based on the labour theory of value whose validity is questionable. As mentioned above, goods are produced not by using labour alone, but by a combination of several factors of production, mainly labour and capital. Some industries are highly capital-intensive, e.g., the car industry. The capital content in the production of a car is much larger than the labour content. The value of a car based on its labour content alone would be highly unrealistic. This has a wider implication for the determination of internal or external rates of barter between commodities. For instance, the labour content in car production would be much less than in wheat production. However, this does not mean that a car is cheaper than wheat. For example, suppose 100 man-hours and 10 machine-hours produce 10 quintals of wheat, and 100 man-hours and 100 machine-hours produce one car. If machine-hours used in the car and wheat production are ignored, it will mean 1 car = 10 quintals of wheat. However, this method of obtaining relative prices is absurd. This argument invalidates Ricardo's theory of comparative advantages.

Ricardo had assumed that the prices of commodities would be proportional to the labour time embodied in the commodities, and had argued that the trade pattern would be ultimately governed by the relative share of labour in the traded commodities. Mill and Nassua Sr, however, pointed out later that prices might not be strictly proportional to labour-time and this might affect trade patterns. Mill also argued that it is not labour time but labour productivity that matters.

Cost of transportation ignored: In the real world, transportation cost is an important determinant of internationally traded goods. High transportation costs may not only change the barter terms of trade, but also reverse the trade pattern. This might change the pattern of specialization from the one suggested by Ricardo's theory of comparative advantage without transportation costs. It has been shown empirically, by using distance

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as one of the variables determining trade flows, that transportation costs alter materially the actual trade flows.

Specialization limited by the size of the countries: Graham has demonstrated that complete specialization or international division of labour is not possible in reality, even given the assumptions of the comparative advantage theory. One practical limitation arises from differences in the size of various countries. Some countries are much bigger in size and population than others. This difference introduces differences in their production possibilities, economic performance, and their needs. Such differences limit the possibility of complete specialization in larger and smaller countries. For examples, consider the case of India and Sri Lanka–India exports rice to, and imports coffee from, Sri Lanka. According to the theory of comparative advantage, India would specialize in rice and Sri Lanka in coffee production. However, while it may be possible for India to meet the total rice demand of Sri Lanka, it may not be possible for Sri Lanka to meet India's total demand for coffee. Under these conditions, India will have to allocate a part of her labour force to coffee production. Furthermore, Sri Lanka may not be capable of buying the total exportable surplus of rice from India. This imposes a limitation on India's specialization in rice production. Such cases reject the comparative cost theory of trade.

Nature of goods limits specialization: Another kind of limitation to complete specialization arises from commodities of high and low values. It will be easier for countries producing commodities of high values to specialize in high-value goods, but it is undesirable for countries producing low-value goods to specialize in their production for a long time. Consider the case of developed and developing countries. Most developing countries produce and export primary goods (raw materials, agricultural products, etc.) and import manufactured, high-priced, goods from developed countries. This pattern of specialization and trade seriously injures the long-term economic interest of developing countries. These countries, therefore, gradually adopt the policy of import substitution. This case also negates the comparative cost theory of trade.

CHECK YOUR PROGRESS

1. Define the theory of absolute advantage.
2. State any three disadvantages of the comparative advantage theory.

5.3 TERMS OF TRADE

Let us first look at the concept and types of terms of trade.

Concept and Types of Terms of Trade

Trade between any two countries depends on their respective demand for the product of each other, i.e., on the basis of their reciprocal demand for each other's product. The reciprocal demand determines the terms of trade, i.e., the rate at which two countries exchange their products.

The terms of trade receive considerable attention in the discussion of international economic problems at least for two reasons: (a) the gains from trade depend upon the terms of trade, (b) the developing countries feel that their products have suffered a secular deterioration in their terms of trade as a result of which there has been an unjust

transfer of income (from the poor) to the rich countries who have improved their terms of trade at the expense of the poor countries. Terms of trade are of immense use and significance notwithstanding all the ambiguities obscuring their use. There are several concepts of terms of trade, and the major ones are listed below:

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(a) Gross Barter Terms of Trade

(b) Net Barter or Commodity Terms of Trade

(c) Income Terms of Trade

(d) Single Factorial Terms of Trade

(e) Double Factorial Terms of Trade

(f) Real Cost Terms of Trade

(g) Utility Terms of Trade

The pure theory of trade as expounded by the classical economists tries to show that trade is possible as well as profitable to all trading nations. In Smith's model, each of the two countries must have an absolute advantage in one or the other line of production. In Ricardo's model, it is not necessary for a country to have absolute advantage in any line, it is sufficient if a country had a greater comparative advantage or a lesser comparative disadvantage in one or the other line of production. The great classical achievement was to demonstrate that even under the circumstances where one country was more efficient than the other country in every line of production and the other country was inefficient, international division of labour could increase the world output and economic welfare. The principle of comparative advantage has universal validity. However, there remains one snag *viz.* the validity of the classical analysis and conclusions depend on the assumptions of the labour theory of value. Labour theory of value is not generally accepted as valid at least for two reasons (a) labour is not a homogeneous factor and (b) labour is not the only factor of production. Goods are produced by using some combination of land, labour, capital and entrepreneurship not solely labour.

It is, therefore, necessary to free the comparative advantage theory from the restrictive classical assumption of the labour theory of value. It is possible to discard the labour theory of value as invalid without having to distort the classical conclusion that specialization along the lines of Ricardian comparative advantage would enhance world GNP and economic welfare. Such an attempt was first undertaken by Haberler in 1936, when he developed his theory of opportunity costs. Once comparative advantage is defined in terms of opportunity cost reflecting foregone production of alternative goods, it makes no difference whether commodities are produced by labour alone or by all factors of production combined with labour. Haberler repeatedly emphasized that the sole purpose of the labour theory of value was to determine the opportunity cost of one commodity in terms of the other in each of the two trading nations.

The neo-classical model of international trade has been developed using the concepts of opportunity costs, production-possibility frontiers, and community indifference curves. In this model, labour theory, value is dropped to make room for a more general theory of costs and production. It is an improvement over the classical theory insofar as it frees the classical conclusions from the unnecessarily restrictive assumption regarding the labour theory of value. The chief architects of the neo-classical theory are Haberler, Leontief, Lerner, Marshall, Edgeworth and Meade. Meade has contributed more than any one else by the way of advanced geometric technique to explain neo-classical doctrine of comparative advantage.

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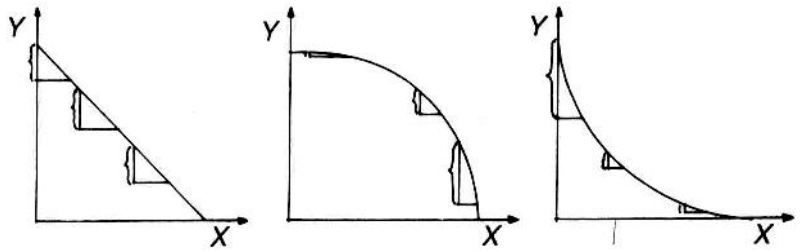
We will study trade equilibrium under various conditions of production and costs i.e., when there are increasing, constant or diminishing returns to scale conditions in production or when the marginal opportunity costs are falling, rising or constant as the scale of production increases. In contrast, however, the classical theory demonstrated one special case only i.e., international trade equilibrium where there are only constant cost or returns to scale conditions in production. We will discuss here a more general model of trade equilibrium.

The neo-classical international trade equilibrium analysis is conducted along all the three possible lines, following the three laws of returns: (a) when there are constant returns to scale in production or when the marginal opportunity costs in production are constant, (b) when there are diminishing returns to scale in the production of all goods or when there are increasing marginal opportunity costs in production, and (c) when there are increasing returns to scale or when there are diminishing marginal opportunity costs in the production of all goods. We shall discuss the three models of trade equilibrium below. However, in the meanwhile, let us have a brief mention regarding what the shape of the production-possibility frontier would be under the three different cost conditions.

When there are constant returns (or costs) in the production of the two goods, the production-possibility frontier will be a straight line; the frontier line will be concave to the origin when there are diminishing returns (or increasing costs) in the production of the two goods; and when there are increasing returns (or diminishing costs) in production, the frontier line will be convex to the origin. See the set of graphs.



5.1A **5.1B** **5.1C**

Fig. 5.1A–5.1C *Constant, Increasing and Diminishing Costs of Production*

In all the three diagrams commodity *X* and *Y* are measured along the horizontal and the vertical axis, respectively. The cost of producing one unit of *X* is the number of units of *Y* that are given up to produce one unit *X*. These are opportunity costs as opposed to money costs of production. In Diagram 5.1A the production frontier is a straight line, and the cost of producing one unit of *X*, expressed in terms of *Y*, remains constant regardless of the quantities of *X* produced. Similarly, the cost of producing one unit of *Y*, expressed in terms of *X*, remains also constant regardless of the level of output of *Y*. This can easily be seen from the graph. Now look at Diagram 5.1B where the transformation curve is non-linear and concave to the origin. In the initial stages, the cost of producing one unit of *X* is small, i.e., only a small amount of *Y* is to be given up. As the production of *X* increases, more and more 'amount of *Y* has to be given up in order to produce one unit of *X*. This shows increasing marginal (opportunity) costs in the production of *X*, as more *X* is produced. The same thing applies to *Y* as well. A concave production frontier line indicates increasing costs or diminishing returns as more of either commodity is produced. Diagram 5.1C has convex production frontier line, and it represents increasing returns or diminishing marginal costs in the production of both Xand *Y*. Initially, for example the cost of producing one unit of *X* is a large quantity of *Y* given up; but as you go on increasing the production of *X*, only less and less amount of *Y* need be given

up in order to produce one unit of *X*. The same would apply in the case of *Y* as well. The three graphs represents three production-possibility frontiers corresponding to the three laws of returns *viz.* constant, diminishing and increasing returns to scale in the production of *X* and *Y.*

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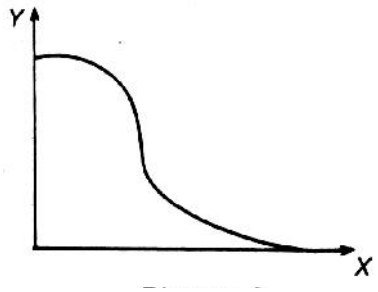

Fig. 5.2 *Transformation Curve*

If one commodity (say *X)* is subject to increasing returns or diminishing costs in production, while the other commodity (say *Y)* is subject to diminishing return or increasing costs in production, then the transformation curve will have a shape like in Figure 5.2.

Let us now proceed to examine international trade equilibrium under the three types of production (cost) conditions.

Trade Equilibrium under Constant Cost Conditions

This is the classical case of Smith-Ricardo type where the marginal opportunity costs are constant and the transformation curve is a linear straight line. See the succeeding graph:

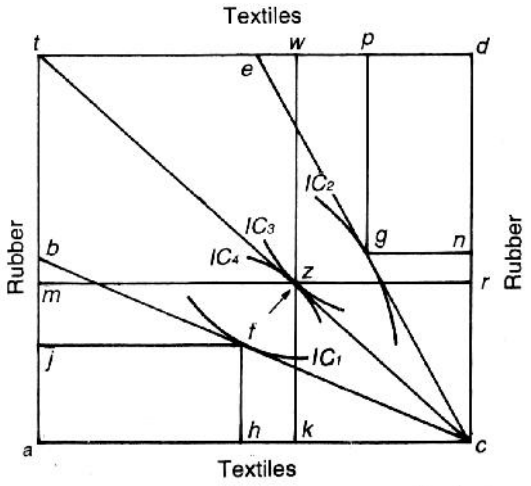

Fig. 5.3 *Model of Constant Costs in Production*

There are two countries, India and Malaysia; and two commodities, textiles and rubber. India's production block is *abc* and its transformation curve is *bc.* India has absolute advantage in textile production; it can produce twice as much textiles as rubber, given its production possibilities. Malaysia's production block is *cde,* and its transformation curve is *ce.* Given the production possibilities, Malaysia can produce twice as much rubber as textiles, it is absolutely efficient in the production of rubber. Marginal opportunity costs in the production of the two commodities in both the countries are constant, which is indicated by the straight line transformation curves.

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In the absence of trade between the two countries, i.e., in isolation, India produces and consumes at point *f*—a combination of *ah* amount of textiles plus *aj* amount of rubber. The level of economic welfare of India's consumers is measured by the indifference curve IC_1, at point *f*. There is full employment (or maximum utilization of all the economic resources in the country) in India, because production is taking place at point *f* which is on the transformation curve of India. The consumption is also taking place at the same point, point *f* where the production is also taking place. In the absence of trade it is not possible for consumption to take place beyond the limits of the production frontier. Similarly, in Malaysia production and consumption take place at point *g* on Malaysia's production frontier; and Malaysia produces and consumes a combination of *dn* amount of rubber plus *dp* amount of textiles. The level of consumers' welfare in Malaysia is indicated by the point (point *g)* on Indifference curve IC_2. In Malaysia also there full employment, and consumption takes place on the transformation curve where production is taking place *(viz.* at point *g).* At pre-trade equilibrium points of consumption and production (i.e., at point *f* in India and at point *g* in Malaysia), both countries have achieved maximum levels of GNP and highest attainable level of economic welfare. All this is in the absence of trade between the two countries.

Now, let us introduce international trade. This would mean complete specialization in production for both India and Malaysia. India is absolutely efficient in textile production, and Malaysia in rubber production. Complete specialization would mean that India will produce all the textiles it can produce by using all its economic resources exclusively for the production of textiles; and Malaysia would produce all the rubber it can produce by using all its economic resources. In Figure 5.3, production will take place in both the countries at point *c*, after the establishment of trade. India will produce *ac* amount of textiles and Malaysia will produce *cd* amount of rubber. Both the countries have moved along their respective transformation curves from points *f* and *g* to point c, which is a movement towards complete specialization consistent with full employment as well.

Having achieved complete or extreme specialization in production at point c, the two countries are free to trade—as much or as little as they wish—along the international terms of trade line *ct,* which lies exactly in between the two internal cost ratios in India and Malaysia. Note that the transformation line *cb* in India and *ce* in Malaysia represent marginal opportunity cost ratios in the two countries. How much the countries wish to trade with each other or where will consumption actually take place on the international terms of trade line, *ct,* depends on the taste patterns of consumers in the two countries. Given the taste pattern, let us assume that the two countries would like to consume at point *z* on the international terms of trade line. On this basis, we can say the following for the two countries:

(a) India produces *ac* amount of textiles, but consumes only *ak* amount of it, exporting the rest of it *viz. ck* amount of textiles to Malaysia. At the equilibrium terms of trade, India will be able to import *kz* amount of rubber, in exchange for *ck* amount of textile exports to Malaysia. In other words, India produces at point c and consumes at point *z* exporting *ck* quantity of textiles in exchange for *kz* quantity of rubber imports. At point z India has been able to consume more of both the goods (after trade) in comparison with where it was at point*f* (before trade), consuming *ah* amount of textiles plus *aj* amount of rubber. After trade it is able to consume more of textiles *(hk)* and more of rubber *(mj).*

India, in other words, has been able to move from point *f* on IC_1 to point *z* on IC_3, which is a movement from a point on a lower indifference curve to a point on a higher

indifference curve. Naturally, trade has made the country better off in terms of economic welfare measured by consumer satisfaction.

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You can also look at it this way. In the absence of trade it is impossible for India to consume at a point beyond the limits set by the production frontier. In Figure 5.3, note that the consumption, after the establishment of international trade, is actually taking place at point *z* which is outside the transformation curve of India. This means that the establishment of trade will make it possible for a country to attain points of consumption which lie beyond the boundaries of the production frontier. Trade would make something possible which is otherwise impossible. What has made it possible in the case of India, here is the trading triangle *zkc*.

(b) Malaysia produces *dc* amount of rubber, consumes *dr* amount itself and exports the remaining amount of *rc* to India. In exchange, at *ct* terms of international trade, Malaysia imports *dw* amount of textiles from India. After trade, Malaysia consumes *dr* amount of rubber plus *dw* amount of textiles as compared to its pre-trade consumption of *dn* amount of rubber plus *dp* amount of textiles. In other words, by consuming at point *z* on a higher indifference curve *(IC_4)* as compared to point *g* on a lower indifference curve (IC_2), Malaysia is better off in terms of consumer welfare, after trade than before trade. Before trade Malaysia could only attain a consumption point on the transformation curve (i.e., at point g), to consume at a point outside its transformation *curve* (i.e., at point *z*). This means that international trade has made it possible for Malaysia also to consume at a point outside the transformation curve, which is beyond the limits of its production-possibility boundaries.

We, therefore, notice that both the countries are able to consume more of both the goods after trade, as compared to before trade. Both countries are able to consume at a point well beyond the limits of their production frontiers, which is made possible by international trade. This means that the economic welfare in both the countries has gone up because of trade, and this is indicated by the movement of the two countries from their pre-trade indifference curves to post-trade higher indifference curves. The well being of consumers in both the countries, has gone up.

In terms of production, or world GNP, there has been an increase as well. For example, the total world production of textiles before trade was *ah* (contributed by India) plus *dp* (contributed by Malaysia). After trade the world textiles production is equal to *ac* (contributed by India) which exceeds pre-trade production of *ah* plus *dp* amount of textiles. Similarly, the world production of rubber after trade is *dc* (contributed by Malaysia) which is more than the pre-trade world rubber production of *dn* plus *fh* (contributed by Malaysia and India$_t$ respectively).

Thus, both the countries gain in terms of prpduction (or GNP) as well as consumption (or economic welfare) as a result of trade. They both produce at point c and consume at point z and trade at international terms of trade represented by the *ct* line. India's exports of *ck* amount of textiles are equal to Malaysia's imports of *zr* amount of that good; and Malaysia's exports of *cr* amount of rubber are equal to India's imports of *zk* amount of that commodity. The trading triangles for India and Malaysia are *zkc* and *zrc*, respectively. The two counties are better off at post-trade equilibrium as compared to their pre-trade equilibrium.

It is worth noting that if both countries have to share the gains from trade, the international terms of trade line must fall somewhere in between the internal cost ratios of the two countries. In Figure 5.3, this is shown to happen. If the terms of trade line, however, should coincide with the internal cost ratio of India or Malaysia then that

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particular country will fail to secure (consumption) gains from trade. The reader may try it out by himself to see why this will be so.

The model that we have just discussed is one of absolute advantage, where each country has absolute advantage in one of the two lines of production in a symmetrical pattern. Additionally, the two countries—India and Malaysia—are shown to be of equal size, and international trade terms are shown to lie exactly mid-way between the internal cost ratios of the two countries. It is also possible to relax these conditions and still show trade equilibrium under constant cost (or returns to scale) conditions in the production of the two goods in the two countries.

Trade Equilibrium under Increasing Cost Conditions

When the marginal opportunity costs are increasing in the production of the two goods in the two countries, we will have concave-shaped transformation curves in the two countries. The other way of saying the same thing is that when the transformation curves are concave-shaped, there must be diminishing returns to scale in the production of the two goods in the country. We again assume that there are only two countries in the world—India and Malaysia, producing two commodities under increasing cost (or diminishing returns) conditions. We will also assume that the two countries are of equal size, and that each country is efficient in one line of production, but not the same line as the other country. This is to ensure trade complementarity or compatibility. Figure 5.4 represents this case.

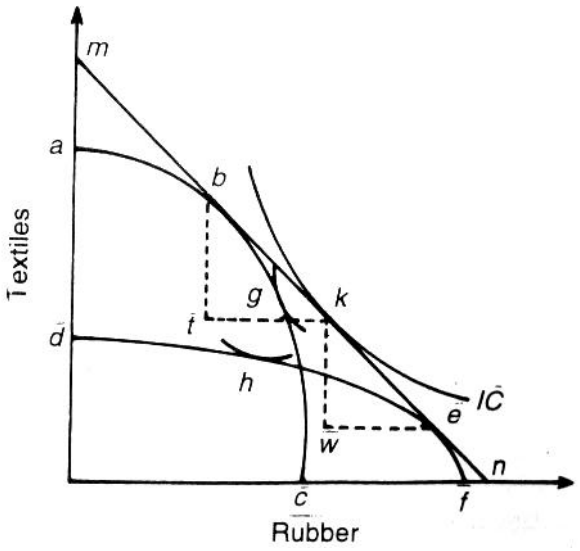

Fig. 5.4 *Model of Increasing Costs in Production*

India's transformation curve is *abc*, and Malaysia's is *def*. The two production blocks clearly show that India's production possibilities are greater in textile production and Malaysia's in rubber production. Pre-trade equilibrium in the two countries are at points *g* and *h* on the respective transformation curves of India and Malaysia. Both production and consumption take place at point *g* in India, and at point *h* in Malaysia. There is full employment and maximum production in both countries, since the two points *(g* and *h)* are on the production boundaries of India and Malaysia.

The tangents at points *g* and *h* represent the relative prices of textiles and rubber in the two countries. They reflect the internal cost ratios in the production of the two goods in the respective countries. Note that the slopes of these tangents are not identical;

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the tangent is steeper in the case of India reflecting relatively higher unit costs in the production of rubber and lower unit costs in the production of textiles; the tangent is flatter in the case of Malaysia, which indicates the fact that the cost of producing one unit of rubber is lower than the cost of producing one unit of textiles. The differences in relative costs of producing the two goods in the two countries indicate the differences in the productive efficiency of India and Malaysia in the production of textiles and rubber. Dictated by these cost advantages, India should specialize in the production (and exports) of textiles and Malaysia should do likewise in respect of rubber.

The international terms of trade line, *mn*, is drawn in Figure 5.4 in such a way that it is tangent to the transformation curves of India and Malaysia at points *b* and *e* respectively. This indicates production shifts in India and Malaysia in response to the international prices on textiles and rubber. More specifically we can say that (a) in India, the point of production shifts from point *g* to point *b*, which, represents a movement towards greater specialization (but, by no means, complete specialization) in the production of textiles. Resources will shift away from rubber production and go into textile production resulting in a more rational reallocation of the economic resources between textiles and rubber. Such reallocation of resources will lead to a higher production of textiles and a lower production of rubber in India. In Figure 5.4 compare post-trade production equilibrium point, *b*, with the pre-trade, production equilibrium point, *g*, and you will notice how the production shift has taken place in India. Needless to say that, after trade, more textiles are produced by withdrawing resources away from rubber production. The kind of a shift in production in India is consistent with what one can expect, *viz.* greater absolute (or comparative) advantage; (b) in Malaysia the point of production shifts from point *h* (pre-trade) to point *e* (after trade). Such a movement again reflects a greater degree of specialization (but, by no means, complete especilization) in the production of rubber. In the case of Malaysia also the production shifts which respond to new international price relationships, lead to a more rational reallocation of the country's resources between textiles and rubber. Resources will be withdrawn from the textile industry and put into use in the rubber industry. This will lead to an increase in rubber production at the cost of textile production, and this is reflected in the production transformation along Malaysia's production frontier line, in the shift from point *h* to point *e*.

All this clearly demonstrates that international trade has changed the relative phases of rubber and textiles on the international market, leading to a more rational re-allocation of world resources in the two countries in respect of the two commodities. The result is one of greater degree of specialization but, by no means complete specialization in the two commodities by the two countries. It is important to note here that complete specialization is possible when there are constant returns to scale in production (or when the marginal opportunity costs are constant). Specialization can go to the extremes under those cost conditions. However, when there are diminishing returns to scale (or increasing marginal cost) conditions in production, we can expect only greater degree of specialization. Complete specialization is ruled out under increasing cost conditions. Complete or extreme specialization carried out under increasing cost conditions will only make the country worse off in terms of economic well being. Incomplete specialization, as we see in Figure 5.4, would maximize the level of economic welfare of the two countries.

India produces, after trade, a combination of textiles and rubber at point *b*. She exports *bt* amount of textiles and imports *tk* amount of rubber at *mn* terms of trade. This means that India produces at point *b* and consumes at point *k*. The country is clearly

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better off after trade, because point *k* is on a higher indifference curve compared to point *g* (pre-trade level) which is on a lower indifference curve. Note also that before trade, India could only consume at a point *on* the transformation curve (*viz.* point *g),* but trade has made it possible for India to consume at a point outside the limits of the transformation curve (*viz.* point *k*). The trading triangle *btk* has enabled India to attain a level of consumption at point *k,* which is outside the transformation curve. Without trade this would be impossible.

Similarly, Malaysia also is able to consume at a point outside its transformation curve, after trade. Malaysia produces at point *e,* but consumes at point *k.* This is made possible because Malaysia exports *ew* amount of rubber and imports *kw* amount of textiles in exchange, at the same *mn* terms of international trade. Note that Malaysia's post-trade consumption equilibrium point at *k* represents a higher level of satisfaction compared to its pre-trade consumption at point *h* on the transformation curve. Therefore, Malaysia is also able to reach a point of consumption outside the limits of its production frontier, due to international trade.

In the post-trade equilibrium situation, India's exports of textiles amounting to *bt* are equal to Malaysia's imports of that commodity amounting to *kw;* and India's imports of *tk* amount of rubber-are equal to Malaysia's exports of rubber amounting to *ew.* After trade there have been two results: (a) both countries have attained new production levels involving greater degrees of specialization in commodity production consistent with their comparative advantage positions; and (b) both countries are able to achieve consumption levels at points which lie outside their respective transformation curves. In other words, both countries have become better off after trade and because of trade.

Now, a word about incomplete specialization. You will recall that under constant cost (or returns to scale) conditions complete specialization in production is possible and optimal. However, in the case of increasing cost (or diminishing returns to scale) conditions in production, only incomplete specialization (i.e., greater degree of specialization) is optimal. This does not mean that under increasing cost conditions complete specialization is impossible. What it does, however, mean is that complete specialization is sub-optimal under increasing cost conditions.

At *mn* terms of trade, India and Malaysia, produce at points *b* and *e* on their respective transformation curves; they both consume at point *k* which is outside the two countries' production frontier lines; there has only been incomplete specialization not a complete specialization. This is not to argue that complete specialization is impossible under increasing cost conditions. Complete specialization is possible. For example, let us shift the terms of trade line *mn* and draw a line such as *ad,* which is parallel to *mn*. Since, the two lines *mn* and *ad* are parallel to each other they guarantee that the terms of trade are unchanged. When we have *ab* terms of trade (which are identical with *mn* terms of trade) complete specialization in production would result in both countries. India produces at point *a* on its transformation curve, where it produces only textiles and no rubber at all. Malaysia produces at point *b* on her own transformation curve—She produces only rubber and no textiles at all.

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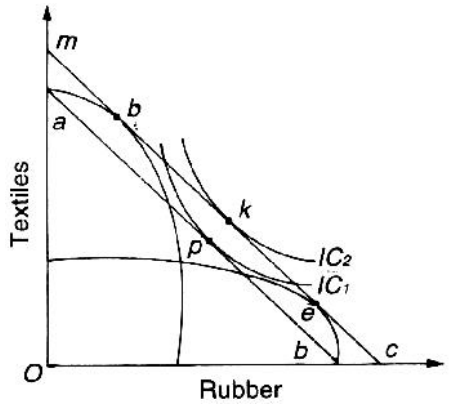

Fig. 5.5 *Complete Specilization under Increasing Cost Conditions*

Having achieved complete specialization in textiles and rubber production, the two countries are free to trade along the terms of trade line *ad*. Let us say that they both consume at point *p* (or any other point on the *ad* line). Point *p*, no doubt, is outside the two countries transformation curves; and to that extent it is superior to zero-trade situation. However, even though, point *p* represents a higher level of economic welfare than would be under zero-trade situation, it is inferior to point *k*. Because point *k* is on a higher indifference curve compared to point *p* which is on a lower indifference curve. It would therefore be in the interests of both the countries to move from point *p* to point *k*, and this can be accomplished only by moving from a situation of complete specialization to a situation of incomplete specialization in production.

In brief, it is true that both countries can go in for either complete or incomplete specialization under increasing cost conditions in production, but only one of them guarantees highest level of economic welfare. And that is a situation of incomplete specialization. In that sense, incomplete specialization is possible as well as optimal, whereas complete specialization is possible, but not optimal from the point of view of economic welfare to be obtained from international trade.

Trade Equilibrium under Decreasing Cost Conditions

We have discussed the cases of constant and increasing costs and the corresponding trade equilibrium conditions under those cost situations. It is logical to expect some discussion of the only other possible case, that of decreasing opportunity costs or increasing returns to scale conditions in production. Two things need to be stated regarding this model: First, this case, while methodologically respectable and necessary to complete the possibilities of cost behaviour, is suspect on other grounds. We have been discussing all along assuming perfect competition; and perfect competition, in its turn, rules out the existence of decreasing opportunity costs (or increasing returns to scale in production). If increasing returns are internal to the firm, then there cannot be perfect competition, for such a condition assumes that the firms in an industry are all of optimum size and have, therefore, no internal economies. There might, alternately, be external economies to be derived but these are not thought to be extensive under perfect competition. If we drop the assumption of perfect competition then, of course, the picture changes. Firms may be large in size but small in number. The internal economies to be derived from further increases in their size may be considerable. A whole new prospect of increasing returns is then opened up. There is a great incentive to relax the assumption of perfect competition and to discuss the implications of decreasing opportunity costs. Because the industrial products which have entered international markets are produced by imperfectly

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competitive industries in the major countries like the USA, UK, Japan and the countries of Western Europe, and their industrial products are conditioned overwhelmingly by the size, efficiency, high productivity due to technological advances, and so forth. Therefore, decreasing opportunity costs may fall outside the purview of trade models based on perfect competition, but there can be hardly any doubt that in the real trading world they exist in many forms. This is a strong justification for including a brief discussion of trade equilibrium based on decreasing costs.

Secondly, it is not necessary (or easy) to demonstrate this model by using our standard model of 'two-countries and two-commodities'. We will, therefore, discuss this model with the help of 'one-country two-commodities' model. Let us therefore assume that we have our home country in a world economy, where the home country is capable of producing both the goods—textiles and rubber. We will examine trade equilibrium for the home country under three possible situations as follows:

- When there are increasing returns (or decreasing cost conditions) in the production of both the goods;
- When there are strong increasing returns in one line of production (say, rubber production) but diminishing returns or increasing cost conditions in the other line of production (say, textile production); and
- When there are mild increasing returns in one line of production (rubber), but diminishing returns in the other line of production (textiles).

The above three are only a few out of a number of possible cases of decreasing opportunity costs. Several other cases can be distinguished as well, but for the sake of demonstrating the three cases would do to illustrate. We shall now discuss the three cases in some detail below:

(i) Trade equilibrium when there are increasing returns in both lines of production. In Figure 5.6 the production possibility curve is convex to the origin, signifying that there are increasing returns to scale in both the lines of production.

The production-possibility curve is *abc*. Before trade, production and consumption are taking place at point *b* where the internal price ratio line *pp* is tangent to the production-possibility curve. This means that the country is producing and consuming *Od* amount of textiles and *Of* amount of rubber in pre-trade equilibrium position. This will be a stable situation only when the country is in isolation, because the country has to produce both the goods if its consumers wish to consume some combination of both the goods.

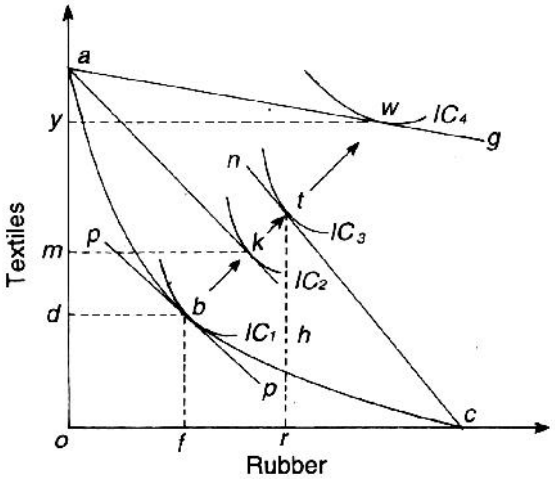

Fig. 5.6 *Increasing Returns in both the Goods*

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However, as soon as trade is opened up, this position of equilibrium at point *b* cannot be maintained, regardless of whether international terms of trade differ or coincide with the pre-trade internal price ratios in the country. If international terms coincide with the pre-trade internal term, then factors of production will continue to switch to textile production until equilibrium output settles at point *a* with complete specialization in textiles production. International terms of trade line, *ah*, is drawn parallel to internal terms of trade line, *pp*, to show that the two price-ratios are identical and international trade has not altered relative prices of textiles and rubber. Even then, production has shifted from point *b* to point *a*, where the country is producing *oa* amount of textiles and zero amount of rubber. Out of *oa* amount of textiles produced, *om* amount is consumed domestically and the remaining quantity of rubber amounting to *am* is exported to the rest of the world. At international terms equal to *ah*, the home country will import *mn* amount of rubber in exchange for *am* amount of textile exports. The post-trade consumption equilibrium is at point *k*, with point *a* as the production point and *amk* as the trading triangle. Notice that after the establishment of trade relationship, the home country's consumers have moved from point *b* (on the transformation curve) to point *k* (beyond the transformation curve), or from a lower to a higher community indifference curve in Figure 5.6. The country has clearly become better of with trade, as compared to without trade, in terms of consumer welfare. Note also that all this has taken place without the changes in relative prices of the two goods after the establishment of trade. There has been complete specialization in textiles after trade, and the consumers in the home country are able to consume more of both the goods at point *k* as compared to point *b*.

From the economic welfare point of view, there is no doubt that point *k* is superior to point *b*. However, as a matter of fact there is another possibility which is even superior to point *k*, and let us now entertain what that possibility could be.

The careful reader would have already suspected that at the same *pp* terms, it would be most profitable for the home country to divert all resources into rubber production rather than textile production. The line *pp* is relatively steeper (and so is the *ah* line) which suggests that it is more profitable to specialize in rubber rather than textile production, since there are increasing returns conditions in both the goods' production. Draw now a line such as *cn*, parallel to the lines *pp* or *ah*. Immediately, we can locate point *c* as the post-trade equilibrium production point with complete specialization in rubber. It would be better for the home country—and in fact best—to produce at point *c*, an amount of rubber equal to *oc;* at home country can retain or amount of rubber for its own consumption and export the remaining *rc* amount to the rest of the world. At *nc* terms of international trade, the home country can import *rt* amount of textiles in exchange for *rc* amount to the rest of the world. At *nc* terms of international trade, the home country can import *rt* amount of textiles in exchange for *rc* amount of rubber exports. The consumption equilibrium point, point *t*, which corresponds to the production equilibrium point, point *c*, guarantees higher level of economic welfare than point *k* or point *b*. Because, at point *t*, which is on a higher indifference curve, the consumers in the home country are able to consume more of both the goods than at either point *k* or point *b*.

It is, therefore, best for the home country to produce at point *c* and consume at point *t*. This ensures maximum economic well-being resulting from trade. This would then be the post-trade equilibrium point when, as in Figure 5.6, there are

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increasing returns in both the goods and relative prices favouring rubber rather than textiles in both pre-and post-trade situations.

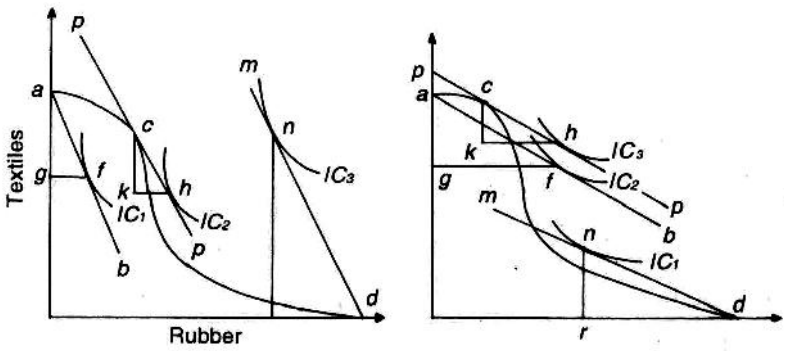
The picture would however change completely, if the international terms of trade should alter the relative price ratios of the two commodities that existed before the trade opened up between the home country and the rest of the world. The pre-trade price-ratio line was *pp* (which is relatively steeper) indicating prices which were more favourable for rubber rather than textiles. Suppose, for example, that after the opening of trade, the international terms of trade line was *ag* which is flatter than the pre-trade price ratic line, *pp.* The flatter *ag* line suggests that the world price ratios are such that they favour textile rather than rubber production. In that event, it would be better for the home country to produce all the textiles it can. The home country could produce, therefore, *oa* amount of textiles; export *av* amount of textiles in exchange for *vw* amount of rubber imports at *ag* terms of trade. The country would then consume at point *w,* which consists of more of both the goods as compared to any other previous points (such as *t* or *k* or *b*). The production and consumption equilibrium points would be *a* and *w* respectively. The trading triangle would be *avw.* The country has attained the highest level of economic welfare in terms of consumer satisfaction. This, then, would be the trade equilibrium position corresponding to *ag* terms of trade which are at variance with pre-trade internal terms of trade represented by *pp* line.

In this particular case study, all we need to know is the returns to scale conditions in the production of the two goods in the home country, and they are both of the increasing returns pattern. We need not worry about the returns to scale conditions in the rest of the world or the foreign countries with which the home country has trading prospects. The nature of the relationship between the international terms of trade (that affect home country after it establishes trade links with the outside world) and the internal terms of trade (that existed prior to the trade establishment) only determine the area of commodity specialization, i.e., whether the home country would profit by specializing completely in rubber or textile production. International terms of trade ratios would dictate that answer for the home country, given the initial pre-trade domestic price ratios which existed in the home country before trade.

(ii) Trade equilibrium when there are strong increasing returns in one line of production but diminishing returns in the other. Let us assume now that rubber is produced under strong increasing returns and textiles are produced under diminishing returns to scale conditions in production. This is represented in the succeeding Figure.

In both the diagrams Figure 5.7A-B, the production possibility curve of the home country is identical in-so-far as there are strong increasing return (or decreasing opportunity costs) in the production of rubber and diminishing returns (or increasing opportunity costs) in the production of textiles. The difference between the two Figure, however, lies in the fact that in Figure 5.7A the terms of trade line is steeper compared to the terms of trade line in Figure 5.7B. The steeper terms of trade line (in Figure 5.7A) implies that rubber has a relative higher price per unit than textiles, i.e., the world prices of rubber and textiles are such that they favour rubber production and exports; the relatively flatter terms of trade line (in Figure 5.7B), on the other hand, suggests textile prices are higher than rubber price on the international market, i.e., the world prices favour production and exports of

textiles as against rubber. There are several possibilities which we will examine as follows:



5.7A **5.7B**

Fig. 5.7A–B *Increasing Returns in Rubber but Diminishing Returns in Textiles*

In Figure 5.7A, the home country could go in for complete specialization in textiles production. The production could, then, take place at point a where the terms of trade line, *ab*, meets the transformation curve, *acd.* This is clearly not in the best interests of the country because consumers in the home country are forced to consume at a point inside the transformation curve, such as at point *f.* Producing at point *a* and consuming at point *f*, the country is exporting *ag* amount of textiles and importing *gf* amount of rubber at *ab* terms of international trade. Such a situation is unambiguously inferior. Returns to scale conditions being of a diminishing pattern, do not favour complete specialization' of production in textiles. Additionally, the international terms of trade also do not favour production and exports of textiles.

The next best thing, therefore, is to go in for incomplete specialization i.e., to produce at point *c* where the international terms of trade line *pp* (which is parallel to *ab)* is tangent to the production possibility curve. The country could produce at point *c* and consume at point *h*, exporting *ck* amount of textiles and importing *kh* amount of rubber at *pp* terms of trade. Point *h* is clearly superior to point *f*, as it places the consumers on a higher indifference curve; point *h* is outside the transformation curve as against point *f* which is inside that curve. Therefore, from the standpoint of economic welfare, incomplete specialization is superior to complete specialization in textiles.

There is a third, alternative possibility for the home country *viz.* complete specialization in rubber. The country can produce at point *d* where the terms of trade line *md* (which is parallel to *pp* and *ab)* meets the production-possibility curve. It is possible for the home country to consume at a point such as *n* on the *md* line, where the country exports *dr* quantity of rubber and imports *rn* quantity of textiles at *md* terms of trade. The consumption point *n* is clearly superior because the consumers have now reached a higher indifference curve compared to the previous two situations. Note also that when production and consumption are taking place at point *b* and *c* respectively, the home country exports a relatively smaller quantity of its own product (rubber) and imports a relatively larger quantity of the foreign product (textiles). This is also the most preferred trade equilibrium situation because rubber is the most favourably placed commodity both in terms of domestic production possibilities (where there are strong increasing returns to

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scale conditions) and world demand and price situations (where the international terms of trade are more favourable to rubber). Of the three alternatives available to the country *(viz.* compete specialization in textiles, incomplete specialization, and complete specialization in rubber) the one which contributes the maximum economic welfare is the third alternative *(viz.* complete specialization in rubber). That, then, is the trade equilibrium point in a situation shown in Figure 5.7A.

In Figure 5.7B, however, the picture is altogether different. Here, as in Figure 5.7A, the three alternatives are open to the home country. First, the country can go in for complete specialization in textiles, producing at point *a,* consuming at point *f,* and exporting *ag* amount of textiles in exchange for *gf* amount of rubber imports at *ab* terms of trade. The consumers' economic welfare is represented by point *f,* which is of course outside the transformation curve. Second alternative is to produce at point *c* and consume at point *h.* This is a case of incomplete specialization in production. In this case, the home country exports *ck* amount of textiles and imports *kh* amount of rubber at *pp* terms of trade (which are the same as *ab* terms of trade since *ab* line is parallel to *pp* line). Point *h* guarantees higher level of economic welfare as compared to point *f* which corresponds to complete specialization in textiles, because it constitutes a movement from a lower indifference curve IC_2 to a higher one (IC_3).

Incomplete specialization, in fact, guarantees the highest level of economic welfare in a situation portrayed in Figure 5.7B. Consider now the third alternative available in this diagram, which is one of going in for complete specialization in rubber. The country could produce at point *d* where the terms of trade line *md* (which is parallel to *pp* and *ab*) meets the production possibility curve. Having produced at point *d,* the country can then consume at point *n,* exporting *rd* amount of rubber for *nr* amount of textile imports at *md* terms of trade. Point *n,* which corresponds to a situation of complete specialization in rubber production, is clearly inferior to both point *h* and point *f* which correspond to the previous two alternative situations. It makes no sense to go in for complete specialization in rubber, even though their are strong increasing returns to scale production possibilities in that commodity. Because, the international terms of trade are very unfavourable to rubber. World demand and price conditions for rubber are so adverse to rubber (relative to textiles) that the home country has to export a relatively larger quantity of rubber in order to import a relatively smaller quantity of textiles. Unfavorable world demand conditions for rubber would, therefore, discourage any attempt on the part of the country to achieve specialization in rubber production although the country may enjoy extremely favourable production possibilities, in that particular line of production.

(iii) Trade equilibrium when there are mild increasing returns in one line of production but diminishing returns in the other. Let us assume that there are mild increasing returns in rubber production and diminishing returns in textiles. This will give us a production possibility line for the country as shown in the following diagrams:

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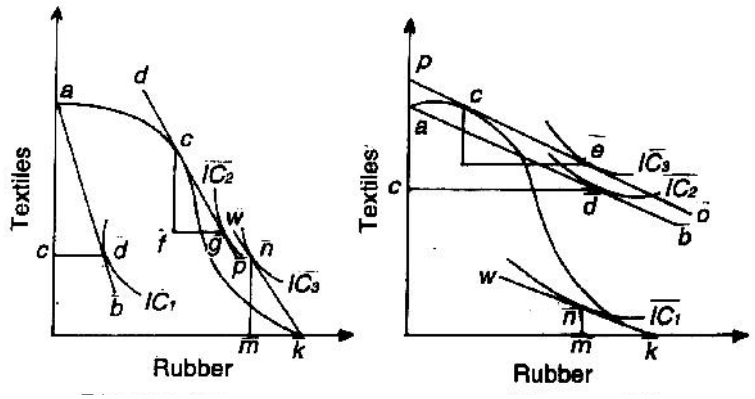

5.8A **5.8B**

Fig. 5.8A-B *Increasing Returns in Rubber and Diminishing Returns in Textiles*

In both the Figures above the shape of the production block is the same–concave at first and then convex later on as we move towards rubber axis. The difference between the two diagrams lies in the fact that in Figure 5.8A, the international terms of trade line is steeper (suggesting that world demand and world price situations favour rubber as against textiles): and in Figure 5.8B we have a flatter terms of trade line (suggesting that the more favoured export commodity is textiles rather than rubber).

In Figure 5.8A, complete specialization in textiles is the worst in terms of economic welfare. The country would in that situation, produce at point *a,* consume at point *d* and exports *ac* quantity of textiles or *cde* quantity of rubber imports at *ab* terms of trade. Consumption point *c* is clearly inferior as it lies inside the transformation curve. Incomplete specialization results in a situation where production and consumption will take place at points *e* and *g* respectively; the trading triangle is *efg* and the terms of trade *is pp,* which is parallel to *ab* line. Consumption point *g* is superior to point *d* because it is on a higher indifference curve and at a point which is outside the transformation curve. The third alternative would be to go in for complete specialization in rubber where production takes place at point *k* and consumption at point *n.* Note that point *n* lies on a still higher indifference curve *(IC_3)* compared to point *n* which lies on IC_2, a lower indifference curve. This leads us to conclude that given the production possibilities in the country and world demand and price situation outside the country, as we have in Figure 5.8A, it is in the best interests of the country to produce at point *k* and consume at some point on *kw* terms of trade line (such as point *n)* and achieve maximum welfare from trade. Everything depends on the relative world prices of rubber and textiles. If, for instance, the terms of trade line *pp* were such that when it is extended it will meet point *k,* then it is immaterial whether production takes place at point e (incomplete specialization) or at point *k* (complete specialization in rubber); because in either case the country can select a consumption point on *the pp* line which connects points *e* and *k.* The difference would be only in terms of the composition of trade, i.e., what commodity will be exported and imported by the country. To produce at point *e* and consume at some point on *pp* line which is to the right of point e would mean exporting textiles and importing rubber; and to producing at point *k* and consuming at some point on the *pp* line which is to the left of point *k,* would mean exporting rubber and importing textiles. For economic welfare as such it would make no difference whether you opt for complete specialization in

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rubber or incomplete specialization, as long as the same *pp* terms of trade line is connecting points such as *e* and *k* in Figure 5.8B (which is not shown in the Fiure).

In Figure 5.8B, on the other hand, we have a different picture. Terms of trade favour production and exports of textiles, since the terms of trade lines are flatter (compared to what they are in Figure 5.8A). The three lines—*ab, pp* and *wk*—are all parallel indicating same terms of trade in all three situations. In situation one, of complete specialization in textiles, the country produces at point *a* and consumes at point *d*. In situation two, with incomplete specialization, production and consumption take place at points *c* and *e* respectively. In situation three, with complete specialization in rubber, the equilibrium production and consumption points are at *k* and *n* respectively. Needless to say that situation there is the worst in terms of economic welfare; situation one is intermediate; and situation two with incomplete specialization maximizes the economic welfare of the country through trade.

To sum up, therefore, with a given production possibility curve and a given terms of trade line—representing domestic supply and foreign demand conditions for the two products—we can also determine a trade equilibrium position for a Country, i.e., the points of production and consumption equilibrium which maximize the level of economic welfare of the country. The neo-classical technique of using production possibility curves has proved to be a useful device for an analysis of trade equilibrium. The framework is neo-classical, but the theme or substance is classical. The message throughout the discussion is that some trade is better than no trade regardless of the countries production possibility pattern or the world demand and price pattern for goods and services. Trade is unequivocally welfare promoting, provided of course there is free trade among nations.

Check Your Progress

3. What will be the shape of the transformation curve, if the marginal opportunity costs are increasing in the production of the two goods in the two countries?
4. Give reasons for the non-acceptance of the labour theory.

5.4 BALANCE OF PAYMENTS AND BALANCE OF TRADE

This section describes the concept and nature of balance of payment and balance of trade.

Balance of Payments

There is no country which is self-sufficient and this interdependence of countries is reflected in international economic and commercial transactions. An economic transaction is an exchange of value or transfer of a title to goods or assets. Commercial transaction are an exchange of goods or services, for money which will result in payments, in currency or monetary assets leading to a financial flow. The resource flows from one country to another due to purchase and sale of financial claims, referred to as a financial

transaction. The international exchange of goods for goods, for services or goods and services for money are all referred to as international economic and commercial transactions.

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Balance of payments (BOP) of a country has been defined as a systematic record of all economic transactions between the residents of the reporting country and residents of foreign countries. Thus, balance of payments includes both visible and invisible transactions.

The items usually included in balance of payments of any country are payments for merchandise imports and receipts for merchandise exports, loans to and investments in foreign countries and enterprises, foreign investments in domestic enterprises, borrowing from foreign countries, tourist expenditures—both by domestic tourists abroad and foreign countries, tourist expending country, money paid to foreign carriers and receipts for foreign goods carried in national bottoms, cable and telegraph payments to foreign banks, expenses on foreign embassies established in the home country, interest and dividend payments and similar items. The two sides of a balance of payment must always be balanced, i.e., payments to be made to outsiders must equal the receipts from outsiders and the main reason for this balance is because of the simple fact that for everything one gets, he can expect to receive something in return. Ordinarily, balance of payments is prepared for a period of one year, but creation of balance of payments quarterly is also common.

The balance of payments is a complete tabulation of the total market value of goods, services, and financial assets that domestic residents, firms, and governments exchange with residents of other nations during a given period. Like gross domestic product, a nation's balance of payment is a system that accounts for flow of income and expenditures. Unlike gross domestic product, however, the balance of payments includes the flow of financial assets.

The balance of payments is a summary statement in which, all the transactions of the residents of a nation with the residents of all other nations are recorded during a particular period of time, usually a calendar year. The United States and some other nations also keep such a record on a quarterly basis. The main purpose of the balance of payment is to inform the government of the international position of the nation and to help it in its formulation of monetary, fiscal, and trade policies. Governments also regularly consult the balance of payments of important trade partners in making policy decisions. The information contained in a nation's balance of payment is also indispensable to banks, firms, and individuals directly or indirectly involved in international trade and finance.

Monetary authorities of the reporting country should know the receipts and payments as between the reporting country and others so as to assess the impact of such flows on domestic money supply and on the savings of the economy. Besides, economists would like to study from these data the impact of foreign transactions on national income of the reporting country – their impact on current income and expenditure (current account) and on assets and liabilities of the country (capital side).

The monetary and fiscal policies and foreign exchange policy would be formulated or reformulated on the basis of these data. It would thus, be observed that the balance of payments data are useful from the point of view of formulation and operation of the domestic economic policy.

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Balance of payments is the systematic summary of the economic transaction of the residence of a country with the rest of the world during a specified time period, normally a year. The following are the features of balance of payments:

1. Economic transactions

The statement is a summary of economic transactions of the country with the outsiders. An economic transaction arises when values are exchanged or moved between nations. These may arise from the following:

- Movement of goods in the form of exports and imports
- Rendering of services abroad and using foreign services
- Gifts/grants from one country to another
- Investments made abroad or received from abroad
- Income on investments received from abroad or remitted abroad
- Increase or decrease in the international reserves of the country

2. Residents with non-residents

Generally, transactions which take place between the residents of the country with residents of other countries are recorded in the balance of payments. Residents may mean the individuals, institutions, corporate bodies and government departments who are a part of the country. Units or branches of multinational companies domiciled in the country are also residents and their transactions with their parent or branches abroad are also reflected in the balance of payments. If the economic transaction is between residents only, it is not included in the balance of payments. For instance, sale of gold in the domestic market will not find a place in the balance of payments. There are, however, certain exceptions such as the Central bank of the country and thus, the monetary gold of the country increases, which would be reflected in the balance of payments. Similarly, foreign assets exchanged between residents may also be included in the balance of payments account.

3. A flow statement

A balance of payments is a compilation of the flow of economic transactions of the country during the period and not a statement of the position as on a date. It is more like a funds flow of a company, rather than a balance sheet. For instance, if the balance of payments shows $ 400 million as plus in non-resident deposits, it means the balances held by the non-residents of the country with banks in India has changed during the period by $ 400 million; it does not mean the aggregate of such balances is $ 400 million.

4. Periodicity

Normally, balance of payments statement is prepared covering a period of one year. However, depending upon the requirement of the government, the statement may be prepared for shorter periods such as for a tenure of six months or in some cases, it is even made for a month.

5. Components of balance of payments

The balance of payments statement is presented with three major components:

- Current account

- Capital account
- Official reserves account

Earlier balance of payments used to be divided into two accounts—current account and capital account. The present trend is to divide the capital account further into two accounts and sow separately the details of official reserves account.

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To draw an analogy with the final accounts of a business entity, the current account is similar to the profit and loss account which shows the income and expenses of the entity during a year. The capital account (including the official reserve account) is the balance sheet, or to be more precise, the funds flow statement, the first part showing the changes in the assets and liabilities of the entity and the second part revealing changes in its equality.

6. Current account

The current account of the balance of payments refers to transactions in goods and services, income and current transfers. In other words, it covers all transactions between residents and non-residents, other than financial items.

7. Merchandise trade

Merchandise, represents exports and import of commodities from/into India. The credit in the item represents exports and debit represents imports. The net balance, being the difference between exports and imports is known as the balance of trade.

The values of exports are shown at FOB prices, i.e., excluding the cost of transportation from abroad. Imports represent CIF payment, i.e., including freight and insurance paid for imports. However, where freight and insurance on imports are paid separately to foreigners, these are included under transportation and insurance.

8. Invisible

This item includes service, transfers and investment income. It is titled invisible to distinguish from merchandise trade and is also known as visible trade.

Travel covers all receipts and payments on account of international transportation services except for the freight on imports invoiced CIF/CFR included under import payments. The credits include expenses of foreign transport companies in India, receipt of foreign earnings of Indian transport companies and other receipts. The debits include expenses of Indian companies abroad and payments to foreign transport companies.

Government, not included elsewhere, relates to receipts and payments on government account not included elsewhere as well as receipts and payments on account of maintenance of embassies and diplomatic mission and offices of international institutions such as UNO, WHO and so on. Credits include allocations made for the US embassy expenditure in India out of the rupee proceeds of sales in India of US surplus agricultural commodities under PL 480 agreement.

Miscellaneous items cover receipts and payments in respect of all other services such as agency services, technicians, and professional services, technical know-how, royalties, subscriptions for periodicals and so on.

Transfer payments or unilateral transfers represent all receipts and payments without a *quid pro quo*. They include items like aid and grants received from/extended to foreign governments, migrant's transfer, repatriation of savings, remittances for family

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maintenance, contributions and donations to religious organizations and charitable institution.

Investment income relates to remittances, receipts and payments on account of profits, dividends, interest and discounts including interest charges and commitment charges on foreign loans including those on purchase from the International Monetary Fund.

Balance on current account: The important decision is not to take into consideration the absolute figures of exports/receipts and imports/payments, but their difference which shows whether the country has earned or lost foreign exchange. Two important measures in this regard are as follows:

- Balance of trade
- Balance of payments

Balance of trade refers to the net difference between the value of export and import of merchandise or the visible trade. When the aggregate exports of goods from the country during the period exceed its aggregate import, the balance of trade is said to be favourable, however, in case the imports exceed exports, the balance of trade is termed as unfavourable. Since, imports and exports of a country seldom are equal, the balance of trade will not be balanced. During any given period, the balance of trade will show either a favourable or an unfavourable balance.

Balance of payments includes the foreign trade in its broad sense and includes not only visible trade but invisible items also. Thus, this term is more comprehensive than balance of trade. In other words, balance of payments represents balance of trade plus balance on invisibles. It would be more appropriate to call this balance of payments on current account as it includes the net balance of all items included in the current account. As in the case of balance of trade, the total amounts receivable and payable on current account do not balance and the balance of payments for a given period ends up in a favourable (surplus) or unfavourable (deficit) balance.

9. Capital account

The capital account represents transfer of money and other capital items and changes in the country's foreign assets and liabilities resulting from the transactions recorded in the current account. The capital account transactions are short-term capital inflows and outflows for private purposes, official purposes or banking purposes. Private flows of capital include private company remittances for working capital purposes to subsidiaries or branches of foreign companies or short-term loans, grants from foreign banks, international financial institutions and foreign government. These short-term flows may be for compensatory purposes on government account. These can also be banking funds which are created for dealing with short-term purposes.

There are long-term capital movements which may again be private or governmental. The private flows include loans and advances granted to private parties, investment in shares, bonds, debentures by Indians abroad or by foreigners in India, investment in joint ventures, consultancy, turnkey projects, and deferred payment credits and so on. Such flows on official account also take place through government loans, credits, and grants for private long-term purposes. Foreign investment in India is the amount invested by non-residents in the equality of entities in India. The difference between direct and portfolio investment is one of intention of the investor. Direct investment reflects a lasting interest of the investor in the entity and his intention to take active role in the management of the company.

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Investments in equity by the direct investor and the amounts accruing on the original investment but retained in the country fall under the category of direct investment. Portfolio investment covers transactions in equity securities other than direct investment. The investor does not intend to take part in the management of the company. Foreign investment abroad is the amount invested by residents in entities abroad.

Loans comprise external assistance, commercial borrowings and short term loans. External assistance is borrowings from multilateral organizations like World Bank and from bilateral sources, mainly on confessional terms. Commercial borrowings are debts owed to international banks, borrowings in bond markets, credits from export credit agencies and loans provided on commercial terms by specialized multilateral or bilateral institutions like International Finance Corporation. Short term credits are those repayable within one year. Banking capital covers the assets and liabilities of commercial banks, non-resident deposit accounts and other financial institutions.

The capital account reflects the changes in foreign assets and liabilities of the country and affects its creditors/debtor position. An excess of foreign assets over foreign liabilities indicates a net creditor position and vice versa. Net changes in current account are reflected by a corresponding and opposite change in the capital account, changing the foreign assets and liabilities position of the country. Current account is like an income and expenditure statement with surplus or deficit in it, transferred to capital account which lies in a balance sheet. If all these accounts do not tally, errors and omissions are added to balance the corresponding column of balance of payments. In an economic sense, a country has a surplus or deficit in its balance of payments, when its transactions other than those merely financing the real transactions are not in balance. Those merely financing are said to be below the line while others are above the line. The selection of items which are below the line is generally decided by each country, depending upon its requirements for economic policy in the short run and long run.

The last item on balance of payments other than errors and omissions is the movement in foreign exchange reserves of the country which is usually shown in the capital account. These reserves are in foreign currencies, foreign assets, investments and balances held abroad, or gold of the government, and official monetary agencies of a country.

10. Balance on capital account

Balance on capital account is the net of inflows and outflows on capital transactions. It is also appropriate to call this balance, a private capital account as this excludes movement in official reserves.

11. Overall balance

Overall balance is the total balance on a current account and balance on a capital account. It is also called official settlement balance since it must be financed by official reserves or by other non-reserve transactions that are substitute for reserve transactions. This is a very important measure because it reflects a country's overall competitive position in terms of all private transactions and exerts pressure.

Balance of Trade

Balance of trade is defined as the difference between the exports and imports of a country. The balance of trade is considered as the most significant component of the current account of balance of payments as it helps in measuring a country's net

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income which is earned on international assets. It also includes all payments across borders. It has also been observed by economists that measuring the trade balance is the most convenient method to measure the economy's growth as it almost all goods and services pass through the customs, thus, it has a record of all the country's transactions.

The balance of trade includes three major components which are as follows:

- **Debt items**: It can be classified as imports, foreign aids, domestic spending and investments.
- **Credit items**: It can include exports, foreign spending in the domestic economy and foreign investments.
- **Services**: It also forms an important part as it includes the services which are provided while traveling, such as transportation, hotels, and meals and so on. It also includes technical imports.

A country suffers from a trade deficit when there is excess of imports over exports, while trade surplus means excess of exports over imports. It has been observed that a balance of trade surplus is favourable for the domestic producers who engage in exports. A country tries to maintain a favourable trade balance by using methods such as trade protectionism. This method protects the domestic industries by levying on them tariffs, quotas or subsidies on imports. However, this methods turns out to be favourable, if the countries also retaliate with their tariffs.

A favourable trade balance depends on three factors which are as follows:

- A country's position in its business cycle
- Duration of its condition whether a surplus or a deficit
- Factors contributing to its trade deficit or trade surplus

In some cases trade balance can be unfavourable also, when the domestic consumers pay high prices for the exported goods and services. Alternatively, a balance of trade deficit is considered as unfavourable to domestic producers especially in cases of high competition in the market, however, it can be beneficial for domestic consumers as they enjoy goods and services at lower prices. These unfavourable situations leads to trade deficit as most of the countries with trade deficits import more in consumer products than they export in raw materials. Trade deficit makes a country dependent on global commodities prices which in the long run, can deplete their natural resources.

The trade deficit in India declined 25 per cent subsequently to USD 8.12 billion in June of 2016. The export rate increased to 1.27 per cent to USD 22.5 million, which was the biggest gain for the economy. The non-petroleum sales which accounted for 88.6 per cent of total exports was also increased by 3 per cent. In case of export partners, the shipments were increased in case of European Union (4.3 per cent) but consequently fell in case of United States (–7.4 per cent).

Imports were also slumped by 7.3 per cent during the year as compared to earlier trends which was an approximate of 30.7 billion, thus, was considered as the nineteenth consecutive months of decline. The oil purchases were decreased by 16.4 per cent and the non-oil purchases also decreased by 4.1 per cent. In terms of monthly basis, the country's trade gap widened for the second month, reaching the highest so far this year. The Balance of Trade in India averaged –2126.93 USD Million from 1957 until 2016, which was marked as an all-time high reaching 258.90 USD Million in March of 1977 and a record low of –20210.90 USD Million in October of 2012.

At present, India's trade deficit narrowed to a five-year low of $4.8 billion in the first month of the current financial year, led by a sharp fall in gold imports due to a

nationwide strike by jewellers protesting against the proposed 1 per cent excise duty and a decrease in inbound oil shipments.

Exports declined for the seventeenth straight month, with shipments dropping 6.74 per cent to $20.56 billion in April, while imports fell 23.1 per cent to $25.4 billion, dragged down by lower oil imports, according to data released by the Ministry of Commerce and Industry.

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Check Your Progress

5. State the main purpose of balance of payment account.
6. What are the major components of balance of payments statement?
7. What does the capital account represent?
8. Why is overall balance considered to be an important measure of BOP?

5.5 DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS AND CORRECTIVE MEASURES

In an accounting sense, the BOP is always in balance. The detailed accounting of BOP is based on the double entry book-keeping system. Under this system, both kinds of flows of a transaction—receipts and payments—are recorded as debits and credits in the book of accounts. Recall the example, when a country imports goods, goods are received and money (foreign currency) is paid out. In this case, imports are debit items and payments are credit items. Similarly, exports (goods going out of the country) are credit items and receipts of payments are debit items. The same is the case with foreign borrowing and lending. In the case of foreign borrowing, money borrowed is debited and the lender is credited and, in the case of lending, the borrower is debited and the money lent, credited. However, in the case of unilateral transactions (foreign aid, gifts, donations, financial assistance, etc.), there is a one-way flow of money. In this case, for record purposes, the receiving country is debited and donating country is credited. Under this accounting system, both debit and credit sides are always equal. Therefore, in an accounting sense, the BOP is always in balance. It implies that the BOP is always in equilibrium and there is no disequilibrium. In reality, however, this is not the case. The equilibrium of BOP is a rare phenomenon. The BOP of most countries is usually in disequilibrium. Let us now discuss how BOP disequilibrium is assessed.

Assessment of BOP Disequilibrium

The BOP disequilibrium may be in the form of BOP surplus or deficit. For assessing the BOP position of a country, all international transactions—current and capital transactions—are taken into account. For the purpose of BOP assessment, all international transactions are grouped under the following two categories:

- Autonomous transactions
- Induced or accommodating transactions

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Autonomous Transactions

Autonomous transactions are transactions that take place automatically due to natural human need and desire for consuming more and better goods, and to make the best possible use of resources for higher profits and incomes. Autonomous transactions generally appear in the form of exports and imports of goods and services. These exports and imports are necessitated by the following economic reasons:

- The scarcity of necessities in the domestic market, e.g., food and clothing
- The demand for such inputs as oil, industrial raw materials, and so on
- The need for better and less costly machinery, equipment, and technology to increase the production capacity of the economy
- The desire for more and better goods and services

All these kinds of transactions are recorded in the current account of the balance of payments. In other words, autonomous transactions are essentially current account transactions.

Induced or Accommodating Transactions

The autonomous transactions between a nation and the rest of the world are not always in balance. Exports and imports are not always equal in value terms. It is the general experience of nations that $X \neq M$. Either $X > M$ or $X < M$ in value terms. That is, receipts from exports and payments for imports are not equal always. In case $X \neq M$, there is a need for payments by the countries with a deficit. The need for payments generates short-term capital movements in the form of borrowing or lending—the deficit country borrows and the surplus country lends in order to settle the payments. Such short-term borrowing and lending is induced by foreign trade—exports and imports. That is why these transactions are called induced transactions or accommodating transactions.

Autonomous and induced transactions arise also on account of long-term capital transactions. The long-term foreign investments, i.e., exports and imports of capital, are treated as autonomous transactions. Also, short-term overseas investments motivated by the desire for higher returns fall in the category of autonomous transactions. However, short-term capital movements in the form of gold movements and accommodating capital movements on account of autonomous transactions are treated as induced transactions.

Having explained the concept of autonomous and induced transactions, let us now look at the method of assessing a disequilibrium in the balance of payments.

Method of Assessing a BOP Disequilibrium

In assessing the BOP equilibrium or disequilibrium, only autonomous transactions of both current and capital accounts are taken into account. If total receipts and payments on account of autonomous transactions in both capital and current accounts are in balance, the BOP is said to be in equilibrium. However, as noted above, the receipts and payments on account of autonomous transactions are hardly ever in balance—they are usually unequal. Therefore, in most cases, the BOP is in disequilibrium.

In the process of assessing the BOP disequilibrium, first the current account balance of autonomous transactions—the balance of exports, imports, and unilateral payments—is estimated. Then, the capital account balance is worked out on the basis of short-term and long-term capital transactions. Finally, the current account balance (surplus

or deficit) and capital account balance are summed up to assess the BOP status of the country. If the sum of the current and capital account balance is negative, it shows a BOP disequilibrium of deficit nature. If the sum of the autonomous transactions of the current and capital account balance is positive, it shows a BOP disequilibrium of surplus nature. Thus, the BOP accounting may result in either a deficit or a surplus. The BOP deficit is financed through foreign borrowing and a BOP surplus goes towards foreign lending. Foreign borrowings and lendings bring the balance of payments to equilibrium. 'A country is said to be in balance of payments equilibrium when the sum of its current, capital, and non-reserve financial accounts equals zero, so that the current plus capital account balance is financed entirely by international lending without reserve movements.'

As noted above, the BOP disequilibrium may result from a BOP surplus or a BOP deficit. A surplus BOP disequilibrium is reflected in a substantial rise in the gold and foreign exchange reserves of the country and external lending. And a deficit BOP disequilibrium is reflected in a substantial depletion of gold and foreign exchange reserves of the country and external borrowing. However, a deficit disequilibrium is a matter of great concern for a country. This is because a large and persistent deficit in the BOP affects the economy of the country adversely. Therefore, nations facing a deficit BOP disequilibrium must adopt suitable policy measures to correct it.

Causes and Kinds of BOP Disequilibrium

The BOP disequilibrium may be of surplus or deficit nature of autonomous current and capital account transactions. The BOP disequilibrium of surplus kind does not create a big problem for the economy. In long run, however, it may cause inflation due to overspending by the government and currency appreciation, which affects exports adversely. Inflation and currency appreciation do affect the economy adversely, but these problems are manageable. However, BOP disequilibrium of deficit nature creates serious problems for the economy, which are often difficult to manage.

Causes of Trade Deficits

Recall that a deficit BOP disequilibrium arises when autonomous payments far exceed autonomous receipts. Autonomous payments include (i) payments for the import of goods and services, and (ii) capital outflows, i.e., investments abroad. Similarly, autonomous receipts include (i) export earnings, and (ii) capital inflows. If autonomous capital outflows and inflows are in balance or capital outflows and inflows are not significantly different, the BOP disequilibrium is caused by current account deficits. The current account deficit arises mainly because of trade deficits, i.e., imports exceeding exports of goods and services. In fact, the first and the most important cause of BOP disequilibrium is imports exceeding exports significantly over time. Thus, a trade deficit is caused mostly by a high rise in imports and a slow rise or decline in exports. The imports of a country, especially of a rapidly developing country, increase for the following reasons:

- A high rate of economic growth leading to a rise in demand for industrial inputs.
- A high rate of inflation compared to foreign countries.
- An increase in the overall demand for foreign goods and services.
- A high income elasticity of demand for foreign goods.
- A low price elasticity of demand for imported goods.
- People's preference for foreign goods.

Countries confronted with these kinds of unfavourable conditions face trade deficits, i.e., a deficit BOP disequilibrium.

Kinds of Disequilibrium

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The kinds and causes of BOP disequilibrium are its important aspects from the view point of policies required for correcting it. Here, we describe briefly the kinds of BOP disequilibrium.

(i) Fundamental disequilibrium: When the BOP disequilibrium is caused by a high rate of persistent inflation, it is referred to as a fundamental disequilibrium. This kind of BOP disequilibrium is 'fundamental' because it is based on the fundamental laws of demand and supply under a free trade system. A high rate of long-term inflation causes a significant change in the relative prices of imports and exports. Inflation makes domestic goods costlier than imports. If the price elasticity of demand for foreign goods is significantly high, the demand for imported goods increases, given the exchange rate. On the other hand, inflation makes domestic goods costlier for foreigners. Therefore, exports continue to decrease, given the price elasticity of demand in foreign countries. With increasing imports and decreasing exports, the trade deficit keeps widening over time and becomes permanent. A long-run, large, and persistent trade deficit causes an 'obdurate' BOP disequilibrium—one that tends to persist.

(ii) Cyclical disequilibrium: A BOP disequilibrium that arises because of global business cycles is called a cyclical disequilibrium. A business cycle refers to an intermittent tendency for growth and depression in an economy—it may even be global like the Great Depression of the 1930s following rapid global growth after World War I. The Global Depression (second only to the Great Depression) of 2008–09 originating in the United States, is another evidence of the repetition of business cycles. During a business cycle, there is a phase of rapid growth followed by a sharp decline in economic activities. An important consequence of business cycles is the foreign trade cycle, since the impact of global business cycles is different on different countries. For example, during the recent global depression of 2008–09, the US and European countries suffered a great deal, while China and India were least affected. Therefore, imports and exports of different countries are affected in different ways. While, some countries enjoy a trade surplus, others suffer from trade deficits. As a result, different countries face different kinds of BOP disequilibrium. While, some countries have a deficit BOP disequilibrium, others have a surplus BOP disequilibrium. This kind of BOP disequilibrium is called cyclical disequilibrium. An important aspect of a cyclical BOP disequilibrium is that it is generally self-correcting.

(iii) Structural disequilibrium: Another major cause of BOP disequilibrium is the structural change in the domestic or foreign economy. Structural changes in the economy may be caused by such factors as depletion of natural resources (coal, iron, oil and other minerals), change in technology, change in the industrial structure of an economy, change in consumer preferences and choices, etc. Such change, if not accompanied by changing demand patterns, reduces the competitive strength of exporting countries in the international market either owing to a high cost of production or a decrease in foreign demand. For example, exhaustion of good quality coal seams in the Great Britain in the middle of 20th century converted the country from a net exporter to a net importer of coal. Look at another example.

The introduction and extensive use of nylon in the US affected Japanese silk exports heavily. These kinds of changes affect the trade pattern. While some nations gain, others lose and, therefore, while some nations see BOP deficits, others have a BOP surplus. This is called structural BOP disequilibrium.

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(iv) Temporal disequilibrium: Many countries are often confronted with BOP disequilibrium for a short period. This is known as temporal BOP disequilibrium. Some major factors which cause temporal BOP disequilibrium are the following:

- Seasonal crop failures owing to heavy rainfall and droughts, especially in countries producing mainly primary goods. India is one such example.
- Sudden economic depression that causes a sharp decline in the GDP of the country forcing a rapid rise in imports and sharp decline in exports due to a sudden decline in the domestic production.
- Ambitious development programmes requiring heavy imports of industrial inputs, technological know-how, machinery, and equipment.
- Change in consumer choices and preferences owing to the better quality of foreign goods and/or the demonstration effect of advanced countries on the consumption pattern of developing economies, leading to high imports and trade deficits.

Implications of BOP Disequilibrium

As noted earlier, the BOP disequilibrium, whether with a BOP deficit or surplus, has implications for the economy. The nature and seriousness of the problems arising out of a BOP disequilibrium may be different for different countries at different times. The BOP disequilibrium also creates international problems. A deficit BOP disequilibrium has the following implications for the economy.

(i) Rise in international indebtedness: A large and persistent BOP disequilibrium caused by trade deficits leads to a rapid rise in international borrowings and international indebtedness. For example, look at the increasing trade deficits of India over the past decade and increasing external debts. As shown in Table 5.6, the trade deficit of India has continuously increased over the past decade—from US$12.4 billion in 2000–01 to US$118.4 billion in 2009–10.

Owing to the increasing trade deficit, the external debt of the country has increased over this period, as shown in Table 5.7. The overall external debt of India increased almost continuously from US$101.3 billion in 2001 to US$262.3 billion in 2010. This increase was not owing mainly to an increase in trade deficits but was an important factor in causing an increase in external debt. A consolatory factor is that India has comfortable foreign exchange reserves.

(ii) Adverse impact on economic growth: Another and a very serious implication for a country facing a large and persistent BOP deficit is that its GDP growth rate is affected adversely. This is because a large and persistent deficit acts to restrain the import of industrial inputs and advanced technology required for rapid economic growth. As a matter of fact, this has been the case for most underdeveloped countries struggling to accelerate the pace of their economic growth. Owing to their backward technology, the production and export of underdeveloped countries is largely limited to labour-intensive and primary goods. Prices of such goods are comparatively low. Therefore, their export earnings are also lower in spite of a substantial increase in their exports.

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Table 5.6 *India's Current Account and External Debt: 2000–01 to 2009–10*

Year	Exports	Imports	Trade balance
2000–01	45.5	57.9	–12.5
2001–02	44.7	56.3	–11.6
2002–03	53.8	64.5	–10.7
2003–04	66.3	80.0	–13.7
2004–05	85.2	118.9	–33.7
2005–06	105.2	157.1	–51.9
2006–07	128.9	190.7	–61.8
2007–08	166.2	256.6	–91.4
2008–09	189.0	308.5	–119.5
2009–10	182.2	300.6	–118.4

Source*: Economic Survey* 2006–07 (Table 6.2, p. 108), 2008–09 (Table 6.2, p. 127) and 2010–11 (Table 6.1, p. 137).

Table 5.7 *External Debt of India: 2000–10*

	(US$ billion)
Year	**External debt**
2001	101.3
2002	98.8
2003	104.9
2004	112.7
2005	134.0
2006	139.1
2007	172.4
2008	224.4
2009	224.5
2010	262.3

Source: *Economic Survey* 2010–11, Table 8.4(B), p. A118.

(iii) Rise in unemployment: Large and persistent BOP deficits lead to outflows of income from a country. This kind of situation limits the savings and investments of a country and lowers the growth rate of the economy. Lower growth accompanied with rapid increase in the labour force leads to growth of unemployment. Besides, the low growth of exports limits the expansion of export-oriented industries, limiting the prospects for more employment.

(iv) Financial crisis: An overall implication of a large and persistent BOP deficit over a long period of time is that it leads to financial crisis. As noted above, a persistent trade deficit leads to large external debt. In such a case, not only the borrowing power of the country reduced, but also the international organizations like the World Bank and International Monetary Fund, and foreign countries (even those that are financially strong) become reluctant to offer financial help. This was the experience of India in 1991 and of the Asian tigers in the 1980s.

The most important implication of a surplus BOP disequilibrium is a rise in the international economic power and strength of the country. For example, take the

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case of China. China has had a surplus BOP disequilibrium in the 21st century. It had a trade surplus of about $29 billion in July 2010—one of the highest in the recent past. China's exports rose by about 38 per cent and imports by about 28 per cent. The trade surplus would have led to a high appreciation of the Chinese currency (renminbi, or RMB), also known as yuan, but it did not, because China controlled the exchange rate. This was one of the reasons why China's exports rose at a higher rate than its imports. This affected exports of the US, China's main trade partner, and led to a depreciation of the US dollar. The US, experiencing a critical economic condition, put pressure on China to allow its currency to fluctuate in tandem with market conditions. This led to depreciation of the Chinese currency, the yuan, against the US dollar, though marginally and over a long period of time. The yuan appreciated to 6.5 yuan per dollar after 17 years. This did affect China's exports, but only marginally.

Furthermore, China's trade surplus pushed its foreign exchange reserves beyond US$3 trillion in 2010 which crossed the reasonable limit of US$1.3 trillion. According to Zhou Xiaochuan, governor of China's central bank, China's foreign exchange reserves exceeded the reasonable requirements of the country. These excessive reserves have led to an appreciation of the yuan and affected China's exports adversely.

Another effect of BOP disequilibrium of surplus nature is inflation. BOP surplus generally leads to overspending by the government of developing countries. This leads to inflation. A high rate of inflation is a matter of concern.

In conclusion, it may be said that although a surplus or deficit BOP disequilibrium has its own economic implications, the problems caused by a BOP deficit affects countries more severely.

Corrective Measures of Adverse Balance of Payment

Some of the measures to discuss adverse balance of payment situation in the country are discussed in brief below:

(i) Export promotion

Exports should be encouraged by granting various bounties to manufacturers and exporters. At the same time, imports should be discouraged by undertaking import substitution and imposing reasonable tariffs.

(ii) Import

Restrictions of imports as well as Import Substitution are other measures of correcting disequilibrium.

(iii) Reducing inflation

Inflation (continuous rise in prices) discourages exports and encourages imports. Therefore, government should check inflation and lower the prices in the country.

(iv) Exchange control

Government should control foreign exchange by ordering all exporters to surrender their foreign exchange to the central bank and then ration out among licensed importers.

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(v) Devaluation of domestic currency

It means fall in the external (exchange) value of domestic currency in terms of a unit of foreign exchange which makes domestic goods cheaper for the foreigners. Devaluation is done by a government order when a country has adopted a fixed exchange rate system. Care should be taken that devaluation should not cause rise in internal price level.

(vi) Depreciation

Like devaluation, depreciation leads to fall in external purchasing power of home currency. Depreciation occurs in a free market system wherein demand for foreign exchange far exceeds the supply of foreign exchange in foreign exchange market of a country (Mind, devaluation is done in fixed exchange rate system.)

CHECK YOUR PROGRESS

9. What are autonomous transactions?
10. When is a country said to be in balance of payments equilibrium?
11. What is cyclical disequilibrium?

5.6 SUMMARY

- Adam Smith, the father of economics, was the first to formulate a theory of international trade. His theory of foreign trade is known as the theory of absolute advantage. According to his theory, the basis of trade between any two countries is the absolute cost advantage a country has in the production of a commodity compared to costs in the other country.
- The absolute advantage theory of trade is undoubtedly logically sound. However, economists have pointed out some serious drawbacks of this theory.
- Adam Smith's theory of absolute advantage, formulated in 1776, prevailed for four decades, in spite of its weaknesses, until Ricardo formulated his own theory of international trade in 1817 in his book *Principles of Political Economy and Taxation*.
- The Ricardian theory of comparative advantage appears to be theoretically sound. There is, however, one exception to the law of comparative advantage. If one of the two countries, *A* and *B*, has absolute advantage in both products but their comparative advantage (measured in terms of labour-cost ratios) is the same, then trade between them would not be gainful.
- Although Ricardo's theory of comparative advantage is theoretically sound and still retains the interest of economists, it has been severely criticized over time for its simplifying assumptions.
- Ricardo assumed homogeneity of labour, which he considered as an 'approximation of reality.' This is, in fact, unrealistic. Labour is not homogeneous throughout the world. It varies in skill and productivity.

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- The pure theory of trade as expounded by the classical economists tries to show that trade is possible as well as profitable to all trading nations. In Smith's model, each of the two countries must have an absolute advantage in one or the other line of production.
- The neo-classical model of international trade has been developed using the concepts of opportunity costs, production-possibility frontiers and community indifference curves. In this model labour theory, value is dropped to make room for a more general theory of costs and production.
- There is no country which is self-sufficient and this interdependence of countries is reflected in international economic and commercial transactions.
- Balance of payments (BOP) of a country has been defined as a systematic record of all economic transactions between the residents of the reporting country and residents of foreign countries. Thus, balance of payments includes both visible and invisible transactions.
- The balance of payments is a complete tabulation of the total market value of goods, services, and financial assets that domestic residents, firms, and governments exchange with residents of other nations during a given period.
- Balance of trade refers to the net difference between the value of export and import of merchandise or the visible trade.
- Balance of payments includes the foreign trade in its broad sense and includes not only visible trade but invisible items also. Thus, this term is more comprehensive than balance of trade.
- The BOP disequilibrium may be in the form of BOP surplus or deficit. For assessing the BOP position of a country, all international transactions—current and capital transactions—are taken into account.
- In assessing the BOP equilibrium or disequilibrium, only autonomous transactions of both current and capital accounts are taken into account. If total receipts and payments on account of autonomous transactions in both capital and current accounts are in balance, the BOP is said to be in equilibrium.
- When the BOP disequilibrium is caused by a high rate of persistent inflation, it is referred to as a fundamental disequilibrium. This kind of BOP disequilibrium is 'fundamental' because it is based on the fundamental laws of demand and supply under a free trade system.
- Many countries are often confronted with BOP disequilibrium for a short period. This is known as temporal BOP disequilibrium.
- In conclusion, it may be said that although a surplus or deficit BOP disequilibrium has its own economic implications, the problems caused by a BOP deficit affects countries more severely.

5.7 KEY TERMS

- **Autarky:** Autarky is the quality of being self-sufficient. Usually, the term is applied to political states or their economic systems. Autarky exists whenever an entity can survive or continue its activities without external assistance or international trade.

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- **Balance of payments:** It is defined as an account of all international receipts and payments for the accounting year.
- **Balance of trade:** Balance of trade refers to the net difference between the value of export and import of merchandise or the visible trade.
- **Fundamental disequilibrium:** When the BOP disequilibrium is caused by a high rate of persistent inflation, it is referred to as a fundamental disequilibrium.

5.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. According to Adam Smith's theory of absolute advantage, the basis of trade between any two countries is the absolute cost advantage a country has in the production of a commodity compared to costs in the other country.
2. The three disadvantages of the comparative advantage theory are as follows:
   - Labour not homogeneous
   - Demand-side ignored
   - Invalid labour theory of value
3. When the marginal opportunity costs are increasing in the production of the two goods in the two countries, we will have concave-shaped transformation curves in the two countries.
4. The labour theory of value is not generally accepted as valid at least for two reasons:
   - Labour is not a homogeneous factor.
   - Labour is not the only factor of production. Goods are produced by using some combination of land, labour, capital and entrepreneurship not solely labour.
5. The main purpose of the balance of payment is to inform the government of the international position of the nation and to help it in its formulation of monetary, fiscal, and trade policies.
6. The balance of payments statement is presented with three major components:
   - Current account
   - Capital account
   - Official reserves account
7. The capital account represents transfer of money and other capital items and changes in the country's foreign assets and liabilities resulting from the transactions recorded in the current account.
8. Overall balance is an important measure of BOP because it reflects a country's overall competitive position in terms of all private transactions and exerts pressure.
9. Autonomous transactions are transactions that take place automatically due to natural human need and desire for consuming more and better goods, and to make the best possible use of resources for higher profits and incomes.
10. A country is said to be in balance of payments equilibrium when the sum of its current, capital, and non-reserve financial accounts equals zero, so that the current plus capital account balance is financed entirely by international lending without reserve movements.
11. A BOP disequilibrium that arises because of global business cycles is called a cyclical disequilibrium.

5.9 QUESTIONS AND EXERCISES

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Short-Answer Questions

1. State the various components of balance of trade.
2. State the factors that lead to a favourable balance of trade.
3. What are the kinds of balance of payments disequilibrium? What are the factors that cause fundamental disequilibrium?
4. Why is balance of trade considered to be a significant part of current account?
5. Is trade gainful for two nations if none of them has an absolute advantage in any of the products? Give proof for your answer.

Long-Answer Questions

1. What is meant by a balance of payments equilibrium and disequilibrium? How is the equilibrium of the balance of payments assessed?
2. Discuss any four measures that help in controlling unfavourable balance of payment account.
3. Distinguish between fundamental and cyclical disequilibrium of the balance of payments. Which of the two balance of payments disequilibrium is self-correcting?
4. What are the implications of a deficit balance of payments disequilibrium for the economy as a whole? Explain with examples.
5. Illustrate Ricardo's concept of comparative advantage in international trade using a numerical example.
6. Explain the features of balance of payments account.

5.10 FURTHER READING

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UNIT 6 RATE OF EXCHANGE

Structure

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6.0 INTRODUCTION

By definition, the exchange rate is the rate at which the currency of a country can be exchanged for another. In simple words, it is the price of one currency in terms of another. When an Indian citizen imports a Mercedes car from the US, he/she will have to pay the Mercedes company in US dollars and not in Indian rupees. Thus, the importer will have to acquire UD dollars from the exchange market for the purpose of making the payment for the imported car. The price of the US dollar in terms of the Indian rupee is given in the exchange market. To acquire US dollars, the person will have to exchange the Indian currency for the US dollar in the exchange market. The price that the Indian citizen pays for US dollar is the rupee-dollar exchange rate. The exchange rate is determined for different currencies in the exchange market and made public through the news media.

In this unit, you will be able to explain the meaning of floating exchange rate and problems of balance of payments. This unit will also deal with the foreign exchange reserve and its determinants. At the end of this unit, the functions of the IMF have also been explained.

6.1 UNIT OBJECTIVES

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

- Define the concept of floating exchange rate
- Discuss the different phases of exchange rate regime
- Identify various problems of balance of payments
- Discuss the foreign exchange reserve and its determinants
- Explain the functions of International Monetary Fund

6.2 FLOATING EXCHANGE RATE

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Neither the fixed nor the flexible or floating exchange rate system could be sustained by any country over a long period, especially after the gold standard regime. In practice, therefore, most countries have adopted a managed exchange rate system especially after the establishment of the IMF. This period is referred to as the exchange rate regime.

The exchange rate regime refers to an arrangement between nations to determine the exchange rate by mutual agreement and settle their payments by using the rate so determined. It is difficult to fix the date on which the exchange rate regime came into existence. It can nevertheless be said that the exchange rate regime is the product of the Great Depression which shattered international trade and financial equilibrium. Going further back, before World War I, most major countries were on the gold standard in the sense that they tied their currency to gold and allowed unrestricted export and import of gold. The exchange rate was determined by the mint parity of gold content in the currencies. The basic feature of the gold standard was that the exchange rate was fixed. The role of the government was confined to making sure the mints worked properly. Since gold prices were stable, in general, the exchange rate was stable. During World War I, however, the fixed exchange rate policy was abandoned. However, it was restored after the war in the early 1920s. Although, towards the end of 1920s, the Great Depression devastated the entire international trade and payment system. Before the system could be restored to order, World War II created new problems and added new dimensions to the international payments problems. However, the establishment of the IMF under the Bretton Woods Agreements, created a system of managed exchange rate, also called the system of adjustable peg. This marks the beginning of the exchange rate regime.

The exchange rate regime passed through the following five distinct phases and forms of management:

- Fixed exchange rate
- Floating exchange rate
- Adjustable peg
- Managed floating
- Exchange control

The basic features of these phases are described as follows:

Fixed Exchange Rate System

Under the fixed exchange rate system, the exchange rate between any two currencies were fixed in terms of gold and pegged to the US dollar at $ 35 per ounce of gold. Thus, the exchange rate between any two currencies was automatically fixed. The rate so fixed was called the rate at par value. The monetary authorities of the member countries were free to buy and sell freely the foreign currency at the fixed rate. The countries were allowed to change the exchange rate by ± 1 per cent. However, this system broke down in 1971 owing to the 1971 crisis.

What was the origin of 1971 crisis? Towards the end of the 1960s, the dollar was overvalued which caused the devaluation of other currencies vis-a-vis dollar. On the other hand, heavy deficit financing by the US to finance the Vietnam War caused inflation in the US economy. Inflation eroded the competitiveness of US industries; US export declined and the US current account went into deficit in 1968. In 1971, the US recorded

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a deficit in its merchandise trade for the first time in the 20th century. The American economy was in recession for a short while. The monetary policy which the US had adopted to tide over the recession led to capital outflows. A flight from the dollar began. Some strong European currencies, especially those of Germany and the Netherlands, came under pressure owing to heavy demand for them. As a result, the Netherlands and Germany were forced to suspend their support to the exchange rate parity and to allow their currencies to float upward. Later, Switzerland and Italy revalued their currencies. Meanwhile, foreign central banks began to get rid of the dollar reserves which they had acquired. The dollar was becoming heavily undervalued. The US government, therefore, suspended the conversion of short-term liabilities into gold and made the dollar inconvertible on 15 August 1971. Consequently, 48 nations abandoned the fixed exchange rate arrangement in August 1971. And that was the end of the fixed exchange rate system.

Floating Exchange Rate

The fixed exchange rate system was suspended on 18 August 1971 and remained suspended till 18 December 1971. A group of 10 industrial nations, met in Smithsonian Institution, Washington, and hammered out a new system of stable exchange rates. Under the agreement, called the Smithsonian Agreement, two following major agreements were made: (i) the US agreed to devalue the dollar by 8.5 per cent (from $35 to $38 per ounce of gold), and Japan and Germany agreed to revalue their currencies by 17 per cent and 14 per cent, respectively, and (ii) the margin of adjustment was increased from ± 1 per cent to ± 2.25 per cent. This margin was further raised to ± 4.5 per cent in 1973. Thereafter, the European Economic Community (EEC) adopted a lower margin of flexibility, which was termed as the snake in the tunnel.' The fixed exchange rate system under the Smithsonian agreement broke down after two years when the US devalued its dollar again on 12 February 1973. This was the end of the Bretton Woods system. Thereafter, some countries, including Japan, Canada, UK, India, Switzerland, and several smaller nations went for floating exchange rates in March 1973. The EEC countries freed their currencies of the lower and upper bounds. The EEC currencies had a virtual free float and the 'snake in the tunnel' now became 'the snake in the lake.' A formal system of floating exchange rates was instituted with the Jamaica agreement in 1976.

Adjustable Pegging of the Exchange Rate

A hybrid of regimes emerged after the breakdown of the Bretton Woods system in 1973. The hybrid system was very complex. Different countries adopted a different regime. For instance, EEC countries formed a European Monetary System (EMS) in which nations (except Britain, Greece, and Italy) maintained adjustable pegs vis-a-vis the currency of each other. Many developing countries maintained adjustable pegs to the US dollar, some to the French franc, some to the UK pound, some to the Spanish peseta, and some to the South African rand.

Managed Floating

In the managed floating regime, countries do not adopt a fixed exchange rate, i.e., a fixed price of the national currency in terms of foreign currencies. However, they are free to buy and sell foreign currencies to manage the exchange rate at or around a desirable level. The industrial nations, other than EEC countries, have adopted, by and large, the system of managed floating.

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Exchange Control

The exchange control regime is the regime of direct control of the foreign exchange rate and foreign exchange transactions being confined to the central bank of the country. All private transactions in foreign exchange are suspended. Exporters are required to surrender their foreign exchange earnings to the monetary authorities. Importers are required to obtain foreign exchange from the central bank. Before the liberalization of foreign trade in the early 1990s, India had a full-fledged exchange control regime through the enactment of FERA and COFEPOSA. Exchange control is resorted to for achieving such objectives as follows.

- To conserve scarce foreign exchange earnings to meet essential import requirements
- To prevent the flight of capital, specially foreign capital and NRI deposits
- To prevent the import of non-essential consumer goods
- To improve the balance of payments position
- To prevent speculative dealings in foreign exchange and their adverse consequences

Check Your Progress

1. Define the exchange rate regime.
2. What was the basic feature of the gold standard?

6.3 FLOATING EXCHANGE RATE AND PROBLEMS OF BALANCE OF PAYMENTS

The distinguishing characteristic of a floating exchange rate system is that the price of a currency adjusts automatically to whatever level is required to equate the supply of and demand for that currency, thereby clearing the market. The logic of the relationship between our international transactions and the supply and demand for currencies implies that this market-clearing, or 'equilibrium', price also produces automatic equilibrium in the balance of payments. That is, the balance of current account (whether positive, negative, or zero) must be precisely offset by the balance (negative, positive, or zero) of the capital account. Under floating exchange rates these outcomes are achieved automatically without the need for government intervention. By contrast, under fixed exchange rates balance of payments equilibrium is not the normal condition.

In a fixed exchange rate regime the need to manage the balance of payments often creates difficult conflicts with the government's domestic policy objectives. By ensuring automatic balance of payments equilibrium, floating exchange rates can liberate economic policy from this constraint, allowing the government to concentrate more easily on such internal issues as full employment and price stability. But we have noted earlier that balance of payments equilibrium means nothing more than that the current account and the capital account sum to zero. If, as in Australia's case, this state is achieved with a large and generally increasing current account deficit, matched by a correspondingly large and increasing capital account surplus, the government may be tempted to try to correct these tendencies. To this extent, balance of payments considerations may still

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compete with domestic considerations in the policy agenda (though whether they should do so is a matter of some controversy).

Inappropriate policies, or a combination of the two may create balance of payments difficulties in a country—that is, a situation where sufficient financing on affordable terms cannot be obtained to meet international payment obligations. In the worst case, the difficulties can build into a crisis. The country's currency may be forced to depreciate rapidly, making international goods and capital more expensive, and the domestic economy may experience a painful disruption. These problems may also spread to other countries.

The causes of such difficulties are often varied and complex. Various key factors have included such as, weak domestic financial systems; large and persistent fiscal deficits; high levels of external and/or public debt; exchange rates fixed at inappropriate levels; natural disasters; or armed conflicts or a sudden and strong increase in the price of key commodities such as food and fuel. Some of these factors can directly affect a country's trade account, reducing exports or increasing imports. Others may reduce the financing available for international transactions; for example, investors may lose confidence in a country's prospects leading to massive asset sales, or 'capital flight'. In either case, diagnoses of, and responses to, crises are complicated by linkages between various sectors of the economy. Imbalances in one sector can quickly spread to other sectors, leading to widespread economic disruption.

Check Your Progress

3. What causes the balance of payments difficulties in a country?
4. List one effect of a country's currency depreciation.

6.4 FOREIGN EXCHANGE RESERVE AND ITS DETERMINANTS

Foreign exchange reserves, also known as forex reserves or FX reserves, refers to the supply of foreign currency held by a central bank or other monetary authorities. These reserves are comprised of a variety of international currencies, mostly the United States dollar, the EU's euro, the British pound, and Japanese yen. A country needs foreign exchange reserves mainly because of two reasons; (i) to withstand occasional speculative raid by the dealers in the foreign exchange market; and (ii) to synchronize its receipt and payments with the rest of the world. Holding large foreign exchange reserves is considered beneficial because this gives the country more power to ensure the stability of its economy. In general, the increase of foreign direct investment (FDI) will lead to the increase of the country's foreign exchange reserves (FER).

The Foreign exchange reserves of India are mainly composed of US dollar in the forms of US government bonds and institutional bonds. The main component is foreign currency assets. As per the data furnished by the Reserve Bank of India in its weekly statistical supplement, India's total foreign exchange reserves stood at US$368.231 billion in November 2016. In this, foreign currency assets (FCAs) was US$343.927 billion, while gold reserves was US$20.46 billion. Gold reserves in India constitute nearly 15 per cent of forex. India is, coincidentally the world's largest gold consuming nation. India is

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at 8th position in list of countries by foreign-exchange reserves, just below Republic of China (Taiwan), Russia and South Korea. The Economic survey of India 2014-15 said India could target foreign exchange reserves of US$750 billion-US$1 trillion. Foreign exchange reserves act as the first line of defense for India in case of economic slowdown, but acquisition of reserves has its own costs. Foreign exchange reserves facilitate external trade and payment and promote orderly development and maintenance of foreign exchange market in India. The foreign exchange reserves in January 2017 are as follows:

Item	As on January 20, 2017		Variation over					
			Week		End-March 2016		Year	
	₹ Bn.	US$ Mn.	₹ Bn.	US$ Mn.	₹ Bn.	US$ Mn.	₹ Bn.	US$ Mn.
	1	2	3	4	5	6	7	8
1 Total Reserves	**24,549.5**	**360,775.2**	**15.1**	**932.4**	**762.1**	**599.0**	**1,168.2**	**13,212.3**
1.1 Foreign Currency Assets	23,030.8	338,434.4	15.2	926.4	840.2	2,330.5	1,150.4	13,387.8
1.2 Gold	1,262.9	18,584.1	–	–	–71.4	–1,530.9	119.4	1,344.0
1.3 SDRs	98.2	1,441.9	–	2.3	–1.4	–59.6	–171.7	–2,542.6
1.4 Reserve Position in the IMF	157.6	2,314.8	–0.1	3.7	–5.3	–141.0	70.1	1,023.1

Determinates of Foreign Exchange Reserves

The following are the factors that affect foreign exchange reserves in India.

- **Current account balance**: The net flow of capital out of a country is equal to domestic saving minus domestic investment; it is also equal to the current account (Higgins and Klitgaard, 2004). A current account surplus then translates into net capital inflows into the country. Net capital inflows would strengthen the domestic currency. Under a fixed exchange rate system such capital flows must be counterbalanced to maintain the peg, under a flexible exchange rate system the currency would appreciate. If a country wishes to maintain its fixed exchange rate or just wishes to maintain a weaker currency in order to be more competitive, it has to balance the net capital inflows with capital out- flows.
- **Exchange rate:** Beaufort and Kapteyn (2001) point out that the type of exchange rate system influences reserve demand. Frenkel (1983) found evidence that after the collapse of the Bretton Woods agreement the move to floating exchange rates decreased the level of reserves. In a fixed exchange rate scenario market forces will still act to change the real exchange rate. Therefore, the government will have to intervene to keep the nominal peg.
- **Marginal propensity to import:** The marginal propensity to import reflects the openness of the economy. A more open economy is more vulnerable to shock than a closed economy. If reserves are held as a precautionary measure to insulate against shock, it follows that the higher the marginal propensity to import the higher the level of reserves that are needed.

Check Your Progress

5. What do you understand by the term foreign exchange reserves?
6. What are the foreign exchange reserves of India composed of?

6.5 FUNCTIONS OF INTERNATIONAL MONETARY FUND

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Specifically, the basic objectives of the IMF are fourfold:

- Achieving a balanced expansion of world trade
- Ensuring stability of the exchange rate
- Preventing members from indulging in competitive devaluation
- Assisting members in correcting their BOP problems

This section describes briefly how the IMF functions to attain these objectives.

(i) Achieving balanced growth of world trade

World economies have been subject to violent fluctuations and therefore world trade has also fluctuated. Besides, protectionist trade policies and exchange controls not only affected world trade adversely, but also made developed countries gain at the cost of the less developed countries. One of the main functions of the IMF was to ensure balanced growth in international trade and the equitable distribution of trade benefits. For this purpose, the IMF Board of Governors held an annual meeting with member-countries to review their macroeconomic policies in the context of world economic conditions and advised them on the kind of economic policies they had to adopt to promote economic growth and stabilize the exchange rate. The IMF advised the member countries to reconcile their external policies—trade and exchange rate policies—with their internal policy objectives of economic growth, full employment, and price stability. The system worked quite smoothly, in general, until the breakdown of the Bretton Woods system in 1971.

(ii) Ensuring stability of the exchange rate

The exchange rate fluctuated wildly during the period of the Great Depression and World War II owing to the scarcity of gold and conflicting internal and external policies of member countries. One of the basic functions of the IMF has been to create conditions for the stability of the exchange rate. With this purpose, the IMF established a system of gold exchange standard. Under this system, the US, the greatest economic power, was required to maintain the price of gold at $35 per ounce and to exchange dollar for gold unconditionally. Other member-nations were required to fix the price of their currency in terms of the dollar (implicitly in terms of gold) and to change the exchange rate in the band of ±1 per cent of the par value. However, a member-country facing 'fundamental disequilibrium'—a large and persistent balance-of-payments deficit or surplus—could change the exchange rate by less than 10 per cent without the Fund's approval. Thus, the IMF created an adjustable peg system—a system of exchange rate stability with some flexibility. In a way, the IMF had established a flexible exchange rate system.

(iii) Preventing competitive devaluation

Competitive devaluation had become the general practice of countries to protect their economies during the post World War II period, particularly by countries facing persistent balance of payments deficits. These countries went for devaluation with the objective of increasing their exports and, thereby, reducing their unemployment. This led to competitive devaluation. Competitive devaluation affected world trade and the world economy

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adversely. So an important function of the IMF has been to prevent member-countries from indulging in competitive devaluation of their domestic currency. However, under the IMF rules, members are allowed to devalue their currency by 1 per cent. A country facing a fundamental balance of payments disequilibrium could devalue its currency by 5 per cent with the permission of the IMF.

(iv) Resolving balance of payments problems

Another important function of the IMF has been to assist member-countries facing a balance of payments disequilibrium to resolve their problems. In performing this function, the IMF provide two kinds of financial facilities for two different kinds of balance of payment disequilibrium, especially deficit disequilibrium: (i) temporary disequilibrium, and (ii) 'fundamental disequilibrium.' The lending facilities of the IMF are described here briefly.

In the case of a country facing a temporary disequilibrium of deficit nature, the IMF provides loans in terms of country's own currency from its own quota or in terms of foreign currency to help it tide over its balance of payments problems. The member country is entitled to use its own currency to purchase gold from the IMF or foreign currencies equal to the value of its gold quota. However, in case a country is facing fundamental disequilibrium—a large and persistent BOP deficit—it can borrow in excess of its quota provision in terms of gold or foreign currency, up to a limit, of course. Under the IMF conditionality, the fund keeps a strict watch on the macroeconomic policies of the borrowing countries and forces them to reform their economic policies. For example, during the foreign exchange crisis in India in 1990–91, the IMF provided loans on condition that India reform its economic policies.

CHECK YOUR PROGRESS

7. Mention the basic objectives of the IMF.
8. State two kinds of financial facilities provided by IMF for deficit equilibrium.

6.6 SUMMARY

- The exchange rate regime refers to an arrangement between nations to determine the exchange rate by mutual agreement and settle their payments by using the rate so determined.
- The exchange rate was determined by the mint parity of gold content in the currencies.
- The basic feature of the gold standard was that the exchange rate was fixed.
- Under the fixed exchange rate system, the exchange rate between any two currencies were fixed in terms of gold and pegged to the US dollar at $ 35 per ounce of gold.
- The fixed exchange rate system was suspended on 18 August 1971 and remained suspended till 18 December 1971.
- The exchange control regime is the regime of direct control of the foreign exchange rate and foreign exchange transactions being confined to the central bank of the country.

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- IMF lending aims to give countries breathing room to implement adjustment policies and reforms that will restore conditions for strong and sustainable growth, employment, and social investment.
- These policies will vary depending upon the country's circumstances, including the causes of the problems.
- Globalization has vastly increased the size of private capital flows relative to official flows and IMF quotas, albeit unevenly so.
- Foreign exchange reserves, also known as forex reserves or FX reserves, refers to the supply of foreign currency held by a central bank or other monetary authorities.
- The Foreign exchange reserves of India are mainly composed of US dollar in the forms of US government bonds and institutional bonds. The main component is foreign currency assets.
- The exchange rate fluctuated wildly during the period of the Great Depression and World War II owing to the scarcity of gold and conflicting internal and external policies of member countries.
- One of the basic functions of the IMF has been to create conditions for the stability of the exchange rate. With this purpose, the IMF established a system of gold exchange standard.
- In the case of a country facing a temporary disequilibrium of deficit nature, the IMF provides loans in terms of country's own currency from its own quota or in terms of foreign currency to help it tide over its balance-of payments problems.

6.7 KEY TERMS

- **Floating exchange rate:** A floating exchange rate or fluctuating exchange or flexible exchange rate is a type of exchange-rate regime in which a currency's value is allowed to fluctuate in response to foreign-exchange market mechanisms.
- **Fixed exchange rate:** A fixed exchange rate, sometimes called a pegged exchange rate, is a type of exchange rate regime where a currency's value is fixed against either the value of another single currency, to a basket of other currencies, or to another measure of value, such as gold.
- **Foreign exchange reserves:** Foreign exchange reserves are reserve assets held by a central bank in foreign currencies, used to back liabilities on their own issued currency as well as to influence monetary policy.
- **Exchange-rate regime:** An exchange-rate regime is the way an authority manages its currency in relation to other currencies and the foreign exchange market. It is closely related to monetary policy and the two are generally dependent on many of the same factors.

6.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The exchange rate regime refers to an arrangement between nations to determine the exchange rate by mutual agreement and settle their payments by using the rate so determined.

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2. The basic feature of the gold standard was that the exchange rate was fixed.
3. Inappropriate policies, or a combination of the two may create balance of payments difficulties in a country—that is, a situation where sufficient financing on affordable terms cannot be obtained to meet international payment obligations.
4. If a country's currency depreciates international goods and capital becomes more expensive.
5. Foreign exchange reserves, also known as forex reserves or FX reserves, refers to the supply of foreign currency held by a central bank or other monetary authorities. These reserves are comprised of a variety of international currencies, mostly the United States dollar, the EU's euro, the British pound, and Japanese yen.
6. Foreign exchange reserves of India are mainly composed of US dollar in the form of US government bonds and institutional bonds.
7. The basic objectives of the IMF are as follows:
   - Achieving a balanced expansion of world trade
   - Ensuring stability of the exchange rate
   - Preventing members from indulging in competitive devaluation
   - Assisting members in correcting their BOP problems
8. The two kinds of financial facilities provided by IMF for deficit equilibrium are temporary disequilibrium and fundamental disequilibrium.

6.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. What do you understand by the term floating exchange rate?
2. What are the various forms of the exchange rate regime?
3. Identify the problems of balance of payments.
4. Write a short note on foreign exchange reserve.
5. Outline the various functions of the International Monetary Fund.

Long-Answer Questions

1. Describe the features of a fixed exchange rate.
2. Explain the concept of exchange rate regime.
3. Discuss the various features of the exchange rate regime.
4. Assess the determinants of foreign exchange reserve.
5. Differentiate between the fixed and floating exchange rate.

6.10 FURTHER READING

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