

Financial Management

Block

1

BASICS OF FINANCIAL MANAGEMENT

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While every possible care has been taken in type-setting and printing this book, The ICFAI Foundation for Higher Education (IFHE), Hyderabad welcomes suggestions from students for improvement in future editions.

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COURSE INTRODUCTION

Financial Management as a subject of study is the basic building block of knowledge for finance as well as non-finance professionals. This course provides the readers with a foundation in their chosen field. Financial management essentially means the efficient and effective management of finances (funds) to accomplish the objectives of an organization. Financial management helps the managers to take decisions on the capital structure, dividend policy, sources of funding, efficient allocation of funds for long term and short-term purposes etc. It enables managers to decide and act accordingly, to increase the value of the firm to the shareholders.

Today's financial managers need to be global managers. With this perspective, the subject also discusses the basic concepts related to trade and finance, international financial management and financial risk management.

The Financial Management subject consists of 4 blocks of 19 units.

Block 1: Basics of Financial Management introduces the student to the subject of financial management and describes the meaning of financial management, the functions that a finance manager performs and the basic concepts related to financial management such as time value of money, risk and return, leverage etc. The block outlines the components of a financial system – the financial markets, financial instruments and financial institutions and the regulatory framework influencing these components.

Block 2: Corporate Financial Management discusses the specific issues related to financial management in a company form of organization. These relate to the issue of securities, the sources of long term finance for a corporate entity, the capital expenditure decisions and dividend policy. The block also emphasizes on the capital structure of a company and the computation of cost of capital, along with highlighting the concept of financial forecasting.

Block 3: Working Capital Management elucidates the components of short-term financing (referred to as working capital management). A description of the composition of current assets and current liabilities along with the sources of financing for current assets is dealt with in detail in the block. The block proceeds to discuss the management of each of the current assets such as inventory, receivables and cash.

Block 4: International Finance and Risk Management deals with the subject of financial management from an international perspective. The components of international financial markets, the players, the financial instruments and the international regulatory framework is discussed. The block also discusses important concepts related to international trade such as balance of payments, exchange rate mechanisms, exchange rate determination and trade barriers. An introduction to financial risk management is also given.

This edition has added a large number of contemporary examples and deleted old examples and exhibits. It has simplified the language and text layout to make it more readable.

BLOCK 1: BASICS OF FINANCIAL MANAGEMENT

This is an introductory block for Financial Management. This block discusses the primary knowledge necessary to have a firm grasp of the financial management subject. A finance manager in today's world undertakes several functions such as procurement of funds, allocation of funds, management of working capital needs, financing of international projects etc. Hence, it is imperative for a finance manager to be well-versed with the basic concepts of financial management, the environment of corporate finance and the components of a financial system which form the subject matter of this introductory block.

Unit 1: Introduction to Financial Management discusses the functions and scope of financial management, its interface with other functional areas, the environment of corporate finance, the various forms of business organizations and the regulatory framework that governs the corporate investment and financing decisions.

Unit 2: Indian Financial System outlines the structure and components of Indian financial system. A finance manager has to work with and within this system and hence requires a thorough understanding of its components such as the various types of the financial markets and financial instruments and financial institutions. From the perspective of the requirements of global businesses, the unit also focuses on the international financial markets such as the international capital market, foreign exchange market and the derivatives market.

Unit 3: Time Value of Money outlines methods of compounding and discounting which are the essential tools for any investing decisions. The computation of future value and present value of cash flows is highlighted in the unit.

Unit 4: Risk and Return explains the concepts of risk and return and their significance in financing decisions, the various measures of return, types of risk and their measurement, risk in a portfolio context and the capital asset pricing model for evaluation of risk and return.

Unit 5: Leverage explains how the use of borrowed funds or borrowed capital increases the potential return on investment and maximizes the value of the firm. However, use of such resources involves risk. The unit thus describes the various approaches of leverage that can be used by a finance manager to maximize returns with minimum risk.

Unit 1

Introduction to Financial Management

Structure

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Meaning of Financial Management
- 1.4 Nature and Importance of the Finance Function
- 1.5 Objectives of Financial Management
- 1.6 Functions of the Finance Manager
- 1.7 Interface between Finance and Other Functions
- 1.8 Environment of Corporate Finance
- 1.9 Regulatory Framework
- 1.10 Summary
- 1.11 Glossary
- 1.12 Self-Assessment
- 1.13 Suggested Readings/Reference Material
- 1.14 Answers to Check Your Progress Questions

"Finance without strategy is just numbers, and strategy without finance is just dreaming."

— Emmanuel Faber, CEO of Danone

1.1 Introduction

Financial management has tremendous importance in the modern economic world; and at the same time, it is becoming complex day-by-day. Finance managers who were confined to national markets, are now looking towards international markets for their financing and investment activities. Financial management deals with financial planning and decision-making and includes all the tools and analysis for planning and decision-making.

A common thread running through all the decisions taken by managers is money and there is hardly any manager working in an organization to whom money is not important. Businesses are confronted with situations where decisions, which have important financial implications, need to be taken. It may be R&D, expansion of business, replacement of equipment, advertising or rising of funds domestically or internationally. Thus, a finance manager is involved in most of the decisions in an organization. Look at the example below to understand the importance of financial decisions.

Block 1: Basics of Financial Management

Example: Sri Lanka's Financial Woes

Forex reserves of Sri Lanka depleted rapidly during the COVID-19 pandemic. Organic farming which was introduced to dodge the burden of importing chemical fertilisers resulted in food shortages. With plunging forex reserves, Sri Lankan government went out of ways to pay even for the essential imports, including fuel, leading to debilitating power cuts and soaring inflation. The failure of the government to stick to the fundamentals of financial management initiated a humanitarian crisis in the country.

Source: <https://indianexpress.com/article/explained/sri-lanka-economic-crisis-explained-7849208/> (Accessed on April 28, 2022)

1.2 Objectives

After reading through the unit, you should be able to:

- Recognize the objectives to be achieved by undertaking Financial Management activities
- Identify the activities that a finance manager performs to achieve the objective of wealth maximization
- Develop awareness on the inter-linkage of finance decisions on the other decision areas in an organization
- Analyze the forms of business organizations and a finance manager's role in such organizations
- Evaluate the regulatory framework within which financial decisions of a business are taken

1.3 Meaning of Financial Management

Financial management is an integral part of management. All organizations, legal entities, individuals, government/quasi government entities are required to manage their finances effectively and efficiently. This necessitates an understanding of the subject of Financial Management.

Let us look at the following examples.

Example: Funding Initiatives of Kae Capital

Kae Capital is a sector agnostic fund and invests in companies, which bring about innovative solutions for the existing gaps in the markets, focusing investing in innovation, leadership and growth. Kae Capital is a destination for early stage companies to acquire capital for growth. In September 2020, the company participated in a Series A round funding of Hippo Video, a video customer experience platform. In July, 2021 it invested in Zetwerk, a contract manufacturer of capital and consumer goods.

Source: https://www.business-standard.com/article/companies/zetwerk-joins-unicorn-club-after-raising-150-million-in-series-e-funding-121082100053_1.html (Accessed on August 21, 2021)

Example: CPSE ETF

Central Public Sector Enterprises ETF runs a concentrated portfolio with only few stocks. The portfolio of this ETF (Exchange Traded Fund) is mainly focused on shares in energy and oil sector. Nippon Life India Asset Management company (formerly known as the Reliance Nippon Life Asset Management) is managing the CPSE-ETF on behalf of the government. The CPSE-ETF tracks the shares of six PSUs (Public Sector Undertakings) - ONGC, NTPC, Coal India, IOC, REC, PFC, Bharat Electronics, Oil India, NBCC India, NLC India and SJVN. being given to Anchor Investors. In January, 2020 CPSE-ETF announced a fund offer to retail investors worth ₹10,000 crore. The proceeds from this offer will enable the government to meet its disinvestment target of ₹1.05 lakh crore.

Source: <https://www.livemint.com/market/stock-market-news/govt-plans-to-garner-rs-10-000-cr-from-7th-tranche-of-cpse-etf-11579784581897.html> (Accessed on 23rd Jan, 2020)

Example: Nestle India's Dividend Declaration

Nestle India Limited posted a net profit of ₹602 crores for quarter ended March 31, 2021, which was a 14.6% year-on-year growth in net profit. Post this, the Board of Directors of the company, on April 22, 2021, announced an interim dividend of ₹25 per share. The face value of the share is ₹10. This would result in a cash outlay of ₹241 crore.

Source: <https://economictimes.indiatimes.com/markets/stocks/earnings/nestle-q1-results-net-profit-rises-15-yoy-to-rs-602-crore-beats-estimates/articleshow/82162202.cms> (Accessed on April 21, 2021)

The above examples raise the following issues:

1. An investment company is providing long-term funding to startup companies.
2. A mutual fund is mobilizing funds from the investing public.
3. The Government of India disinvestment plan mopped up huge funds to the government.
4. A listed company announced dividend to its shareholders.

All these activities are related to one or the other forms of financial management at work.

In the light of above, we understand that financial management refers to the planning, organizing, directing, and controlling of the financial activities of a business such as procurement and utilization of funds. It also involves applying the general management principles to financial resources of the organization. Financial management is thus concerned with the three broad areas of financial decision making which are as follows:

- Capital Budgeting (Investing Decision)
- Capital Structure (Financing Decision)
- Dividend Decisions

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Example: RIL's Net Debt-free Decision

Reliance Industries decided to become net debt-free. Net debt-free doesn't mean zero debt in its capital structure but reducing debt to that level that it can be paid through the cash reserves of the company.

Net debt = Total cash and cash equivalents – Debt.

Reliance raised equity to reduce its debt. It raised ₹ 1,52,055 crore from 13 investors, including Facebook and Google, for a stake in Jio Platforms, ₹ 53,124 crore from a rights issue and ₹ 47,215 crore equity from nine investors for a stake in Reliance Retail Ventures. It also raised ₹ 7,629 crore BP plc for a stake in RIL's fuel retailing business to make itself net debt-free.

This is an example of a capital structure or financing decision

Sources: 1. <https://www.thehindubusinessline.com/companies/is-reliance-industries-really-net-debt-free/article33119676.ece> (Accessed on April 29, 2022)

2. <https://www.newindianexpress.com/business/2021/jun/05/decoded-reliance-industriesshaky-zero-net-debt-boast-infy21-report-2312263.html> (Accessed on April 29, 2022)

1.4 Nature and Importance of the Finance Function

One participant in a course titled, 'Finance for Non-Finance Executives' made a very interesting observation during the discussion. He said, "There are no executive development programs titled 'Production Management for Non-Production Executives' or 'Marketing Management for Non-Marketing Executives' and so on. Then how come books and Executive Development Programs titled 'Finance for Non-Finance Executives' are so popular among managers of all functions like marketing, production, personnel, R&D, etc.?"

The answer is very simple. The common thread running through all the decisions taken by the various managers is money and there is hardly any manager working in any organization to whom money is of no consequence.

To illustrate this point, let us consider the following instances.

The R&D manager has to justify the money spent on research by coming up with new products and processes which would help to reduce costs and increase revenue. If the R&D department were like a bottomless pit only swallowing more and more money, but not giving any positive results in return, the management would have no choice but to close it. No commercial entity runs an R&D department to conduct infructuous basic research.

Likewise the materials manager should be aware that inventory of different items in stores is nothing but money in the shape of inventory. He should make efforts to reduce inventory so that the funds released could be put to more productive use. At the same time, he should also ensure that inventory of materials does not reach such a low level as to interrupt the production process. He has to achieve the right balance between too much and too little inventory. This is called the 'liquidity-profitability trade-off' about which you will read more in the unit on

Working Capital Management. The same is true with regard to every activity in an organization. The results of all activities in an organization are reflected in the financial statements in rupees. The finance manager, as his very designation implies, should be involved in all financial matters of the organization since almost all activities in the organization have financial implications.

The inter-linkage of finance decisions with other areas can be understood with this example.

Example: Evergrande's Impact on Chinese Markets

Evergrande has more than 200 offshore and nearly 2,000 domestic subsidiaries, with assets equivalent to 2% of China's GDP. This China's top-selling developer, leveraged on the 'borrow-to-build business' principle, and ran into trouble losing 80% of its share value in 2021. It snowballed into a real-estate crisis in China sending shockwaves into the banking system. The federal and local governments had to interfere to prevent the repeat of a catastrophe similar to the subprime crisis of the US in 2006.

This example showcases the importance of financial management decisions.

Sources: 1. <https://economictimes.indiatimes.com/news/international/business/expained-how-china-evergrandes-debt-troubles-pose-a-systemic-risk/articleshow/87201803.cms?from=mdr> (Accessed on April 28, 2022)

2. <https://carnegieendowment.org/chinafinancialmarkets/85391> (Accessed on April 28, 2022)

It would therefore not be inaccurate to say that the finance manager is involved in most decisions of the organization. Let us try to understand what financial management is by examining what the finance manager does and with what objective.

1.5 Objectives of Financial Management

Any business would like to maximize their profits and minimize their expenses, thereby optimizing the market value of their investment. Being in a stewardship role, every finance manager works towards the maximization of the wealth of the owners/shareholders. An understanding of the objectives of financial management will help the finance manager in performing his role better. Let us thus examine the purpose or objectives sought to be achieved by a finance manager. These include:

Maximizing the wealth of the owners by increasing the value of the firm:

Suppose he manages to make available the required funds at an acceptable cost and that, the funds are suitably invested and that everything goes according to plan because of the effective control measures employed by him. If the firm is a commercial or profit-seeking firm, the results of good performance are reflected in the profits the firm earns. How are the profits utilized? They are partly distributed among the owners as dividends and partly recycled into the operations of the firm. As this process continues over a period the value of the firm increases for the simple reason that the firm is able to generate attractive surpluses from

Block 1: Basics of Financial Management

operations. If the shares of a firm¹ are traded on the stock exchange, the good performance of the firm is reflected in the price at which its shares are traded. When the firm's shares attract a good price, the owners or shareholders are better off because they would realize much more than what they invested. Their wealth increases. Therefore, we can see that as a result of good financial management the value of the company to the owners (shareholders) increases, thereby increasing their wealth. Therefore, we can say that the objective of a finance manager is to increase or maximize the wealth of the owners by increasing the value of the firm, which is reflected in its Earnings per Share (EPS)² and the market price of its shares.

Efficient utilization of resources: In the case of public sector companies, until recently the only objective was to increase the wealth of the society and the nation at large. This objective was achieved by ensuring availability of essential goods and services to all citizens in all corners of the country, uniform development of all regions in the country, providing employment opportunities, investing in projects with long gestation periods where private investment may not be forthcoming and investing in import-substitution industries, etc. Now the public sector has also come to realize that they have to perform in order to exist and that its products/services will not be subsidized any longer by the government. Public Sector Undertakings (PSUs) are now going in for disinvestment and privatization for increased efficiency. This example of PSUs points to the fact that any type of business organization (public sector or private sector) needs to ensure efficient utilizations of its resources for survival and improved profitability.

Example: Bajaj Auto Limited's Dividend Distribution Policy

In March 2021, Bajaj Auto Ltd. amended its dividend distribution policy. Earlier a dividend pay-out of around 50% of profits after tax on standalone financials, was followed.

But from March 2021, a new policy was adopted which is as follows:

Surplus fund (before dividend distribution)	Dividend payout as a % of surplus
Over ₹ 15,000 crore	90% of profits
Surplus of ₹ 7,500-15,000 crore ³	70 to 90% of profits
Surplus less than ₹ 7,500 crore	50% of profits

This had a favourable impact on the share price implying shareholder wealth maximisation.

Source: <https://economictimes.indiatimes.com/markets/stocks/news/bajaj-autos-new-dividend-policy-what-it-means-for-investors/articleshow/81572998.cms> (Accessed on April 30, 2022)

¹ Throughout the study material, the terms 'firm' and 'company' have been used interchangeably.

² Earnings per share refer to the earnings of equity shareholders after all other obligations of the firm have been met.

³ ET and BS have interpreted this slightly differently. Here the ET's interpretation is taken.

Facing new financial challenges: Financial management, irrespective of whether it is in the context of public sector undertakings or for private sector institutions, has been evolving over the years. The discipline, which traditionally dealt with functions such as procurement of funds, efficient allocation of funds and maximization of firms' value, has over the years encompassed several new elements such as portfolio management, risk management, corporate or strategic finance, etc. The field is constantly evolving.

In such a scenario, there are bound to be diverse challenges that are faced by the profession.

1.6 Functions of the Finance Manager

A finance manager has to engage in various activities to achieve the above mentioned objective of maximization of shareholders' wealth. The functions performed by a finance manager can thus be discussed as follows:

1.6.1 Mobilization of Funds

The finance manager has to plan for and mobilize the required funds from various sources when they are required and at an acceptable cost. This decision is called the Financing Decision. For this purpose, he would be liaising with banks and financial institutions. He also deals with merchant banking agencies for procuring funds from the public through issue of shares, debentures and inviting the public to subscribe to its fixed deposits. In deciding how much to procure from various sources, he would weigh many considerations like the cost of the funds in the form of interest/dividend and the cost of public issue in the case of shares and debentures, the length of time for which funds would be available, etc. Banks and other financial institutions, which give short-term and long-term loans generally, lay down some conditions. These conditions are aimed at ensuring the safety of the loans given by them and contain provisions restricting the freedom of the borrower to raise loans from other sources. Therefore, the finance manager would try to balance the advantages of having funds available with the costs and the loss of flexibility arising from the restrictive provisions of the loan contract.

Let us take a look at the following illustration.

Illustration

XYZ Limited, a well-known company in computer training, software development, information systems, consultancy, etc. is undertaking a modernization cum expansion scheme, which envisages addition of new services, product lines and upgradation of existing systems. The cost of this expansion cum modernization program is estimated at ₹ 3,578 lakh, which is going to be mobilized as follows⁴ as per the prospectus of the company (Table 1.1).

⁴ The various sources of finance will be discussed in detail in the unit on Sources of Long-term Finance.

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Table 1.1: Mobilization of Funds by XYZ Limited

Forms of Funding	₹ lakh
Public issue of equity shares, including premium	1,804
Term loan - ICICI Bank	130
Leasing - ICICI Bank	125
- Others	75
Deferred payment guarantee	99
Internal accruals	1,345
Total	3,578

1.6.2 Deployment of Funds

There are always many competing needs for the allocation of funds. In consultation with the managers of various departments such as production, marketing, personnel, R&D and the top management, the finance manager decides on the manner of deployment of funds in various assets such as land, buildings, machinery, materials, etc. Sometimes the managers of the various departments named above constitute an 'Investment Committee' and appraise an investment proposal along the marketing, technical and financial dimensions. The finance manager appraises the proposal along the financial dimensions to determine its worthiness in relation to the investment involved. This decision called the 'Investment Decision' constitutes one of the core activities of the finance manager.

Illustration

The funds mobilized through various sources by XYZ are proposed to be deployed as follows (Table 1.2), as indicated in the prospectus of the company.

Table 1.2: Deployment of Funds by XYZ Limited

Forms of Investment	₹ lakh
Buildings	985
Computers & Accessories	941
Plant & Machinery	116
Infrastructure	213
Normal Capital Expenditure	241
Repayment of Loans	283
Increase in Working Capital	799
	3,578

1.6.3 Working Capital Management - A Complexity of Liquidity and Profitability Management

Working capital management involves not only managing different components of current assets, but also managing the current liabilities; or to be more precise, financing aspect of current assets. Working capital management also involves managing a proper balance between liquidity and profitability. The financial manager has to maintain efficiently the level of current assets over and above the level of current liabilities to avoid dangers of illiquidity and insolvency. Hence, the working capital management is a complexity of liquidity and profitability. Working capital management is influenced not only by the attitude of company toward risk, but it is also affected by the adequate level of current assets desired by the firm. Arriving at an optimum level of current assets involves balancing the liquidity and profitability criteria and depends on the mode of financing the current assets chosen by the firm.

1.6.4 Utilization of Company's Profit after Tax

A financial manager basically has two options on the utilization of company's profits after tax, viz. either re-invest the earnings by retaining them or allocate the same to the shareholders as dividends. Firms may go for the first option if they are in need of funds to fund their long-term projects. However, this option might be appropriate only if such projects have enough growth potential and can generate substantial profits. On the other hand, if the firms go in for the second option of paying cash dividends from the profits after tax, it will result in maximization of the shareholders' wealth. But it is subject to availability of cash for payment of dividends. Thus, the returns those accrue to the shareholders either by way of the dividend receipts or by capital gains⁵, are affected by the dividend policies of the firms.

Example: Cash Reserves – Approaches of Bajaj Auto and RIL

In 2022, Bajaj Auto was sitting on a pile of cash reserves. It preferred to play safe and park those funds in fixed deposits with banks. The opposite is the approach of Reliance Industries Ltd. when it comes to the *deployment of funds*. RIL preferred to put those funds to use. These bets of RIL sometimes earn and sometimes backfire, but RIL was willing to learn from them and chose its investments more carefully next time but prefers not to leave them in FDs with banks.

Source: <https://economictimes.indiatimes.com/markets/expert-view/reliance-is-a-true-fomo-stock-where-one-can-invest-on-faith-ajay-srivasta/articleshow/91174114.cms?from=mdr> (Accessed on April 30, 2022)

⁵ Capital gains are gains that accrue to investors due to appreciation in the value of a fixed asset over its purchase price.

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Exhibit 1.1 below shows how the Indian companies have been resorting to high dividend payments even in COVID-19 situation.

Exhibit 1.1: Generous Dividend Payments by Indian Companies

Indian companies continued to pay good dividends to their shareholders in 2020-21 and in the previous three years, even though their business operations were hampered by the Pandemic COVID-19 and the resultant lockdown. A study by Mint revealed that the dividend payout ratio of 42 companies that were part of Nifty increased to 38.1% in 2020-21 as against 37.3% in 2019-20. This ratio was 30.7% in 2018-19, 33.7% in 2017-18 and 49.4% in 2016-17. However, the dividend payout ratio of 398 firms, mostly mid-sized firms reduced indicating that the impact of the Pandemic was more severely felt on the mid-sized companies than on the large companies.

The reasons cited for the continued payments of higher dividends were:

1. The COVID-19 Pandemic has created an uncertain investment climate. The lack of demand for investment options have made companies divert the surplus to dividend payments
2. A more substantial reason was the positive impact of the change in the treatment of dividend from a tax perspective, especially post the abolition of dividend distribution tax (DDT), resulting in dividends being taxed in the hands of the investor.
3. The underlying reason as spelt out by Harsh Upadhyay, the Chief Investment Officer in the equity division of Kotak Mahindra Asset Management Company Limited, is that these companies could generate increased revenues and profits. He opined that bigger companies fared better in managing their costs during the Pandemic, thereby translating into higher profits

Source: <https://www.livemint.com/market/stock-market-news/dividend-payouts-of-nifty-firms-climb-to-4-year-high-11624214937522.html>, June 2021

1.6.5 Other Functions

Besides the major functions elucidated above, the other functions performed by a finance manager include:

Control Over Use of Funds -- Financial Control

After deciding on projects and proposals in which the funds are to be invested and after procuring them, the finance manager has to continuously monitor their use in order to ensure that procurement and deployment of funds, proceeds according to plan. This task of the finance manager is called Financial Control. The finance manager sends frequent reports to the managing director. These reports contain information in the form of data regarding the extent to which procurement and deployment of funds is proceeding according to plan. For example, the reports would inform the management regarding the extent to which

credit sanctioned by banks for the day-to-day use of the firm (working capital) has been utilized and how much more can be borrowed. It would also contain information on how much money is due to the firm from various customers and how much the firm owes its suppliers. The reports would also contain information on the funds required at different points of time in the future and the availability of funds from various sources including those available out of any surpluses generated internally. He would also be reporting to the top management about the performance of individual departments within the organization. All such reports are called 'Control Reports' and the whole process constitutes 'control' because it helps management to take timely corrective action to ensure that planned results are achieved.

Risk-Return Trade-off

While making the decisions regarding investment and financing, the finance manager seeks to achieve the right balance between risk and return. If the firm borrows heavily to finance its operations, then the surpluses generated out of operations would be utilized to 'Service the Debt' in the form of interest and principal payments. The surplus or profit available to the owners would be reduced because of the heavy 'Debt-servicing'. If things do not work out as planned and the firm is unable to meet its obligations, the company may be exposed to the risk of insolvency.

Similarly, the various investment opportunities have a certain amount of risk associated with the returns and also with the timing of returns. The finance manager has to decide whether the opportunity is worth more than its cost and whether the additional burden of debt can be safely borne. In fact, decision making in all areas of management, including financial management involves the balancing of the trade-off between risk and return.

1.7 Interface between Finance and Other Functions

You will recall that we started this introductory chapter by describing the pervasive nature of finance. Let us discuss in greater detail the reasons why knowledge of the financial implications of the finance manager's decisions is important to the non-finance managers. One common factor among all managers is that they use resources and since resources are obtained in exchange for money, they are in effect making the investment decision and in the process of ensuring that the investment is effectively utilized; they are also performing the control function.

1.7.1 Marketing – Finance Interface

The marketing manager takes many decisions, which have a significant impact on the profitability of the firm. For example, he should have a clear understanding of the impact of the credit extended to the customers on the profits of the company. Otherwise, in his eagerness to meet the sales targets he is likely to extend liberal terms of credit, which may put the profit plans out of gear.

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Similarly, he should weigh the benefits of keeping a large inventory of finished goods in anticipation of sales against the costs of maintaining that inventory. Other key decisions of the Marketing Manager, which have financial implications are pricing, product promotion and advertisement, the choice of product mix and distribution policy.

1.7.2 Production – Finance Interface

In any manufacturing firm, the production manager controls a major part of the investment in the form of equipment, materials and men. He should so organize his department that the equipment under his control is used most productively, the inventory of work-in-process or unfinished goods and stores and spares is optimized and the idle time and work stoppages are minimized. If the production manager can achieve this, he would be holding the cost of the output under control and thereby help in maximizing profits. He has to appreciate the fact that whereas the price at which the output can be sold is largely determined by factors external to the firm like competition, government regulations, etc. the cost of production is more amenable to his control. Similarly, he would have to make decisions regarding make or buy, buy or lease, etc. for which he has to evaluate the financial implications before arriving at a decision.

1.7.3 Top Management – Finance Interface

The top management, which is interested in ensuring that the firm's long-term goals are met, finds it convenient to use the financial statements as a means for keeping itself informed of the overall effectiveness of the organization. We have so far briefly reviewed the interface of finance with the non-finance functional disciplines like production, marketing, etc. Besides these, the finance function also has a strong linkage with the functions of the top management. Strategic planning and management control are two important functions of the top management. Finance function provides the basic inputs needed to undertake these activities.

The example below showcases the interface of finance with technology

Example: E-wallets in India

The increasing interface of technology with finance created a revolution called e-wallets in the Indian market. While tech giants like Facebook, Google, Amazon, and Samsung have released their payment apps, established players in the market like MobiKwik and Paytm are relentless to cede their market dominance. Then the government altered the rules of the game by introducing a new technology platform for financial transactions called UPI. UPI has beaten e-wallets hands down in terms of the value of transactions. The growth in volume of transactions is also much faster for UPI than e-wallets.

Source: <https://www.livemint.com/Money/A1bTvyBsMmZeNu6oSfozJ/4-reasons-why-UPI-may-overtake-mobile-wallets-soon.html> (Accessed on April 30, 2022)

1.7.4 Other Challenges in Financial Management

With the recent liberalization of the Indian economy, abolition of the office of the Controller of Capital Issues who used to fix issue prices before hand and efforts of the Indian economy towards globalization, finance managers are presently facing some new challenges as indicated below:

- **Treasury Operations:** Short-term fund management must be more sophisticated. Finance managers could make speculative gains by anticipating interest rate movements.
- **Foreign Exchange:** Finance managers will have to weigh the costs and benefits of transacting in foreign exchange, particularly now that the Indian economy is going global and the future value of the rupee has become difficult to predict.
- **Financial Structuring:** An optimum mix between debt and equity will be essential to arrive at the financial structure of a business. Firms will have to tailor financial instruments to suit their as well as the investors' needs. Financial structuring activities of a finance manager thus involves pricing of new issues, issue of new shares, issue of bonds/debentures, raising of loans etc.
- **Maintaining Share Prices:** In the premium equity era, firms must ensure that share prices stay healthy. Finance managers will have to devise appropriate dividend and bonus policies.
- **Ensuring Management Control:** Equity issues at premium mean management may lose control if it is unable to take up its share entitlements. Strategies to prevent this are vital.

1.8 Environment of Corporate Finance

One of the important aspects of a finance manager's job is to understand the external environment in which he operates. In a country like India where investment and financing activities are subject to numerous governmental controls and legislation, a finance manager must have a thorough understanding of the legal framework circumscribing his decisions. Let us consider this example to clarify the point:

Example: Make in India

With the Make in India initiative announced by the Central Government in 2014, a number of project announcements came from the corporate sector. The initiative resulted in increase in FDI (Foreign Direct Investment) in India. FDI equity inflows have grown up by 60.2% between April 2009 and March 2014 and April 2014 and March 2019. The overall FDI received in the country since April 2000 stands at \$609.8 Bn.

Source: <https://www.makeinindia.com/significant-foreign-direct-investments> (Accessed on April 21, 2021)

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From this example, it is clear that the legislative framework has an important bearing on the investment and financing decisions of a firm. The next question is "Are there external factors other than legal provisions and governmental regulations that intervene in the decision making process of the finance manager?" The answer is 'Yes'. The form of organization that a business entity adopts often limits the investment and financing options.

The structure of the financial markets from where the finance manager has to raise funds and the regulations governing the financial intermediaries (like banks and financial institutions) also influence the decisions of a finance manager. Last but not the least in terms of importance is the tax factor. While evaluating the feasibility of the investments the finance manager also takes into account the fiscal (tax) factors associated with these investments.

Therefore, we find that the finance manager pursues his objective of owners' wealth maximization under a set of external constraints apart from the internal constraints that arise from the inherent strengths and weaknesses of each entity. This makes his job complex and interesting because he has to make optimal decisions within the framework of these constraints.

This section of the unit seeks to create an awareness and appreciation of the intervening environmental variables. We have identified four aspects of the external environment, which are directly relevant to the job of the finance manager. They are:

- Forms of Business Organization.
- Regulatory Framework.
- Financial System (which will include financial markets and intermediaries)⁶.
- Tax Aspects

1.8.1 The Important Forms of Business Organization

The forms of business organization have a direct bearing on the amount of funds required, their allocation to investment avenues and returns expected. For instance, a partnership firm engaged in trading yarn cannot follow the example of Reliance Industries Ltd., to set up a ₹ 400 crore petrochemical complex because the partnership form of organization limits both the size and the ability to mobilize such massive funds.

Based on the size of the business, the amount of investment to be made, the number of owners etc., businesses can be formed in any of the following forms:

⁶ The Financial system, its components and the role of finance manager in a financial system will be discussed in length in Unit 2 – Indian Financial System

Sole Proprietorship

This type of concern is owned by a single person. The proprietor enjoys all the powers of taking and assuming the risks for his/her concern. He/she is responsible for all the rewards, profits, losses and incurring of all the liabilities of the business.

The advantages of a sole proprietorship are:

- Easy and inexpensive to set up
- Few governmental regulations
- No firm tax

The disadvantages are:

- Life of the firm is limited to the life of the owner
- Unlimited personal liabilities
- Outside fund raising is not possible and can result in lack of growth
- Tax on the income will be very high

Partnership

In this type of firm, the business is owned by two or more persons. They are partners in business and they bear the risks and reap the rewards of the business.

The partnership comes into being through a partnership agreement or a partnership deed. The partnership firms are governed by the Indian Partnership Act of 1932.

The advantages of the partnership firm are:

- Like a sole ownership firm, it can be set up easily and inexpensively.
- It is relatively free from governmental regulations.
- The expertise and experience of the partners is useful to the firm's operations.

The disadvantages are:

- The life of the firm depends upon the agreement between the partners. If any of them withdraws or meets with death, it may result in dissolution of the firm.
- Possible conflict between the partners is a threat to the company's existence.
- Personal liability of the partners is unlimited.
- Its ability to raise funds is limited.

Companies

A group of persons working together towards a common objective is a company. It represents different kinds of associations, be it business or non-business.

The term 'Registered Company' as per Sec.2 (20) of the Companies Act, 2013 means a company incorporated under the Companies Act, 2013 or under any previous company law. A company can be a private company or a public company.

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Private Company

According to Sec 2 (68) of the Companies Act, 2013, a private company means a company which has a minimum paid-up capital of one lakh rupees or such higher paid-up capital as may be prescribed, and by its articles –

- i. Restricts the right to transfer its shares, if any
- ii. Except in the case of One Person Company (OPC), limits the number of its members to two hundred and
- iii. Prohibits any invitation to the public to subscribe for any securities of the company

The Companies (Amendment) Act, 2015 has removed the minimum paid up capital requirement and hence private companies now do not require to maintain the minimum capital of one lakh rupees.

Public Company

According to Sec 2 (71) of the Companies Act, 2013, a public company means a company which has a minimum paid-up capital of five lakh rupees or such higher paid-up capital as may be prescribed, and is not a private company or is a private company that is a subsidiary of a company which is not a private company.

The Companies (Amendment) Act, 2015 has removed the minimum paid up capital requirement and hence public companies now do not require to maintain the minimum capital of five lakh rupees.

Any registered company having, on commencement, a paid-up capital less than the prescribed minimum amount shall, within a period of two years from such commencement enhance its paid-up capital to the prescribed amount.

Differences between Public and Private Companies

Table 1.1 below and the Figure 1.1 give an overview of the distinction between private and public limited company.

Table 1.1: Differences between Private and Public Companies

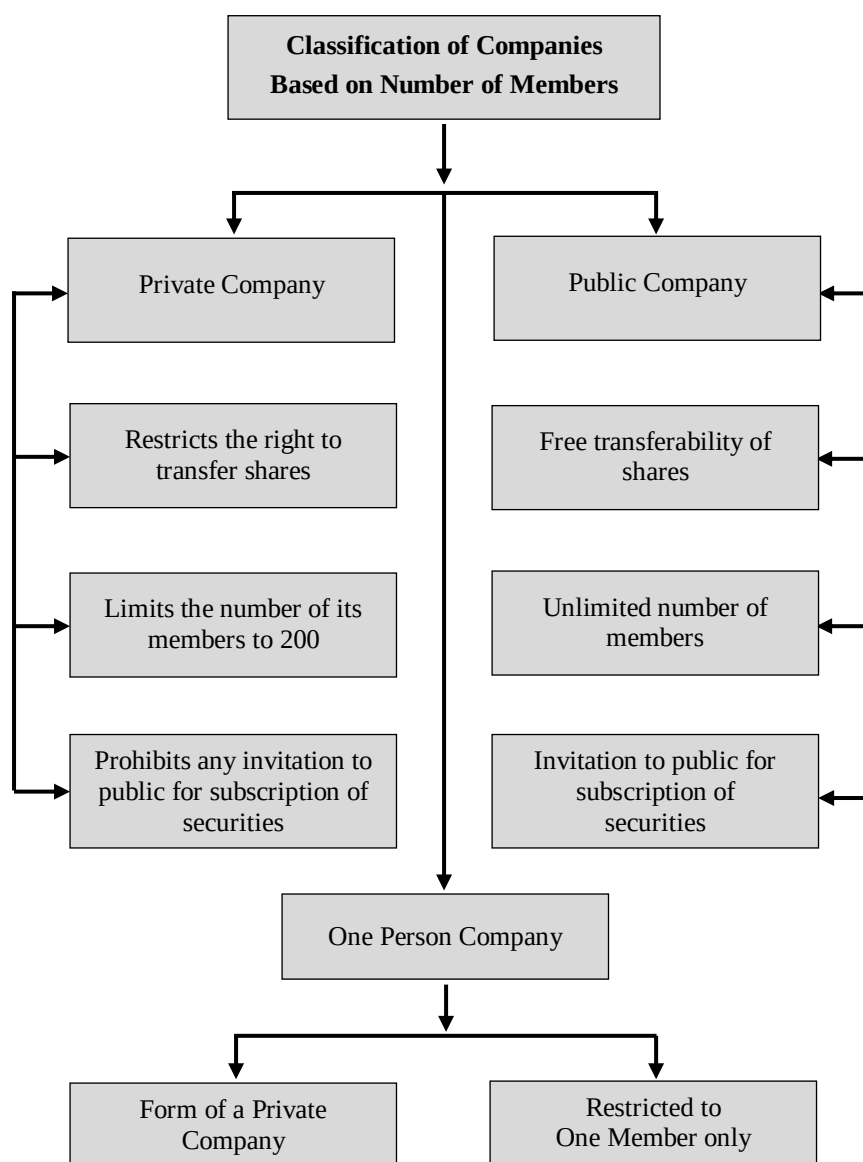
S.No.	Private Limited Company	Public Limited Company
1.	Requires minimum of two members.	Requires minimum of seven members.
2.	Maximum limit of two hundred members.	No maximum limit.
3.	Minimum paid up capital ₹ 1 lakh.	Minimum paid up capital ₹ 5 lakh.
4.	At least two directors required.	At least three directors required.
5.	Raises capital by private arrangement, public subscription is not allowed.	Raises capital by inviting public subscription or by private arrangement.

Contd.....

6.	Shares are not transferable except for the provisions in the Articles.	Shares are freely transferable, and may be even quoted on a Stock Exchange.
7.	No restriction on managerial remuneration.	Restrictions on total managerial remuneration.
8.	The words 'Private Limited' are added to the company's name.	The word 'Limited' is added to the company's name.

Source: ICFAI Research Center

Figure 1.1: Classification of Companies Based on the Number of Members



Source: ICFAI Research Center

To conclude, a public company got special privileges when compared to that of a private company. The potential to grow is remarkably high for a public company

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when compared to a private company. Further, the liquidity factor suffers in a private company, as high liquidity cannot be called for because of restriction on the right to transfer its shares.

One Person Company

One Person Company (OPC) is the company introduced for the first time in the Companies Act, 2013. This is in addition to a private company and a public company under this Act. An OPC means a company having only one person as its member. [Section 2 (62) of the Companies Act, 2013]

Limited Liability Partnership/Company

Another type of company is the Limited Liability Company, popularly referred to India as Limited Liability Partnership (LLP) firms. These firms combine the advantages of both partnership and company form of organization, and are thus suitable for small, medium sized and professional enterprises. In India, the concept of LLPs was introduced with the passing of the Limited Liability Partnership Act in 2008. Their unique features make it easy to form and register these firms (as there is no prescribed capital requirement of each partner), operate with lesser regulatory requirements and avail the benefits of limited liability.

Example: The exotic trend of ‘going private’

If a public limited company is transformed into a private entity by delisting its shares, then such a process is called going private. After going private, the company need not have to comply with costly and time-consuming regulatory requirements. The key reason for going private is that it will allow the management to focus on the company’s long-term vision than sweating to deliver the quarterly numbers that the stock markets look for. Going private is still not very popular in India, though not uncommon.

Sources: 1. <https://www.thehindubusinessline.com/opinion/columns/slate/all-you-wanted-to-know-about-going-private/article24738624.ece> (Accessed on May 9, 2022)

2. <https://www.investopedia.com/articles/stocks/08/public-companies-privatize-go-private.asp> (Accessed on May 9, 2022)

Check Your Progress – 1

1. The objective of financial management to increase the wealth of the shareholders means to:
 - a. Increase the physical assets owned by the firm
 - b. Increase the market value of the shares of the firm
 - c. Increase the current assets of the firm
 - d. Increase the cash balance of the company
 - e. Increase the total number of outstanding shares of the company.

2. Which of the following is not a function of the finance manager?
 - a. Mobilizing funds
 - b. Risk-return trade-off
 - c. Deployment of funds
 - d. Control over the uses of funds
 - e. Recording of transactions
 3. Which of the following is an advantage of a sole proprietorship?
 - a. Life of a firm is limited to the life of the owner
 - b. Fund raising from outside is easy
 - c. Limited personal liabilities
 - d. Easy and inexpensive to set-up
 - e. Expansion of business is possible
 4. Which of the following is not a feature of a private company limited as per Companies Act 2013?
 - a. Restricts the right to transfer its shares
 - b. Limits the number of its members to two hundred
 - c. Prohibits any invitation to the public to subscribe for any securities of the company
 - d. The directors of a private company are not required to retire by rotation
 - e. Minimum paid up capital ₹ 5 lakh
 5. Which of the following is not a part of the external environment directly influencing the finance manager's role?
 - a. Forms of Business Organization
 - b. Regulatory Framework
 - c. Financial System
 - d. Tax Aspects
 - e. Social Environment
-

Activity 1.1

Suppose you are appointed as the finance manager of ABC Limited. You are given the task of identifying the sources of finance for a capital investment project. How would you identify the sources? What parameters will be considered in arriving at a decision? Are there any external factors that might influence your decision?

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Answer:

1.9 Regulatory Framework

The financial system is discussed in detail in Unit 2. Our objective in this subsection will be to highlight the salient features of the regulatory framework.

Corporate investment and financing decisions are circumscribed by a governmental regulatory framework, which seeks to (a) define avenues of investment available to business enterprises in different categories, ownership-wise and size-wise; (b) induce investments along certain lines by providing incentives, concessions, and reliefs; and (c) specify the procedure for raising funds from the financial markets.

The important elements of this framework are: (i) Industrial Policy, (ii) Industrial Licensing Provisions and Procedures, (iii) Regulation of Foreign Collaborations and Investments, (iv) Foreign Exchange Management Act, (v) Competition Act, 2002, (vi) Prevention of Money laundering Act, 2002, (vii) Benami Transactions (Prohibition) Amendment Act, (viii) Companies Act, 2013 and (ix) SEBI. In this section, we will discuss the salient features of these Acts/regulations and their implications for financial management. SEBI has been covered in detail in Unit II in the Section on Capital Markets.

1.9.1 Industrial Policy

A finance manager of a private industrial enterprise (which will include all non-government entities) must be aware of the provisions of the Industrial Policy Resolutions 1956, Industrial Licensing Policy 1973, Industrial Policy Statements and the 7th New Industrial Policy 1991 made by the government from time to time because these provisions define the investment avenues open to the enterprise.

The Industrial Policy Resolution, 1956, which states the basic industrial policy of our economy, has classified industries into three categories based on the role played by the government in their development. The first category covered those industries, the future development of which was to be the exclusive responsibility of the state. Industries included in this category were infrastructural industries

⁷ <https://byjus.com/free-ias-prep/industrial-policy-india/#:~:text=New%20Industrial%20Policy%2C%201991,forces%20and%20to%20increase%20efficiency.&text=The%20government%20allowed%20Domestic%20firms,have%20access%20to%20better%20technology.>

like air transport and rail transport, certain basic and heavy industries like iron and steel, and heavy machinery, defence related industries, and atomic energy. The second category consisted of industries in which the state would generally take the initiative to establish new undertakings, but in which private enterprise were expected to supplement the efforts of the state. This category included industries like machine tools, essential drugs and antibiotics. The third category consisted of all the remaining industries, the future development of which was left to the initiative and enterprise of the private sector.

The other salient provisions of the Industrial Policy Resolution, 1956, can be summed up as follows:

- One of the major objectives of the 1956 Industrial Policy of the government was to promote development of the small-scale and village industries. To achieve this objective, the government was empowered to reserve manufacture of certain products exclusively for the small-scale sector. Exercising this right, the government had reserved more than 800 items for the small-scale sector, the production of which does not call for a huge capital outlay or sophisticated technology. However, this policy of reservation for exclusive manufacture in MSME (Micro, Small and Medium Enterprises) sector was gradually done away with from 1997 onwards and in 2015, the last remaining 20 items that have been reserved for this sector have also been de-reserved.
- Large industrial houses, i.e., undertakings by themselves or interconnected with other undertakings having assets of more than ₹ 100 crore can participate in, and contribute to the establishment of industries specified in Appendix I of the Industrial Licensing Policy, 1973, provided the items are not reserved for the public sector or the small sector. Large industrial undertakings will usually be excluded from other industries, except where production is predominantly for exports. Appendix I includes industries like electrical equipment, industrial machinery, agricultural machinery and chemicals (other than fertilizers).
- The joint sector, which involves a partnership between the government and private enterprises will be used in appropriate cases for setting up industrial undertakings. It, however, cannot be used to permit the entry of larger houses, dominant undertakings, and foreign companies in industries in which they are precluded on their own.
- Foreign companies will be eligible to participate in, and contribute to the establishment of industries in the same manner as large industrial houses. Their investment will be examined with special reference to the technological aspects, export possibilities, and the overall effects on the balance of payments.

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- The Industrial Policy seeks to reduce regional disparities in industrial development. To promote this objective, the government will encourage units being located in notified backward areas through a package of incentives and concessions and will curb the tendency for industrial enterprises to concentrate around metropolitan areas.

In 1991, the government has initiated the process of liberalizing its policy towards participation of large industrial enterprises in different industries and streamlining the licensing procedures to expedite industrial development. The important policy measures of 1991 industrial policy⁸ and subsequent reforms include:

- Abolition of licensing requirements except in the case of a selected list of eight industry groups
- Rising of investment ceilings for small-scale industries and ancillary units
- Removal of Monopolies and Restrictive Trade Practices (MRTP) limits on assets for companies
- Permitting the private sector to enter the telecommunication equipment manufacturing industry
- Encouragement for foreign investment up to 51 percent equity of a company. On a select basis, foreign investment in 100% subsidiaries, is also being encouraged now a days⁹
- Permitting foreign equity in companies to manufacture computers
- Disinvestment in selected public sector units

In 2014, the Government of India launched the 'Make in India' program to further industrial promotion. Later, in 2015 a number of initiatives were taken to improve the 'Ease of Doing Business' in India.

1.9.2 Industrial Licensing Provisions and Procedures

To regulate and develop industry in accordance with the objectives of the Industrial Policy Resolution and the priorities under the Five-year Plans, the government introduced the system of Industrial Licensing. To provide a legal framework for the system of licensing, the government enacted the Industries (Development & Regulation) Act, in 1951.

The existing system and procedures for industrial licensing have undergone a drastic change pursuant to the statement on Industrial Policy, tabled in both the Houses of Parliament on July 24, 1991. The statement has substantially reduced the requirement for various types of industrial approvals. Consequently, to implement this policy statement in respect of industrial licensing, a notification has been issued under the Industries (Development & Regulation) Act, 1951.

⁸ http://dipp.nic.in/sites/default/files/chap001_0_0.pdf

⁹ <http://www.makeinindia.com/policy/foreign-direct-investment>

The Notification has three schedules:

Schedule I: Lists the industries reserved for the public sector. Industries included in this schedule are mineral oils, mining, railways, defence-related industries and atomic energy.

Schedule II: Lists the industries, which are subject to compulsory licensing. It includes industries like coal & lignite, petroleum, sugar, asbestos, rawhides, patent leather, tobacco, motor cars, paper and newsprint, industrial explosives, hazardous chemicals, drugs and pharmaceuticals and entertainment electronics.

Schedule III: Lists the articles reserved for the small-scale/ancillary sector, which include textile products, food & allied industries, wood, paper products, leather products including footwear, rubber, plastic products, chemicals, dyes, tiles, glass and ceramics.

The provisions of the revised industrial licensing policy are as follows:

1. Industrial licensing is abolished for all projects except for a short list of industries (Schedule II) related to security and strategic concerns, social reasons, hazardous chemicals and overriding environmental reasons, and items of elitist consumption. Industries in the small-scale and ancillary sector are exempted from licensing all articles of manufacture, which are not covered by Schedules I & II.
2. Industries where security and strategic concerns predominate will continue to be reserved for the public sector (Schedule I).
3. For projects requiring imported capital goods, automatic clearance will be given where foreign exchange availability is ensured through a foreign equity.
4. Licensing is also waived for industrial undertakings whose proposed project is not located within 25 km from the periphery of the standard urban area limits of a city having a population of more than 10 lakh according to the 1991 census.

This condition will not apply to electronics, computer software, printing industry and other non-polluting industries that may be notified from time to time and also to other industries that are located within the areas designated as 'industrial areas' by the state government(s) before July 25, 1991. However, the location of industrial projects will be subject to central or state environmental laws or regulations, including local zoning and land use laws and regulations. As before, no change of location of an industrial unit can take place without the express permission of the central government.

5. Substantial expansion of existing units will be exempt from licensing provided the item of manufacture is not covered by Schedules I, II and III. Hitherto, expansion proposals also need the approval of the government.

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6. Existing units will be permitted to manufacture any new article without additional investment if the article is not otherwise subject to compulsory licensing. This facility would be available notwithstanding any locational conditions.
7. Existing schemes of registration, namely, the Delicensed Industries Registration Scheme (DLR), Exempted Industries Registration Scheme (EIR) and registration with Directorate General for Trade and Development (DGTD) and other technical authorities, namely, the Textile Commissioner, Development Commissioner for Iron & Steel have been abolished. Entrepreneurs will henceforth only be required to file an information memorandum in prescribed form to the Secretariat of Industrial Approvals (SIA) in the Department of Industrial Development.
8. Government continues to have the authority to order investigation into the working of an industrial undertaking, and if necessary, takeover the management.
9. Government is empowered to control and regulate prices, methods of production, volume of production and the mode of distribution with respect to any of the essential commodities.

In order to advise the government on matters relating to the licensing of industries, and the regulation of selected industries, the Central Government through notified order established the Central Advisory Council and the Development Council.

Establishment and Functions of the Central Advisory Council and Development Council

The constitution of the councils and the important functions are explained as follows:

- The Central Advisory and Development Council consists of a chairman and such other members not exceeding thirty in number, all of whom in the opinion of the central government are capable of representing the interests of owners, employees and consumers of industrial undertakings in the scheduled industries and such other class of persons including primary producers. (Sec.5 of IDRA, 1951)
- To perform assigned functions of a kind specified in the second schedule, in order to increase the efficiency or productivity in the scheduled industry or group of scheduled industries both in terms of economy and in the interest of the community.
- To perform such other functions as may be required to perform by or under any other provision of this Act, the central government through notified order established a council called Development Council for such scheduled industry or group of such scheduled industries. It consists of persons of different streams who in the opinion of the central government are capable to make the council perform its functions efficiently (Sec. 6 of IDRA, 1951).

The Industrial Licensing and classification norms with regard to small-scale (SSI)/ancillary industries are different from the licensing norms for other industries. Hence, their regulations require a special mention.

Definition of MSMEs

In India, before the passing of the MSMED Act, 2006 there was no uniform definition of small scale industries. The investment limit prescribed for small scale units has been revised regularly and it stood at ₹ 100 lakhs in plant and machinery in 2006.

In 2006, the Micro, Small and Medium Enterprises Development Act was passed that categorized entities into two classes – manufacturing and services. The definition of enterprises falling under these two categories was finalized based on the investment size and the nature of activity undertaken by the enterprise. The definitions were as shown in Exhibit 1.2 below:

Exhibit 1.2: Definition of Micro, Small and Medium Enterprises

In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small and Medium Enterprises (MSME) are classified into two Classes:.

- 1. Manufacturing Enterprises** - The enterprises engaged in the manufacture or production of goods pertaining to any industry specified in the first schedule (Development and Regulation Act, 1951) or employing plant and machinery in the process of value addition to the final product having a distinct name or character or use. The manufacturing enterprises are *defined in terms of investment in plant & machinery*.
- 2. Service Enterprises** - The enterprises engaged in providing or rendering of services and are *defined in terms of investment in equipment*.

The classification of Micro, Small and Medium Enterprises is defined under the MSMED Act 2006 amendment dated 01/06/2020. The Micro, Small and Medium Enterprises is based on the investment in plant, machinery or equipment values (excluding land and building) and annual turnover. This shall come into effect from 01.07.2020.

Micro Enterprise: Where the investment in plant and machinery or equipment does not exceed one crore rupees and turnover does not exceed five crore rupees.

Small Enterprise: Where the investment in plant and machinery or equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees.

Medium Enterprises: Where the investment in plant and machinery or equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

Source: <https://msme.gov.in/know-about-msme>

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1.9.3 Regulation of Foreign Collaborations and Investments

Foreign collaboration involves either transfer of foreign technology (technical collaboration) or transfer of foreign technology-cum-capital (technical-cum-financial collaboration). Technical collaboration entails outflow of foreign exchange in the form of royalty payments, while financial collaboration results in an outflow of foreign exchange in the form of dividend remittances and capital repatriation. Therefore, the government follows a selective policy in approving foreign collaboration projects. Even where it approves the collaboration in principle, it regulates the extent of foreign investment in the project, the amount of royalty payments, and the terms and conditions of the collaboration agreement.

Foreign Exchange Management Act (FEMA)

The Foreign Exchange Regulation Act, 1973, regulated the foreign investment in India till the turn of the century. The Foreign Exchange Management Act (FEMA) replaced the Foreign Exchange Regulation Act (FERA) with effect from June 1, 2000.

The main objectives of FEMA are: (i) to facilitate external trade and payments, and (ii) to promote an orderly maintenance of the foreign exchange market in India.

To achieve these objectives, FEMA was introduced with several features as explained below.

Salient Features of the Act

The Foreign Exchange Management Act (FEMA) brought in several reforms in the foreign exchange market in India by liberalizing exchange controls, removing the restrictions on foreign investment, facilitating foreign trade transactions and promoting the development of an orderly foreign exchange market. The salient features of this act are as follows:

- Full freedom to a person resident in India who was earlier outside India to hold or transfer any foreign security or immovable property situated outside India and acquired when he/she was a resident there. Similar freedom is also given to a resident who inherits such security or immovable property from a person resident outside India.
- A person resident outside India is also permitted to hold shares, securities and properties acquired by him while he/she was a resident in India. Similarly, a person resident outside India is also permitted to hold such properties inherited from a person resident in India.
- Exchange drawn can also be used for purposes other than for which it is drawn provided such withdrawal is otherwise permitted for such purpose.

- Any person can deal or transfer or pay pursuant to any foreign transaction only in accordance with the provisions of this Act or with general or special permission of the RBI to promote and for the orderly maintenance of the foreign exchange market in India.
- The responsibility is on such person resident in India to take all reasonable steps for realization and repatriation to India as prescribed by RBI the amount of foreign exchange which is due or accrued to him unless otherwise provided in the Act.
- Every exporter of goods shall furnish to RBI or to such authority a declaration as prescribed for the purpose of ensuring the realization of export proceeds by such exporter.

1.9.4 Competition Act, 2002

The objective of the Competition Act 2002 is to position the competition policy with pragmatic options, to promote the spirit of competition and harmonize the conflicts caused by the volatility of globalized markets. The Act provides for a regulatory framework of rules covering the critical areas of competition namely:

- Anti-competitive agreements among enterprises
- Abuse of dominant position in the market
- Combinations/mergers between companies

Competition Act, 2002 aims at promoting free and fair competition in India and protecting the interests of consumers. The act provides for the establishment of a regulatory body called “Competition Commission of India” with the following basic functions:

- Administration and enforcement of law
- Competition advocacy

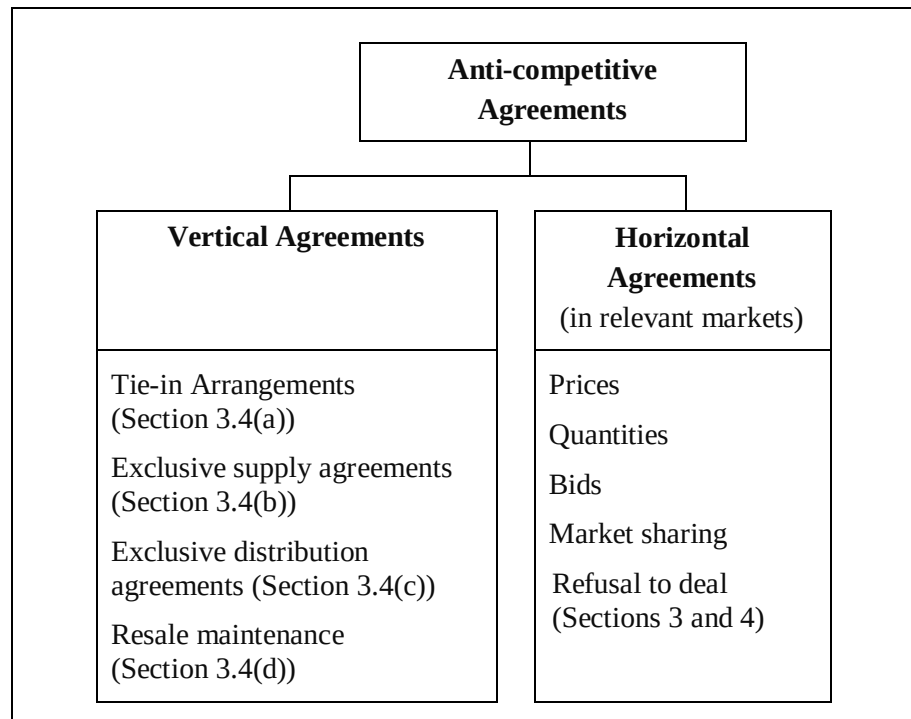
Competition Act, 2002 is a comprehensive enactment addressing contemporary concerns of competition and future possibilities that impact the sustainable economic development. The Act consists of 66 sections dealt under nine chapters covering the following areas:

- Prohibition of anti-competitive agreements
- Prohibition of abuse of dominant position
- Regulation of combinations
- Establishment of Competition Commission of India
- Penalties for contravention of order of Commission and non-compliance with directions
- Competition advocacy
- Constitution of competition fund

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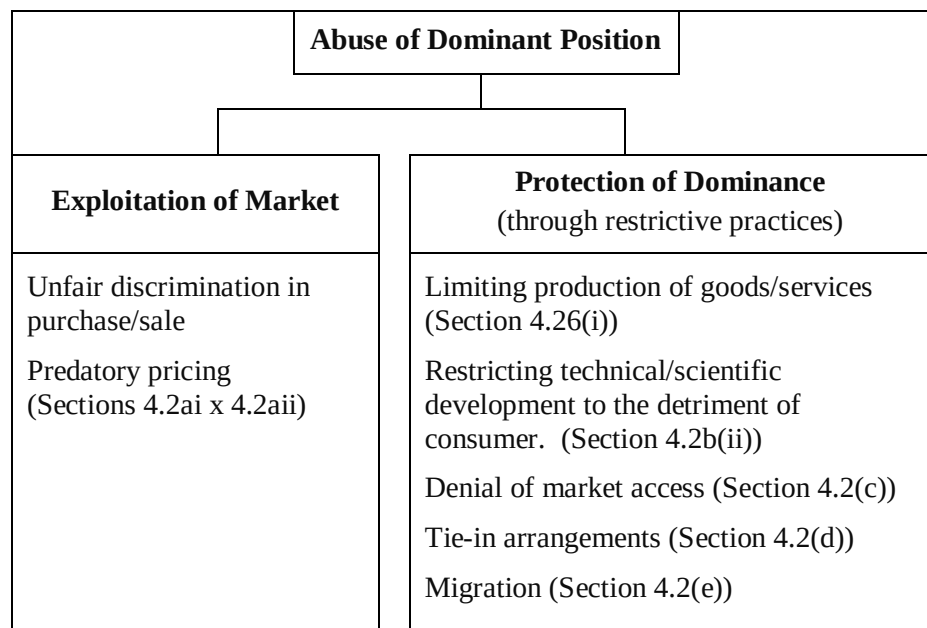
Figures 1.2 and 1.3 contain the provisions of Competition Act 2002 pertaining to anti-competitive agreements and activities that constitute abuse of dominant position.

Figure 1.2: Classification of Anti-Competitive Agreements



Source: Competition Act, 2002

Figure 1.3: Abuse of Dominant Position



Source: Competition Act, 2002

Apart from dealing with the competition misconduct, the Act also envisages a promotional role. The Competition Commission of India has advocacy role in advising Government and creating awareness and imparting training on competition issues.

The Act provides exhaustive coverage of business entities under definition “enterprise” (Section 2ch) by including:

- Industrial activities
- Marketing activities
- Services, including financial investments
- Stock broking

Significantly, the Act also covers government departments engaged in “enterprise” activities excluding only sensitive wings like atomic energy, currency, defense and space.

Example: Violations of Competition Act, 2002

A private sector bank is ready to provide working capital facilities to the firm. However, the bank is insisting that the firm needs to place fixed deposits with them only. The CFO of the firm, confronted the bank that they are contravening the provisions of Competition Act 2002.

Here, the bank is violating the Competition Act, as it prohibits a “tie-in arrangement” that includes an agreement requiring a purchaser of goods to purchase some other goods as a condition of such purchase.

Source: <https://indiankanoon.org/doc/1113485/> (Accessed on 2.6.2022)

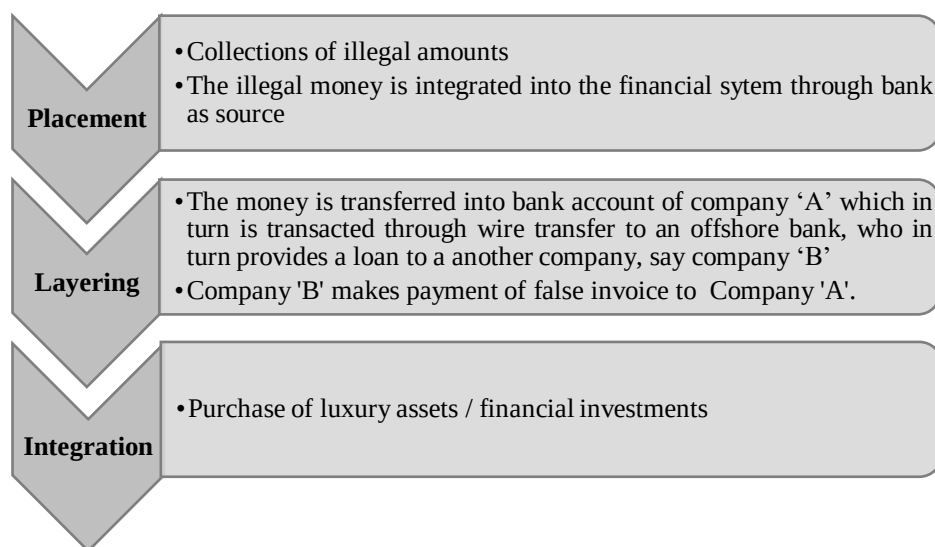
1.9.5 Prevention of Money Laundering (PML) Act, 2002

Money laundering is a process through which the origin of large amounts of illegally obtained money is concealed by giving the appearance of having originated from a legitimate source. In India, the Anti-Money Laundering measures are controlled by using the Prevention of Money Laundering (PML) Act, 2002 which came into force from 1st July 2005. Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI) and Insurance Regulatory and Development Authority (IRDA) have been brought under the purview of the PML Act, and hence the Act is now applicable to all financial institutions, banks, mutual funds, insurance companies, and other financial agencies. The agency which is responsible for monitoring the Anti-Money Laundering activities in India is called Financial Intelligence Unit - India (FIU IND). This unit is under the Department of Revenue, which analyses all the information related to a person who is under suspicion, and reports directly to the Economic Intelligence Council (EIC) headed by the Finance Minister.

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Money laundering transactions usually follow a three-step process which is shown in Figure 1.4 below:

Figure 1.4: Steps in Money Laundering Process



Source: ICFAI Research Center

The PML Act was amended three times in 2005, 2009, 2012 and 2019 for extending its scope by enlarging the definition of money laundering. The punishment for money laundering imposes an imprisonment of up to 3-7 years with a fine of up to ₹ 5 lakh. In case of offences done under the Narcotic Drugs and Psychotropic Substances Act 1985, the maximum punishment will extend to 10 years.

1.9.6 Benami Transactions Prohibition (Amendment) Act, 2016

¹⁰For an effective administration on prohibition of benami transactions, the existing Benami Transactions (Prohibition) Act, 1988 was amended through the Benami Transactions (Prohibition) Amended Act, 2016.¹¹ The Benami Transactions (Prohibition) Act, 1988 has been on the statute book for more than 28 years but the same was non-operational due to certain inherent defects. However, with the amendment in 2016, the Act received a fresh lease of life as it gives powers to the authorities to provisionally attach benami properties which can be confiscated. Besides, if a person is found guilty of offence of benami transaction by the competent court, that person is punishable with rigorous imprisonment for a term of more than one year and which may extend to 7 years. He/She shall also be liable to fine, that may extend up to 25% of the fair market value of the benami property.

¹⁰ [http://lawmin.nic.in/legislative/textofcentralacts/ACTS%20OF%20PARLIAMENT%202016%20\(2\).pdf](http://lawmin.nic.in/legislative/textofcentralacts/ACTS%20OF%20PARLIAMENT%202016%20(2).pdf)

¹¹ <http://pib.nic.in/newsite/PrintRelease.aspx?relid=159882>

This Act came into force from 1st November, 2016. Since its introduction, several benami transactions have been identified effective to the amended law. The existing Benami Transactions (Prohibition) Act, 1988 was renamed as Prohibition of Benami Property Transactions Act, 1988 (PBPT). After its enforcement, the Government had received several show-cause notices for provisional attachment of benami properties, issued in 140 cases involving properties of the value of about ₹ 200 crore. Out of these, provisional attachment of properties has been implemented in 124 cases. The benami properties attached to these cases mostly included deposits in bank accounts and immovable properties. Henceforth, the new law had added provisions to the appellate mechanism in the form of an adjudicating authority and appellate tribunal for the efficient implementation of the amended law.

1.9.7 Companies Act, 2013

The major objectives of the Companies Act, 2013 are:

- To ensure minimum standards of business integrity and conduct in the promotion and management of companies;
- To elicit full and fair disclosure of all reasonable information relating to the affairs of the company;
- To promote effective participation and control by shareholders and protect their legitimate interests;
- To enforce proper performance of duties by the company management; and
- To investigate into and intervene in the affairs of companies which are managed in a manner prejudicial to the interests of the shareholders or the public at large.

The Companies Act, which has 657 sections attached with 15 schedules, is a very comprehensive legislation governing the functioning of companies.

Many of the provisions of this Act have a direct bearing on the financial management of companies. The Act provides for matters like types of share capital that can be issued, issue of share capital, issue of debentures, loans, investments, inter-corporate investments, distribution of dividends, reorganization, amalgamation and liquidation. Some of the important provisions of this Act related to the financial management of companies are listed below:

- A public limited company can issue only two kinds of shares – preference shares and equity shares. A company as per section 53 of the Act cannot issue shares at a discount. Only redeemable preference shares can be issued which can be redeemed within 20 years of issue.
- Any further issue of shares has to be first offered to the existing equity shareholders in proportion to the shares held by them, unless they waive this right.

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- A company that completed a buy-back¹² of shares or other specified securities under this section, shall not make any further issue of such shares or securities within a period of six months from the date of completion of such buy-back, subject to certain exceptions.
- Sweat equity shares be issued by the company to employees or directors as per section 54 at a discount or for consideration other than cash for providing know-how or making available rights in the nature of intellectual property rights or value additions by whatever name called through a special resolution passed by the shareholders of such company in their general meetings, provided one year has elapsed from the date on which the company is entitled to commence business.
- No company shall make intercorporate loans and investments exceeding sixty percent (60%) of its paid-up share capital free reserves and securities premium account, or one hundred percent (100%) of its free reserves and securities premium account, whichever is more, unless it is approved by the shareholders of the company through passing a special resolution in their general meeting of the company, otherwise a Board resolution is sufficient.
- Dividends can be declared only out of the profits of the company arrived at after providing for depreciation in accordance with the provisions of Sec.123 or out of the profits of the company for any previous financial year or years arrived at after providing for depreciation in accordance with those provisions and remaining undistributed or out of both or out of moneys provided by the central government or state government for the payment of dividend in pursuance of a guarantee given by that government.

The other provisions of the Companies Act, which can be of interest to us are the provisions related to the maintenance of accounts, their audit and disclosure to shareholders. The Act requires all companies to prepare the annual financial statements (Statement of Profit and Loss and Balance Sheet) in the prescribed manner and format and get them audited by a Chartered Accountant. Further, a public company is required to present its audited financial statements to the shareholders for approval. These financial statements together with the Directors' Report, Auditors' Report and Annexure to the financial statements as prescribed by the Act constitute the annual report of the company. The annual reports of companies are available to the public for inspection at the office of the Registrar of Companies in each state.

Key Implications of Companies Act 2013

The Indian Companies Act, 2013 signifies a paradigm shift in India's corporate law landscape, and has far reaching implications.

¹² It is the act of purchasing of its own shares by a company

The significant changes that have been brought about by the 2013 Act are:

- **Constitution of the Board**

It is made mandatory that at least one director should be a resident in India for a minimum period of 182 days during the preceding calendar year. Moreover, all listed companies and certain other classes of companies as prescribed under delegated legislation would also need to have at least one woman director on their boards. All listed Indian companies and unlisted companies satisfying certain conditions are now required to have at least one third of their board comprising of “independent directors”.

- **Decision-Making Power of the Board**

Under the Indian Companies Act 1956, an ordinary resolution (requiring a simple majority of shareholders) was sufficient for decision-making. Under the 2013 Act, certain powers of the board of directors can now only be exercised subject to a special resolution (requiring a three-fourth majority of shareholders) being passed. These include decisions such as selling a part of the undertaking or borrowing money above certain specified limit.

- **Related Party Transactions**

Section 2 (76) of the Companies Act, 2013 defines a related party as any person or an entity that is related to the company. Parties can be related only if one party can exercise significant influence over the other party in making any financial decisions or has the ability to control the other party.

Section 188 of the Act provides various transactions, which cannot be entered into by any company with related parties without the prior consent of the Board of Directors given by a resolution. However, this section does not apply to any arm's length transactions conducted by the company. An arm's length transaction is conducted between two related parties in a way as if they are unrelated and without conflict of interest. Both are parties act on their own and there is no pressure from the other party.

- **Corporate Social Responsibility**

Any company that has a net worth of at least ₹ 5 billion or a turnover of at least ₹ 10 billion or a net profit of at least ₹ 50 million during any financial year must spend at least two percent of average net profits of its three immediately preceding financial years, on corporate social responsibility activities.

- **Inter-Corporate Loans**

The 2013 Act has imposed several onerous conditions on inter-corporate loans. Unanimous approval of all directors present at the board meeting is required. This will apply to private companies as well. The Act also prescribes detailed disclosure requirements for loans, investments, guarantees and securities.

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- **Insider Trading**

In terms of section 195 of the Companies Act, 2013, no person, including director or key managerial personnel of a company, is allowed to indulge in insider trading which includes the acts of subscribing, buying, selling or dealing in securities, or procuring or communicating non-public price sensitive information.

- **Mergers**

The 2013 Act significantly alters the manner in which mergers may be affected, with an objective of making them less time-consuming and providing more flexibility. In this context, the 2013 Act has introduced two concepts of mergers, i.e., “fast track mergers” and “cross border mergers”.

1.9.8 Tax Aspects

A company incorporated in India or having its entire management and control in India is considered a resident company and is taxed under the provisions of the Indian Income Tax Act, 1961 on its worldwide income. A non-resident corporation (foreign company) is taxed only on income derived in India from Indian operations, income that is deemed to arise in India and income that is received in India.

After computing income under different heads, brought forward losses are set-off according to the provisions contained in Sections 70 to 80 of the Indian Income Tax Act, 1961 resulting in gross total income. Deductions under Chapter VI-A (i.e., deductions under Section 80) are taken out of gross total income netting in total income. The Act contains the provisions for carry forward of losses of previous years of the company.

Minimum Alternate Tax (MAT)

Minimum Alternate Tax has been introduced with the objective of bringing the “zero-tax” companies into the tax net. Zero tax companies were basically those companies, which, in spite of having earned substantial book profits and paying dividends, do not pay tax due to the various concessions and incentives provided under the Income tax, Act. MAT is levied as per the provisions of Section 115JB of Income Tax Act, 1961. Minimum Alternate Tax is payable only if the tax payable on the income computed as per the other provisions of the Income Tax Act, 1961 (i.e., all provisions excluding Section 115JB that relates to minimum alternate tax) is less than 15 percent (plus surcharge and cess as applicable) of book profits. Minimum Alternate Tax is payable to both Indian and foreign companies from the assessment years commencing on or after 1 April 2001.

For a company, which is a unit of the International Financial Services Centre and deriving its income solely in convertible foreign exchange, the MAT is levied at 9% (plus surcharge and cess as applicable)¹³

¹³ <https://www.incometaxindia.gov.in/tutorials/10.mat-and-amt.pdf>

Alternate Minimum Tax (AMT)

Alternate Minimum Tax (AMT) is introduced as the extension of MAT for tax payers, other than companies. The provisions of MAT are applicable to a corporate taxpayer only. The provisions relating to AMT are applicable to non-corporate taxpayers in a modified pattern in the form of Alternate Minimum Tax, i.e., AMT. Thus, it can be said that MAT applies to companies and AMT applies to a person other than a company. The provisions relating to AMT are given in Sections 115JC to 115JF.

The provisions of AMT will apply to every non-corporate taxpayer who has claimed deductions as under

- (i) Deduction under section 80H to 80RRB (except 80P),
- (ii) Deduction under section 35AD and
- (iii) Deduction under section 10AA.

Thus, the provisions of AMT are not applicable to a non-corporate taxpayer who has not claimed any deduction under above discussed sections. The other provisions to be looked into are:

The provisions of AMT shall apply to an individual or a Hindu undivided family or an association of persons or a body of individuals (whether incorporated or not) or an artificial juridical person only if the adjusted total income (discussed later) of such person exceeds ₹ 20,00,000. (Section 115JEE)

The provisions of AMT shall apply to every other person (i.e., other than an individual or a HUF or an AOP/BOI or an artificial juridical person) irrespective of its income. Further the provisions of AMT are not applicable to a person who has exercised the concessional tax regime available under section 115BAC or section 11BAD.

Rate of AMT

In case of non-corporate taxpayer, AMT is levied @ 18.5% of adjusted total income (discussed later). Surcharge and cess as applicable will also be levied. However, AMT is levied @ 9% in case of a non-corporate assessee being a unit located in International Financial Services Centre and deriving its income solely in convertible foreign exchange. Surcharge and cess as applicable will also be levied.

With effect from the financial year 2020-21, dividend income is taxed in the hands of the investor/shareholders. As such, dividends will be taxed at normal tax rates as applicable except in case of:

A resident individual being an employee of an Indian company or subsidiary engaged in IT, entertainment, pharmaceutical or bio-technology industry, who

Block 1: Basics of Financial Management

receives dividend in respect of GDRs issued by such company under ESOP scheme. Under such a case, dividend will be taxed at 10% without any deduction under Income Tax Act.

Overview of Goods and Services Tax, 2017

¹⁴Considering the prevailing indirect tax system in India, both at Central and State level, the Goods and Service Tax (GST) had been perceived in the earlier years of 2004, by the Task Force on implementation of the Fiscal Responsibility and Budget Management Act, 2003 (Kelkar Committee). The Kelkar Committee opined that a uniform tax rate in the form of GST should be implemented which will comprehensively tax the consumption of almost all goods and services in the economy. This will achieve a common market, widen the tax base, improve the revenue productivity of domestic indirect taxes, and also enhance the welfare through efficient resource allocation. ¹⁵The Central Goods and Services Tax Act was finally passed on 12th April, 2017 and will replace all the existing indirect taxes such as central excise duty, commercial tax, value added tax, central sales tax, service tax etc. GST will be effective from July 1st, 2017. Under the GST, a taxable person is required to file details on tax returns on all sales electronically within the 10th day of every month in GSTR-1 succeeding the taxable month. At the same time, the person is supposed to file the details of all purchases in GSTR-2 by the 15th day and similarly by 20th day in GSTR-3 every month succeeding the taxable month. Finally, an annual return has to be filed up to 31st December in GSTR-8 of the next financial year. The GST law eliminates the cascading effect of Input Tax credit, thereby reducing the cost of goods as it levies only a single tax system.

GST is seen as a revolutionary step by many as it is proposed to usher in several benefits such as:

- Ease of doing business increases with one tax replacing the hitherto existing 17 indirect tax levies
- Revenue will increase as tax evasion is likely to drop
- Emergence of a uniform market replacing multiple fragmented markets across states that was pushing up costs
- Boost to capital goods investment with full input tax credit under GST
- Differential rate structure of 0%, 5%, 12%, 18% and 28% under GST ensures lower rates for essential goods and services.
- Greater transparency with simple online forms and lesser number of compliances

¹⁴ <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/tax/in-tax-gst-in-india-taking-stock-noexp.pdf>

¹⁵ <https://gstindia.net/topic/gst-vs-vat-simple-way-to-describe-the-differences/>

The example below highlights the need for regulation in Crypto industry.

Example: Why is Crypto Industry leaving India?

Taxing all virtual digital assets – including crypto assets at 30%, 1% TDS on transfers, no basic exemptions, no set-off on losses, no indexation benefits irrespective of the holding period, and taxation of gifts, have made India an unfavourable destination for the digital asset industry. This is forcing thousands of developers, investors, and entrepreneurs from the Indian virtual asset sector, including Web 3.0 and crypto entrepreneurs, to leave India for friendlier jurisdictions like the UAE, US, etc.

Source: <https://www.india-briefing.com/news/regulatory-ambiguity-high-tax-forcing-virtual-asset-sector-out-of-india-to-dubai-24812.html/> (Accessed on April 30, 2022)

Check Your Progress - 2

6. As per the industrial licensing provisions of the Industries (Development and Regulation) Act, 1951, under which schedule Atomic Energy is classified?
 - a. Schedule I
 - b. Schedule II
 - c. Schedule III
 - d. Schedule IV
 - e. Schedule I and III
7. Mr. Ram started a manufacturing unit for the production of jute products that he aims to export to Australia. The initial investment in the unit was ₹ 10 lakhs. The unit was set up in the backward areas of the state of West Bengal. Under which category can the unit be classified?
 - a. Micro Unit
 - b. Small Scale Unit
 - c. Medium Scale Unit
 - d. Large Scale Unit
 - e. Multi-National Corporation
8. Which of the following acts of legislation addresses the critical area of anti-competitive agreements?
 - a. Companies Act, 2013
 - b. Competition Act, 2002
 - c. Foreign Exchange Management Act, 2000
 - d. Industries (Development & Regulation) Act, 1951
 - e. Foreign Exchange Regulation Act, 1973

Block 1: Basics of Financial Management

9. What is the proportion of independent directors in the Board of Directors of a company as per Companies Act, 2013?
- Two thirds of the BOD
 - One half of the BOD
 - One third of the BOD
 - One quarter of the BOD
 - Not exceeding two directors
10. Which of the following is part of the initiative by the Government of India to enhance the Ease of Doing Business in India?
- Made in India
 - Disinvestment
 - Make in India
 - Privatization
 - Demonetization

Activity 1.2

1. India implemented radical economic reforms in 1991 with the aim of liberalization, privatization and globalization of the economy. The year 2016 marked the completion of 25 years of reforms. Make an analytical summary of the achievements and the shortcomings of the reforms initiated in 1991.

2. Make a comparative statement showing the changes in the Companies Act, 2013 with its predecessor the Companies Act, 1956.

3. The launch of Reliance Jio by Reliance Communications and its offer of free services until December 31, 2016 were viewed by its competitors as a case of predatory pricing, and were regarded as against the provisions of the Competition Act, 2002. Do you agree with the above statement? State the provisions of the Competition Act, 2002 in this regard.

1.10 Summary

- The financial goal of any firm, including public sector firms is to maximize the wealth of the shareholders by maximizing the value of the firm.
- The objective of the financial manager is to increase or maximize the wealth of owners by increasing the value of the firm, which is reflected in its earnings per share and market value of the firm.
- Functions of finance manager include mobilization of funds, deployment of fund, working capital management - a complexity of liquidity and profitability management utilization of company's profits after tax, control over the use of funds, and balancing the trade-off between risk and return.
- The advantages of sole proprietorship are (i) easy and inexpensive set up, (ii) few governmental regulations and (iii) no firm tax.
- Partnership firm is a business owned by two or more persons. They are partners in business and they bear the risks and reap the rewards of the business. A partnership firm is governed by the Indian Partnership Act, 1932. Hence, it is relatively free from governmental regulations as compared to the joint stock companies.
- A group of persons working towards a common objective is a company. It represents different kinds of associations, be it business or non-business.
- Corporate investment and financing decisions are circumscribed by a government regulatory framework. The important elements of this framework are: (i) Industrial policy (ii) Industrial licensing provisions and procedure (iii) Regulation of foreign collaborations and investment (iv) Foreign Exchange Management Act (v) Competition Act and (vi) Companies Act.
- The Foreign Exchange Management Act (FEMA) replaced the Foreign Exchange Regulation Act (FERA) with effect from June 1, 2000. The main objectives of FEMA are: (i) to facilitate external trade and payments, and (ii) to promote an orderly maintenance of the foreign exchange market in India.
- The objective of the Competition Act 2002 is to position the competition policy with pragmatic options, to promote the spirit of competition and harmonize the conflicts caused by the volatility of globalized markets. The Act provides for a regulatory framework of rules covering the critical areas of competition.
- The Companies Act, which has 657 sections attached with 15 schedules, is a very comprehensive legislation governing the functioning of companies.
- A company incorporated in India or having its entire management and control in India is considered a resident company and is taxed under the provisions of the Indian Income Tax Act, 1961.

Block 1: Basics of Financial Management

- Minimum Alternate Tax has been introduced with the objective of bringing the “zero-tax” companies into the tax net.
- Alternate Minimum Tax (AMT) is introduced as the extension of MAT for tax payers, other than companies. The provisions of MAT are applicable to a corporate taxpayer only. The provisions relating to AMT are applicable to non-corporate taxpayers in a modified pattern
- New taxes in the form of Prevention of Money Laundering Act, 2002, Benami Transactions (Prohibition) Amendment Act, 2016 and the Goods and Services Tax, 2017 have brought further changes in the regulatory environment of India.

1.11 Glossary

Anti-competitive Agreements are agreements made by an enterprise or association of enterprises or person or association of persons in respect of production, supply, distribution, storage, acquisition or control of goods or provision of services, which causes or is likely to cause an appreciable adverse effect on competition within India.

Competition Act, 2002 is framed to promote the spirit of competition and harmonize the conflicts caused by the volatility of globalized markets.

Foreign Investment is an investment in a foreign country, normally where the company being invested in is controlled by foreign shareholders. A British firm taking a majority stake in an Indian firm is an example of foreign investment.

Investment refers to deploying money in some return generating asset. The returns may be in the form of regular income or capital appreciation. Investment may be for a long period or for a short period, depending on the constraints and objectives of the investor.

Limited Liability is used in the context of joint stock companies. It means that the liability of the members towards the company's debt and obligations is limited to their initial investment or stake in the ownership. This safeguards the personal assets of the members from liquidation if the company becomes insolvent.

Minimum Alternate Tax: It is payable only if the tax payable on the income computed as per the other provisions of the Income Tax Act, 1961 (i.e., all provisions excluding Section 115JB that relates to minimum alternate tax) is less than 7.5 percent of book profits.

One Person Company: One Person Company (OPC) is the company introduced for the first time in the Companies Act, 2013. This is in addition to a private company and a public company under this Act. An OPC means a company having only one person as its member. [Section 2 (62) of the Companies Act, 2013]

Partnership: It is a business concern owned by two or more persons who are called partners. They bear the risks and reap the rewards of the business. It is governed by the provisions of the Partnership Act, 1932.

Private Company: As per Section 2 (68) of the Companies Act 2013 a private company means a company which has a minimum paid-up capital of one lakh rupees or such higher paid-up capital as may be prescribed, and by its articles restricts the right to transfer its shares, if any, except in the case of One Person Company (OPC), limits the number of its members to two hundred; and prohibits any invitation to the public to subscribe for any securities of the company.

Public Company: According to Sec 2 (71) of the Companies Act, 2013, a public company means a company which has a minimum paid-up capital of five lakh rupees or such higher paid-up capital as may be prescribed, is not a private company or is a private company which is a subsidiary of a company which is not a private company.

Registered Company: As per Section 2 (20) of the Companies Act, 2013 it refers to a company incorporated under this Act or under any previous company law.

Return is the gain or loss from an investment over a particular period. Returns may be in the form of income or capital appreciation. Generally, risk and return go hand-in-hand, i.e., more risk gives more return and low risk gives low return.

Risk: Risk includes both upside and downside potential, but we are mostly concerned with the downside one. It can be mathematically calculated by measuring the standard deviation of the historical returns or average returns on a particular investment.

Sole Proprietorship: This type of concern is owned by a single person who enjoys all the rewards and risks associated with the business.

Trade refers to the transactions of purchase and sale of tangibles. In general, it refers to trading of goods and services, whereas in the investment world, it refers to the trading of securities such as bonds or equity stocks.

1.12 Self-Assessment Test

1. Describe the objectives of financial management.
2. Discuss in detail the regulatory environment relevant to a finance manager.
3. Explain the interface between finance and other functions with the help of examples.
4. “Finance Manager plays diverse roles”. With reference to this statement, explain the functions performed by a finance manager.
5. State the salient features of Companies Act, 2013.
6. How is the classification of micro, small and medium enterprises done in India?
7. The Industrial Policy Resolution of 1956 and 1991 are considered as landmark regulations in the Indian economic landscape. Discuss the key features of these two policy statements.
8. What are the different forms of business organizations?

Block 1: Basics of Financial Management

1.13 Suggested Readings/Reference Material

1. Brealey Myers (2020). Principles of Corporate Finance, 13th edition, USA: McGraw-Hill Companies Inc.
2. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill.
3. I.M. Pandey (2021). Financial Management, 12th edition, New Delhi: Pearson Education.
4. Francis Cherunilam (2020). International Business — Text and Cases, 6th Edition, PHI Learning.
5. P.G. Apte (2020). International Financial Management, 8th Edition, McGraw Hill Education (India) Private Limited.
6. John Tennent (2018). The Economist Guide to Financial Management. Economist Books.

1.14 Answers to Check Your Progress Questions

1. (b) Increase the market value of the shares of the firm

The objective of a finance manager is to increase or maximize the wealth of the owners by increasing the value of the firm, which is reflected in its Earnings per Share (EPS)¹⁶ and the market price of its shares.

2. (e) Recording of transactions

Recording of transactions is the work of an accountant and not a finance manager. The finance manager is involved in the functions of mobilization of funds, deployment of funds, controlling the use of funds and risk-return tradeoff.

3. (d) Easy and inexpensive to set-up

The biggest advantage of a sole proprietorship is it is very easy and less costly to set up the business. All the other options represent the disadvantages.

4. (e) Minimum paid up capital ₹ 5 lakhs

According to Sec 2 (68) of the Companies Act, 2013, a private company means a company which has a minimum paid-up capital of one lakh rupees or such higher paid-up capital as may be prescribed, and by its articles –

- i. Restricts the right to transfer its shares, if any;
- ii. Except in the case of One Person Company (OPC), limits the number of its members to two hundred; and
- iii. Prohibits any invitation to the public to subscribe for any securities of the company.

¹⁶ Refer to the earnings of equity shareholders after all other obligations of the firm have been met.

5. (e) Political Environment

The political environment may affect the business, but not directly the finance manager's role in the business.

6. (a) Schedule I

Schedule I lists the industries to be reserved for manufacture of items exclusively in the public sector. This list includes arms and ammunition, defense aircraft and warships, atomic energy, coal and lignite, mineral oils, mining of iron ore, manganese etc.

7. (a) Micro Unit

Any manufacturing unit with an investment of less than ₹ 25 lakhs is designated as a micro unit, as per the definition of the MSMED Act, 2006.

8. (b) Competition Act, 2002

The Competition Act 2002 provides for a regulatory framework of rules covering the critical areas of competition namely:

- Anti-competitive agreements among enterprises
- Abuse of dominant position in the market
- Combinations/mergers between companies

9. (c) One third of the Board of Directors

According to the Companies Act 2013, all listed Indian companies and unlisted companies satisfying certain conditions are now required to have at least one third of their board comprising of “independent directors”.

10. (c) Make in India

As part of its Make in India initiative, the Indian Government in 2015 relaxed norms to enhance the ease of doing business in India by deregulations and other activities.

Unit 2

Indian Financial System

Structure

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Functions Performed by a Financial System
- 2.4 Financial Markets
- 2.5 Introduction to Capital Markets
- 2.6 Government Securities Market
- 2.7 International Capital Markets
- 2.8 Derivatives Market
- 2.9 Financial Institutions
- 2.10 Reserve Bank of India
- 2.11 Nature of Commercial Banks
- 2.12 Theory of Banking Operations
- 2.13 Financial Sector Reforms
- 2.14 Classification of Non-Banking Financial Companies
- 2.15 Summary
- 2.16 Glossary
- 2.17 Self-Assessment Test
- 2.18 Suggested Readings/Reference Material
- 2.19 Answers to Check Your Progress Questions

“It is not because of the benevolence of the baker that we eat fresh bread every morning but because of his desire to make money.”

— Raghuram G. Rajan

2.1 Introduction

Economic activities require the prevalence of a well-functioning financial system.

An important function of a finance manager is to help make better finance decisions. These decisions are not made in isolation but in the midst of a financial system that acts as a facilitator or sometimes may be a hindrance. Every finance manager thus needs to be aware of the financial system in which he/she is operating.

The financial system also helps determine both the cost and the volume of credit. The system can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Conversely, lowering the cost of credit can enhance all the above factors in the positive

direction. Thus, we find that a financial system has an impact on the basic existence of an economy and its citizens.

In the previous unit we were introduced to the basic financial decisions and the role of finance manager in such decision making. In this unit, we will learn about the financial system within which a finance manager operates.

2.2 Objectives

After reading through the unit, you should be able to:

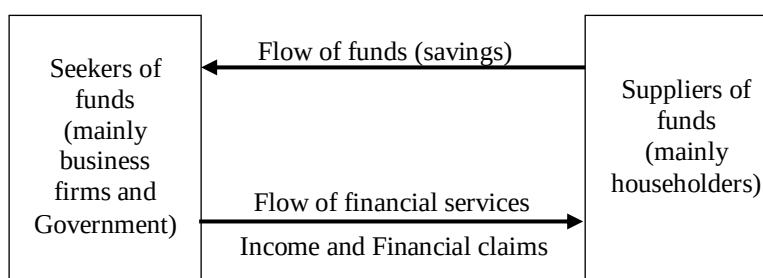
- Outline the components of a financial system that impact the decisions of finance managers
- Identify and categorize the different types of financial markets that are available for a finance manager for tapping financial resources
- Differentiate the various types of financial institutions based on their functions and objectives
- Describe the role played by commercial banks as an important financial intermediary in India
- Develop insight into the alternative financial institutions that provide funds for specific purposes

2.3 Functions Performed by a Financial System

The financial system is one of the most important inventions of the modern society. The phenomenon of imbalance in the distribution of capital or funds exists in every economic system. There are areas or people with surplus funds and there are those with a deficit. A financial system functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A financial system is a composition of various institutions, markets, regulations and laws, practices, money managers, analysts, transactions and claims and liabilities.

The following Figure 2.1 depicts a financial system. By making funds available, the financial system helps in the growth of modern economies and increase in the standard of living among its citizens.

Figure 2.1: The Financial System



Source: ICAFI Research Center

Block 1: Basics of Financial Management

The financial system helps determine both the cost and the volume of credit. The system can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Vice-versa, lowering the cost of credit can enhance all the above factors in the positive direction. Thus, we find that a financial system has an impact on the basic existence of an economy and its citizens.

The functions performed by a financial system are:

2.3.1 Savings Function

As already stated, public savings find their way into the hands of those in production through the financial system. Financial claims are issued in the money and capital markets which promise future income flows. The funds with the producers result in production of better goods and services, thereby increasing society's living standards. When the savings flow declines, however, the growth of investment and living standard begins to fall.

2.3.2 Liquidity Function

Money in the form of deposits offers the least risk, of all financial instruments. But its value is most eroded by inflation. That is why one always prefers to store the funds in financial instruments like stocks, bonds, debentures, etc. The compromise one makes in such investments is that (i) the risk involved is more, and (ii) the degree of liquidity, i.e., conversion of the claims into money is less. The financial markets provide the investor with the opportunity to liquidate the investments.

2.3.3 Payment Function

The financial system offers a very convenient mode of payment for goods and services. The cheque system, credit cards, debit cards, internet banking, etc. are the easiest methods of payments. The cost and time of transactions are drastically reduced. In India, the cheque system of payment was widely practised. However, the credit card and debit card system has been a part of urban India and is widely used to pay for consumption expenditure. The usage of plastic money is also catching up in towns and villages with the demonetization scheme implemented in November 2016.

Example: Unified Payments Interface (UPI)

Unified Payments Interface (UPI) is an instant real-time payment system developed by NPCI (National Payments Corporation of India) facilitating inter-bank and person-to-merchant transactions. UPI powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood.

Contd....

Though the pilot launch of UPI happened on 11th April, 2016, banks have started to upload their UPI enabled Apps on the Google Playstore from 25th August, 2016. The success of UPI was so phenomenal that Google suggested to the US Federal Reserve Board the development of FedNow, a real-time payment system for the United States. As of February 2022, there are 304 banks available on UPI with a monthly volume of 4.52 billion transactions and a value of ₹ 8.26 lakh crore.

Sources: 1. [https://www.npci.org.in/what-we-do/upi/product-overview#:~:text=Unified%20Payments%20Interface%20\(UPI\)%20is,merchant%20payments%20into%20one%20hood.](https://www.npci.org.in/what-we-do/upi/product-overview#:~:text=Unified%20Payments%20Interface%20(UPI)%20is,merchant%20payments%20into%20one%20hood.) (Accessed on May 4, 2022)

2. https://en.wikipedia.org/wiki/Unified_Payments_Interface Accessed on May 4, 2022.

2.3.4 Risk Function

The financial markets provide protection against life, health and income risks. These are accomplished through the sale of life and health insurance, property insurance and other non-life insurance policies. The financial markets provide immense opportunities for the investor to hedge himself against or reduce the possible risks involved in various investments.

2.3.5 Policy Function

India is a mixed economy. The government intervenes in the financial system to influence macro-economic variables like interest rates or inflation. To control higher inflation, the government through the Central Bank, changes the bank rates, repo rates and CRR.

Modern day economies require huge sums of money for investment in capital assets (land, equipment, factory, etc.), which are then used for providing goods and services. The funds required are so huge that it is not possible for a single government/firm to provide them. By selling financial claims like stocks, bonds, etc., the required funds can be quickly raised from a variety of investors. The business firm/government issuing such a financial claim then hopes to return the borrowed funds from expected future inflows. Indeed, we see that the financial markets within the financial system have made possible the exchange of current income for future income and transformation of savings into investments, so that production and income grow.

Example: RBI's Policy Function

The Reserve Bank on February 5, 2021, decided to restore the Cash Reserve Ratio (CRR) in a phased manner to 4% in light of improved liquidity conditions in the market. Here, the RBI played the role of a policy function.

Source: ICFAI Research Center

The government intervenes in the financial system to influence macro-economic variables like interest rates or inflation. To control higher inflation, the government through the Central Bank, changes the bank rates, repo rates, and CRR. All these are a part of the Policy function by the government in a financial system.

2.4 Financial Markets

Financial markets are an integral component of the financial system and are crucial for bringing together the suppliers and the borrowers of funds. They provide an instant market for the various financial instruments. Hence, understanding how a financial market works is essential to any finance manager.

A financial market can be defined as the market in which financial assets are created or transferred. Financial assets represent a claim to the payment of a sum of money sometime in the future and/or periodic payment in the form of interest or dividend. Financial markets are sometimes classified as primary and secondary markets. But, more often financial markets are classified as money markets and capital markets. The distinction between the two markets is based on the differences in the period of maturity of the financial assets issued in these markets. Money market deals with all transactions in short-term instruments (with a period of maturity of one year or less like treasury bills, bills of exchange, etc.), whereas capital market deals with transactions related to long-term instruments (with a period of maturity of above one year like corporate debentures, government bonds, etc.), and stock (equity and preference shares).

2.4.1 Money Market

One of the important functions of a well-developed money market is to channel savings into short-term productive investments. Call money markets, treasury bills market and markets for commercial paper and certificate of deposits are some of the examples of a Money Market.

Call Money Market

The call money market forms a part of the national money market, where day-to-day surplus funds, mostly of banks, are traded. The call money loans are of very short-term in nature and the maturity period of these loans vary from 1 to 15 days. The money that is lent for one day in this market is known as 'call money', and if it exceeds one day (but less than 15 days), it is referred as 'notice money'. In this market, any amount could be lent or borrowed at a convenient interest rate which is acceptable to both the borrower and lender. These loans are considered as highly liquid, as they are repayable on demand at the option of either the lender or borrower.

Purpose

Call money is borrowed from the market to meet various requirements of commercial bill market and banks.

The commercial bill market borrows call money for short periods to discount commercial bills. Banks borrow in call market to:

- Fill the temporary gaps, or mismatches that arise, as the banks normally lend out the deposits they mobilize.

- Meet the Cash Reserve Ratio (CRR) requirements which they should maintain with RBI.
- Meet sudden demand for funds, which may arise due to large payments and remittances.

Banks usually borrow from the market to avoid the penal interest rate which is imposed on them for not meeting CRR requirements and high cost of refinance from RBI. Call money essentially serves the purpose of equilibrating the short-term liquidity position of banks.

Example: Cash Reserve Ratio (CRR)

As a one-time measure to help banks tide over the disruption caused by COVID-19, RBI decided to reduce the cash reserve ratio (CRR) of all banks by 100 basis points to 3.0 per cent releasing primary liquidity of about ₹ 1,37,000 crore uniformly across the banking system. In Feb 2021, RBI decided to scale back CRR back to 4 per cent in two phases. Effective March 27, it was raised to 3.5% from 3%, and from May 22, the CRR was normalised back to 4%.

Sources: 1. https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=49582 (Accessed on May 4, 2022)

2. https://www.business-standard.com/article/finance/rbi-keeps-rates-unchanged-invites-retail-investors-directly-to-gilt-mkt-121020500375_1.html (Accessed on May 4, 2022)

Location

In India, call money markets are mainly located in commercial centers and big industrial centers such as Mumbai, Kolkata, Chennai, Delhi and Ahmedabad. Mumbai and Kolkata form significant portion in trading. Due to the location of the biggest stock exchange, head offices of RBI and many other banks, Mumbai plays a predominant role as far as volume of funds is concerned. The Indian call money market has been transformed into a pure inter-bank market in 2006–07.

Participants

The participants in the call money market consist of scheduled commercial banks (excluding RRBs), co-operative banks (other than land development banks) and primary dealers who participate both as lenders and borrowers. Development financial institutions such as SIDBI, NABARD, insurance companies such as LIC, GIC, and select mutual funds such as SBI mutual fund, LIC mutual fund etc., can also participate.

Participants in this market are split into two categories. The first comprises those who can both borrow and lend in this market, intermediaries like SBI DFHI Limited and STCI Finance Limited and commercial banks. The second category comprises only lenders, like financial institutions and mutual funds (who cannot borrow from this market).

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Call Rates

The interest paid on call loan is known as the call rates. Unlike in the case of other short-term and long-term rates, the call rate is expected to freely reflect the day-to-day availability of funds. These rates vary highly from day-to-day, often from hour to hour. While high rates indicate a tightness of liquidity in the financial system, low rates indicate an easy liquidity position in the market. The rate is largely subjected to be influenced by the forces of supply and demand for funds.

The call money rates had fluctuated from time to time reflecting the seasonal variations in fund requirements till recently. Call rates climb high during busy seasons in relation to those in slack seasons. These seasonal variations were high due to a limited number of lenders and many borrowers. The entry of financial institutions and money market mutual funds into the call market has reduced the demand supply gap and these fluctuations gradually have come down in recent years.

Though the seasonal fluctuations were reduced to considerable extent, there are still wide variations in the call rates.

The extreme volatility of the call rate can be attributed to the following factors such as:

- a. Large borrowings by banks to meet the CRR requirements on certain dates cause a great demand for call rates. These rates usually go up during the first week to meet CRR requirements and subside in the second week once the CRR requirements are met.
- b. The overextension of loans by banks, in excess of their own resources make the banks depend on the call market. They use the call market as a source of funds for meeting structural disequilibria in their sources and uses of funds.
- c. The withdrawal of funds to meet business requirements by institutional lenders and to pay advance tax by the corporate sector lead to steep increase in call money rates in the market.
- d. The banks invest funds in Government securities, units of UTI, public sector bonds in order to maximize the earnings from their funds management. But with no buyers in the market, these instruments tend to become illiquid which accentuates the liquidity crises in the call market, pushing up the call rates significantly high. Thus, liquidity crisis or illiquidity in the money markets also contributes to the volatility in the market.

Treasury Bills

This is dealt with in detail in the next sub-heading ‘Government Securities Market’ under 2.6.3.

Commercial Paper and Certificate of Deposits

Commercial Papers (CPs) and Certificate of Deposits (CDs) are money market instruments launched in early nineties, and the market for these instruments is still emerging and gaining popularity.

Commercial Paper (CP)

Based on the recommendations of Working Group on Money Markets, the RBI introduced Commercial Paper (CP) in 1990 enabling highly rated corporate borrowers, to diversify their sources of short-term borrowings and to provide an additional instrument to investors.

Definition

Commercial Paper (CP) is an unsecured usance money market instrument issued in the form of a promissory note at a discount, and is transferable by endorsement and delivery and is of fixed maturity.

Subscribers

CP may be issued to and held by individuals, banking companies, other corporate bodies registered or incorporated in India and unincorporated bodies, non-resident Indians (NRIs) and Foreign Institutional Investors (FIIs). However, investment by FIIs would be within the limits set for their investments by Securities and Exchange Board of India (SEBI). When NRIs subscribe to CP issue, the conditions regarding non-repatriability and non-endorsability are indicated on the CP.

Salient Features

- The CP market has the advantage of giving highly rated corporate borrowers cheaper funds than they could obtain from the banks while still providing institutional investors with higher interest earnings than they could obtain from the banking system.
- CDs can be issued by Corporates, Primary Dealers (PDs), and the all-India Financial Institutions (FIs) that have been permitted to raise short-term resources under the umbrella limit fixed by Reserve Bank of India are eligible to issue CP.
- CP will be issued at a discount to face value as may be determined by the issuer and no issuer shall have the issue of CP underwritten or co-accepted. CP are issued in denominations of ₹ 5 lakh or multiples thereof. A single investor should not invest not less than ₹ 5 lakh of face value.
- All eligible participants have to obtain the credit rating from either the Credit Rating Information Services of India Ltd. (CRISIL) or the Investment Information and Credit Rating Agency of India Ltd. (ICRA) or the Credit Analysis and Research Ltd. (CARE) or the FITCH Ratings India Pvt. Ltd., or any such other credit rating agencies as may be specified by the Reserve Bank of India for issuance of Commercial Paper. The minimum credit rating should be A3¹⁷ as per the rating symbol and definition prescribed by Securities and

¹⁷ A3 Rating - Instruments with this rating are considered to have moderate degree of safety regarding timely payment of financial obligations. Such instruments carry higher credit risk as compared to instruments rated in the two higher categories.

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Exchange Board of India (SEBI). The issuers shall ensure at the time of issuance of CP that the rating obtained is current and has not fallen due for review.

- A corporate would be eligible to issue CP provided the:
 - i. Tangible net worth of the company is not less than ₹ 4 crore as per the latest audited balance sheet.
 - ii. Company has been sanctioned working capital limit by bank/s or all-India financial institution(s); and
 - iii. Borrowed account of the company is classified as a standard asset by the financing bank(s)/institutions.
- Financial institution can issue CP within the overall umbrella limit fixed by the RBI, i.e., issue of CP together with other instruments, viz., term money borrowings, term deposits, certificates of deposit and inter-corporate deposits should not exceed 100 percent of its net owned funds, as per the latest audited balance sheet.
- The total amount of CP to be issued should be raised within a period of two weeks from the date on which the issuer opens the issue for subscription. The amount of CP to be issued should be raised on a single date or in parts on different dates. In case of issuing in parts on different dates, each CP so issued will have the same maturity date.
- Every issuer must appoint an Issuing and Paying Agent (IPA) for issuance of CP and only scheduled bank can act as an IPA for issuance of CP. On maturity of CP, the holder of CP shall present the instrument for payment to the issuer through the IPA. However, when CP is held in demat form, the holder of CP will have to get it redeemed through the depository and receive payment from the IPA. IPA monitor defaults in redemption of CP. Scheduled banks which act as IPA have to report to RBI in case of such occurrence giving full particulars of default of repayment of CPs.
- Both issuers and subscribers to issue/hold CP in dematerialized or physical form, with effect from June 2001. Hence, Banks, FIs and PDs are required to issue and hold CP in dematerialized form only. With effect from July 2005 CP can also be issued in dematerialized form through any of the depositories approved by and registered with SEBI. No issuer shall have the issue of CP underwritten or co-accepted.

Issue Expenses

Issue of commercial paper is subject to payment for stamp duty. The stamp duty on a primary issue of CP is 0.25 percent for all other investors, with a concession rate of 0.05 percent for banks. Secondary market transactions do not attract any stamp duty. All the expenses related to the issue of CPs are borne by the issuers.

Taxation

For the Corporate: The discount is treated as an interest expense, deductible for tax purpose.

For the Investor: Profit/Loss on sale of Investment: Income is taxed under the head “Profits and Losses from Business and Profession”. Losses are allowed as business losses for banks and investment companies. For corporates that invest in other company CPs, this would amount to other income/interest income.

In order to improve the secondary debt market conditions in the country, RBI has permitted the Primary Dealers (PDs) to raise funds for their operations by issuing CPs. This may in turn enable the PDs to access greater volumes of funds which would enhance the level of activity in the money market.

Certificates of Deposits (CD)

Certificates of Deposits (CDs) were introduced in India in 1989 based on the Vaghul Committee recommendations. The introduction of CDs further widened the money market instruments giving the investor a greater flexibility to deploy short-term surplus funds. Certificates of Deposits are lowest risk category investment option and stands next to T-bills.

Definition

Certificate of Deposits (CD) are negotiable money market instruments which are either issued in a dematerialized form or as a usance promissory note against funds deposited at a bank or other eligible financial institution for a specified time period. CD are issued at a discount to the face value, the discount rate being negotiated between the issuer and the investor.

Scheduled commercial banks, select all India financial institutions are permitted by RBI to issue CDs for raising short-term resources. Regional Rural Banks (RRBs) and Local Area Banks (LABs) are excluded from issuing CDs. While banks have freedom to issue CDs depending on their requirement, FIs are allowed to issue CDs within the overall umbrella limit as fixed by the RBI from time to time. As per the RBI guidelines the issued CDs together with other instruments like term money, term deposits, commercial papers and inter-corporate deposits should not exceed 100 percent of its Net Owned Fund (NOF). The NOF is considered as per the latest audited balance sheet.

The minimum amount of a CD an investor can subscribe should not be less than ₹ 1 lakh and should be multiple of ₹ 1 lakh thereafter. CDs can be issued to individuals, corporations, companies, trust, funds, etc. NRIs can also subscribe to CDs, but on non-repatriable basis, which should be clearly stated on the certificate and cannot be endorsed to another NRI in the secondary market.

CDs may be issued at a discount on face value with the issuing bank/FI having the freedom to determine the discount/coupon rate. Banks/FIs are also allowed to issue CDs on floating rate basis.

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The maturity period of CD issued by banks should not be less than 7 days and not more than one year. The FIs can issue for a period not less than 1 year and not more than three years from the date of issue.

CDs are issued only in the dematerialized form. However, according to the Depositories Act, 1996, investors have the option to seek certificate in physical form. If investor insists on physical certificate, the issuer should approach to RBI. The issuance of CDs will attract stamp duty. Physical CDs are freely transferable by endorsement and delivery while dematted CDs are transferred as other demat securities. There is no lock-in period for the CDs.

2.4.2 Money Market Mutual Funds (MMMFs)

The benefits of developments in the various instruments in the money market like call money loans, treasury bills, commercial papers and certificate of deposits were available only to the few institutional participants in the market. The main reason for this was that huge amounts were required to be invested in these instruments, which was beyond the means of individual investors. MMMFs were set up to make available the benefits of investing in money markets to small investors.

MMMFs are mutual funds that invest primarily in money market instruments of very high quality and of very short maturities. MMMFs can be set up by commercial banks, SBI and public financial institutions either directly or through their existing mutual fund subsidiaries. The guidelines with respect to mobilization of funds by MMMFs provide that only individuals are allowed to invest in such funds.

Earlier these funds were regulated by the RBI. But RBI withdrew its guidelines, with effect from March 7, 2000 and now they are governed by SEBI.

The schemes offered by MMMFs can either be open-ended or close-ended. In case of open-ended schemes, the units are available for purchase on a continuous basis and the MMMF would be willing to repurchase the units. A close-ended scheme is available for subscription for a limited period and is redeemed at maturity.

2.5 Introduction to Capital Markets

The capital market provides the resources needed by medium and large-scale industries for investment purposes while the money market provides resources for working capital needs. As such while money market deals in short-term sources of funds, (maturity period of which is less than 1 year) capital market deals in long-term sources of funds (with more than 1 year maturity).

Thus, the capital market functions as an institutional mechanism to channel long-term funds from those who save, to those who need them for productive purposes.

It serves as a medium to bring together entrepreneurs, initiating activity involving huge financial resources and savers, individuals or institutions, seeking outlets for investment.

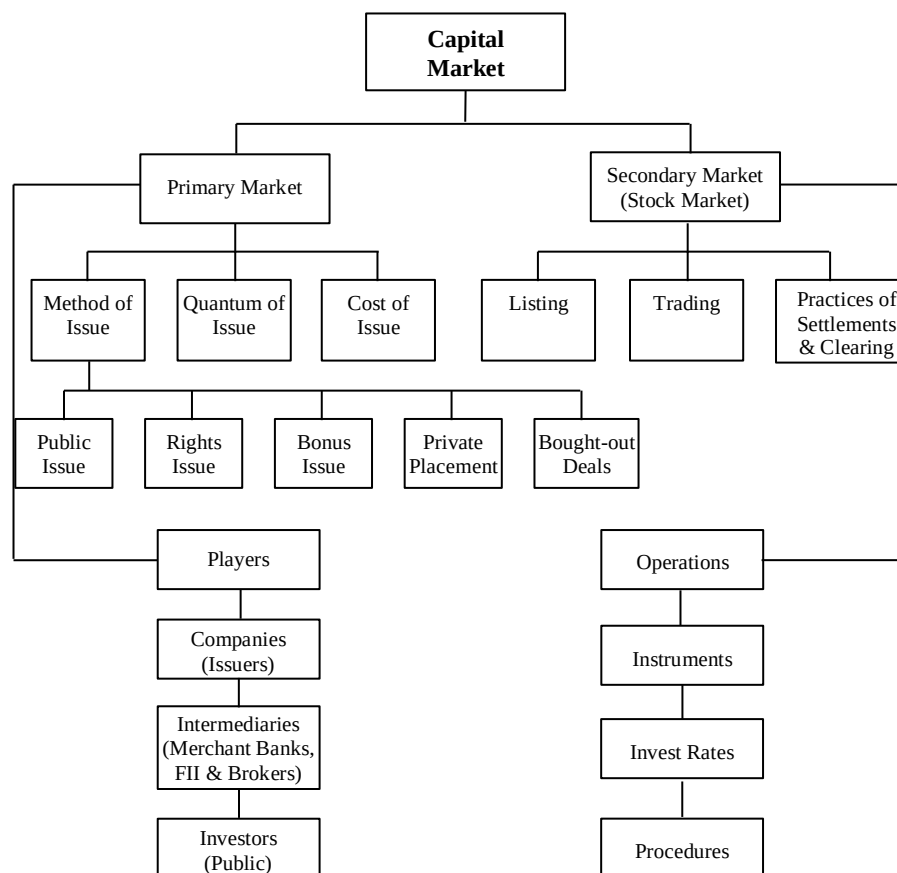
2.5.1 Structure of the Capital Market

The structure of the capital market is shown below:

The capital market consists of the primary markets and the secondary markets and there is a close link between them. The primary market creates long-term instruments through which corporate entities borrow from the capital market. But secondary market is the one which provides liquidity and marketability to these instruments. These markets interact. If the secondary market is active and buoyant it enables the corporate entities to enter the new issue market or the primary market and raise funds. The depth of the secondary market depends upon the activities of the primary market because it is only when more corporate entities enter into the market and raise funds through the market that more instruments are available in the secondary market for the purpose of improved activities in this market.

Figure 2.2 presents the structure of the capital market.

Figure 2.2: Structure of Capital Market



Source: ICAI Research Center

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2.5.2 Primary Market

To meet the financial requirements of their projects, companies raise capital through issue of securities (shares and debentures) in the primary market.

Capital issues of the companies were controlled by the Capital Issue Control Act, 1947. Pricing of the issues was determined by the Controller of Capital Issues (CCI). The main purpose of control on capital issue was to prevent the diversion of investible resources to non-essential projects. Though the necessity of retaining some sort of control on issue of capital to meet the above purpose still exists, the CCI was abolished in 1992 as the practice of Government control over capital issues as well as overpricing of issues has lost its relevance in the changed circumstances.

Example: LIC's IPO	
LIC launches India's largest IPO in May 2022, whose details are as under:	
Open for Subscription	May 4 (Wednesday) to May 9 (Monday)
Price Range	₹ 902-949 per equity share
Issue Size	₹ 20,557 crore
Nature	Offer For Sale (OFS) by the government of India
Lot Size	15 shares and in multiples thereof
Allotment Date	May 12 th
Listing on the Bourses	May 17 th

Source: <https://economictimes.indiatimes.com/markets/ipos/fpos/lic-ipo-10-key-things-you-must-know-about-indias-largest-issue/articleshow/91141581.cms> (Accessed on May 4, 2022)

SEBI

The CCI Controls on Issue of Capital by the companies have been substituted by the transparent and simplified guidelines issued by the Securities Exchange Board of India under the SEBI Act, 1992.

Functions and Powers of SEBI

The ever expanding investors population led to a horde of malpractices on the part of the companies, brokers, merchant bankers, investment consultants and various other agencies involved in new issues. This led to an erosion of investor confidence and multiplied their grievances. The government and the stock exchanges were helpless because the existing legal framework was just not

enough. Realizing this, SEBI was constituted by the government in April 1988, and given legal status in 1992, as a supervisory body to regulate and promote the securities market to:

- Promote fair dealings by the issuers of securities and ensure a market place where funds can be raised at a relatively low cost
- Provide a degree of protection to the investors and safeguard their rights and interests so that there is a steady flow of savings into the market
- Regulate and develop a code of conduct and fair practices by intermediaries in the capital market like brokers and merchant banks to make them competitive and professional

To carry out its functions, SEBI has been given various powers which were previously vested with the Central government. These include:

- Power to call for periodical returns from stock exchanges. Subject to the fulfillment of certain criteria
- Power to call upon the stock exchange or any member of the exchange to furnish relevant information
- Power to appoint any person to make inquiries into the affairs of the stock exchange
- Power to amend bye-laws of stock exchange
- Power to compel a public company to list its shares in any stock exchange

Guidelines as per SEBI and Companies Act, 2013

SEBI has issued elaborate guidelines on matters relating to public issues, rights issues, bonus issues, issue of debentures, underwriting, private placement, pricing of issues, etc. These guidelines virtually effect all activities relating to capital issues. Under the new guidelines, no prior approval of SEBI is required by the companies for raising capital through public issues, rights issues, in the capital market, subject to the fulfilment of certain criteria.

A company, while raising its capital through issues in the capital market must give due regard to the guidelines and clarifications issued by SEBI and the provisions of the Companies Act, 2013.

As far as the Companies Act, 2013 is concerned, capital issued by a company should comply with the provisions relating to prospectus, allotment, issue of shares at premium/discount, further issue of capital, etc.

As per the Companies Act, all application forms for shares or debentures should be accompanied by a memorandum containing salient features of a prospectus like general information of the company, terms and particulars of the issue, company's management, risk factors as perceived by the management, etc., which

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may possibly have a bearing on the assessment of the soundness of the proposition of the company in connection with which the public issue is offered.

Under the SEBI guidelines, companies are allowed to issue capital provided the issues are in conformity with the published guidelines relating to disclosure and other matters relating to investors' protection.

2.5.3 Types of Issue¹⁸

A company can raise its capital through issue of shares and debentures by means of

- Public issue
- Rights issue
- Bonus issue
- Private placement and
- Bought-out deals

Public Issue

Public issue is the most popular method of raising capital and involves raising of funds direct from the public.

Rights Issue

Rights issue is the method of raising additional finance from existing members by offering securities (shares and debentures) to them on pro rata basis.

A company proposing to issue securities on rights basis should send a 'letter of offer' to the share-holders giving adequate disclosure as to how the additional amount received by the issue is used by the company.

Bonus Issue

Some companies distribute profits to existing share-holders by way of fully paid bonus shares in lieu of dividend. Bonus shares are issued in the ratio of existing shares held. The share-holders do not have to make any additional payment for these shares.

Private Placement

Private Placement Market (PPM) financing is the direct sale by a public limited company or private limited company, of private as well as public sector, of its securities (shares and debentures) to a limited number of sophisticated investors like UTI, LIC, GIC, State Finance Corporations and Pension and Insurance Funds. The intermediaries are credit rating agencies and trustees (example, ICICI) and financial advisors such as merchant bankers.

¹⁸ The various types of shares and debentures have been discussed in detail in the lesson on Sources of Long-Term Finance

Private companies that do not wish to disclose information to the public seek this type of market. Public limited companies too small to finance public issue, as it is costly due to various statutory and non-statutory expenses, can resort to this type of market. And the maximum time-frame required for private placement market is only 2 to 3 months. Private placement can be made out of promoter's quota but it cannot be made with unrelated investors. The exhibit below gives examples of private placement done by Indian companies.

Bought-Out Deals

A small project costing around ₹ 5-6 crore finds it costly to go in for a public issue which would eat up 20% of project funds. Bought-out Deals come to the rescue of the promoters of such a project.

What exactly is a Bought-out Deal (BOD)? In its simplest form, a company initially places its equity shares, which are to be offered to the public at a later date, to a sponsor/merchant banker, who in turn offloads the shares at the appropriate time. In a direct offer, the merchant banker (or sponsor) is a conduit through whom a company routes shares to the public whereas in a BOD, the sponsor is also an intermediate investor who buys stakes in the company, and disinvests in favor of the public at an appropriate time.

Bought-out deals are known as Angels in UK. They were introduced in India in 1992.

Advantages

The advantages of bought-out deals can be discussed as follows:

- Promoters are assured of immediate funds.
- Companies can avoid the time-consuming and costly public issue.
- Easier to convince a wholesale investor rather than the general public about the merits of a project.
- Cheapest and quickest source of finance for small to medium-sized companies.

Disadvantage

Bought deals may face the limitation of misuse of power by the sponsor.

Employee Stock Option Plans (ESOPs)

Employee Stock Option Plan (ESOP) is an employee benefit plan by which a company allows its employees to purchase shares of the company. It is a scheme that enables the employees of a company to become its shareholders. The provisions relating to issue of ESOPs are common for all the unlisted companies irrespective of their status being Private or Public; Rule 12 (1) read with Section 2(37), 197(7) of the Companies Act, 2013 defines the term to mean any permanent employee or Director whether a whole-time or not and whether working in India or not.

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It provides options to the employees to buy the stocks at a rate below the prevailing market value of the stock. ESOPs serve as a motivational tool for the employees. This allows the companies offering ESOPs to retain their employees who have vested with the interest of their companies and provides them with a sense of ownership. ESOP plans offered by the companies, act as an incentive for the long-term commitment by the employees to the company. These can be exercised at a future date.

ESOPs were introduced in early 90s when Indian IT companies started using ESOPs as an incentive plan for its senior management. ESOPs were significantly used in the IT companies because in Indian IT industry, employees were the most important assets. 43% of the IT companies have given ESOPs to more than 90% of the employees. Only 17% of the Non-IT companies have given ESOPs, out of which 75% of them were given to the senior and middle management employees, as it was dependent based on the preference of the employees.

Structure

The issue of Employee Stock Options is governed by the provisions of Section 62 (1)(b) of the Companies Act, 2013, read with Rule 12 of Companies (Share Capital & Debenture) Rules, 2014¹⁹, and SEBI (Employee Stock Option Scheme & Employee Stock Purchase Scheme) Guidelines, 1999. These guidelines were amended in the year 2013 that provides regulatory framework for all kinds of employee benefit schemes involving securities of the companies to address the concerns raised with reference to the composition of employee welfare trusts, disclosures etc., and necessary provisions for secondary market transactions with adequate safeguards. The proposal was accepted in the Board meeting of SEBI held in June 2014, and accordingly new ESOPs Regulation was amended on 28th October, 2014.

²⁰As per Section 54 of Companies Act 2013, the companies issuing sweat equity shares (given by Company to its employees or director) should comply with the following requirements:

- i. A special resolution must be passed in the general meeting to authorize the issue of shares.
- ii. The quantum of issue shall not exceed more than 15% of existing paid-up equity share capital in a year or issue of share value of ₹ 5 crore whichever is less. Further issuance of these shares shall not exceed 25% of the paid-up capital of a company at any time.

¹⁹ http://www.sebi.gov.in/legal/rules/apr-2014/companies-share-capital-and-debentures-rules-2014_34656.html

²⁰ http://corporatelawreporter.com/companies_act/section-54-of-companies-act-2013-issue-of-sweat-equity-shares/

- iii. The issued shares are valued at a fair price as determined by the registered valuer with justification. A copy of such valuation is sent to the shareholders along with the notice of the general meeting and the consideration of these shares can be either in cash or non-cash basis.
- iv. In respect of sweat equity shares issued during an accounting period, the accounting value of the shares shall be treated as a form of compensation to the employee or the director in the financial statements of the company, subject to the following conditions:
 - **Register of sweat equity shares** - The company has to maintain a register of Sweat Equity Shares in Form No. 4.3 and has to record the particulars of the shares issued under Sec. 54;
 - At least 1 year should have elapsed since the commencement date of the business as on the date of issue of the sweat equity shares;
 - **Lock In** – The shares issued shall be subject to a lock-in period of 3 years and this fact needs to be stated boldly in the share certificates.

²¹**Tax Implications**

When an employee exercises the option of buying shares, the difference between the market value of the shares and the exercise value of the share becomes taxable, according to the tax bracket the employee falls under. However, the sales consideration on ESOPs are treated as mains and are levied taxes in the corresponding year in which such sales were made. When an employee sells the shares within one year of acquisition, it is considered as short-term capital gain and 15% tax is levied against the capital gains. If the employee sells the shares after one year, they are considered as long-term assets and are non-taxable. If an employee has ESOPs in a company based abroad and when such shares are sold, it will be considered as short-term capital gains and will be added to the income of the employee. The employee will be taxed according to the tax bracket as prescribed under the Income Tax Act 1961.

2.5.4 Secondary Market

The secondary market is that segment of the capital market where the outstanding securities (securities already issued) are traded. From the investors' point of view the secondary market imparts liquidity to the long-term securities held by them by providing an auction market for these securities.

The secondary market operates through the medium of stock exchanges which regulates the trading activities in this market and ensures a measure of safety and fair dealing to the investors.

²¹ <http://www.ey.com/in/en/newsroom/news-releases/published-editorial---tax-implication-of-employee-benefits-things-to-remember>

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India has a long tradition of trading in securities going back to nearly 200 years. The first Indian stock exchange established at Mumbai in 1875 is the oldest exchange in Asia. The main objective was to protect the character, status and interests of the native share and stock brokers.

Persons at Stock Exchange

The stock exchange is an auction market in shares and other securities. It is mainly characterized by a bull and a bear. A bull is the buyer in the market. He always takes an optimistic view of the market.

A bear on the other hand is the seller. He is basically a pessimist and always considers that the things have reached its peak. He believes in selling at the sight of minimum of profits. He sometimes sells even without owning the shares. This manoeuvre is referred to as a short sale.

Types of Orders

The orders can be classified into:

- *Limit Orders*: Order limited by a fixed price. It may or may not include brokerage.
- *Best Rate Order*: To execute the buy/sell order at the best possible price.
- *Immediate or Cancel Order*: Order shall get cancelled if not executed immediately at the quoted price.
- *Limited Discretionary Order*: To provide discretion to the broker to execute order at a price which is almost approximate to the price fixed by client?
- *Stop Loss Order*: A particular limit is given for sustenance of loss. If the price falls below that, the broker is authorized to sell immediately to stop further occurrence of losses.
- *Open Order*: When client does not fix any time or price limit for execution of order.

Execution of Order

Order is normally executed on any of the trading days. After the setting up of electronic trading, the orders are executed by the quotes available on the screen.

National Stock Exchange

The National Stock Exchange is India's latest bourse, which is fully computerised. Thus, it is not confined to scattered pockets and has a national reach through satellite linkage.

Like the BSE only members conduct transactions but professionals who do not have a stake in the system run it.

The idea of forming NSE was conceived by the late M J Pherwani who was then the Chairman of National Housing Bank.

The trading on NSE commenced with debt instruments from June 30, 1994.

The NSE launched its equity market segment on the 3rd of November, 1994. The trade was for 100 shares of Reliance. On this day during the three-hour session 1,498 trades were executed in 200 securities with value being put at ₹ 9 crore.

The main objectives of the NSE are to provide speedy transactions, fast settlements and to benefit the small investor who often finds it difficult to sell shares at BSE.

Trading System

Trading on all stock exchanges was being carried out by “public outcry” in the trading ring. This was an inefficient system and also resulted in lack of transparency in trade. The Over The Counter Exchange of India (OTCEI) was the first exchange to introduce screen-based trading in India. Listing on OTCEI was restricted to small and midcap companies. Screen-based trading received a big boost with the setting up of the National Stock Exchange. NSE provided nation-wide access to investors by setting up trading terminals all over the country. These terminals were networked through satellite links.

Ever since the decade of eighties, there has been an unprecedented growth of the stock markets. The present stock exchanges have a much wider role to play wherein protection of the investors’ interests becomes the paramount concern.

The stock market in India is regulated by the Central Government under the Securities Contracts (Regulation) Act, 1956 and the Securities Contracts (Regulation) Amendment Act, 2007. Under this Act, the Government has the powers to supervise and control the stock exchanges and also keep a check on the governing body and supersede it if any irregularities are found to have been committed.²² It is an act to prevent undesirable transactions in securities by regulating the business of dealing therein, and by providing for certain other matters connected therewith.

The stock market is a pivotal institution in the financial system. A well-ordered stock market performs several economic functions like translating short-term and medium-term investments into long-term funds for companies, directing the flow of capital in the most profitable channels, etc.

To give a boost to stock market the government had announced certain favorable policy measures like

- i. Establishing SEBI.
- ii. Taking steps to encourage foreign investment in securities market.
- iii. Starting electronic linkage of 5 large stock exchanges.
- iv. Giving recognition to more stock exchanges.
- v. Allowing investments by Foreign Institutional Investors (FIIs).

²² https://www.sebi.gov.in/legal/acts/apr-2021/securities-contracts-regulation-act-1956-as-amended-by-the-finance-act-2021-13-of-2021-w-e-f-april-1-2021-_49750.html

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Until the entry of the FIIs, the domestic financial institutions were the major players in the market along with some wealthy individuals and investment institutions (mutual funds). Though small investors also participated in the market very actively until the scam, they have deserted the market since then. The FIIs, with their vast resources, are now among the biggest players in the market and the government has been taking measures from time to time to encourage them to bring in foreign capital. This helps to perk up the secondary market. The FIIs, however, are subject to certain regulations made by the SEBI and also some other statutes:

- FIIs would be required to obtain an initial registration with SEBI before investment. Along with the application to SEBI, FIIs would also be required to file an application addressed to RBI for obtaining various permissions under the FEMA 1999.
- Foreign Institutional Investors (FIIs), Non-Resident Indians (NRIs), and Persons of Indian Origin (PIOs) are allowed to invest in the primary and secondary capital markets in India through the portfolio investment scheme (PIS). Under this scheme, FIIs/NRIs can acquire shares/debentures of Indian companies through the stock exchanges in India.
- The ceiling for overall investment for FIIs is 24 per cent of the paid-up capital of the Indian company and 10 per cent for NRIs/PIOs in 2017. The limit is 20 per cent of the paid-up capital in the case of public sector banks, including the State Bank of India.
- The ceiling of 24 per cent for FII investment in 2017 can be raised up to sectoral cap/statutory ceiling, subject to the approval of the board and the general body of the company passing a special resolution to that effect.
- SEBI shall take into account the track record of the FII, its other criteria that are relevant for granting registration.
- There is no restriction on the amount of investment and no lock-in period.
- They are required to allocate their total investment in the ratio of ²³70:30 between equities and debentures.
- FIIs cannot engage in short sales.
- Short-term capital gains arising out of transfer of securities are taxed at 15%, and interest and dividend at²⁴.
- Disinvestment should be through stock exchanges in India, through a custodian (approved by SEBI).

²³ <https://www.rbi.org.in/fiilist/index.html>

²⁴ <https://www.incometaxindia.gov.in/tutorials/tax%20treatment%20of%20dividend%20received.pdf>

The fully automated trading system enabled market participants to login orders, execute deals and receive online market information. The competition from NSE forced the regional stock exchanges including BSE to switch over to screen-based trading. The NSE trading system is order driven while the OTCEI system is quote driven. In an order driven environment, the system captures all the orders and matches them with each other to execute the transaction. A quote driven system is based on the market making concept (dealer giving two way quotes) and the order logged in is matched against the best quote given by the market maker. BSE Online Trading (BOLT) is a mixture of both quote driven and order driven system as the system permits both jobbing and direct matching of orders.

Depositories

One of the major drawbacks of Indian capital market was that securities were held in the form of certificates. This led to problems in physical storage and transfer of securities. There was also the risk of bad delivery for the buyer. The transaction costs were also higher due to physical movement of paper and the incidence of stamp duty. National Securities Depository Ltd. (NSDL), was set up in 1996 as India's first depository. The second depository in the country, CDSL promoted by the BSE and a few commercial banks, was granted certificate of commencement of business in February 1999. A depository is an entity, which holds the securities in electronic form on behalf of the investor. This is done through dematerialization of holdings at the request of the investor. Dematerialization is a process by which physical certificates of the investor are destroyed and an equivalent number of securities are credited to his account. This also enables transfer of securities by book entries. The risk of bad deliveries is also eliminated. The transaction costs are also reduced due to less flow of paper and transfer of securities through depository does not attract stamp duty. Further, the depository also handles all the corporate actions like exercising for rights, collection of dividends, credit for bonus, exercising of warrants, conversion option, etc., on behalf of the investor. SEBI has made it mandatory for institutional.

Clearing Mechanism

The clearing houses attached to the stock exchanges functioned only as conduits to delivery of securities and money. The default risk by the counter-party in the transaction continued to remain. The NSE was the first stock exchange to set up a clearing corporation. The National Securities Clearing Corporation (NSCC) assumes the counter-party risk in all trading deals made on the exchange.

NSCC acts as the counter-party for all the trades and the default risk in the deal is borne by it. NSE has created a special Trade Guarantee Fund for this purpose and loss due to default will be met from its corpus.

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Carry Forward System

Earlier, the Indian Stock Exchanges had been an amalgam of cash market and forward market. The prices of the scrips on the exchange did not reflect their 'true' price in the underlying cash market. Further, there was indiscriminate and rampant speculation in the market. Defaults were common and other members were forced to "accommodate" the defaulting member. Often, the defaults had a snowballing effect and the entire market would be in the throes of a major payment crisis. This frequently resulted in the closure of the exchanges for a few days. In order to curb the prevailing malpractices, SEBI banned carry forward transactions on all stock exchanges in 1993. Later, based on the recommendation of the committee chaired by G S Patel, which worked out the modalities to re-introduce the system, a modified carry forward system was introduced. The badla procedure was also streamlined. Again the system of carry forward of positions was banned from July 2, 2001. In order to give the market adequate time to orderly unwind the positions, the board recommended a transitional mechanism. As per the mechanism, all outstanding deferred positions in the current settlement shall be compulsorily liquidated by September 3. The board also approved introduction of options on individual scrips from July 2. Introduction of other derivative products to introduce the rolling settlement in the additional 251 scrips from July 2 was reiterated, thereby bringing the total number of scrips to 441. Further, it was decided that all scrips listed on all the stock exchanges should be traded only under rolling settlement mode, with effect from January 2, 2002, and no scrip shall be traded on weekly settlement basis.

Settlement System at present Indian Stock Exchanges are working on T+2 rolling settlement system. Under T + 2 rolling settlement system all trades executed on a day are netted and only net obligation are to be settled by way of delivery or payment. In case of sale of shares, the seller is required to give the delivery by 1.30 p.m., on T + 1 day to the depository participant. The DPs execute pay-in instruction by 10.30 a.m. on T+2. The depository transfers the securities to the clearing house/exchange/clearing corporation by 11 a.m. on T + 2 day. The clearing house/exchange/clearing corporation execute the pay-out of securities and funds latest by 1.30 p.m. on T+2 to the depositories and clearing banks and the depositories and the clearing banks in turn complete the process by 2.30 p.m. on T + 2.

The Settlement Procedure at NSE

The NSE has a computerized trading mechanism. The mechanism is hooked nation-wide via satellite to increase the scope and depth of the market.

The automated environment moreover, ensures that all the orders floating in the system whether they are best buy or best sell quotes are available on the system.

Each trading member of NSE has a computer located in his office wherever that may be in India. The computer is connected to the central computer system at NSE, by a satellite link using VSAT (Very Small Aperture Terminals). During the trading time, the member can go on entering the buy or sell orders with the best price and the time-frame within which he wants his orders to be executed.

The computer will bear the various orders and within 30 seconds the transaction is executed, and the unmatched orders are stored in the memory and executed when they are matched. Thus the role of jobbers is eliminated.

The trading time on NSE is from 9.15 a.m. to 3.30 p.m.

NSE trading system allows flexibility while placing an order, allowing brokers to place limits on price or on the order or even on the time-frame. The trading member can break large lots into smaller lots or cancel the outstanding orders in one go.

The computer sorts out orders on the basis of price-time priority i.e., sorts out orders as and when they are received in terms of the price of each security and the time entered.

Protection of Identity of Investor

Till the transaction is executed, the identity of brokers is not disclosed. As the participants' identity is protected, the trading member can even enter high volume transaction.

Settlements

The settlement for debt is to take place via a book entry transfer in a depository. The book entry transfer system is to operate similar to a bank passbook. The accounts would be maintained against each member, detailing securities held in the members' name.

The Central Depository

In the Central Depository, the funds and securities position would be debited/credited through electronic book entry transfers which are expected to speed up payments. Each member is to have a passbook account in the depository where the securities deposited in the members' name is recorded, by electronic book entry transfer.

At the end of each day's transaction, the computer generates a report of matched transactions and the net positions of each trading member.

Activity 2.1

1. Visit the RBI website and gather information on the call money market rates. What do they indicate?

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- | |
|--|
| 2. A Limited, having a paid-up capital of ₹ 776 crore, projected an additional capital requirement of ₹ 100 crore for the expansion of its business in the targeted market. Elucidate the different options that are available for the company to raise its share capital through issue of shares. |
| |
| |

2.6 Government Securities Market

Government securities provide a less risky and safe investment option for any finance manager who wants to park the funds for a short term period while earning an assured return on such funds.

A government security is a tradable instrument issued by the central government or the state governments. Such securities, called treasury bills, are short term with original maturities of less than one year. The long-term government bonds or dated securities have original maturity of one year or more. In India, the central government issues both treasury bills and bonds or dated securities.

2.6.1 Types of Government Securities

The term government securities encompasses all bonds and treasury bills issued by the central government, state governments, and other entities like corporations, municipal authorities and companies wholly owned by the government for the purpose of raising funds from the public. These securities are usually referred to as 'gilt-edged' securities as repayments of principal as well as interest are totally secured, being the first charge on the nation's purse. Hence, the central government securities are considered as safest claims.

Dated Securities

The government securities have been issued with maturities ranging from 3 to 31 years since independence. In early '90s the average maturity period was shortened to 10 years by RBI. They can be classified into three categories depending upon their maturities viz., long-dated, medium-dated and short-dated. Long-dated securities have maturities exceeding 10 years from the issue date, medium-dated securities have maturities ranging from 5 to 10 years and short-dated securities are those which mature within 5 years.

Depending upon the issuing body, such securities could be bifurcated into five types viz.,

- Central government securities.
- State government securities.
- Securities guaranteed by central government for All India Financial Institutions like IFCI, etc.
- Securities guaranteed by state government for state institutions like state electricity boards and housing boards.
- Treasury bills issued by RBI.

Government securities could be held in three forms viz.,

- i. Stock Certificates
- ii. Promissory Notes
- iii. Bearer Bonds

Stock Certificates

When public debt is issued in the form of stock, the owner gets a certificate specifying that he is a registered holder in the book of the Public Debt Office (PDO). The certificate indicates the interest rate, interest due dates and face value of the stock. A stock certificate is not transferable by endorsement. Transfer can take place only by means of a transfer deed upon the execution of which the transferee's name is substituted in the place of the transferor in the books of the PDO. Such transfer deed requires no stamp duty. A stock certificate is thus completely secure against loss by fire, theft, etc. and the title of the holder is not exposed to the risks which are attached to holdings in negotiable securities. Interest payments are through interest warrants issued by the PDO to the domicile of the holder or a specified local office of the RBI or any branch of the agent bank conducting government securities business in India. Repayments of principal is also carried out in a similar fashion. Stocks could also be held in the form of a ledger account opened by the PDO in the name of the holder in the subsidiary ledger. Such a facility is restricted by PDO to banks, institutions and mutual funds whose total holding justify opening of such an account.

Promissory Notes

Promissory Notes contain a promise by the President of India, or the Governor of the State for payment to the holder the consideration along with interest. These are negotiable instruments payable to the order of specified persons and transferable by endorsement made in the boxes printed on the reverse of the notes.

Bearer Bonds

Bearer bonds certify the bearer for entitlement to the specified sum along with interest payable by interest warrants attached along with the bonds. Such bonds are transferable by mere physical delivery.

Others

Normally in the money market, government securities are held in the form of stock certificates. Besides these principal forms of government securities, there are other types of securities which are floated by the government from time to time. They are:

- i. Treasury Bills
- ii. National Defence /National Savings/National Deposit Certificates
- iii. Deposit Certificates

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- iv. Annuity Certificates
- v. Annuity Deposit Certificates
- vi. Zamindari Abolition Compensation Bonds and Rehabilitation Grant Bonds
- vii. Social Security Certificates
- viii. Capital Investment Certificates.

2.6.2 Market for Government Securities

The market for government securities comprises:

Primary Market

Reserve Bank of India is given the task of managing the public debt in the economy. It therefore regulates the issues by various issuing bodies since all of them have to tap the same market. It considers aspects such as –

Quantum of Issue

The Government of India declares its quantum of borrowing in its budget statement. They are issued by the RBI on behalf of GOI to finance the government deficit and public sector development programs.

Timing of Issue

Auctions are usually timed during periods of high liquidity to raise the maximum amount at the best price. The budgeted amount of issues in a given year are raised through a number of tranches that year to avoid flooding of securities in the market at one time. The timing factor takes into account issues such as prevention of issues during food procurement operations and the need of the issuing bodies for their programs. RBI takes care to see that the issue gets fully subscribed failing which it has to take the unsubscribed portion in its own account.

Terms of Issue

The terms of issue involve aspects such as coupon and maturity terms and normally the issues adhere to the long-term yield curve drawn by RBI for all government securities.

Procedure of Issue

These securities are issued through the Public Debt Office (PDO) of the RBI. These securities are normally issued through a treasury auction. The participants' bid mentions the amount and the yield. The yield is quoted on a semi-annual basis. One participant can place multiple bids. The allotment is given to the bidders whose yield demands are less than or equal to the cut-off yield decided by the RBI. Partial allotments are made on a pro rata basis for bids at the cut-off or clearing yield. The clearing yield is the coupon rate for that issue. The bids at yields lower than the cut-off, are allotted at a premium to par. All the investors above the cut-off rate are allowed to withdraw money or told to take the issues.

Investors

The major categories of investors in primary markets for government securities are:

- i. Commercial banks
- ii. Financial Institutions (FIs)
- iii. Large corporate bodies
- iv. Reserve Bank of India
- v. Foreign Institutional Investors.

The commercial banks are compulsive investors in government securities due to Statutory Liquidity Ratio (SLR) maintenance with RBI. While nationalized banks prefer long-dated securities which normally have higher interest rates, the foreign banks prefer short-dated securities in order to minimize the depreciation in their investments.

The financial institutions and large corporate bodies prefer long-dated securities as they have large long-term surplus. This also helps them to match their long-term liabilities with such loan maturities. Government securities and bonds are preferred by them as they are totally risk-free.

The Reserve Bank of India is a major investor in government securities. Such investments are by default as RBI takes over the unsubscribed portion of any issue of government loan. It is in fact, a market maker of government securities. Such market making is carried out through RBI's open market operations and switch deals with the sole purpose of managing the issue of government borrowings and to facilitate the commercial banks to maintain their portfolio in such a way that they do not suffer any loss. These operations are discussed below under the section secondary market.

FII Investments in Government Securities

The FIIs have been permitted to invest in dated securities within the framework of guidelines on debt instruments for 100% debt funds, subject to an annual cap on such investment within the overall limit of external commercial borrowings.

- FIIs are allowed to invest in dated securities of all maturities of both central and state governments and in treasury bills both in primary and secondary markets.
- FIIs are allowed to set-up 100% debt funds.
- Interest earned on debt instruments is taxed at 20%.

FII Investments in Participatory Notes – SEBI Regulations

A Participatory Note also referred to as P-notes, is a financial instrument with Indian securities or shares as underlying assets. The underlying Indian security instrument may be equity, debt, derivatives or may even be an index. P-Notes are also referred to as Overseas Derivative Instruments, Equity Linked Notes, Capped

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Return Notes, and Participating Return Notes etc. The SEBI Regulations for Foreign Portfolio Investors (FPI) 2014 formally designated participatory notes as "Offshore Derivative Instrument" (ODIs) under Section 2(1) (j) of the said regulation. These notes are issued by brokers and FIIs registered with SEBI, against securities held by them that are listed or proposed to be listed on any recognized stock exchange in India. The investor in P-Notes does not own the underlying Indian security, which is held by the FII who issues them. They benefit from fluctuations in the price of the underlying security since the value of the P-Note is linked with the value of the underlying Indian security. The P-Note holder also does not enjoy any voting rights in relation to security or shares referenced by the P-Notes. Irrespective of the stringent rules on issuance of participatory notes, the FII were not compelled to disclose the complete transaction information of the beneficiary. This led to money laundering acts which was a major concern to capital market regulators in India. This had led SEBI to tighten P-Note norms under SEBI Regulations 1995 that got amended in the year 2004²⁵ subject to the compliance of "Know Your Client (KYC)" norms requiring much greater levels of transparency and disclosure. As a result, the share of P-Note in total foreign portfolio investments, which was as high as 51% in 2007, had come down to 6% by the year 2017.

In additions to these disclosure and compliance requirements, the NRIs or Resident Indians were not permitted to transact in ODIs after the issue of FPI Regulations in 2014²⁶. In addition to this, effective from April 1st, 2017, SEBI has proposed to levy a regulatory fee of USD 1000 on each FPI issuing ODIs. This levy of USD 1000 will be on each ODI subscriber who comes via an FPI. This has four key implications namely

- The cost of USD 1000 will prohibit most of the ODI subscribers for registration;
- Since most of the ODI subscribers have multiple ODI accounts through multiple FIIs, paying the levy for each account with each FPI would become difficult, which is to be paid once in three years;
- The levy encourages the ODI subscriber to directly invest by registering under the FPI route. This process has become much simpler after having classified the FPIs under three categories that was introduced in SEBI (FPI) Regulations 2014;
- Lastly, since the payment of USD 1000 will have to be done via banking channels, it establishes a clear audit trail covering the banking and the investment transaction making round tripping much more impossible and complicated.

²⁵ http://www.sebi.gov.in/media/press-releases/jan-2004/fii-investments-through-participatory-notes-pns_12344.html

²⁶ http://www.sebi.gov.in/legal/regulations/apr-2017/sebi-foreign-portfolio-investors-regulations-2014-last-amended-on-march-6-2017-_34690.html

Another restriction that SEBI proposed to introduce is to prohibit ODIs being issued against derivatives unless it is for hedging purposes. Under the new rules, if the FPI has taken positions in the derivative market purely for speculative purposes, then they cannot issue ODIs against that. This is critical because ODIs on derivatives account for nearly 1/4th of all ODIs issued by FPIs. The onus will be on the FPIs to ensure that when ODIs are issued against derivatives, they are only issued against positions that are marked for hedging and not those positions that are speculative in nature. Thus, this ensures that all ODI positions are either linked to equity or debt or a protective position underlying one of these positions.

Example: RBI Retail Direct (RBI-RD) Scheme

The 'RBI Retail Direct (RBI-RD) Scheme' facility was launched in Nov 2021. The main aim of the RBI-RD platform is to encourage retail investors to buy government securities. This scheme lets individual investors open an account with the Reserve Bank of India (RBI) through which they can invest in government securities. Government of India Treasury bills, Government of India dated securities, sovereign gold bonds (SGB) and state development loans (SDL) can be traded using this facility.

Source: <https://www.moneycontrol.com/news/business/personal-finance/rbi-opens-gilts-to-retail-investors-via-new-direct-platform-here-are-the-details-7710491.html> (Accessed on May 4, 2022)

Secondary Market

The secondary market in government securities was a few years back quite narrow and dominated by a few institutions and commercial banks. However, in early '90s the market has turned fairly active with various trading banks and some brokers quoting two-way prices which has imparted liquidity to this money market instrument.

The secondary market for securities is akin to the call market with major business being concentrated done in Mumbai. RBI approved brokers are permitted to transact business in securities with banks, institutions and RBI. Transactions are effected in spot as well as in futures for outright sale/purchase as well as for 'ready forwards'.

Settlement Procedure

- RBI acts as the depository and maintains Subsidiary General Ledger (SGL) account for various banks and financial institutions.
- If the investors do not have SGL account, then it needs to open a constituent account with any registered bank authorized by RBI for the purpose.
- Transfer is through book entry method in SGL account maintained at PDO.
- Brokerage is 0.01 percent but is negotiable i.e., it can be taken only from buyer, or seller or from both.

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Security deals are carried out on ex-interest basis as per the bye-laws of the various stock exchanges. This has also led to 'voucher trading' in the securities market. The amount of income tax deductible at source on the accrued interest income of government securities is popularly referred to as voucher. Thus, in a securities transaction, the seller is entitled to receive from the buyer, the quoted price plus interest accrued till date as reduced by the income tax deductible at source on such interest. Such amount deducted on a pro rata basis is retained by the buyer, on the grounds that interest received by him on the due date would be after deduction of income tax. The buyer receives the tax certificate in respect of tax deduction on the interest income which could be set-off against his tax liabilities. The seller on the other hand does not receive such tax benefit as he does not get any Tax Deducted at Source (TDS) certificate. Banks and institutions find it advantageous to purchase securities around interest dates to avail themselves of the voucher benefit and subsequently unload. The RBI, being fully exempt from tax, does not stand to lose as seller. Though voucher trading is not a desirable practice, it activates the securities market to a certain extent. The RBI is doing its best to curb voucher trading by fixing switch quotas for banks and brokers, suspending trading in a scrip before the interest due date, etc.

Investors

The major players in the secondary market are, the commercial banks, the financial institutions, the brokers and the RBI. The yields on government securities are low and this prevents many aggressive mutual funds, investors and private corporations to enter this market.

Yield

The investors investing in these securities gain two types of yields:

- Running yield or current yield: It is the return on investment (in the current year only) from the interest income and it is calculated as the ratio of the interest income to the purchase price of the security expressed as a percentage.
- YTM or redemption yield: It is calculated as the return on the investment from the discounted cash flows up to redemption.

The coupons are fixed and paid out semi-annually to the holder. The coupons offered on these securities were pre-determined by the Central Bank until 1993 and were kept lower than market interest rates in order to minimize the cost of servicing public debt. From April, 1993, the Reserve Bank has begun auctioning the securities competitively and since then the interest rates have been increasingly set at market determined levels.

2.6.3 Treasury Bills²⁷

Purpose

A Government security is a tradable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation. Such securities are short-term (usually called treasury bills, with original maturities of less than one year) or long-term (usually called Government bonds or dated securities with original maturity of one year or more). In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs). Government securities carry practically no risk of default and, hence, are called risk-free gilt-edged instruments. Government of India also issues savings instruments (Savings Bonds, National Saving Certificates (NSCs) etc.), or special securities (oil bonds, Food Corporation of India bonds, fertiliser bonds, power bonds, etc.). They are, usually not fully tradable and are, therefore, not eligible to be SLR securities.

Treasury bills are raised to meet the short-term funds required by the Government of India. As the Government's revenue collections are bunched and expenses are dispersed, these bills enable it to manage the cash position in a better way. T-bills also enable the RBI to perform Open Market Operations (OMO) which indirectly regulate money supply in the economy. Investors prefer Treasury bills because of high liquidity, assured returns, no default risk, no capital depreciation and eligibility for statutory requirements.

Form

T-bills are issued either in the form of a promissory note (or scrip) or credited to investors SGL account. For every class, a standardized format is used.

Size

The Treasury bills are issued for a minimum amount of ₹ 25,000 and in multiples of 25,000 thereof. T-bills are issued at a discount and are redeemed at par.

Primary Market in India

Treasury bills or T-bills, which are money market instruments, are short-term debt instruments issued by the Government of India. In India, till April 1992, T-bills of 182 days maturity were issued along with 91-day T-bills. These have since been phased out in favor of 364-day T-bills. In 1997, in order to enhance the depth of money market in India, the RBI decided to introduce 14-day and 28-day T-bills, along with 91-day, 182-day, 362-day T-bills.

The RBI in its annual monetary and credit policy for the year 2001, withdrew 14-day and 182-day T-bills from May 14, 2001. From April 6, 2005, 182-day

²⁷ Source: <https://rbi.org.in/SCRIPTS/FAQView.aspx?Id=79>

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Treasury bills were re-introduced. At present, the GOI (Government of India) issues three types of T-bills viz., 91-day, 182-day and 364-day. However, the government is mostly issuing either 91-day or 364-day treasury bills only in recent times. Treasury bills are zero coupon securities and pay no interest. They are issued at a discount and redeemed at the face value at maturity. For example, a 91-day treasury bill of ₹ 100 (face value) may be issued at say ₹ 98.20, that is, at a discount of say, ₹ 1.80 and would be redeemed at the face value of ₹ 100. The return to the investors is the difference between the maturity value or the face value (that is ₹ 100), and the issue price (for calculation of yield on treasury bills).

Types

Treasury bills (T-bills) offer short-term investment opportunities, generally up to one year. They are thus useful in managing short-term liquidity. At present, the Government of India issues three types of treasury bills through auctions, namely, 91-day, 182-day and 364-day. There are no treasury bills issued by state governments.

Amount

Treasury bills are available for a minimum amount of ₹ 25,000 and in multiples of ₹ 25,000. Treasury bills are issued at a discount and are redeemed at par. Treasury bills are also issued under the Market Stabilization Scheme (MSS).

Auctions

While 91-day T-bills are auctioned every week on Wednesdays, 182-day and 364-day T-bills are auctioned every alternate week on Wednesdays. The Reserve Bank of India issues a quarterly calendar of T-bill auctions which is available at the Banks' website. (URL:<http://www.rbi.org.in>). It also announces the exact dates of auction, the amount to be auctioned and payment dates by issuing press releases prior to every auction.

	Day of	Day of
Type of T-bills	Auction	Payment*
91-day	Wednesday	Following Friday
182-day	Wednesday of non-reporting week	Following Friday
364-day	Wednesday of reporting week	Following Friday

* If the day of payment falls on a holiday, the payment is made on the day after the holiday.

Payment

Payment by allottees at the auction is required to be made by debit to their/custodian's current account.

Participation

Provident funds can participate in all T-bill auctions either as competitive bidders or as non-competitive bidders. Participation as non-competitive bidders would mean that provident funds need not quote the price at which they desire to buy these bills. The Reserve Bank allots bids to the non-competitive bidders at the weighted average price of the competitive bids accepted in the auction. Allocations to non-competitive bidders are in addition to the amount notified for sale. In other words, provident funds do not face any uncertainty in purchasing the desired amount of T-bills from the auctions.

T-bills auctions are held on the Negotiated Dealing System (NDS), and the members electronically submit their bids on the system. Non-competitive bids are routed through the respective custodians or any bank or PD which is an NDS member.

$$= \frac{(100-98.05)}{98.05} \times \frac{365}{91} \times 100 = 7.97\%$$

Secondary Market

Clearing and settlement process in secondary market is as follows:

If a seller wants to sell or transfer the security, he has to issue an SGL (Subsidiary General Ledger) transfer form specifying the details of the transaction. The SGL transfer form is then lodged by purchasing the bank with the Public Accounts Department of RBI to credit its account by debiting the value of the securities to the seller's account. Usually, interbank trades are settled on the same business day, whereas trades with non-bank counterparties settle either on the same day or 1 business day after trade date.

T-Bill Yield Calculations

The bank calculates yield based on 365-day year. The formula for calculating the yield is as follows:

$$k = \frac{F-P}{P} \times \frac{365}{d}$$

Where, k = Treasury Bill Yield
 F = Face value
 P = Price of the treasury bill
 d = Maturity period in days

Illustration 2.1

The face value of the bid is ₹ 100, and the bid received by the RBI is ₹ 88.24 for a 364 day Treasury Bill. What is the yield on the treasury bill?

Solution

$$k = \frac{100-88.24}{88.24} \times \frac{365}{364} = 13.36\%$$

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Commercial paper, certificates of deposit, short-term debenture and inter corporate lending are alternatives to T-Bills. In spite of the lower returns, T-Bills constitute a viable investment opportunity due to their liquidity, eligibility for SLR, zero risk weightage for the purpose of capital adequacy and minimal requirement of back-office support.

2.6.4 Public Sector Undertakings (PSU) Bonds

PSU bonds are debt instruments issued by various public sector units such as Indian Railway Finance Corporation, Nuclear Power Corporation, Mahanagar Telephone Nigam, Coal India, Power Finance Corporation, etc. These bonds carry seven years maturity and are normally secured against fixed/floating charge on fixed assets, book debts, other current assets, etc. They are similar to non-convertible debentures issued by private sector companies in all respects.

The PSU bonds are normally of two types viz., taxable and tax-free. The tax-free bonds are proposed to be phased out and at present only the Indian Railway Finance Corporation and Housing and Urban Development Corporation are permitted to issue such bonds.

While UTI announces sale and repurchase rates for units, bonds are normally privately placed by the issuing corporation with various merchant bankers. The corporation invites bids from all merchant bankers who in turn will offload these bonds to the investors over a period of time.

Secondary Market

There is a fairly large market for PSU Bonds. These bonds are demanded by institutions like LIC, GIC, UTI for their core investments. Further, such investments come under their 'approved investments' and they have to perforce invest a fixed percentage of their investible surplus in such bonds. These bonds are also popular with high tax paying multinationals and foreign banks.

The bonds market is pretty similar to units market and has all the features of forward trading, two-way quotes, etc. The market lot for PSU bonds for the purpose of trading is a minimum of ₹ 5 crore.

Check Your Progress - 1

1. The vital role of any financial system is to facilitate the flow of funds from the areas of surplus to the areas of deficit. Which of the following is not a feature of a financial system?
 - a. Functions as an intermediary
 - b. Helps to determine the cost and volume of credit
 - c. Increasing cost of funds gives a positive impact on the growth of economy
 - d. Decreasing cost of funds enhances the growth of economy
 - e. Funds flow between seekers to suppliers

2. Which of the following finance function enables the investor to hedge or reduce the threat involved in various investments?
 - a. Savings
 - b. Liquidity
 - c. Payment
 - d. Risk
 - e. Policy
 3. Which of the following types of markets that deals with only transactions relating to short term instruments?
 - a. Credit Market
 - b. Forex Market
 - c. Money Market
 - d. Financial Market
 - e. Capital Market
 4. Which is the financial instrument that has a holding period of not less than 7 days nor more than one year having a minimum subscription of ₹ 1 lakh and should be in multiples of 1 lakh thereafter?
 - a. Commercial Paper
 - b. Certificate of Deposit
 - c. Call Money
 - d. Notice Money
 - e. Treasury Bills
 5. Identify the type of investor who is allowed to set-up 100% debt funds under government securities in primary market within the framework guidelines on debt instruments.
 - a. Commercial Banks
 - b. Large Corporate Bodies
 - c. Financial institutions
 - d. Reserve Bank of India
 - e. Foreign Institutional Investors
-

2.7 International Capital Markets

With globalization of businesses, businesses are keen to tap the international markets for securing funds. A finance manager thus needs to know how these international markets operate and the instruments that are traded in these markets. This subsection provides an overview of the origin, the participants and the instruments in these markets.

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2.7.1 Origin

The genesis of the present international markets can be traced back to 1960s, when there was a real demand for high quality dollar-denominated bonds from wealthy Europeans (and others) who wished to hold their assets outside their home countries or in currencies other than their own. These investors were driven by the twin concerns of avoiding taxes in their home country and protecting themselves against the falling value of domestic currencies. The bonds which were then available for investment were subjected to withholding tax. Further, it was also necessary to register the ownership of the bonds. Dollar denominated Euro-bonds were designed to address these concerns. These were issued in bearer forms. So, there was no record of ownership and no tax was withheld.

Also, until 1970, the International Capital Market focused on debt financing and the equity finances were raised by the corporate entities primarily in the domestic markets. This was due to the restrictions on cross-border equity investments prevailing until then in many countries. Investors too preferred to invest in domestic equity issues due to perceived risks implied in foreign equity issues either related to foreign currency exposure or related to apprehensions of restrictions on such investments by the regulators.

Major changes have occurred since the '70s which have witnessed expanding and fluctuating trade volumes and patterns with various blocks experiencing extremes in fortunes in their exports/imports. This was the period which saw the removal of exchange controls by countries like the UK, France and Japan which gave a further boost to financial market operations. In addition to this, the application of new technology to financial services, the institutionalization of savings and the deregulation of markets have played an important role in channelizing the funds from surplus units to deficit units across the globe. The international capital markets also became a major source of external finance for nations with low internal savings. The markets were classified into Euro Markets, American Markets and Other Foreign Markets.

2.7.2 The Players

The participants in international markets function as both suppliers and borrowers of funds. Borrowers/Issuers, Lenders/Investors and Intermediaries are the major players of the international markets.

The role of these players is discussed below.

Borrowers/Issuers

These primarily are corporates, banks, financial institutions, government and quasi-government bodies and supranational organizations, which need forex funds for various reasons. The important reasons for corporate borrowings are, need for foreign currencies for operation in markets abroad, dull/saturated domestic market and expansion of operations into other countries.

Governments borrow in the global financial market to adjust the balance of payments mismatches, to gain net capital investments abroad and to keep a sufficient inventory of foreign currency reserves for contingencies like supporting the domestic currency against speculative pressures.

Lenders/Investors

In case of Euro-loans, the lenders are mainly banks who possess inherent confidence in the credibility of the borrowing corporate or any other entity mentioned above. In case of a Global Depository Receipt (GDR), it is the institutional investors and high net worth individuals (referred as Belgian Dentists), who subscribe to the equity of the corporates. For an American Depository Receipt (ADR), it is the institutional investor or the individual investor through the Qualified Institutional Buyer who puts in the money in the instrument depending on the statutory status attributed to the ADR as per the statutory requirements of the land.

Intermediaries

The intermediaries consist of:

Lead Managers

They undertake due diligence and preparation of offer circular, marketing the issues and arrange for road shows.

Underwriters

Underwriters of the issue bear interest rates/market risks moving against them before they place bonds or Depository Receipts. Usually, the lead managers and co-managers act as underwriters for the issue.

Custodian

On behalf of DRs, the custodian holds the underlying shares, and collects rupee dividends on the underlying shares and repatriates the same to the depository in US dollars/foreign equity.

Apart from the above, Agents and Trustees, Listing Agents and Depository Banks also play a role in issuing the securities.

2.7.3 The Instruments

The early eighties witnessed liberalization of many domestic economies and globalization of the same. Issuers from developing countries, where issue of dollar/foreign currency denominated equity shares were not permitted, could access international equity markets through the issue of an intermediate instrument called 'Depository Receipt'.

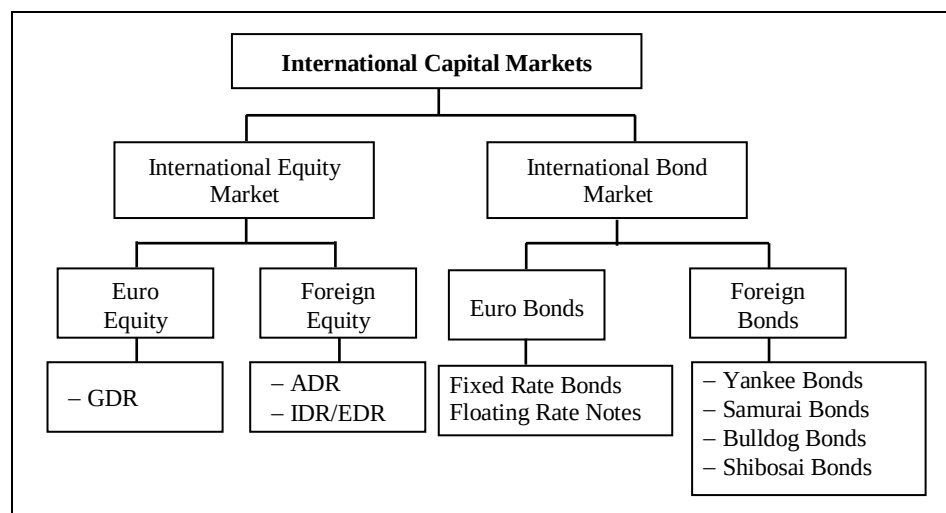
A Depository Receipt (DR) is a negotiable certificate issued by a depository bank which represents the beneficial interest in shares issued by a company. These

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shares are deposited with the local ‘custodian’ appointed by the depository, which issues receipts against the deposit of shares.

The various instruments used to raise funds abroad include: equity, straight debt or hybrid instruments. The following Figure 2.4 shows the classification of international capital markets based on instruments used and market(s) accessed.

Figure 2.4: Classification of International Capital Markets



Source: ICFAI Research Center

Equity Instruments

The International Equity Market deals with two types of equity instruments – the euro equity instruments and the foreign equity instruments. While Global Depository Receipts (GDRs) are a popular form of euro equity instruments, the foreign equity instruments largely comprise of American Depository Receipts (ADRs).

Global Depository Receipts (GDRs)

GDR stands for Global Depository Receipts.

A GDR is a negotiable instrument which represents publicly traded local-currency-equity share. GDR is any instrument in the form of a depository receipt or certificate created by the Overseas Depository Bank outside India and issued to non-resident investors against the issue of ordinary shares or foreign currency convertible bonds of the issuing company. Usually, a typical GDR is denominated in US dollars whereas the underlying shares would be denominated in the local currency of the Issuer. GDRs may be – at the request of the investor – converted into equity shares by cancellation of GDRs through the intermediation of the depository and the sale of underlying shares in the domestic market through the local custodian.

GDRs, *per se*, are considered as common equity of the issuing company and are entitled to dividends and voting rights since the date of its issuance. The company

effectively transacts with only one entity – the Overseas Depository – for all the transactions. The voting rights of the shares are exercised by the Depository as per the understanding between the issuing company and the GDR holders.

American Depositary Receipts (ADRs)

ADR is a dollar denominated negotiable certificate, it represents a non-US company's publicly traded equity. It was devised in the late 1920s to help Americans invest in overseas securities and to assist non-US companies wishing to have their stock traded in the American Markets. ADRs are divided into 3 levels based on the regulation and privilege of each company's issue.

- i. **ADR Level-I:** It is often the first step for an issuer into the US public equity market. The issuer can enlarge the market for existing shares and thus diversify the investor base. In this instrument only minimum disclosure is required to the SEC and the issuer need not comply with the US GAAP (Generally Accepted Accounting Principles). This type of instrument is traded in the US OTC market.

The issuer is not allowed to raise fresh capital or list on any one of the national stock exchanges.

- ii. **ADR Level-II:** Through this level of ADR, the company can enlarge the investor base for existing shares to a greater extent. However, significant disclosures have to be made to the SEC. The company is allowed to list on the American Stock Exchange (AMEX) or New York Stock Exchange (NYSE) which implies that the company must meet the listing requirements of the particular exchange.

- iii. **ADR Level-III:** This level of ADR is used for raising fresh capital through public offering in the US capital markets. The company has to be registered with the SEC and comply with the listing requirements of AMEX/NYSE while following the US-GAAP.

Example: List of 5 ADR Issues

The following are the particulars of 5 ADRs as of 2nd May, 2022.

Company Name	Exchange	LTP (US\$)	Volumes	Chg. (US\$)	Chg. %
Dr Reddy's Laboratories Ltd.	NYSE	53.68	277,390	-0.02	-0.04
MakeMyTrip India Pvt. Ltd.	Nasdaq-NM	25.47	221,038	-0.2	-0.78
Tata Motors Ltd.	NYSE	28.21	489,099	-0.24	-0.84
HDFC Bank Ltd.	NYSE	55.21	1,129,450	-1.05	-0.87
ICICI Bank Ltd.	NYSE	19.04	13,255,940	-0.48	-2.46

For the full list of ADRs you may refer to: <https://www.indiaonline.com/markets/depository-receipt/gdr-adr-idr> (Accessed on May 3, 2022)

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Debt Instruments

The International bond market is classified into the euro bond market and the foreign bond market. The instruments in the euro bond market comprise of fixed rate bonds and floating rate bonds while there are various types of foreign bonds such as yankee bonds, shibosai bonds etc. Masala bonds are Indian rupee denominated bonds that are gaining popularity in the international bond market.

Euro bonds

The process of lending money by investing in bonds originated during the 19th century when the merchant bankers began their operations in the international markets. Issuance of Eurobonds became easier with no exchange controls and no government restrictions on the transfer of funds in international markets.

All Eurobonds, through their features can appeal to any class of issuer or investor. The characteristics which make them unique and flexible are:

- a. No withholding of taxes of any kind on interest payments
- b. They are in bearer form with interest coupon attached
- c. They are listed on one or more stock exchanges but issues are generally traded in the over-the-counter market

Typically, a Eurobond is issued outside the country of the currency in which it is denominated. It is like any other Euro instrument and through international syndication and underwriting, the paper is sold without any limit of geographical boundaries. Eurobonds, are generally listed on the world's stock exchanges, usually on the Luxembourg Stock Exchange.

- a. **Fixed-rate Bonds/Straight Debt Bonds:** Straight debt bonds are fixed interest bearing securities which are redeemable at face value. The bonds issued in the Euro-market referred to as Euro-bonds, have interest rates fixed with reference to the creditworthiness of the issuer. The interest rate on dollar denominated bonds are set at a margin over the US treasury yields. The redemption of straights is done by bullet payment, where the repayment of debt will be in one lump sum at the end of the maturity period, and annual servicing.
- b. **Floating Rate Notes (FRNs):** FRNs can be described as a bond issue with a maturity period varying from 5-7 years having varying coupon rates – either pegged to another security or re-fixed at periodic intervals. Conventionally, the paper is referred to as notes and not as bonds. The spreads or margin on these notes will be above 6 months LIBOR for Eurodollar deposits.

Foreign Bonds

These are relatively lesser known bonds issued by foreign entities for raising medium to long-term financing from domestic money centers in their domestic currencies.

A brief note on the various instruments in this category is given below.

- a. **Yankee Bonds:** These are US dollar denominated issues by foreign borrowers (usually foreign governments or entities, supranational and highly rated corporate borrowers) in the US bond markets.
- b. **Samurai Bonds:** These are bonds issued by non-Japanese borrowers in the domestic Japanese markets.
- c. **Bulldog Bonds:** These are sterling denominated foreign bonds which are raised in the UK domestic securities market.
- d. **Shibosai Bonds:** These are the privately placed bonds issued in the Japanese markets.

Euro Notes

Euronotes as a concept is different from syndicated bank credit and is different from Eurobonds in terms of its structure and maturity period. Euronotes command the price of a short-term instrument usually a few basic points over LIBOR and in many instances at sub-LIBOR levels. The documentation formalities are minimal (unlike in the case of syndicated credits or bond issues) and cost savings can be achieved on that score too. The funding instrument in the form of Euronotes possess flexibility and can be tailored to suit the specific requirements of different types of borrowers. There are numerous applications of basic concepts of Euronotes. These may be categorized under the following heads:

- a. **Commercial Paper:** These are short-term unsecured promissory notes which repay a fixed amount on a certain future date. These are normally issued at a discount to face value.
- b. **Note Issuance Facilities (NIFs):** The currency involved is mostly US dollars. A NIF is a medium-term legally binding commitment under which a borrower can issue short-term paper, of up to one year. The underlying currency is mostly US dollar. Underwriting banks are committed either to purchase any notes which the borrower is unable to sell, or to provide standing credit. These can be re-issued periodically.
- c. **Medium-Term Notes (MTNs):** MTNs are defined as sequentially issued fixed interest securities which have a maturity of over one year. A typical MTN program enables an issuer to issue Euronotes for different maturities, from over one year up to the desired level of maturity. These are essentially fixed rate funding arrangements as the price of each preferred maturity is determined and fixed up front at the time of launching. These are conceived as non-underwritten facilities, even though international markets have started offering underwriting support in specific instances.

A Global MTN (G-MTN) is issued worldwide by tapping Euro as well as the US markets under the same program.

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Under G-MTN programs, issuers of different credit ratings are able to raise finance by accessing retail as well as institutional investors. In view of flexible access, speed and efficiency, and enhanced investor base G-MTN programs afford numerous benefits to the issuers.

Spreads paid on MTNs depend on credit ratings, treasury yield curve and the familiarity of the issuers among investors. Investors include private banks, pension funds, mutual funds and insurance companies.

Masala Bonds

Masala bond is a bond denominated in Indian rupee and issued in India. Masala bonds are attractive to foreign investors who desire exposure to rupee-denominated assets. The rupee denominated bonds help deepen the process of internationalization of the rupee and involve raising money in an international currency, which is brought onshore and converted into rupee in the domestic spot market. So far, only the International Finance Corporation, a unit of World Bank, has issued such masala bonds. These bonds are also listed on the London Stock Exchange.

In July 2016, HDFC became the first corporate to issue masala bonds to raise ₹ 3,000 crore at a coupon rate of 7.87 per cent per annum. It got oversubscribed by 4.3 times and had a tenor of three years and 1 month. Again, on March 24, 2017, the Corporation had issued ₹ 3,300-crore unsecured rupee-denominated bonds, to fund its business expansion. In September 2021, HDFC Bank issued masala bonds with a coupon rate of 7.55% to raise ₹ 739 crore²⁸.

2.7.4 Forex Market

The unevenly distributed natural resources on the globe resulted in interdependence amongst nations, giving rise to exchange of goods and services to meet mutual requirements, resulting in international trade. Every sovereign country in the world has a currency which is a legal tender in its territory and which does not act as money outside its boundaries. Therefore, whenever a country buys and sells goods and services from or to another country, the residents of the two countries have to exchange currencies.

Need for Foreign Exchange

Let us consider a transaction involving supply of leather bags and wears from India to Italy. The Indian exporter will price the leather bags in such a manner that he would make profit in terms of Indian rupees. He will like the customer abroad to pay him in terms of Rupees only. The purchasing power available with the Italian buyer is Italian Lira and thus, he would like to know how many Italian Liras he has to part with, to buy the leather bags.

²⁸ https://www.business-standard.com/article/finance/hdfc-bank-raises-rs-739-crore-via-masala-bond-in-overseas-markets-121093001440_1.html#:~:text=Photo%3A%20Bloomberg-,HDFC%20Bank%20on%20Thursday%20said%20it%20has%20raised%20Rs%20739,said%20in%20a%20regulatory%20filing.

In this example, both seller and the buyer agree to settle the transaction in third currency, say, US Dollar. The above transactions giving rise to a mechanism by which a currency is converted into other is referred to as 'foreign exchange'.

In the above example, the transactions between two countries are settled in a third currency, that is, a currency that is neither the exporters' nor importers' own local currency. This means of payment is particularly popular if both countries have infrequently traded or have weak currencies. In this case, there is a need for the foreign exchange market in which the importers purchase the third currency against (sell) their own currency, and exporters sell the third currency against (purchase) their own.

As said above, Foreign Exchange is a method of converting one currency to the other; and while converting, the home currency is treated as purchasing power and the foreign currency is traded as a commodity.

Definition

According to Section 2 (m) of the FEMA 1999, foreign currency is defined as any currency other than Indian Currency.

Foreign exchange is defined as per section 2(n) of FEMA 1999 as follows:

Foreign exchange means foreign currency and includes

- i. Deposits, credits and balances payable in any foreign currency
- ii. Drafts, traveler's cheques, letters of credit or acts of exchange expressed or drawn in Indian currency but payable in any foreign currency
- iii. Drafts, traveler's cheques, letters of credit or acts of exchange drawn by banks, institutions or persons outside India but payable in India currency.

Foreign Exchange Market

Foreign exchange market is similar to money market, where financial paper with relatively short maturity is traded. But, in forex market, financial paper is not denominated in the same currency. However, in this market, paper denominated in a given currency is always traded against paper denominated in another currency. One reason justified for the existence of foreign exchange market is that each nation has decided to keep its sovereign right to have control on its own currency. If every country in the world used the same currency, then there will not be any need for foreign exchange market.

Telephonic Market

In spite of being the world's largest market, there is no physical location for the foreign exchange market where traders can get together and exchange currencies. The traders sit in their dealing rooms and communicate with each other through telephones, computer terminals, telexes and other information channels. This market functions virtually for 24 hours enabling a trader to offset a position created in one market using another market.

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A trader is interested in striking a deal than making a physical delivery. After each transaction, the forex dealer of a bank records on a computer system, and moves on to the next trade. During the actual settlement, at banks' level, the confirmation messages and details regarding the trade are matched. However, physical deliveries take place at a later point of time.

Geographic Location

The international foreign exchange market geographically extends from Tokyo and Sydney through Hong Kong, Singapore, Bahrain, the European centers, New York to the west coast of the US. It extends through all the time zones, and is almost a 24-hour market.

Exchange Rate

The rate at which one currency is converted into another currency is the rate of exchange between the two currencies concerned. The exchange rate between two currencies can be obtained from quotation in foreign exchange rate market and it is quoted in two ways.

2.8 Derivatives Market

In general, a business is subject to risks, which is a common phenomenon. Only some and not all of the risks can be avoided. Risks that arise from erratic movements in markets are beyond individual's control. The unpredictable/predictable movements may sometimes effect adversely and may have severe impact on the revenues and costs of the firm and even threaten the viability of business. Hence, the corporates need to minimize or limit the impact of such movements on their businesses.

Derivatives are designed to manage risks, which arise from movements in markets. The derivative markets enable institutional investors, bank treasurers and corporates to manage their risk more efficiently and allow them to hedge or speculate (explained below) on markets.

By now the reader must have been familiar with the features of financial markets, through which banks, corporates, government raise or deploy money to meet their requirements. Among all the markets discussed till now, the primary market is used for raising money and secondary market is used for trading the securities which have been issued in the primary markets. Derivatives market is quite different from other markets, as it is used to minimize the risk arising from the underlying assets. Let us see what a derivatives market is and how it helps in minimizing the risk.

The word 'derivative' originates from mathematics; it refers to a variable which has been derived from another variable. A financial derivative is a product derived from the market of another product. Hence, derivative market has no independent existence without an underlying commodity or asset. The price of derivative instrument is contingent on the value of its underlying asset.

2.8.1 Participants

Generally, banks, corporates, financial institutions, individuals and brokers are seen as regular participants. The derivative markets allow the participants to hedge, speculate or arbitrage in the markets. The participants can be classified into three categories based on the motives and strategies adopted.

Hedgers

Hedging is an act, whereby an investor seeks to protect a position or anticipated position in the spot market by using an opposite position in derivatives. The parties which perform hedging are known as hedgers.

In the process of hedging, parties such as individuals or companies owning or planning to own, a cash commodity (such as corn, pepper, wheat, treasury bonds, notes, bills, etc.) are concerned that the cost of the commodity may change before either buying (or selling) it in the cash market. They want to reduce or limit the impact of such movements which, if not covered, would incur a loss. In such a situation, the hedger achieves protection against changing prices by purchasing or selling futures contracts of the same type and quantity. Similar objectives can be achieved with options. If the price of an asset is intended to fall then put options may be purchased and if it is likely to rise, a call option can be purchased.

Speculators

Speculators are basically traders who enter the futures or options contract, with a view to make profit from the subsequent price movements. They do not have any risk to hedge; in fact, they operate at a high level of risk in anticipation of profits. Though the desirability of speculation is always subject to a debate, it provides liquidity. The speculators also perform a valuable economic function of feeding information which is not readily available elsewhere, and help others in analyzing the derivatives markets.

Arbitrageurs

The act of obtaining risk-free profits by simultaneously buying and selling similar instruments in different markets is known as 'arbitrage'. The person who does this activity is referred to as an 'arbitrageur'. For example, one could always sell a stock on NSE and buy on BSE. The arbitrageurs continuously monitor various markets, and whenever there is a chance of arbitraging, they buy from one market and sell it in the other and make riskless profit. They keep the prices of derivatives and current underlying assets closely consistent, thereby performing a very valuable economic function.

Arbitrageurs and speculators can be categorized into more or less same strata, as both of them perform almost a similar function since they do not have any risk to hedge. They help in identifying inefficiencies and mispricing of assets including derivatives and help in removing the differences that exist among the markets.

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While arbitrageurs help in price discovery leading to market efficiency, speculators help in enhancing the liquidity in the market.

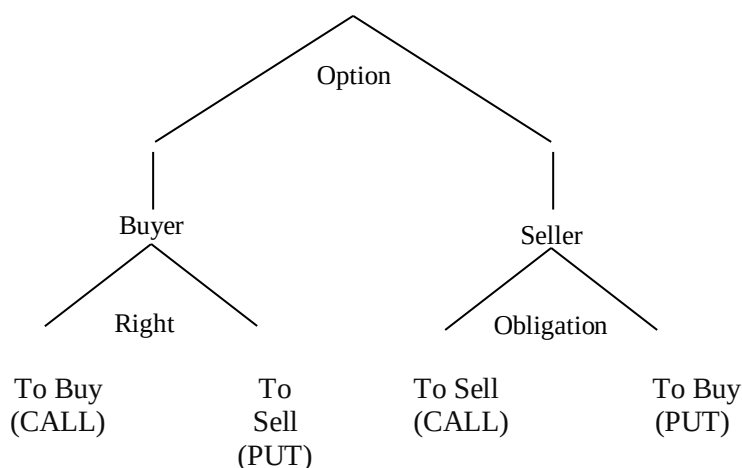
Virtually, all derivatives can be classified into two categories based on the nature of contract such as futures and options or a combination of the two.

2.8.2 Options

Option is a contract that confers the right, but not an obligation to the holder to buy (call option) or to sell (put option) an underlying asset (the asset may be a stock, currency, commodity, financial instrument or a futures contract) at a price agreed on a specific date or by a specific expiry date. The seller or writer of the option has the obligation to fulfill the contract if the holder wishes to exercise the option, for which a premium is paid.

Every exchange-traded option is either a call option or a put option. Options are created by selling and buying and for every option there is a seller and a buyer. The seller of an option is also known as option writer. In option contracts, all the rights lie with the option buyer.

Figure 2.5: Options



Source: ICFAI Research Center

As seen from the above figure 2.5, the seller always acquires an obligation and the buyer always acquires a right. Hence the buyer pays the seller a certain amount upfront which is known as premium.

Advantages of Trading Options

The investment required for buying a call option is less when compared to the investment required for buying the underlying assets. Hence, it is possible to acquire a risk profile of holding the underlying assets with low investment and hence higher return. This feature enables wider participation.

The buyer of an option has only a right and no obligation and hence, is subjected to limited loss and unlimited profit.

Options are very popular among the financial institutions and sophisticated investors, such as mutual funds and pension funds. This class of investors minimize their risk and maximize the return by trading options in conjunction with their stock portfolios.

Investors can also save transaction costs, avoid tax exposure and also avoid other stock market restrictions.

In India, futures on certain commodities are in existence. Trading in stock index futures and index option and stock futures and stock options have also started in Indian stock markets respectively in June 2000, June 2001, November 2001 and July 2001 respectively.

Types of Options

Following paragraphs discuss about different types of options:

Equity Options

Options on individual stocks are known as equity options and are the most actively traded options on any exchange. In the US, options on stocks are actively traded on the Chicago Board Options Exchange (CBOE), the American Stock Exchange (AMEX) and the New York Stock Exchange (NYSE). In India, they are traded on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). These exchanges provide liquidity, competitive and structured markets for the sale and purchase of standardized options.

Index Options

A stock index consists of a group of stocks and measures the overall value of the group. An option on such an index is called an index option. In India index options are introduced based on two underlying indices – S&P CNX Nifty in case of NSE options and BSE Sensex for BSE options.

Bond Options

Options on bonds are mostly found on treasury bonds as they are actively traded than any other bonds on an exchange. The options are traded actively on the over-the-counter market, than on a recognized exchange. Options on bonds are deliverable or settled in cash.

Commodity Options

Commodity options give the option buyer to purchase or sell a specific quantity of a commodity at specific price. Commodity options help a farmer in locking his selling price, by purchasing a put option to sell the commodity at the strike price in case the price of the commodity falls.

Futures Options

Options on futures or futures options give the holder the right to buy or to sell a specified futures contract at a specified price on or before a specific date.

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Currency Options

The largest portion of the currency option market is the interbank market. Some of the stock exchanges list currency options also.

Interest Rate Options

Interest rate options have the underlying asset as a reference rate such as the LIBOR and the strike price as an interest rate. These options are not deliverable but are settled in cash based on an estimated amount and the spread between strike rate and reference rate.

Example: SEBI's Options on Commodity Indices

On 24th March, 2022, SEBI released a circular on 'Introduction of Options on Commodity Indices – Product Design and Risk Management Framework'. Through this, SEBI has now allowed those recognised stock exchanges with a commodity derivative segment to introduce options on commodity indices, after they comply with the due regulations that SEBI specified in the circular. This is part of efforts by SEBI to have more products in the commodity derivatives market.

Source: <https://www.zeebiz.com/market-news/news-sebi-permits-recognised-stock-exchanges-having-commodity-derivative-segment-to-introduce-options-on-commodity-indices-181514>
(Accessed on May 3, 2022)

Check Your Progress - 2

6. International Capital Markets provide the place for international companies to deal in shares and bonds of different countries involving varied number of persons to play different roles in trading activity. When a person takes What is the person, who takes due attentiveness and preparation to offer circulars and market issues, referred to?
 - a. Custodian
 - b. Lead Manager
 - c. Underwriter
 - d. Issuer
 - e. Lender
7. Suppose an Indian company wants to sell shares to a foreign entity or vice versa, the company is ought to get a certificate to deal with such publicly traded equity in foreign markets. Such a financial instrument is referred to as
 - a. Global Depository Receipts
 - b. American Depository Receipts
 - c. Euro Bonds
 - d. Euro Notes
 - e. Commercial Paper

8. Which of the following statements is contrary to transactions in forex market?
 - a. Forex market is similar to money market
 - b. Exchange rates are determined from quotations in Forex market
 - c. Forex markets deals only with forward transactions
 - d. Paper denomination in one currency is traded against paper denomination of another currency.
 - e. Central Banks play an inevitable role in maintaining foreign reserves.
9. What is the term used, to refer an activity that enables the investor to seek protection against risk averse securities by moving in an opposite direction of anticipated position in derivative market?
 - a. Hedging
 - b. Arbitration
 - c. Speculation
 - d. Diversification
 - e. Negotiation
10. Which of the following is not an element of an options contract?
 - a. Buyer is under obligation to purchase the underlying instrument
 - b. Seller is under obligation to exercise the option
 - c. Seller of an option is called an option writer
 - d. The buyer sells an upfront amount to seller called premium
 - e. Popular among financial institutions and sophisticated investors

2.9 Financial Institutions

A financial system operates through the financial institutions. The financial institutions though mostly operate as lenders, in certain cases they may also function as the borrowers. For a fastly developing country like India, these institutions participate in the economic development by extending credit to not only businesses but also for developmental activities. The financial institutions operating in India can be segregated into development banks and investment institutions.

2.9.1 All India Development Banks

Development banks are institutions that are set to provide financial and other assistance for the development of industry, agriculture or other key sectors. Its prime objective is to promote the investment activity in the economy and thereby contribute to the economic development of the country.

Industrial Development Bank of India (IDBI)

Industrial Development Bank of India (IDBI) was established in 1964 as a subsidiary of the Reserve Bank of India by an Act of the Parliament and was made

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a wholly-owned Government of India undertaking in 1975. It was established with the main objective of serving as an apex financial institution to coordinate the functioning of all other financial institutions. Its other objectives include: planning, promoting and developing industries to fill the gaps in the industrial structure of the country; providing technical and administrative assistance for the promotion or expansion of industry; and undertaking market and investment research surveys in connection with the development of the industry and to provide finance keeping in view the national priorities, irrespective of the financial attractiveness of projects. IDBI finances industries directly and also supports State Financial Corporations and State Industrial Development Corporations by providing refinance and through the bill rediscounting scheme. IDBI was transformed from financial institution to a commercial bank in the year 2004.

Industrial Finance Corporation of India (IFCI)

Industrial Finance Corporation of India (IFCI) is the first financial institution to be established in India in 1948 by an Act of the parliament with the objective of providing medium and long-term finance to industrial concerns eligible for financing under the Act. In 1993 it was reconstituted as a company to enable greater degree of operational flexibility. The sectors for which the IFCI provides finance extend through the industrial spectrum of the country.

The Export-Import Bank of India (EXIM Bank)

The EXIM Bank was set up in 1982 to coordinate the activities of the various institutions engaged in trade finance. It helps Indian exporters in extending credit to their overseas customers by providing long-term finance to them. It also provides assistance to banks in extending credit for exports and export-linked imports. It also provides advisory services and information to exporters.

NABARD

National Bank for Agriculture and Rural Development (NABARD) was constituted in 1982 in accordance with the recommendations of the committee to Review the arrangements for Institutional Credit for Agriculture and Rural Development (CRAFICARD). NABARD came into existence in July, 1982 through the transfer of agriculture credit functions of RBI and the refinance functions of Agriculture Refinance and Development Corporation.

The functions performed by NABARD can be broadly grouped into three categories – Finance, Developmental and Supervisory. It extends both direct and indirect financial assistance to rural areas. As part of its development functions it is the apex authority for regulating and supervising the functions of co-operative banks and regional rural banks. Section 35(6) of the Banking Regulation Act, 1949, empowers NABARD to conduct inspection of State Cooperative Banks (StCBs), District Cooperative Central Banks (DCCBs) and Regional Rural Banks (RRBs). In addition, NABARD has also been conducting periodic inspections of

state level cooperative institutions such as State Cooperative Agriculture and Rural Development Banks (SCARDBs), Apex Weavers Societies, Marketing Federations etc., on a voluntary basis.

NABARD also extends a lending arm to micro finance institutions through its “micro credit innovations department”. Micro Finance by NABARD is undertaken through different approaches like the Self Help Group – Bank Linkage Program (SHG – BLP), financing of Joint Liability Groups (JLG), financing through NABARD Financial Services (NABFINS), Micro Enterprises Development Program (MEDP) etc.

State Financial Corporations (SFCs)

At the beginning of the fifties, the government found that for achieving rapid industrialization, separate institutions should be set up that cater exclusively to the needs of the small and medium sector. Therefore the SFCs Act was passed by the parliament in 1951 to enable the state governments establish SFCs. The basic objective for which the SFCs were set up was to provide financial assistance to small and medium scale industries and establish industrial estates. The SFCs provide finance in the form of term loans, by underwriting issues of shares and debentures, by subscribing to debentures, and standing guarantee for loans raised from other institutions and from the general public.

State Industrial Development Corporations (SIDCs)

The State Industrial Development Corporations have been set up to facilitate rapid industrial growth in the respective states. In addition to providing finance, the SIDCs identify and sponsor projects in the joint sector with the participation of private entrepreneurs.

Small Industries Development Bank of India (SIDBI)

The Small Industries Development Bank of India was started in April 1990 under an act of Parliament. It is the major financial institution that promotes financing and development of Micro, Small and Medium Enterprises (MSME) sector. It provides financial support by way of - (a) indirect financing through refinancing facility extended to banks and other financial institutions and (b) direct financing in niche areas like risk capital, sustainable finance, receivables financing, service sector financing etc.

The Bank also plays a promotional and developmental role by supporting enterprise development, skill up-gradation, marketing support, cluster development, technology modernization etc.

MUDRA (Micro Units Development and Refinance Agency Limited)

It was started in April 2015 as a specialized institution that provides credit at concessional rates of interest to Micro Finance Institutions and Non-Banking Finance Companies, which in turn will provide the financial assistance to

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MSMEs. The MUDRA banks were initiated under the Pradhana Mantri MUDRA Yojana scheme, which provide financial assistance to small entrepreneurs who do not come under the ambit of commercial banks. The borrowers who are eligible for this form of finance include small manufacturing units, shopkeepers, fruit and vegetable vendors and artisans. Three types of loans are being offered by the MUDRA banks – Shishu (loans up to ₹ 50,000); Kishore (loans up to ₹ 5,00,000) and Tarun (loans up to ₹ 10,00,000).

Example: CEA's advice to Financial Institutions

In March 2022, the Chief Economic Adviser K V Subramanian opined that financial institutions which were pestered by bad loans because of lending to crony capitalists instead of creditworthy borrowers should initiate an immediate paradigm shift. Financial institutions should realise that it is their duty to ensure that optimal capital allocation happens in the economy. He suggested strengthening corporate governance in the financial sector to ensure high-quality lending and linking incentives of senior management for quality lending as essential means to achieve this.

Source: <https://www.moneycontrol.com/news/business/stay-away-from-crony-lending-focus-on-high-quality-loans-cea-k-v-subramanian-tells-financial-institutions-6624961.html> (Accessed on May 2, 2022)

2.9.2 Investment Institutions

The investment institutions comprise:

Life Insurance Corporation of India (LIC)

The LIC was established in 1956 by amalgamation and nationalization of 245 private insurance companies by an enactment of the parliament. The main business of the LIC is to provide life insurance and it has almost a monopoly in this business. The LIC Act permits it to invest up to 10 percent of the investible funds in the private sector. It provides finance by participating in a consortium with other institutions and does not undertake independent appraisal of projects.

General Insurance Corporation of India (GIC)

The GIC was established in 1974 with the nationalization of the general insurance business in the country. It can invest up to 30 percent of the fresh accrual of funds in the private sector. Like the LIC, the GIC also provides finance by participating in consortium based on the appraisal made by the other financial institutions but does not independently provide the finance.

Unit Trust of India (UTI)

The UTI was founded in 1964 under the Unit Trust of India Act, 1963. Initially 50 percent of the capital of the trust was contributed by the RBI, while the rest

was brought in by the State Bank of India and its associates, LIC, GIC, and other financial institutions. In 1974, the holding of the RBI was transferred to the IDBI, making the UTI an associate of the IDBI. The primary objective of the UTI is to mobilize the savings in the country and channel them into productive corporate investments. UTI provides assistance by underwriting shares and debentures, subscription to public and rights issue of shares and debentures, subscription to private placement, and bridge finance. In January, 2003, UTI was split into two parts UTI-I and UTI-II. UTI-I has been given all the assured return schemes and Unit Scheme 64, and it is being administered by the Central Government. UTI-II is entrusted with the task of managing NAV-based schemes. UTI-II is being managed by State Bank of India, Punjab National Bank, Bank of Baroda and Life Insurance Corporations.

Mutual Funds

Mutual funds serve the purpose of mobilization of funds from various categories of investors and channelizing them into productive investment. Apart from UTI, mutual funds sponsored by various bank subsidiaries, insurance organizations, private sector financial institutions, DFIs and FIIs have come up. These mutual funds operate within the framework of SEBI regulations which prescribe the mechanism for setting up of a mutual fund, procedure of registration, its constitution and the duties, functions and the responsibility of the various parties involved.

2.10 Reserve Bank of India

The Reserve Bank of India is considered as the nerve center of Indian monetary system. It was established on 1st April, 1935 under the Reserve Bank of India Act. It was a private shareholder's institution till 1947. The bank was nationalized in 1948 under the RBI Act, 1948, soon after independence for three main reasons. Firstly, immediately after the second world war, the central banks all over the world were nationalized. Secondly, to control inflation that was prevailing since 1939 and thirdly, to embark upon a program of economic development and growth in the country.

As of May 5, 2022, these rates are as follows:

Policy Repo Rate	4.40%
Standing Deposit Facility Rate	4.15%
Marginal Standing Facility Rate	4.65%
Bank Rate	4.65%
Fixed Reverse Repo Rate	3.35%

Source: <https://www.rbi.org.in/> (Accessed on May 5, 2022)

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Since its inception, the RBI is guiding, monitoring, regulating, promoting and controlling the Indian financial system. The apex bank was given powers to: regulate the issuance of notes, act as banker to the Government, maintain price stability, and maintain a control over money supply in the country. It also has been allowed to carry out open market operations. All the powers were given to Reserve Bank, like any other Central bank in the world, to promote economic development.

Example: RBI's Directions on Issuance of Credit and Debit Cards

RBI published master directions to the banks and NBFCs for the issuance of credit and debit cards, which will be effective from July 1, 2022. Apart from the banks, NBFCs that follow the central bank's stated guidelines and standards, can issue credit cards, with the prior approval of the RBI. These guidelines apply to all the banks excluding payment banks, state co-operative banks, and district central co-operative banks.

Source: <https://www.financialexpress.com/industry/banking-finance/rbis-new-guidelines-for-credit-debit-cards-nbfc-can-now-issue-cards-and-other-key-things-to-know/2500691/> (Accessed on May 4, 2022)

2.10.1 Hierarchy

The bank is managed by the Central Board of Directors, four local Boards of Directors, and a Committee of the Central Board of Directors. The functions of the local boards are to advise the Central Board on such matters as are referred to them. The final control of bank vests in the Central Board which comprises the Governor, four Deputy Governors and fifteen Directors nominated by the Central Government. The internal organizational set-up of Reserve Bank has been modified and expanded from time to time in order to meet the increasing volume and range of the Banks' activities. The Bank has been decentralizing to perform various functions effectively.

2.10.2 Functions of RBI

One of the main functions of the central bank in any country is monetary management – regulation of the quantity of money and the supply and availability of credit to business and industry. Similarly, the RBI performs the following functions:

Currency Issuing Authority

The Reserve Bank of India, since its inception, has the sole right or monopoly authority in issuing the currency in the country, other than one rupee coins/notes and subsidiary coins. Although the one rupee coins are issued by the Central Government, RBI puts them into circulation. It issues notes in denominations of rupees ten, twenty, fifty, one hundred, five hundred and two thousand. All the notes carry a guarantee by the central government.

The Reserve Bank can issue notes against the security of gold coins, gold bullions, foreign securities, rupee coins, Government of India securities and bills of exchange and promissory notes, as they are eligible for purchase by Reserve Bank.

The responsibility of RBI is not only to put currency into circulation or to withdraw from it, but also to exchange notes and coins of one denomination to the other as demanded by public. The issue department of the Reserve Bank monitors all the matters relating to note issuance.

Government Banker

The Reserve Bank acts as a banker not only to the central government but also to all state governments. It plays a key role by offering all banking services to governments by accepting cheques, receiving and collecting payments, transferring funds, etc.

The bank also provides 'Ways and Means Advances (WMA)' to both Central and State governments for bridging the temporary gaps between receipts and payments with a maturity of 3 months. There are three different types of WMA; normal or clean WMA, without any underlying security, secured WMA, which are granted against Central Government securities and finally, special WMA, which are issued by RBI at its discretion. The Reserve Bank charges interest on the ways and means advances at the repo rate. However, if the WMA is outstanding for more than three months, then the interest rate will be one percent higher than the repo rate.

The RBI permits the state government to draw overdrafts apart from ways and means advances. On such overdrafts, the interest rate charged is as follows:

- a. On overdrafts up to 100 percent of WMA limit – interest is charged at 2% above the repo rate.
- b. On overdrafts exceeding 100 percent of WMA limit – interest is charged at 5% above the repo rate.

Issue management and administration of public debts constitute major functions of RBI as a banker to the Governments.

Banker's Bank

The RBI, like all central banks, can be called banker's bank because it has a unique relationship with scheduled commercial and co-operative banks. The Reserve Bank stipulates that the commercial banks maintain the reserves in the form of SLR and CRR. The Reserve Bank provides in a limited way avenues for banks to obtain liquidity in the normal course of operation. In case of any crisis, RBI can provide the necessary liquidity support to the banks. Hence, the RBI is known as the 'lender of last resort' to commercial banks. The RBI provides credit to the commercial banks and they in turn provide it to their clients, to promote economic growth. As of now, this is limited to export credit where banks can draw refinance from RBI subject to conditions.

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The central bank has the vast power to control commercial and co-operative banks with a view to develop a sound banking system in India. In this regard, the following are the powers given to RBI:

- To issue licenses for establishment of new banks and setting up of branches for existing banks
- To prescribe minimum requirements regarding paid-up capital and reserves, transfer to reserve fund and maintenance of cash reserves and other liquid assets
- To inspect the working of banks that are established in India and abroad in respect of their organizational set-up, branch expansion, investments and credit portfolio management, credit appraisal, etc.
- To conduct ad hoc investigations into complaints, irregularities and frauds in respect of banks from time to time
- To control appointment and reappointment and termination of appointed Chairman and Chief executive officers of the private sector banks

According to Section 21 of RBI Act, the RBI has been given the power of selective credit control. It is empowered to determine the policy in relation to advances to be followed by banks generally or by any bank in particular. It is also authorized to issue directions to banks as regards the purpose of the advances, the margins to be maintained for secured advances and also prescribe the interest rate.

The RBI exercises the selective credit control through the following instruments:

- The bank rate
- Open market operations
- Variable reserve requirements

Bank Rate

It is the rate at which the Reserve Bank rediscounts the first class commercial bills of exchange. The effect of change in bank rate will make the cost of securing funds either cheaper or costlier than central bank. Whenever the volume of bank credit is to be expanded, RBI reduces the bank rate and vice versa. However, the efficacy of the bank rate depends on the extent of integration in the money market and also on commercial banks' borrowings from RBI. In today's financial market, the bank rate has become the reference rate, as the interest rates have been deregulated, and they are determined by demand and supply of funds in the market. Thus the bank rate has a signalling value.

Repo rate: The Reserve Bank also advances short-term loans to commercial banks with collateral. The interest charged on such loans is the repo rate. The repo rates are changed occasionally by RBI to control the money supply in the

economy. A decrease in repo rates make the loans to banks cheaper enabling them to borrow more while an increase in repo rate may have the opposite effect.

Reverse Repo Rate: It is the short term borrowing rate at which RBI borrows from banks. It is usually used by RBI to contract the money supply in the economy.

Marginal Standing Facility (MSF): This is the borrowing facility given to banks by giving government securities as collateral to meet emergency cash shortage situations. The MSF rate is usually higher than the repo rate.

Open Market Operations

The RBI can influence the reserves of commercial banks, i.e., the cash base of commercial banks, by selling and buying the government securities in the open market. If the RBI buys government securities from commercial banks in the market, the cash transfer will be from RBI to banks and hence, there is an increase in cash base of the commercial banks enabling them to expand credit and converse is the effect if it sells.

Usually, the success of the open market operations depends on the size of the government securities available, their range and variety. Most importantly, the prices quoted by RBI should be attractive when compared to the market prices.

Reserve Requirements

The central bank regulates the liquidity of the banking system through two complementary methods such as Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR).

CRR

CRR is the average daily balance with RBI, the percentage of CRR will be specified by RBI from time to time on Net Demand and Time Liabilities (NDTL). It is the cash that banks deposit with Reserve Bank as a proportion of their deposits. With a view to providing flexibility to banks in choosing an optimum strategy of holding reserves depending upon their intra fortnight cash flows, all scheduled commercial banks are required to maintain minimum CRR balances up to 95 per cent of the average daily required reserves for a reporting fortnight on all days of the fortnight with effect from the fortnight beginning September 21, 2013.

SLR

In addition to the cash reserve ratio, the banks are required to maintain specified reserves in the form of government securities, specified bonds and approved securities. consequent upon amendment to the Section 24 of the Banking Regulation Act, 1949 through the Banking Regulation (Amendment) Act, 2007 replacing the Regulation (Amendment) Ordinance, 2007, effective January 23, 2007, the Reserve Bank can prescribe the SLR for SCBs in specified assets.

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The value of such assets of a SCB shall not be less than such percentage not exceeding 40 per cent of its total DTL in India as on the last Friday of the second preceding fortnight as the Reserve Bank may, by notification in the Official Gazette, specify from time to time.

Exchange Controls

One of the key functions of the Reserve Bank is to maintain the stability of external value of the Indian rupee. The objective of exchange control is to regulate the demand for foreign exchange within the limits set by the available supply. RBI undertakes:

- To manage exchange reserves
- To administer the foreign exchange control
- To choose the exchange rate system and fix or manage the exchange reserves.

As the Central bank is the custodian of the country's foreign exchange reserves it is vested with the responsibility of managing the investment and utilization of reserves in foreign exchange. The Reserve Bank manages buying and selling of foreign exchange from and to commercial banks (who are authorized dealers in Indian forex markets). The apex bank also manages the investment of reserves in gold accounts abroad and the shares and securities issued by foreign governments and international banks or financial institutions.

Developmental Activities

The central bank has to perform not merely the role of controlling credit and currency to maintain the internal and external value of the rupee to ensure price stability in the economy, but also play the role of a promoter of financial institutions in the country. The bank also performs a wide range of promotional functions to support the pace of economic development.

The RBI has been undertaking various steps to promote economic growth in general and markets in particular.

- i. It has promoted specialized institutions such as IDBI, NABARD to ensure flow of credit.
- ii. It has provided agencies like DFHI, STCI as a part of its activity to develop markets.
- iii. It has introduced various schemes to promote a bill culture.

Concept of Inflation Targeting

The concept of Inflation Targeting (IT) received considerable significance in the early 1990s. According to this concept, the central bank of a country brings out a target inflation rate for a medium term and communicates the same to the public. The monetary policy is then so designed as to contain the inflation rate within the target mentioned. The concept was pioneered in New Zealand in 1990 and later implemented in UK, Germany and other countries.

Bernanke et. al defined inflation targeting as “a framework for monetary policy characterized by the public announcement of official quantitative targets (or target ranges) for the inflation rate over one or more time horizons, and by explicit acknowledgement that low, stable inflation is monetary policy’s primary long-run goal.”

Benefits

One of the major benefits that arise from this concept is that inflation targeting allows monetary policy to "focus on domestic considerations and to respond to shocks to the domestic economy", which is not possible under a fixed exchange-rate system. In addition, investor uncertainty is reduced and therefore investors may more easily factor in likely interest rate changes into their investment decisions. Inflation expectations that are better anchored "allow monetary authorities to cut policy interest rates counter cyclically".

Transparency is another important benefit of inflation targeting. Central banks in developed countries, which have successfully implemented inflation targeting were found to "maintain regular channels of communication with the public".

An explicit numerical inflation target increases a central bank's accountability, and thus it is less likely that the central bank falls prey to the time-inconsistency trap. This accountability is especially significant because even countries with weak institutions can build public support for an independent central bank. Institutional commitment can also insulate the bank from political pressure to undertake an overly expansionary monetary policy.

In 2016, RBI came out with an inflation target of 4% for the next five years i.e., up to 2021. However, there are varied opinions on the implementation of this concept in Indian economy due to unique nature.

Activity 2.2

1. Make a comparison of the US treasury bill market with that of the Indian treasury bill market. Do you think the bill market in India is under developed?

2. What changes occurred in the government securities market in India in the post 1991 economic reforms?

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2.11 Nature of Commercial Banks

Commercial banks are the oldest, biggest, and fastest growing financial intermediaries in India. They are also the most important depositories of public saving and the most important disbursers of finance. Commercial banking in India is a unique system, and exists nowhere else in the world.

The banking system in India works under the constraints that go with social control and public ownership. The public ownership of banks has been achieved in three stages: 1955, July 1969, and April 1980. Not only the public sector banks but also the private sector and foreign banks are required to meet targets in respect of sectoral deployment of credit, regional distribution of branches, and regional credit deposit ratios. The operations of banks have been determined by lead bank scheme, differential rate of interest scheme, credit authorization scheme, inventory norms and lending systems prescribed by the authorities, the formulation of the credit plans, and service area approach.

Example: Digital Banking Units

In the Union Budget 2022-23, the Government, to commemorate 75 years of the country's independence as 'Azadi ka Amrit Mahotsav', announced the setting up of at least 75 Digital Banking units in 75 districts. According to the guidelines given by the RBI in April 2022 on the establishment of Digital Banking Units (DBUs), the products and services to be provided at a DBU include the opening of accounts, cash withdrawal and deposit, KYC updation, loans and complaint registrations.

Source: <https://economictimes.indiatimes.com/industry/banking/finance/banking/rbi-issues-guidelines-for-banks-to-set-up-24x7-digital-banking-units/articleshow/90712671.cms> (Accessed on May 4, 2022)

2.12 Theory of Banking Operations

Commercial banks ordinarily are simple business or commercial concerns which provide various types of financial services to customers in return for payments in one form or another, such as interest, discounts, fees, commission, and so on. Their objective is to make profits. However, what distinguishes them from other business concerns (financial as well as manufacturing) is the degree to which they have to balance the principle of profit maximization with certain other principles. In India especially, banks are required to modify their performance in profit-making if that clashes with their obligations in such areas as social welfare, social justice, and promotion of regional balance in development. In any case, compared to other business concerns, banks in general have to pay much more attention to balancing profitability with liquidity.

2.12.1 Liquidity

The need for maintenance of liquidity is much greater for banks than other business concerns because of the nature of their liabilities. Banks deal in other people's money, a substantial part of which is repayable on demand. That is why for banks, unlike other business concerns, liquidity management is as important as profitability management.

Banks are expected to hold voluntarily a part of their deposits in the form of ready cash which is known as cash reserves; and the ratio of cash reserves to deposits is known as the Cash Reserve Ratio (CRR) prescribed by the central bank of the country. The central bank also undertakes, as the lender of the last resort, to supply reserves to banks in times of genuine difficulties. It should be clear that the function of the legal reserve requirements is two-fold: to make deposits safe and liquid, and to enable the central bank to control the amount of bank money which the banks can create.

Another distinguishing feature of banks is that while they can create as well as transfer money (funds), other financial institutions can only transfer funds.

Creation of Money

Let us briefly discuss the basis and process of the creation of money by banks. Apart from the currency issued by the government and central bank, the demand or current or checkable deposits with banks are accepted by the public as money. Therefore, since the loan operations of banks lead to the creation of checkable deposits, they add to the supply of money in the economy.

The process of money creation works as follows: Assume that the legally required reserve ratio is 10 per cent and that banks are maintaining just that ratio. Assume further that a bank in the economy receives a brand new input of ₹ 1,000 of reserves either as a deposit or as proceeds of a sale of government bond to the central bank or as some other form. There is thus a creation of ₹ 1,000 of bank money, but there is as yet no multiple expansion of money. If banks were required to keep 100 per cent cash reserve balances, no bank would be in a position to create any extra money out of a new deposit of ₹ 1,000 with it.

But suppose a bank is required to hold only 10 per cent of its deposits as cash reserves, it now has ₹ 900 as excess reserves which it can utilize to invest or to give loan. Assume that the bank gives a loan of ₹ 900, and that the borrower who takes the loan in cash or cheque deposits it either with the same bank or with some other bank. Either way, there has been a creation of money and the total amount of bank money created at this stage is ₹ 900. This process of creation can continue till no bank anywhere in the system has reserves in excess of the required 10 per cent reserve, and the total money supply created in the economy is ₹ 10,000. The ratio of new deposits to the original increase in reserves is called the money multiplier or credit multiplier or deposit multiplier. This multiplier will be equal to the reciprocal of the required reserve ratio.

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The structure of the banking system in India is shown below.

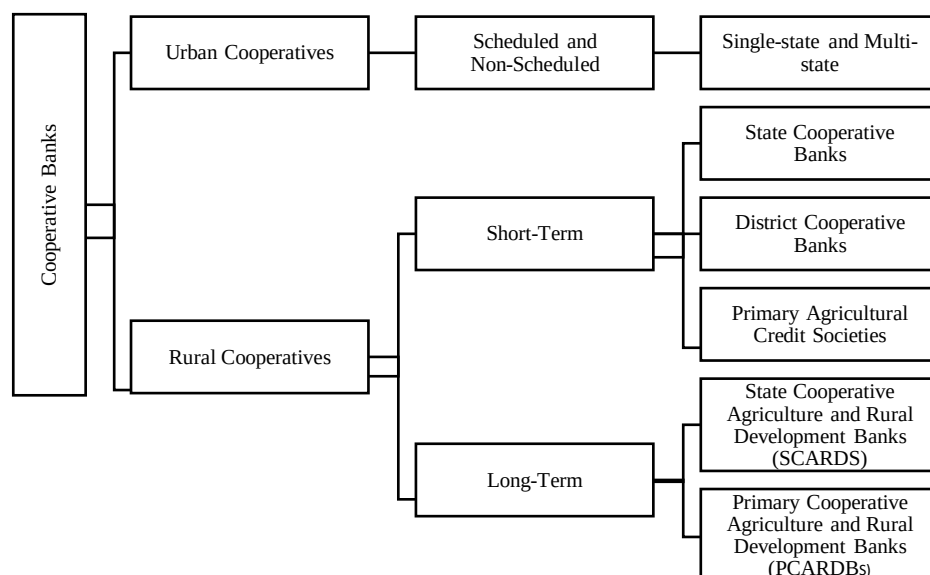
2.12.2 Scheduled Banks

Scheduled banks are those which are included in the Second Schedule of The Banking Regulation Act, 1949; others are non-scheduled banks. To be included in the Second Schedule, a bank (a) must have paid-up capital and reserve of not less than ₹ 5 lakh; (b) it must also satisfy the RBI that its affairs are not conducted in a manner detrimental to the interests of its depositors. Scheduled banks are required to maintain a certain amount of reserves with the RBI; they, in return, enjoy the facility of financial accommodation and remittance at concessional rates from the RBI.

Cooperative Banks

Cooperative Banks are cooperative societies that are engaged in the business of banking. In India, they play a significant role in rural financing and are one of the most important constituents in the Indian Financial System. These banks are regulated by RBI and are governed by the Banking Regulations Act, 1949, the Cooperative Societies Act, 1912 and the Banking Law (Cooperative Societies) Act 1965. The structure of the cooperative banks is two-fold – urban cooperative and rural cooperatives, which has further classification as shown below in Figure 2.6.

Figure 2.6: Structure of Co-operative Banks



Source: ICFAI Research Center

The Indian cooperative banking structure is one of the largest networks in the world. While there are 33 scheduled and non-scheduled state cooperative banks, there are 1506 non-scheduled urban cooperative banks and 54 scheduled urban

cooperative banks²⁹, with more than 200 million members. It has about 67% penetration in villages and fund around 46% of the total rural credit. It also stands for 36% of the total distribution of rural fertilizers and 28% of rural fair price shops.³⁰ The intervention of RBI's regulation, enhances the effectiveness of good corporate governance through efficient transparency and disclosure standards. These are placed in line with the improvements in capability of market players to analyze the informational requirements effectively. RBI had set Non-Performing Assets (NPAs) and Return on Assets (ROAs) as proxy measures to evaluate the asset quality and profitability of these institutions. These variables aid the market regulators to set mandatory actions against deterioration in the health of the banks.

Small Banks

The Reserve Bank of India (RBI) during September 2015 had granted 10 entities in-principle licences to open small finance banks—another move towards expanding access to financial services in rural and semi-urban areas.

Ujjivan Financial Services Pvt. Ltd, Janalakshmi Financial Services Pvt. Ltd and Equitas Holdings Ltd, are among the 10 entities. The others are Au Financiers (India) Ltd, Capital Local Area Bank Ltd, Disha Microfin Pvt. Ltd, ESAF Microfinance and Investments Pvt. Ltd, RGVN (North East) Microfinance Ltd, Suryoday Micro Finance Pvt. Ltd, and Utkarsh Micro Finance Pvt. Ltd.

³¹The Reserve Bank of India (RBI) on 12th October 2021, issued a Small Finance Bank (SFB) licence to the consortium of Centrum Financial Services Limited (Centrum) and BharatPe. This has been issued after a gap of nearly 6 years.

Small finance banks will offer basic banking services, accepting deposits and lending to unserved and underserved sections including small business units, small and marginal farmers, micro and small industries, and entities in the unorganized sector.

Small finance banks will be subject to most of the prudential norms that scheduled commercial banks have to adhere to. Small banks need to maintain a cash reserve ratio (CRR), or portion of deposits to be set aside with the central bank, and statutory liquidity ratio (SLR), or the portion of deposits to be invested in government securities, as stipulated for commercial banks.

Seventy-five per cent of the credit advanced by small finance banks will need to go to sectors that are considered part of the priority sector, which includes agriculture, small enterprises and low-income earners. The other commercial banks have to mandatorily lend 40% of their net bank credit to such sectors.

²⁹ <https://rbi.org.in/commonman/english/scripts/banksinindia.aspx>

³⁰ <http://www.newindianexpress.com/business/demonetisation/2016/nov/27/cooperative-banks-pose-quandary-1542981--1.html>

³¹ <https://www.livemint.com/companies/news/rbi-issues-license-to-bharatpe-centrum-for-small-finance-bank-11634045925677.html>

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Small finance banks will also have to ensure that 50% of their loan portfolio constitutes advances of up to ₹ 25 lakh.

Such banks can eventually apply to RBI to transit into universal banks once they have established a satisfactory track record. Such a transition would be subject to due diligence by the banking regulator.

The minimum paid-up equity capital for small finance banks was set at ₹ 100 crore and the minimum initial contribution from promoters fixed at 40%.

³²Guidelines for Licensing of Small Finance Banks in Private Sector’ dated November 27, 2014 – Modifications to existing norms

Please refer to the ‘Guidelines for Licensing of Small Finance Banks in Private Sector’ dated November 27, 2014 under which licenses were issued to 10 Small Finance Banks (SFBs) and the ‘Guidelines for ‘on-tap’ Licensing of Small Finance Banks in Private Sector’ released by Reserve Bank on December 5, 2019.

1. To harmonise the instructions for existing SFBs with those SFBs to be licensed under ‘Guidelines for ‘on-tap’ Licensing’, it has been decided to:
 - a. Grant general permission to all existing SFBs to open banking outlets subject to adherence to Unbanked Rural Centre norms as per RBI circular on ‘Rationalisation of Branch Authorisation Policy - Revision of Guidelines’ dated May 18, 2017, as amended from time to time.
 - b. Exempt all existing SFBs from seeking prior approval of Reserve Bank for undertaking such non risk sharing simple financial service activities, which do not require any commitment of own fund, after three years of commencement of business of SFB.
2. Further, in case of existing SFBs, it is clarified that -
 - a. Whether a promoter could cease to be a promoter or could exit from the bank after completion of a period of five years, would depend on the RBI’s regulatory and supervisory comfort / discomfort and SEBI regulations in this regard at that time (Reference: Response to query number 101 of ‘Clarifications to queries on guidelines for licensing of Small Finance Banks in the Private Sector’ dated January 1, 2015).
 - b. The phrase ‘paid-up equity capital’ in ‘Guidelines for Licensing of SFBs in Private Sector - 2014’ means ‘paid-up voting equity capital’ (Reference: Response to query number 104 of ‘Clarifications to queries on guidelines for licensing of Small Finance Banks in the Private Sector’ dated January 1, 2015).
3. The provisions of this circular shall come into force on 28th March 2020.

³² <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11845&Mode=0>

Payment Banks

The Guidelines for Licensing of Payments Banks were issued by Reserve Bank of India (RBI) in November 2014.

The objectives of setting up of payments banks will be to further financial inclusion by providing (i) small savings accounts and (ii) payments/remittance services to migrant labour workforce, low income households, small businesses, other unorganised sector entities and other users.

The Reserve Bank of India during second fortnight of August 2015 had issued 'in principle' clearance to 11 entities - including department of posts, top conglomerates such as Reliance Industries and Aditya Birla Group, telecom giants like Airtel and Vodafone, and a number of tech and finance companies - to set up 'payments banks'.

The payments banks can accept deposits up to only ₹ 2 lakh and cannot grant loans. They can only deposit their money in government bonds. They can issue debit cards but not credit cards. Other than this, they can provide all the services of a universal bank.

Payments banks will largely depend on mobile and ATM infrastructure to provide transaction banking services. Opening an account is expected to be like acquiring a pre-paid mobile number. Customers who do not have the means to maintain minimum balance will be welcomed into these banks as revenue will be earned through transaction charges and not on the spread of interest between deposits and loans.

Example: Payment Banks in India

RBI got a total of 42 applications out of which 11 companies got the license to open Payment Banks in India. Out of these 11, only 6 are currently operating.

SL. No.	Name of the Payments Bank	Launched in
1	Airtel Payments Bank Ltd.	Jan 2017
2	Fino Payments Bank Ltd.	April 2017
3	Paytm Payments Bank Ltd.	Nov 2017
4	Jio Payments Bank Ltd.	April 2018
5	India Post Payments Bank Ltd.	Sept 2018
6	NSDL Payments Bank Limited	Oct 2018

Sources: 1. <https://simpleinterest.in/banking/best-payment-banks-india/> (Accessed on May 4, 2022)

2. <https://moneymanch.com/list-of-payments-banks-in-india/> (Accessed on May 4, 2022)

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Local Area Banks

³³Local Area Banks (LAB) were created as per Government of India Scheme via Press Release dated August 24, 1996 as a part of financial inclusion in rural districts. These are the only non-scheduled small private banks governed by the provisions of the Reserve Bank of India Act, 1934, the Banking Regulation Act, 1949 and other relevant statutes. They were institutionalised to enhance the credit framework of rural and semi-urban areas and to mobilize savings among these areas to provide credit for viable economic activities. The major function was to finance for agriculture and allied activities, small scale industries, agro-industrial activities, trading activities and non-farm sectors. LABs are established as public limited companies in the private sector registered under the Indian Companies Act. They are promoted either by private individuals, corporate, trusts or societies with at least a minimum contribution of ₹ 2 crore and the minimum paid-up capital is ₹ 5 crore. These banks can open branches with a maximum of only three continuous districts. The banks are projected to provide 40% of their total advances to priority sector lending, out of which at least 25% should be catered to the weaker sections (which amounts to 10% of total advances). The local area banks are subject to prudential norms, accounting policies and other policies as stipulated by the RBI. The bank must maintain capital adequacy at 8% of risk weighted assets and comply with the norms of income recognition, asset classification and provisioning since inception. There were totally 10 local area banks out of 227 applications received, where most of them was rejected. Presently, only four banks are in existence, namely.

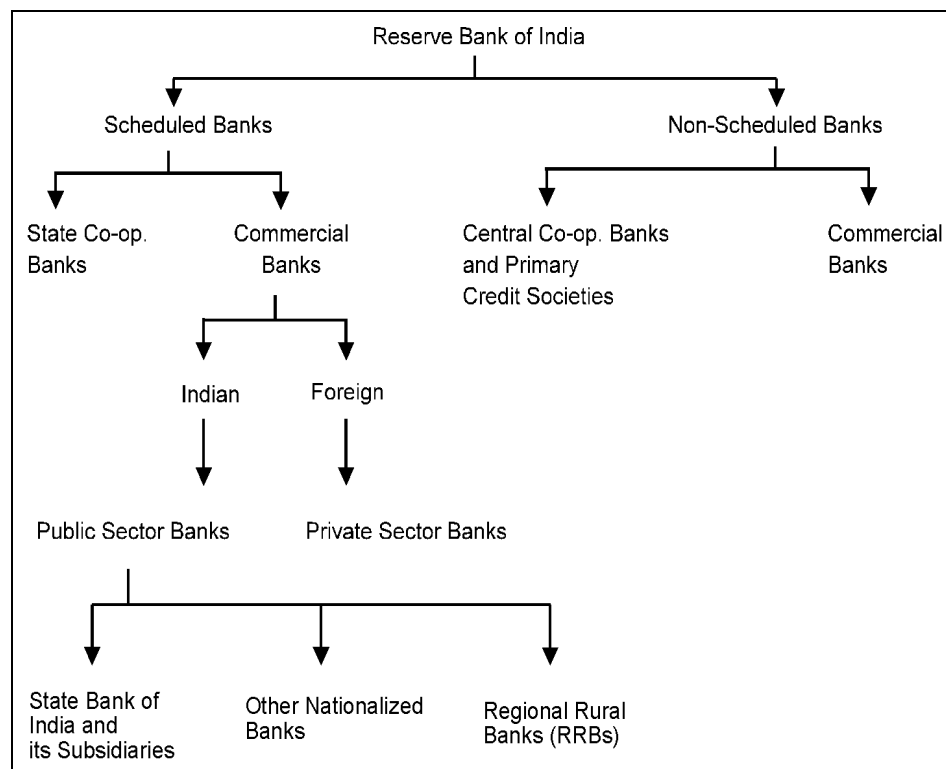
- Coastal Area Bank Limited, headquartered in Vijayawada (AP) and the area of operation includes three contiguous districts viz. Krishna, Guntur, and West Godavari;
- Capital Local Area Bank Limited in Phagwara (Punjab) and its area of operation includes three districts viz. Jalandhar, Kapurthala and Hoshiarpur in Punjab;
- Krishna Bhima Samruddhi Local Area Bank headquartered in Mahboobnagar (Telangana) with area of operation comprising three contiguous districts of Mahboobnagar in Telangana and Raichur, and Gulbarga in the state of Karnataka; and
- Subhadra Local Area Bank Limited headquartered in Kolhapur, Maharashtra with only eight branches.

Hence, each local area bank can open branch in only one urban centre per district and rest of the branches are to be opened in the rural and semi urban centers with requisite clearance from the District Consultative Committee, specifically for rural branches.

³³ <https://www.rbi.org.in/scripts/PublicationReportDetails.aspx?ID=294>

Figure 2.7 shows the banking structure in India.

Figure 2.7: Banking Structure in India



Source: ICFAI Research Center

2.12.3 Regional Rural Banks

A beginning to set up the Regional Rural Banks (RRBs) was made in the latter half of 1975 in accordance with the recommendations of the Banking Commission. It was intended that the RRBs would operate exclusively in rural areas and would provide credit and other facilities to small and marginal farmers, agricultural laborers, artisans, and small entrepreneurs. They now carry all types of banking business generally within one to five districts. The RRBs can be set up provided any public sector bank sponsors them. The ownership capital of these banks is held by the Central Government (50 per cent), concerned State Government (15 per cent), and the sponsor bank (35 per cent). They are, in effect, owned by the Government, and there is little local participation in the ownership and administration of these banks also. Further, they have a large number of branches.

Branch Banking

The banking system in India is thus characterized by excessive concentration of business in a small number of scheduled public sector banks. The banking in India, as in the UK, is entirely of the type called branch banking. The phenomenon of branch banking has aggravated the problem of organizational and operational

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inefficiency in the banking sector. There is a need to decide on the optimum size of a bank in Indian conditions. Some of the banks in India appear to have become too big to function efficiently. Branch banking has accentuated another problem, namely, the drain of resources from the rural to urban areas so much so that the authorities had to set different targets of credit/deposit ratio for different geographical areas.

Unit Banking

The policy of promoting and nurturing unit banking system would perhaps have yielded better results. While in branch banking a single bank accepts deposits through its branches at two or more locations in the same city, district or state. In a unit banking system, the bank conducts its overall operations from a single office. The banks in the United States were historically unit banks under local control. The working of many private sector banks today support this viewpoint. These banks are found to be compact in size which has facilitated cutting of red tape, promoting good rapport between the staff and management, motivating the staff, and giving better service to the customers and community. The government has realized this and has sanctioned privatization of banks which is discussed further on in this lesson.

2.12.4 Liabilities of Banks

The major liabilities of banks comprise deposits. Besides deposits, there could be other liabilities too such as borrowings from other banks, borrowings from RBI etc.

Deposits

Commercial banks deal in other people's money which they receive as deposits of various types. These deposits serve as a means of payment and as a medium of saving, and are a very important variable in the national economy.

Indian banks accept two main types of deposits – demand deposits and term deposits. Demand deposits can be subdivided into two categories: current and savings. Current deposits are accounts and there are no restrictions on the amount or the number of withdrawals from these accounts. It is possible to obtain a clean or secured overdraft on current account. Banks also extend to the account holders certain useful services such as collection of outstation cheques and issue of demand drafts. At present, banks generally do not pay interest on current deposits. All current deposits are included in estimating the volume of the money supply in the economy in a given period of time.

Savings deposits earn interest; the rate of this interest is 3.5 per cent at present. Although cheques can be drawn on savings accounts, the number of withdrawals and the maximum amount that might, at any time, be withdrawn from an account without previous notice remain restricted.

Call deposits is a third subcategory of demand deposits. They are accepted from fellow bankers and are repayable on demand. These deposits carry an interest charge. They form a negligible part of the total bank liabilities. Term deposits are also known as “fixed deposits” and they are a genuine savings medium. They have different maturity periods on which depends the rate of interest.

Other Liabilities

Among other liabilities of banks, demand and time deposits from other banks amount to 3 to 4 per cent of total liabilities; borrowings from other banks amount to another 1 to 2 per cent. Borrowings from the RBI is an item of great economic and operational significance because it indicates how far the banks’ own resources have been adequate for their business, the scope for falling back on the RBI as a lender of last resort, and the ability to tighten monetary reins by the RBI. Apart from borrowings from the RBI, banks use non-deposit resources such as refinance from IDBI, NABARD, EXIM Bank and bills rediscounted with financial institutions.

2.12.5 Banking Assets

The assets of a bank majorly comprise investments, loans and advances, bill financing etc.

Investments

Banks have four categories of assets: cash in hand and balances with the RBI, assets with the banking system, investments in government and other approved securities, and bank credit. Among these assets, investment in cash and government securities serves the liquidity requirements of banks and is influenced by the RBI policy. Quantitatively, bank credit and investment in government securities are bank’s most important assets. Commercial banks in India invest a negligible part of their resources in shares and debentures of joint-stock companies.

Bank Credit

Types of credit: Banks in India provide mainly short-term credit for financing working capital needs, although, as will be seen subsequently, their term loans have increased somewhat in the recent past. The various types of advances provided by them are: loans, cash credit, overdrafts (OD), demand loans, purchase and discounting of commercial bills, and instalment or hire-purchase credit. Loans are advances for fixed amounts repayable on demand or in instalments. They are normally made in lump sums and interest is paid on the entire amount. The borrower cannot draw funds beyond the amount sanctioned.

Cash Credits/Overdrafts

Cash credits and overdrafts are said to be running accounts, from which the borrower can withdraw funds as and when needed up to the credit limit sanctioned

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by his banker. Usually, while cash credit is given against the security of commodity stocks, overdrafts are allowed on personal or joint current accounts. Interest is charged on the outstanding amount borrowed and not on the credit limit sanctioned. In order to curb the misuse of this facility, banks used to levy a commitment charge on the unutilized portion of the credit limit sanctioned. However, this practice has now been discontinued. Technically, these advances are repayable on demand, and are of a short-term nature. Actually, the widely prevalent practice is to roll over these advances from time to time. As a result, cash credits actually become long-term advances in many cases. Although, technically these advances are highly liquid, it has been pointed out that it is a myth to regard them so because even the most profitable borrower would hardly be in a position to repay them on demand.

Bill Financing

Purchasing and discounting of bills – internal and foreign – is another method of advancing credit adopted by banks. It is done mainly to finance trade transactions and the movement of goods. Bill finance is either repayable on demand or after a period not exceeding 90 days.

Among these different systems of bank credit, cash credit/overdraft system remains the most important one. The shift away from it has been slow.

Loans

There are two categories of loans: demand loans and term loans. The term “demand loans” has been used in India in different senses. Demand loans by convention mean loans which have to be repaid when demanded by the creditor and as such they are short-term loans.

Term loans are defined as (i) loans sanctioned for a period exceeding one year with specific schedule of repayment, (ii) interim cash credits/bridge loans pending disbursement of sanctioned term loans, and (iii) instalment credit where repayment is spread over more than one year. They are advanced for purchasing fixed assets i.e., for meeting part of the capital cost of new and old projects. Commercial banks have expanded their term loans business over the years.

2.12.6 Lead Bank Scheme

The Lead Bank Scheme was introduced by the RBI in December, 1969 with the following objectives:

- a. To survey the potential for banking, industrial, and agricultural development in a given area, mostly a district.
- b. To mobilize deposits on a massive scale.
- c. To increase lending, on reasonable terms, to the weaker sections of the society, along with the underdeveloped sectors and areas in the economy.

- d. To make banks one of the key instruments in local development.
- e. To expand the network of bank branches in unbanked and under banked areas in a planned manner so that greater regional balance is achieved in banking development.
- f. To prepare District Credit Plans (DCPs) for the lead districts.

Under this scheme, a given bank is entrusted with the responsibility of locating growth centers, assessing deposit potential, identifying functional and territorial credit gaps, and evolving co-ordinated programs of credit deployment in each district assigned to it, with the help of other banks and credit agencies. Since August 1976, the lead banks are required to assume leadership in formulating district credit plans which are the blueprints for action by banks and other financial institutions to bring about overall development of the district. The lead banks, therefore, are an important agency in the institutional arrangements for credit planning – district, regional, and national. The RBI has allotted all the districts, except metropolitan cities, to nationalized banks and each of these banks has been designated as lead bank for the districts allotted to it.

The rates at which banks lend, earlier used to be controlled by RBI. Now only for advances between ₹ 25,000 and ₹ 200,000, banks have to follow the structure prescribed by RBI. For loans beyond ₹ 2 lakh, the determination of the interest rates has been left to the discretion of the individual banks.

In view of the several changes that had taken place in the financial sector, the Lead Bank Scheme was last reviewed by the High Level Committee headed by Usha Thorat, Deputy Governor of the Reserve Bank of India in 2009. Based on the recommendations of the committee, the following changes were introduced:

Block Level Bankers' Committee - BLBC is a forum for achieving coordination between credit institutions on one hand and field level development agencies on the other.

District Consultative Committee - DCCs were constituted in the early seventies as a common forum at district level for bankers as well as Government agencies/departments towards coordination of activities in implementing various developmental activities under the scheme.

The State Level Bankers' Committee (SLBC) has been constituted in April 1977, as an apex inter-institutional forum to create adequate coordination machinery in all States, on a uniform basis for development of the State.

³⁴As on March 31, 2022, the SLBC/UTLBC convenorship of 28 States and 8 Union Territories has been assigned to 11 public sector banks and one private sector bank.

³⁴ <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=12277&Mode=0>

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2.12.7 Credit Cards - The Concept

What is a credit card? Quite simply, it is a card that enables one to make purchases without having to pay cash immediately. When a card-holder makes his purchases, he presents his credit card to the member establishment instead of paying cash. The retailer checks the number on the card against the list provided to him by the bank. This is the authenticity test which proves whether the card-holder is the genuine owner of the card or not. The cardholder is also required to sign on the voucher, and the signature has to tally with the one on the credit card. The merchant establishment (ME) then has to present the necessary sales vouchers to the bank, which in turn reimburses it for the customer's purchases. The bank charges a commission from the ME, rates of which vary from bank to bank. On completion of these formalities it sends the bill to the card-holder. This, broadly speaking, is the way a credit card operates.

Many, perhaps, will be surprised to learn that the custom of credit cards came to India more than three decades back, when Diners Club entered in 1961. It took 20 long years for nationalized banks to consider competition. By then, the possibilities of the credit card seemed immense.

And now with the advent of ATM, potential customers are being lured even more. What is ATM? These are Automatic Teller Machines, or popularly called Any Time Money. An ATM makes standing in queues and spending time unnecessarily at the banks, things of the past. So, an ATM card-holder does not need to anxiously peer at the calendar or even his watch, when he needs cash. By just inserting a card into an ATM, he can withdraw crisp new notes at any time of the day or night.

2.13 Financial Sector Reforms

Reforms in the financial sector were necessitated to make way for the growth of the sector and make it globally competitive. These reforms in India were initiated by the privatization of banks, regulatory reforms in the insurance sector etc.

The decision to nationalize 14 commercial banks in July, 1969 was made to prevent unfair competition and concentration of economic power with industrial houses. But unfortunately with the passage of time, it was seen that public sector banks degenerated into monopoly financial houses. Instead of making funds available at optimal rates to industry, a major portion of funds was made available at cheap rates to the government. In spite of the vast expansion in the branch network, there was a general decline in efficiency and profits.

2.13.1 Privatization of Banks

Recognizing the need to introduce greater competition in the Indian banking sector which can lead to greater productivity and efficiency, the RBI allowed the entry of new private sector banks into the banking industry.

While permitting the new private sector banks, the RBI set out that they should sub-serve the underlying goals of the financial sector reforms, be financially viable, result in upgradation of technology in the banking sector, avoid shortcomings such as unfair pre-emption and concentration of economic power, cross holdings with industrial groups, and other such factors that beset the private sector banks prior to nationalization.

Guidelines for Private Banks

The Reserve Bank of India in 2013 released the guidelines for “Licensing of New Banks in the Private Sector”.

Key features of the guidelines are:

- (i) **Eligible Promoters:** Entities / groups in the private sector, entities in public sector and Non-Banking Financial Companies (NBFCs) shall be eligible to set up a bank through a wholly-owned Non-Operative Financial Holding Company (NOFHC).
- (ii) **‘Fit and Proper’ criteria:** Entities / groups should have a past record of sound credentials and integrity, be financially sound with a successful track record of 10 years. For this purpose, RBI may seek feedback from other regulators and enforcement and investigative agencies.
- (iii) **Corporate structure of the NOFHC:** The NOFHC shall be wholly owned by the Promoter / Promoter Group. The NOFHC shall hold the bank as well as all the other financial services entities of the group.
- (iv) **Minimum voting equity capital requirements for banks and shareholding by NOFHC:** The initial minimum paid-up voting equity capital for a bank shall be ₹ 5 billion. The NOFHC shall initially hold a minimum of 40 per cent of the paid-up voting equity capital of the bank which shall be locked in for a period of five years and which shall be brought down to 15 per cent within 12 years. The bank shall get its shares listed on the stock exchanges within three years of the commencement of business by the bank.
- (v) **Regulatory frame-work:** The bank will be governed by the provisions of the relevant acts, relevant statutes and the directives, prudential regulations and other guidelines/instructions issued by RBI and other regulators. The NOFHC shall be registered as a non-banking finance company (NBFC) with the RBI and will be governed by a separate set of directions issued by RBI.
- (vi) **Foreign shareholding in the bank:** The aggregate non-resident shareholding in the new bank shall not exceed 49% for the first five years after which it will be as per the extant policy.
- (vii) **Corporate governance of NOFHC:** At least 50% of the directors of the NOFHC should be independent directors. The corporate structure should not impede effective supervision of the bank and the NOFHC on a consolidated basis by RBI.

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- (viii) **Prudential norms for the NOFHC:** The prudential norms will be applied to NOFHC both on stand-alone as well as on a consolidated basis, and the norms would be on similar lines as that of the bank.
- (ix) **Exposure norms:** The NOFHC and the bank shall not have any exposure to the promoter group. The bank shall not invest in the equity / debt capital instruments of any financial entities held by the NOFHC.
- (x) **Business Plan for the bank:** The business plan should be realistic and viable and should address how the bank proposes to achieve financial inclusion.
- (xi) **Other conditions for the bank:**
- The Board of the bank should have a majority of independent Directors.
 - The bank shall open at least 25 per cent of its branches in unbanked rural centres (population upto 9,999 as per the 2011 census)
 - The bank shall comply with the priority sector lending targets and sub-targets as applicable to the existing domestic banks.
 - Banks promoted by groups having 40 per cent or more assets/income from non-financial business will require RBI's prior approval for raising paid-up voting equity capital beyond ₹10 billion for every block of ₹5 billion.
 - Any non-compliance of terms and conditions will attract penal measures including cancellation of licence of the bank.
- (xii) **Additional conditions for NBFCs promoting / converting into a bank:** Existing NBFCs, if considered eligible, may be permitted to promote a new bank or convert themselves into banks.

Example: NOHFC of ESAF Small Finance Bank

ESAF Financial Holdings Private Limited is the Corporate Promoter of ESAF Small Finance Bank Limited and is a Non- Deposit taking Systemically Important Core Investment Company registered with the Reserve Bank of India. As a promoter it holds, 69.403% of the shareholding in ESAF Small Finance Bank.

Source: <https://www.esafbank.com/annual-reports-2020-2021/> (Accessed on 3.6.2022)

Procedure for application:

In terms of Rule 11 of the Banking Regulation (Companies) Rules, 1949, applications shall be submitted in the prescribed form (Form III). The eligible promoters can send their applications for setting up of new banks along with other details mentioned in Annex II to the Guidelines.

Procedure for RBI decisions:

- At the first stage, the applications will be screened by the Reserve Bank. Thereafter, the applications will be referred to a High Level Advisory Committee, the constitution of which will be announced shortly.
- The Committee will submit its recommendations to the Reserve Bank. The decision to issue an in-principle approval for setting up of a bank will be taken by the Reserve Bank.
- The validity of the in-principle approval issued by the Reserve Bank will be one year.
- In order to ensure transparency, the names of the applicants will be placed on the Reserve Bank website after the last date of receipt of applications.

The top 6 private sector banks in India based on asset valuation (21-22) are as follows:

SL. No.	Name of the Private Bank	Year of Establishment	No. of Branches	Value of Assets in trillion ₹
1	HDFC Bank	1994	5430	20.69
2	ICICI Bank	1994	5288	14.11
3	Axis Bank	1993	4528	9.96
4	Kotak Mahindra Bank	2003	1500	3.83
5	IndusInd Bank	1994	2000	3.63
6	IDBI Bank	1964	2095	2.98

Sources: 1. <https://www.javatpoint.com/top-10-private-banks-in-india> (Accessed on May 4, 2022)

2. <https://www.statista.com/statistics/560275/largest-banks-india-by-total-assets/> (Accessed on May 4, 2022)

2.13.2 Merger of Banks in India

In April 2020, the consolidation of 10 large public sector banks into four (refer table below), announced in 2019 by the government of India came into effect. Termed as “mega merger”, this was aimed at supporting the growth required to reach the \$5 trillion economy target. The merger of banks will consolidate and strengthen these banks with economies of scale and global competitiveness. Earlier to this mega merger, the consolidation of the public sector banking in India began with the merger of State Bank of India with its five associate banks and Bharatiya Mahila Bank in 2017. Later in 2019, Dena Bank and Vijaya Bank merged with Bank of Baroda, thereby creating India’s third largest bank in India after SBI and HDFC Bank. With all these mergers, the total number of Public Sector Banks reduced from 27 to 12.

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Table: Merger of 10 Public Sector Banks into 4 PSBs

SL. No.	Names of the Merged Banks	Post merger Bank
1	Oriental Bank of Commerce United Bank of India Punjab National Bank	Punjab National Bank
2	Syndicate Bank Canara Bank	Canara Bank
3	Indian Bank Allahabad Bank	Allahabad Bank
4	Andhra Bank Corporation Bank Union Bank of India	Union Bank of India

Source: <https://www.livemint.com/industry/banking/banking-industry-in-a-fix-as-merger-date-for-psbs-nears-11585246668675.html>

2.13.3 Insurance

Insurance is commerce; insurance product is a financial contract entered into by parties with a definite consensus of mind.

An insurance is a contract by which insurer agrees to pay the insured a compensation for specified damage loss or injury suffered in exchange for periodic payment called premium.

Classification of Insurance

Insurance is basically classified into two categories on the basis of services offered and loss that is insured against. The categories are as follows:

- i. Life Insurance
- ii. General Insurance

Life Insurance

The payment of a sum of money on the death of the insured person due to natural causes (such as disease, old age, debility, etc.), or on the expiry of a certain number of years if the insured person is then alive.

General Insurance

Insurances other than life insurance fall within the purview of General Insurance. GI covers loss of every other physical or non-physical possession. The loss may be due to fire, theft, accident, etc. The general insurance is further classified into (i) fire insurance (ii) marine insurance (iii) miscellaneous insurance.

Fire Insurance

It covers movable and immovable property having monetary value. It covers the loss or damage to insured property by specified perils. For example, the damage by fire to property in manufacturing premises may result in total or partial stoppage of production leading to loss of profits. Such loss of profits can be covered under loss of profits (fire) insurance policy.

Marine Insurance

It is one of the oldest branches of insurance. It plays a significant role in both internal and international trade. A marine cargo insurance policy is an important document in international trade and provides collateral security to the banks. The insurers undertake to indemnify the insured against losses that occur during transit by road, rail, sea or air.

Miscellaneous Insurance

Insurance that does not fall under the above categories is covered under the category of accident insurance. Such insurance has no relation with an accident, and hence is now more appropriately referred to as miscellaneous insurance. It covers several clauses of which, motor insurance, burglary insurance, personal accident insurance, liability insurance, aviation insurance, cattle and crop insurance, are the most important.

Since insurance is an inevitable necessity, the extent to which it needs to be deregulated becomes a crucial issue. As an extension to liberalization, the Government appointed R N Malhotra, former Governor of RBI, to submit a report on how to reform the insurance sector.

Insurance Regulatory and Development Authority (IRDA)

The committee opined that the insurance regulatory apparatus should be activated even in the existing set-up of nationalized insurance sector and recommended the establishment of strong and effective Insurance Regulatory Authority on the lines of SEBI. Insurance Regulatory Authority was initially constituted through a Government resolution, as was done in the case of SEBI.

The Insurance Regulatory and Development Authority Act, 1999 (IRDA) was enacted in the 50th year of the Republic of India. The IRDA is a body corporate having perpetual succession and a common seal with power to acquire, hold and dispose of property, and to contract. It will consist of a Chairperson, not more than five whole-time members and not more than four part-time members. The Chairperson and every other whole-time member shall hold office for a term of five years from the date on which he enters upon his office and shall be eligible for reappointment until the age of 65 years in the case of the Chairperson and 62 years in the case of other whole-time members.

Block 1: Basics of Financial Management

The IRDA shall have the duty to regulate, promote and ensure orderly growth of the insurance and re-insurance business. The powers and functions of the Authority shall include –

- a. Protection of the interests of the policy-holders in matters concerning assigning of policy, nomination by policy-holders, insurable interest, settlement of insurance claim, surrender value of policy and other terms and conditions of contract of insurance;
- b. Issue certificate of registration, renew, modify withdraw, suspend or cancel such registration;
- c. Specifying requisite qualifications, code of conduct and practical training for intermediary or insurance intermediaries and agents;
- d. Specifying the code of conduct for surveyors and loss assessors;
- e. Promoting efficiency in the conduct of insurance business;
- f. Promoting and regulating professional organizations connected with the insurance and reinsurance business;
- g. Calling for information from, undertaking inspection, conducting enquiries and investigations including audit of the insurers, intermediaries, insurance intermediaries and other organizations connected with the insurance business;
- h. Control and regulation of rates, advantages, terms and conditions that may be offered by insurers in respect of general insurance business not so controlled and regulated by the Tariff Advisory Committee;
- i. Regulating investment of funds by insurance companies;
- j. Adjudication of disputes between insurers and intermediaries or insurance intermediaries;
- k. Supervising the functioning of the Tariff Advisory Committee;
- l. Specifying the percentage of life insurance business and general insurance business to be undertaken by the insurer in the rural or social sector.

Ever since liberalization began in the early '90s, there has been intense debate over the extent the insurance sector has to be deregulated in India. The IRDA being the sole regulatory and development authority, would be concentrating on healthy development and orderly growth of one insurance industry in India. Its role has become very important in the wake of the entry of private sector in the insurance industry.

2.14 Classification of Non-Banking Financial Companies

A Non-Banking Financial Company (NBFC) is registered as a company under the Companies Act 2013 and is permitted to accept deposits (except demand deposits) and give loans and advances. Though it performs the primary functions

of a commercial bank, it differs from the same as it is not permitted to deal with any payment and settlement system neither is required to maintain any reserve ratios. The various Non-Banking Financial Companies (NBFCs) can be classified as follows:

- Investment Trusts or Investment Companies
- Nidhis or Mutual Benefit Funds or Mutual Benefit Finance Companies
- Merchant Banks
- Hire-purchase Finance Companies
- Lease Finance Companies or Leasing or Equipment Leasing Companies
- Housing Finance Institutions (Companies)
- Micro Finance Institutions
- Venture Capital Funds, and
- Factors or Factoring Companies

2.14.1 Investment Trusts or Investment Companies

Investment trusts are close-ended organizations, unlike UTI, and they have a fixed amount of authorized capital and a stated amount of issued capital. Investment trusts provide useful services through conserving and managing property for those who, for some reasons or other cannot manage their own affairs. Investors of moderate means are provided facilities for diversification of investment, expert advice on lucrative investment channels, and supervision of their investment. From the point of view of the economy, they help to mobilize small savings and direct them to fruitful channels. They also have a stabilizing effect on stock markets. Unlike in other countries, they render manifold functions such as financing, underwriting, promoting and banking.

Most of these companies are not independent; they are investment holding companies, formed by the former managing agents, or business houses. As such, they provide finance mainly to such companies as are associated with these business houses.

Real Estate Investment Trusts (REITs)

One form of investment trusts is Real Estate Investment Trusts (REITs). REITs are formed as per the SEBI (Real Estate Investment Trusts) Regulations, 2014. REITs pool money from investors which is used to buy or invest in income generating real estate properties. The two primary sources of income for REITs are the capital appreciation of the real estate and rental income. The income is distributed to the investors in the form of dividend. Similar to a mutual fund, REITs operate with a sponsor, fund management company and trustee. For example, Mindspace Business Park REIT is sponsored by Anbee Constructions LLP and Cape Trading LLP which are part of the K Raheja Corporation Group.

Block 1: Basics of Financial Management

K Raheja Group Investment Managers LLP is the fund management company for this REIT. For the FY 2022, this REIT declared a dividend of 18.45 per unit³⁵.

2.14.2 Nidhis

Mutual benefit funds or Nidhis, as they are called in India, are joint stock companies operating mainly in South India, particularly in Tamil Nadu. The sources of their funds are share capital, deposits from their members, and the public. The deposits are fixed and recurring. Unlike other NBFCs, Nidhis also accept demand deposits to some extent.

The loans given by these institutions are mainly for consumption purposes. These loans are usually secured loans, given against the security of tangible assets such as house property, gold, jewelry, or against shares of companies, LIC policies, and so on. The terms on which loans are given are quite moderate. The notable points about these institutions are:

(a) They offer saving schemes which are linked with assurances to make credit available when required by savers; (b) they make credit available to those to whom the commercial banks may hesitate to give credit or whom commercial banks have not been able to reach; (c) they possess characteristics such as their local character, easy approachability, and the absence of cumbersome procedures, which make them suitable institutions for small areas; and (d) interest rates on their deposits and loans are comparable to those of commercial banks, and they work on sound principles of banking. Their operations are similar to those of unit banks. They are incorporated bodies and are governed by the directives of the RBI.

2.14.3 Merchant Banks

It would help in understanding the nature of merchant banking if we compare it with commercial banking. The MBs offer mainly financial advice and services for a fee, while commercial banks accept deposits and lend money. When MBs do function as commercial banks, they function essentially as wholesale bankers rather than retail bankers. It means that they deal with selective large industrial clients and not with the general public in their fund based activities. The merchant banks are different from securities dealers, traders, and brokers also. They deal mainly in new issues, while the latter deal mainly in existing securities.

The range of activities undertaken by merchant banks can be understood from a recent advertisement of one of the merchant bankers in India which mentioned the following as the services offered by it: (i) management, marketing, and underwriting of new issues; (ii) project promotion services and project finance; (iii) syndication of credit and other facilities; (iv) leasing, including project leasing; (v) corporate advisory services; (vi) investment advisory services;

³⁵ <https://www.mindspacereit.com/investor-relations/distribution#ir>

(vii) bought-out deals; (viii) venture capital; (ix) mutual funds and offshore funds; (x) investment management including discretionary management; (xi) assistance for technical and financial collaboration and joint ventures; (xii) investment services for non-resident Indians; and (xiii) management and dealing in commercial paper.

In India, the merchant banking services are provided by the commercial banks, all India financial institutions, private consultancy firms and technical consultation organizations.

Apart from these institutions, professional merchant banking houses are slowly coming up in India. In March, 1991, SEBI granted permission to VMC Project Technologies to act as the merchant banker and to undertake public issue management, portfolio management, lead management, and so on. It may be noted that in India, the permission of the SEBI is required to do merchant banking business.

Example: Merchant Bankers in LIC's IPO

As many as 16 merchant bankers competed to manage the mega IPO of LIC. Of these, 7 were international banks. The government has appointed 10 merchant bankers including Goldman Sachs (India) Securities, Citigroup Global Markets India, Nomura Financial Advisory and Securities India, SBI Capital Market, JM Financial, Axis Capital, BofA Securities, JP Morgan India, ICICI Securities, and Kotak Mahindra Capital Co Ltd to manage the IPO. These merchant banks will form a syndicate and advise DIPAM on the timing and floor price for the IPO.

Sources: 1. <https://timesofindia.indiatimes.com/business/india-business/16-merchant-bankers-in-race-for-managing-lic-ipo/articleshow/85558950.cms> (Accessed on May 4, 2022)

2. <https://www.businessworld.in/article/Govt-Appoints-10-Merchant-Bankers-For-Managing-LIC-IPO/07-10-2021-407673/> (Accessed on May 4, 2022)

2.14.4 Hire Purchase Finance Companies

Hire-purchase involves a system under which term loans for purchases of goods and services are advanced to be liquidated in stages through a contractual obligation. The goods whose purchases are thus financed may be consumer goods or producer goods or they may be simply services such as air travel.

Hire-purchase credit may be provided by the seller himself or by any financial institution.

Hire-purchase credit is available in India for a wide range of products and services. Products like automobiles, sewing machines, radios, refrigerators, TV sets, bicycles, machinery and equipment, other capital goods, industrial sheds; services like educational fees, medical fees and so on are now financed with the help of such credit. However, unlike in other countries, the emphasis in India is on the provision of installment credit for productive goods and services rather than for purely consumer goods.

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Other suppliers of hire-purchase finance are retail and wholesale traders, commercial banks, NSIC, SFCs, SIDCs, Agro-Industries Corporations (AICs), and so on.

In the recent past, banks also have increased their business in the field of installment credit and consumer loans.

IDBI indirectly participates in financing hire-purchase business by way of rediscounting usance bills/promissory notes arising out of sales of indigenous machinery on deferred payment basis.

2.14.5 Lease Finance Companies

A lease is a form of financing, employed to acquire the use of assets, through which firms can acquire the economic use of assets for a stated period without owning them. Every lease involves two parties: the user of the asset is known as the lessee, and the owner of the asset is known as the lessor. While these companies may undertake other activities like consumer credit, car finance, etc., their predominant activity is leasing.

Lease financing organizations in India include, many private sector non-bank financial companies, some private sector manufacturing companies, Infrastructure Leasing and Financial Services Ltd. (IL&FS), ICICI, IRCI, capital market subsidiaries of leading nationalized banks, IFC, LIC, GIC, Housing Development Finance Corporation (HDFC), certain SIDCs and SIICs, and other organizations. The lessee companies include, many leading corporations in both public and private sectors, and small manufacturing companies.

2.14.6 Housing Finance Companies

Housing finance is provided in the form of mortgage loans i.e., it is provided against the security of immovable property of land and buildings. Basically, housing finance loans are given by the Housing and Urban Development Corporation (HUDCO), the apex Co-operative Housing Finance Societies and Housing Boards in different States, Central and State Governments, LIC, Commercial banks, GIC and a few private housing finance companies and Nidhis. The governments provide direct loans mainly to their employees. The participation of commercial and urban co-operative banks in direct mortgage loans has been marginal till recently. LIC has been a major supplier of mortgage loans in indirect and direct forms. It has been giving loans to the state governments, apex co-operative housing finance societies, HUDCO, and so on. In addition, it has been providing mortgage loans directly to individuals under its various mortgage schemes.

2.14.7 National Housing Bank

It was set up in July, 1988 as an apex level housing finance institution as a wholly owned subsidiary of the RBI. It began its operations with the total capital of

₹ 170 crore (₹ 100 crore as share capital, ₹ 50 crore as long-term loan from the RBI, and ₹ 20 crore through the sale of bonds).³⁶In February 2020, its subscribed share capital was raised to ₹ 1450 crore, that has been fully subscribed by RBI. Currently, the capital is fully subscribed by RBI. Subsequent to the payment of this amount to RBI, the subscribed capital of NHB shall stand transferred to and vested in the Central Government. As on this date, NHB's authorized share capital stood at ₹2000 crore.

The explicit and primary aim of NHB is to promote housing finance institutions at local and regional levels in the private and joint sectors by providing financial and other support. It refines housing loans under its refinance schemes for scheduled commercial and co-operative banks, housing finance companies, apex co-operative housing finance societies, and so on.

2.14.8 Micro Finance Institutions

A micro finance institution, also referred to as MFI, is an institution that gives finance facilities to the low income population. In addition to providing finance, which is usually extended to those who become members of the institution, they also offer insurance services, deposit schemes and other services. Now-a-days several NBFCs have taken the micro finance route. NBFCs which engage in micro finance, which are licensed under Section 8 of Companies Act, 2013 and which do not accept deposits are exempted from the provisions of RBI Act, 1934. The relevant sections for which these exemptions pertain to are - Sections 45 – IA (registration), Section 45 – IB (maintenance of liquid assets) and Section 445 – IC (transfer of profits to Reserve Fund).

2.14.9 Venture Capital Funding Companies

The term “venture capital”, suggests taking risk in supplying capital. However, supply of risk capital may not be a prime function in certain cases; the emphasis may be on supporting technocrats in setting up projects or on portfolio management.

The term venture capital fund is usually used to denote mutual funds or institutional investors that provide equity finance or risk capital to little known, unregistered, highly risky, young, small private businesses. The finance is provided especially in technology-oriented and knowledge-intensive businesses or industries which have long development cycles and which usually do not have access to conventional sources of capital because of the absence of suitable collateral and the presence of high risk. VCFs play an important role in supplying management and marketing expertise to such units.

³⁶ <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1566743>

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2.14.10 Factoring

Factoring, basically involves transfer of the collection of receivables and the related book-keeping functions from the firm to a financial intermediary called the factor. In addition, the factor often extends a line of credit against the receivables of the firm. Thus, factoring provides the firm with a source of financing its receivables and facilitates the process of collecting the receivables.

Factoring is of a recent origin in the Indian context. In 1988, the Reserve Bank of India (RBI) constituted a High Powered Committee to examine the scope for offering factoring services in the country. In 1989, the committee submitted its report strongly recommending the case for setting up factoring subsidiaries. Following the announcement of the guidelines, the State Bank of India and Canara Bank have set up their factoring subsidiaries – SBI Factors and Commercial Services Limited and Canbank Factors Limited. SBI Factors and Commercial Services Limited has a market share of 40%. Canbank Factors Limited is the leading player in this business with a market share of 55%.

Depending upon the features built into the factoring transaction, there can be different forms of factoring arrangements such as:

- a. Recourse factoring
- b. Non-recourse factoring
- c. Maturity factoring
- d. Advance factoring
- e. Invoice discounting
- f. Full factoring
- g. Bank participation factoring
- h. Supplier guarantee factoring
- i. Cross-border factoring.

2.15 Summary

- A financial system functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A financial system is a composition of various institutions, markets, regulations and laws, practices, money managers, analysts, transactions and claims and liabilities.
- The functions performed by a financial system are: savings function, liquidity function, payment function, risk function and policy function.
- A financial market can be defined as the market in which financial assets are created or transferred. Financial markets are sometimes classified as primary and secondary markets. But, more often financial markets are classified as money markets and capital markets.

- Money market deals with all transactions in short-term instruments (with a period of maturity of one year or less). It comprises the call money market, treasury bills, commercial paper, certificate of deposits and money market mutual funds.
- The capital market provides the resources needed by medium and large-scale industries for investment purposes. It deals in long-term sources of funds (with more than 1 year maturity). The capital market can be broadly segregated into primary and secondary market.
- To meet the financial requirements of their projects, companies raise capital through issue of securities (shares and debentures) in the primary market. SEBI has issued elaborate guidelines on matters relating to public issues, rights issues, bonus issues, issue of debentures, underwriting, private placement, pricing of issues, etc. These guidelines virtually effect all activities relating to capital issues.
- The secondary market is that segment of the capital market where the outstanding securities (securities already issued) are traded. The secondary market operates through the medium of stock exchanges which regulates the trading activities in this market and ensures a measure of safety and fair dealing to the investors.
- A government security is a tradable instrument issued by the central government or the state governments. Such securities, called treasury bills, are short term with original maturities of less than one year. The long-term government bonds or dated securities have original maturity of one year or more. In India, the central government issues both treasury bills and bonds or dated securities.
- The international capital markets became a major source of external finance for nations with low internal savings. The markets were classified into Euro Markets, American Markets and Other Foreign Markets. Borrowers/Issuers, Lenders/Investors and Intermediaries are the major players of the international markets.
- A GDR is a negotiable instrument which represents publicly traded local-currency-equity share. GDR is any instrument in the form of a depository receipt or certificate created by the Overseas Depository Bank outside India and issued to non-resident investors against the issue of ordinary shares or foreign currency convertible bonds of the issuing company.
- ADR is a dollar denominated negotiable certificate, it represents a non-US company's publicly traded equity. It was devised in the late 1920s to help Americans invest in overseas securities and to assist non-US companies wishing to have their stock traded in the American Markets. ADRs are divided into 3 levels based on the regulation and privilege of each company's issue.

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- Foreign exchange market is similar to money market, where financial paper with relatively short maturity is traded. But, in forex market, financial paper is not denominated in the same currency.
- The rate at which one currency is converted into another currency is the rate of exchange between the two currencies concerned. The exchange rate between two currencies can be obtained from quotation in foreign exchange rate market and it is quoted in two ways – Direct Quotation and Indirect Quotation.
- Derivatives are designed to manage risks, which arise from movements in markets. The derivative markets enable institutional investors, bank treasurers and corporates to manage their risk more efficiently and allow them to hedge or speculate (explained below) on markets.
- A futures contract is a form of forward contract which conveys an agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price on a stipulated future date. There are different types of futures such as commodity futures, currency futures, index futures and interest rate futures.
- Option is a contract that confers the right, but not an obligation to the holder to buy (call option) or to sell (put option) an underlying asset (the asset may be a stock, currency, commodity, financial instrument or a futures contract) at a price agreed on a specific date or by a specific expiry date. The various types of options are equity options, index options, bond options, commodity options, futures options, currency options and interest rate options.
- Option is a contract that confers the right, but not an obligation to the holder to buy (call option) or to sell (put option) an underlying asset (the asset may be a stock, currency, commodity, financial instrument or a futures contract) at a price agreed on a specific date or by a specific expiry date.
- A financial system operates through the financial institutions. The financial institutions though mostly operate as lenders, in certain cases they may also function as the borrowers. The financial institutions operating in India can be segregated into development banks and investment institutions.
- Reserve Bank of India is the central bank of our country which performs functions of monetary management, regulation of the quantity of money and the supply and availability of credit to business and industry.
- Commercial banks in India comprise nationalized banks, private banks, small banks, regional rural banks, payment banks etc. The Non-Banking Financial Companies consist of Nidhis, venture capital funds, investment companies, merchant banks, lease finance and housing finance companies etc.

2.16 Glossary

American Depository Receipts is a dollar denominated negotiable certificate, it represents a non-US company's publicly traded equity.

Arbitrage is the act of obtaining risk-free profits by simultaneously buying and selling similar instruments in different markets. The person who does arbitraging is known as 'arbitrageur'.

Bank Rate is the rate at which the Reserve Bank lends for long term to commercial banks or other financial institutions.

Bonus Issue is the method of raising additional capital by the companies that distribute profits to existing share-holders in lieu of dividend. Bonus shares are issued in the ratio of existing shares held.

Bulldog Bonds are sterling denominated foreign bonds, which are raised in the UK domestic securities market.

Call Money Market forms a part of the national money market, where day-to-day surplus funds, mostly of banks, are traded.

Call Money is the money that is lent for one day in call money market.

Call Rates are the interest paid on call loans in call money market.

Capital is a flexible term that generally refers to financial resources available for use. Thus, the market where capital, represented by stocks and bonds, is traded, constitutes the capital market. It is an over-the-counter market without any physical boundaries where the firm raises funds.

Capital Market is the financial market that deals with transactions related to long-term instruments with a period of maturity of above one year like corporate debentures, government bonds, etc., and stocks like equity and preference shares.

Certificates of Deposits (CD) is a negotiable promissory note, secure and short-term in nature. CD are issued at a discount to the face value, the discount rate being negotiated between the issuer and the investor.

Commercial Paper (CP) is an unsecured usance money market instrument issued in the form of a promissory note at a discount, and is transferable by endorsement and delivery and is of fixed maturity.

Depository Receipt is a negotiable certificate issued by a depository bank which represents the beneficial interest in shares issued by a company.

Derivative Instruments are instruments derived from conventional direct dealings in securities, currencies and commodities.

Direct Quotation is the exchange rate expressed as the price per unit of foreign currency in terms of home or local currency equal to one unit of foreign currency.

Exchange Rate is the rate at which one currency is converted into another currency.

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Eurobond is an instrument, which is issued in a currency other than the currency of the country in which it is issued

Financial Institutions are institutions engaged in financial activities. Examples: insurance companies, commercial banks, leasing companies.

Financial Intermediaries are financial institutions which borrow money from some persons/institutions and lend it to others.

Financial Market is the market in which financial assets are created or transferred.

Fixed-rate Bonds/Straight Debt Bonds are bonds that come with fixed interest and are usually redeemed at face value.

Floating Rate Notes are bonds that are issued for a maturity period of 5-7 years. These bonds have floating interest rates.

Foreign Exchange is the mechanism by which one currency is converted into other.

Futures is a form of forward contract which conveys an agreement to buy or sell a specific amount of a commodity or financial instrument at a particular price on a stipulated future date.

Global Depository Receipts is a negotiable instrument which represents publicly traded local-currency-equity share.

Hedgers are the parties who perform hedging is hedgers.

Hedging is an act, in which an investor seeks to protect a position or anticipated position in spot market by using an opposite position in derivatives.

Industrial Credit and Investment Corporation of India (ICICI) is an all-India term lending financial institution which seeks to provide assistance to units in private sector, particularly to meet their foreign exchange requirements.

Indirect Quotation is the unit of home currency that is kept constant and the exchange rate is expressed as so many units of foreign currency.

Industrial Development Bank of India (IDBI) is the apex term lending financial institution in India.

Industrial Finance Corporation of India (IFCI) is an all-India term lending financial institution which seeks to primarily provide medium and long-term credit to industry.

Money market is the market for short-term funds with a period of maturity of one year or less.

Money Market Mutual Funds (MMMF) are mutual funds that invest primarily in money market instruments of very high quality and of very short maturities.

Notice Money is the money that is lent for more than one day (but less than 15 days) in call money market.

Options is a contract that confers the right, but not an obligation to the holder to buy or sell an underlying assets like stock, currency, commodity, financial instrument or a futures contract at a price agreed on a specific date or by a specific expiry date.

Primary Market is the market in which financial securities are issued.

Private Placement is the direct sale of private as well as public sector securities (shares and debentures) to a limited number of sophisticated investors like UTI, LIC, GIC, State Finance Corporations and Pension and Insurance Funds.

Public Issue is the method of raising capital that involves raising of funds directly from the public.

Rights Issue is the method of raising additional finance from existing members by offering securities (shares and debentures) to them on pro rata basis.

RBI is the central bank of India and is fully owned by the central government.

Samurai Bonds are bonds issued by non-Japanese borrowers in the domestic Japanese markets.

Shibosai Bonds are the privately placed bonds issued in the Japanese markets.

Stock Exchanges are formal organizations involved in the trading of securities. Such exchanges are tangible entities that conduct auction in listed securities.

Yankee Bonds are US dollar denominated bonds which are issued by foreign borrowers (usually foreign governments or entities, supra nationals and highly rated corporate borrowers) in the bond markets of the US.

Secondary Market is the market for outstanding securities.

Speculators are basically traders, who enter the futures or options contract, with a view of making profit from the subsequent price movements.

State Financial Corporation (SFCs) are state-level financial institutions catering mainly to the needs of the small and medium scale sector.

Value Date Concept refers to the day on which the delivery of agreed good/currency takes place.

Venture Capital Fund is usually used to denote mutual funds or institutional investors that provide equity finance or risk capital to little known, unregistered, highly risky, young, small private businesses.

2.17 Self-Assessment Test

1. Discuss briefly on Indian financial system and its functions.
2. What are secondary markets? Explain the system of trading in secondary markets.
3. Give a brief note on different types of government securities.

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4. How are international capital markets classified? Enumerate on the financial instruments used for trading in international markets
5. What are the derivatives? Who are participants to derivative market and state its functions.
6. How are NBFC's classified? Explain.
7. "Privatisation of banks led to greater efficiency and productivity." What are the guidelines laid down by RBI with regard to establishment of new private banks?

2.18 Suggested Readings/Reference Material

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2.19 Answers to Check Your Progress Questions

1. **(c) Increasing cost of funds gives a positive impact on the growth of economy**

Raise in cost of funds adversely affects the production, consumption, employment and growth of economy.

2. **(d) Risk**

The financial markets provide immense opportunities for the investor to hedge himself against or reduce the possible risks involved in various investments.

3. **(c) Money Market**

Money market deals with all transactions in short-term instruments with a period of maturity of one year or less like treasury bills, bills of exchange, etc.

4. **(b) Certificate of Deposit**

The minimum amount of a CD an investor can subscribe should not be less than ₹ 1 lakh, and should be multiple of ₹ 1 lakh thereafter.

The maturity period of CD issued by banks should be not be less than seven days and not more than one year. The FIs can issue for a period not less than 1 year and not more than three years from the date of issue.

5. (e) Foreign Institutional Investors

The FIIs have been permitted to invest in dated securities within the frame-work of guidelines on debt instruments for 100% debt funds, subject to an annual cap on such investment within the overall limit of external commercial borrowings.

6. (b) Lead Manager

They undertake due diligence and preparation of offer circular, marketing the issues and arrange for road shows.

7. (a) Global Depository Receipts

Global Depository Receipts are negotiable instruments that represents publicly traded local currency equity shares in international market.

8. (c) Forex markets deal only with forward transactions

In foreign exchange market, the time element is taken into account by dividing the market into spot and forward markets.

9. (a) Hedging

Hedging is an act, whereby an investor seeks to protect a position or anticipated position in the spot market by using an opposite position in derivatives. The parties which perform hedging are known as hedgers.

10. (a) Buyer is under obligation to purchase the underlying instrument

Option is a contract that confers the right, but not an obligation to the holder to an underlying asset (the asset may be a stock, currency, commodity, financial instrument or a futures contract).

Unit 3

Time Value of Money

Structure

- 3.1 Introduction
- 3.2 Objectives
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"How many millionaires do you know who have become wealthy by investing in savings accounts? I rest my case."

— Robert G. Allen

3.1 Introduction

A savings account is a place for money to save not to grow. Why? Because of its lower interest rates. Let's see how money can grow or diminish with time.

The time value of money is an important part of financial management. Time value of money is all about compounding and discounting the rupee value. Suppose you can buy 10 mangoes for ₹ 100 today. After one year, the same amount of money may enable you to buy only 9 mangoes. You cannot buy the same quantity or more because the purchasing power of money has declined with the passage of time. This concept is referred to as time value of money. This whole idea when applied to the business world translates into financial decisions such as investing in the present market in those projects that yield higher return in the future or assessing the present value of a project based on its future yields.

Example: RBI's Repo Rate

On May 4, 2022, the Reserve Bank of India increased its repurchase rate to 4.40%, from the record low of 4% which has been held for the past two years (FY 20-21 and FY 21-22). All floating rate loans are going to cost more. The FD investors can hope for better returns on new FDs. The floating rate EMIs are also going to increase. What does this imply? The time value of money has increased. It is not just the fixed deposits but also the recurring deposits that will become more palatable to customers.

Sources 1: <https://www.livemint.com/money/personal-finance/loan-emis-expected-to-go-up-as-rbi-announces-surprise-rate-hike-11651654699064.html> (Accessed on May 5, 2022)

2: <https://economictimes.indiatimes.com/wealth/personal-finance-news/rbi-hikes-repo-rate-loan-emis-set-to-go-up-for-borrowers-fd-investors-to-benefit/articleshow/91311193.cms> (Accessed on May 5, 2022)

In the previous unit, we discussed Indian Financial System and its components. This unit gives an overview of the concept of time value of money and its applications to financial decision making.

3.2 Objectives

After reading through the unit, you should be able to:

- Apply the concept of time value of money for financial decisions
- Demonstrate the process of compounding and discounting in computing the present and future value of investing decisions
- Compute the present value and future value of cash flows to ascertain present value of a project and its future yields

3.3 Meaning of Time Value of Money

To keep pace with the increasing competition, companies have to go in for new ideas implemented through new projects, be it for expansion, diversification or modernization. A project is an activity that involves investing a sum of money now in anticipation of benefits spread over a period in the future. How do we determine whether the project is financially viable or not? Our immediate response to this question will be to sum up the benefits accruing over the future period and compare the total value of the benefits with the initial investment. If the aggregate value of the benefits exceeds the initial investment, the project is considered financially viable.

While this approach *prima facie* appears to be satisfactory, we must be aware of an important underlying assumption. We have assumed that irrespective of the time when money is invested or received, the value of money remains the same. Put differently, we have assumed that value of one rupee now = value of one rupee at the end of year 1 = value of one rupee at the end of year 2 and so on. We know intuitively that this assumption is incorrect because money has time value. How do we define this time value of money and build it into the cash flows of a project? The answer to this question forms the subject matter of this unit.

Block 1: Basics of Financial Management

We intuitively know that ₹ 1,000 in hand now is more valuable than ₹ 1,000 receivable after a year. In other words, we will not part with ₹ 1,000 now in return for a firm assurance that the same sum will be repaid after a year. However, we might part with ₹ 1,000 now if we are assured that something more than ₹ 1,000 will be paid at the end of the first year. This additional compensation required for parting with ₹ 1,000 now is called ‘interest’ or the time value of money. Normally, interest is expressed in terms of percentage per annum for example, 12 percent p.a. or 18 percent p.a. and so on.

Why should Money have Time Value?

Here are some important reasons for this phenomenon:

Money can be employed productively to generate real returns. For instance, if a sum of ₹ 100 invested in raw material and labor results in finished goods worth ₹ 105, we can say that the investment of ₹ 100 has earned a rate of return of 5 percent.

In an inflationary period, a rupee today has a higher purchasing power than a rupee in the future.

Since future is characterized by uncertainty, individuals prefer current consumption to future consumption.

The manner in which these three determinants combine to determine the rate of interest can be symbolically represented as follows:

Nominal or market interest rate

$$\begin{aligned} &= \text{Real rate of interest or return} + \text{Expected rate of inflation} \\ &+ \text{Risk premiums to compensate for uncertainty} \end{aligned}$$

There are two methods by which the time value of money can be taken care of – compounding and discounting. To understand the basic ideas underlying these two methods, let us consider a project, which involves an immediate outflow of, say, ₹ 1,000 and the following pattern of inflows:

Year 1: ₹ 250

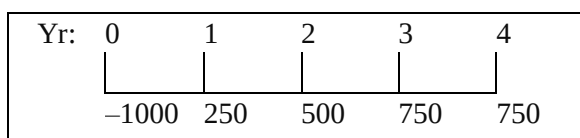
Year 2: ₹ 500

Year 3: ₹ 750

Year 4: ₹ 750

The initial outflow and the subsequent inflows can be represented on a timeline as given in Figure 3.1 below:

Figure 3.1: Time Line



Source: Adapted from Prasanna Chandra's *Financial Management – Theory and Practice*, 2019

Example: Inflation and Interest Rates

Let's look at how inflation and interest rates are connected in the real world.

After the two-day policy meeting, the US Federal Reserve on May 4, 2022, raised its benchmark interest rate by half a percentage point, the biggest jump in 22 years. This was the US Federal Reserve's effort to tamp down soaring inflation in the US. The Economist Intelligence Unit expects the Fed to raise rates seven times in 2022, reaching 2.9% in early 2023 to achieve a hold on inflation.

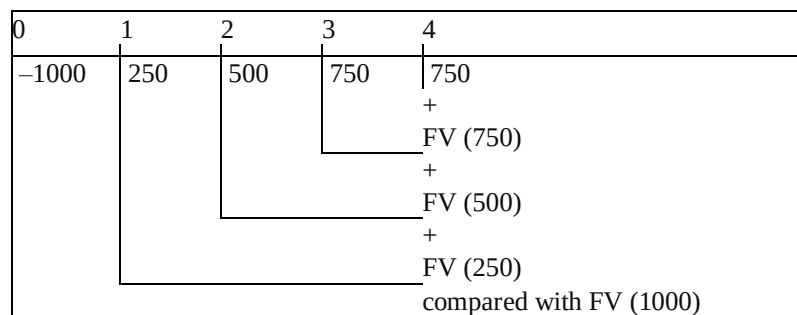
Sources: 1. <https://www.wsj.com/livecoverage/federal-reserve-meeting-inflation-rate-may-2022> (Accessed on May 5, 2022)

2. <https://www.theguardian.com/business/2022/may/04/fed-rate-increase-inflation> (Accessed on May 5, 2022)

3.4 Process of Compounding

While making investing decisions, an investor would want to know what would be the value of his/her investment after a specific period. This can be done using the process of compounding.

Under the method of compounding, we find the Future Values (FV) of all the cash flows at the end of the time horizon at a particular rate of interest. Therefore, in this case we will be comparing the future value of the initial outflow of ₹ 1,000 as at the end of year 4 with the sum of the future values of the yearly cash inflows at the end of year 4. This process can be schematically represented as follows in Figure 3.2:

Figure 3.2: Process of Compounding

Source: Adapted From Prasanna Chandra's *Financial Management – Theory And Practice*, 2019

Example: Compound Interest

Why do they say that Einstein called compound interest the eighth wonder of the world?

From the first month of his career, if a young man saves ₹ 3,000 per month and invests in a bank that pays 10% interest compounded annually, and say he retires after 35 years, he will earn ₹ 1.02 crore by the time of his retirement. This, if he invests in a fixed deposit yielding a 10% return, he will earn ₹ 83,330 per month for the next 25 years of his retired life.

Source: https://www.business-standard.com/budget/article/understanding-the-magic-of-compounding-115022701054_1.html (Accessed on May 5, 2022)

3.5 Process of Discounting

Financial decisions are based on evaluation of the costs and benefits associated with a decision. While costs represent present outflows, benefits represent the future inflows. Hence, to compare the outflows with the inflows it is necessary to know the present value of inflows. This is done through the process of discounting.

Under the method of discounting, we reckon the time value of money now i.e. at time 0 on the time line. So, we will be comparing the initial outflow with the sum of the Present Values (PV) of the future inflows at a given rate of interest. This process can be diagrammatically represented as follows in Figure 3.3:

Figure 3.3: Process of Discounting

0	1	2	3	4
-1000	250	500	750	750
Compared with the sums of PV (250)				
+				
PV (500)				
+				
PV (750)				
+				
PV (750)				

Source: Adapted From Prasanna Chandra's *Financial Management – Theory And Practice*, 2019

How do we compute the future values and the present values? This question is answered in the latter part of the unit. But before that, we must draw the distinction between the concepts of compound interest and simple interest. We shall demonstrate this distinction through the following illustration.

Illustration 3.1

If X has a sum of ₹ 1,000 to be invested, and there are two schemes, one offering a rate of interest of 10 percent, compounded annually, and the other offering a simple rate of interest of 10 percent, which one should he opt for assuming that he will withdraw the amount at the end of (a) one year (b) two years, and (c) five years?

Solution

Given the initial investment of ₹ 1,000, the accumulation under the two schemes will be as follows:

End of year	Compounded Interest Scheme (₹)	Simple Interest Scheme (₹)
1	$1000 + (1000 \times 0.10) = 1100$	$1000 + (1000 \times 0.10) = 1100$
2	$1100 + (1100 \times 0.10) = 1210$	$1100 + (1000 \times 0.10) = 1200$
3	$1210 + (1210 \times 0.10) = 1331$	$1200 + (1000 \times 0.10) = 1300$
4	$1331 + (1331 \times 0.10) = 1464$	$1300 + (1000 \times 0.10) = 1400$
5	$1464 + (1464 \times 0.10) = 1610$	$1400 + (1000 \times 0.10) = 1500$

From this table, it is clear that under the compound interest scheme interest earns interest, whereas interest does not earn any additional interest under the simple interest scheme. Obviously, an investor seeking to maximize returns will opt for the compound interest scheme if his holding period is more than a year. We have drawn the distinction between compound interest and simple interest here to emphasize that in financial analysis we always assume interest to be compounded.

Activity 3.1

1. You have a choice of receiving ₹ 5,000 now or ₹ 20,000 after 10 years. Which would you choose? What does your preference indicate?

2. An investor wants to put his savings in an investment option that will give him assured returns on his retirement. His accumulated savings are ₹ 1,00,000. He wants to know how much this amount will grow to in 10 years' time period. In arriving at his decision should he adopt the process of discounting or compounding? Why?

Example: Returns

If invested in	Returns		
	1 Year	2 Years	3 Years
UTI Nifty Index Fund - Direct Plan - Growth	12.45%	34.19%	13.24%
LIC MF Index Fund - Sensex Plan - Direct Plan - Growth	12.68%	32.04%	13.10%
Axis Bank (< ₹ 2 crore)	5.10%	5.25%	5.40%
Union Bank (< ₹ 2 crore)	5.0%	5.10%	5.30%

We can see that mutual funds offer greater returns than banks as they are exposed to greater risk. Hence, they are discounted at a higher rate than bank deposits bringing parity in the investment.

Sources: 1. <https://www.moneycontrol.com/mutual-funds/performance-tracker/returns/index-fundsetfs.html> (Accessed on May 7, 2022)

2. <https://www.unionbankofindia.co.in/english/interest-rate.aspx> (Accessed on May 6, 2022)

3. <https://www.axisbank.com/docs/default-source/interest-rates-new/fixed-deposit-wef-27-04-2022.pdf> (Accessed on May 6, 2022)

Block 1: Basics of Financial Management

3.6 Future Value of a Single Flow (Lump Sum)

The above table illustrates the process of determining the future value of a lump sum invested at one point of time. However, the way it has gone about calculating the future value will prove to be cumbersome if the future value over long maturity periods of 20 years or 30 years is to be calculated. A generalized procedure for calculating the future value of a single cash flow compounded annually is as follows:

$$FV_n = PV(1 + k)^n$$

where, FV_n = Future value of the initial flow n years hence

PV = Initial cash flow

k = Annual rate of interest

n = Life of investment

In the above formula, the expression $(1 + k)^n$ represents the future value of an initial investment of ₹ 1 (one rupee invested today) at the end of n years at a rate of interest k referred to as Future Value Interest Factor (FVIF, hereafter). To simplify calculations, this expression has been evaluated for various combinations of k and n . To calculate the future value of any investment for a given value of ' k ' and ' n ', the corresponding value of $(1 + k)^n$ from the table has to be multiplied with the initial investment.

Illustration 3.2

The fixed deposit scheme of a bank has the following interest rates.

Period of Deposit	Rate per Annum (%)
46 days to 179 days	10.0
180 days to < 1 year	10.5
1 year and above	11.0

An amount of 10,000 will grow to how much in 3 years' period, at the above interest rates?

Solution

An amount of ₹ 10,000 invested today will grow in 3 years to:

$$\begin{aligned} FV_n &= PV(1 + k)^n \\ &= PV \times FVIF (11,3) \\ &= 10,000 (1.368) \\ &= ₹ 13,680 \end{aligned}$$

3.6.1 Doubling Period

A frequent question posed by the investor is, "How long will it take for the amount invested to be doubled at a given rate of interest". This question can be

answered by a rule known as ‘rule of 72’. Though it is a crude way of calculating, this rule says that the period within which the amount will be doubled is obtained by dividing 72 by the rate of interest.

For instance, if the given rate of interest is 6 percent, then doubling period is $72/6 = 12$ yrs.

However, an accurate way of calculating doubling period is the ‘rule of 69’, according to which, doubling period

$$= 0.35 + \frac{69}{\text{Interest rate}}$$

Example: Doubling Period

Let’s calculate the doubling period for a deposit made in Axis Bank and Union Bank.

If invested in	Interest Rate > 5 Years
Axis Bank (< ₹ 2 crore)	5.75
Union Bank (< ₹ 2 crore)	5.50

Doubling period for a deposit in Axis Bank = $0.35 + \frac{69}{5.75} = 0.35 + 12 = 12.35$ years

Doubling period for a deposit in Union Bank = $0.35 + \frac{69}{5.50} = 0.35 + 12 = 12.90$ years

As Axis Bank pays a higher interest rate than Union Bank, its doubling period is lower than that of Union Bank.

Sources 1. <https://www.unionbankofindia.co.in/english/interest-rate.aspx> (Accessed on May 7, 2022)

2. <https://www.axisbank.com/docs/default-source/interest-rates-new/fixed-deposit-wef-27-04-2022.pdf> (Accessed on May 7, 2022)

Illustration 3.3

The following is the calculation of doubling period for two rates of interest, i.e., 6 percent and 12 percent.

Solution

Rate of interest (%)	Doubling Period
6	$0.35 + 69/6 = 0.35 + 11.5 = 11.85$ yrs.
12	$0.35 + 69/12 = 0.35 + 5.75 = 6.1$ yrs.

3.6.2 Growth Rate

The compound rate of growth for a given series for a period can be calculated by employing the Future Value Interest Factor table (FVIF).

Block 1: Basics of Financial Management

Illustration 3.4

Years	1	2	3	4	5	6
Profits (in lakh)	95	105	140	160	165	170

How is the compound rate of growth for the above series determined?

Solution

This can be done in two steps:

- The ratio of profits for year 6 to year 1 is to be determined, i.e., $170/95 = 1.79$
- The $FVIF_{k,n}$ table is to be looked at. Look at a value which is close to 1.79 for the row for 5 years.

The value close to 1.79 is 1.762 and the interest rate corresponding to this is 12 percent. Therefore, the compound rate of growth is 12 percent.

3.6.3 Increased Frequency of Compounding

In the above illustration, the compounding has been done annually. Suppose we are offered a scheme where compounding is done more frequently.

Illustration 3.5

For example, assume you have deposited ₹ 10,000 in a bank which offers 10 percent interest per annum compounded semi-annually which means that interest is paid every six months.

Particulars	₹
Amount in the beginning	10,000
Interest @ 10 percent p.a. for first six months $\left(10,000 \times \frac{0.1}{2}\right)$	500
Amount at the end of six months	10,500
Interest for second 6 months $\left(10,500 \times \frac{0.1}{2}\right)$	525
Amount at the end of the year	11,025

Instead, if the compounding is done annually, the amount at the end of the year will be $10,000 (1 + 0.1) = ₹ 11,000$. This difference of ₹ 25 is because under semi-annual compounding, the interest for first 6 months earns interest in the second 6 months.

The generalized formula for these shorter compounding periods is

$$FV_n = PV \left(1 + \frac{k}{m}\right)^{m \times n}$$

where, FV_n = Future value after 'n' years

PV = Cash flow today

k = Nominal interest rate per annum

m = Number of times compounding is done during a year

n = Number of years for which compounding is done.

Illustration 3.6

Under the Vijaya Cash Certificate scheme of Vijaya Bank, deposits can be made for periods ranging from 6 months to 10 years. Every quarter, interest will be added on to the principal. The rate of interest applied is 9 percent p.a. for periods from 12 to 23 months and 10 percent p.a. for periods from 24 months to 120 months. How much will an amount of ₹ 1,000 invested for 2 years grow to?

Solution

$$FV_n = PV \left(1 + \frac{k}{m}\right)^{m \times n}$$

where, m = frequency of compounding during a year.

$$\begin{aligned} &= 1,000 \left(1 + \frac{0.10}{4}\right)^8 \\ &= 1,000(1.025)^8 \\ &= 1,000 \times 1.2184 = ₹ 1,218 \end{aligned}$$

3.6.4 Effective vs. Nominal Rate of Interest

We have seen above that the accumulation under the semi-annual compounding scheme exceeds the accumulation under the annual compounding scheme by ₹ 25. This means that while under annual compounding scheme, the nominal rate of interest is 10 percent per annum, under the scheme where compounding is done semi-annually, the principal amount grows at the rate of 10.25 percent per annum. This 10.25 percent is called the effective rate of interest, which is the rate of interest per annum under annual compounding that produces the same effect as that produced by an interest rate of 10 percent under semi-annual compounding.

The general relationship between the effective and nominal rates of interest is as follows:

$$r = \left(1 + \frac{k}{m}\right)^m - 1$$

where, r = Effective rate of interest

k = Nominal rate of interest

m = Frequency of compounding per year.

Illustration 3.7

Find out the effective rate of interest, if the nominal rate of interest is 12 percent and is quarterly compounded.

Solution

Effective rate of interest

$$r = \left(1 + \frac{k}{m}\right)^m - 1$$

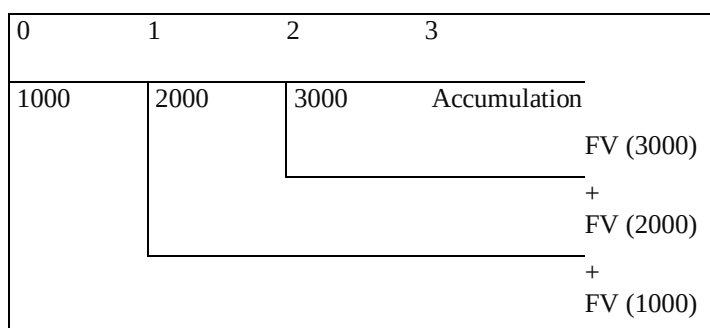
Block 1: Basics of Financial Management

$$\begin{aligned}r &= \left(1 + \frac{0.12}{4}\right)^4 - 1 \\&= (1 + 0.03)^4 - 1 = 1.126 - 1 \\&= 0.126 = 12.6\% \text{ p.a.}\end{aligned}$$

3.7 Future Value of Multiple Cash Flows

Suppose we invest ₹ 1,000 now (beginning of year 1), ₹ 2,000 at the beginning of year 2 and ₹ 3,000 at the beginning of year 3, how much will these flows accumulate to at the end of year 3 at a rate of interest of 12 percent per annum? This problem can be represented on the timeline as shown in Figure 3.4:

Figure 3.4: Compounding Process for Multiple Cash Flows



Source: Adapted From Prasanna Chandra's *Financial Management – Theory And Practice*, 2019

To determine the accumulated sum at the end of year 3, we have to, just add the future compounded values of ₹ 1,000, ₹ 2,000 and ₹ 3,000 respective

$$FV (₹ 1,000) + FV (₹ 2,000) + FV (₹ 3,000)$$

At $k = 0.12$, the above sum is equal to

$$\begin{aligned}&= ₹ 1,000 \times FVIF_{(12,3)} + 2,000 \times FVIF_{(12,2)} + 3,000 \times FVIF_{(12,1)} \\&= ₹ [(1,000 \times 1.405) + (2,000 \times 1.254) + (3,000 \times 1.120)] = ₹ 7,273\end{aligned}$$

Therefore, to determine the accumulation of multiple flows as at the end of a specified time horizon, we have to find out the accumulations of each of these flows using the appropriate FVIF and sum up these accumulations. This process can get tedious if we have to determine the accumulation of multiple flows over a long period of time, for example, the accumulation of a recurring deposit of ₹ 100 per month for 60 months at a rate of 1 percent per month. In such cases, a short cut method can be employed provided the flows are of equal amounts. This method is discussed in the following section.

Example: Calculation of Maturity Value of FDs

Let's calculate how much one will receive after 2 years if one makes a fixed deposit in Canara Bank as follows.

Contd....

Amount deposited	At the beginning of		
₹ 10,000	First-year		
₹ 15,000	Second-year		

If invested in	Interest Rate		
	1 Year	2 Years	3 Years
Canara Bank	5.10%	5.15%	5.20%

Maturity value of ₹ 10,000 = ₹ 10,000 $(1 + 0.0515)^2$ = ₹ 10,000 x 1.10565225
 = ₹ 11,056.52

Maturity value of ₹ 15,000 = ₹ 15,000 $(1 + 0.051)$ = ₹ 15,000 x 1.051 = ₹ 15,765

Total maturity value = ₹ 11,056.52 + ₹ 15,765 = ₹ 26,821.52

Source: <https://www.bankbazaar.com/fixed-deposit/canara-bank-fixed-deposit-rate.html>
 (Accessed on May 7, 2022)

3.8 Future Value of Annuity

An individual who wants to save and invest may do so by regularly keeping aside a part of his/her monthly/yearly income. Such investors would look out for investment options that allow them to save a regular amount periodically to receive a lumpsum amount after a certain period of time. These regular periodic amounts are referred to as Annuities. The future value of annuity enables the investor to estimate the lumpsum amount that he/she will get on regular annuities for a specified period of time.

Annuity is the term used to describe a series of periodic flows of equal amounts. These flows can be either receipts or payments. For example, if you are required to pay ₹ 200 per annum as life insurance premium for the next 20 years, you can classify this stream of payments as an annuity. If the equal amounts of cash flow occur at the end of each period over the specified time horizon, then this stream of cash flows is defined as a regular annuity or deferred annuity. When cash flows occur at the beginning of each period, the annuity is known as an annuity due.

The future value of a regular annuity for a period of n years at a rate of interest 'k' is given by the formula:

$$FVA_n = A(1+k)^{n-1} + A(1+k)^{n-2} + A(1+k)^{n-3} + \dots + A$$

which reduces to

$$FVA_n = A \left[\frac{(1+k)^n - 1}{k} \right]$$

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where, A = Amount deposited/invested at the end of every year for n years

k = Rate of interest (expressed in decimals)

n = Time horizon

FVA_n = Accumulation at the end of n years.

The expression $\left[\frac{(1+k)^n - 1}{k} \right]$ is called the Future Value Interest Factor for

Annuity (FVIFA, hereafter) and it represents the accumulation of Re.1 invested or paid at the end of every year for a period of n years at the rate of interest 'k'. As in the case of the future value of a single flow, this expression has also been evaluated for different combinations of 'k' and 'n' and tabulated in Table 2 at the end of this book. Therefore, given the annuity payment, we have to just multiply it with the appropriate FVIFA value and determine the accumulation.

Illustration 3.8

Under the recurring deposit scheme of the Vijaya Bank, a fixed sum is deposited every month on or before the due date opted for 12 to 120 months according to the convenience and needs of the investor. The period of deposit, however, should be in multiples of 3 months only. The rate of interest applied is 9 percent p.a. for periods from 12 to 24 months and 10 percent p.a. for periods from 24 to 120 months and is compounded at quarterly intervals.

Based on the above information the maturity value of a monthly installment of ₹ 5 for 12 months can be calculated as below:

Amount of deposit = ₹ 5 per month

Rate of interest = 9 percent p.a. compounded quarterly

Effective rate of interest per annum

$$= \left(1 + \frac{0.09}{4} \right)^4 - 1 = 0.0931$$

Rate of interest per month

$$\begin{aligned} &= (1 + 0.0931)^{1/12} - 1 \\ &= (1 + 0.0931)^{1/12} - 1 \\ &= 1.0074 - 1 = 0.0074 = 0.74\% \end{aligned}$$

Maturity value can be calculated using the formula

$$\begin{aligned} FVA_n &= A \left\{ \frac{(1+k)^n - 1}{k} \right\} \\ &= 5 \left\{ \frac{(1 + 0.0074)^{12} - 1}{0.0074} \right\} \\ &= 5 \times 12.50 = ₹ 62.50 \end{aligned}$$

If the payments are made at the beginning of every year, the value of such an annuity called annuity due is found by modifying the formula for annuity regular as follows:

$$FVA_n(\text{due}) = A (1 + k) FVIFA_{k,n}$$

Illustration 3.9

Under the Jeevan Mitra Plan offered by Life Insurance Corporation of India, if a person is insured for ₹ 10,000 and if he survives the full term, the maturity benefits will be the basic sum of ₹ 10,000 assured and bonus which accrues on the basic sum assured. The minimum and maximum age to propose for a policy is 18 and 50 years respectively.

Let us take two examples, one of a person aged 20 and another about 40 years old to illustrate this scheme.

The person aged 20, enters the plan for a policy of ₹ 10,000. The term of policy is 25 years and the annual premium is ₹ 41.65. The person aged 40, also proposes for the policy of ₹ 10,000 for 25 years and the annual premium he has to pay comes to ₹ 57. What are the rates of return enjoyed by these two persons?

Rate of return enjoyed by the person of 20 years of age

Premium = ₹ 41.65 per annum

Term of Policy = 25 years

Maturity Value = ₹ 10,000 + bonus which can be overlooked as it is a fixed amount and does not vary with the term of the policy.

We know that the premium amount when multiplied by FVIFA factor will give us the value at maturity.

$$\text{i.e. } P \times (1 + k) FVIFA(k, n) = MV$$

where, P = Annual premium

n = Term of policy in years

k = Rate of return

MV = Maturity value

Therefore, $41.65 \times (1 + k) FVIFA(k, 25) = 10,000$

$$(1 + k) FVIFA(k, 25) = 240.01$$

From table 2 at the end of the book, we can find that

$$(1 + 0.14) FVIFA(14, 25) = 207.33$$

$$\text{i.e. } (1.14) FVIFA(14, 25) = 1.14 \times 181.871 = 207.33$$

and

$$(1 + 0.15) FVIFA(15, 25) = 244.71$$

$$\text{i.e. } (1.15) FVIFA(15, 25) = 1.15 \times 212.793 = 244.71$$

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By interpolation

$$\begin{aligned}k &= 14\% + (15\% - 14\%) \times \frac{240.01 - 207.33}{244.71 - 207.33} \\&= 14\% + 1\% \times \frac{32.68}{37.38} \\&= 14\% + 0.87\% = 14.87\%\end{aligned}$$

Rate of return enjoyed by the person aged 40

$$\begin{aligned}\text{Premium} &= ₹ 57 \text{ per annum} \\ \text{Term of Policy} &= 25 \text{ years} \\ \text{Maturity Value} &= ₹ 10,000 \\ \text{Therefore, } 57 \times (1 + k) \text{ FVIFA}(k, 25) &= 10,000 \\ (1 + k) \text{ FVIFA}(k, 25) &= 175.44\end{aligned}$$

From table 2 at the end of the book, we can find that

$$\begin{aligned}(1 + k) \text{ FVIFA}(13\%, 25) &= 175.87 \\ \text{i.e. } (1.13) (155.62) &= 175.87 \\ \text{i.e. } k &= 13\% (\text{app.})\end{aligned}$$

Here we find that the rate of return enjoyed by the 20-year old person is greater than that of the 40-year old person by about 2 percent in spite of the latter paying a higher amount of annual premium for the same period of 25 years and for the same maturity value of ₹ 10,000. This is due to the coverage for the greater risk in the case of the 40-year old person.

Now that we are familiar with the computation of future value, we will get into the mechanics of computation of present value.

Sinking Fund Factor

We have the equation

$$FVA = A \left[\frac{(1 + k)^n - 1}{k} \right]$$

We can rewrite it as

$$A = FVA \left[\frac{k}{(1 + k)^n - 1} \right]$$

The expression $\left[\frac{k}{(1 + k)^n - 1} \right]$ is called the Sinking Fund Factor. It represents the amount that has to be invested at the end of every year for a period of “n” years at the rate of interest “k”, in order to accumulate Re.1 at the end of the period.

Check Your Progress - 1

1. If an amount of ₹ 2000 is invested today at a rate of 10% per annum compounded annually, what will be the amount that the investment will fetch at the end of 5 years?
 - a. 3000
 - b. 3221
 - c. 2600
 - d. 2928
 - e. 2800
 2. Which of the following statement is true with respect to time value of money?
 - a. A money invested today is worth more than the money invested in future
 - b. A rupee today has a lower percentage than a rupee in future
 - c. Future is uncertain that lets individuals to prefer current consumption to future
 - d. Compounding method enables comparison of sum of future inflows to arrive at a future value at a given rate of interest
 - e. Discounting method enables to arrive at present value of future inflows at a given rate of interest
 3. How will you ascertain the doubling period for an amount invested today at a given rate of interest of 8% as per 'rule 69'?
 - a. $69 / 8$
 - b. $8 / 69$
 - c. $0.35 + 69 / 8$
 - d. $0.35 - 69 / 8$
 - e. $0.35 + 69 * 8$
 4. If the nominal rate of interest is 10% and is compounded quarterly, what will be the effective rate of interest?
 - a. 10.38%
 - b. 10.25%
 - c. 10.50%
 - d. 10%
 - e. 10.10%
 5. What will be the maturity value for a monthly installment of ₹ 1000 made by Anjesh fetching an interest of 7% compounded quarterly, for a period of 12 months under a monthly deposit scheme?
 - a. ₹ 12,700
 - b. ₹ 12,712
 - c. ₹ 12,000
 - d. ₹ 12,390
 - e. ₹ 12,210
-

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3.9 Present Value of a Single Cash Flow

Discounting as explained earlier is an alternative approach for reckoning the time value of money. Using this approach, we can determine the present value of a future cash flow or a stream of future cash flows. The present value approach is the commonly followed approach for evaluating the financial viability of projects.

Illustration 3.10

If we invest ₹ 1,000 today at 10 percent rate of interest for a period of 5 years, we know that we will get ₹ 1,000 x FVIF (10,5) = ₹ 1,000 x 1.611 = ₹ 1,611 at the end of 5 years. The sum of ₹ 1,611 is called the accumulation of ₹ 1,000 for the given values of 'k' and 'n'. Conversely, the sum of ₹ 1,000 invested today to get ₹ 1,611 at the end of 5 years is called the present value of ₹ 1,611 for the given values of 'k' and 'n'. It, therefore, follows that to determine the present value of a future sum we have to divide the future sum by the FVIF value corresponding to the given values of 'k' and 'n' i.e. present value of ₹ 1,611 receivable at the end of 5 years at 10 percent rate of interest.

$$= ₹ \frac{1,611}{\text{FVIF}(10,5)} = ₹ \frac{1,611}{1.611} = ₹ 1,000$$

In general, the present value (PV) of a sum (FV_n) receivable after n years at a rate of interest (k) is given by the expression.

$$\text{PV} = \frac{\text{FV}_n}{\text{FVIF}(k, n)} = \frac{\text{FV}_n}{(1 + k)^n}$$

The inverse of FVIF (k,n) is defined as PVIF (k,n) (Present Value Interest Factor for k,n). Therefore, the above equation can be written as

$$\text{PV} = \text{FV}_n \times \text{PVIF}(k,n)$$

Therefore, to determine the present value of a future sum, we have to just locate the PVIF factor for the given values of k and n and multiply this factor value with the given sum. Since PVIF (k,n) represents the present value of Re.1 receivable after n years at a rate of interest k, it is obvious that PVIF values cannot be greater than one. The PVIF values for different combinations of k and n are given in table 3 at the end of this book.

Example: Calculation of Present Value

If Varun wants to receive ₹ 23,50,000 at the end of 5 years, how much should he make a fixed deposit today in IDFC First Bank? The FD interest rates of IDFC First Bank are as follows:

Invested in	Interest Rate			
	1 Year	2 Years	3 Years	3 – 5 years
IDFC First Bank	4.75%	5.75%	6.00%	6.25%

Contd....

$$PV = \frac{FV_n}{(1+k)^n} = \frac{23,50,000}{(1+0.0625)^5} = \frac{23,50,000}{1.35408} = ₹ 17,35,495.69$$

Source: <https://www.bankbazaar.com/fixed-deposit/dfc-fixed-deposit-rate.html> (Accessed on May 8, 2022)

Illustration 3.11

Karuna Bank has a term deposit scheme under reinvestment plan. Interest on deposit money earns interest as it is reinvested at quarterly rests. These deposits suit depositors from lower and middle income groups, since the small odd sums invested grow into large amounts over a period of time.

Given an interest rate of 12 per cent p.a., on a certificate having a value of ₹ 100 after 1 year, the issue price of the cash certificate can be calculated as below.

$$r = \left(1 + \frac{k}{m}\right)^m - 1$$

$$r = \left(1 + \frac{0.12}{4}\right)^4 - 1 = 12.55\%$$

The issue price of the cash certificate is

$$PV = \frac{FV_n}{(1+k)^n}$$

$$= \frac{100}{(1+0.1255)^1} = ₹ 88.85$$

Illustration 3.12

Pragati cash certificate scheme of Syndicate Bank is an ideal scheme for all classes of people under different income groups. A small odd sum can be invested for a period ranging from 1 to 10 years. The certificates are issued in convenient denominations of ₹ 25, ₹ 100, ₹ 1,000, and ₹ 1,00,000. The rate of interest is 12 percent p.a. compounded quarterly.

To calculate the issue price of a certificate of ₹ 1,00,000 to be received after 10 years, the following formula can be used

$$PV = \frac{FV_n}{(1+k)^n}$$

Firstly, the effective rate of interest has to be calculated.

$$r = \left(1 + \frac{0.12}{4}\right)^4 - 1 = 12.55\%$$

The issue price of the cash certificate can now be calculated as:

$$PV = \frac{FV_n}{(1+k)^n}$$

$$= \frac{1,00,000}{(1+0.1255)^{10}} = ₹ 30,658$$

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3.10 Present Value of Uneven Multiple Cash Flows

It is not necessary that cash flows from a project are always even as assumed in the previous paragraphs. Usually, the returns from the projects depend on various other factors such as macroeconomic conditions, project delays etc. These factors may increase or reduce the returns. Thus a project can have uneven returns. In such cases, calculating the present value of uneven cash flows will be slightly different from the process adopted above. The calculation is illustrated below:

Example: Calculation of PV of a Post Office FD

If Soumya wants to receive ₹ 18,00,000 at the end of 3 years and ₹ 24,00,000 at the end of 5 years, how much amount (in total) should she have, to make fixed deposits today, under the Post Office FD scheme? The interest rates of the Post Office FD scheme are as follows:

Invested in	Interest Rate			
	1 Year	2 Years	3 Years	5 Years
Post Office Fixed Deposits	5.50%	5.50%	5.50%	6.70%

$$PV = \frac{FV_n}{(1+k)^n} = \frac{18,00,000}{(1+0.055)^3} = \frac{18,00,000}{1.17424} = ₹ 15,32,906.39$$

$$PV = \frac{FV_n}{(1+k)^n} = \frac{24,00,000}{(1+0.067)^5} = \frac{24,00,000}{1.3829997} = ₹ 17,35,358.29$$

Total deposit that Soumya has to do today = ₹ 32,68,264.68

Source: <https://www.bankbazaar.com/fixed-deposit/post-office-fixed-deposit-rate.html> (Accessed on May 9, 2022)

Suppose a project involves an initial investment of ₹ 10 lakh and generates net inflows as follows:

End of Year → 1 ₹ 2 lakh
→ 2 ₹ 4 lakh
→ 3 ₹ 6 lakh

What is the present value of the future cash inflows? To determine it, we have to first define the relevant rate of interest. The relevant rate of interest as we shall see later, will be the cost of the funds invested. Suppose, we assume that this cost is 12 percent p.a., then we can determine the present value of the cash flows using the following two-step procedure:

Step 1

Evaluate the present value of cash inflow independently. In this case, the present values will be as follows:

Year	Cash Flow (₹ in lakh)	Present Value (₹ in lakh)
1	2	$2 \times \text{PVIF}(12,1) = 2 \times 0.893 = 1.79$
2	4	$4 \times \text{PVIF}(12,2) = 4 \times 0.797 = 3.19$
3	6	$6 \times \text{PVIF}(12,3) = 6 \times 0.712 = 4.27$

Step 2

Aggregate the present values obtained in Step 1 to determine the present value of the cash flow stream. In this case the present value of the cash inflows associated with the project will be ₹ (1.79 + 3.19 + 4.27) lakh = ₹ 9.25 lakh.

A project is said to be financially viable if the present value of the cash inflows exceeds the present value of the cash outflow. In this case, the project is not financially viable because the present value of the net cash inflows (₹ 9.25 lakh) is less than the initial investment of ₹ 10 lakh. The difference of ₹ 0.75 lakh is called the net present value.

As the procedure followed to obtain the future value of multiple cash flows, the procedure adopted to determine the present value of a series of future cash flows can prove to be cumbersome, if the time horizon to be considered is quite long. These calculations can, however, be simplified if the cash flows occurring at the end of the periods are equal. In other words, if the stream of cash flows can be regarded as a regular annuity or annuity due, then the present value of this annuity can be determined using an expression similar to the FVIFA expression.

Activity 3.2

The concept of time value of money has wide reaching applications not just to the finance professions but to others too. Give any five examples of application of time value of money in everyday life.

Answer:

3.11 Present Value of an Annuity

The present value of annuity is useful for those investors who invest a single lumpsum amount for assured regular amounts periodically in future. For example, a retired employee who has received lumpsum amount in the form of retirement benefits may want to invest them so that he can be assured of a regular monthly income to substitute his salary. Through the present value of annuity concept such an investor can calculate how much he needs to invest today so that he can derive

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the regular amounts for a specified period of time. The present value of annuity concept thus finds wide application in pension fund investments.

The present value of an annuity 'A' receivable at the end of every year for a period of n years at a rate of interest k is equal to

$$PVA_n = \frac{A}{(1+k)} + \frac{A}{(1+k)^2} + \frac{A}{(1+k)^3} + \dots + \frac{A}{(1+k)^n};$$

which reduces to

$$PVA_n = A \times \left[\frac{(1+k)^n - 1}{k(1+k)^n} \right]$$

The expression

$$\left(\frac{(1+k)^n - 1}{k(1+k)^n} \right)$$

is called the PVIFA (Present Value Interest Factor Annuity) and it represents the present value of a regular annuity of Re.1 for the given values of k and n. The values of PVIFA (k,n) for different combinations of 'k' and 'n' are given in table 4 given at the end of the book. It must be noted that these values can be used in any present value problem only if the following conditions are satisfied: (a) the cash flows are equal; and (b) the cash flows occur at the end of every year. It must also be noted that PVIFA (k,n) is not the inverse of FVIFA (k,n) although PVIF (k,n) is the inverse of FVIF (k,n). The following illustration demonstrates the use of PVIFA tables for determining the present value.

Example: Using PVIFA for Retirement Decision

Vaishnav is retiring and plans to make a fixed deposit so that he receives ₹ 4,80,000 per annum for the next 25 years. How much should he deposit in a retirement pension scheme that pays an interest of 11%?

Deposit amount = Annuity $\times$ PVIFA_{k,n}

Deposit amount = ₹ 4,80,000 $\times$ PVIFA_{11,25}

Deposit amount = ₹ 4,80,000 $\times$ 8.4217 = ₹ 40,42,416

Illustration 3.11

The Swarna Kalash Yojana at rural and semi-urban branches of SBI is a scheme open to all individuals/firms. A lump sum deposit is remitted and the principal is received with interest at the rate of 12 percent p.a. in 12 or 24 monthly installments. The interest is compounded at quarterly intervals.

The amount of initial deposit to receive a monthly installment of ₹ 100 for 12 months can be calculated as below:

Firstly, the effective rate of interest per annum has to be calculated.

$$\begin{aligned} r &= \left(1 + \frac{k}{m}\right)^m - 1 \\ &= \left(1 + \frac{0.12}{4}\right)^4 - 1 = 12.55\% \end{aligned}$$

After calculating the effective rate of interest per annum, the effective rate of interest per month has to be calculated which is nothing but

$$(1.1255)^{1/12} - 1 = 0.00990$$

The initial deposit can now be calculated as below:

$$\begin{aligned} PVA_n &= A \left[\frac{(1 + k)^n - 1}{k(1 + k)^n} \right] \\ &= 100 \left[\frac{(1 + 0.00990)^{12} - 1}{0.00990(1 + 0.00990)^{12}} \right] \\ &= 100 \left[\frac{0.1255}{0.01114} \right] \\ &= 100 \times 11.26 = ₹ 1,126. \end{aligned}$$

Illustration 3.12

The annuity deposit scheme of SBI provides for fixed monthly income for suitable periods of the depositor's choice. An initial deposit has to be made for a minimum period of 36 months. After the first month of the deposit, the depositor receives monthly installments depending on the number of months he has chosen as annuity period. The rate of interest is 11 percent p.a. which is compounded at quarterly intervals.

If an initial deposit of ₹ 4,610 is made for an annuity period of 60 months, the value of the monthly annuity can be calculated as below.

Firstly, the effective rate of interest per annum has to be calculated.

$$\begin{aligned} r &= \left(1 + \frac{k}{m}\right)^m - 1 \\ &= \left(1 + \frac{0.11}{4}\right)^4 - 1 = 11.46\% \end{aligned}$$

After calculating the effective rate of interest per annum, the effective rate of interest per month has to be calculated which is nothing but

$$(1.1146)^{1/12} - 1 = 0.00908$$

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The monthly annuity can now be calculated as

$$\begin{aligned}PVA_n &= A \left[\frac{(1+k)^n - 1}{k(1+k)^n} \right] \\4,610 &= A \left[\frac{(1 + 0.00908)^{60} - 1}{(1.00908)^{60}} \right] \\4,610 &= A \times \frac{0.7200}{0.0156} = 99.88333 \\ \Rightarrow A &= 99.8833 \\ A &= ₹ 100\end{aligned}$$

Example: Calculation of Amount Invested

Jitendra will get ₹ 7,500 at the end of every quarter for 20 years for the amount he invested in a deposit scheme which gave 9% return. What would have been the amount actually invested by Jitendra?

The amount invested

$$\text{is } = 7,500 \times PVIFA\left(\frac{9}{4}, 80\right) = 7,500 \times PVIFA(2.25, 80) = 7,500 \times 36.9498 = \text{Rs. } 277,123$$

3.11.1 Capital Recovery Factor

Manipulating the relationship between PVA_n , A , k & n we get an equation:

$$\begin{aligned}A &= PVA_n \left[\frac{k(1+k)^n}{(1+k)^n - 1} \right] \\ \left[\frac{k(1+k)^n}{(1+k)^n - 1} \right] &\text{ is known as the capital recovery factor.}\end{aligned}$$

Illustration 3.13

A loan of ₹ 1,00,000 is to be repaid in five equal annual installments. If the loan carries a rate of interest of 14 percent p.a., the amount of each installment can be calculated as below.

If R is defined as the equated annual installment, we are given that

$$R \times PVIFA(14\%, 5) = ₹ 1,00,000$$

$$\text{Therefore, } R = \frac{₹ 1,00,000}{PVIFA(14\%, 5)}$$

$$= \frac{₹ 1,00,000}{3.433} = ₹ 29,129$$

Notes:

1. We have introduced in this example the application of the inverse of the PVIFA factor which is called the capital recovery factor. The application of the capital recovery factor helps in answering questions like:

- What should be the amount paid annually to liquidate a loan over a specified period at a given rate of interest?
 - How much can be withdrawn periodically for a certain length of time, if a given amount is invested today?
2. In this example, the amount of ₹ 29,129 represents the sum of the principal and interest components. To get an idea of the break-up of each installment between the principal and interest components, the loan repayment schedule is given below:

Year	Equated annual installment	Interest content of (B)	Capital content of (B)	Loan outstanding after payment
(A)	(B)	(C)	[(D) = (B – C)]	(E)
	(₹)	(₹)	(₹)	(₹)
0	–	–	–	1,00,000
1	29,129	14,000	15,129	84,871
2	29,129	11,882	17,247	67,624
3	29,129	9,467	19,662	47,962
4	29,129	6,715	22,414	25,548
5	29,129	3,577	25,552	–

The interest content of each installment is obtained by multiplying interest rate with the loan outstanding at the end of the immediately preceding year.

As can be observed from this schedule, the interest component declines over a period of time whereas the capital component increases. The loan outstanding at the end of the penultimate year must be equal to the capital content of the last installment but in practice, there will be a marginal difference on account of rounding-off errors.

3. The equated annual installment method is usually adopted for fixing the loan repayment schedule in a hire purchase transaction. However, the financial institutions in India like IDBI, IFCI and ICICI do not follow this scheme of equal periodic amortization. Instead, they stipulate that the loan must be repaid in equal installments. According to this scheme, the principal component of each payment remains constant and the total debt-servicing burden (consisting of principal repayment and interest payment) declines over time.

3.11.2 Present Value of Perpetuity

An annuity of an infinite duration is known as perpetuity. The present value of such perpetuity can be expressed as follows:

$$P_{\infty} = A \times PVIFA_{k, \infty}$$

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where, P_{∞} = Present value of a perpetuity
 A = Constant annual payment
 $PVIFA_{k,\infty}$ = Present value interest factor for a perpetuity.

∴ The value of $PVIFA_{k,\infty}$ is

$$\sum_{t=1}^{\infty} \frac{1}{(1+k)^t} = \frac{1}{k}$$

We can say that PV interest factor of a perpetuity is simply one divided by interest rate expressed in decimal form. Hence, PV of a perpetuity is simply equal to the constant annual payment divided by the interest rate.

Applications of Time Value of Money in Corporate Finance

The concept of Time Value of Money has far reaching applications in the field of corporate finance. The formulas of time value of money can be applied in the following areas of finance:

1. Concept of Growing Annuity – Growing annuity refers to an annuity that grows at a constant rate for a specific period of time. For example, an MBA finance graduate has been offered a job at ₹ 3,00,000 annual salary. He expects his salary to grow at 10% every year and the interest rate is 12%. This is an example of growing annuity. We can calculate the value of his salary at the time of his retirement (FV) or the present value of his lifetime salary. The present and future values of growing annuity can be ascertained using the present value and future value of annuity formulas.

2. Valuation of Zero Growth Common Stock – Usually common stock or equity shares have fluctuating dividend payments as the dividends are based on profits generated. However, zero growth common stock is the common stock for which the dividend payments in future are likely to remain the same. In other words, there is no growth in dividends. For such stocks, the present value of the stock is calculated as

$$P_0 = \frac{D}{K_s}$$

Where, D represents the expected future dividend per period which is the same as the dividend at the end of first period and K_s denotes the required rate of return on the stock for the period.

3. Valuation of Preferred Stock – Preferred stock or preference shares enjoy a fixed rate of dividend. The valuation of preferred stock is similar to that of perpetuity as the fixed amount of dividend is expected to be constant in future. Hence this formula is the same as zero growth common stock formula except for the notations which will be

$$V_P = \frac{D_P}{K_P}$$

Where, D_p is the preference dividend amount per share and K_p is the required rate of return on the preference shares.

In addition to the above methods of valuation, there are extended versions of valuation models that are discussed below.

4. Constant Growth Model of Valuation of Stock: Constant growth model is a model used for valuing the stock of a company based on its future dividend payments. This model assumes that dividend of a stock will grow at a constant rate like the growing annuity model but the required rate of return is greater than the dividend rate. This method helps in valuing the future value of stocks. This model thus uses the formula of growing annuity model for its calculation.

5. Two-stage Growth Valuation Model: This model is applied to calculate the value of those stocks which may have higher growth rate in the initial years but later settle down to a constant growth model. For instance, for a company, the dividends may grow at 14% for the first five years, then at 10% for another five years and later at 7%.

6. Bond Valuation: Bonds or debentures are debt instruments that enable a company to borrow funds from the public. They usually carry a rate of interest referred to as coupon rate. The concept of present value is used to calculate the present value of future coupon payments at the end of each year and in calculating the present value of the face value at maturity.

Check Your Progress - 2

6. Find the present value ₹ 2,000 receivable for 5 years at an interest rate of 9% p.a.
 - a. ₹ 1,299.54
 - b. ₹ 1,200
 - c. ₹ 3,076
 - d. ₹ 3000
 - e. ₹ 2336
7. At what reliability should the given project be undertaken having an initial investment of ₹ 12,00,000 generating net annual inflows of ₹ 1 lakh for the 1st year, ₹ 3 lakh for the 2nd year, ₹ 5 lakh for the 3rd year and ₹ 7 lakh for the 4th year at a project cost of 10 % per annum?
 - a. When the present value of the net cash inflows is less than the initial investment
 - b. When the future value of the net cash inflows is more than the initial investment
 - c. When the present value of the net cash inflows equals the initial investment

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- d. When the present value of the net cash inflows is more than the initial investment
 - e. When the future value of the net cash outflows is more than the initial investment
8. What will be the monthly annual inflow for an initial deposit of ₹ 5,000 containing an annuity period of 36 months at 5% per annum interest rate compounded quarterly?
- a. ₹ 149.78
 - b. ₹ 100.00
 - c. ₹ 129.96
 - d. ₹ 159.91
 - e. ₹ 89.96
9. Calculate the annual installment for a loan amount of ₹ 10,00,000 to be repaid in 10 equal annual installments that carries an interest rate of 9 % per annum.
- a. ₹ 2,36,966
 - b. ₹ 1,62,733
 - c. ₹ 90,000
 - d. ₹ 65,918
 - e. ₹ 1,00,000
10. The present value interest factor of perpetuity is ascertained as
- a. $1+k$
 - b. $1-k$
 - c. $1/k$
 - d. $1*k$
 - e. 1^k

3.12 Summary

- Inflation, uncertainty and opportunity cost – whatever the reason, money has time value.
- A rupee today is certainly more valuable than a rupee a year hence, the difference usually represented by 'interest'. Therefore, two cash flows occurring at different points of time are not comparable.
- Compounding and discounting are two methods used to take care of time value of money.
- Discounting involves determining the present values of all the future cash flows so that they are comparable to the initial outflow. The rate of interest usually employed is the cost of capital of the firm.

- The compounding can be done annually, half-yearly or quarterly. Monthly compounding can also be done.
- The nominal interest rate is the actual price that borrowers' pay to lenders to use their money.
- The inflation during the reference period is to be taken into account while computing the real interest rate.
- An accurate way of calculating doubling period is the 'rule of 69', according to which, doubling period

$$= 0.35 + \frac{69}{\text{Interest rate}}$$

- Annuity is the term used to describe a series of periodic flows of equal amounts.
- Discounting approach will be used for computing the present value of a future cash flow or a stream of future cash flows
- The present value of an annuity 'A' receivable at the end of every year for a period of n years at a rate of interest k is equal to

$$PVA_n = A \times \left[\frac{(1 + k)^n - 1}{k(1 + k)^n} \right]. \text{This is called the PVIFA (Present Value Interest Factor Annuity)}$$

- An annuity of an infinite duration is known as perpetuity. The present value of such perpetuity can be expressed as follows:

$$P_{\infty} = A \times PVIFA_{k,\infty}$$

3.13 Glossary

Annuity is a stream of fixed payments at regular intervals for a fixed period of time. The fixed payment may be at the beginning or at the end of the intervals. In case the payments are at the beginning of the intervals, it is referred to as Annuity Due. Where payments are made at the end of intervals it is known as Regular Annuity.

Capital Recovery Factor is the ratio of a constant annuity to the present value of receiving that annuity for a given period of time.

Compounding is the method of finding the Future Values (FV) of all the cash flows at the end of the time horizon at a particular rate of interest

Discounting is the method of finding the Present Values (PV) of the future inflows at a given rate of interest.

Doubling Period is the amount of time required for an amount to double at a specified rate of interest.

Effective Annual Interest Rate is the annual rate of interest by which an investment multiplies when compounding occurs more than once a year.

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Future Value is the value of money at a specified date in the future that is equal to a specified sum today at a given interest rate.

Inflation is the rate at which the general price level for goods and services rise, and consequently, purchasing power of money starts falling.

Interest is the additional sum paid or received on borrowed money or invested money. It is expressed as a percentage of the principal amount.

Perpetuity is the annuity of an infinite duration..

Present Value is the value of a sum of money today, to be received in the future, at a given interest rate.

Rule of 72 is a method used to calculate the number of years required to double the money at a given interest rate. The number of years is calculated by dividing 72 with the given interest rate.

3.14 Self-Assessment Test

1. Why does money have time value and what does it mean?
2. Narrate the method of the process of compounding.
3. How is the time value of money measured according to discounting method?
4. Explain the determinants of Future value of Single cash flow.
5. What is Annuity? How would you calculate the future cash inflows based on annuity method.
6. How are the effective rate of interest and nominal rate of interest related?
7. Explain the concept of doubling period. What are the different methods used to calculate the doubling period?

3.15 Suggested Readings/Reference Material

1. Brealey Myers (2020). Principles of Corporate Finance, 13th edition, USA: McGraw-Hill Companies Inc.
2. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill.
3. I.M. Pandey (2021). Financial Management, 12th edition, New Delhi: Pearson Education.
4. Francis Cherunilam (2020). International Business — Text and Cases, 6th Edition, PHI Learning.
5. P.G. Apte (2020). International Financial Management, 8th Edition, McGraw Hill Education (India) Private Limited.
6. John Tennent (2018). The Economist Guide to Financial Management. Economist Books.

3.16 Answers to Check Your Progress Questions

1. (b) 3221

1 st year	$2000 + (2000 \times .10) = 2200$
2 nd year	$2200 + (2200 \times .10) = 2420$
3 rd year	$2420 + (2420 \times .10) = 2662$
4 th year	$2662 + (2662 \times .10) = 2928.2$
5 th year	$2928 + (2928 \times .10) = 3221$

2. (b) A rupee today has a lower percentage than a rupee in future

In an inflationary period, a rupee today has a higher purchasing power than a rupee in the future.

3. (c) $0.35 + 69/8$

An accurate way of calculating doubling period is the 'rule of 69',

according to which, doubling period = $0.35 + \frac{69}{\text{Interest rate}}$

4. (a) 10.38%

$$r = \left(1 + \frac{k}{m}\right)^m - 1$$

$$r = \left(1 + \frac{0.10}{4}\right)^4 - 1$$

$$= (1 + 0.025)^4 - 1 = 1.1038 - 1$$

$$= 0.1038 = 10.38\% \text{ p.a.}$$

5. (d) ₹ 12,390

$$\text{Effective rate of interest per annum} = \left(1 + \frac{0.07}{4}\right)^4 - 1 = 0.0718$$

$$\begin{aligned} \text{Rate of interest per month} &= (r + 1)^{1/m} - 1 = (1 + 0.0718)^{1/12} - 1 \\ &= 1.0058 - 1 = 0.0058 = 0.58\% \end{aligned}$$

Maturity value can be calculated using the formula

$$FVA_n = A \left\{ \frac{(1 + k)^n - 1}{k} \right\}$$

$$= 1000 \times 12.39 = ₹ 12,390$$

6. (a) ₹ 1,299.54

$$PV = 2000 / 1.539 = ₹ 1,299.54$$

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7. (d) When the present value of the net cash inflows is more than the initial investment

A project is said to be financially viable if the present value of the cash inflows exceeds the present value of the cash outflow.

8. (a) ₹ 149.78

Effective rate of Interest = 5.09%

Hence, effective rate of Interest for a month

$$= (1.0509)^{1/12} - 1 = 0.004129$$

$$\text{Using the formula } PVA_n = A \left[\frac{(1 + k)^n - 1}{k(1 + k)^n} \right]$$

Monthly Annual flow A = ₹ 149.78

9. (b) ₹ 1,62,733

$$R \times PVIFA (9\%, 10) = ₹ 10,00,000$$

$$R = 10,00,000 / PVIFA (9\%, 10) = ₹ 1,62,733$$

10. (c) 1/k

The PV interest factor of a perpetuity is simply one divided by interest rate expressed in decimal form. Hence, PV of a perpetuity is simply equal to the constant annual payment divided by the interest rate.

Appendix

Formulae for future value and present value of Annuity.

The derivation of the formulae for the future value and present value of an annuity makes use of the following symbols.

Symbols used in FVIFA and PVIFA Formulae

A	=	constant periodic flow
K	=	interest rate per period
n	=	duration of the annuity
FVA _n	=	future value of a regular annuity with a duration of n time periods
PVA _n	=	present value of a regular annuity with a duration of n time periods.

Future Value of an Annuity

In terms of the symbols defined above, the future value of a regular annuity can be expressed as follows:

$$FVA_n = A(1+k)^{n-1} + A(1+k)^{n-2} + \dots + A \quad \dots(1)$$

Multiplying equation (1) by (1 + k) on both sides,

$$\begin{aligned} \text{we get } FVA_n(1+k) &= A(1+k)^n + \\ A(1+k)^{n-1} + \dots + A(1+k) \end{aligned} \quad \dots(2)$$

Subtracting equation (1) from equation (2), we get

$$FVA_n k = A(1+k)^n - A$$

Or

$$FVA_n k = A[(1+k)^n - 1]$$

$$\text{i.e. } FVA_n = A \left[\frac{(1+k)^n - 1}{k} \right]$$

If the annuity is not a regular annuity but is an annuity due – annuity where cash flows occur at the beginning of each period – the future value can be obtained as follows:

$$FVA_n = A(1+k)^n + A(1+k)^{n-1} + \dots + A(1+k) \quad \dots(3)$$

Dividing equation (3) by (1 + k) on both sides, we get

$$\frac{FVA_n}{(1+k)} = A(1+k)^{n-1} + A(1+k)^{n-2} + \dots + A \quad \dots(4)$$

Subtracting equation (4) from equation (3), we get

$$\left[1 - \frac{1}{1+k} \right] FVA_n = A(1+k)^n - A$$

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$$\text{i.e. } \frac{k}{1+k} FVA_n = A [(1+k)^n - 1]$$

$$FVA_n = A \left[\frac{(1+k)^n - 1}{k} \right] (1+k)$$

Therefore, the future value of an annuity due can be expressed as the product of the future value of a regular annuity and the factor $(1+k)$.

Present Value of an Annuity

The present value of a regular annuity can be represented in terms of the symbols defined in the table as follows:

$$PVA_n = \frac{A}{(1+k)} + \frac{A}{(1+k)^2} + \dots + \frac{A}{(1+k)^n} \quad \dots(5)$$

Multiplying equation (5) by $(1+k)$ on both sides, we get

$$PVA_n (1+k) = A + \frac{A}{(1+k)} + \dots + \frac{A}{(1+k)^{n-1}} \quad \dots(6)$$

Subtracting equation (5) from equation (6), we get

$$\begin{aligned} PVA_{n,k} &= A - \frac{A}{(1+k)^n} \\ &= A \left[1 - \frac{1}{(1+k)^n} \right] \\ &= A \left[\frac{(1+k)^n - 1}{(1+k)^n} \right] \\ PVA_n &= A \left[\frac{(1+k)^n - 1}{k(1+k)^n} \right] \end{aligned}$$

The present value of an annuity due can be expressed as follows:

$$PVA_n = A + \frac{A}{(1+k)} + \frac{A}{(1+k)^2} + \dots + \frac{A}{(1+k)^{n-1}} \quad \dots(7)$$

Multiplying equation (7) by $\frac{1}{(1+k)}$ on both sides, we get

$$\frac{PVA_n}{(1+k)} = \frac{A}{(1+k)} + \frac{A}{(1+k)^2} + \dots + \frac{A}{(1+k)^n} \quad \dots(8)$$

Subtracting equation (8) from equation (7), we get

$$PVA_n = \left[1 - \frac{1}{1+k} \right] = A - \frac{A}{(1+k)^n}$$

$$\text{i.e. } PVA_n = \left[\frac{k}{1+k} \right] = A \left[\frac{(1+k)^n - 1}{(1+k)^n} \right]$$

$$\text{i.e. } PVA_n = A \left[\frac{(1+k)^n - 1}{k(1+k)^n} \right] (1+k)$$

Thus, we find that the present value of an annuity due is equal to the product of the present value of a regular annuity and the factor $(1 + k)$.

Unit 4

Risk and Return

Structure

- 4.1 Introduction
- 4.2 Objectives
- 4.3 The Concept of Return
- 4.4 The Concept of Risk
- 4.5 Portfolios and Risk
- 4.6 Summary
- 4.7 Glossary
- 4.8 Self-Assessment Test
- 4.9 Suggested Readings/Reference Material
- 4.10 Answers to Check Your Progress Questions

“Understanding and dealing correctly with the trade-off between risk and return is a fundamental, but poorly understood, a challenge faced by all investors.”

- Ed Thorp

4.1 Introduction

As discussed in the first unit, while making the decisions regarding investment and financing, the finance manager seeks to achieve the right balance between risk and return, in order to optimize the value of the firm. Return and risk go together in investments. Everything an investor (be it the firm or the investors in the firm) does is tied directly or indirectly to return and risk.

Let us take an example to understand the inter-relationship between risk and return.

Example: Returns of Mutual Funds			
Sl. No	Mutual Fund	Type of Fund	Annualised Return as on May 10, 2022
1	Axis Banking & PSU Debt Fund-Reg (DD)	Debt	8.86
2	Axis Bluechip Fund (G)-Direct Plan	Equity	23
3	Quantum Dynamic Bond Fund (G)-Direct Plan	Debt	9.97
4	Quantum Long Term Equity Value Fund (D)-Direct Plan	Equity	15.31

Funds 1 and 3 are debt funds. They have a lower risk. Funds 2 and 4 are equity funds. They have a higher risk. The returns of these funds correlated positively with their risks.

In the previous unit, we learnt about the time value of money. This unit discusses the concepts of risk and return, their components, sources of risk and the measurement of risk and return in an organization.

4.2 Objectives

After reading through the unit, you should be able to:

- Describe the significance of concept of return and risk in financial decision making
- Analyse the inter-relationship between risk and rate of return to arrive at decisions that give maximum returns at minimum risk
- Identify the different types of risks in a business to enable better management of risks
- Measure the risks and returns associated with a project using various measurement techniques

4.3 The Concept of Return

The objective of any investor is to maximize expected returns from his investments, subject to various constraints; primarily, that of risk. Return is the motivating force, inspiring the investor in the form of rewards, for undertaking the investment. The importance of returns in any investment decision can be traced to the following factors:

- It enables investors to compare alternative investments in terms of what they have to offer the investor.
- Measurement of historical (past) returns enables the investors to assess how well they have done.
- Measurement of historical returns also helps in estimation of future returns.

4.3.1 Types of Returns

The above factors reveal that there are two types of returns – Realized or Historical Return and Expected Return.

Realized Return

This is ex-post (after the fact) return, or return that was or could have been earned. For example, a deposit of ₹ 1000 in a bank on 1st January, at a stated annual interest rate of 10% will be worth ₹ 1,100 exactly a year later. The historical or realized return in this case is 10%.

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Expected Return

This is the return from an asset that investors anticipate or expect to earn over some future period. The expected return is subject to uncertainty, or risk, and may or may not occur. The investor compensates for the uncertainty in returns and the timing of those returns, by requiring an expected return that is sufficiently high to offset the risk or uncertainty.

4.3.2 Components of Return

What constitutes the return on any investment? Return is basically made up of two components:

- The periodic cash receipts or income on the investment in the form of interest, dividends, etc. The term yield is often used in connection with this component of return. Yield refers to the income derived from a security in relation to its price, usually its purchase price. For example, the yield on a 10% bond at a purchase price of ₹ 900 is 11.11%.
- The appreciation (depreciation) in the price of the asset, is referred to as capital gain (loss). This is the difference between the purchase price and the price at which the asset can be, or is, sold.

Many investors have capital gains as their primary objective and expect this component to be larger than the income component.

4.3.3 Measuring Rate of Return

The rate of return is the total return the investor receives during the holding period (the period when the security is owned or held by the investor) stated as a percentage of the purchase price of the investment at the beginning of the holding period. In other words, it is the income from the security in the form of cash flows, and the difference in price of the security between the beginning and the end of the holding period, expressed as a percentage of the purchase price of the security at the beginning of the holding period.

The general equation for calculating the rate of return is shown below:

$$k = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$$

Where, k = Rate of Return

P_t = Price of the security at time 't' i.e. at the end of the holding period.

P_{t-1} = Price of the security at time 't-1' i.e. at the beginning of the holding period or purchase price.

D_t = Income or cash flows receivable from the security at time 't'.

Rates of return are usually stated at an annual percentage rate to allow comparison of returns between securities. Let us first look at the calculation of the rates of return of an equity stock and then a bond.

A Stock's Rate of Return

What are the two components of return from shares? The first component “ D_t ” is the income in cash from dividends and the second component is the price change (appreciation and depreciation).

Illustration 4.1

If a share of ACC is purchased for ₹ 3,580 on February 8, and sold for ₹ 3,800 on February 9, in a year, and the company pays a dividend of ₹ 35 for the year, what is the rate of return on ACC share to the investor?

Solution

The rate of return on an equity share is calculated with the formula:

$$k = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} = \frac{35 + (3,800 - 3,580)}{3,580} = 7.12\%$$

Example: Calculation of Rate of Return

On Jan 1, 2021, the market price of Bajaj Auto share opened at ₹ 3,446. On Dec 31, 2021, the market price of Bajaj Auto shares closed at ₹ 3,249. During the year, Bajaj Auto has paid a dividend of ₹ 140. What was the return earned by its shareholders during the calendar year?

The rate of return on an equity share is calculated with the formula:

$$k = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} = \frac{140 + (3,249 - 3,446)}{3,446} = \frac{140 - 197}{3,446} = \frac{-57}{3,446}$$

$$= -0.01654 \text{ or } -1.65\%$$

Sources: 1. <https://www.goodreturns.in/company/bajaj-auto/dividend.html> (Accessed on 10th May 2022)

2. <https://www.indiaonline.com/company/bajaj-auto-ltd/share-price-historical-data/28074> (Accessed on 10th May 2022)

Rate of Return of a Bond (Debenture)

In the case of bonds, instead of dividends, the investor is entitled to payments of interest annually or semi-annually, based on the coupon rate. The investor also benefits if there is an appreciation in the price of the bond.

Illustration 4.2

If a 14%, ₹ 1,000 ICICI debenture was purchased for ₹ 1,350, and the price of this security rises to ₹ 1,500 by the end of an year, what will be the rate of return earned on the debenture?

Solution

Rate of return for this debenture would be

$$\frac{140 + (1,500 - 1,350)}{1,350} = 21.48\%$$

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4.3.4 Probabilities and Rates of Return

What are probabilities?

A probability is a number that describes the chances of an event taking place. Probabilities are governed by five rules and range from 0 to 1. These five rules are:

- A probability can never be larger than 1 (In other words maximum probability of an event taking place is 100%).
- The sum total of probabilities must be equal to 1.
- A probability can never be a negative number.
- If an outcome is certain to occur, it is assigned a probability of 1, while impossible outcomes are assigned a probability of 0.
- The possible outcomes must be mutually exclusive and collectively exhaustive.

How does probability affect the rate of return?

In a world of uncertainty, the expected return may or may not materialize. In such a situation, the expected rate of return for any asset is the weighted average rate of return using the probability of each rate of return as the weight. The expected rate of return “ $\bar{k}$ ” is calculated by summing the products of the rates of return and their respective probabilities. This can be mathematically stated as follows:

$$\bar{k} = \sum_{i=1}^n P_i k_i$$

Where,

- $\bar{k}$ = expected rate of return.
- P_i = probability associated with the i -th possible outcome.
- k_i = rate of return from the i -th possible outcome.
- n = number of possible outcomes.

Illustration 4.3

The probability distributions and corresponding rates of return for Alpha company are shown below:

Possible Outcomes (i)	Probability of Occurrence (P_i)	Rate of Return (%) (K_i)
1	0.10	50
2	0.20	30
3	0.40	10
4	0.20	-10
5	0.10	-30
	1.00	

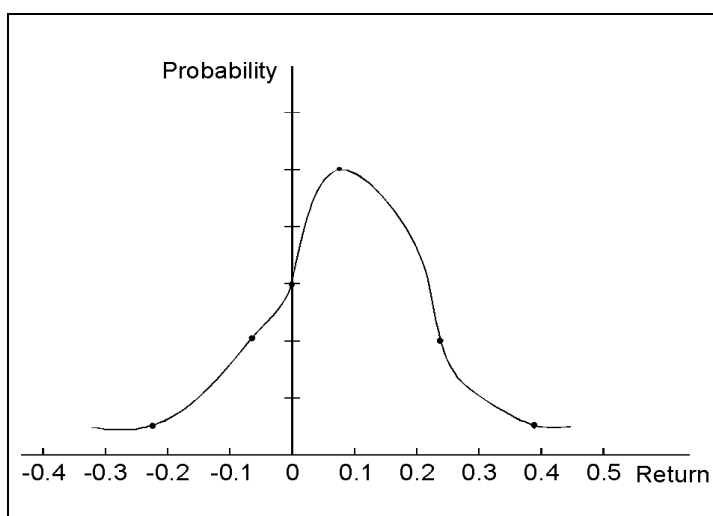
How do we calculate the expected rate of return?

Solution

$$\begin{aligned}
 \bar{k} &= \sum_{i=1}^n P_i k_i \\
 &= (0.10)(0.50) + (0.20)(0.30) + (0.40)(0.10) + (0.20)(-0.10) \\
 &\quad + (0.10)(-0.30) \\
 &= 0.05 + 0.06 + 0.04 - 0.02 - 0.03 = 0.1 \\
 &= 10\%
 \end{aligned}$$

The following figure gives a graphical representation to the solution

Figure 4.1: Probability Distribution of Alpha's Rate of Return



Source: ICFAI Research Center

Activity 4.1

1. Give any two examples that show the inter-linkage of risk with return.

2. Why do you think, the concept of probability is used in computing expected returns?

4.4 The Concept of Risk

Risk and return go hand in hand in investments and finance. One cannot talk about returns without talking about risks, because, investment decisions always involve a trade-off between risk and return. Risk can be defined as the chance that the actual outcome from an investment will differ from the expected outcome. This means that, the more variable the possible outcomes that can occur (i.e., the broader the range of possible outcomes), the greater the risk.

4.4.1 Risk and Expected Rate of Return

The width of a probability distribution of rates of return is a measure of risk. The wider the probability distribution, the greater is the risk; or greater the variability of return, greater is the variance. This variance can be appraised visually. Let us understand this more clearly with an example.

Illustration 4.4

Take a look at the probability distribution of Alpha company in comparison with the probability distributions of the rates of return of two other companies Beta and Gamma Tables 4.1 and 4.2.

Table 4.1: Probability Distributions and Corresponding Rates of Return for Beta Company

Possible Outcomes (i)	P_i	$K_i(\%)$
1	0.05	38
2	0.20	23
3	0.50	8
4	0.20	-7
5	0.05	-22
	1.00	

We can find the required rate of return using the formula

$$\begin{aligned}
 \bar{k} &= \sum_{i=1}^n P_i k_i \\
 &= (0.05)(0.38) + (0.20)(0.23) + (0.50)(0.08) + \\
 &\quad (0.20)(-0.07) + (0.05)(-0.22) = 0.08 \\
 \bar{k} &= 8\%
 \end{aligned}$$

Table 4.2: Probability Distributions and Corresponding Rates of Return for Gamma Company

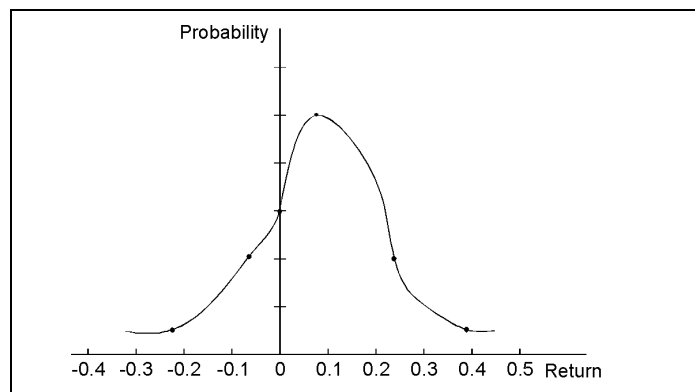
Possible Outcomes (i)	P_i	$K_i(\%)$
1	0.10	90
2	0.25	50
3	0.30	20
4	0.25	-10
5	0.10	-50
	1.00	

Source: ICFAI Research Center

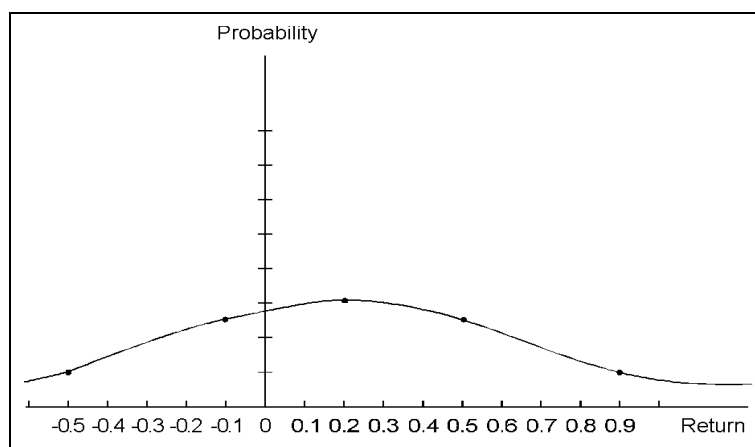
Using the same formula, the rate of return for Gamma Company works out to be 20%.

$$\bar{k} = 20\%$$

These can be represented as follows in Figures 4.2 and 4.3 below

Figure 4.2: Probability distribution of Beta Company

Source: ICFAI Research Center

Figure 4.3: Probability Distribution of Gamma Company

Source: ICFAI Research Center

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Of the three companies (Alpha in illustration 4.3 and Gamma and Beta companies in illustration 4.4), Gamma company seems to be the riskiest because its probability distribution is the widest and Beta company is the least risky because its probability distribution is the narrowest. If we look more closely, we also see that the expected return of Gamma company is the highest at 20%, while that of Beta company is at 8%. This substantiates the fact that an investor cannot expect greater returns without being willing to assume greater risks.

4.4.2 Sources of Risk

There are various sources of risk. These sources are influenced by several factors that make any financial asset risky. Let us take a look at some of the general sources of risk.

- **Interest Rate Risk:** Interest rate risk is the variability in a security's return resulting from changes in the level of interest rates. Other things being equal, security prices move inversely to interest rates. This risk affects bond-holders more directly than equity investors.
- **Market Risk:** Market risk refers to the variability of returns due to fluctuations in the securities market. All securities are exposed to market risk but equity shares get the most affected. This risk includes a wide range of factors exogenous to securities themselves like depressions, wars, politics, etc.
- **Inflation Risk:** With rise in inflation, there is reduction of purchasing power, hence this is also referred to as purchasing power risk, and affects all securities. This risk is also directly related to interest-rate risk, as interest rates go up with inflation.
- **Business Risk:** This refers to the risk of doing business in a particular industry or environment and it gets transferred to the investors who invest in the business or company.
- **Financial Risk:** Financial risk arises when companies resort to financial leverage or the use of debt financing. The more the company resorts to debt financing, the greater is the financial risk. This risk is further discussed in unit 5 on Leverage.
- **Liquidity Risk:** This risk is associated with the secondary market in which the particular security is traded. A security which can be bought or sold quickly without significant price concession is considered liquid. The greater the uncertainty about the time element and the price concession, the greater the liquidity risk. Securities which have ready markets like treasury bills have lesser liquidity risk.

Example: Interest Rate Risk

On May 4, 2022, as the Reserve Bank of India hiked the repo rate by 40 basis points to 4.40%, the yields of the benchmark Indian government bonds with tenure of 2-years, 5-years, 10-years and 14-years increased by about 32 bp, 37 bp, 26 bp and 22 bp (Edelweiss Mutual Fund's note on the RBI Monetary Policy Review). When yields go up, the bond prices fall, which will result in mark-to-market losses for debt mutual funds. Thus, the rate hike not only affected the stock markets and equity funds but bond markets and debt funds too.

Sources: 1. <https://www.financialexpress.com/market/bond-yield-sharply-rises-after-rbis-surprise-rate-hike/2513061/> (Accessed on 11th May 2022)

2. <https://www.livemint.com/money/personal-finance/what-is-the-impact-of-the-rbi-rate-hike-on-your-debt-investments-11651680178919.html> (Accessed on 11th May 2022)

4.4.3 Measurement of Total Risk

Risk is associated with the dispersion in the likely outcomes. Dispersion refers to variability. If an asset's return has no variability, it has no risk. An investor analyzing a series of returns on an investment over a period of years needs to know something about the variability of its returns; or in other words, the asset's total risk.

There are different ways to measure variability of returns. The range of the returns, i.e., the difference between the highest possible rate of return and the lowest possible rate of return is one measure, but the range is based on only two extreme values.

The variance of an asset's rate of return (Var) can be found as: the sum of the squared deviation of each possible rate of return from the expected rate of return multiplied by the probability that the rate of return occurs.

$$\text{Var}(k) = \sum_{i=1}^n P_i (k_i - \bar{k})^2$$

Where, Var (k) = Variance of returns

P_i = Probability associated with the i th possible outcome

k_i = Rate of return from the i th possible outcome

k = Expected rate of return

n = Number of years.

A third and most popular way of measuring variability of returns is standard deviation. The standard deviation denoted by σ is simply the square root of the variance of the rates of return explained above.

$$\sigma = \sqrt{\text{Var}(k)} = \left[\sum_{i=1}^n P_i (k_i - \bar{k})^2 \right]^{1/2}$$

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The standard deviation and variance are conceptually equivalent quantitative measures of total risk. Standard deviation is preferred to range because of the following advantages:

- Unlike the range, standard deviation considers every possible event and assigns each event a weight equal to its probability.
- Standard deviation is a very familiar concept and many calculators and computers are programmed to calculate it.
- Standard deviation is a measure of dispersion around the expected (or average) value. This is in absolute consensus with the definition of risk as “variability of returns”.
- Standard deviation is obtained as the square root of the sum of squared differences multiplied by their probabilities. This facilitates comparison of risk as measured by standard deviation and expected returns as both are measured in the same costs. This is why standard deviation is preferred to variance as a measure of risk.

4.4.4 Calculating the Standard Deviation

Let us calculate the σ for Alpha Company's rates of return given in illustration 4.4 (Refer Table 4.3).

Table 4.3: Calculation of Standard Deviation

Possible Outcomes	$k_i(\%)$	$k_i - \bar{k}$	$(k_i - \bar{k})^2$	P_i	$P_i (k_i - \bar{k})^2$
1	50	40	1600	0.10	160
2	30	20	400	0.20	80
3	10	0	0	0.40	0
4	-10	-20	400	0.20	80
5	-30	-40	1600	0.10	160
					$\sum P_i (k_i - \bar{k})^2 = 480$

$$\sigma = \left[\sum_{i=1}^n P_i (k_i - \bar{k})^2 \right]^{1/2}$$
$$= \sqrt{480} = 21.9\%$$

Similarly, find out the standard deviation of the rates of return of Beta Company and Gamma Company. You will see that Gamma Company with a σ of 38% is the riskiest of the three.

Check Your Progress - 1

1. Any investment made by an investor is to expect a return out of it, assuming the probability of such investments made. Identify the factor that is contradictory to investment decisions based on returns.
 - a. Compare alternative investments in terms of its expected return
 - b. Measurement of past data on returns
 - c. Estimating the future returns
 - d. Risks rewards
 - e. Optimize the value of firm
 2. Risk associated with reduction in purchasing power of individual is referred to as
 - a. Market risk
 - b. Business risk
 - c. Financial risk
 - d. Inflation risk
 - e. Interest rate risk
 3. The expected return of any portfolio, is based on probabilities ranging from 0 to 1. Which of the following is contrary to the rubrics of probability?
 - a. Probability can never be larger than one
 - b. Sum total of probabilities always equals one
 - c. Can never be negative
 - d. Possible outcomes cannot be mutually exclusive
 - e. Impossible outcomes are assigned to zero
 4. X Limited issued 9% preference shares with a face value of ₹ 50 per share. These shares were bought by Mr.Y for ₹ 80 in April 20xx. The shares have increased to a market value of ₹ 120 per share in the month of April 20x1. What is the expected rate of return that the share yielded to Mr.Y?
 - a. 56%
 - b. 70%
 - c. 52%
 - d. 50%
 - e. 30%
 5. Which of the following risk category is associated with uncertainty in which the particular security is traded in secondary market?
 - a. Market risk
 - b. Business risk
 - c. Liquidity risk
 - d. Inflation risk
 - e. Interest rate risk
-

4.5 Portfolios and Risk

What is a portfolio? An investment portfolio refers to the group of assets that is owned by an investor. It is possible to construct a portfolio in such a way that the total risk of the portfolio is less than the sum of the risk of the individual assets taken together. Generally, investing in a single security is riskier than investing in a portfolio, because the returns to the investor are based on the future of a single asset. Hence, in order to reduce risk, investors hold a diversified portfolio, which might contain equity capital, bonds, real estate, savings accounts, bullion, collectibles, and various other assets. In other words, the investor does not put all his eggs into one basket.

How does diversification reduce risk? Let us take a look at a very simple illustration.

Illustration 4.5

Let us assume you put your money equally into the stocks of two companies Banlight Limited-- a manufacturer of sunglasses, and Varsha Limited-- a manufacturer of rain coats. If the monsoons are above average in a particular year, the earnings of Varsha Limited would be up leading to an increase in its share price and returns to shareholders. On the other hand, the earnings of Banlight would be on the decline, leading to a corresponding decline in the share prices and investor's returns. If there is a prolonged summer, the situation would be just the opposite.

While the return on each individual stock might vary quite a bit depending on the weather, the return on your portfolio (50% Banlight and 50% Varsha stocks) could be quite stable because the decline in one will be offset by the increase in the other. In fact, at least in theory, the offsetting could eliminate your risk entirely.

The table 4.4 below gives the returns on the two stocks on the assumption that rainy, normal, and sunny weather are equally likely events (1/3 probability each). Let us calculate the expected return and the standard deviation of the two stocks individually and of the portfolio of 50% Banlight and 50% Varsha stocks (Refer Table 4.4)..

Table 4.4: Individual Returns and Portfolio return of Banlight and Varsha Stock

Weather Conditions	Return on Banlight Stock	Return on Varsha Stock	Return on Portfolio (50% Banlight + 50% Varsha)
	$R_B(\%)$	$R_V(\%)$	$R_p(\%)$
Rainy	0	20	10
Normal	10	10	10
Sunny	20	0	10

Source: ICAI Research Center

Table 4.5: Calculation of Standard Deviation of Banlight and Varsha Stock

Possible Outcomes	Probabilities	R_B	R_V	R_p
Rainy	1/3	0	20	10
Normal	1/3	10	10	10
Sunny	1/3	20	0	10
Expected Rate of Return $\bar{k}$		10%	10%	10%
σ		$\sqrt{66.67} = 8.16\%$	$\sqrt{66.67} = 8.16\%$	$\sqrt{0} = 0\%$

Source: ICAI Research Center

Note that the portfolio earns 10%, no matter what the weather is. Hence, through diversification, two risky stocks have been combined to make a riskless portfolio, as is evidenced by the standard deviation of the portfolio.

While the above hypothetical example served us in understanding the benefits of diversification, in practice, one rarely, if ever, finds stocks which can perfectly offset each other. The returns on Banlight and Varsha are said to be perfectly negatively correlated since they always move in opposite directions, in exactly the same manner. On the other hand, two stocks which go up or down together in the same manner are said to be perfectly positively correlated. Both these types of correlation rarely happen in practice. In general, all stocks have some degree of positive correlation because certain variables like economic factors, political climate, etc., tend to affect all stocks.

We need not have stocks which are perfectly negatively correlated in a portfolio in order to achieve the benefit of risk reduction through diversification. As long as the assets in a portfolio are not perfectly positively correlated, diversification does result in risk reduction.

The risk reduction effects of diversification are important both to financial managers and investors. The finance managers' attempt is to maximize the market value, which is what the investors are interested in.

Example: Average Returns of Some Mutual Fund Schemes

The following is a small list of portfolios in blue-chip stocks available for the public to invest in (Mutual Funds).

Scheme Name	Average Return as on May 11, 2022		
	1 Year	3 Years	5 Years
Canara Robeco Bluechip Equity Fund	6.9%	17.8%	14.1%
Kotak Bluechip Fund (Direct Growth)	9.4%	16.1%	12.2%
Franklin India Bluechip Fund (G)	9.42%	10.29%	18.98%
ICICI Pru Focused Bluechip Equity Fund (G)	13.18%	11.03%	16.78%
SBI Blue Chip Fund – Reg (G)	12.03%	11.50%	18.15%

Contd....

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Even though the range of returns seems big when one-year returns are compared, the 5-year returns tend to even out.

Sources: 1. <https://www.bankbazaar.com/mutual-fund/mutual-fund-returns.html> (Accessed on 11th May 2022)

2. <https://groww.in/mutual-funds/kotak-50-direct-growth> (Accessed on 11th May 2022)

4.5.1 Diversifiable and Non-Diversifiable Risk

The fact that returns on stocks do not move in perfect tandem means that risk can be reduced by diversification. But the fact that there is some positive correlation means that in practice risk can never be reduced to zero. So, there is a limit on the amount of risk that can be reduced through diversification. This can be traced to two major reasons.

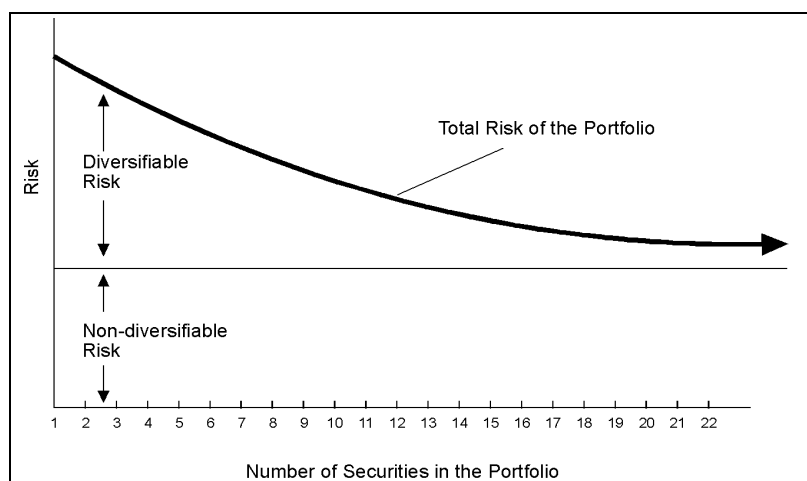
Degree of Correlation

As we have been saying, the amount of risk reduction depends on the degree of positive correlation between stocks. The lower the degree of positive correlation, the greater is the amount of risk reduction that is possible.

Number of Stocks in the Portfolio

The amount of risk reduction achieved by diversification also depends on the number of stocks in the portfolio. As the number of stocks increases, the diversifying effect of each additional stock diminishes as shown in the Figure 4.4.

Figure 4.4: Risk Reduction through Diversification



Source: ICFAI Research Center

As the Figure 4.4 above indicates, the major benefits of diversification are obtained with the first 10 to 12 stocks, provided they are drawn from industries that are not closely related. Additions to the portfolio beyond this point continue to reduce total risk but the benefits are diminishing.

From the figure it is also apparent that it is the diversifiable risk that is being reduced unlike the non-diversifiable risk which remains constant whatever your

portfolio is. What are diversifiable and non-diversifiable risks? The risk of any individual stock can be separated into two components: non-diversifiable and diversifiable risk.

Non-diversifiable risk is that part of total risk (from various sources like interest rate risk, inflation risk, financial risk, etc.) that is related to the general economy or the stock market as a whole, and hence cannot be eliminated by diversification. Non-diversifiable risk is also referred to as market risk or systematic risk.

Diversifiable risk on the other hand, is that part of total risk that is specific to the company or industry, and hence can be eliminated by diversification. Diversifiable risk is also called unsystematic risk or specific risk.

Let us take a look at some of the factors that give rise to diversifiable and non-diversifiable risk.

Non-diversifiable or Market Risk Factors are:

- Major changes in tax rates
- War & other calamities
- An increase or decrease in inflation rates
- A change in economic policy
- Industrial recession
- An increase in international oil prices, etc.

Diversifiable or Specific Risk Factors are:

- Company strike
- Bankruptcy of a major supplier
- Death of a key company officer
- Unexpected entry of new competitor into the market
- Outcome of unfavorable litigation
- Regulatory change
- Any change in Management
- Product recall etc.

Risk of Stocks in a Portfolio

How do we measure the risk of stocks in a portfolio? We can think of a portfolio's standard deviation as a good indicator of its risk to the extent that if addition of a stock to the portfolio increases the portfolio's standard deviation, the stock adds risk to the portfolio. But the risk that a stock adds to a portfolio will depend not only on the stock's total risk, and its standard deviation, but also on how that risk breaks down into diversifiable and non-diversifiable risk. If an investor holds only one stock, there is no question of diversification, and his risk is therefore, the

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standard deviation of the stock. For a diversified investor, the risk of a stock is only that portion of the total risk that cannot be diversified away or its non-diversifiable risk. How does one measure non-diversifiable or market risk? It is generally measured by Beta (β) coefficient. Beta measures the relative risk associated with any individual portfolio as measured in relation to the risk of the market portfolio. The market portfolio represents the most diversified portfolio of risky assets an investor could buy since it includes all risky assets. This relative risk can be expressed as:

$$\beta_j = \frac{\text{Non-diversifiable risk of asset or portfolio } j}{\text{Risk of market portfolio}}$$

Thus, the beta coefficient is a measure of the non-diversifiable or systematic risk of an asset relative to that of the market portfolio. A beta of 1.0 indicates an asset of average risk. A beta coefficient greater than 1.0 indicates above-average risk – stocks whose returns tend to be more risky than the market. Stocks with beta coefficients less than 1.0 are of below average risk i.e., less risky than the market portfolio. An important point to note here is that in the case of the market portfolio, all the possible diversification has been done – thus the risk of the market portfolio is non-diversifiable which an investor cannot avoid. Similarly, as long as the asset's returns are not perfectly positively correlated with returns from other assets, there will be some way to diversify away its unsystematic risk. As a result beta depends only on non-diversifiable risks.

The beta of a portfolio is nothing but the weighted average of the betas of the securities that constitute the portfolio, the weights being the proportions of investments in the respective securities. For example, if the beta of a security A is 1.5, and that of security B is 0.9, and 60% and 40% of our portfolio is invested in the 2 securities respectively, the beta of our portfolio will be 1.26 ($1.5 \times 0.6 + 0.9 \times 0.4$).

4.5.2 Measurement of Beta

The systematic relationship between the return on the security or a portfolio and the return on the market can be described using a simple linear regression, identifying the return on a security or portfolio as the dependent variable k_j , and the return on market portfolio as the independent variable k_m , in the single-index model or market model developed by William Sharpe. This can be expressed as:

$$k_j = \alpha_j + \beta_j k_m + e_j$$

The beta parameter β_j in the model represents the slope of the above regression relationship, and as explained earlier, measures the responsiveness of the security or portfolio to the general market, and indicates how extensively the return of the portfolio or security will vary with changes in the market return. The beta coefficient of a security is defined as the ratio of the security's covariance of

return with the market to the variance of the market. This can be calculated as follows:

$$\begin{aligned}\bar{k}_j &= 20 \\ \bar{k}_m &= 10 \\ \beta_j &= \frac{\text{Cov}(k_j, k_m)}{\text{Var}(k_m)} = \frac{\sum P(k_j - \bar{k}_j)(k_m - \bar{k}_m)}{\sum P(k_m - \bar{k}_m)^2} \\ &= \frac{740}{480} = 1.54 \\ \alpha &= \bar{k}_j - \beta_j \bar{k}_m \\ &= 20 - (1.54 \times 10) = 4.6\%\end{aligned}$$

The alpha parameter α is the intercept of the fitted line and indicates what the return of the security or portfolio will be when the market return is zero. For example, a security with an α of + 2 percent would earn 2 percent even when the market return was zero and would earn an additional 2 percent at all levels of market return. The converse is true, if a security has α of –2 percent. The positive α thus represents a sort of bonus return and would be a highly desirable aspect of a portfolio or security, while a negative α represents a penalty to the investor.

The third term e_j is the unexpected return resulting from influences not identified by the model. Frequently referred to as random or residual return, it may take on any value but is generally found to average out to zero.

Let us try to understand the above concepts of β and α with the help of an illustration.

Illustration 4.6

Year	k_j	$k_i - \bar{k}_j$	k_m	$k_m - \bar{k}_m$	P	$P(k_j - \bar{k}_j) \times (k_m - \bar{k}_m)$	$P(k_m - \bar{k}_m)^2$
1	20	0	10	0	0.1	0	0
2	50	30	30	20	0.1	60	40
3	–50	–70	–30	–40	0.1	280	160
4	–10	–30	–10	–20	0.1	60	40
5	90	70	50	40	0.1	280	160
6	20	0	10	0	0.1	0	0
7	–10	–30	10	0	0.1	0	0
8	20	0	10	0	0.1	0	0
9	20	0	–10	–20	0.1	0	40
10	50	30	30	20	0.1	60	40
					1.0	740	480

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What do these figures of β and α imply? When we say that the security has a β of 1.54, we mean that if the return on the market portfolio rises by 10%, the return on the security 'j' will rise by 15.4%. An α of 4.6% implies that the security earns 4.6% over and above the market rate of return.

Characteristic Regression Line (CRL)

The Characteristic Regression Line (CRL) is a graphic representation of the market model.

$$k_j = \alpha_j + \beta_j k_m + e_j$$

4.5.3 The Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM), developed by William F Sharpe, John Lintner and Jan Mossin, is one of the major developments in financial theory. The CAPM establishes a linear relationship between the required rate of return of a security and its systematic or undiversifiable risk or beta.

The CAPM is represented mathematically by

$$k_j = R_f + B_j (k_m - R_f)$$

where,

- k_j = Expected or required rate of return on security j
- R_f = Risk-free rate of return
- B_j = Beta coefficient of security j
- k_m = Return on market portfolio.

Assumptions

The CAPM is based on a list of critical assumptions, some of which are as follows:

- Investors are risk-averse and use the expected rate of return and standard deviation of return as appropriate measures of risk and return for their portfolio. In other words, the greater the perceived risk of a portfolio, the higher return a risk-averse investor expects to compensate the risk.
- Investors make their investment decisions based on a single-period horizon i.e., the next immediate time period.
- Transaction costs in financial markets are low enough to ignore, and assets can be bought and sold in any unit desired. The investor is limited only by his wealth and the price of the asset.
- Taxes do not affect the choice of buying assets.
- All individuals assume that they can buy assets at the going market price and they all agree on the nature of the return and risk associated with each investment.

The assumptions listed above are somewhat limiting but the CAPM enables us to be much more precise about how trade-offs between risk and return are determined in financial markets.

In the CAPM, the expected rate of return can also be thought of as a required rate of return because the market is assumed to be in equilibrium. The expected return as we have explained earlier is the return from an asset that investors anticipate or expect to earn over some future period. The required rate of return for a security is defined as the minimum expected rate of return needed to induce an investor to purchase it.

What do investors require (expect) when they invest? First of all, investors can earn a riskless rate of return by investing in riskless assets like treasury bills. This risk-free rate of return is designated R_f and the minimum return expected by the investors. In addition to this, because investors are risk-averse, they will expect a risk premium to compensate them for the additional risk assumed in investing in a risky asset.

$$\text{Required Rate of Return} = \text{Risk-free rate} + \text{Risk premium.}$$

The CAPM provides an explicit measure of the risk premium. It is the product of the Beta for a particular security j and the market risk premium $k_m - R_f$

$$\text{Risk premium} = \beta_j (k_m - R_f)$$

This beta coefficient ' β_j ' is the non-diversifiable risk of the asset, relative to the risk of the market. If the risk of the asset is greater than the market risk, i.e. β exceeds 1.0, the investor assigns a higher risk premium to asset j than to the market.

Illustration 4.7

For example, suppose a fertilizer company had a β_j of 1.5, that its required rate of return on the market (k_m) was 15 percent per year, and that its risk-free interest rate (R_f) was 6 percent per annum. Using the CAPM the required rate of return can be calculated as below:

$$\begin{aligned} k_j &= R_f + \beta_j (k_m - R_f) \\ &= 0.06 + 1.5 (0.15 - 0.06) \\ &= 0.195 \text{ or } 19.5\% \end{aligned}$$

The above calculations show that the required rate of return on this stock would be 19.5% – the sum of 6 per cent risk-free return and a 13.5 per cent risk premium. This 19.5 per cent is larger than the 15 per cent required return on the market because the fertilizer stock is riskier than the market.

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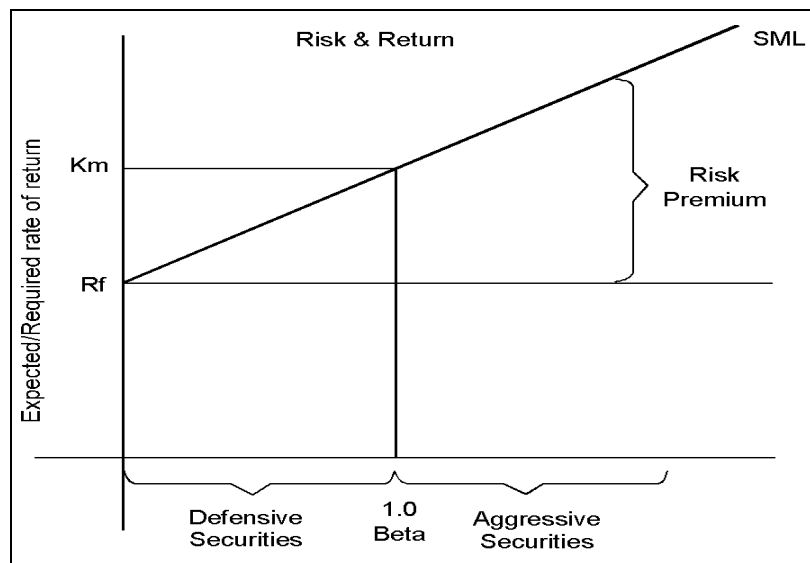
Activity 4.2

Diversification of portfolio reduces risk. But at the same time, over-diversification may not be beneficial. In this context, what do you think are the adverse effects of over-diversification?

The Security Market Line (SML)

We can plot the relationship between the required rate of return (k_j) and non-diversifiable risk (beta) as expressed in CAPM to produce a graph of the SML as shown below in Figure 4.5:

Figure 4.5: Security Market Line



Source: ICFAI Research Center

As per the CAPM assumptions, the expected return and beta statistics of any individual security should lie on the SML. The SML intersects the vertical axis at the risk-free rate of return R_f , and $k_m - R_f$ is the slope of the SML.

Since all securities are expected to plot along the SML, the line provides a direct and convenient way of determining the expected/required return of a security, if we know the beta of the security. The SML can also be used to classify securities. Those with betas greater than 1.00 and plotting on the upper part of the SML are classified as aggressive securities, while those with betas less than 1.00 and plotting on the lower part of the SML can be classified as defensive securities which earn below-average returns.

From the data given in the following table, chart the SML and classify the securities.

Table 4.6: Security Market Line

	Expected Return	Risk-free Return	Beta	Market-risk premium
Market	12.0	5	1.00	7
Security X	?	5	1.20	?
Security Y	?	5	0.80	?

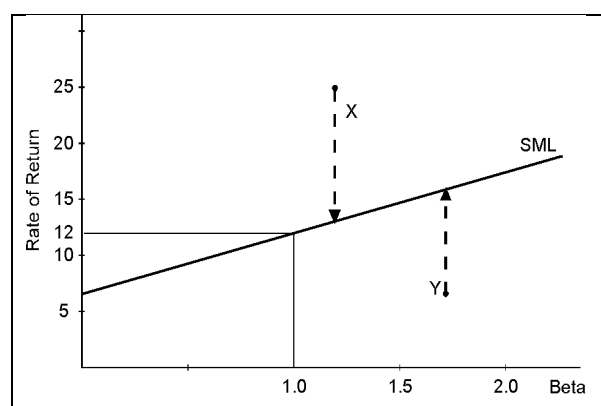
Source: ICAFI Research Center

One of the major assumptions of the CAPM is that the market is in equilibrium and that the expected rate of return is equal to the required rate of return for a given level of market risk or beta. In other words, the SML provides a framework for evaluating whether high-risk stocks are offering returns more or less in proportion to their risk and vice-versa. Let us see how we can appraise the value securities using CAPM, and the SML.

Once a security's expected rate of return and beta have been computed, they may be plotted with reference to the SML. If the expected rate of return of the security differs from the required rate of return, the security may be over or under priced and may fall below or above the SML.

Let us clarify with the help of the Figure 4.6 below:

Figure 4.6: SML for X and Y securities



Source: ICAFI Research Center

From the figure we see that $R_f = 6\%$ and $k_m = 12\%$.

Two securities X and Y have been shown in the figure. Both X and Y should have been on the SML but obviously are not. Why? Let us take the case of X first. The expected rate of return of X is around 25%. But at a beta of around 1.2, using the SML we see that the required rate of return need be only around 13%. This tells

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us that security X is undervalued or priced too low because its average rate of return is inappropriately high for the level of risk it bears. On the other hand security Y with a beta of around 1.7 requires a rate of return of around 16% but its expected return is only about 7%. This tells us that the asset is over valued or overpriced and hence unattractive because it is expected to produce a return lower than stocks with similar betas. These two assets should move toward their equilibrium – required return positions on the SML (i.e., expected rate of return should be equal to required rate of return and correspond to their respective betas). The expected return as we know is computed as below:

$$\begin{aligned}\text{Expected return } \bar{k} &= \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} \\ &= \frac{\text{Expected Income}}{\text{Market Purchase Price}}\end{aligned}$$

While estimating the expected return a year hence, in the absence of historic data on returns and probabilities, the following formula which is derived from the basic formula given above may be used.

$$\text{Expected Return} = \frac{D_0 (1+g)}{P_0} + g$$

Where, D_0 = Last paid dividend

P_0 = Current purchase/market price

g = Growth rate.

The derivation of this formula is explained in detail in the chapter on Valuation of Securities.

To reach equilibrium and their required rate of return positions on the SML, both stocks have to go through a temporary price adjustment. In order to reach equilibrium, assuming betas remain the same, the expected return of X has to be brought down to be equal to the required rate of return and be plotted on the SML. To accomplish this, the denominator of the above formula namely the purchase price has to be sufficiently increased. Similarly, for security Y, the purchase price has to be sufficiently reduced so that the expected return rises to be the same as the required rate of return.

Security X

$$R_f = 6\%, \beta_x = 1.2, k_m = 12\%$$

$$\begin{aligned}\text{Required rate of return} &= R_f + \beta_x (k_m - R_f) \\ &= 6 + 1.2 (12 - 6) \\ &= 13.2\%\end{aligned}$$

Expected rate of return a year hence:

Last paid dividend (D_0) = ₹ 1.90

Current purchase price (P_0) = ₹ 10

Growth rate = 5%

$$\begin{aligned}\text{Expected rate of return} &= \frac{D_0(1+g)}{P_0} + g \\ &= \frac{2}{10} + 0.05 \\ &= 25\%\end{aligned}$$

By how much should the purchase price of X be increased so that it is at equilibrium? Since at equilibrium, the required rate is equal to the expected rate, this can be solved as follows:

$$\begin{aligned}0.132 &= \frac{2.00}{P_0} + 0.05 \\ \therefore P_0 &= ₹ 24.40\end{aligned}$$

In practice, how does the price of security X get pushed up to its equilibrium price? Investors will be interested in purchasing security X because it offers more than proportionate returns in comparison to the risk. This demand will push up the price of X as more of it is purchased and correspondingly bring down the returns. This process will continue till it reaches the equilibrium price and expected returns are the same as required returns.

Security Y

$R_f = 6\%$, $\beta_y = 1.6$, $k_m = 12\%$

$$\begin{aligned}\text{Required rate of return} &= R_f + \beta_y (k_m - R_f) \\ &= 6 + 1.6 (12 - 6) \\ &= 15.6\%\end{aligned}$$

Expected rate of return a year hence:

Last paid dividend = ₹ 1

Current purchase price = ₹ 35

Growth rate = 4%

$$\text{Expected rate of return} = \frac{1.04}{35} + 0.04 = 7\%$$

$$\begin{aligned}\text{Equilibrium price} &= 0.156 = \frac{1.04}{P_0} + 0.04 \\ &= ₹ 9.00\end{aligned}$$

Investors will be tempted to sell security Y because it offers less than the required rate of return. This increase in the supply of Y will drive down its price and correspondingly increase the return until the expected return rises enough to reach the SML and the security is once again in equilibrium.

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Thus the CAPM provides many useful insights to the finance manager to maximize the value of the firm. It shows the type of risk for which shareholders require compensation in the form of a higher risk premium, and hence, a higher return. Because finance managers also perform the investment function on behalf of shareholders, they must keep sight of the returns shareholders expect for taking risks.

Application of Security Market Lines

The ex-post SML is used to evaluate the performance of portfolio manager; tests of asset-pricing theories, such as the CAPM, and to conduct tests of market efficiency.

The ex-ante SML is used to identify undervalued securities and determine the consensus, price of risk implicit in the current market prices.

Depending upon the value of alpha, using SML, it is possible to estimate whether the scrip is underpriced (it is then eligible to be purchased) or overpriced (it is then eligible to be sold).

Check Your Progress - 2

6. Which term from the following options, denotes Non-Diversifiable Risks?
 - a. Market risks
 - b. Firm specific risks
 - c. Financial risk
 - d. Liquidity risk
 - e. Business risk
7. A linear relationship between risk and return can be established using simple linear regression model. Identify the element that is not a component of linear regression model.
 - a. Risk free rate of return
 - b. Expected or required rate of return
 - c. Beta coefficient of security
 - d. Return on market portfolio
 - e. Growth rate
8. Which of the following component is **not** considered as a firm-specific risk factor?
 - a. Company strikes and Lockouts
 - b. Bankruptcy of major supplier
 - c. Death of a key company officer
 - d. Industrial recession
 - e. Entry of new competitor in the market

9. What does a portfolio containing two securities that move in opposite direction have?
 - a. Positively correlated securities
 - b. Negatively correlated securities
 - c. Decrement in market value of firm's securities
 - d. Risk augmentation in portfolio
 - e. Effect of non-diversifiable risk
 10. The CAPM is an explicit measure of the risk premium. Identify the element that is **not** an assumption of Capital Asset Pricing Model.
 - a. Investors are risk prone
 - b. Individuals buy assets on going market price
 - c. Transaction cost is low
 - d. Investors make rational decisions
 - e. Taxes do not affect the choice of buying assets
-

4.6 Summary

- The objective of any investor is to maximize expected returns from his investments, subject to various constraints; primarily, that of risk. Return is the motivating force, inspiring the investor in the form of rewards, for undertaking the investment.
- There are two types of returns – Realized or Historical Return and Expected Return. Realized Return is ex-post (after the fact) return, or return that was or could have been earned. Expected Return is the return from an asset that investors anticipate or expect to earn over some future period.
- In a world of uncertainty, the expected return may or may not materialize. In such a situation, the expected rate of return for any asset is the weighted average rate of return using the probability of each rate of return as the weight.
- Risk can be defined as the chance that the actual outcome from an investment will differ from the expected outcome. This means that, the more variable the possible outcomes that can occur (i.e., the broader the range of possible outcomes), the greater the risk.
- There are various sources of risk. These sources are influenced by several factors that make any financial asset risky. These sources of risk are interest rate risk, market risk, inflation risk, business risk, financial risk and liquidity risk.
- The risk associated with a common stock is interpreted in terms of the variability of its return. The most common measures of riskiness of security are, standard deviation and variance of returns.

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- Unsystematic risk is the extent of the variability in the security's return on account of the firm-specific risk factors. This is also called diversifiable or avoidable risk factors.
- Systematic risk refers to factors which affect the entire market, and hence the firm too. This is also called non-diversifiable risk.
- If a portfolio is well diversified, the unsystematic risk gets almost eliminated. The non-diversifiable risk arising from the wide movements of security prices in the market is very important to an investor.
- The modern portfolio theory defines the riskiness of a security based on its vulnerability to market risk. This vulnerability is measured by the sensitivity of the return of the security vis-à-vis the market return, which is referred to as beta.
- Beta measures the relative risk associated with any individual portfolio as measured in relation to the risk of the market portfolio. The market portfolio represents the most diversified portfolio of risky assets an investor could buy since it includes all risky assets.
- The concept of Security Market Line (SML) is developed by the modern portfolio theory. SML represents the average or normal trade-off between risk and return for a group of securities. Here, the risk is measured typically in terms of the beta values.

4.7 Glossary

Business Risk refers to the risk of doing business in a particular industry or environment and it gets transferred to the investors who invest in the business or company.

Default Risk refers to uncertainty of expected returns from a security attributable to possible changes in the financial capacity of the security issuer, to make future payments to the security owner.

Diversification refers to an investment in more than one risky asset with the objective of risk reduction.

Expected Return is the arithmetic mean or average of all possible outcomes where the outcomes are weighted by the probability with which each will occur.

Financial risk arises when companies resort to financial leverage or the use of debt financing. The more the company resorts to debt financing, the greater is the financial risk.

Holding Period is the period when the security is owned or held by the investor.

Interest Rate Risk is the variability in a security's return resulting from changes in the level of interest rates. Other things being equal, security prices move inversely to interest rates.

Inflation Risk: With rise in inflation, there is reduction of purchasing power, hence this is also referred to as purchasing power risk, and affects all securities.

Liquidity Risk is associated with the secondary market in which the particular security is traded. A security which can be bought or sold quickly without significant price concession is considered liquid.

Market Risk refers to the variability of returns due to fluctuations in the securities market. All securities are exposed to market risk but equity shares get the most affected.

Portfolio is a combination of assets.

Perfectly Negatively Correlated Stocks are those that always move in opposite directions, in exactly the same manner.

Perfectly positively correlated stocks are stocks within a portfolio which go up or down together in the same manner.

Probability is a number that describes the chances of an event-taking place. Probabilities are governed by five rules and range from 0 to 1.

Rate of Return is the total return the investor receives during the holding period (the period when the security is owned or held by the investor) stated as a percentage of the purchase price of the investment at the beginning of the holding period.

Realized Return is ex-post (after the fact) return, or return that was or could have been earned.

Risk refers to variability. It is measured in financial analysis, generally by standard deviation or by beta-co-efficient.

Risk Aversion refers to dislike for risk. Generally, investors are risk averse. Their required rate of return varies with the level of risk – the higher the level of risk, the higher the required rate of return.

Risk Premium is the additional return expected for assuming risk.

Riskless Rate of Return is the rate of return on risk-free investments, such as the interest rate on short-term government securities.

Security Market Line (SML) is a graph that shows the relationship between the required rate of return (k_j) and non-diversifiable risk (beta) as expressed in CAPM.

Systematic Risks are risks that cannot be diversified away. They are also referred to as market risk or non-diversifiable risk.

Unsystematic Risks are risks that can be diversified away. They are also referred to as unique risk, specific risk, residual risk, or diversifiable risk.

Yield refers to the income derived from a security in relation to its price, usually its purchase price.

Block 1: Basics of Financial Management

4.8 Self-Assessment Test

1. “Standard Deviation is preferred to variance as a measure of risk”. State its advantages.
2. Enumerate on the different sources of risks that constitute different types of financial assets, while making a decision on investments based on its safety, security, and liquidity?
3. Briefly explain the factors that give rise to systematic and non-systematic risks.
4. Give a detailed note on Capital Asset Pricing Model.
5. “Security Market Line represents the tradeoff between risk and return for a group of securities”. Illustrate with an example.
6. “Beta co-efficient measures the relative risk associated with any individual portfolio as measured in relation to the risk of market portfolio”- Comment

4.9 Suggested Readings/Reference Material

1. Brealey Myers (2020). Principles of Corporate Finance, 13th edition, USA: McGraw-Hill Companies Inc.
2. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill.
3. I.M. Pandey (2021). Financial Management, 12th edition, New Delhi: Pearson Education.
4. Francis Cherunilam (2020). International Business — Text and Cases, 6th Edition, PHI Learning.
5. P.G. Apte (2020). International Financial Management, 8th Edition, McGraw Hill Education (India) Private Limited.
6. John Tennent (2018). The Economist Guide to Financial Management. Economist Books.

4.10 Answers to Check Your Progress Questions

1. (e) Not - Optimize the value of the firm

While making the decisions regarding investment and financing, the finance manager seeks to achieve the right balance between risk and return, in order to optimize the value of the firm.

2. (d) Inflation risk

With rise in inflation, there is reduction of purchasing power, hence this is also referred to as purchasing power risk, and affects all securities.

3. (d) Possible outcomes cannot be mutually exclusive

The possible outcomes must be mutually exclusive and collectively exhaustive.

4. (a) 56%

$$k = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} = (4.5 + (120 - 80)) / 80 = 56\% \text{ (approx).}$$

5. (c) Liquidity Risk

This risk is associated with the secondary market in which the particular security is traded.

6. (a) Market Risk

Non-diversifiable risk factors are otherwise called as market risk factors.

7. (e) Growth Rate

Growth rate (g) is not a component of linear regression model.

8. (d) Industrial Recession

Industrial Recession is considered as a non-diversifiable risk factor

9. (b) Negatively Correlated Securities

Negatively correlated securities always move in opposite directions in exactly the same manner.

10. (a) Investors are risk prone

Investors are risk-averse and use the expected rate of return and standard deviation of return as appropriate measures of risk and return for their portfolio.

Unit 5

Leverage

Structure

- 5.1 Introduction
- 5.2 Objectives
- 5.3 The Concept of Leverage
- 5.4 Operating Leverage
- 5.5 Financial Leverage
- 5.6 Total Leverage
- 5.7 Summary
- 5.8 Glossary
- 5.9 Self-Assessment Test
- 5.10 Suggested Readings/Reference Material
- 5.11 Answers to Check Your Progress Questions

“Leverage is a two-edged sword. The edge that can cut you, cuts deeper.”

— Naved Abdali

5.1 Introduction

Leverage is the use of borrowed funds or borrowed capital to increase the potential return on investment. Its use in the capital structure of the firm has the potential to increase the return and risk. Also, leverage and capital structure are closely related concepts that are linked to capital budgeting decisions through the cost of capital. These concepts can be used to minimize the firm's cost of capital and maximize its owner's wealth.

Example: Apple's WACC (Weighted Average Cost of Capital)

In 2004 after Apple Inc. cleared all its debt, which in the 1990s was downgraded to junk status, since then, it remained debt-free until the beginning of 2013. From the beginning of 2013 to the end of 2017, Apple accumulated \$110 billion worth of debt. It used debt as an alternative way to bolster its domestic cash position without touching international reserves. Apple's debt grew to US\$ 120.2b by the end of March 2021, up from US\$109.5b a year ago. As the operating cash flow was more than sufficient to service that debt, Apple Inc. used the debt strategy to reduce its weighted average cost of capital.

Sources 1: <https://www.nasdaq.com/articles/is-apple-nasdaq%3Aaapl-using-too-much-debt-2021-07-21> (Accessed on 11th May 2022)

2: <https://www.fool.com/investing/2020/02/20/16-years-after-freeing-itself-from-debt-apple-now.aspx> (Accessed on 11th May 2022)

This unit provides an insight into the concept of leverage, the various measures of leverage and its implications.

5.2 Objectives

After reading through the unit, you should be able to

- Explain the applicability of the concept of leverage to capital structure and capital budgeting decisions
- Apply the measures of leverage to study the impact on financial variables such as EBIT and EPS of a firm
- Determine the inter-relationship between the financial variables and the impact of costs on these variables

5.3 The Concept of Leverage

Leverage in the general sense means influence of power, i.e., utilizing the existing resources to attain something else. Leverage in terms of financial analysis is the influence, which an independent financial variable has over a dependent/related financial variable. These variables can be costs, output, revenue, earnings per share etc. Understanding the dependency of one variable on another helps the finance manager to assess the returns vis-à-vis the costs of a decision.

James Horne has defined leverage as, “the employment of an asset or fund for which the firm pays a fixed cost or fixed return”.

Computation of Fixed Cost

For the month of September 2021, the variable costs are 60 % of sales. EBIT is ₹ 6 lakh and sales are ₹. 40 lakh. Here, the fixed cost of the firm for that month will be ₹.10 lakhs. The computation is-

Total Revenue	=	₹ 40 lakh
(-) Variable cost 60% of 40 lakh	=	₹ 24 lakh
Contribution	=	₹ 16 lakh
(-) EBIT	=	₹ 6 lakh
Fixed Cost	=	₹ 10 lakh

When leverage is measured between two financial variables, it explains how the dependent variable responds to a particular change in the independent variable. To explain further, let X be an independent financial variable and Y its dependent variable, then the leverage that Y has with X can be assessed by the percentage change in Y to a percentage change in X.

$$LY/LX = \frac{\Delta Y/Y}{\Delta X/X}$$

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where,

LY/LX – Measure of the leverage, which dependent Y has with independent X

ΔX – Change in X

ΔY – Change in Y

$\Delta X/X$ – Percentage change in X

$\Delta Y/Y$ – Percentage change in Y

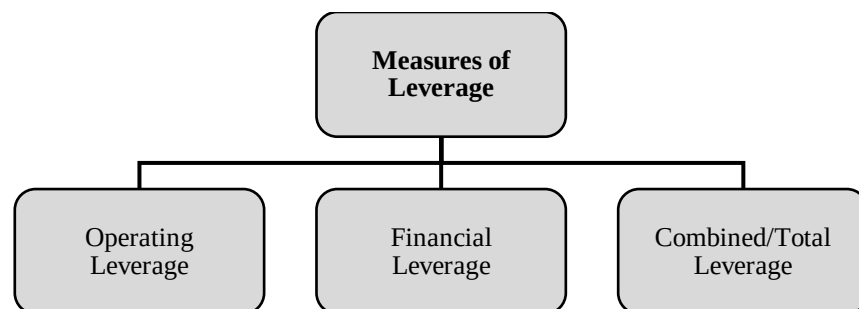
5.3.1 Measures of Leverage

The concept of leverage studies the inter-dependence between a company's EBIT (Earnings Before Interest and Taxes), Sales Revenue and EPS (Earnings Per Share). This inter-relationship is impacted by the presence of fixed operating costs that arise due to the use of borrowed funds. To understand this inter-relationship between the financial variables and the impact of costs on these variables, it is essential to look into the three types of leverage. To understand the importance of leverage in financial analysis better, it is imperative to understand these three measures of leverage.

- Operating Leverage
- Financial Leverage
- Combined/Total Leverage

Figure 5.1 outlines the three measures of leverage.

Figure 5.1: Measures of Leverage



Source: ICFAI Research Center

These three measures of leverage depend largely on the various income statement items and the relationship that exists between them. Let us understand this with an illustration.

Illustration 5.1

Given below is the Income Statement of XYZ Company Ltd.:

Table 5.1: Income Statement of XYZ Company Ltd.

Item	Amount (₹)
Total Revenue	25,00,000
Less: Variable Expenses	10,00,000
Fixed Expenses	9,00,000
Earnings Before Interest & Tax (EBIT)	6,00,000
Less: Interest on Debt	75,000
Profit Before Tax (PBT)	5,25,000
Less: Tax @ 50%	2,62,500
Profit After Tax (PAT)	2,62,500
Less: Preference dividend	50,000
Equity Earnings	2,12,500

The relationship that exists between the various items of the statement can be summarized in the following equations:

Total Revenue = Quantity Sold x Selling Price

Hence,

$$\text{EBIT} = Q \times S - Q \times V - F = Q(S - V) - F \dots(i)$$

$$\text{EPS} = \frac{[(\text{EBIT} - I)(1 - t) - D_p]}{N} \dots(ii)$$

$$= \frac{[Q(S - V) - F - I](1 - t) - D_p}{N} \dots(iii)$$

where N = No. of Equity Shareholders

Q = Quantity Sold

S = Selling Price

V = Variable Cost per Unit

F = Fixed Expenses

I = Interest on Debt

T = Tax Rate

D_p = Preference Dividend

The above three equations [(i), (ii) and (iii)], which establish the relationship between the various items of the Income Statement, form the base for the measurement of the different leverages.

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Example: Operating Leverage of Indian Companies

The 20-40 per cent y-o-y growth in Q4FY22 of operating incomes of Indian companies in sectors like metals, IT and chemicals, can be attributed to higher operating margins. This was achieved through higher capacity utilisation, leveraging on operations. Metals posted a 1,400 bps increase in their operating margins while chemical companies remained resilient with their margin even though the raw material costs increased by 460 bps y-o-y in Q4. Higher capacity utilisation through increased sales point out the operating leverage delivering an edge to the Indian companies in that quarter.

Source: <https://www.thehindubusinessline.com/portfolio/better-operating-leverage-shields-india-inc-from-cost-pressures-in-q4/article65392228.ece> (Accessed on 11th May 2022)

5.4 Operating Leverage

Operating leverage arises due to the presence of fixed operating costs or expenses in a firm. It thus studies the relationship between EBIT and sales revenue and how it is affected by the presence of costs. This analysis helps a finance manager to estimate the influence of costs on revenues generated. When a firm has fixed operating cost, then a 1% increase in revenue will result in more than 1% increase in EBIT.

The extent to which the change in revenues brings about a change in EBIT can be estimated using the Degree of Operating Leverage (DOL). The degree of operating leverage thus examines the effect of the change in the quantity produced on the EBIT of the company, and is measured by the following formula:

$$\begin{aligned}\text{DOL} &= \text{Percentage change in EBIT/Percentage change in Output} \\ &= \frac{\Delta \text{EBIT}/\text{EBIT}}{\Delta Q/Q}\end{aligned}$$

From Eq (i) $\text{EBIT} = Q(S - V) - F$

Substituting for EBIT, we get

$$\text{DOL} = \frac{[Q(S - V)]}{[Q(S - V) - F]} \quad \dots(\text{iv})$$

Illustration 5.2

Calculate the DOL for ABC Company Ltd. given the following information:

Table 5.2: Cost and Revenues of ABC Company Ltd.

Particulars		₹
Sales Revenue	=	62,500
Variable cost	=	37,500
Fixed cost	=	15,000

Solution

Operating Income = ₹ 10,000 (₹ 62,500 – ₹ 37,500 – ₹ 15,000)

$$\text{DOL} = \frac{\text{Contribution Margin}}{\text{Operating Income}}$$

$$\text{DOL} = \frac{\text{₹ 25,000}}{\text{₹ 10,000}} = 2.5 \text{ times}$$

Analysis: If sales revenue changes by a certain percentage, operating income will change by 2.5 times the percentage change in sales.

Suppose, the sales in the above illustration increase by 10%, then such an increase in sales will result in a 25% increase in operating income. These figures can be presented as follows:

Table 5.3: Effect of Increase in Sales

Particulars		₹ (existing)	₹ (with 10% increase)
Sales Revenue	=	62,500	68,750
Variable cost	=	37,500	41,250
Fixed cost	=	15,000	15,000

Operating income will increase to ₹ 12,500 (₹ 68,750 – ₹ 41,250 – ₹ 15,000). The percentage of increase will be $2500/10,000 \times 100 = 25\%$. In the table above, sales revenue increased by 10% (₹ 62,500 to ₹ 68,750). However, it resulted in a 25% increase in operating income (10,000 to 12,500).

This is actually caused by the amplifying effect of using fixed costs. Even if sales increase, fixed costs do not change hence causing an amplified increase in operating income.

Example: Degree of Operating Leverage of Manam Cements

Manam Cements presents the following details of its revenue and expenses for the year 20xx-20x1 and 20x1-20x2:

Particulars	20xx – 20x1 (in ₹ crores)	20x1-20x2 (in ₹ crores)
Total Revenue	701.94	925.78
Total Expenses	678.01	903.36
Finance Cost	8.71	38.33

The Degree of Operating Leverage (DOL) for Manam Cements is calculated as follows:

EBIT for 20xx-20x1 = ₹.701.94 – ₹.678.01 + ₹8.71 = ₹32.64

Contd....

Block 1: Basics of Financial Management

$$\text{EBIT for } 20\times 1-20\times 2 = ₹925.78 - ₹903.36 + ₹38.33 = ₹60.75$$

$$\Delta \text{EBIT} = ₹60.75 - ₹32.64 = ₹28.11$$

$$\text{DOL} = ₹28.11 / 223.84 = 0.12$$

The DOL is positive and is below 0.5

It is important to know how the operating leverage is measured, but equally essential is to understand its application and utility in financial analysis. Operating leverage is the extent to which fixed operating costs magnify changes in sales or revenues and even greater changes in operating income. To understand the application of DOL one has to understand the behavior of DOL vis-à-vis the changes in the output by calculating the DOL at the various levels of Q.

Illustration 5.3

Following are the different DOL for the various levels of Q for XYZ Company Ltd.:

Table 5.4: Degree of Operating Leverage at Various Levels of Quantity

Quantity Produced	Degree of Operating Leverage
1000	-0.5
2000	-2.0
3000	∞
4000	4.0
5000	2.5

Solution

When the value of Q is 3000, the EBIT of the company is zero, which is the operating break-even point. Thus, at operating break-even point, where the EBIT is zero, the quantity produced can be calculated as follows:

$$Q = F/(S - V)$$

For XYZ Company Ltd.:

$$Q = 9,00,000/(500 - 200) = 3,000$$

After measuring the DOL for a particular company at varying levels of output, the following observations can be made:

- Each level of output has a distinct DOL.
- DOL is undefined at the operating break-even point.

- If Q is less than the operating break-even point, then DOL will be negative (which does not imply that an increase in Q leads to a decrease in EBIT).
- If Q is greater than the operating break-even point, then the DOL will be positive. However, the DOL will start to decline as the level of output increases and will reach a limit of 1.

5.4.2 Implications

The implications or the practical applications of the concept of Operating leverage can be discussed as follows:

Determining Behavior of EBIT

DOL helps in ascertaining change in operating income for a given change in output (quantity produced and sold). If the DOL of a firm is say, 2, then a 10% increase in the level of output will increase operating income by 20%. A large DOL indicates that small fluctuations in the level of output will produce large fluctuations in the level of operating income.

Illustration 5.4

In the table given below, the costs and profit schedules of two companies Bell Metal Works and Fiber Glass Limited are given. A comparison of the two firms with different cost structures reveals the following:

Table 5.5: Cost and Profit Schedules for Bell Metal Works and Fiber Glass Ltd.

Bell Metal Works				Fiber Glass Limited			
Units Produced & Sold	Sales	Total Operating Cost	EBIT	Units Produced & Sold	Sales	Total Operating Cost	EBIT
Q	PQ			Q	PQ		
			(In Rupees)				(In Rupees)
10,000	1,00,000	1,60,000	(60,000)	10,000	1,00,000	2,40,000	(1,40,000)
20,000	2,00,000	2,30,000	(30,000)	20,000	2,00,000	2,90,000	(90,000)
30,000	3,00,000	3,00,000	0	30,000	3,00,000	3,40,000	(40,000)
40,000	4,00,000	3,70,000	30,000	40,000	4,00,000	3,90,000	10,000
50,000	5,00,000	4,40,000	60,000	50,000	5,00,000	4,40,000	60,000
60,000	6,00,000	5,10,000	90,000	60,000	6,00,000	4,90,000	1,10,000
70,000	7,00,000	5,80,000	1,20,000	70,000	7,00,000	5,40,000	1,60,000
80,000	8,00,000	6,50,000	1,50,000	80,000	8,00,000	5,90,000	2,10,000
Unit Selling Price (P) = ₹ 10 Operating Fixed Costs (F) = ₹ 90,000 Unit Variable Operating Cost (V) = ₹ 7 EBIT Break-even Point = 30,000 units				Unit Selling Price (P) = ₹ 10 Operating Fixed Costs (F) = ₹ 1,90,000 Unit Variable Operating Cost (V) = ₹ 5 EBIT Break-even Point = 38,000 units			

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From the above table, we can see that:

- i. Bell Metal Works has lower fixed costs and higher variable cost per unit when compared to Fiber Glass Limited.
- ii. The selling price per unit (P) of both firms is the same, viz., ₹ 10.
- iii. An interesting point we notice is that, at an output of 50,000 units, both firms have the same profit i.e., ₹ 60,000.
- iv. As sales fluctuate, the EBIT of Bell Metal Works fluctuates far less than the EBIT of Fiber Glass Limited.
- v. This brings us to the conclusion that the DOL of Fiber Glass Limited is greater than the DOL of Bell Metal Works.

Let us compute the DOL of these two firms at an output of 50,000 units.

For Bell Metal Works:

$$\begin{aligned}\text{DOL} &= [50,000 (10 - 7)] / [50,000 (10 - 7) - 90,000] \\ &= 2.5\end{aligned}$$

For Fiber Glass Limited:

$$\begin{aligned}\text{DOL} &= [50,000 (10 - 5)] / [50,000(10 - 5) - 1,90,000] \\ &= 4.17\end{aligned}$$

The figures prove our conclusion right.

Measurement of Business Risk

We know that the greater the DOL, the more sensitive is EBIT to a given change in unit sales, i.e. the risk of exceptional losses increase if sales become depressed. DOL is therefore a measure of the firm's business risk. Business risk refers to the uncertainty or variability of the firm's EBIT. Therefore, everything else being equal, a higher DOL means higher business risk and vice-versa.

Production Planning

DOL is also important in production planning. For instance, the firm may have the opportunity to change its cost structure by introducing labor-saving machinery, thereby reducing variable labor overhead while increasing the fixed costs. Such a situation will increase DOL. Any method of production, which increases DOL, is justified only if it is highly probable that sales will be higher so that the firm can enjoy the increased earnings of increased DOL.

Example: Microsoft and Dell's Operating Leverage

Most of Microsoft's cost structure is fixed and limited to upfront development and marketing costs. Hence selling one copy or 10 million copies of its software, makes not much difference in its operating costs.

Contd....

Every additional sales revenue, after the fixed costs are realised, translates directly into the bottom line. Thus, Microsoft has a significantly high operating leverage. By contrast, Dell despite leveraging on the economies of scale coupled with the ruthless cost-cutting measures still incurs considerable operating costs. From the processors to the display units it uses, its costs are hinged on inventory and hence has a lot of variable costs resulting in low operating leverage.

Sources: 1. <https://www.strategyzer.com/business-model-examples/dell-business-model> (Accessed on 11th May 2022)

2. <https://www.studymode.com/essays/Cost-Leadership-Dell-518437.html> (Accessed on 11th May 2022)

Check Your Progress - 1

1. What is the amount of contribution of ABC limited that has a sales value of ₹ 1,00,000; variable expenses amounting to ₹ 70,000 that includes cost of goods sold at ₹ 25,000, and freight charges at ₹ 35,000 and delivery charges of ₹ 10,000?
 - a. ₹ 75,000
 - b. ₹ 30,000
 - c. ₹ 1,70,000
 - d. ₹ 65,000
 - e. ₹ 70,000
2. How will you ascertain the Degree of Operating Leverage with given inputs: Quantity produced, Fixed cost, Selling price per unit and Variable price per unit?
 - a. $DOL = [Q(S - V)] * [Q(S - V) - F]$
 - b. $DOL = [Q(S - V)] / [Q(S - V) - F]$
 - c. $DOL = [Q(S - V)] + [Q(S - V) / F]$
 - d. $DOL = [Q(S - V)] / [Q(S - V) + F]$
 - e. $DOL = [Q(S - V)] - [Q(S - V) - F]$
3. Operating Leverage measures the change in EBIT to the change in revenue / net sales over a period of time expressed in terms of percentage. Which of the following is the factor that is not a measure of degree of operating leverage?
 - a. Each output level has distinct DOL
 - b. DOL is defined as operating breakeven point
 - c. DOL is negative, if Q is less than operating break-even point
 - d. DOL is positive, if Q is more than operating break-even point
 - e. DOL starts declining as level of output increases and reach a limit of one

Block 1: Basics of Financial Management

4. If a firm's sales increase by 10%, operating income increases by 20%. What would be the increase in operating income in response to 15% increase in sales?
- 30%
 - 20%
 - 22%
 - 10%
 - 15%
5. Which of the following statements is false with regard to the Degree of Operating Leverage?
- Each level of output has a distinct DOL.
 - DOL is 1 at the operating break-even point.
 - If quantity is less than the operating break-even point, then DOL will be negative (which does not imply that an increase in Q leads to a decrease in EBIT).
 - If quantity is greater than the operating break-even point, then the DOL will be positive.
 - DOL is undefined at the operating break-even point.

Activity 5.1

Calculate the Degree of Operating Leverage (DOL) at 800,000 units of quantity sold. The firm has ₹ 1,000,000 in fixed costs. The firm anticipates selling price for each unit as ₹ 50 with variable costs of ₹ 5 per unit.

A company has a DOL of 2.5 while its competitor has a DOL of 1.5. Do you think a high DOL is beneficial to the company? If so, why?

5.5 Financial Leverage

One of the important decisions of a finance manager is to arrive at an optimal mix of borrowed funds to owned funds in the capital structure of a firm. An analysis of the inter-dependence between EBIT and EPS which is called as financial leverage helps in arriving at an optimal capital structure decision.

While the degree of operating leverage measures, the change in the EBIT of a company to a percentage change in the output, the financial leverage measures the effect of the change in EBIT on the EPS of the company. Financial leverage also refers to the mix of debt and equity in the capital structure of the company. The measure of financial leverage is the Degree of Financial Leverage (DFL), and it can be calculated as follows:

$$DFL = (\text{percentage change in EPS}) / (\text{percentage change in EBIT})$$

$$DFL = (\Delta \text{EPS}/\text{EPS})/(\Delta \text{EBIT}/\text{EBIT})$$

Substituting Eq (ii) for EPS, we get

$$DFL = \frac{\text{EBIT}}{\text{EBIT} - I - \frac{D_p}{(1 - T)}} \quad \dots(v)$$

Illustration 5.5

Take the example of K Company Ltd., which has an EBIT of ₹ 6,00,000 at 5,000 level of production, the capital structure of the company is as follows:

Table 5.6: Capital Structure of K Company Ltd.

Capital Structure	Amount (₹)
Authorized, Issued and Paid-up Capital	
500,000 Equity Shares @ ₹ 10 each	50,00,000
15% Debentures	5,00,000
10%, 5000 Preference Shares @ ₹ 100	5,00,000
Total	60,00,000

Source: ICAI Research Center

Calculate the Degree of Financial Leverage of the company assuming 50% tax rate.

Solution

Let us now calculate the DFL of XYZ Company Ltd.

$$\text{Earnings Before Interest and Tax (EBIT)} = ₹ 6,00,000$$

$$\text{Interest on Long-term Debt (I)} = ₹ 75,000$$

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$$\text{Preference Dividend (D}_p\text{)} = ₹ 50,000$$

$$\text{Corporate Tax (T)} = 50\%$$

$$\text{DFL} = \frac{6,00,000}{6,00,000 - 75,000 - \frac{50,000}{1 - 0.5}} = 1.41$$

5.5.1 Application and Utility of the Financial Leverage

Financial leverage, when measured for various levels of EBIT, will aid in understanding the behavior of DFL, and explains its utility in financial decision making.

Consider the case of Z Company Ltd's DFL for varying levels of EBIT as shown below:

Table 5.7: DFL for varying levels of EBIT for Z Company

EBIT (₹)	DFL
50,000	-0.40
1,00,000	-1.33
1,75,000	∞
6,00,000	1.41
7,00,000	1.33
7,50,000	1.30

Source: ICFAI Research Center

The DFL at EBIT level of 175,000 is undefined and this point is the financial break-even point. It also represents a point at which EPS will be zero. It can be defined as:

$$\text{EBIT} = I + D_p / (1 - T)$$

The following observations can also be made from studying the behavior of DFL.

- Each level of EBIT has a distinct DFL.
- DFL is undefined at the financial break-even point.
- DFL will be negative when the EBIT level goes below the financial break-even point.
- DFL will be positive for all values of EBIT that are above the financial break-even point. However, this will start to decline as EBIT increases and will reach a limit of 1.

By assessing the DFL, one can understand the impact of a change in EBIT on the EPS of the company. In addition to this, it also helps in assessing the financial risk of the firm.

5.5.2 Impact of Financial Leverage on Investor's Rate of Return

Let us see with the help of a very simple example, how financial leverage affects return on equity. A company needs a capital of ₹ 10,000 to operate. This money may be brought in by the shareholders of the company. Alternatively, a part of this money may also be brought in through debt financing. If the management raises ₹ 10,000 from shareholders, the company is not financially leveraged and would have the following balance sheet.

Liabilities	₹	Assets	₹
Equity Capital	10,000	Cash	10,000

The company commences operations, which leads to the preparation of the following simplified version of its income statement (Table 5.8).

Table 5.8: Income Statement of a Company

	₹
Sales	10,000
(-) Expenses	7,000
EBIT	3,000
(-) Tax @ 50%	1,500
Net Profit	1,500

Source: ICFAI Research Center

What is the return the company has earned on the owner's investment? We see that the return on equity is 15%. The net profit of ₹ 1,500 may be paid fully or partly to the shareholders as dividends or may be retained to finance future activities of the company. Either way, the return on equity is 15%.

What happens to the owner's rate of return if the management decides to finance a part of the required total investment (₹ 10,000) through debt financing? The answer to this question depends on:

- The proportion of total investment which the management decides to finance through debt (Debt Equity Ratio the firm aspires to), and
- The interest rate on the borrowed funds.

If the management has decided on a Debt Equity Ratio of 2:1, the total borrowings will amount to $10,000 \times \frac{2}{3} = ₹ 6,667$. Assuming that the company is able to raise this amount at an interest rate of say, 15%, the company's balance sheet will appear as follows:

Liabilities	₹	Assets	₹
Equity Capital	3,333	Cash	10,000
Debt Capital	6,667		
	10,000		10,000

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The company now has an added financial burden of payment of interest on the amount it has borrowed. The income statement will now show as follows (Table 5.9):

Table 5.9: Effect of Debt Equity Ratio on Income Statement

	₹
Sales	10,000
(-) Expenses	7,000
EBIT	3,000
(-) Interest Charges	1,000
Profit before Tax (PBT)	2,000
(-) Tax @ 50%	1,000
Net Profit	1,000

Source: ICFAI Research Center

The use of debt in the company's capital structure has caused the net profit to decline from ₹ 1,500 to ₹ 1,000. However, has the return on owner's capital declined? Return on Equity now works out to 30%, as the owners have invested only ₹ 3,333 now, which earned them ₹ 1,000. What were the factors that contributed to this additional return? We can trace out two sources of this additional return:

- Though the company has to pay interest at 15% on borrowed capital, the company's operations have been able to generate more than 15%, which is being transferred to the owners.
- The reduction in PBT has brought about a reduction in the amount of tax paid, as interest is a tax deductible expense, to the extent of Interest (1 – tax rate) i.e., ₹ 500. The greater the tax rate, the more is the tax shield available to a company, which is financially leveraged.

As was seen in the above example, a company may increase the return on equity by the use of debt i.e., the use of financial leverage. By increasing the proportion of debt in the pattern of financing i.e., by increasing the debt-equity ratio, the company should be able to increase the return on equity.

5.5.3 Financial Leverage and Risk

If increased financial leverage leads to increased return on equity, why do companies not resort to ever increasing amounts of debt financing? Why do financial and other term lending institutions insist on norms for Debt-Equity Ratio? The answer is that as the company becomes more financially leveraged, it becomes riskier. This is so because interest cost is a fixed cost and any additional debt increases the break-even point. This results in a higher level of risk due to higher break even. The increased use of debt financing thus will lead to increased financial risk, which leads to -

- Increased fluctuations in the return on equity
- Increase in the interest rate on debt.

Example: MRPL Financial Leverage at Risk

In the year 2020, the total debt of Mangalore Refinery & Petrochemicals (MRPL), a joint venture between the AV Birla Group and Hindustan Petroleum Corporation (HPCL), stood at ₹ 238,333 million which is quite high compared to its net worth which stood at ₹ 42,481 m. MRPL has a debt-to-equity ratio of 5.6 which is high by any standards. The huge losses posted by MRPL in the past could be attributed to high debt service commitments.

Source: <https://www.livemint.com/market/stock-market-news/6-stocks-with-high-financial-leverage-11629779160891.html> (Accessed on 11th May 2022)

5.5.4 Increased Fluctuations in Returns

In the previous example, let us assume that sales decline by 10% (from ₹ 10,000 to ₹ 9,000), expenses remaining the same. What happens to return on equity? The income statements for the financially unleveraged and leveraged firms will appear as follows (Table 5.10).

Table 5.10: Income Statements of Leveraged and Unleveraged Firms

	Unleveraged Firm (Zero Debt)	Leveraged Firm (Debt-Equity Ratio 2:1)
Sales	9,000	9,000
Expenses	7,000	7,000
EBIT	2,000	2,000
Interest Charges	—	1,000 (6667 x 0.15)
PBT	2,000	1,000
Tax @50%	1,000	500
Net Profit	1,000	500
Net Profit at Sales of ₹ 10,000	1,500	1000
ROE at Sales of ₹ 10,000	15%	30%
ROE at Sales of ₹ 9,000	10%	15%

Source: ICFAI Research Center

We see that a 10% decline in sales produces substantial declines in earnings and the rates of return on owner's equity in both cases. However, the decline in earnings is greater for the financially leveraged firm than for the financially unleveraged firm. Why is this so? The reason can be traced to the fact that once a firm borrows capital, interest payments become obligatory, and hence fixed in nature. The same interest payment, which was the cause for increase in owner's equity when sales were ₹ 10,000, is now the cause for its more than proportional decline with a decline in sales. Hence, the greater the use of financial leverage, the greater the potential fluctuation in return on equity. The same is depicted in the ROE fluctuation in the above example. For an unlevered firm, the ROE reduced from 15% to 10% with a 10% decline in sales whereas for a levered firm the ROE declined from 30% to 15% almost a 50% decline.

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5.5.5 Increase in Interest Rates

Firms that are highly financially leveraged are perceived by lenders of debt as risky. Creditors may refuse to lend to a highly leveraged firm or may do so only at higher rates of interest or more stringent loan conditions. As the interest rate increases, the return on equity decreases. However, even though the rate of return diminishes, it might still exceed the rate of return obtained when no debt was used, in which case financial leverage would still be favorable.

Implications

Let us again refer to our earlier example. In the first situation, the company was unleveraged, in the second situation the debt-equity ratio was 2:1. The balance sheet and income statements are reproduced below (Tables 5.11 and 5.12):

Table 5.11: Balance Sheets

Unleveraged				Leveraged			
Liabilities		Assets		Liabilities		Assets	
Equity Capital	10,000	Cash	10,000	Equity Capital	3,333	Cash	10,000
				Debt	6,667		
	10,000		10,000		10,000		10,000

Source: ICFAI Research Center

Table 5.12: Income Statements

	Unleveraged	Leveraged
Sales	10,000	10,000
(-) Expenses	7,000	7,000
EBIT	3,000	3,000
(-) Interest	—	1,000
PBT	3,000	2,000
(-) Tax @ 50%	1,500	1,000
Net Profit	1,500	1,000

Source: ICFAI Research Center

The Degree of Financial Leverage (DFL) in each case is calculated as:

$$\text{DFL} = \frac{\text{EBIT}}{\text{EBIT} - \text{I} - \frac{\text{D}_p}{1 - T}}$$
$$\text{Unleveraged} = \frac{3,000}{3,000} = 1$$
$$\text{Leveraged} = \frac{3,000}{3,000 - 1,000} = 1.5$$

What do these figures imply? They imply that if EBIT is changed by 1%, EPS will also change by 1%, if the company uses no debt. However, EPS changes by 1.5% when it uses debt in the ratio of 2:1 (66.67% of total capital). This is proof

of what we have stated earlier- *The greater the leverage, the wider are the fluctuations in the return on equity, and the greater is the financial risk the company is exposed to.* Through an EBIT-EPS analysis, we can evaluate various financing plans or degrees of financial leverage with respect to their effect on EPS.

Activity 5.2

1. Analysis of leverage is to determine the influence or use of firm's existing financial resources in an efficient manner. In that way, determine how operating leverage differs from the measure of financial leverage.

2. A company's present capital structure consists of ₹ 15,00,000 equity share capital and ₹ 5,00,000 preference share capital. The firm's current EBIT is ₹ 7,00,000. Preference shares carry a dividend rate of 10%. The EPS of the company is ₹ 2. The firm is planning to raise another ₹ 10,00,000 through external financing.

Which of two alternative financing options should the company choose?

- a. Issuing 1,00,000 equity shares of ₹ 10 each
- b. Issuing debentures of ₹ 10,00,000 with 12% interest rate.

5.6 Total Leverage

The Degree of Financial Leverage (DFL) studies the impact of using borrowed funds on EPS of a firm while the Degree of Operating Leverage studies the presence of operating costs and their impact on EBIT and EPS. An organization may have both financial leverage and operating leverage. In such cases, The Degree of Total Leverage (DTL) is to be computed to ascertain the combined impact on the EPS.

A combination of the operating and financial leverages is the total or combined leverage. Thus, the degree of total leverage (DTL) is the measure of the output and EPS of the company. DTL is the product of DOL and DFL, and can be calculated as follows:

$$\begin{aligned} \text{DTL} &= \% \text{ change in EPS} / \% \text{ change in output} \\ &= (\Delta \text{EPS} / \text{EPS}) / (\Delta Q / Q) \end{aligned}$$

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$$\begin{aligned}
 \text{DTL} &= \text{DOL} \times \text{DFL} \\
 &= \left\{ \frac{Q(S - V)}{Q(S - V) - F} \right\} \times \left\{ \frac{Q(S - V) - F}{Q(S - V) - F - I - \frac{D_p}{1 - T}} \right\} \\
 &= \frac{Q(S - V)}{Q(S - V) - F - I - \frac{D_p}{(1 - T)}}
 \end{aligned}$$

Illustration 5.6

Calculating the DTL for R limited given the following information:

Equity Earnings	=	₹ 1,62,500
Quantity Produced (Q)	=	5000 Units
Variable Cost per unit (V)	=	₹ 200
Selling Price per unit (S)	=	₹ 500
Number of Equity Shareholders (N)		5,00,000
Fixed Expenses (F)	=	₹ 9,00,000
Interest (I)	=	₹ 75,000
Preference Dividend (D _p)	=	₹ 50,000
Corporate Tax (T)	=	50%

$$\begin{aligned}
 \text{DTL} &= \frac{5,000(500 - 200)}{5,000(500 - 200) - 9,00,000 - 75,000 - \frac{50,000}{(1 - 0.5)}} \\
 &= 3.53 \\
 \text{DTL} &= \text{DOL} \times \text{DFL} \\
 &= 2.5 \times 1.41 = 3.53
 \end{aligned}$$

Thus, when the output is 5,000 units, a one percent change in Q will result in 3.5% change in EPS.

Example: Financial Leverage of Indian Companies

Lower operating costs and better operating leverage helped Indian companies to post y-o-y growth in their Q4FY22 profits. But what fuelled the sales and margins despite the higher raw material costs is the lowered borrowing costs. The interest coverage ratios of various sectors improved as follows:

Sector	Metals	Cement	Chemicals
Interest Coverage Ratio Q4FY21	12.4 times	11.4 times	11.9 times
Interest Coverage Ratio Q4FY22	28.3 times	11.8 times	17.1 times

Contd....

Thus, better financial leverage (due to reduced interest rates) lowered the final prices resulting in higher sales. This helped firms with higher operating leverage deliver better profits for Q4FY22.

Source: <https://business-journal.in/economy/better-operating-leverage-shields-india-inc-from-cost-pressures-in-q4-business-journal/> (Accessed on 11th May 2022)

5.6.1 Applications and Utility of Total Leverage

Before understanding what application the total leverage has in the financial analysis of a company, let us make a few more observations by studying its behavior. Let us calculate the overall break-even point and the DTL for the various levels of Q, given the following information:

$$\begin{aligned} F &= ₹ 8,00,000 \\ I &= ₹ 80,000 \\ D_p &= ₹ 60,000 \\ S &= ₹ 1,000 \\ V &= ₹ 600 \end{aligned}$$

The overall break-even point is that level of output at which the DTL will be undefined and EPS is equal to zero. This level of output can be calculated as follows:

$$\begin{aligned} Q &= \frac{F + I + \frac{D_p}{(1 - T)}}{(S - V)} \\ &= [8,00,000 + 80,000 + 60,000/(1 - 0.5)] / (1,000 - 600) \\ &= 2,500. \end{aligned}$$

Thus, the overall break-even point is at 2500 units.

DTL for various levels of output with the given information:

Q	DTL
1000	-0.67
2000	-4.00
2500	∞
3000	6.00
5000	2.00

The following observations can be made from the above calculations:

- There is a unique DTL for every level of output.
- At the overall break-even point of output, the DTL is undefined.
- If the level of output is less than the overall break-even point, then the DTL will be negative.
- If the level of output is greater than the overall break-even point, then the DTL will be positive. DTL decreases as Q increases and reaches a limit of 1.

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Further, the DTL has the following applications in analyzing the financial performance of a company:

1. **Measures changes in EPS:** DTL measures the changes in EPS to a percentage change in Q. Thus, the percentage change in EPS can be easily assessed as the product of DTL and the percentage change in Q. For example, if DTL for Q of 3000 units is 6 and there is a 10% increase in Q, the affect on EPS is 60%.

$$\begin{aligned}\text{Percentage change in EPS} &= \text{DTL (Q = 3,000)} \times \text{Percent change in Q} \\ &= 6 \times 10\% \\ &= 60\%\end{aligned}$$

2. **Measures Total Risk:** DTL measures the total risk of the company since it is a measure of both operating risk and total risk. Thus, by measuring total risk, it measures the variability of EPS for a given error in forecasting Q.

The concept of "Everything in Moderation" applies perfectly to the concept of leverage. When companies overdo their use of leverage, they run into trouble as they are faced with excessive interest payments. That is when deleveraging and getting-rid-of-debt comes into play.

The Concept of Deleveraging

Whenever a company is faced with high leverage, it resorts to deleveraging to reduce the risk and improve profitability. Deleveraging can:

- Improve balance sheets
- Reduce risk
- Improves investor confidence

However, it might also lead to:

- Business failure
- Fall in share prices if the company resorts to sale of assets

Deleveraging can be taken up by the sale of assets, or by issuing more equity, thereby improving debt – equity ratio or by cutting costs.

Check Your Progress - 2

6. Financial leverage refers to the use of debt capital in the company's capital structure for which it has to pay interest expenses. Which of the following is **not** a measure of financial leverage?
 - a. Relates EBIT and EPS
 - b. Ascertains company's capital structure
 - c. Assesses the effect of interest expenses
 - d. Gives rise to financial risk
 - e. Change in EBIT effects change in sales

7. When companies go for expansion, the financing need increases, looking out for reliable opportunities from the lending and financial institution to leverage their source of funds, without affecting the existing and future profits of the concern, including the wealth of the investors. When a company is more financially leveraged, which of the following is not a risk element to the levered company?
 - a. Increase in financial risk
 - b. Volatility in returns on equity
 - c. Further use of debt financing
 - d. Increase in interest rate of debts
 - e. Rate of return more than the rate of interest payable
 8. A firm's degree of financial leverage is equal to
 - a. Percentage change in output to percentage change in EBIT
 - b. Percentage change in EBIT to Percentage change in EPS
 - c. Percentage change in EPS to Percentage change in EBIT
 - d. Percentage change in EBIT to Percentage change in Output
 - e. Percentage change in EPS to Percentage change in Output
 9. YZX firm's sales had increased to 20% in the current fiscal year amounting to ₹ 12 lakh from previous year sales of ₹ 10 lakhs. Similarly, the firm's earnings before interest and tax had also increased to 24% with an effect of change in its earnings per share at 15%. Ascertain the degree of total leverage of the firm.
 - a. 1.60
 - b. 1.20
 - c. 1.00
 - d. 1.92
 - e. 1.33
 10. Calculate the value of earnings before interest and tax for a given value of interest at ₹ 30,000 on long term debts, 10 % 1,800 preference shares of ₹ 100 each and corporate tax being 50%.
 - a. ₹ 24,000
 - b. ₹ 15,000
 - c. ₹ 12,000
 - d. ₹ 9,000
 - e. ₹ 48,000
-

5.7 Summary

- Leverage is the use of borrowed funds or borrowed capital to increase the potential return on investment. Its use in the capital structure of the firm has the potential to increase the return and risk.

Block 1: Basics of Financial Management

- In the world of finance, there are three measures of leverage – 1. Operating Leverage, 2. Financial Leverage, and 3. Total Leverage. These three measures of leverage depend largely on the various income statement items and the relationship that exists between them.
- Operating leverage examines the effect of the change in quantity produced upon the EBIT of a company, and is useful in analyzing the behavior of a company's EBIT over a period, measuring business risk and production planning.
- Degree of Operating Leverage helps in ascertaining change in operating income for a given change in output (quantity produced and sold). If the DOL of a firm is say, 2, then a 10% increase in the level of output will increase operating income by 20%. A large DOL indicates that small fluctuations in the level of output will produce large fluctuations in the level of operating income.
- DOL is a measure of the firm's business risk. A higher DOL means higher business risk and vice-versa.
- DOL is also important in production planning. For instance, the firm may have the opportunity to change its cost structure by introducing labor saving machinery, thereby reducing variable labor overhead while increasing the fixed costs.
- Financial leverage measures the effect of the change in EBIT on the EPS of the company. It also refers to the mix of debt and equity in the capital structure of the company. Financial leverage can be used to assess the financial risk of the firm.
- A company may increase the return on equity by the use of debt i.e., the use of financial leverage. By increasing the proportion of debt in the pattern of financing i.e., by increasing the debt-equity ratio, the company should be able to increase the return on equity.
- The increased use of leverage will lead to increased financial risk, which leads to-
 - Increased fluctuations in the return on equity and increase in the interest rate on debt.
 - Total leverage is the combination of operating and financial leverages. It examines the impact of change in the output upon the EPS of the company. Total leverage measures the total risk of the company, as it includes measures of both operating risk and financial risk.
 - The applications of Degree of Total Leverage (DTL) involves measuring the changes in EPS and in measuring the total risk of the business.

- The concept of deleveraging refers to reduction of leverage whenever a company is faced with high leverage. A company resorts to deleveraging to reduce the risk and improve profitability. Deleveraging can: Improve balance sheets; Reduce risk and Improve investor confidence.

5.8 Glossary

Business Risk is the risk arising from variation in earnings before interest and tax.

Capital Structure refers to how a business is financed. It describes the proportion of debt and equity in the financing of a business.

Capital Budgeting Decisions are long term investment decisions that involve huge outlay of funds.

Cost of Capital to a company is the minimum rate of return that it must earn on its investments in order to satisfy the various categories of investors who have made investments in the form of shares, debentures or term loans.

Degree of Financial Leverage is the percentage change in earnings per share as a result of one percent change in earnings before interest and tax.

Degree of Operating Leverage is the percentage change in earnings before interest and taxes as a result of one percent change in sales.

Degree of Total Leverage is the percentage change in earnings per share as a result of one percent change in sales.

Deleveraging is the process of reducing the financial leverage by a company. Whenever a company is faced with high leverage, it resorts to deleveraging to reduce the risk and improve profitability.

Earnings Before Interest and Taxes (EBIT), is a measure of a firm's profit that includes all expenses except interest and income tax expenses. It is the difference between operating revenues and operating expenses.

Earnings Per Share (EPS) represents the profit portion available of each individual share of common stock.

EBIT/EPS Analysis enables a firm to analyse how different capital structures affect the earnings and risk levels of their firms. Specifically, it shows the graphical relationship between a firm's operating earnings, or earnings before interest and taxes (**EBIT**) and its earnings per share (**EPS**).

Financial Break Even Point represents the level of output which EPS will be zero and DFL is undefined.

Financial Leverage refers to the employment of debt capital entailing fixed financial burden.

Financial Risk is the risk which arises from the use of debt capital.

Fixed expenses are expenses that do not change in the short run with a change in output or sale volume.

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Operating Leverage arises due to the presence of fixed operating costs or expenses in a firm. When a firm has fixed operating cost, then a 1% increase in revenue will result in more than 1% increase in EBIT.

Operating Break-Even Point is the level of output at which a firm's EBIT is zero. In other words its total expenses equals its total revenue resulting in no profit, no loss.

Leverage is the use of borrowed funds or borrowed capital to increase the potential return on investment. Its use in the capital structure of the firm has the potential to increase the return and risk.

Total Leverage is the combination of operating leverage and financial leverage.

Variable Expenses are expenses that change or vary with change in output or sales volume.

5.9 Self-Assessment Test

1. What do you mean by leverage? Briefly explain the different types of leverages.
2. Illustrate in detail the significance, determinants, and implication of Operating leverage.
3. What is financial leverage? State the implication of financial leverage.
4. Describe the impact on investor's rate of return from a levered firm to an unlevered firm.
5. Bring out the relationship between operating and financial leverage of a firm.
6. Explain the determinant that impacts the effect of change in Earnings per Share (EPS) of the company being dealt with, and the changes of the quantity produced.

5.10 Suggested Readings/Reference Material

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2. Prasanna Chandra (2019). Financial Management – Theory and Practice, 10th edition, New Delhi: Tata McGraw-Hill.
3. I.M. Pandey (2021). Financial Management, 12th edition, New Delhi: Pearson Education.
4. Francis Cherunilam (2020). International Business — Text and Cases, 6th Edition, PHI Learning.
5. P.G. Apte (2020). International Financial Management, 8th Edition, McGraw Hill Education (India) Private Limited.
6. John Tennent (2018). The Economist Guide to Financial Management. Economist Books.

5.11 Answers to Check Your Progress Questions

1. (b) ₹ 30,000

$$\begin{aligned}\text{Contribution} &= \text{Sales} - \text{Variable Cost} \\ &= ₹ 1,00,000 - ₹ 70,000\end{aligned}$$

2. (b) $\text{DOL} = [\text{Q}(\text{S} - \text{V})] / [\text{Q}(\text{S} - \text{V}) - \text{F}]$

Operating leverage examines the effect of the change in the quantity produced on the EBIT of the company, and is measured by calculating the Degree of Operating Leverage (DOL).

$$\begin{aligned}\text{DOL} &= \text{Percentage change in EBIT} / \text{Percentage change in Output} = \\ &= \frac{\Delta \text{EBIT} / \text{EBIT}}{\Delta \text{Q} / \text{Q}}\end{aligned}$$

From Eq (i) $\text{EBIT} = \text{Q}(\text{S} - \text{V}) - \text{F}$; Substituting for EBIT, we get $\text{DOL} = [\text{Q}(\text{S} - \text{V})] / [\text{Q}(\text{S} - \text{V}) - \text{F}]$

3. (b) DOL is defined as operating breakeven point

The degree of operating leverage is undefined at operating breakeven point.

4. (a) 30%

$\text{DOL} = 2. (20\% / 10\%)$, i.e., % change in operating income / % change in sales

The operating income will increase to 30% in response to 15% increase in sales,
i.e. $2 \times 15\%$.

5. (b) DOL is 1 at the operating break even point

At the operating break point DOL will be undefined. Hence, the above statement is incorrect.

6. (e) Change in EBIT effects change in sales

The financial leverage measures the effect of the change in EBIT on the EPS of the company

7. (e) Rate of return is more than the rate of interest payable

Rate of return more than the rate of interest payable is not considered as a risk element, and in such case it is an unlevered firm and not a levered firm.

8. (c) Percentage change in EPS to Percentage change in EBIT

Financial leverage refers to the mix of debt and equity in the capital structure of the company. The measure of financial leverage is the Degree of Financial Leverage (DFL), and it can be calculated as follows:

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$$\begin{aligned} \text{DFL} &= (\text{percentage change in EPS}) / (\text{percentage change in EBIT}) \\ &= (\Delta \text{EPS} / \text{EPS}) / (\Delta \text{EBIT} / \text{EBIT}) \end{aligned}$$

9. (d) 1.92

$$\begin{aligned} \text{DOL} &= 1.2 \text{ and } \text{DFL} = 1.6. \text{ Hence } \text{DTL} = \text{DOL} * \text{DFL} \\ &= 1.2 \times 1.6 = 1.92 \end{aligned}$$

10. (a) ₹ 24,000

$$\begin{aligned} \text{EBIT} &= I + D_p / (1 - T) = 30,000 + 18,000 / (1 - 0.5) \\ &= ₹ 24,000. \end{aligned}$$

Financial Management

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