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1

Financial Literacy

Learning Outcomes

After studying this chapter, you should be able to understand:

- the basic knowledge of financial literacy;
- key concepts in personal finance;
- benefits of financial literacy.

1.1 Introduction

In the modern society, financial literacy has a significant role. Every person should be taught financial literacy as a life skill to handle their personal finances. The complexity of financial goods, the prevalence of fraud and Ponzi schemes, the need for money to attain a better quality of life after retirement, etc. are just a few of the problems people deal with. These problems have created a demand for better personal financial management, including proper control of income and expenditure. People who receive financial education become more financially literate and adopt a responsible attitude toward managing their income, expenses, assets, and liabilities, which will ultimately improve their financial well-being.

For every household, financial planning is a necessity. Savings alone are not enough for financial planning. It is a financial commitment with a goal. Budgeting should be done properly since it is a strategy to conserve and spend money from future income. With the help of this literature, readers can gain a basic understanding of personal finance, including information on financial planning, key financial literacy concepts, different investment opportunities, wealth creation components, insurance and pension products, retirement planning, warnings against Ponzi schemes, tax-saving strategies, investor protection measures, dos and don'ts of investing, etc. The student will have a better grasp of and ability to manage their personal finances in order to improve their financial well-being by understanding financial literacy.

Definition of Financial Literacy

Financial literacy is the cognitive understanding of financial components and skills such as budgeting, investing, borrowing, taxation, and personal financial management. The absence of such skills is referred to as being financially illiterate. Financial literacy makes individuals become self-sufficient, so that financial stability can be accomplished. Those who understand finances should be able to answer questions concerning transactions, such as whether an item is required, whether it is accessible, and whether it is an asset or a liability. Managing your money is a personal skill that benefits you throughout your life – and not one that everybody learns.

1.2 Benefits of Financial Literacy

Being financially literate can improve the standard of living for individuals through an increase in financial stability. Listed below are the assortment of benefits of being financially literate:

- Ability to make better financial decisions.
- Effective management of money and debt.
- Greater equipped to reach financial goals.
- Reduction of expenses through better regulation.
- Less financial stress and anxiety.
- Increase in ethical decision-making when selecting insurance, loans, investments, and using a credit card.
- Effective creation of a structured budget.

Making steps to becoming financially literate is an important component of life that can ensure financial solidity, reduce anxiety, and stimulate the achievement of financial goals.

1.3 Key Concepts in Personal Finance

The following are a few crucial personal finance ideas that a person should be aware of when managing their finances:

(i) What are savings?

The difference between income and expenditures is savings.

- **Income:** Cash received from a variety of sources, including salaries, wages, etc.
- **Expenditure:** The amount of money spent on both essential and optional purchases. Most people use their savings to achieve their short-term objectives. Money kept in a bank's savings account earns a little amount of interest and is simple to access whenever needed.

People can save money in savings accounts at banks, post offices, etc.

(ii) What are Investments?

The act of investing involves putting money from savings into financial or non-financial products with the hope of generating larger returns over time. Investments can be made in a variety of items, including financial ones like fixed-rate bank deposits, stock market purchases, mutual fund investments, etc., and non-financial ones like the acquisition of real estate, precious metals, such as gold and silver. Investments can be made for short-, medium-, or long-term goals. One should constantly keep in mind when investing that returns on investments may change over time and that is very natural.

Difference between Savings and Investments is mentioned in the table below:

	Savings in Bank Accounts	Investment in Fixed Deposits and Other Financial Products
Leaning	A portion of one's income which is not used for expenses	Putting your money in various investment products to make money grow.
Purpose	Savings are made to maintain liquidity to meet short term or urgent requirements	Investments are made to make the money grow by creating assets that can generate income in the future/increase value of assets.
Risk	Low or negligible	Depends upon the asset in which investment is done.
Liquidity	Highly liquid	Comparatively less liquid

(iii) What is the importance of saving and investing?

When you invest money, it grows for you. Any rise in the investment's value over time, or investment income or returns that you receive, brings you one step closer to achieving your financial objectives. Early in life, one should begin to invest and save. The earlier you get started, the higher your chances are of achieving your objectives, like as owning a home, paying for your child's education, saving for retirement, etc.

(iv) What are assets and liabilities?

Your assets are things you own and have economic value, whereas your liabilities are things you owe to or have borrowed from others. It is your asset, for instance, if you save and then invest in a fixed deposit. On the other hand, if you borrow money or take out a loan from a bank or another person, you are liable for the loan.

(v) What is Debt?

Money borrowed to meet shortfall of money when expenses are more than the funds available in hand is called debt.

(vi) What is the Time Value of Money?

As time goes on, you'll learn that if you could afford to buy a whole lunch for a certain amount of money 10 years ago, you could probably afford to buy only a fraction of the meal for the same amount of money today. This indicates that a 500 Rupee note would be worth more now than it would in five years. Even if the note is the same, if you have the money now, you can accomplish much more with it because over time, you can make it grow by earning interest on it. By investing the 7500 you receive now and earning interest or capital growth over time, you can enhance the amount of money you will have in the future. The time value of money proves that time truly is money at its most fundamental level, i.e., the value of your money today is different from what it will be tomorrow and vice versa.

(vii) What is Inflation and its Effect on Investments?

Price increases for products and services are referred to as inflation. The ability of a unit of money, such one rupee, to buy goods and services over time decreases as the price of goods and services rises. In other words, the purchasing power of money, or the degree to which it can be used to purchase anything, declines. When making financial plans, it's critical to consider how inflation may affect your investments. Since inflation lowers the value of an investor's investment, investors are extremely afraid of it.

(viii) How does Inflation Affect my Investment Decision?

Five years ago, a Vada Pav costing Rupees 2 would today cost Rupees 1. This price increase is due to inflation, which has an effect on the prices of the ingredients and ultimately the final product, rather than a higher yield or higher quality of Vada Pav.

(ix) What are the steps that you can take to avoid the adverse effects of inflation?

Try to calculate your "real rate of return," or the return you may anticipate after accounting for inflationary effects. You can invest the money you have now at a rate that is equal to or higher than the rate of inflation to lessen the chance that it will lose value.

(x) What is Power of Compounding?

Simple interest simply allows you to earn interest on the principal, or the amount you initially invested; compound interest, however, allows you to earn interest on both the principal and previously earned interest.

Let us understand the magic of compounding with the help of an example.

Year	Principal	Rate of return	Return earned	Maturity value
1	1,000	9%	90	1,090
2	1,090 (1,000 + interest earned 90)	9%	98	1,188
3	(1,000 + interest earned 90 + 98)	9%	295	1295

Year	Principal	Rate of return	Return earned	Maturity value
10	2,172	9%	195	2,367*
20	5,142	9%	463	5,604
40	28,816	9%	2,593	31,409

*At the end of each year, the principal amount is adjusted to reflect the addition of the return received during that year to the principal. The return earned on growing principal also rises each year as principal does. In the example above, an initial investment of ₹1,000 becomes ₹31,409 after 40 years. You earn a return on the return that was already earned when it is reinvested, and so forth. In contrast, with simple interest, the principal amount stays at $1,000 for the whole 40-year period, and with annual interest of 90, the amount only increases to ₹74,600.

Note: Principal + Return from the first year collectively becomes the principal for the second year.

Principal + Return from the second year collectively becomes the principal for the third year and so on.

(xi) The Rule of 72

According to mathematicians, you can calculate how long it will take to double your money by simply dividing 72 by the interest rate. Let's say that for your birthday, your parents gift you $200, and you intend to invest it. How long will it take for the money to increase to 400/- if you deposit it in an account that generates 6 percent (6%) interest annually?

72 / 6% interest = 12 years

So, in 12 years, your money will have doubled to ₹400/-

(xii) Rupee Cost Averaging

By using rupee cost averaging, you can invest a set sum of money at regular intervals regardless of market volatility. For instance, you purchase more units at low unit prices and fewer units at high unit prices. By sticking to a timetable, you can avoid the difficult or perhaps impossible task of attempting to determine the precise optimal time to spend. By averaging out the costs of your units, the rupee cost averaging effect decreases the influence of short-term market swings on your investments.

For example, look at the table below:

Month	Amount paid	Cost per unit	Number of units bought (Amount paid/ Cost)
Jan	2000	50.00	40
Feb	2000	41.67	48
Mar	2000	47.62	42
Apr	2000	58.82	34
May	2000	71.42	28
Jun	2000	66.67	30

Month	Amount paid	Cost per unit	Number of units bought (Amount paid/ Cost)
Jul	2000	40.00	50
Aug	2000	47.62	42
Sep	2000	45.45	44
Oct	2000	62.50	32
Nov	2000	55.55	36
Dec	2000	50.00	40
Total	**24,000**		**466 units**

From the above, it can be seen that with a total investment of {24,000/- over a period of twelve months, an investor received 466 units of Mutual fund. The average price per unit comes to 751.50/- (i.e., 724,000/466 = 751.50/-).

(xiii) Why to keep money in banks?

The following are drawbacks of storing cash at home:

- Loss of growth OPPORTUNITIES – Loss of interest income.
- Unsafe Money can be Stolen or Lost Due to Natural Calamities.
- No/Low Credit Eligibility; Deposits in Banks Create Eligibility for Borrowing.

As a result, it is advantageous to hold cash in banks rather than at home.

(xiv) Banking

Since commercial banks deal with public funds and trust, they are regulated financial institutions. The Reserve Bank of India oversees commercial banks in India. At regular times, banks must undergo mandated audits and inspections. The Reserve Bank of India also conducts an annual audit of banks.

Investments with a reduced risk profile include bank savings. Depending on the demands of the clients, banks offer a variety of deposits. The liquidity and safety of bank deposits are valued more than the returns they offer. Additionally, fixed deposit loans from banks are available up to 75 to 90 percent of the deposit's value.

All deposits are covered by the government under the Central Government Deposit Insurance Scheme, up to a maximum of?5 lakhs per client in that specific bank. Depositors are therefore promised that even in the event of a bank failure, the Government will intervene and recover up to 75 lakhs of their funds in that bank. One may occasionally go to the Reserve Bank of India website for detailed details on the scheme.

(xv) Know Your Client (KYC) Norms for the Account Opening Process

Customers must go through the KYC process in order to open any form of bank account. "KYC" is an acronym for "Know Your Customer." The goal of KYC is to help banks better know and understand their customers and assist them in managing their risks responsibly. The KYC documents that bank typically accept include a photo, a document for evidence of identification (such as a copy of a PAN card or an Aadhaar card), and a document for address verification (such as a copy of an electricity bill, a driver's license, a passport, an Aadhaar card, etc.).

(xvi) Types of Bank Accounts

Types of Bank Deposit and their Key Features

1. **Savings Bank (SB) Account**
   - Low interest, however, highly liquid.
   - Facilitates payment mechanism through Automated Teller Machines (ATMs).
   - No Tax deducted at Source (TDS) on interest on SB account balance, but taxable in the hands of depositor
   - Account can be opened in single name or joint names. In the case of joint account, the operation of the account can be done by any one account holder or jointly.
   - Minors of any age can also open a savings bank account through their natural or legally appointed guardian. Minors above age of 10 years can also avail additional banking facilities like internet banking, ATM/ debit card, cheque book facility, etc.
2. **Basic Savings Bank Deposit Account (BSBDA)**
   - Introduced to promote financial inclusion.
   - Zero balance savings account without any requirement of an initial deposit can be opened for individuals and also minors (through their guardian).
   - Relaxed conditions for number of deposits/ withdrawals in a month.
   - ATM Card, passbooks are issued free of charge.
   - BSDBA account holders are not eligible for opening any other savings bank deposit account in that bank.
3. **Fixed Deposit (FD) Account**
   - Involves placing funds with the bank for a fixed term at a certain interest rate.
   - Interest accrued or earned on FD is subject to Tax Deducted at Source (TDS) beyond a stipulated amount.
   - Senior citizens may get extra benefits on the interest rate.
   - Tenure and rate of interest on FDs varies from bank to bank.
4. **Recurring Deposit (RD) Account**
   - A fixed amount is deposited at monthly intervals for a predetermined term.
   - Earns higher interest than savings bank account.
   - TDS applicable on interest accrued or earned beyond a stipulated amount.
   - Senior citizens may get extra benefits on the interest rate.
   - Tenure and rate of interest on RDs varies from bank to bank.
5. **Special Bank Term Deposit Scheme**
   - Tax savings scheme available with banks.
   - Relief under Section 80C of the Income Tax Act, 1961.
   - Term deposit with 5 years lock in period.
   - No premature withdrawal/loan allowed.

(xvii) Digital Banking

In the modern era transactions include payments, fund transfers and buying goods, all take place on digital platforms such as mobile phones. Customers can perform transactions from any place.

The various digital modes of transferring funds are as follows:

Mode of Transfer and Key Features
NEFT (National Electronic Fund Transfer)
• Transfer of funds from one Bank account to another. • No restriction on the minimum/maximum amount for transfer. • Transfer is done using beneficiary's account number and IFSC Code (Indian Financial System code, a unique code assigned to each bank branch) • Charges for transfer may differ from bank to bank • Transfer of funds can be initiated any time during the day and it takes few hours to get creadited in the beneficiary account.
RTGS (Real Time Gross Settlement)
• Transfer of funds from one Bank account to a different account of another bank on a real time basis. • Used to make high value transactions. • Transfer is done using beneficiary's account number and IFSC Code (Indian Financial System Code, a unique code assigned to each bank branch) • Charges for transfer may differ from bank to bank. • Transfer of funds can be initiated during the specified period on working day and is completed instantly on a real time basis.
IMPS (Immediate Payment Service)
• Transfer of funds from One Bank account to another facilitating instant fund transfer. • For fund transfer through internet banking, beneficiary's account number and IFSC Code (Indian Financial Services Code, a unique code assigned to each bank branch) are needed. • For fund transfer through mobile banking, beneficiary's MMID (Mobile Money Identifier is a 7 digit number issued by bank to the customer) is needed
Unified Payment interface (UPI)
• Instant transfer of funds through any smart phone using VPA (Virtual Payment Address). • 24 × 7 fund transfer facility on a real time basis. • One needs to download UPI- enabled bank app and login using bank details.

New categories of banks and business correspondents:

RBI has introduced certain new categories of banks and business correspondents whose key features are detailed as below:

Title	Key Features
Payment Bank	• Provides savings account/current account facilities. • Can accept demand deposit but not recurring/fixed deposit. • Can issue ATM/Debit cards but not credit cards. • Cannot give loans/advances. • Offer payment and remittance service through various channels
Small Finance Bank	• Provide features like taking small deposits and disturbing small amount loans. • Instrument to save funds primarily to unserved and underserved sections of population. • Extend loans of small amount to small business units, micro and small enterprises, small and marginal farmers and entities in the unorganized sectors.
Business Correspondent	• Representative of a bank who goes to customers (usually in remote locations/villages) to help them with their banking needs/transactions. • Can provide services like opening of bank accounts, deposits, transfer of funds, collection of loan deposits, disbursal of small value credit, collection of payment/fees, etc.

(xviii) What is a Credit Card and a Debit Card?

With a credit card, the cardholder can make payments without having cash on hand right away by using credit card transactions. This benefit of using credit for a limited time. A debit card, on the other hand, is a card issued to a bank account holder for both making payments at points of sale and withdrawing money from an ATM. Debit card are accepted for transaction settlement at all retail locations. Both credit and debit cards can be used for online purchases as well as cash withdrawals from ATMs.

Comparison between a credit card and a debit card are listed as below:

Particulars	Credit Card	Debit Card
Source of funds	Lending bank provide the credit facility.	Linked to one's own savings/current account maintained with the same bank
Interest	If outstanding amount is not paid on time, interest is levied.	Not applicable.
Credit History	Relevant for issuing a credit card.	Not relevant for issuance of the debit card.
Relationship with the issuer	No compulsion to have account with issuing bank.	Having an account with the issuing bank is a pre-requisite.

Things to keep in mind while transacting through ATM card:

- Immediately after receiving the card from the bank, change the PIN.
- Avoid making any notes of your PIN number. Recall it. Keep your PIN number a secret from others.
- It is preferable to use an ATM on bank property or on property where a security guard is on duty around-the-clock. Use it for yourself.

- When utilizing the virtual keyboards for online transactions, the bank is not responsible if the ATM card has been given to someone other than the account holder for a transaction.
- Sign up with your bank to receive SMS notifications of transactions. Banks, however, have the right to charge clients for sending them email or SMS warnings about their accounts.
- Change your PINs as often as practical.
- Notify the bank right away if the card is missing.
- Don't let anyone use or access your card.

(xix) Customer Liability for Unauthorized Banking Transactions

According to the RBI, if an unlawful transaction occurs because of fraud, contributory carelessness, or a failing on the part of the bank, the consumer is not responsible. In a similar vein, even in cases where neither the customer nor the bank is at fault but instead another component of the system is at fault, the customer is exempt from liability as long as they notify the bank of any unauthorized or illegal activity within three days of receiving a notice from the bank. Additionally, the bank must immediately credit the customer's account with the sum involved in the transaction. However, in situations when such fraud occurs due to the negligence of the client, the customer will be responsible for paying all losses up until the date that the unlawful transaction is reported. The RBI has made it clear to banks that they must instantly notify consumers via SMS and email when a transaction occurs in their account. In order for a customer to report any such fraud right away, they have been told to make sure that such messages can also convey the client's reply.

(xx) Reserve Bank of India (RBI)

The Reserve Bank of India Act authorized the establishment of the Reserve Bank of India (RBI), the nation's central bank, on April 1, 1935. The Reserve Bank of India is responsible for overseeing the nation's monetary and credit systems and implements monetary policy to establish financial stability in India. The primary objective of the RBI is to perform comprehensive supervision of the Indian financial sector, which consists of commercial banks, financial institutions, and non-banking financing firms. It develops, enacts, and oversees India's monetary policy. Maintaining price stability and ensuring that credit is flowing to productive economic sectors are the central bank's management goals. The RBI governs and regulates the entire banking system in addition to serving as the government of India's banker. All commercial banks' lender of last resort is the RBI.

Review Questions

1. What do you mean by Financial Literacy with reference to investment in India?
2. Write the difference between Saving in Banks and Investment in Securities?
3. Know Your Customer (KYC) does is it important for the bank to know their own customer? Explain.
4. Write the difference between Digital Banking and Mobile Banking with illustration.

2

Income, Expenses and Budgeting

Learning Outcomes

After studying this chapter, you should be able to understand:

- the needs and wants and classify between them;
- the income and expenses;
- budgeting and how to prepare the sample budget.

2.1 Introduction

Are you sometimes short of cash at the end of the month? Don't seem to be able to save for the things you really want? You can learn to balance your income with your expenses – and even have some money left over for savings and extras. Let us show you how to manage your incoming and outgoing finances.

2.2 Setting Priorities: Needs and Wants

It is very important to know the difference between your needs and your wants and how they influences financial decisions. This will help them to set your priorities so that you know where to spend your money.

1. **Need:** A necessity, something required, something essential for life. A need is something thought to be a necessity or essential items required for life. Examples include food, water, and shelter.
2. **Want:** A desire, something wished for, something nonessential but desired or items which increase the quality of living. Examples include a car stereo, CD's, car, and designer clothes. Depending upon what a person defines as a need or a want will influence his/her financial decisions. For example, a person who deems a vehicle as a need will have larger expenses than

a person who relies on a bicycle for transportation and sees a vehicle as a want. Using these definitions, a roof over my head is a need. So are clothing, food, tools for work and medications. Watching movies in theatre is a want, and so are addictions like chewing paan, smoking and drinking.

Exercise: **Identify the following item/activity as need or want.**

Item / Activity	Need	Want
Clothing		
Going to the movies		
Going out to eat		
A place to live		
A car/truck		
A computer		
Owning a CD player		
Going to a basketball game		
Owning a vacation home		
Food		

Did you know... *The average consumer spends 85% of their income on items which last fewer than 3 years?*

2.3 Income

Income is what is earned or received in a given period. There are various terms for income because there are various ways of earning income. Income from employment or self employment is wages or salary. Deposit accounts, like saving accounts, earn interest, which could also come from lending. Owing stock entitles the shareholder to a dividend, if there is one. Owing a piece of a partnership or a privately held corporation entitles one to a draw.

Most of us have a source of income through our job, business, farming or other work. Many may also be receiving interest income from their investments. Whatever the sources of income, you need to know how to keep track of it and manage it to cover your expenses and save for the future.

Income (Source of Money)	Amount (₹)
Salary or wages	2000
Earnings from Farming Business	3000
Total	**5000**

2.4 Expenses

Expenses are costs for items or resources that are used up or consumed in the course of daily living. Expenses recur (i.e., they happen over and over again) because food, housing, clothing, energy and so on are used up on a daily basis.

You will usually have two categories of expenses in your budget. First, you will have your regular monthly expenses. These are expenses you know you will have each month. Second, you will have your irregular expenses – those that come up every now and then or perhaps once a year. For example, you may have an annual car insurance bill you will need to pay – or a club membership – or a new cell phone you know you are going to need soon. You will want to plan for such expenses in your budget and allocate some funds each month so that you can pay them when they are due.

It costs money to live. You need to pay for food, clothing, housing, transportation, communication, and a dozen other necessary expenses. Then there are things like vacations, entertainment, children's education and marriage, gifts for relatives and so on.

Expenses (Used of Money)	Amount (₹)
Food, shelter, clothes	2000
Education	1000
Repayment loan	700
Sickness	300
Drink, drugs, gutka	500
Gambling	400
Excessive expenses on Marriage, Festivals, Pilgrimage etc.	1100
Total	**6000**

Track Your Expenses

The best way to start taking control of money is to "track your expenses." And that isn't hard today with how easy it is to carry a little notebook or use the note pad on a cell phone or other hand-held device. All that you have to do is, over a month or two or three, write down what you spend your money on: ₹500 movie; ₹100 scarf; ₹500 book; ₹300 bus pass; and so on. Then, take a few minutes at the end of that time and write down a number of categories. These might include:

- Transportation;
- Snacks, eating out, and food in general;
- School supplies;
- Movies, music and entertainment;
- Your hobby;
- Cell phone or Internet;
- Savings;
- And so on.

Next, before you add up how much you have spent on each category, write down the percentage of your money you think you spend on each category.

Then add up how much money you actually spent on each category. See if the results surprise you. Or see if the results come close to what you expected. This will give you one sign as to whether you know where your money is going – and if you are in control. There is one other thing you can do too. Look at how much you are spending in each category. Is that the way you want to be using your money? Are you spending more in some areas than you would like to – or think you should? Are you saving as much as you would like – or need to? Going through this exercise – seeing where your money is going – and thinking about where you want it to go – should tell you pretty clearly if you need to budget. If you are pleased with how things are, and happy with how you are using your money, you may not need a budget – at least not yet. It may be that you are in control of your money and managing it well. However, as you make more money, take on new expenses, and life becomes more complicated, you may find that a having budget will help you stay in control.

Emergencies

Unexpected, necessary, expenses that could happen anytime. (illness, injury, transportation, etc.). This could significantly effect your month's budget, limiting the discretionary and variable expenses as well as savings. Emergencies are, by nature, often costly and therefore demonstrates the importance of having a regular contribution to savings. Having savings prevents or limits you from going into debt to pay for sudden emergency expenses.

2.5 Budgeting

A budget is a plan for how you use your money on a month-to-month basis. It helps you look at your expenses – both those you have each month and those that come up now and then. It helps you work out how you will cover your expenses from your income. A budget also helps you to save, build up your savings over time, and achieve your financial goals.

A budget helps you know where your money is going. As you work out your budget, you may find ways to cut back or ways to save more. If you can, use your budget to pay yourself first. If you pay yourself last, it often ends up that there is nothing left. Put some of your money in savings when you get it and budget how you will use the rest. Even if it is a small amount, try and start by paying yourself – with savings. And try and make saving a habit from a young age. It is a great habit to develop. It can be an important way to achieve your goals. Basically, a budget involves comparing your income with your expenses. It gives you a picture of your financial situation – and where you may be heading. And it should give you a very clear indication of whether or not you are on the road to accomplishing your longer-term goals.

{Interestingly, survey after survey shows that most people think that having a budget is important – and budgeting is a wise thing to do. But, as surveys also show, most people don't work with a budget.

Why not? Many people don't budget because they feel that they don't earn enough money to need a budget. In reality, the less money you have, the more likely it is that a budget can help you. You will want to get the most out of your money. You won't want to waste any. You'll want to make as many "good" money decisions as you can. Budgeting can help – and can help most people regardless of how much money they have. There are also many people who don't budget because they fear that a budget will put them in a "financial strait-jacket." They think a budget will have too much control over what they do. Actually, a person who fears that a budget will control them too much is often a person whose spending is out of control. If you fear a budget, you probably need to budget. A budget helps you gain control – not lose it. Deciding to budget is a sure sign you have decided to take control of your money. But have you any idea how your money is being used – where it is going?}

It is simply a comparison of income and expenses. Is the difference between your total income and total expenses a positive or a negative figure?

- If it is positive, you have a surplus. Congratulations! With the extra money you must pay off any debt or loan you have. Otherwise, you can increase your monthly savings or invest for future.
- If it is negative, you have a deficit. You need to make changes to balance your budget. Reduce your expenses by focusing on your needs rather your wants. This can be ok in the short term but is not sustainable in the long terms.

Budgeting isn't a one-time thing. To make it work, you need to do it regularly. At first, do this weekly and once you are comfortable you can do it monthly.

Did you ever think of having a budget to help you? Do you already have a budget? Do you know if your family works with a budget?

Most often this is done on a monthly interval as this provides a consistent, yet accurate description of actual income in comparison to expenses. Income can either be in the form of a regular paycheck or spontaneous sources such as gifts or sales. Regular expenses are also best understood on a monthly basis as this helps you stay in line with your budget.

The first thing to work out is your monthly income. That will tell you what you've got to work with. The second step is to list your monthly expenses. Some expenses you will be able to control (for example, entertainment). Others you can't control as readily (for example, your housing costs/rent – at least you can't control them today). You can always take more control of a cost like rent by moving to less expensive accommodation or getting a roommate to help share the cost – but that will take some time.

When you add up your total monthly income and your total monthly expenses, you will see whether you are able to save money or not. You will find if you are spending more than you would like in certain areas. You will quickly see if you are in control of your money – or heading toward money problems. In short, you can learn a great deal about you and your money by creating – and using – a budget.

A. Sample Budget

1. YOUR INCOME:	2. YOUR EXPENSES:
A. Your Regular Monthly Income Sources Wages/Allowance Interest Other **Total (RM)** **B. Irregular Annual Income** Income tax refund Gifts Bonus Other **Total (IT)** **Divide (IT) by 12 = (IM)** **Total Average Monthly Income** **(RM + IM) = (MI)**	**A. Regular Monthly Expenses** Food Transportation Phone / Internet Recreation / Entertainment Savings Loan Payments Emergency Fund Housing Costs (including utilities) Other **Total (ER)** **B. Irregular Annual Expenses** Medical/dental costs Insurance Gifts / Charitable contribution Tuition / School Expenses Clothing Vacation / Holiday Other **Total (IE)** **Divide (IE) by 12 = (EI)** **Total Average Monthly Expenses** **(ER + EI) = (ME)**
3. TOTAL MONTHLY INCOME (IM) – TOTAL MONTHLY EXPENSES (ME) = SAVINGS, BALANCE, OR SHORTFALL	

Exercise: ***If you were to put together a budget right now, what do you think the result would be? Saving something each month? Spending all you make? Running short each month?***

Review Questions

1. What's the value of a budget? In what ways can it help?
2. Why is saving – and paying yourself first – so important?
3. What kinds of things are usually in a budget?
4. What are the two kinds of expenses that are usually in a budget?
5. How can a budget help you gain, and keep, control of your money?

□□□

3

Saving and Management of Spending

Learning Outcomes

After studying this chapter, students will be able to understand:

- Define savings and its benefits,
- Understand the management of spending,
- Explain the step to be followed for management of spending,
- Explain financial discipline and the ways to achieve the financial discipline in their life.

3.1 Introduction

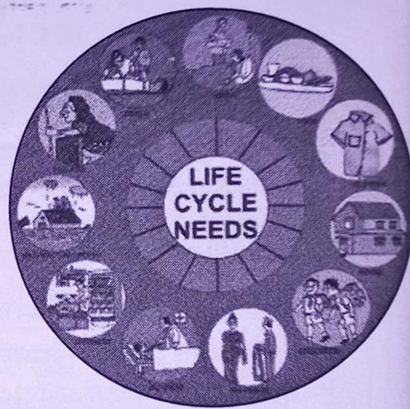
Money plays an important role in our lives. On one side it is a tool for wealth creation for future needs and on the other it serves as a transaction instrument for satisfying present needs. While many people spend most of their time and energy on earning more, it is important to note that without learning the art of spending money well along with judicious saving and prudent investing, they may not be able to create a promising future for themselves and their families. it may be observed that learning to manage money wisely could be the first step towards the bigger goal of financial planning. In this chapter we study about the savings, its benefits, management of spending and financial discipline.

3.2 Savings

Savings refer to money you put aside for future use rather than spending it immediately. Savings is the portion of income not spent on current expenditures. Because a person does not know what will happen in the future, money should be saved to pay for unexpected events or emergencies. An individual's car may breakdown or a medical emergency could occur. Without savings, unexpected events can become large financial burdens. Therefore, savings helps an individual or family become financially secure. Money can also be saved to purchase expensive items that are too costly to buy with monthly income. Buying a new camera, purchasing an automobile, or paying for a vacation can all be accomplished by saving a portion of income.

In economics, savings is the amount that is left after spending. In banking, savings refers to savings accounts, which are short-term, interest-bearing deposits with a bank or other financial institution. So we can say that saving is the money you want to be able to access quickly, with little or no risk, and with the least amount of taxes. Saving means different things to different people, for some it means putting money in the bank while for others it means buying stock or contributing to a pension plan. But for economists, saving means only one thing- consuming less in the present in order to consume more in the future.

3.3 Why should we Save?



We save, basically, because we can't predict the future. Saving money can help you become financially secure and provide a safety net in case of an emergency. Here are a few reason why we save money:

1. **Emergency Fund:** One of the most important things to save for is unexpected financial emergencies. These can include losing your job, unexpected health issues or your car or other home appliances breaking down, so you should have between three and six months worth of living expenses set aside. If you don't have an emergency fund, you may end up having to take out a short-term, high interest loan or carry a balance on a credit card at a high interest rate. A common rule of thumb is to save three to six months' worth of expenses to have at the ready.
2. **Education:** The cost for private and public education are rising every year and it's getting tougher to meet these demands. As students take on more debt, their financial burden rises. Aggressive saving is the easiest way to minimize debt.
3. **Major life events:** Getting married, travelling the world, purchasing a home, having a child. None of these come cheap. Saving for such milestones helps reduce their inherent stresses and allows you to focus on what really matters.
4. **Average life expectancy:** As we age, our ability to work and earn more money to support our lifestyles will naturally decrease. And with today's health care and technology advancements, life expectancy has increased, which requires more funds to live securely. Saving now will assist you when work advancements are no longer realistic.
5. **Retirement:** Another important reason to save money is your retirement. The pension scheme is unlikely to provide you with enough income to cover all your costs when you eventually stop work, particularly as the age at which you'll be able to claim it is moving gradually further away. The sooner you start saving for retirement, the less you will have to save in the future.

6. **Financial Security:** Suddenly finding yourself unemployed can be frightening, but it's something many people will experience at some point. Having a savings buffer in place to help cover your living expenses while you find a new job can provide you with real peace of mind.

3.4 How to Save?

We can save either by cutting expenses or by increasing our income. Presuming income is same, we spend money fro purchasing either essential or non essential items. Essential items are those things we really cannot do without, such as food, clothing, house repair, seeds and farming tools, children's education and healthcare. We need these things every day for survival, whereas, non essential items are 'extras' in life which we need because we enjoy them. Expenses on such items can be either avoided or reduced or postponed, e.g., spending money on drinks, drugs, gutka, gambling can be avoided whereas excessive expenses on marriage, festivals, pilgrimage can be reduced and expenses on TV, scooter, car, jewellery, etc., can possibly be postponed. The less we spend on non essential items, the more we will be able to save for essential things.

How can we save when we do not have enough money even to meet our regular expenses?

The common refrain is that we do not earn enough so we cannot save. The truth is that everyone needs saving and can save. We should keep aside a portion of our earnings as saving from day one of our earning life. The important thing is that we should start saving early and regularly in our life, even if it is a small amount. And if we get some unexpected profit/earning, we should save all or most of it. This will reduce our worries of future financial needs and help us in dealing with unexpected expenses.

If we earn ₹100, we can save ₹20 and if we earn ₹10, we can save ₹2. If we keep aside ₹20 out of ₹100 we earn, then in 5 earning days, we would have saved one day's earning. In 100 earning days this would mean savings equivalent to 20 earning days plus interest. Is it not amazing!!!

Income per day	₹100
Expenses per day	₹80
Saving per day	₹20
Saving in a month	20 × 30 = ₹600
Saving in a year	600 × 12 = ₹7200
Interest at 8% per annum	₹318
Saved amount at the end of the year	₹7518
This amount is equal to 75 days Income	

3.5 Where to Save?

You know you can save at least a little every month. What should you do with your savings to keep them safe? There are many options. It can be as simple as a savings account at a bank. It can be recurring or fixed deposits, or post office savings schemes.

Savings Account

Savings accounts are handy for short-term savings. You can deposit money into a savings account at any bank. This will keep your savings safe and pay a little interest. You can take your money out whenever you need it.

Recurring Deposits

Recurring deposits popularly known as RD, are best if you wish to create a fund for a special occasion such as buying a car. These are suitable for people who do not have a large amount of savings, but are ready to save a small amount every month. No withdrawals are allowed.

Fixed Deposits

Commonly known as FD, this is where you can deposit a sum for a fixed period. The depositor is given a fixed deposit receipt, which the depositor has to produce at the time of maturity. Withdrawals are not allowed, however, in case of need, the depositor can ask for the fixed deposit account to be closed by paying a penalty.

Each type of Savings vehicle has costs and limitations. Check them carefully to be sure you understand the terms and whether they provide what you need.

3.6 Management of Spending

How we manage our spending also affect our saving habits. The best to manage spending is to have money automatically drawn from banks account to fund those things that are necessities (utilities, insurance, house payments, retirement savings, and so on) or are most important. If you didn't put savings on autopilot, it wouldn't get done, at least not as easily and consistently as it could be done. Consistency and simplicity are key when it comes to achieving financial success.

By automating your payments and investments, your bills get paid on time, every time, saving you hassle and potential late fees, and by investing automatically, you don't have a chance to spend the money before it gets put to work for your other goals.

There is no time like the present when it comes to learning how to manage money better. Managing spending and keeping up with your budget can be difficult tasks, but there are ways to make it easier to manage your spending, reach your financial goals and improve your financial well-being.

3.7 Steps Followed for Managing the Spending

We are discussing the steps to be followed for managing the money now while preparing for the future.

Step 1: Take Inventory of Your Finances

Before you can start managing your money better, you need to know how much of it you have. The most basic step to understanding your current financial situation is to sit down and record all your regular monthly income and expenses, if needed, save receipts for a month to determine where money is spent beyond major bills like rent, utilities and debt payments. For some people, it can be a wake-up call to realize how much is being spent on items such as groceries or dining out.

Take a mental inventory of your current position.

- Are you consistently overspending?
- Do you have enough saved up to survive an unexpected expense?
- Do you live paycheck to paycheck?
- Do you have more control over day-to-day, month-to-month finances?
- Do you have a greater cushion to absorb a financial shock?
- Are you getting on track to meet your financial goals?
- Do you want to have more financial freedom to make the choices that allow you to enjoy life?

Be honest with yourself about where your weaknesses lie. You might have made some missteps in the past, but you don't have to continue on that path.

Step 2: Build a Money Management Blueprint

How do you put your savings plan in action? Just like gaining physical muscle, you have to start with the right equipment to gain financial muscle.

Use the steps below to build a blueprint that works for your finances.

- **Start with a budget:** Pick a budgeting system that you'll stick with. We like the 50/30/20 budget plan — which allocates money for wants, needs and savings and debt repayment — but there are plenty of other budgeting options to choose from.
- **Track your spending:** The days of balancing a checkbook are gone for most people, but there is still value in accounting for each and every purchase and expense.
- **Find ways to save:** Once you see where your money is going, you can more easily identify potential savings.
- **Use designated accounts for spending and savings:** Keep money designated for bills and budgeted expenses separate from your emergency fund. This will reduce the temptation to dip into it for non-emergencies. Saving for a house, vacation or new car? Stash those funds in separate accounts so you can see your progress toward each goal.
- **Make a plan to pay off debt:** A strategic approach to debt repayment will help you reach the debt-free finish line faster. We recommend tackling your most expensive debt — the accounts with the highest interest rates — first, while making minimum payments on the rest. Then work your way down through any lower-interest rate debt until it is all paid off.
- **Develop good credit habits:** Credit cards can be your friend, if used wisely. You can earn cash back and travel rewards on things you already planned to purchase, and boost your credit score in the process. The key is to pay off your balance in full each month. If your credit utilization — the percentage of your credit limit used — hits 30%, your credit score will take a hit.
- **Invest in your financial future:** Set money aside now, for retirement plan and let compound interest work it's magic. The ultimate goal is longterm financial freedom and stability.

Step 3: Make Savings a Habit

Money mastery goes beyond spending less than you make. A true sign of financial prowess is saving enough to live comfortably in the long term as well as the short term. You can achieve this in four steps — Save, Invest, Pay off debt, Repeat.

1. Save

Start socking away extra money to build an emergency fund. Ideally, you should have three months' worth of living expenses at your disposal in case the unthinkable happens. If that seems too ambitious, start small.

2. Invest

Invest your extra money for the future. Set yourself up for retirement by contributing to a retirement plan. If your company offers a pension benefit, contribute enough to get the maximum.

3. Pay Off Debt

Whether it's a loan or looming credit card bill, you probably have some debt obligations. Always make at least the minimum monthly payments so you don't fall behind. If you have extra bills to throw at your bills, pay down the high-interest debt first.

4. Repeat

Keep building up that emergency fund, investing for retirement and knocking down your debt.

Step 4: Be Persistent

Despite their good intentions, many people fall off the financial bandwagon. Sticking to a budget that's too restrictive can be suffocating. Navigating investment jargon can be confusing. But don't get discouraged.

Managing finances requires an ongoing effort. To be successful, revisit your budget often and try to analyse it. Compare your actual spending to your budget, at least monthly or more frequently if possible. Make adjustments to your budget if it is habitually out of line with your actual spending. Check your balances regularly on accounts, credit cards, and prepaid cards. You can check your balances online, at an ATM, on your smart phone, or by calling your bank. Be aware that these services may incur fees—check first with your financial service provider. Also, sign up for balance alert text message services from your financial institution. Give yourself time to learn and grow. With hard work and dedication, you can manage your money with confidence.

3.8 Financial Discipline

Financial discipline refers to how well you are able to conform your spending and saving to the plans that you have set for yourself. It is a continuous process and it evolves as your priorities change over time. It is also based on the understanding that money is just a tool and that you control your money, money should not control you.

Financial discipline means being in control of your money. You are able to avoid impulse spending and less likely to blow all of your money before paying your bills.

If you have financial discipline you will save up for an item and can set aside sinking funds without spending the money on something else.

Case Study

Mr X is a 26 years old and have been employed for about two and half years now. He earn ₹50,000 monthly, but by 10th never have anything left. He always believed that he should thank himself with his salary since he work so hard for it but he think he overdo it. He is also very generous so whenever someone asks for money, he doesn't hesitate to give. He's not sure how to tackle that but he know that it will be a problem especially because he want to settle down and start a family. This is a problem of financial indiscipline.

A lot of others also struggle with financial indiscipline and it is good that you have realized this and want to change it. Many of us were taught how to make money but not how to manage it, and at home, we did not talk about it beyond noticing that 'money does not grow on trees.'

Financial discipline refers to how well you are able to conform your spending and saving to the plans that you have set for yourself. It is a continuous process and it evolves as your priorities change over time. It is also based on the understanding that money is just a tool and that you control your money, money should not control you.

Do you have financial discipline?

If you are asking this question, it may be a sign you need to evaluate your money situation. If you answer yes to all six questions you definitely are on the right track.

1. Do you pay your bills on time?
2. Do you have money in savings?
3. Are you saving for retirement?
4. Do you have an emergency fund?
5. Do you use sinking funds to help save up for larger items or holidays?
6. Do you live below your means and practice frugal living?

Answering yes to these questions is a sign you have **financial discipline.**

How to be disciplined with money?

#1. Education

Educating yourself on financial discipline is the key to overcoming obstacles and learning to be successful with your money.

#2. Habit

Start small with savings goals and continue to grow. Small habits turn into big habits and eventually are life-changing habits.

#3. Accountability

Hold yourself accountable. Write down your goals and check in every two weeks. Furthermore, you can also find an accountability partner that has similar financial goals.

3.9 Smart Tips to inculcate habit of financial discipline

1. Prepare a monthly spending budget and stick to it.
2. Invest with a goal. Goals give direction and help you in selecting right product.
3. Avoid loans for your desires. Better do a financial planning check before going in for a big purchase.
4. Invest monthly to become regularise in your savings and this will also help you maintain consistency.
5. Motivate yourself by visualising the goals and the end result for which you are working for.
6. Pamper yourself. Give yourself a party/vacation or whatever you feel like when you achieve your savings/spending target. But please make sure to do this provisioning in your monthly budget. After all your efforts should be properly rewarded.
7. Penalise yourself if you stop your investments before target date or spend more than what you have budgeted for. Your penalty can be not having any dine out in that particular month.
8. Be accountable to someone. Both spouses can keep a check on each other on the spending habits.
9. Take help of financial planner where ever you require. They can be a good source of support.
10. If your credit cards are bothering you and coming in the way of being disciplined get rid of them.
11. Take review of the situations after a set period.

Unfortunately we did not learn in school on how to be in *financial discipline*, thus you yourself has to find it out. There are a number of obstacles that stand in your way when it comes to financial discipline. Over time we haven't practiced the basics and unfortunately that has led many of us being in debt, unprepared for retirement, with little to no emergency fund. Many of us aren't even aware of what our debt really costs us. We don't really know what our debt looks like, or think about how it affects our future. The financial discipline will help you in managing your spending and saving and make your financial future bright.

Review Questions

1. Define saving? What are the benefits of saving?
2. What are the steps to be following for the management of spending?
3. Define financial discipline? How to be financial disciple with the money?
4. What are the smart tips to inculcate habit of financial discipline?

□□□

4

Time Value of Money

Learning Outcomes

After studying this chapter, students will be able to:

- know the definition and importance of the time value of money;
- know the formula for calculating present value and future value of money;
- solve a life question using the formula mentioned above.

4.1 Introduction

The time value of money is a basic financial concept that holds that money in the present is worth more than the same sum of money to be received in the future. This is true because money that you have right now can be invested and earn a return, thus creating a larger amount of money in the future. (Also, with future money, there is the additional risk that the money may never actually be received, for one reason or another.) The time value of money concept helps in arriving at the comparable value of the different points of time into equivalent values at particular points of time, present or future. There are two ways by which the cash flows arising at different points of time can be made comparable: first by compounding the present money to a future date, and second by discounting the future money receipts to present date. In financial decision-making, interest on funds plays a very crucial role. The TVM concept explains as to why the interest is paid on money borrowed.

The time value of money can work for you or against you. For example, if you are deciding between buying a new phone for ₹50000, or invest in a stock for example that yields 10% per year. If you buy the phone, you have just incurred an opportunity cost of 10%. In this chapter, we discussed about the time value of money techniques and its application in our life.

4.2 How the Time Value of Money Works

A simple example can be used to show the time value of money. Assume that someone offers to pay you one of two ways for some work you are doing for them: They will either pay you ₹1,000 now or ₹1,100 one year from now.

Which pay option should you take? It depends on what kind of investment return you can earn on the money at the present time. Since ₹1,100 is 110% of ₹1,000, then if you believe you can make more than a 10% return on the money by investing it over the next year, you should opt to take the ₹1,000 now. On the other hand, if you don't think you could earn more than 9% in the next year by investing the money, then you should take the future payment of ₹1,100 – as long as you trust the person to pay you then.

4.3 Reason for Time Value of Money

Suppose I offer you the choice of taking ₹1,00,000 from me today, or taking this same sum from me after a year. What decision will you make? If you chose to take the sum today, you've made the right choice. There are some reasons why taking up the first option is better

1. **Inflation:** Because of inflation, it's safe to consider that an amount of money can get us more services and goods than it can in the future. You have chosen the first option in the previous example because you understand that ₹1,00,000 can get you more things today than it will get you a year later.
2. **Risks Involved:** What if, in the previous example, you chose to receive the money a year later, but when you approach me then, I don't have any money to give to you?

   This could also happen to you if you lend money to someone, but they go bankrupt before they can repay you. This shows that there is a certain level of risk involved if you choose to get your money at a later date.
3. **Preference for current consumption:** In this example you choose the present consumption to future consumption. In general, people are always found to have preference for current consumption. They find it more satisfying to use money for their present needs of buying food, clothing, shelter, etc., rather than deferring them to the future. As a result, you prefer money in hand rather than that to be received in future.
4. **Investment opportunities:** If you receive the money today, you will invest that money to get higher values to be received tomorrow (or after a certain period of time) through return from investment, at least in the form of interest.

   With these four reasons, we can justify the existence of the concept of the time value of money.

4.4 Importance of Time Value of Money

The time value of money (TVM) is a useful tool in helping you understand the worth of money in relation to time. It is a formula often used by investors to better understand the value of money as it compares to its value in the future. Below we'll go over the in's and out's of the TVM and how you can use it to understand the effect time has on the value of your money.

The time value of money is important because it allows investors to make a more informed decision about what to do with their money. The TVM can help you understand which option may be best based on interest, inflation, risk and return. It can also be used to help you understand how much money to save in an account if you have a certain goal in mind, such as saving ₹2,00,000 in five years if the account earns 10 percent compound interest each year.

4.5 Components of Time Value of Money

The key components are as mentioned below:

1. **Interest/Discount Rate (i)** – It's the rate of discounting or compounding that we apply to an amount of money to calculate its present or future value.
2. **Time Periods (n)** – It refers to the whole number of time periods for which we want to calculate the present or future value of a sum. These time periods can be annually, semi-annually, quarterly, monthly, weekly etc.
3. **Present value (PV)** – The present value is known as the current value of a sum of money that we will receive in the future. The amount of money that we obtain by applying a discounting rate on the future value of any cash flow.
4. **Future value (FV)** – The future value is known as the future value of a sum of money that we invested today. The amount of money that we obtain by applying a compounding rate on the present value of any cash flow.
5. **Installments/Annuity (PMT)** – Installments represent payments to be paid periodically or received during each period. The value is positive when payments have been received and becomes negative when payments are made.

4.6 Techniques of Time Value of Money

Compounding

It is a process of computing the future value of an investment made today or series of investment made over a period of time. The process of investing money as well as reinvesting the interest earned thereon is called compounding. The future value or compounded value of an investment after n years when the interest rate is r percent is:

$$FV_n = PV\ (1 + r)^n$$

Where,

FV = Future value,

PV = Present value,

r = Interest rate,

n = Time

In this equation $(1+r)^n$ is called the future value interest factor or simply the future value factor. We can calculate the value directly or we can use the compounded value factor table to find out the values. This calculation is useful for investors and businesses who want to know the future value of their potential investments to make a good investment decision.

This formula requires only three things to give us a future value—

1. What amount of money do we have right now? (PV);
2. What is the assumed interest rate at which it will grow? (r); and
3. After how many years will we need the money? (n)

Example: If we are investing ₹1,00,000 now. What is the future value after 1 year, 10 year and 30 years if rate of interest is 10%?

Annual Compounding

Solution:

value

fut factor

$FV = PV \times CVF(r,n).$

$= 1,00,000 \times CVF(10\%,10)$

$= 1,00,000 \times 2.594$

$= 259400$

By using the future value formula:

$$FV = PV \times (1 + r)^n$$

1 year

$$FV = 1,00,000 \times (1+10/100)^1 = 100,000 \times (1.10) = ₹1,10,000$$

10 years

$$FV = 1,00,000 \times (1+0.10)^{10} = 100,000 \times (2.59) = ₹2,59,000$$

30 years

$$FV = 1,00,000 \times (1+0.10)^{30} = 100,000 \times (17.5) = ₹17,50,000$$

$= 1,00,000 \times CVF(r,n) = 1,00,000 \times CVF$

$1,00,000 \times \cancel{13.786}\ 17.449 = 1744,900$

See table A 1 to find out the value of $(1+r)^n$

So we can easily find out the future amount value if the interest rate and time period is known.

Example: Find out the future value if we are investing ₹6000 for 3 years at 9% per compounded annually.

Solution: (Single Cash Flow).

$$FV = PV \times (1 + r)^n$$
$$= 6,000\ (1 + 0.09)^3$$
$$= 6,000 \times 1.09^3 \quad \text{...(see table A1)}$$
$$= 6,000 \times 1.2903$$
$$= ₹7,770$$

(i) Non Annual Compounding

The effect of compounding if done more than once a year can be expressed by using the above formula.

$$FV = PV \times (1 + r/m)^{n \times m}$$

Where m is the number of times per year compounding is made

In semi annual compounding m = 2

In quarterly compounding m = 4

In monthly compounding m = 12

$FV = PV\left[1+\left(r/n\right)\right]^{nt}.$

r = ROI

n = no. of times the amt is compounding

t = time in yrs

Example: A deposited ₹100000 at the rate of 12% compounded interest for 3 years. What would be the amount at the time of maturity if the interest is quarterly, semi-annually and monthly?

years

Solution:

As the interest is semi-annually then m is 2

$$FV = 10{,}000 \times (1+12\%/2)^{3\times 2}$$
$$= 10{,}000 \times (1+6\%)^{6}$$
$$= 10{,}000 \times (1.06)^{6} \quad \text{...(see table A1)}$$
$$= 10{,}000 \times 1.419$$
$$= ₹14{,}190$$

$= 10{,}000\left(1+\frac{r}{n}\right)^{nt}$

$= 10{,}000\left(1+\frac{0.12}{2}\right)^{2\times 3}$

$= 10{,}000(1.06)^{6} = 10{,}000 \times 1.419$

$= 14190$

As the compounding is done quarterly m is 4

$$FV = PV \times (1 + r/m)^{n\times m}$$
$$FV = 10{,}000 \times (1+12\%/4)^{3\times 4}$$
$$= 10{,}000 \times (1+3\%)^{12} \quad \text{...(see table A1)}$$
$$= 10{,}000 \times 1.426$$
$$= ₹14{,}260$$

$FV = PV\left(1+\frac{r}{m}\right)^{nt}$

$= 10{,}000\left(1+\frac{0.12}{4}\right)^{4\times 3}$

If interest is monthly then m is 12

$$FV = 10{,}000 \times (1+12\%/12)^{3\times 12}$$
$$= 10{,}000 \times (1+1\%)^{36}$$
$$= 10{,}000 \times (1.01)^{36} \quad \text{...(see table A1)}$$
$$= 10{,}000 \times 1.4451$$
$$= ₹14{,}451$$

$= 10{,}000\left(1+\frac{r}{n}\right)^{nt}$

$= 10{,}000\left(1+\frac{0.12}{12}\right)^{12\times 3}$

So from this example we see that the invested amount compounded too has a huge impact on the future value. We can see that how increasing the compounding frequency in the above example make a difference to the earnings.

(ii) Effective Rate of Interest / Effective Annual Interest Rate (EAR)

Effective rate of interest is the interest rate that is actually earned or paid annually in case of non-annual compounding. It is calculated as:

$$E = \left(1-\frac{r}{m}\right)^{m} - 1$$

$EAR = (1 + i/n)^{n} - 1$

i = stated annual int. rate

n = no. of compounding pds.

Where,

E = Effective rate of interest

$\left(1-\frac{r}{m}\right)^{m}$ shows future value of ₹1 after one year.

Example: Mr A deposits ₹10,000 at 12% annual rate of interest compounded monthly. Calculate the effective rate of interest.

Solution:

$$E = \left(1+\frac{r}{m}\right)^{m} - 1$$

Where, i = 12%, m = 12

$$E = \left(1+\frac{12\%}{12}\right)^{12} - 1$$

$$= (1 + 0.01)^{12} - 1$$

$$= 1.1268 - 1$$

$$= 0.1268$$

$$= 12.68\%$$

So the effective rate of interest is 12.68%

The effective rate of interest and nominal rate of interest are same in annual compounding.

Unequal.

(iii) Future Value of a Series of Cash Flow

When different amount of cash flows occurs in various years for a series of years, the future values of unequal cash flow can be easily calculated on the basis of compounded interest.

Example: Mr A deposits at the end of each year ₹500, ₹1000, ₹1500, ₹1000 and ₹500 at 5%. Then using the compounding table, we can calculate the future value as follow:

End of Year	Annual Deposit	No. of Years Compounding	Compounded Factor	FV (₹)
1	500	4	1.216	608
2	1000	3	1.158	1,158
3	1500	2	1.103	1,654
4	1000	1	1.05	1,050
5	500	0	1	500
				₹4,970

(iv) Future Value of Annuity

Ordinary Annuity / Deferred
Annuity Due

An annuity is the stream of equal cash flows (payment or receipt) occurring at regular interval of time. The premium for the life insurance policy, for example, are an annuity. When the cash flow occurs at the end of each period, the annuity is called an ordinary annuity or a deferred annuity. When the cash flow occurs at the beginning of the years it is known as annuity due.

Example: Suppose you deposit ₹1,000 annually in a bank for 5 years and your deposits earn a 10% compounded annually. What will be the series of deposits at the end of 5 years. Assuming that each deposits occurs at the end of the year. The future value of the annuity will be:

$$FV = 1000(1+0.10)^4 + 1000(1+0.10)^3 + 1000(1+0.10)^2 + 1000(1+0.10)^1 + 1000$$
$$= 1000(1.464) + 1000(1.331) + 1000(1.21) + 1000(1.10) + 1000$$
$$= ₹6105$$

We will also use the compounded value annuity factor tables (A2 table) to calculate the value of future value.

$$FV = \text{Annuity} \times CVAF_{r,\,n}$$
$$CVAF = \text{compounded value annuity factor}$$
$$= 1{,}000 \times 6.105$$
$$= ₹6{,}105$$

Example: Suppose X deposits ₹2,000 every year from the end of the first year till the end of the fifth year and wants to know the FV at the end of the fifth year. Calculate the future value if the rate of interest is 5% compound annually.

$$FV = \text{Annuity} \times CVAF_{5\%,\,5y}$$
$$FV = 2{,}000 \times 5.526 \quad \text{...(table A2)}$$
$$= ₹11{,}052$$

(v) Future Value of an Annuity Due

When the cash flows occur at the beginning of each period, the value of such annuity is called annuity due and its future value (FV) can be calculated as under:

$$FV(\text{annuity due}) = \text{Annuity amount} \times CVAF_{r,\,n} \times (1+r)$$

Example: Mr X deposits ₹20000 at the beginning of each year in a bank which earns a compounded interest of 8% p.a. Find out how much amount he will get at the end of 5 years.

Solution:

$$FV\ (\text{annuity due}) = 20{,}000 \times CVAF_{r,n} \times (1+r)$$
$$= 20{,}000 \times 5.867 \times (1+0.08) \quad \text{...(See A2 table for 8\% interest and time 5 years)}$$
$$= ₹1{,}26{,}727$$

(vi) Power of Compounding

Mathematically speaking, compounding is defined as, 'the increase in the value of an investment, due to the interest earned on the principal, as well as the accumulated interest." Simply put, it is a strategy that makes your money work for you. It could be regarded as a powerful tool to grow your wealth. You can use the power of compounding to plan your future goals, such as retirement. Simple interest means you earn interest on your principal. But with compound interest, you earn interest on the principal amount as well as the accumulated interest amount over successive periods. Over time, this interest snowballs into a substantial amount.

Here's a hypothetical example to highlight the power of compounding. Ram and Shyam both invest ₹1,00,000 each in an investment avenue that offers an annual interest rate of 10% for 10 years. While Ram chooses compound interest, Shyam opts for simple interest. At the end of 10 years, Ram would make a total corpus of ₹2,59,374. On the other hand, Shyam would earn a corpus of ₹2,00,000. This is because in Shyam's case, the interest was calculated only on the initial principal amount of ₹50,000. But in Ram's case, the interest earned each year was included along with the principal to calculate the interest for the next year. This helped increase her earnings in a big way.

Ram opts for interest being calculated as compound interest while Shyam opts for interest being calculated as simple interest.

Particulars	Ram	Shyam
Principal invested	₹1,00,000	₹1,00,000
Rate of Interest	10%	10
Duration of Investment (In years)	10	10
Amount at maturity (in ₹)	₹2,59,374	₹2,00,000
Difference in Final value (in ₹)	₹59,374	

As seen from the table above, at the end of 10 years, Ram accumulates a corpus which is ₹59,374 higher than Shyam's corpus. Because of the power of compounding, the interest that Ram earned in the previous period was included in interest computation for the next period. In the case of Shyam, for every period, interest was calcluated on the initial principal only.

I remember one of the example from Shakutala Devi movie. One person ask a question from Shakuntal devi, if he is getting a salary of ₹1 first day and the amount will get doubled each day for 30 days. Then what will be his salary after 30 days. Here the principle of compounding will work. He will get a salary of ₹53,68,70,912 after 30 days.

Column 1	Column2
Day 1-₹1	Day 16-₹32,768
Day 2-₹2	Day 17-₹65,536
Day3- ₹4	Day 18-₹1,31,072
Day4-₹8	Day 19-₹5,24,288
Day 5- ₹16	Day 20-₹5,24,288
Day6-₹32	Day 21-₹10,48,576
Day 7-₹64	Day22-₹20,97,152
Day8-₹128	Day23-₹41,94,304
Day9-₹256	Day 24-₹83,88,652
Day 10-₹512	Day 25-₹16,77,216
Day 11-₹1,024	Day26-₹3,35,54,432
Day 12-₹2,048	Day27-₹6,71,08,864
Day13-₹4,096	Day 28-₹13,42,17,728
Day14-₹8,192	Day29-₹26,84,35,456
Day15-₹16,384	Day 30-₹53,68,70,912

So we can see the power of compounding here and how it works for us. Just think if you were to forgo a daily coffee, or soda, or other daily habit, and were able to save and invest just ₹3.00 per day. Look what it might grow into.

Cost of Daily Sanck Over Time – ₹3.00 per day

Years	Rate of Return		
	6%	8%	10%
1	₹1,128	₹1,140	₹1,151
10	₹15,002	₹16,772	₹18,811
20	₹45,336	₹54,095	₹69,938
30	₹92,140	₹1,37,153	₹2,08,896
45	₹2,53,245	₹4,87,053	₹9,74,130

One of the biggest benefits that investors can appreciate about the power of compounding is the value of time. With time, you could gain returns, and the yields on these returns could further generate returns; thus, helping to increase your investments quickly. The power of compounding works by growing your wealth exponentially. It adds the profit earned back to the principal amount and then reinvests the entire sum to accelerate the profit earning process. You don't need to be a financial expert to benefit from the power of compounding. Every investor can take advantage of this concept and put it to good use. So, start investing today to enjoy a great future.

4.7 Discounting

Calculating Present value.

It helps in determining the present value of a sum of money or a series of payments to be received in future. This process is in fact the reverse of compounding technique and is knowns as discounting techniques. In order to evaluate the present value of any amount, the same formula which was used for compounding purpose is used but in an inverse manner.

Present value of a single amount—

From compounding we know that $FV = PV \times (1+r)^n$

Thus, to find out $\boxed{PV = \dfrac{FV}{(1+r)^n}} = FV\left(\dfrac{1+1}{(1+r)^n}\right)$

Like compound interest tables, present value tables are also available for different discount rates and years (see table A3).

Example: MR. X is likely to receive ₹40,000 after 3 years. If the rate of interest is 10% p.a. compounded annually, what is its present value?

Solution:

$PV = FV \times PVF_{r,n}$ ...(PVF = Present Value Factor and its value is $1/(1+r)^n$, Table A3)

$= 40{,}000 \times PVF_{10\%, 3y}$

$$= 40{,}000 \times 0.751$$
$$= ₹30{,}040$$

So if Mr. X invested ₹30040 today it will become 40,000 after 3 year @10%.

Example: Find out the Present value of ₹10000 to be received after 4 years from a bank. The discount rate is 6%.

Solution:

$$PV = FV \times PVF_{6\%,4y}$$
$$= 10{,}000 \times 0.792 \quad \text{...(see table A3)}$$
$$= ₹7{,}920$$

(i) Present Value of a Series of Unequal Cash Flow

In financial analysis we often come across uneven cash flow streams. For example, the cash flow stream associated with a capital investment project is typically uneven. Likewise, the dividend stream associated with an equity shares is usually uneven and perhaps growing. In this case we will find out the present values of each individual payment as per Table A-3 and then adding these present values.

Example: A firm can invest ₹60000 in a project with a life of 5 years. The projected cash inflows are as follows:

Year	Cash Inflows (₹)
1	10,000
2	15,000
3	18,000
4	25,000
5	20,000

The cost of capital is 10%, Should the investment be made?

Solution:

Year	Cash Flows	Present value Factor @10%	Present value of Cash flows
1	10000	0.909	9,090
2	15000	0.826	12,390
3	18000	0.751	13,518
4	25000	0.683	17,075
5	20000	0.621	12,420
			₹64,493

(ii) Present Value of Infinite Life Annuity (Perpetuity)

An annuity that goes on for ever is called perpetuity. The present value of a perpetuity of cash flow is given by formula:

PV = Annual Cash flow/interest rate or discount rate

Example: X receives a dividend of ₹2,500 per year at the dividend rate of 10% on his irredeemable preference shares. Calculate the present value of perpetual preference share if the discount rate is 12%.

Solution:

Annual cash flow = ₹2,500

Interest rate = 12%

PV = 2,500/12%

= ₹20,833.33

(iii) Present Value of a Series of Equal Future Cash Flow or Annuity

In order to find out the series of equal cash flows, the PVs of different times are to be calculated and then added. Present value of equal flows may be calculated on the basis of Present value annuity Tables (Table A 4).

Example: MR. A is depositing ₹25000 annually for 5 years, in a Post office saving bank at an interest rate of 9% P.a. Find the Present Value of annuity.

Solution:

$$\begin{aligned} PV &= \text{Annuity amount} \times PVAF_{r,n} \\ &= 25{,}000 \times PVAF_{9\%,\,5y} \\ &= 25{,}000 \times 3.89 \\ &= ₹97{,}250 \end{aligned}$$

Example: A student is awarded a scholarship and two options are put before him: (i) to receive ₹11000 now or (ii) to receive ₹1000 Per month at the end of the next 1 months. Which options should be chosen if the rate of interest is 12% p.a.?

Option-1: Since ₹11000 is receivable now it is already expressed in present values and hence needs no adjustment.

Option-2: Since the rate of interest is 12% p.a. and the annuity consists of 12 periods, the rate of interest per period may be expressed as 1%. On the basis of table A-4, the present value may be calculated as follow:

$$\begin{aligned} PV &= \text{Annuity amount} \times PVAF_{r,n} \\ &= 1{,}000 \times PVAF_{1\%,12y} \\ &= 1{,}000 \times 11.255 \\ &= 11{,}255 \end{aligned}$$

Since, the Present value in option 2 is higher than the present value in option 1, the student should choose option 2.

(iv) Present Value of an Annuity Due or Annuity Due at the Beginning of Each Year

Example: Mr A has to receive ₹20,000 at the beginning of each year for 5 years. Calculate the present value of the annuity due assuming 10% p.a. interest.

Solution:

$$\begin{aligned} PV &= \text{Annuity amount} \times PVAF_{r,n} \times (1+r) \\ &= 20{,}000 \times 3.791 \times 1.10 \\ &= ₹83{,}402 \end{aligned}$$

4.8 Some Application of Time Value Techniques

1. Determination of Interest Rates/Growth Rate

Sometimes various schemes are offered by the finance companies under which a person is required to deposit a specific sum in the beginning of a period and then return is available to him in form of annuity for certain number of years. The investor would like to calculate the rate of interest available to him in case of such scheme for which the following formula can be used:

$$PV = \text{Annuity} \times PVAF_{r,n}$$

Example: A finance company offer a scheme in which, ₹20,000 is deposit or invested today and against this the investor is being offered annuity of ₹5,000 for next five years. Find out the rate of interest offered to investor?

Solution:

$$\begin{aligned} PV &= \text{Annuity} \times PVAF_{r,n} \\ 20{,}000 &= 5{,}000 \times PVAF_{r,5y} \\ PVAF_{r,5y} &= 20{,}000/5{,}000 = 4 \end{aligned}$$

Using table A 4, Look for the interest corresponding to value '4' against 5^{th} year. The interest rate is 8% as corresponding to 5^{th} year for 8%, the value is 3.99 i.e. closest to 4.

2. Determination of Growth Rates

The time value of technique can also be used to find out the growth rates in revenues, costs or profits of a business firm. The compounded growth rate can be calculated as follow:

$$FV = PV\,(1+G)^n \text{ and } G = (FV/PV)^{1/n} - 1$$

Where, G is the growth rate.

Example: Profit of a firm has grown from ₹10 crores to ₹100 crores in 10 years time. Find the compounded rate of growth company has maintained in profit during this Period. Assume the profit has grown evenly throughout this period.

Solution:

We Know, $FV = PV\,(1+G)^n$

$$100 = 10\ (1+G)^{10}$$
$$(1+G)^{10} = 100/10 = 10$$

The LHS is the compounded interest factor for G rate of interest for 10 years. From table A1, it is seen that the factor 10 in the 10 years row exists in the 26% rate of interest column. Thus, growth rate of company is 26%

3. Determination of Number of Years

Time value of money concept can be used to find out the number of periods needed to grow a certain present amount to a specified future value at a given rate of interest. Sometimes an investor may be interested to know in how many years his money will be doubled or tripled or will grow to a certain amount for a given rate of interest. The compound interest tables can provide quick answer in such cases.

Example: An investor who is depositing ₹1,00,000 in a bank wants to know how many years are required to double his money at 10% rate of interest?

Solution: Using the compound interest formula:

$$FV = PV\ (1+r)^n$$
$$200000 = 1{,}00{,}000\ (1 + 0.10)^n$$
$$(1 + 0.10)^n = 2{,}00{,}000/1{,}00{,}000 = 2$$

Now using the compound interest table for a single sum (table A1), we find a compound interest factor of 1.949 appear in the 7 year rows of 10% interest rate column.

So in approximate 7 years, the investor money will be doubled.

4. Calculation of Deferred Payments

Deferred Payments means the Payments that are started after a certain number of years. In many cases we find a borrower taking a loan who is not interested in starting the repayment immediately after a year. In such cases, the interest on loan would get accumulated for those initial years for which the payment is deferred. As a result, the repayment instalment will be calculated for a sum obtained after combining the loan and the accumulated interest amount. Both technique of compounding and discounting are required to be used to calculate the repayment instalment amount.

Example: A company borrowed a loan of ₹4,00,000 at the rate of 10% and the repayment will be made in five equal instalment starting from the end of the fourth year. Calculate the annual repayment instalment.

Solution: As the repayment will start at the end of the fourth year. So let us calculate the amount of loan and interest at that time (4 year).

$$FV = PV\ (1+r)^n$$
$$= 4{,}00{,}000(1+10\%)^4$$

Seeing table A1 (compound interest factor for a single sum)

$$FV = 4{,}00{,}000 \times 1.464$$
$$= 5{,}85{,}600$$

Hence the amount repayable at the end of the fourth year is ₹5,86,000. It is to be paid in five equal instalments. Thus, we have to calculate that annuity which has a present value equal to ₹5,85,600 when paid for a 5 years at 10% rate of interest in 4 years.

$$\text{PV} = \text{Annuity amount} \times \text{PVAF}_{r,n}$$

$$5{,}85{,}600 = \text{Annuity amount} \times \text{PVAF}_{10\%,\ 5y}$$

$$\text{Annuity amount} = 5{,}85{,}600/3.791$$

$$= ₹1{,}54{,}471$$

5. Sinking Fund Problems

Some times a financial manager is faced with the decision to collect a specified sum on periodical basis at a specified rate to reach at a prescribed target amount. Or in normal life we also face with similar situation. For example, if you have a target to go to Europe trip after 5 year and for this you need ₹10 lakh amount. Now the question arise that if a compound rate of 10% is available then what amount shall be allocated or provisioned every year so that at the end of 5 year, you would have ₹10 lakh available with you. This can be worked out using the formula given below:

$$\text{Future value} = \text{Annuity amount} \times \text{CVAF}_{r,\ n}$$

$$\text{Annuity amount} = \text{Future value}/\text{CVAF}_{r,n}$$

In this case *r* and *n* represent the interst rate and time period.

In this example:

$$\text{Annuity amount} = 10{,}00{,}000/\text{CVAF}10\%,\ _{5y}$$

$$= 10{,}00{,}000/6.105$$

...(see Table A2)

$$= ₹1{,}63{,}800$$

So we have to deposit ₹163800 to make it ₹10,00,000 after 5 years.

6. Amortization of Loan or Capital Recovery

When we takes home loan, car loan or any other type of loan from any bank, it may be required to pay the same in form of specified periodical instalments. In order to determine the amount of instalment of the loan, we can use the under mentioned formula provided the rate of lending is given to us.

Example: Sanjana borrow Loan of ₹5,00,000, which is to be repaid in form of five equal instalment's Now if the compounding rate is 12%, the amount of such instalment would be given as:

$$\text{PV} = \text{Annuity} \times \text{PVAf}_{(r,\ n)}$$

$$\text{Annuity} = \frac{\text{PV}}{\text{PVAF}_{(12\%,\ 5y)}}$$

$$\text{PV} = 5{,}00{,}000$$

$$\text{PVAf}_{(12\%,\ 5y)} = 3.605$$

...(see Table A4)

$$= \frac{5,00,000}{3.605}$$

$$= ₹1,38,696.25$$

7. Rule of 72

In finance the rule of 72 is a formula that estimates the amount of time it takes for an investment to double in value, earning a fixed annual rate of return. The rule is a shortcut, calculation to determine the amount of time for an investment to double in value. The simple calculation is dividing 72 by the annual interest rate. It depend upon the rate of interest.

If Rate of interest is 8% the time required to double the amount is

$$\frac{72}{8} = 9 \text{ years}$$

It will take approximately 9 years to double the amount.

Practical Problems

Q1. Nidhi want to go on a world tour after 10 years. The tour is expected to cost him ₹7,00,000. How much should she save annually (per year) to have a sum of ₹7,00,000 after 10 years if rate of interest is:

(i) 10% p.a.

(ii) 12% p.a.

Solution:

(i) Rate of Interest is 10%

Future value = ₹7,00,000

Future value = Annuity × $CVAF_{r,\,n}$

7,00,000 = Annuity × $CVAF_{10\%,\,10y}$ ...(see table A2)

Annuity = 7,00,000/15.937

Annuity amount = ₹43,923.

(ii) Rate of Interest is 12%

Future value = Annuity × $CVAF_{12\%,10y}$

Annuity = Future value/$CVAF_{12\%,10y}$ ...(see table A2)

Annuity = 7,00,000/17.549

Annuity = ₹39,888

Q2. Mr. A is likely to deposit ₹6000 today in bank offering 8% compounded interest p.a. Find its value at the end of 6, 9 and 10 years.

Solution:

Present Value = ₹6,000

Compounded Rate of Interest = 8%

$$\text{Future Value} = \text{Present Value} \times CVF_{8\%, t}$$

Deposit made for years	Amounts	CVF@8%	Amount at the end
6	6000	1.587	9522
9	6000	1.999	11994
10	6000	2.159	12954

Q3. Srishti is due to receive ₹500 each year for next seven years. Find the Present Value of the amount received if the required rate of return is 12%.

Solution:

Annuity = ₹500

Time = 7 years

Compounded Rate of interest = 12%

$$\text{Present Value} = \text{Annuity} \times PVAF_{12\%, 7y}$$

$$\text{Present Value} = 500 \times 4.564$$

$$= ₹2{,}282$$

Q4. Mr. Sharma is planning to retire this year. He is given two choices. His company can either pay him a lump sum of ₹400000 or ₹6000 life time annuity. Mr. Sharma is in good health and expects to live for atleast 20 more years. If he has opportunity to earn interest at the rate of 12% p.a., which alternative should be choose? Would his decision change, if he has opportunity to earn interest rate of 14% p.a.

Solution:

Present value = ₹4,00,000

Annuity amount = ₹6,000

Period of annuity = 20 years

(i) If he has opportunity to earn interest rate of 12%

$$\text{Present value of annuity} = 6{,}000 \times PVAF_{12\%, 20y}$$

$$= 6{,}000 \times 7.469 \quad \text{...(Using table A4)}$$

$$= ₹4{,}48{,}140$$

(ii) If he has opportunity to earn interest rate of 14%.

$$\text{Present value of annuity} = 6{,}000 \times PVAF_{14\%, 20y}$$

$$= 6{,}000 \times 6.623 \quad \text{...(Using table A4)}$$

$$= ₹3{,}87{,}380$$

Mr. Sharma should choose annuity payment of ₹6000, if he has opportunity to earn rate of return of 12%. However, he shall opt for lump sum payment if he has opportunity to earn return of 14% p.a.

Q5. What is the present value of ₹10,00,000 receivable 50 years from now, if the discount rate is 10%.

Solution:

$$\text{Present value} = \text{Future value} \times PVF_{10\%,\,50y}$$

$$= 10,00,000 \times 0.0085 \qquad \text{...(see table A3)}$$

$$= ₹8,500$$

Q6. Mahesh deposits ₹200,000 in a bank account which pays 10% interest. How much can be withdraw annually for a period of 15 years?

Solution:

Present value = ₹2,00,000

Rate of interest = 10%

The annual withdrawal is equal to

$$\text{Annuity amount} = \text{Present value}/PVAF_{10\%,\,15y}$$

$$= 2,00,000/7.606$$

$$\text{Annuity amount} = ₹26,295$$

Q7. Shyam Borrows ₹80000 for a musical system at a monthly interest of 1 percent. The loan is to be repaid in 12 equal monthly instalments, payable at the end of each month? What is the monthly instalment?

Solution:

Present Value = ₹80,000

Rate of interest = 1% per month

Time = 12 month

$$\text{Present Value} = \text{Annuity} \times PVAF_{1\%,\,12m}$$

$$\text{Annuity} = 80,000/11.2551$$

$$\text{Annuity} = ₹7,108$$

Q8. If you invest ₹5000 today at a compounded interest of 9 percent, What will be its future value after 75 years?

Solution:

Present Value = ₹5,000

Rate of Interest = 9%

Time = 75 years

$$\text{Future Value} = \text{Present Value} \times CVF_{9\%,\,75}$$

Since the CVF table has value of 50 years, the future value expression may be stated as:

$$\text{Future Value} = 5,000 \times (1+.09)^{50}\,(1+.09)^{25} \qquad \text{...(see table A1)}$$

$$= 5,000 \times 74.3575 \times 8.6231$$

$$= ₹32,05,960$$

Q9. If a firm's earnings increases from ₹3.00 per share to ₹4.02 per share over a period of 6 years, what is the rate of growth of earnings?

Solution:

$$\text{Present value} = 3$$
$$\text{Future value} = 4.02$$
$$\text{Time} = 6 \text{ years}$$
$$\text{Rate of growth} = ?$$
$$\text{Future value} = \text{Present value } (1+g)^6$$
$$(1+g)^6 = 4.02/2 = 1.34$$

Now seeing the factor 1.34 in the sixth year row in compound value table (table A1), the CVF at 5% is 1.34. Thus, the growth rate of earnings is 5 per cent.

Q10. Mr. Reet Lal wants to buy a house that is currently available in the market at ₹8,50,000, but He cannot afford it right now. However, He thinks that He would be able to buy it after 2 years. If the expected inflation rate as applied to the price of this house is 6% per year, what is its expected price after two years?

Solution:

$$\text{Present value of house} = ₹8{,}50{,}000$$
$$\text{Rate of interest} = 6\%$$
$$\text{Time} = 2 \text{ years}$$
$$FV = ?$$
$$FV = PV \times CVF_{6\%, 2}$$
$$= 8{,}50{,}000 \times 1.124$$
$$= ₹9{,}55{,}400.$$

So the expected price after 2 years will be ₹9,55,400.

Q11. Mr. Amar Singh deposits ₹10,000 for a period of two years at 8% per annum interest compounded quarterly. How much money will be with Mr. Amar Singh after two years?

Solution: In this case interest is compounded quarterly, so interest rate, r, will be divided by 4, and time period will be multiply by 4. Therefore, n, will be 2 years times 4 = 8 periods.

$$\text{Present Value} = ₹10000$$
$$R = \frac{8}{4} = 2\%$$
$$\text{Time} = 2 \times 4 = 8$$

The Future Value will be calculated as below:

$$FV = PV \times CVF_{r\%, n}$$

By referring table, A-1, (Given in the appendix) the combination of 2% interest rate with 8 periods is 1.172.

$$FV = PV \times CVF_{(r,n)}$$

or $$FV = 10{,}000 \times CVF_{(0.02,\,8)}$$

Therefore, $$FV = ₹11{,}720$$

Q12. A five-year annuity of ₹60,000 per year is deposited in a bank that is paying 9% p.a. interest compounded annually. Find out the total amount available to the depositor of this amount at the end of five-year period.

Solution: The FV of an annuity may be calculated by using the following equation:

$$FV = \text{Amount of Annuity} \times CVAF_{(r,n)}$$

$$R = 9\%$$

$$N = 5 \text{ years}$$

$$CVAF_{(9\%,\,5)} = 5.985$$ ...(referring Table A-2)

Therefore, $$FV = 60{,}000 \times 5.985 = ₹3{,}41{,}100.$$

Q13. Mr. Ajit deposited ₹20,000 in bank offering an interest rate of 10% p.a. compounded annually. Mr. Ajit wants ₹43,000 back in return. For how long will the money be deposited in the bank to give the desired amount to Mr. Ajit?

Solution: We has been asked to find out the time period in which the amount of ₹20,000 will accumulate to ₹43,000 at 10% p.a compounded annually.

$$FV = ₹43{,}000$$

$$PV = ₹20{,}000$$

$$\text{Rate of Interest} = 10\%$$

$$FV = PV \times CVF_{10\%,\,y}$$

Let's put the values in the above equation as given in the problem.

$$43{,}000 = 20{,}000 \times CVF_{10\%,\,y}$$

$$CVF_{10\%,\,y} = \frac{43{,}000}{20{,}000} = 2.15$$

We found the value 2.15 in the 10% row by using the table A-1, The value closest to 2.15 is found in 8 year. Therefore, Mr. Ajit will get back ₹43,000 back in 8 years' time period.

Q14. Mr. Shantanu took a personal loan of ₹3,00,000 at 12% p.a. The loan is to be repaid in five equal annual instalments starting from the end of the first year. Calculate the amount of each equal annual instalment.

Solution:

$$PV = A \times PVFA_{(r\,,\,n)}$$

$$3{,}00{,}000 = A \times PVFA_{\,12\%,\,5}$$ ...(see Table-A4)

$$A = \frac{3{,}00{,}000}{3.605} = 83{,}217.75$$

So, the annual instalment will be of ₹83,217.75

Q15. Mr. Ashok is likely to get ₹2,000 after 3 years. What is its value as on date i.e, its present value if the time preference rate is 10%?

Solution:

$$PV = FV \times PVF_{(r,n)}$$
$$PV = 2{,}000 \times PVF_{10\%,\,3}$$
$$= 2{,}000 \times (0.751)$$
$$= ₹1{,}502.63$$

Q16. Mr. Hari is depositing ₹25,000 annually for 5 years, in a post office saving scheme at an interest rate of 9% p.a. Find the PV of annuity.

Solution:

$$\text{PV of an annuity} = 25{,}000 \times PVFA_{(9\%,\,5)}$$
$$= 25{,}000 \times 3.89$$
$$= ₹97{,}250$$

So the present value of annuity is ₹97,250.

Practical Exercise

(i) Student will use the interest rate calculator to find out the amount of interest paid on loan as well as comparing the different interest rates. The interest rate calculator is given on different website such as:

- https://cleartax.in/s/simple-compound-interest-calculator
- https://groww.in/calculators/interest-rate-calculator
- https://www.bajajfinserv.in/interest-calculator

Example:

Simple Interest Calculator

Interest type

Principal Amount (₹) Optional

Annual rate Optional

Period Unit

Period Optional

Interest Earned ₹ ……..

Principal Amount ₹ ……..

Total Value ₹ ………

This is a simple interest rate and compounded interest rate calculator given in cleartax.in. The student are required to insert the interest type whether simple/compound interest, principal amount, rate of interest, period whether monthly, quarterly or annually in the calculator. They will get the final amount. As we have to take the loan for different purpose this type of calculator will help us in comparing the interest rate or find out the amount of annual instalment.

(ii) Student are required to calculate the Time value of money question on Excel worksheet. The different formula given in the excel for calculating the future value, present value, annuity, interest rate and time period will be given to them for the practical exercise.

Lab Practical : Calculations in Finance with Excel

Microsoft excel is a valuable tool in the hands of students, managers, investors and analysts which is making large calculations involved in financial decision making. Excel has variety of finance functions that can be used to calculate a variety of financial calculations. In the excel software there are many built in finance function available. Excel helps in working on huge data sets, large financial models, detailed financial data analysis and that too easily and quickly.

Finance Function

Future Value (FV) – FV(RATE, NPER, PMT, [PV], [TYPE])

Present Value (PV) = PV (RATE, NPER, PMT, [FV], [TYPE])

Payment (PMT) = PMT (RATE, NPER, PV, [FV], [TYPE])

No of periods (NPER) = NPER(RATE, PMT, PV, [FV], [TYPE])

Rate/ Discount rate/Interest rate= RATE(NPER, PMT, PV, [FV], Type guess)

Effective rate = EFFECT (nominal rate, npery)

Nominal Rate = Nominal (Effect rate, npery)

RATE = Rate of Interest

NPER = NO of periods for an investment based on interest rate

PMT = Used in case of annuity payment to be made and a constant rate of interest

PV = Present value of the investment

TYPE: 0 = Payment made at the end of the period

TYPE: 1 = Payment made at the beginning of the period

Npery = the number of compounding per period

Guess= the rough estimate for interest rate

Effective rate or EFFECT = the effective annual interest rate when number of compounding is not per year.

Nominal rate or NOMINAL = The annual nominal interest rate,

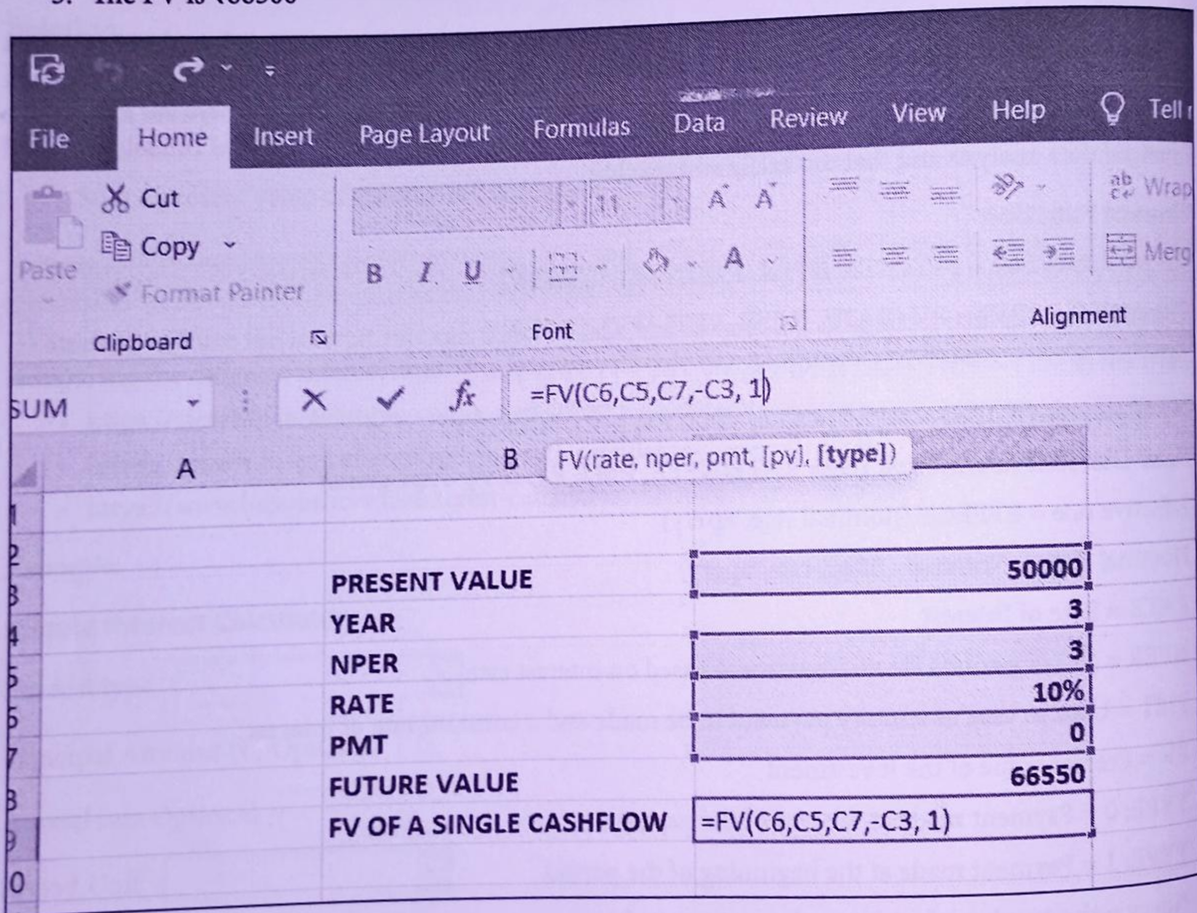
Note: The double brackets in the PV and Type [ ] mean this value is optional.

To get a positive value, we always put a negative sign in front of [FV]/[PV] in the function. As we have to treat one as cash inflow and other as cash outflow.

Ex-1. Mr. A invested a sum of ₹50000 at the beginning of the year at the rate of 10% compounded annually. What is the amount that he will get after the end of 3 years?

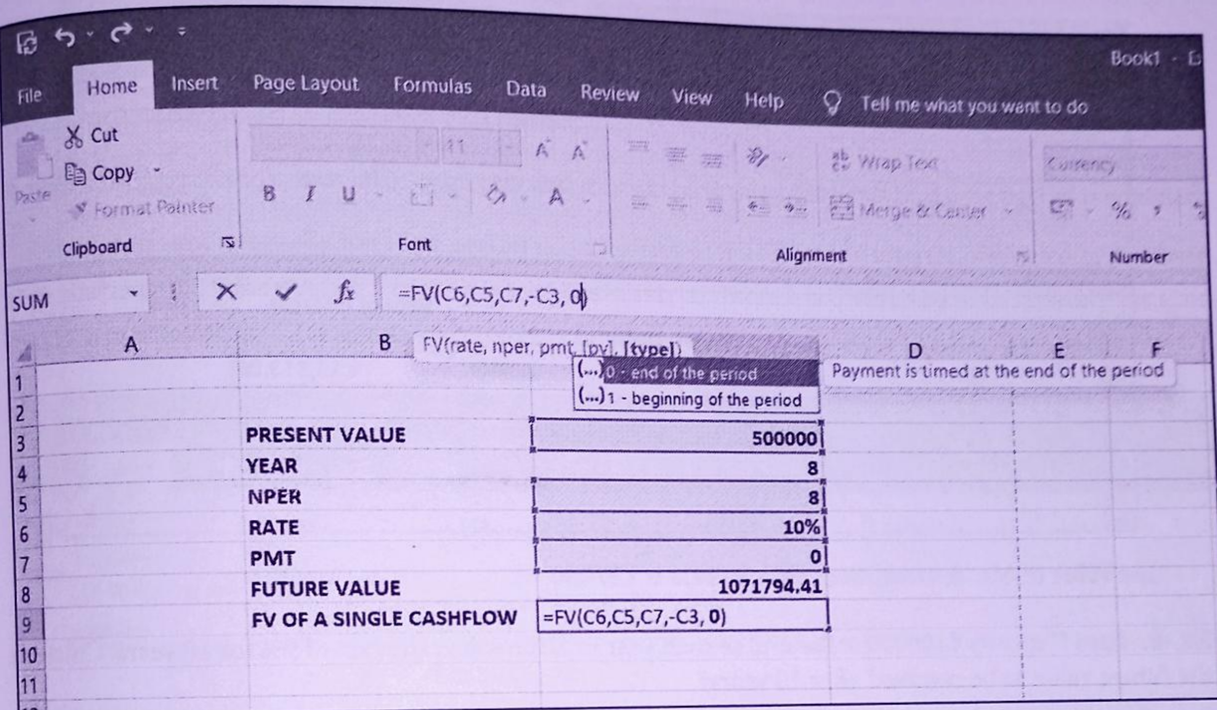
Solution: Steps:

1. Prepare the excel sheet by entering the given information in the excel sheet in Colum B and C.
2. To find out the future value of this investment, enter the built in FV function in Excel sheet in cell C11.
3. The FV is ₹66500



Ex-2. Ajay invests ₹500000 for 8 years at the rate of 10%. Calculate the future value to be received at the end of 8 years.

Solution: Ajay will receive ₹10,71,794.41



Note: Future value of a simple sum does not require PMT

When type is not mentioned, the formula assumes it as 0.

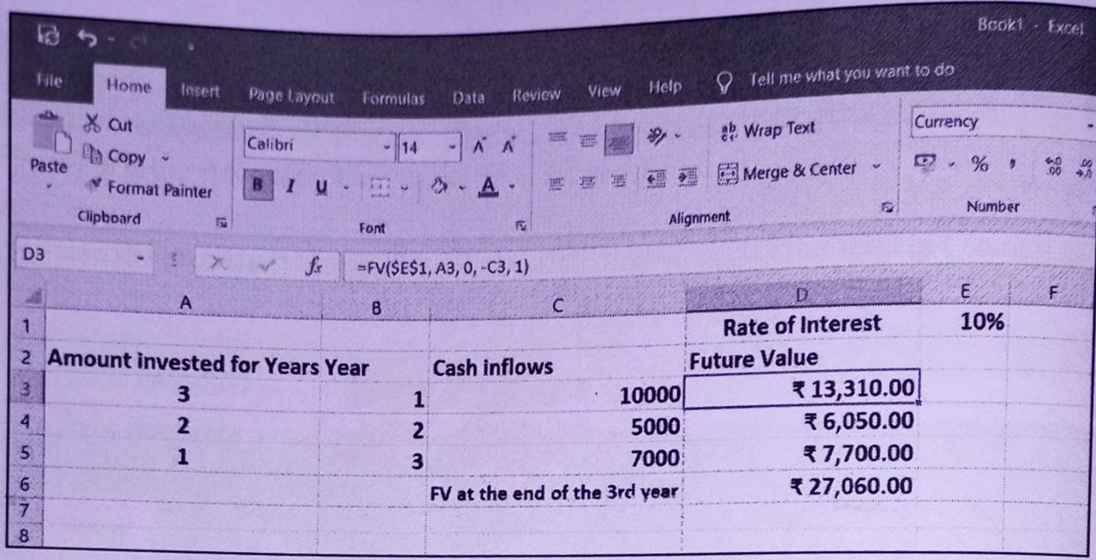
Ex-3. Calculate FV if MR A invested ₹10000, ₹5000, and ₹7000 at the starting of 1st, 2nd and 3rd year. Calculate the compounded value of his investment at the end of 3rd year when interest is provided at the rate of 15% compounded annually.

Solution:

(i) Enter the given information in excel sheet: in column B and C and the rate of interest in cell E1.

(ii) Find out the future value of each of the cash inflows by using the built in FV function in excel sheet corresponding to each of the cash inflows in column D.

Note: IF the same value from a cell is used again and again in the formula (such as rate of interest), freeze the value by pressing F4 (which will give a dollar sign to the cell as \$E\$1) and then use the dragging down utility in the excel.



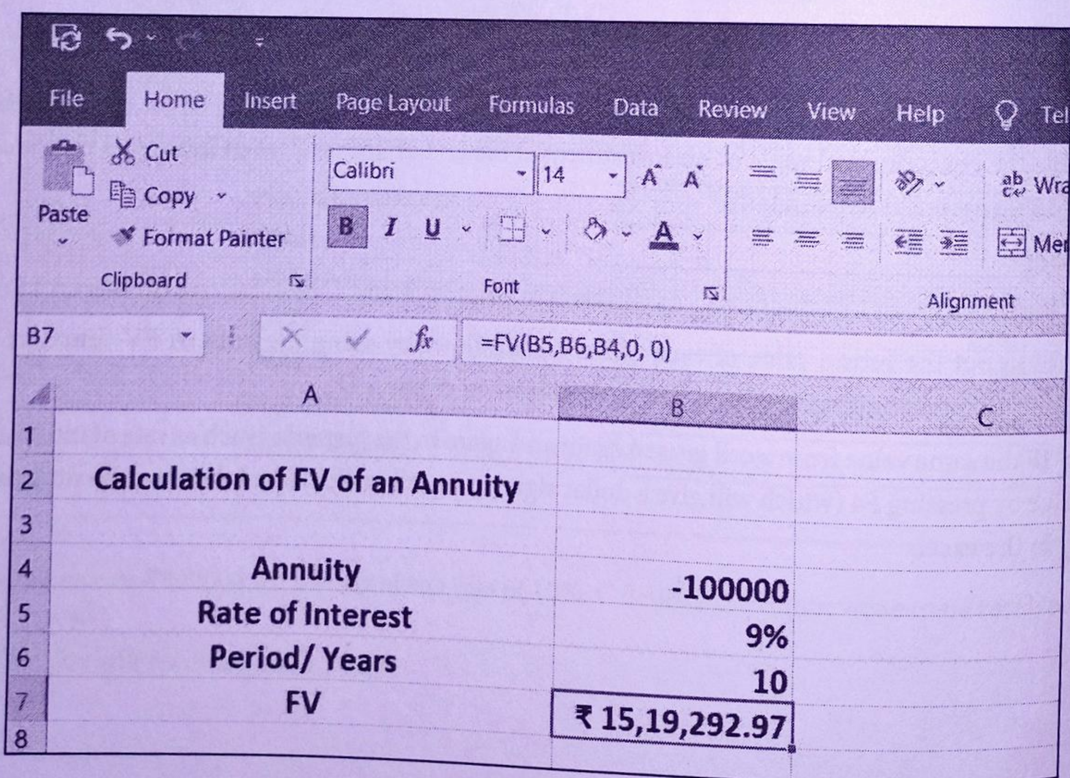
D3 f_x =FV(E1, A3, 0, -C3, 1)

	A	B	C	D	E	F
1				Rate of Interest	10%	
2	Amount invested for Years Year		Cash inflows	Future Value		
3	3	1	10000	₹ 13,310.00		
4	2	2	5000	₹ 6,050.00		
5	1	3	7000	₹ 7,700.00		
6			FV at the end of the 3rd year	₹ 27,060.00		
7						
8						

The value of Mr. A investment after 3 years is ₹27060.

Ex.-4. Bani Deposits ₹100000 at the end of each year in SBI bank at the rate of 9% for 10 years. Calculate the future value to be received after 10 years?

Solution: ₹100000 is the annuity amount given to be deposited every year, the future value is calculated by:



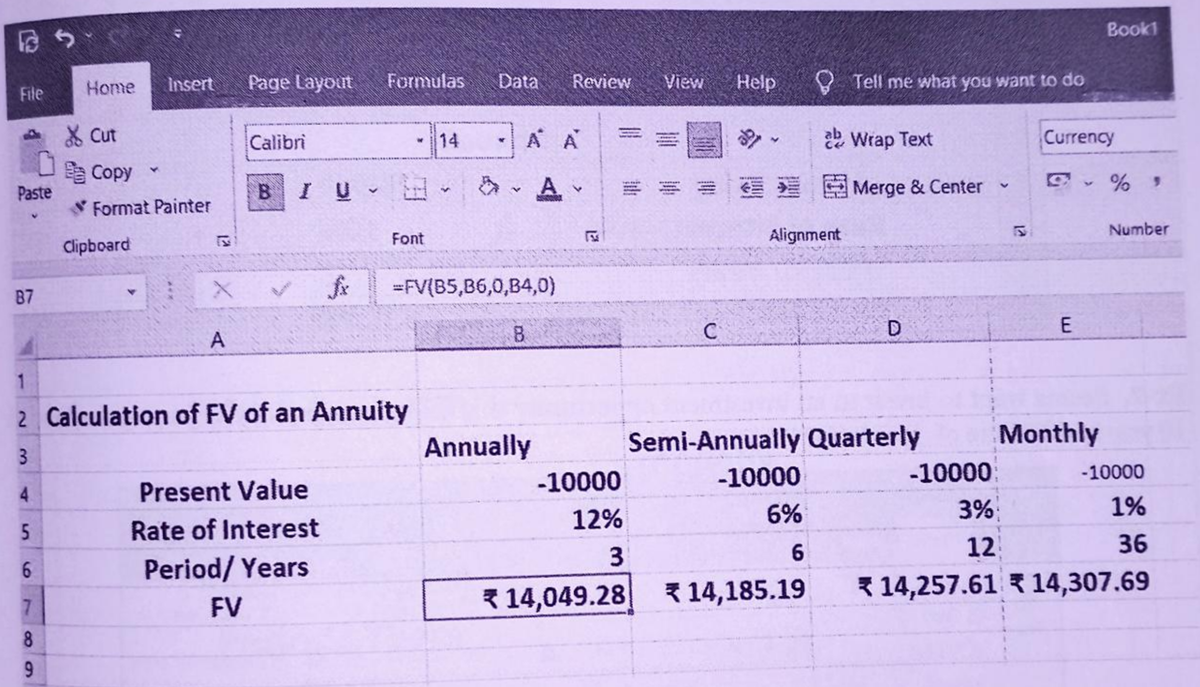
B7 f_x =FV(B5,B6,B4,0, 0)

	A	B	C
1			
2	Calculation of FV of an Annuity		
3			
4	Annuity	-100000	
5	Rate of Interest	9%	
6	Period/ Years	10	
7	FV	₹ 15,19,292.97	
8			

Ex-5. Darsh has invested ₹10000 now for 3 years at the interest rate of 12% per annum compounded annually. Find the amount he will get after 3 years. Also calculate the future value if compounding is done (i) quarterly, (ii) semi-annually, (iii) Monthly.

Solution: In case of semi-annually, quarterly and monthly the rate of interest and time period is adjusted.

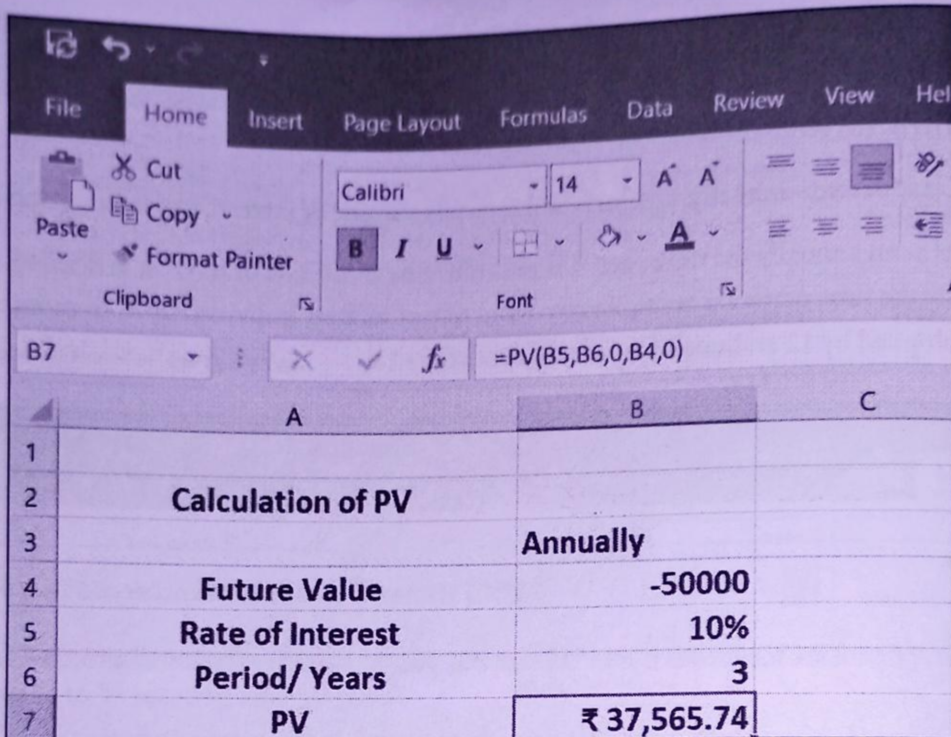
In case of semi annually the time period is multiplied by 2 and rate of interest is divided by 2, where as in quarterly the time period is multiplied by 4 and rate of interest is divided by 4. In monthly the time period is multiplied by 12 and rate of interest is divided by 12.


B7 =FV(B5,B6,0,B4,0)

	A	B	C	D	E
1					
2	Calculation of FV of an Annuity				
3		Annually	Semi-Annually	Quarterly	Monthly
4	Present Value	-10000	-10000	-10000	-10000
5	Rate of Interest	12%	6%	3%	1%
6	Period/ Years	3	6	12	36
7	FV	₹ 14,049.28	₹ 14,185.19	₹ 14,257.61	₹ 14,307.69
8					
9					

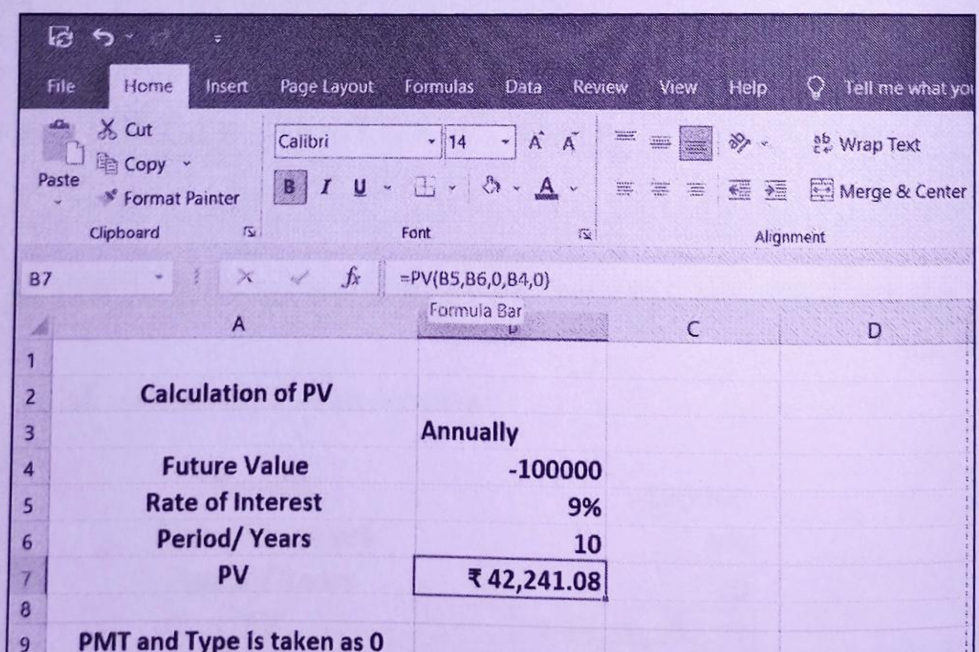
Ex-6. MR. Suresh is supposed to get ₹50,000 after 3 years at 10% rate of interest. Find out the present value of this sum.

Solution:



	A	B	C
1			
2	**Calculation of PV**		
3		**Annually**	
4	**Future Value**	**-50000**	
5	**Rate of Interest**	**10%**	
6	**Period/ Years**	**3**	
7	**PV**	**₹ 37,565.74**	

Ex-7. Seema want to invest in an investment opportunity that will give her ₹100000 on maturity after 10 years with a rate of return of 9%.

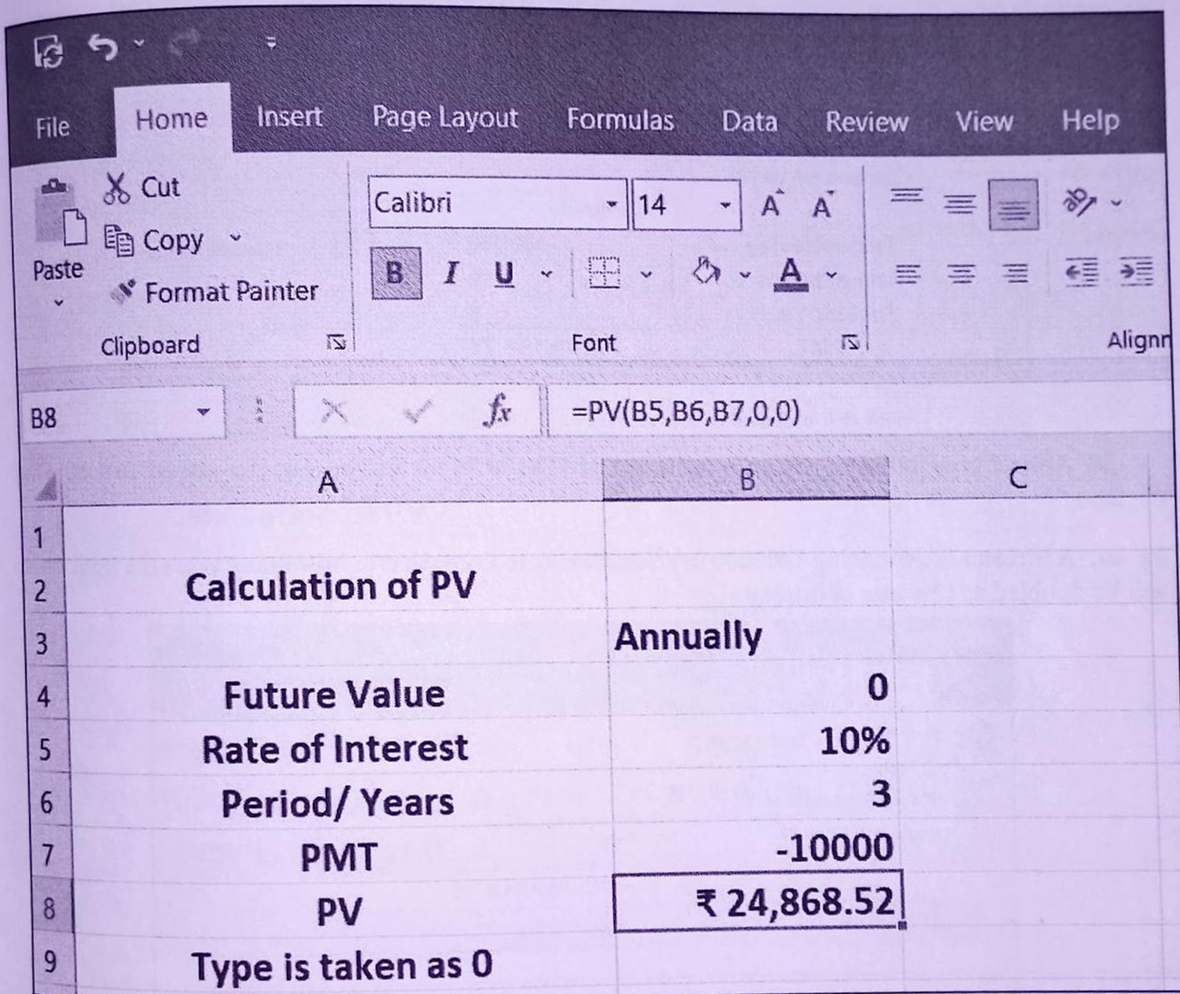


	A	B	C	D
1				
2	**Calculation of PV**			
3		**Annually**		
4	**Future Value**	**-100000**		
5	**Rate of Interest**	**9%**		
6	**Period/ Years**	**10**		
7	**PV**	**₹ 42,241.08**		
8				
9	**PMT and Type is taken as 0**			

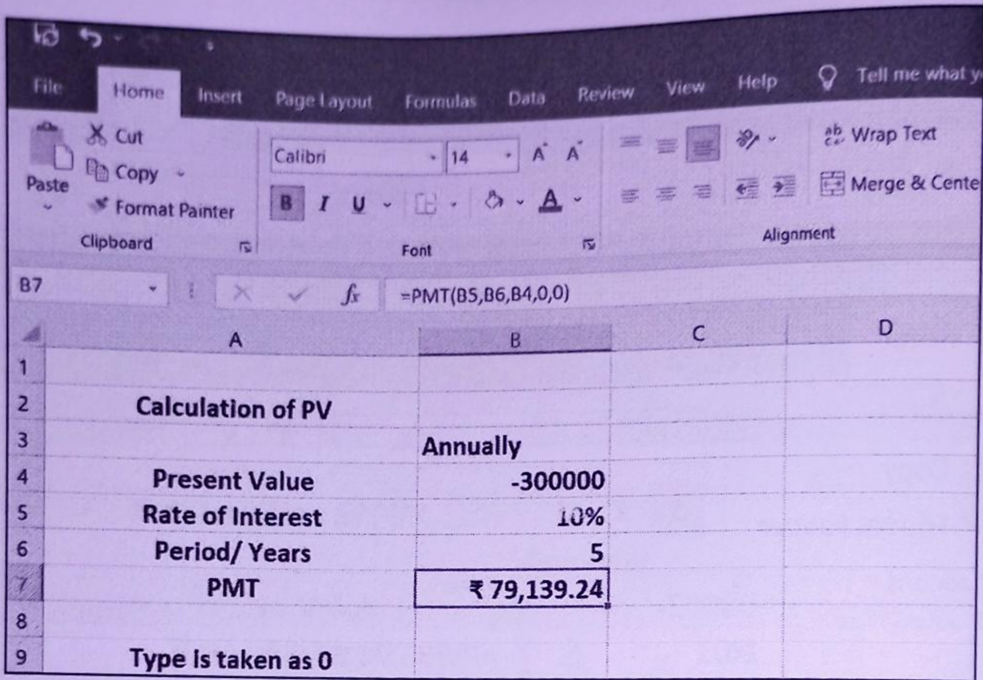
Seema is required to invest ₹42241.08

Ex-8. Mr. Shiv wishes to calculate the present value of the annuity consisting of a cash inflow of ₹10000 per years for 3 years. The rate of interest he can ear is 10%.

Solution:

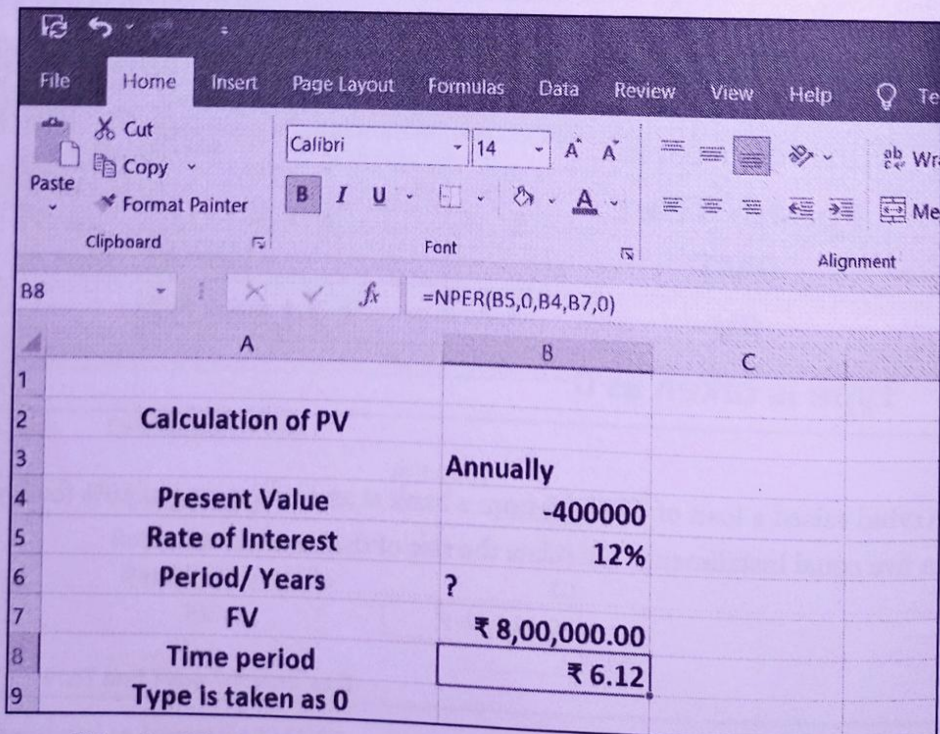


Ex-9. MR. Arvind raised a loan of ₹300000 from a bank at an interest rate of 10% for 5 years. The loan is to repaid in five equal installments. Calculate the size of the instalment.



Mr Arvind is required to pay an installment of ₹79139.24 for five year at the rate of 10% to repay the loan.

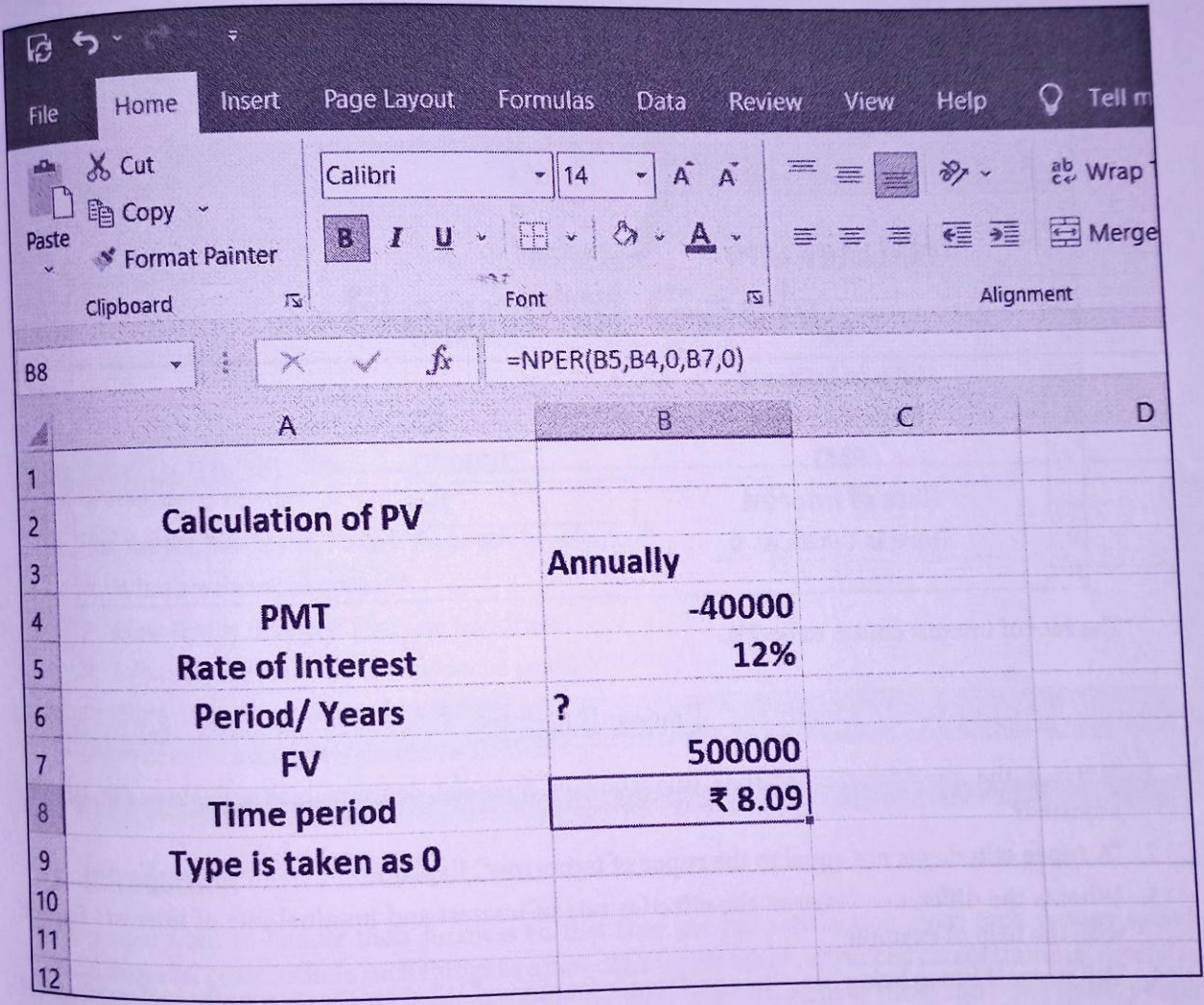
Ex-10. A investor is depositing ₹400000 in a bank wants to know that in how many years the investment will be doubled at 12% rate of interest.



The amount will be doubled approximately in 6 years from now.

Ex-11. Sonal want to invests ₹40000 each year end at the rate of 12%. In how many years it will become ₹500000.

Solution:

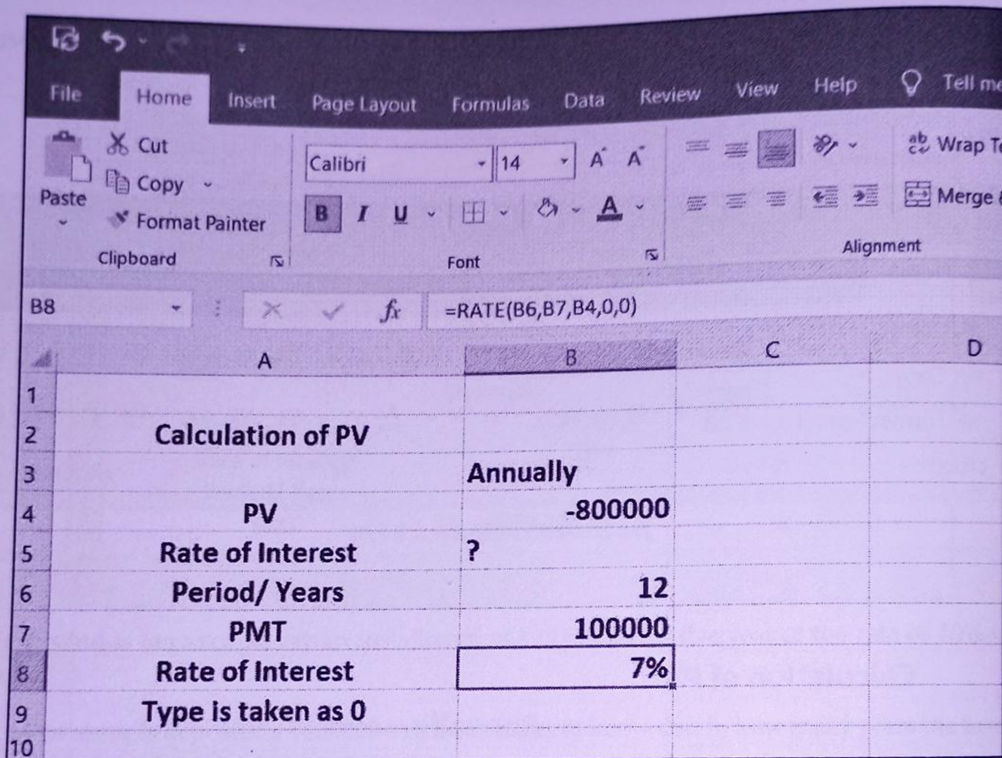


	A	B	C	D
1				
2	Calculation of PV			
3		Annually		
4	PMT	-40000		
5	Rate of Interest	12%		
6	Period/ Years	?		
7	FV	500000		
8	Time period	₹ 8.09		
9	Type is taken as 0			
10				
11				
12				

Sonal will accumulate ₹500000 in approximately 8 years.

Ex-12. A firm has taken a loan of ₹800000 payable over a period of 12 years with an yearly installment of ₹100000 per year. Calculate rate of interest.

Solution:



The rate of interest comes to be 7%.

Review Questions

1. What is the consideration of time important in financial decision making? How can time be adjusted?
2. "A rupee of today is not equal to the rupee of tomorrow". Explain?
3. What is the difference between the effective rate of interest and nominal rate of interest? Explain with the help of example?
4. "A Rational human being has a time preference for money." What are the reasons for such preference?
5. How will you find out the present value of a series of equal future cash flows? Explain with example?

□□□

5

Financial Goals

Learning Outcomes

After studying this chapter, students will be able to understand:

- What are financial goals.
- How & why financial goals are important.
- What are different types of financial goals.
- How financial goals can be achieved.
- When financial goals should be formed.

5.1 Introduction

Most people want to handle their finances so that they get full satisfaction from each money spend. Typical financial goals include such things as a new car, a larger home, advanced career training, extended travel, and self-sufficiency during working and retirement years. To achieve these and other goals, people need to identify and set priorities. However, if you don't set your financial goals, you'll probably be left wondering where all your money went. In this chapter we will study about the financial goals, their needs, types and importance in our life.

5.2 Meaning of Financial Goal

Financial goals are targets, usually driven by specific future financial needs. Some financial goals we might set as an individual include saving for a comfortable retirement, saving to send our children to college, or managing our finances to enable a home purchase.

Financial goals are the personal, big-picture objectives you set for how you'll save and spend money. They can be things you hope to achieve in the short term or further down the road. Either way, it's often easier to reach your goals if you identify them in advance.

To achieve financial goals, people need to identify and set priorities. Financial and personal satisfaction are the result of an organized process that is commonly referred to as **personal money management** or ***personal financial planning.*** Some financial goals we might set as an individual include saving for a comfortable retirement, saving to send our children to college, or managing our finances to enable a home purchase. Financial goals are where you want to be—financially—in the next five, 10 and 20 years. Or even next year.

Examples of Financial Goals Include:

- Paying off debt.
- Saving for retirement.
- Building an emergency fund.
- Buying a home.
- Saving for a vacation.
- Starting a business.
- Feeling financially secure.

5.3 Why Financial Goal are Needed?

Having financial goals can help shape your future by influencing the actions you take today. For example, say your goal is to pay off a colossal credit card bill. You might cut back on takeout dinners and use the money you save to make extra payments instead. Without establishing that goal, you're more likely to continue spending as usual while your debt piles up.

Like all expenses, financial goals should be included in your budget. That way, you can take concrete steps toward reaching them while leaving room for other costs.

Identifying goals and creating a realistic plan for them allows you to track progress and can motivate you to keep going. Even if you fall short, you might develop some healthy money habits along the way.

5.4 Types of Financial Goals

(i) Short term financial goal:

Short-term financial goals take under one year to achieve.

Examples may include taking a vacation, buying a new refrigerator or paying off a specific debt.

(ii) Middle term financial goal:

Mid-term financial goals can't be achieved right away but shouldn't take too many years to accomplish.

Examples may include purchasing a car, finishing a degree or certification, or paying off your debts.

(iii) Long term financial goal:

Long-term financial goals (over five years) may take several years to accomplish and, as a result, require longer commitments and often more money.

Examples might include buying a home, saving for a child's college education, or a comfortable retirement.

5.5 Financial Goals You Must Achieve before Your 40s

For instance, retirement planning may not be a priority in your 20s, but when you near your 40s, you want to invest to secure your golden years. Just like other life stages, your 40s is a critical phase in your life.

This is normally the time by which people are nearing the peak of their careers, have a family to support, and need to balance complex obligations like funding their children's education and paying off a home loan.

Each stage of life is different and so are its financial goals. Here are a few financial goals that you must achieve before you turn 40.:

1. Securing a Home for Yourself
2. Build an Emergency Fund
3. Get Yourself Life and Health Insurance
4. Retirement Planning
5. Plan for Your Children's Education

Examples of Personal Goals

These are some of the example of personal goals classified them into short term, intermediate and long term.

Possible Goals	Short Term	Intermediate	Long Term
1. Minimize your debt 2. Pay off college loans 3. Build an emergency fund			

Contd...

Possible Goals	Short Term	Intermediate	Long Term
4. Buy a house			
5. Make home improvements			
6. Buy a vocation home			
7. Buy a new car			
8. Have children			
9. Finance children's education			
10. Buy major luxury items			
11. Buy new furniture or appliances			
12. Enjoy an expensive vocation			
13. Take time off from work			
14. Start your own business			
15. Retire early			
16. Live in style after retirement			

5.6 Develop Financial Goal Chart

Developing a financial goals chart is a good way to begin this process. Here are the five steps you should follow in order to set up your goal chart:

1. Write down one personal financial goal. It should be specific, measurable, action-oriented, realistic and it should have a timeline.
2. Decide if your goal is short-term, mid-term, or long-term, and create a timeline for that goal. This may change at any time based on your situation.
3. Determine how much money you need to save to reach your goal and separate that amount by the month and/or year.
4. Think of all ways you can reach that goal. Include saving, cutting expenses, earning extra money, or finding additional resources.
5. Decide which is the best combination of ways to reach your goal and write them down.

All of that might sound daunting, but it's best to set incremental goals. Prioritize, then achieve. After accomplishing some of the easier goals, you gain confidence in your decision making. That provides motivation to achieve the more difficult targets that require more time and discipline.

5.7 Steps to Set Financial Goal

"Where will you be financially five years from now? 10 years from now…? 20 years from now…?" You may get answers like "I will be financially stronger", "I want to be financially better". Are these answers specific? If you don't know where you want to go exactly, there is no focus. Though setting financial goals might seem to be a daunting task but if one has the will and clarity of thought, it is rather easy to make financial goals in life. Therefore while framing the financial goals they need to be to set Specific, Measurable, Achievable, Realistic and Time bound Financial Goals. That is S.M.A.R.T. Financial goals. These are the 5 steps to be followed to set the financial goals.

1. Be Clear About the Objectives

Any goal (financial) without a clear objective is nothing more than a pipe dream. And this couldn't be more true for financial matters.

It is often said that savings is nothing but deferred consumption. Therefore if you are saving today, then you should be crystal clear about what it is for. It could be anything like kid's education, retirement, marriage, that dream vacation, fancy car etc.

Once the objective is clear, put a monetary value to that objective and the time frame. The important point at this step of goal setting is to list all the objectives, however small they may be, that you foresee in the future and put a value to it.

2. Keep Them Realistic

It's good to be an optimistic person but being a day dreamer is not desirable. Similarly, while it might be a good thing to keep your financial goals a bit aggressive, going out of the line will definitely hurt your chances of achieving them.

It's important that you keep your goals realistic in nature for it will help you stay the course and keep you motivated throughout the journey.

3. Account for Inflation

You should account for inflation whenever you are putting a monetary value to a financial objective that is far away in the future.

For example, if one of your financial goal is your son's college education, which is 15 years hence, then inflation would increase the monetary burden by more than 50% if inflation is mere 3%. So always account for inflation.

4. Short Term vs Long Term

Just like every calorie is not the same, the approach towards achieving every financial goal will not be the same. It is important to bifurcate goals in short term and long term.

As a rule of thumb, any financial goal, which is due in next 3 years should be termed as short term goal. Any longer duration goals are to be classified as long term goals. This bifurcation of goals into short term vs long term will help in choosing the right investment instrument to achieve them.

5. Financial Goals are Yours Not Inspired by Others

The journey of setting financial goals is an individualistic affair i.e. your goals are your own goals and are determined by your want to achieve them. A lot of times we get on the bandwagon of goal setting only to realize later on that it was not meant for us.

It is important that your goals are actually your goals and not inspired by someone else. Take a hard look at this step at all the goals you've set for after this step, you will be on the way to achieve them.

5.8 How Financial Goals can be Achieved?

Smart Strategy

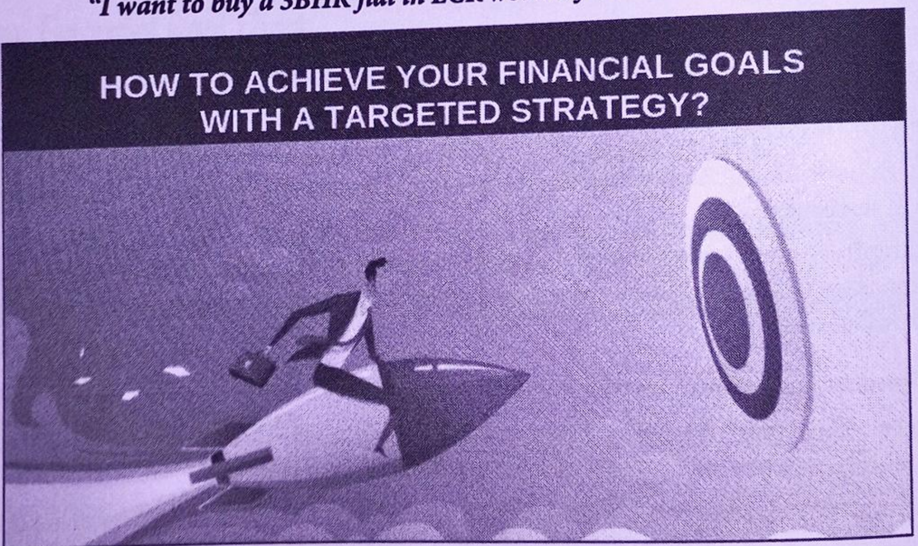
The word SMART stands for **Specific, Measurable, Achievable, Relevant and Timely.**

The list of goals that satisfies these criteria is the SMART spectrum. And any goal which you can bring in this list is well within your potential to achieve them. For example, saving for a motorbike is vague and hard to measure. How will you know if you are making progress or have achieved it? On the other hand, saving 50,000 rupees for a 100 cc motorbike within 10 months, is SMART. It's specific – you know exactly what you're saving for. It's measurable – you know how much you will need. It's achievable and realistic – you can break the total amount needed into smaller steps (saving 5,000 rupees a month) which is easier to do. And it's – time bound – you've set a deadline of 10 months. It's important to set short medium – and long-term financial goals.

Let's get SMART!

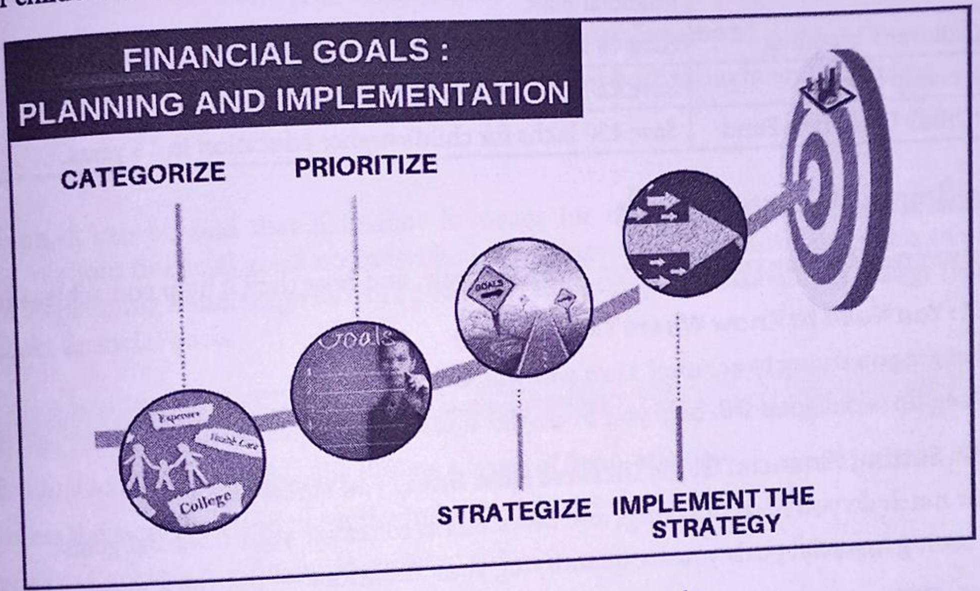
For example: If you want to buy a house, say:

"I want to buy a 3BHK flat in ECR worth of 2 crores in 7 years"



- **Specific:** Be specific about the financial need and time need and in other goal influencing factors like region, rules and regulations, economy status, etc.
- **Measurable:** Give your financial goals measurable numbers and values.
  - What kind of flat? 3 BHK.
  - What should be the worth? 2 crores.
  - In how many years? 7 years.
- **Achievable:** Set Achievable financial goals.

- ***For a house worth of 2 crores in 7 years, you will need to save nothing less than ₹25 lakhs/ year; assuming your savings will give a 12% return.***
  - » If this is possible for you, you are good to go. You have an achievable financial goal.
- **Relevant:** One of the simplest yet vital steps. Make your financial goals relevant to your life and dreams.
  - ***If you are going to settle in Bangalore for the rest of your life, would a 3BHK in ECR, Chennai make any sense?***
- **Timely:** You probably won't need a house now you can take some time to achieve it since it is not going to affect the achievement of your other financial goals. But you cannot afford to lose time in your child's education. You should plan for that financial goal before other financial goals.



There are **few questions** one can ask himself to achieve his goals:

What Do I Want? What Are My Priorities? When Do I Want It? What Will It Cost?

How Can I Make Savings Easier?

There are **8 strategies** by applying these financial goals can be achieved easily:

- Obtain financial goals.
- Plan how to spend your money.
- Spend wisely.
- Save on a regular basis.
- Borrow wisely.
- Invest to increase current income for long-term growth.
- Manage risk.
- Plan for retirement.

A sample checklist for reference:

S. No.	Spectrum of Financial Goals	SMART Financial Goal
1	Paying off debts	Pay off all debts (₹15 lakhs) in 6 years.
2	Buying Own House	Save ₹2crore in 12 years, for a 3BHK home in ECR, Chennai.
3	1-year Emergency Fund	Save ₹6 lakhs for Emergency Fund in 3 years, to use in case if there is NO income for 1 year.
4	Upgrading Car	Exchange and replace the old car with a new one worth ₹15 lakhs in 5 years.
5	Financial Independence	Attain financial independence in 18 years by investing with a holistic financial plan.
6	Children's Wedding	Save ₹8 lakhs for children's wedding expenses in 4 years.
7	Revamp House	Save ₹2 lakhs to revamp house in 3 years.
8	Child's Education Fund	Save ₹30 lakhs for child's higher education in 15 years.

5.9 Significance of Financial Goals

Here are seven reasons why you should set financial goals, and how they'll help you achieve success.

Reason #1: You Need to Know Where You're Going

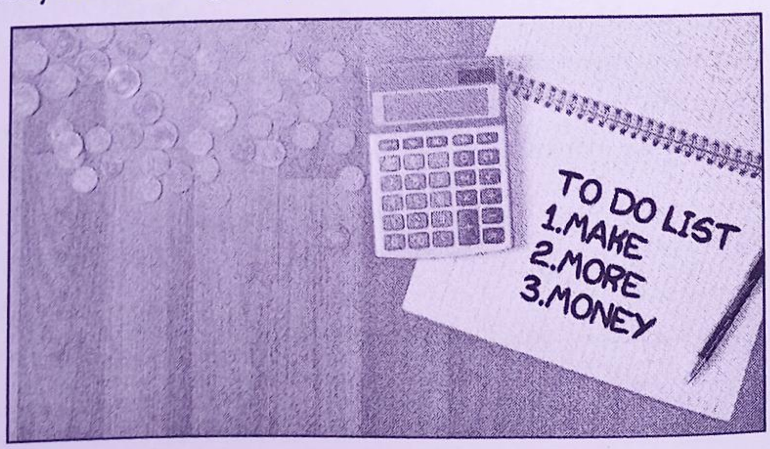
- What are you trying to achieve? How will you define success?
- Setting financial goals will help you to answer both of these questions.

Reason #2: Setting Financial Goals Dictates How Much You Need to Save

- How much do you need in savings and investments to realize your financial goals?
- By setting financial goals you are quantifying your ambitions — putting a number on them.

Reason #3: Different Financial Goals Require Different Strategies

When you've decided your financial goals, you can then work out the strategies which are right for you.



Reason #4: It Helps Shape Your Career Choices

- When you know what your financial goals are, your career planning and your financial planning can complement each other

Reason #5: Setting Financial Goals Helps You Stay Focused

- This will help you stick to your guns when you're tempted to splurge on something you don't need, and remind you why you're working extra hours.

Reason #6: You Can Find the Right Tools to Help

- Setting financial goals will enable you to critically evaluate which tools can help you on your way so you can buy only those which are most useful to you.

Reason #7: Setting Financial Goals Creates a Sense of Achievement

- Setting financial goals is the very first step, and it takes both thought and discipline.

Summary

In conclusion, it can be said that if finance is means for everything, financial goals is the end for everything. Without financial goals no individual can achieve whatever he or she wants to achieve. So, one must start planning financial goals from a younger age, even parents should encourage their children to think about financial goals.

Review Questions

1. Define financial goals? Define the different types of financial goals.
2. What are the steps followed to set the individual goals?
3. How we can achieve our financial goals in life?
4. What are the reasons for setting up of financial goal?

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6

Financial Planning

Learning Outcomes

After studying this chapter, students will be able to understand:

- Concept of financial planning,
- Why should we do financial planning?
- How to do financial planning?
- Why to maintain a financial diary?
- Steps in the financial planning process,
- Preparing a financial plan — Practical considerations.

6.1 Introduction

You all have many financial goals in your mind. Like buying a car or the latest smart phone or wealth accumulation.. You need to have an adequate amount of money to fulfil your goals and desires. Whether you have a lot of money or not enough, you still need personal financial planning. If you have enough money, planning can help you spend and invest it wisely. If your income seems inadequate, taking steps to plan your financial activities will lead to an improved lifestyle. More importantly, you need to have money at the right point in time. Everyone—including recent college graduates, single professionals, young married couples, single parents, mid-career married breadwinners, and senior corporate executives—needs to develop a personal financial plan. Knowing what you need to accomplish financially, and how you intend to do it, gives you an edge over someone who merely reacts to financial events as they unfold. For example, if you want to build up a corpus of ₹10 lakh for your daughter's college education through investments, you need to grow this amount by the time she turns 18. Not a year later. This is where financial planning becomes essential.

The financial planning not only just about increasing savings and reducing the expenses. Financial planning is a lot more than that. This includes achieving your future goals. In this chapter we are discussing about the financial planning and the steps in the financial planning process.

6.2 Financial Planning

Financial Planning is the process of meeting your goals through the proper management of your finance. Or we can say that financial planning is the planning which deals with money. A financial plan acts as a guide as you go through life's journey. Essentially, it helps you be in control of your income, expenses and investments such that you can manage your money and achieve your goals. You need to have an adequate amount of money to fulfil your goals and desires. More importantly, you need to have money at the right point in time.

Financial planning normally restricts to the financial aspect. Financial planning is done both by the individuals for their own future life and business people to know about the funds required for a future period and the sources of funds available. Whether an individual is in college getting ready to graduate, at the peak of his or her career, or close to retirement, everyone needs to think about their financial future. Everyone makes financial decisions every day. Few people consider how to make better decisions to achieve a higher level of personal economic satisfaction. Financial planning is a step-by-step approach to meet one's life goals.

Financial plan can help you to:

1. Balance today's needs with your goals for the future.
2. Make the best use of your financial resource.
3. Adapt to change in your circumstances and needs.
4. Save the money you need to achieve your goals.
5. Prepare for unexpected emergencies.
6. Protect what is most important to you.
7. Prepare for retirement.
8. Leave something for your family.
9. Manage your taxes.
10. Live your life with a sense of direction and security.

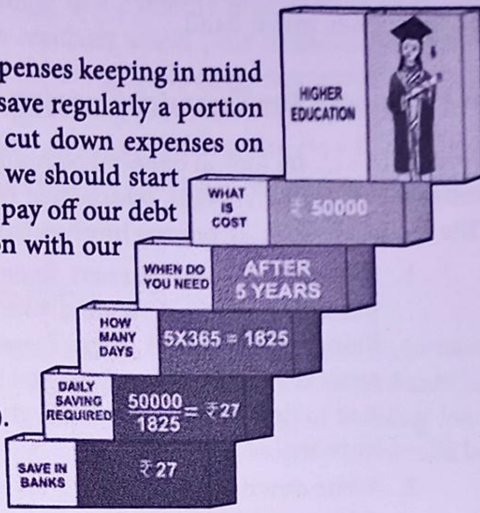
Planning means that you try to choose the future you want instead of falling into a future you did not choose. Also, if you have a plan you can adjust it when changes occur in your life. Because you know you are taking steps to manage your future, you will save more and worry less.

Begin your financial planning by answering three key questions:

1. Where am I now?
2. Where do I want to go?
3. How do I get from here to there?

Today, time is with you. But will you be able to continue at the same through out your life? Will your income be the same forever? Will you be able to live on your own terms even after you retire? Answer these questions and then think for Financial Planning.

6.3 Why should we do Financial Planning?

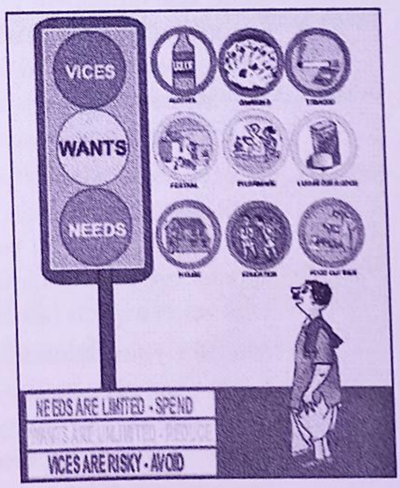


Financial planning enables us to plan in advance our likely expenses keeping in mind our level of income. Thus it helps in two ways, one– we can save regularly a portion of our income for meeting future needs and two– we can cut down expenses on non essential items with a view to save for future needs. So we should start financial planning today so that we are in a better position to pay off our debt and build savings to buy a house or finance higher education with our own money. Attain your goals with financial planning.

6.4 How to do Financial Planning?

- Assess current financial position (Where are we today).
- Identify our financial needs – [(What do we want to achieve in short term (1 year), medium term (1-5 years) and long term (more than 5 years)].
- Estimate the cost of each item and the date we want to achieve it. Calculate how much we need to save each week/month.
- Maintain a financial diary – Write down weekly/monthly income and expenses.
- Curb expenses – spend sensibly.
- Review savings regularly – Whether it is as per plan? If not, look at expenses for opportunity areas to cut back spending and increase savings.
- Determine the amount saved at the end of each week/month.
- Deposit savings in a bank account.

6.5 Why to Maintain a Financial Diary?



A Financial diary helps us to do financial planning. We would know how much money is being spent on essential and non essential items during a given month. This helps us to identify the items on which the expenses can be avoided or reduced. Once we know it, we can regulate these expenses. We can save this money and break the cycle of poverty.

Always think twice before spending

For example our monthly income is ₹5000. By maintaining a Financial Diary we have come to know our expenses i.e., food, shelter and clothes (₹2000), education of children (₹1000), Rent (₹700) and sickness (₹300) and expenses on WANTS like festivals, pilgrimage (₹500) and expenses on drinks, gambling, etc., (₹500). We can reduce expenses on festivals, pilgrimage from ₹500 to ₹200 and avoid the expenses of ₹500 on drinks, gambling. The excess of ₹800 can now be saved. Thus, by maintaining a financial diary, we have saved money. Without the diary, we will just spend all the money in our hand.

6.6 Steps in the Financial Planning Process

If you take a closer look at financial planning, you'll see that the process translates personal financial goals into specific financial plans, which then helps you implement those plans through financial strategies. The financial planning process involves the six steps.

1. **Understand your current financial situation:** In this first step of the financial planning process, you will determine your current financial situation with regard to income, savings, living expenses, and debts. Preparing a list of current asset and debt balances and amounts spent for various items gives you a foundation for financial planning activities. This is the first step in financial planning, as it gives you a good sense on the state of your finances and ways to improve.
2. **Write down your financial goals:** Ask yourself: 'What are the different financial goals I wish to achieve in life?' Write them on a piece of paper. Don't hesitate to put down any goal because no goal is too small or too big. However, make sure that your goals are specific. For instance, here are some achievable goals: 'I want to purchase an SUV worth ₹13 lakh in the next 18 months' or 'I want to buy an apartment worth ₹80 lakh in the next 5 years. Specific financial goals are vital to financial planning. Others can suggest financial goals for you; however, you must decide which goals to pursue. Your financial goals can range from spending all of your current income to developing an extensive savings and investment program for your future financial security.
3. **Look at the different investment options:** There are numerous investment options available to investors. You can invest in equity, debt, bond, mutual funds and derivatives. In the mutual fund market alone, you can choose from nearly 2,000 schemes. Different investment avenues help investors to achieve different goals. For example, equity funds are suitable for long-term goals like retirement planning, child's education, etc. If you are interested in relatively steady income and you are risk averse, you may want to invest in **debt mutual funds**. Equity Linked Saving Scheme **(ELSS fund)** are good to save tax. When it comes to investing, many financial experts have highlighted the importance of mutual funds. Investing in these funds consistently over a longer period can help you achieve your dreams and goals.
4. **Implement the right plan:** You need to select the right investment option based on factors such as your goals, age, risk appetite and investment amount. If you are unsure on the funds you need to select for your portfolio, you can avail the services of a financial advisor. These are certified professionals who help investors make the right investment choices. They also help with other aspects like insurance, retirement planning, estate planning and taxation.
5. **Monitor your financial plan regularly:** The financial planning process does not end once you invest your money. You also need to monitor how the funds are performing regularly. If they don't perform, you may need to replace them with better performing funds. You also need to follow your plan because as you grow older, your goals and dreams evolve. For instance, your financial priorities may change after the birth of a child. Now, you need to accommodate the expenses and objectives of a new member in your family.

6. **Re-evaluate and Revise Your Plan:** Financial planning is a dynamic process that does not end when you take a particular action. You need to regularly assess your financial decisions. Changing personal, social, and economic factors may require more frequent assessments. When life events affect your financial needs, this financial planning process will provide a vehicle for adapting to those changes. Regularly reviewing this decision-making process will help you make priority adjustments that will bring your financial goals and activities in line with your current life situation.

6.7 Preparing a Financial Plan — Practical Considerations

Each individual or family is different so will have their own financial plans. One cannot expect to have same financial plan as another even if two people are earning the same salary. This is because financial situations and risk taking ability are different. Suppose a person already has to pay a housing loan instalment (EMI) and take care of other personal responsibilities, then his risk taking ability would be much lower than a person who does not have to repay a loan.

How exactly do you go about preparing a financial plan?

- Assess your finances. Make a list of your bank accounts, investments, fixed deposits, mutual funds, shares etc.
- What are your expenses per month? How much do you spend on rents or instalments (EMIs), your kids' education, monthly kitchen expenses and so on.

You will be able to understand where you are with respect to your income, expenses and savings.

- Now the next step would be to list down your goals which could be short term, medium term or long term. Your short-term goals could be buying a car or going on a vacation, let us presume in the next 5 years. Your medium-term goals could be your child's education, buying a house, or setting up your own business. This could be planned for may be 10-15 years. For long-term goals you could plan for 20 years after and think of retirement, clearing all loans and keeping some money aside for emergency.
- There are three parameters which you have to consider –time, money you can save and the rate of return.
- Based on your goals and your risk taking ability, you can diversify your money among different asset categories such as shares, bonds, fixed deposit and cash.

Review Questions

1. Define financial planning? What are the steps to be followed in financial planning process?
2. Explain why it is important to set realistically attainable financial goals. Select one of your personal financial goals and develop a brief financial plan for achieving it.

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7

Security and Modes of Digital Payments

Learning Outcomes

After studying this chapter, you should be able to understand:

- the role played by RBI.
- the concept of digital banking.
- benefits of PoS and ATM machines, and the various types of banking cards.
- new development in digital banking.

7.1 Introduction

Digitalization is getting more common in India with every passing day. After demonetisation drive in 2016, the digital banking has grown at a faster pace. Most of the Indian banks have launched their internet banking and mobile banking websites to facilitate the customers with online availability of almost all banking products like opening of FD, paying taxes, recharging mobiles, ordering cheque book and doing much more. Internet banking is now a common mode of secure and convenient banking services. Let us understand the concept of digital banking, modes of digital payment, various channel for acceptance of card based digital payment and new development in digital banking. Before understanding these concept, we all should understand about the Central Bank of India and its role in economy.

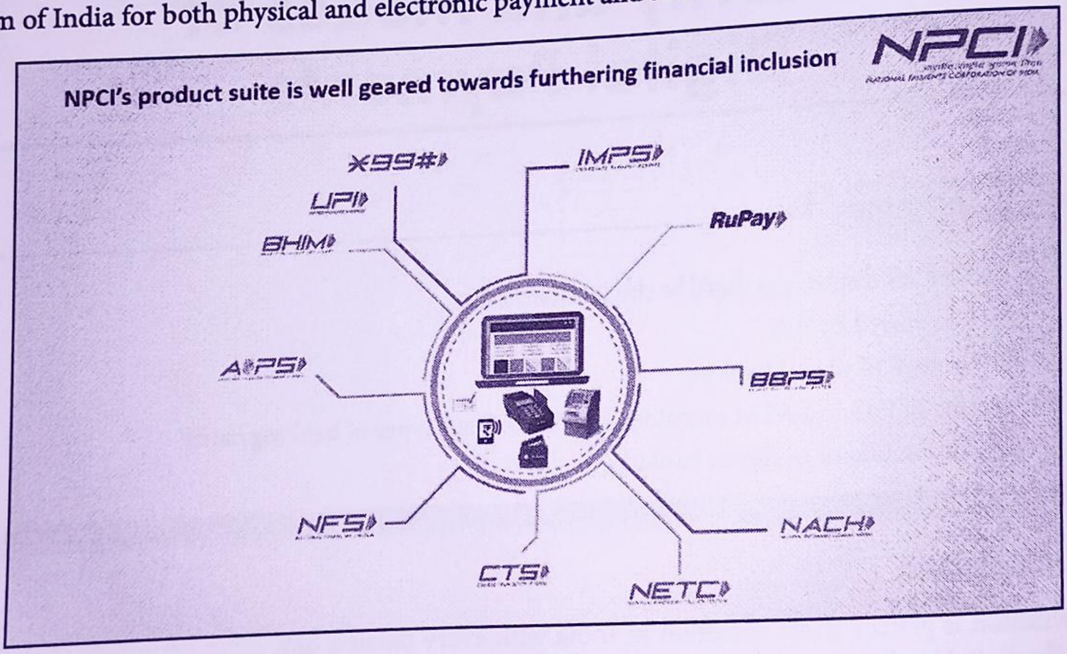
7.2 Reserve Bank of India – Role and Importance

The Reserve Bank of India (RBI) plays a prominent role as the Central Bank of India and has the power to control the monetary situation of the entire country. Apart from the issuance of currency, RBI performs various other important functions that impact the Indian economy in a significant way:

- Implements monetary policies
- Manages foreign exchange reserves
- Acts as banker to the government
- Financial regulation and supervision
- Governs the policies for other banks to follow

7.3 National Payments Corporation of India (NPCI)

National Payments Corporation of India (NPCI) is an umbrella organization for all retail payments in India. Incorporated in the year 2008, NPCI was set up under the guidance and support of Reserve Bank of India (RBI) and Indian Banks' Association (IBA). NPCI provides infrastructure to the entire banking system of India for both physical and electronic payment and settlement systems.



7.4 Digital Banking

Digital banking allows bank customers to avail banking services using the bank's website on a laptop or through a mobile app on a smartphone/tablet. Digital Banking is the automation of traditional banking services. Digital banking means to digitize all of the banking operations and substitute the bank's physical presence with an everlasting online presence, eliminating a consumer's need to visit a branch. These services include:

- Checking account balance
- Transferring funds to another account

- Ordering a cheque book
- Changing passcodes

7.5 Digital Banking Products

If an individual has access to a stable internet connection and an internet-enabled smart device, digital banking has a lot to offer.

Digital Product Services

Digital Banking Services	Utility
1. Obtain bank statements	View and download your bank statements for any specified period.
2. Transfer of Funds	With alternatives such as NEFT, RTGS, and IMPS available, the need to issue cheques and DDs has been eradicated.
3. Mobile banking	Mobile banking is digital banking through an application optimized for smartphones and tablets.
4. Cash withdrawals	ATMs facilitate cash withdrawals at any point in time. Moreover, ATMs are widely present in every locality.
5. Bill payments	Auto-debit feature for bill payments lets a user setup monthly debits in favor of regular utility payment.
6. Finance	Invest, raise loans, open fixed deposit accounts – all through digital banking. De-mat accounts can be linked to your bank accounts to provide a seamless flow of funds so you can invest promptly.

Digital Banking Services	Utility
7. Manage cheques	Intervene in the cheque clearing process using digital banking to stop the cheque if the need arises.
8. Monitor transaction records	Banks send transaction alerts to the linked mobuile number or email addresses. Transactions are updated almost as soon as executed. Digital banking also lets you monitor account balances or outstanding at the click of the button.

Digital Banking – Do's & Don'ts

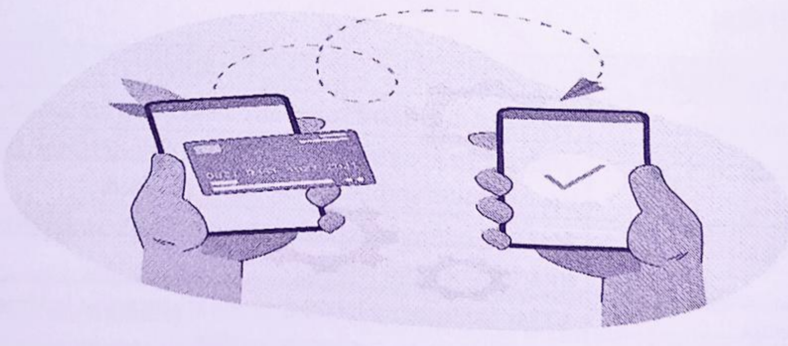
Let us learn about some do's & don'ts to be observed while performing digital banking:

Do's Don'ts

- Keep your user ID and password confidential and do not reveal to anyone.
- Memorise your user ID and password instead of noting down anywhere.
- Log off completely and clear your system cache after every session.
- Register for SMS alerts to keep track of transactions on your account.
- Do not use an email message to log in to your banking account; Always use the official website.
- Do not reveal personal information to anyone over email/SMS/phone call.
- Do not use the 'Remember Password' feature provided by browsers to save your banking password.

7.6 Digital Payments

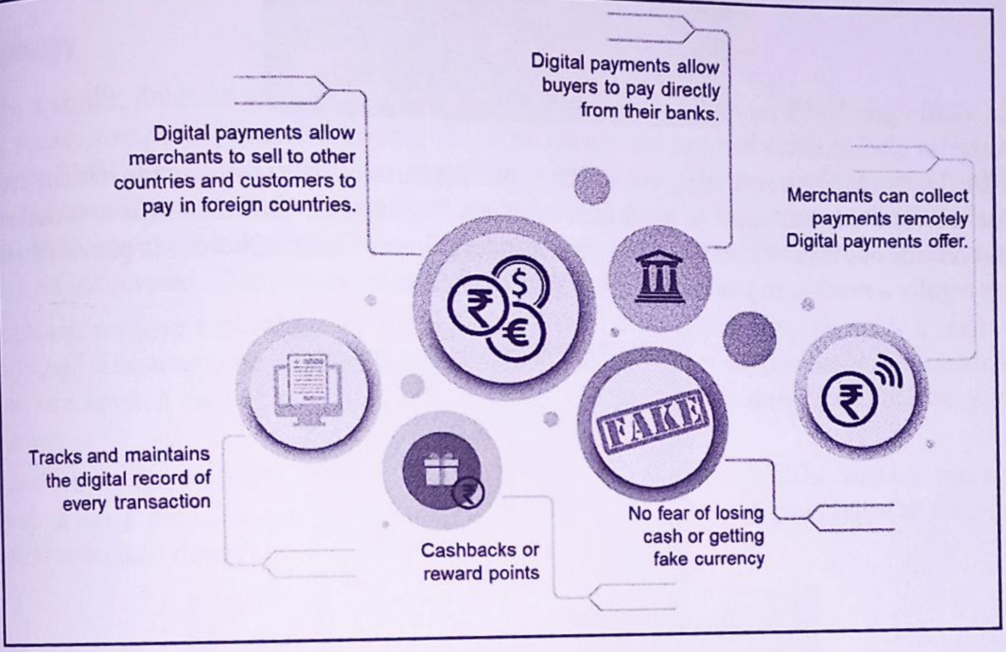
Digital Payments refers to transferring an amount of money to another individual, business or organisation through the internet without the requirement to handle physical cash.



A digital payment, sometimes called an electronic payment, is the transfer of value from one payment account to another using a digital device such as a mobile phone, PoS (Point of Sale) or computer, a digital channel communications such as mobile wireless data or SWIFT (society for the worldwide interbank financial telecommunication). This definition includes payments mode with bank transfers, mobile money, and payment cards including credit, debit and prepaid cards.

7.6.1 Benefits of Digital Payments

The trend of digital payments has revolutionised the world of business and lives of people. It has brought in a new era of flexibility of convenience. Let us discuss the many benefits of digital payments.



7.6.2 Modes of Digital Payments

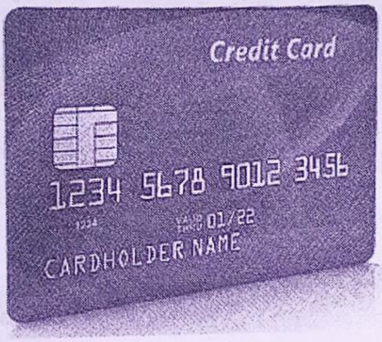
Card Based

The objective of this section is to make students aware of banking cards, Point of Sale (PoS) and ATM machines In the previous sections, you have learnt about the importance of banks and the various services they offer. Apart from cheques, banking cards are also important tools for making convenient transactions. Let's learn about them.

Debit Cards: ATM-cum-Debit Cards are plastic payment cards that your bank issues when you open an account with them. It is linked to your Savings, Current, or Checking Account. When you swipe your debit card, funds are directly debited from the linked account and transferred into the payees' accounts. These cards typically come with a Europay, MasterCard and Visa (EMV) chip embossed on them. Also known as an ATM card, you can use it to withdraw cash at ATM kiosks and vestibules.

- A Debit Card is an EMV chip-based payment card.
- It is linked to your bank account and helps you make cashless payments.
- You can use it to make both offline and online payments.
- When you swipe your debit card, funds are debited from the linked account in real-time.
- You must not share your debit card PIN or write it down anywhere as a security measure.

Credit Cards: As the name suggests, credit cards are instruments that provide instant credit to the cardholders. When a credit card is used for making a transaction, the amount is not deducted from the bank account but is provided as credit by the issuing bank. The cardholder is provided with a time period; generally a month, to pay back the amount to the bank.



Prepaid Cards: These are 'stored value' cards that are charged with a specific amount. The prepaid cardholder is allowed to transact for the value stored in the card. For example, if the card has a value of ₹5000, once that value is used up for purchases, more value needs to be added to the card.

Guidelines for the use of banking cards Instruments like debit, credit and prepaid cards indeed offer a high level of convenience while making transactions; however, all the same, it is also important to follow guidelines during their use.

- One must be observant while using an ATM card to withdraw cash. Ensure that there is no other person who may be watching while you enter the PIN.

- Credit cards should be used only for convenience, and the cardholder must ensure to pay back the card dues in time to avoid the heavy interest
- Banking cards must be kept very safe and not allowed to go into wrong hands to avoid misuse
- Card PIN numbers must not be shared with anyone Central Board of Secondary Education.

EMV Technology

If you have a credit, debit or prepaid card, there's a good chance it has an EMV chip. EMV chips are the small, square computer chips that appear on debit, credit and prepaid cards to help safeguard them against fraud. EMV (which stands for Europay, Mastercard and Visa) chips create a one-of-a-kind code for each credit transaction. A card with an EMV chip typically must be inserted into the slot of a payment terminal, which then reads the chip's data and verifies the card as authentic. You then must wait for the purchase to be authorized. This process is known as "dipping."

By contrast, making a purchase by sliding a card with a magnetic strip through a card reader is called "swiping." The magnetic strip also transmits data that enables authorization of a purchase and verification of a card. A swiped transaction may be a bit quicker than a dipped transaction, but it's not quite as secure.

Another way to use an EMV card is as a contactless payment method. If the card has this capability, you can tap it on a payment terminal or wave it near the terminal to complete the transaction. A contactless transaction doesn't require a PIN.

(Source: https://www.experian.com/blogs/ask-experian/what-is-an-emv-chip/)

7.7 Various Channels for Acceptance of Card based Digital Payments

7.7.1 Point of Sale (PoS)

PoS is a system that automatically keeps track of each sale transaction and the amount received from the customer. It also enables card based transactions.

7.7.2 mPoS

Mobile Point of Sale Unlike traditional PoS, mPoS provides great technological advantages. It is a mobile phone-based application that is designed for simple use by the merchant. With an extremely intuitive interface, the menus and functions on an mPoS are easy to use.

7.7.3 Soft PoS

Soft PoS is an innovative payment acceptance segment, which uses 'Tap-on-Phone' technology. This technology allows merchants to accept payment from contactless cards directly on their Near Field Communication (NFC)-enabled android mobile devices via software based payment application without the requirement for any additional connected hardware.

7.7.4 E-commerce Payment

Whenever there is a purchase of goods and services online through an electronic medium without the use of cash or cheques, it is known as e-commerce payment. You might have observed your parents purchasing things online using their smartphone with the help of a mobile application. That is a popular example of E-commerce.

E-commerce payment offers various benefits in the form of:

- Security
- Efficiency
- Convenience
- User-friendliness

7.7.5 Automated Teller Machines (ATMs)

ATMs enable bank account holders to withdraw cash, check balance, and do other banking transactions at their own convenient time without the need of bank staff involvement. ATM - Benefits to Customers On the same lines, ATMs offer a host of benefits to the customers/account holders. These include:

1. Reduced visits to the bank branch
2. Shorter travel time as ATMs are situated nearby
3. Convenient access to cash 24x7
4. Additional services such as balance inquiry, mini statement, PIN change, etc.
5. With ATM being interoperable, customers can visit any bank ATM to withdraw cash, do balance inquiry, PIN change, etc.

The Cash Deposit Machine, better known as Automated Deposit cum Withdrawal Machine (ADWM) is an ATM like machine that allows you to deposit cash directly into your account using the ATM cum debit card. You can use this machine to instantly credit your account without visiting the branch. The transaction receipt also gives you your updated account balance. Some of the salient features of this product are:

- Instant credit of cash deposit into your own account.
- Quick and convenient way to deposit cash.
- Paperless transaction.
- The per transaction limit is ₹49,900/- for Cardless deposit and through Debit Cards ₹2.00 lacs (subject to account has ceded with PAN number).
- You can also deposit cash in your PPF, RD and Loan accounts.
- Upto 200 currency notes can be deposited in a single transaction.
- The ADWM only accepts denominations of ₹100/-, ₹200/-, ₹500/- & ₹2000/-.

7.7.6 Cash Recycler

Cash recycler looks like any other ATM. Cash recyclers also allow you to deposit cash as well. Just as cash withdrawal at an ATM reflects in your account balance immediately, the cash deposit also takes place in real time and the transaction reflects in your bank account at once. When you deposit cash, a cash recycler counts the currency notes and displays the amount denomination wise and the total amount inserted in machine for deposit. Once it displays the amount, you have to confirm if the amount is correct, and the transaction will then be complete.

7.8 Modes of Digital Payments – Biometric Based

The objective of this section is to enable students to understand the significance of UIDAI and Aadhaar while also learning about Micro ATMs.

7.8.1 Unique Identification Authority of India (UIDAI)

The government of India has taken a strong step in the direction of securing digital transactions through the launch of Unique Identification Authority of India (UIDAI). Launched as a statutory authority in the year 2016, the UIDAI initiative is aimed towards issuing a unique identity document named as 'Aadhaar' (also known as UID) to all citizens of India. UIDAI's key objective is to eliminate duplicate and fake identities, allowing for individual authentication and verification in an easy and cost-effective way.

(Only Inputs req. — 1) Bank Name
2) Aadhar Number
3) finger print cap. during enrollment

7.8.2 Aadhaar Enabled Payment System (AePS)

Aadhaar Enabled Payment System (AePS) is a payment system operated by NPCI. AePS empowers a bank customer to access his/her Aadhaar enabled bank account to perform basic banking transactions like balance enquiry, cash deposit, cash withdrawal, mini statement & Aadhaar to Aadhaar fund transfers through a business correspondent. Aadhaar Enabled Payment System (AePS) is a payment system operated by NPCI. (National Payments Corporation of India)

AEPS

AADHAAR ENABLED PAYMENT SYSTEM

CASH DEPOSIT

BALANCE ENQUIRY

CASH WITHDRAWAL

7.8.3 Micro ATMs

(allows people to withdraw cash using their debit cards if they dont have any ATMs in their areas)

A perfect solution for Rural and Hinterlands Micro ATMs are handheld devices available with authorised banking correspondents (also known as bank mitras) allowing Aadhaar holders to perform basic banking transactions. Fingerprint and/or Retina/Iris of the customer are used to authenticate a customer. Micro ATMs are portable and can be carried anywhere in just one hand.

7.9 Modes of Digital Payments

Mobile Based Banking and Others The objective of this section is to enable students to learn about the various forms of digital payments including internet banking, mobile banking, branchless banking and digital platforms such as UPI and mobile wallets.

7.9.1 Internet Banking

Internet banking, also known as online banking, e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. Internet banking allows you to transact on your bank account over the internet using your laptop, tablet or smartphone. When you transfer an amount using Internet Banking, it can be done through different methods, including:

- National Electronic Fund Transfer (NEFT)
- Real-Time Gross Settlement (RTGS)
- Immediate Payment Service (IMPS)

7.9.2 Branchless Banking

In a layman's language, branchless banking is nothing but banking without going to a bank. Most rural areas are inaccessible. Talking about the detailed definition, we can say that branchless banking consists of third-party bank outposts, for example, Your nearby retailer who acts as a "Human ATM,". It lets the customers do banking transactions via their mobile phones and then deposit or withdraw cash physically. The major point that differentiates traditional banking from branchless banking is physical presence. It has regional headquarters and branches located across the countries where it operates. On the other hand, branchless banking portals allow customers to view their balances, transfer money, open new accounts, and even apply for a mortgage. And the best thing is the constant availability of these features. Opening a branch in each village may not be feasible. Moreover, the education or literacy level in such areas is not so promising. Here branchless banking comes to the rescue.

Talking about the branchless banking definition, then it is the method of delivering banking services outside conventional bank branches. This is mainly done through agency banking support. Mobile banking, Internet Banking, and Neobanking are the prime branchless banking types.

National Electronic Fund Transfer (NEFT)

National Electronic Funds Transfer (NEFT) is a nation-wide centralised payment system owned and operated by the Reserve Bank of India (RBI). The payment mode enables companies and individuals to transfer funds electronically to other companies and individuals. Central Board of Secondary Education Page 35 The account holder needs to register the beneficiary account details such as account holder name, account type (savings etc.), account number and Indian Financial System Code (IFSC) which helps to identify individual bank branches.

Real-Time Gross Settlement (RTGS)

RTGS is a real-time settlement system which allows for fast processing of money transfer between any two accounts. 'Real Time' means the processing of instructions at the time they are received; 'Gross Settlement' means that the settlement of funds transfer instructions occurs individually. The payments made via RTGS are final and irrevocable. The RTGS system is primarily meant for large value transactions. The minimum amount to be remitted through RTGS is ₹2,00,000/- with no upper limit.

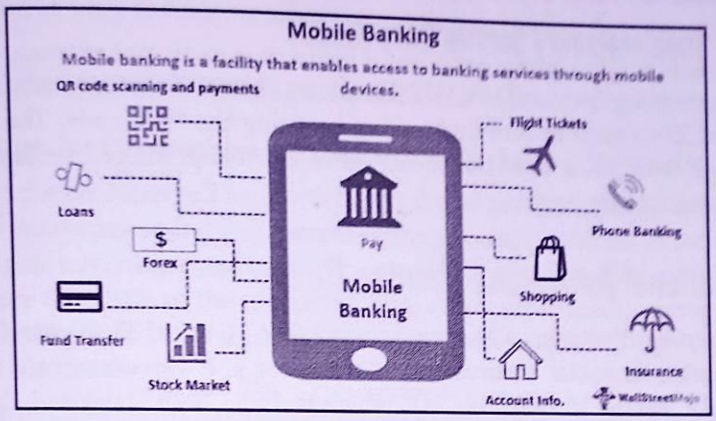
Immediate Payment Service (IMPS)

IMPS is a product made available by the National Payments Corporation of India (NPCI). It allows for 24x7 instant funds transfer service that can be accessed on multiple channels like Mobile, Internet, ATM and SMS. The key feature of IMPS is that it is available at all times. The transaction fee for IMPS is nominal, and it allows a transfer limit of Rupees 2 lakhs per transaction.

7.9.3 Mobile Banking – Bank in Your Pocket

Mobile Banking is a free of cost service provided by the bank which enables you to make financial transactions on your mobile device. With digitalisation, banks are developing first-class mobile apps, and almost everyone holding an internet-enabled smartphone can avail of mobile banking facilities. The highly robust Mobile banking application security features eliminate fraudulent activities, thus making mobile banking a safe mode of transactions. Most popular banks today offer the facility of Mobile Banking. It is offered in the form of a dedicated and secure app that provides the following key services:

- Checking of the account balance
- Making funds transfer
- Bill payments and card payments
- Service requests such as ordering cheque books



7.9.4 Unified Payments Interface (UPI) Instant real-time payment system dev by NPCI.

A system developed by the National Payments Corporation of India (NPCI), UPI helps combine the power of multiple bank accounts into one single mobile app. UPI helps in seamless fund routing and merchant payments. In addition, it also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience. Central Board of Secondary Education Page 37 QR Codes, an Easy Way to Pay The UPI interface makes it extremely easy and convenient to make payments using the Quick Response codes or QR codes. When you accompany your parents to the market, you may have observed them making payments through QR codes.

Let us see how that works:

- The customer scans the UPI QR placed at merchant locations / generated on PoS
- Customer verifies the transaction details like UPI ID, amount, merchant name, etc. and provides confirmation
- The UPI PIN needs to be entered
- Successful payment confirmation is received on the UPI App along with SMS confirmation on mobile.

7.9.5 Mobile Wallets, the Smart Way to Make Payments

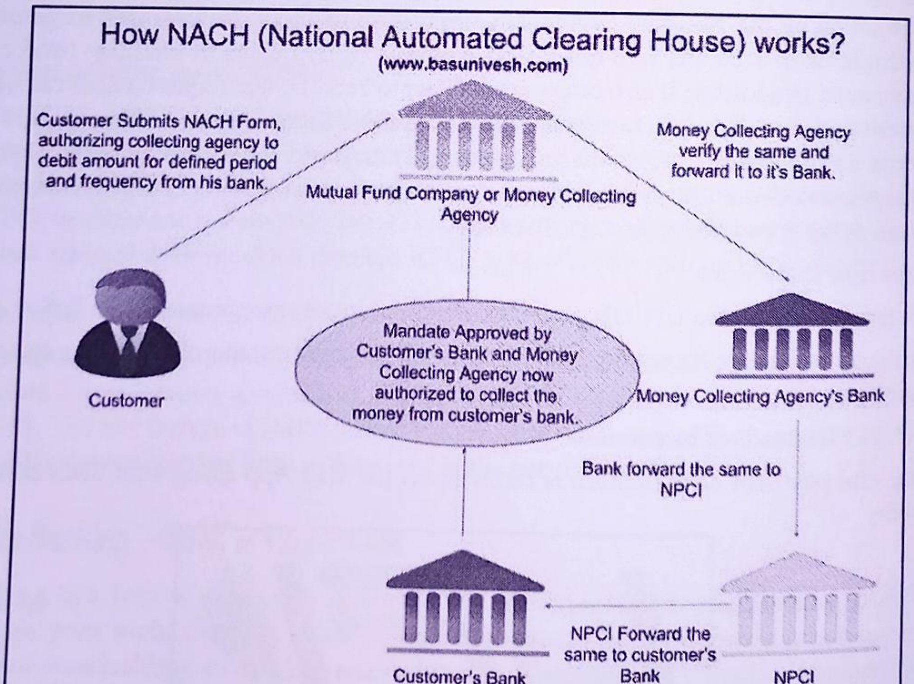
In today's time, if a person walks out to the market without his cash and banking cards, yet he/she is able to purchase things of choice, how is that made possible? As the name suggests, a mobile wallet is a virtual wallet in the form of a mobile app that allows you to make purchases simply by scanning the QR code at the merchant Page 38 Central Board of Secondary Education establishment. A popular example of a mobile wallet in use today is PayTM.

7.9.6 Unstructured Supplementary Service Data (USSD)

Unstructured Supplementary Service Data (USSD) allows users without a smartphone or data/internet connection to use facilities such as mobile banking by using the *99# code. The key objective of this innovative technology is to allow financial inclusion of the less privileged sections of the society and integrate them into mainstream banking.

7.10 Others – National Automated Clearing House

NACH (Earlier known as Electronic Clearing Service) The National Payments Corporation of India (NPCI) offers to banks, financial institutions, Corporates and Government/s a service termed as "National Automated Clearing House (NACH)" which includes both Debit and Credit. NACH (Debit) and NACH (Credit) aims at facilitating interbank high volume, debit/ credit transactions, which are repetitive in nature, electronically using the NPCI service.



7.11 Marketing of Digital Banking Products and Some New Developments in Digital Banking

Digital marketing for banks is becoming increasingly essential, as it makes up nearly half of all bank's marketing budgets. At the same time, many small banks struggle with staying up-to-date with digital marketing trends in banking, often falling to the wayside behind national banks with much larger budgets. While paid ads are a large part of every digital marketing strategy, these digital bank marketing trends for banks incorporate personalization, customer experience, customer outreach, and improved audience segmentation as ways to improve advertising through quality, not just quantity.

While there are many factors to keep in mind when developing a digital marketing campaign, the following digital marketing trends in banking are among the most important to consider.

1. An Increasing Push for Competitiveness in Digital Marketing for Banks

Today, everyone is on digital. Nearly all bank will have a digital presence. Most banks believe they have to increase their digital marketing spend and increase efforts across platforms to increase the efficiency of their advertising. Digital advertising and marketing are also growing quickly, with 17% of organizations now committing more than 50% of the marketing budget to online media, compared to 14% in 2017. This same bank marketing trend holds through for mobile marketing, where most allocate less than 40%, but the investment is on the rise.

While more competition shows the value of digital marketing in the banking sector, it also makes it more difficult to stand out. This means that banks must take unique approaches, highlighting customers and success stories, driving value through marketing offerings, and using non-traditional awareness campaigns rather than regular ads to drive the most engagement in a highly competitive digital world.

2. Chatbots are Primary Customer Service Contact Points

Chat is one of the fastest growing aspects of any customer support, with an increase in availability, complexity, and sophistication of options for digital marketing for banks. Consumers want answers quickly and often without having to pick up the phone and dial. Chat and chatbots in banking that integrate into social media, websites, and apps, make it easy for customers to ask questions and receive the help they need with minimal effort. Here, chat is ideal for standard customer queries, checking accounts, checking services, and screening through the first tier of customer service.

While chat shouldn't be your only line of customer service, it is extremely valuable to offer 24/7 chat services, with a sophisticated chatbot in-line. Here, you can offer services such as opening accounts, checking account status, and checking website server status to alert customers to service outages. You can also answer basic and commonly asked questions through chat rather than through a less-user-friendly knowledge base.

3. Segmenting, Targeting & Personalization in Digital Marketing for Banks

Big data allows banks to target individual consumers rather than segments as a whole, creating greater personalization and better user experience. Here, single-person segmentation relies on tracking through cookies and other tools and aggregating and collecting data across omnichannel touchpoints such as web, social media, and applications.

This increase in personalization ties into consumer desires for personalization and connection with their banks, with some 74% of all consumers expecting brands to treat them like an individual. How does this work with digital marketing for banks? Machine automation and AI combined with big data to allow you to offer personalized options, modular services and products, pre-approval for loans and services, and other personalized information. You can also show customers how their rates are calculated, offering discounts for paying on time or investing and otherwise taking steps to use data to automatically create a personalized experience.

4. Machine-Learning and AI in Bank Digital Marketing

Artificial Intelligence and Machine Learning in banking are important aspects of integrating apps, chatbots, and single-person segmenting, but they are important on their own. Most banks have access to a plethora of data and machine learning is a great way to make use of it. For example, AI can track a user's progress across a website, social media, and apps, take their search into account (using cookies) and create a personalized customer journey for them. AI can choose to show the customer-relevant products and information, can direct them to a customer service representative if necessary, and can otherwise predict what the consumer needs based on their behavior and actions.

5. Integrating Search Optimization into Digital Marketing for Banks

Now new types of searches are beginning to become popular. Marketing content must now be fully optimized to appear in mobile search, through voice searches, and sometimes through a combination of the two. Tailoring content marketing approaches and keywords to meet those needs, without interfering with the customer's experience is crucial. With this banking marketing trend, banks must adjust content sharing strategies to offer short and succinct answers for mobile and voice search users.

6. Expanding to Omnichannel

Most consumers will experience a bank through multiple channels, including social media and a website before considering walking into a branch or opening an account. Some will also download and check the app before doing so. Adjusting to this omnichannel experience means working to curate a customer journey across platforms so that customers experience the same branding and as close to a seamless experience as-is possible.

Here, you can also integrate cookies to track where customers are coming from, which can help you to tailor the user experience and meet expectations.

7. A Focus on Experience and Engagement

With 24/7 service, the ability to easily change banks, and the ability to easily compare what banks are offering at a granular level, banks have to offer more. That "more" should be customer experience. Here, automation, AI, and machine learning can play an important role, offering consumers better rates, ensuring they don't miss anything, creating added value, and otherwise working to improve the total experience of the consumer.

Digital marketing trends in banking are always changing, but many elements remain the same from year to year. For example, all banks should be focusing on offering a strong digital presence and app to meet the needs of younger consumers while offering convenience to everyone. Most should also focus on offering improved customer experience, with more personalization and more adaptable services to increase user satisfaction. Tying these elements into digital ads will also help with the increased online competition.

*(**Source:** https://everfi.com/blog/financial-education/digital-marketing-trends-for-banks/)*

Review Questions

1. What are the benefit of making the digital payments?
2. Explain the different mode of digital payments.
3. Explain the biometric based modes of digital payments.
4. What are the new development in the digital banking?

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8

Security and Precaution against Financial and Online Frauds

Learning Outcomes

After studying this chapter, students will be able to:

- Understand financial fraud and types of frauds or scams;
- Ways to spot fraud and stop frauds;
- Know about Ponzi Scheme and precautions taken to avoid the Ponzi Scheme trap;
- Understand the concept of phishing and its working;
- Explain the steps to protect from phishing;
- Know about credit card closing and skimming,
- Understand the preventive measure to secure online payment.

8.1 Introduction

Everything has gone digital, if something hasn't yet, it will soon. Entire businesses, organizations and services have gone digital. Although technological advancement helps people to enjoy the advantages of cashless/ digital payment systems over others, but with technology comes its vulnerabilities. Digital financial transactions, while convenient also pose a threat to your money. There are risk involved in digital and online banking as well. Every year, thousands of Indians fall victim to online financial fraud. With significant rise in the number of digital payments over the last few years, the incidence of online banking fraud has also increased manifold. In financial year 2019, more than 50,000 cases of fraudulent usage of debit cards, credit cards and internet banking to the tune of ₹150 crore was reported in India. Despite several measures to curb this menace, it continues to be the most widely reported form of cybercrime. So, it becomes crucial for users to understand the potential risks involved in online banking along with necessary measures, they must undertake to protect themselves. However, with proper care and precautions, these financial and online frauds can be avoided. In this chapter we are discussing the different types of financial and online frauds. The security and precautions against these frauds is also discussed here.

8.2 Financial Fraud

Financial fraud or scam is a growing problem in today's world. Every year we hear new stories about people losing all their money by investing in illegal schemes. But this has not stopped others from falling prey to these schemes. This is because criminals are very creative and they keep changing their tactics to find new victims. You can keep your money safe by being aware of these risks. Do you know someone who is a victim? The first step in protecting yourself against fraud or scam is knowing what it is and how to recognise various types of fraud or scams.

8.3 Types of Fraud or Scams

Fraudsters and scamsters target people in a variety of ways: through email and on the telephone, when victims are making investments or by stealing personal information.

Mass Marketing Fraud

You receive an email that looks like it comes from a legitimate company, asking you to click on a link, but it takes you to a fake website. To be safe, never invest, donate or make purchases on the phone unless you can validate the company's existence

Investment Fraud

Someone recruits you to invest in a business or to buy merchandise to sell. You are expected to recruit new members. After a while, new people stop joining. That's when the promoters vanish, taking your money with them.

Lottery Scam

"Congratulations! You've won the lottery/sweepstakes/big prize! All you have to do to claim your prize is send a small fee or tax payment." Legitimate contests don't charge fees for you to collect your prize

Credit and Debit Card Fraud

Credit card and debit card fraud happen when someone uses your card, card information or personal identification number (PIN) without your permission. Never share your PIN with anyone

Affinity Fraud

Fraudsters can win your trust more easily if you're part of a group of people who share a common cause, such as a religious or social organisation. Scammers may ask investors to keep the matter quiet.

Spot Fraud Stop Fraud

If you experience any of these red flags, do not participate in the investment. Inform the appropriate authorities and also tell your family and friends about the attempted fraud and warn them to be careful.

- Don't be so cautious. Don't you trust me? You'll regret passing this up. You are made to feel guilty if you refuse to go along with the transaction.
- High returns with little or no risk – guaranteed. The offer is too good to be true
- It's complicated. You don't need to know the details. You are urged to invest without being given much information about the investment.
- You must act now. Tomorrow will be too late. You are pressured to make a decision fast or on the spot.
- Very few people know about this. That's why it's such a hot tip. You are given "insider information" that others don't know about.
- Don't tell anyone or this fantastic loophole will close. You are asked to keep the matters secret.
- We just need to confirm your information. You are asked to give financial information (PINs, credit card numbers, passwords, banking account information, etc.) or personal information over the phone, by email or on a website you do not know.

8.4 Ponzi Scheme

A Ponzi Scheme is a fraudulent investment operation where the operator, an individual or an organisation, claim that money is invested in high return earning instruments. However, what really happens is that every new deposit is used to pay off earlier deposits rather than from profit earned through legitimate sources. Typically, extraordinary returns are promised on the original investment. The fraudster will vanish with investors' money, so the system eventually collapses with later investors receiving nothing – including their initial investment. There are online Ponzi schemes as well. The largest Ponzi scheme in history, which defrauded approximately $ 65 billion, was run by Bernard Madoff, who was arrested in 2008. He is still serving a 150-year sentence in prison. It is important to check the authority possessed by deposit/investment takers to accept money from the general public. Guaranteeing high investment returns with zero risk and insistence to roll over the investment should be identified as red flags. People need to make sure that their assets are always held by a legitimate entity.

Precautions to Avoid the Ponzi Scheme Trap

- If you're considering any type of investment, seek advice and do research before investing.
- Ponzi fraudsters use vague technical jargons to describe their non-existent investments, such as 'high yield investment programme' or 'global currency arbitrage'. Don't get dazzled or swayed.
- Always ask simple questions about the company and the scheme. Be on high alert and, if they try to dodge questions, be more persistent.
- Ask about the board of directors who are managing the scheme and ask to meet at least one of them.

8.5 Phishing

Phishing relates to the practice of catching fish by throwing bait into the water. In the world of banking, Phishing is a type of fraud that involves stealing personal information such as Customer ID, Internet PIN, credit or debit card number, Card expiry date, CVV number, etc. through emails and other means that appear to be from a legitimate source. Using such sensitive data, fraudsters make unauthorized transactions from the individual's credit card, debit card or bank account.

How the Phishing is Done

Sometimes, phishers also use the phone (voice phishing) and SMS (Smishing) to capture such sensitive financial data from account holders, posing as officials from a bank. Most commonly, fraudsters send fake emails to account holders, asking them to urgently verify or update their account information by clicking on a link in the email. Once clicked, the link takes the individual to a fake website that appears to be almost similar to the bank's official website. The information entered there is captured by the fraudster for his or her personal gains. However, most banks do not send any emails asking the individual to provide confidential information online. Hence, if anyone receives such as email or SMS, they must contact their bank or card issuer at the earliest. A typical voice phishing case may run as follows. The fraudster calls a victim and claims they are a PSP employee (or policeman, or from a public authority) and that there is an emergency (putting psychological pressure on the victim). By claiming that there is a risk that a huge sum of the victim's money may get lost, the victim gets further scared.

How to Protect Yourself from Phishing

Always verify the URL while accessing the bank or credit card website. It is extremely important to check whether there is 's' at the end of 'https://' on the URL. 'S' stands for 'secure' which indicates that the page is secured and is encrypted. Any fake web site will have an address starting with 'https://' and 's' will be missing. This practice should be followed especially in bank websites or any site that makes you carry our financial transactions.

Next, check the Padlock symbol at the upper right or bottom corner of your browser window. Existence of Padlock ensures a security certificate for that website.

Dos:

- For logging in, it is always better to type the website address in your web browser address bar rather than clicking on any link.
- Make sure you have updated the latest version of anti-virus, anti-spyware installed on your system with a firewall and other security patches.

Don'ts:

- Do not click on any link received in your email which is appearing to be suspicious or from unknown sources.
- Do not send across any sensitive information especially related to a bank account or card details

through email or on phone, even if the email or the call is from authorities like the Income Tax Department, RBI or any other government department.

- Do not make an attempt to make financial transactions through access net banking or credit or debit card from computers in public places including cyber cafes.

8.6 Credit Card Cloning / Skimming

Cloning can happen online as well as offline. It is important to be extra vigilant while using credit and debit cards especially at ATMs or at a merchant establishment where the swiping machine is used. Card cloning is a trick used to install an ATM card reader in the slot where it is swiped. The card reader extracts all the information with help of a magnetic strip attached to the cards. A hacker transfers this information to a clone card.

In some cases, there is also a fake keypad installed above the actual keypad. Once the PIN is entered, the machine does not respond and the user believes that the ATM machine is not functioning properly. However, the fake keypad copies the PIN entered by the user. Fraudsters conduct frauds by cloning the card and obtaining the card details to carry unauthorised transactions. Cloning is a process of copying card details using technology or software and then transferring it to another card. The devices used to copy such card information is also called skimmers. Hence cloning is also referred to as skimming.

How Card Cloning is Done?

A skimmer is an electronic device that is attached strategically to a part of the ATM with the aim of capturing data from the debit or credit card of the user. Also, there is a memory card in the skimmer in which the data gets stored. It usually looks like PoS machines. Fraudsters swipe customers credit-debit cards through this device. These machines use the software in which information of up to 3,000 cards can be kept. The information of the card is then scanned and copied into expired, empty, or stolen card. This cloned card is then used to transact via unfair means. As one requires an ATM PIN to withdraw, there is generally a camera installed near the keypad to capture the same. Also, cloning of card could happen if a phone is handed over to untrustworthy mobile repair shops for repair.

Cloning may also lead to SIM swap in which the fraudsters manage to get a new SIM card issued against your registered mobile number through the mobile service provider. After this, they receive the OTP on this fake SIM card and start withdrawing funds from your bank account.

How to Protect Yourself from Cloning / Skimming

The Reserve Bank of India (RBI) has made it mandatory to use EMV chip-based cards instead of Magstripe cards. EMV cards have microchips. When someone tries to scan this card, the only encrypted information is found. While using the credit/ debit card, make sure that there are no cameras nearby so that your card number and other information are safe. While entering a card PIN in POS machines, it should be covered by your hand.

Check the machine properly before swiping cards from POS machines at restaurants, petrol pumps, or any other place. If the machine is heavier than usual, consider paying in some other way. In order to prevent the above from occurring, it is important for individuals to ensure that their credit card is always swiped in their presence. They should also not insert their credit card in any slot in case it looks suspicious or odd. Chip based cards are also a lot more secure in comparison and should be preferred.

If your card gets cloned and you do not receive information from your bank after repeated swipes, then there is only one way of collecting information that is through monthly statements. Thus, bank alerts should always be checked from time to time. When you find your mobile number not working for a considerable amount of time, it could mean trouble. Get in touch with the telecom operator and know the reason as it could be a fraud. Also, register for SMS and Email Alerts to stay informed about the activities in your bank account.

8.7 Avoiding Frauds and Scams

Have you ever experienced an attempted fraud or scam? If so, what did you do? Do you know some key indicators of attempted frauds and scams?

As you know, there are lots of things that you can do with your money. One thing you don't want to do, though, is to let others take or steal your money. It would be great if we lived in a world where you didn't have to worry about that – but that is not the case. There are people and organizations that may try to access your online bank account, fraudulently use your credit card, learn your PIN and use your debit card – or use a duplicate of your card, fool you with an online purchase or payment, and so on. You have to be vigilant in protecting your personal information and your money – especially in this day of online purchases and banking. The following is just a sample of fraud and scams that people may try to use against you. Included are suggestions for how to protect yourself from those who might be looking to take advantage of you.

- **Requests for Personal Information:** Any email asking you to disclose or share personal information is likely to be a scam and before taking any action you should check with the supposed source making the request. Financial institutions and government officials will never ask you to provide personal information over the Internet.
- **"CRA" Calls:** Anyone calling on the phone indicating that they are from the income tax and stating that you owe taxes and that you can pay them right away over the phone with a credit card is a scam. The CRA will never do that. Such calls can sound very threatening, and state that you may face a heavy fine or jail time if you don't pay. Don't fall for it!
- **Sending False Invoices:** It is amazing how often people and businesses will simply pay an invoice that is sent to them in the mail – even though it may be totally false. If you are not aware of a purchase that was made, do not simply pay a received invoice. Check into it. Make sure it is legitimate.
- **Stealing Your Identity:** If someone has access to your personal information – your Adhaar Card number, Passport Number, bank records, etc. – they may use that information to try to access

your money or your assets. Protect your personal information and keep a close eye on your bank accounts and other financial assets to watch for any surprises. If you see a withdrawal or some other action that you did not take, report it to your financial institution immediately.

- **Health Promotions:** People are often vulnerable when they are concerned about their health or appearance. Unsolicited offers may arrive for ways to cure baldness, cure acne, lose or gain weight, feel better and stronger, and so on. Be very cautious about such promotions especially if they promise results that sound too good to be true. Check them out thoroughly before spending any money on such offers.
- **Subscription Traps:** Be cautious of those who offer you a really good deal for a magazine subscription, an online subscription, etc. Some will offer really good deals at the outset and ask for your credit card information. Then, over time, they will raise the rates and continue to charge you monthly fees at a rate you never wanted to pay – but may have agreed to in the fine print. So be cautious about subscriptions – and do read the fine print!
- **Family Member in Distress:** Sometimes individuals will receive calls /emails from someone who says that a family member has been badly injured and that the individual needs you to send money. The caller may have even done some digging and found a name and some personal information about the person they say is injured. They may say that they can help your family member but need money as soon as possible to do so. They may also say that they are the police and need money. Don't ignore a call that may be legitimate about such an event – but be very cautious if the caller asks for money to help especially if they want you to send it right away. Try and verify the situation if you can.
- **Door to Door Sales and Canvassing:** It is rare these days for any legitimate cause or organization to have people canvassing door to door asking for money. Door to door visitors may look to get your support in an election – and that is fine. But if people come to your door asking for money, be very, very cautious about donating or buying anything from someone going door to door. And also be cautious that they are not "checking out" your home. Some may ask for a glass of water or something similar and look for what they can steal while you have left them alone at the door – purse, car keys, etc.
- **Internet Solicitations and Requests for Payment:** It is very common for scammers to try and convince you to support a cause or pay a bill via an email. Again, be very cautious. Watch for typos in the email request. Look at the email source that sent the email to you. It may say it is from a store requesting pay to email requests for money. Follow up with a phone call or visit to verify.

8.8 Preventive Measure to Secure Online Payment and Avoid Cyber Fraud

You may secure your online payments and avoid cyber fraud risks by taking the following preventive measures—

(i) **Card payment in a restaurant:** The most common type of cyber fraud happens when you make payment in a restaurant through debit/credit card. Instead of giving away the card to waiter, ask him to bring the machine to your table to make payment so that you have a fair idea of where your card is being used.

(ii) **Different credit/debit cards for different location:** Instead of carrying only one card, carry 3-4 cards and set a particular limit to the amount. Use different card to make payment at different location. Doing this will make sure that even if any fraud happens, you will lose only some amount of money, not a huge sum. Rest of the money will remain safe in other cards.

(iii) **Say no to giving secret information to other people:** No bank official will ever call you and ask for your bank account details without giving any formal intimation. So, avoid talking to such fraudsters and DO NOT share your account credentials to anyone.

(iv) **Those messages are fraud:** We keep receiving messages saying your bank account has been credited with large sum of money, provide your account details to receive the payment. Avoid falling into such traps as they are mostly fake and can wipe out all the money from your account.

(v) **Avoid risky and suspicious websites or merchants:** Most of the cyber fraud happens because you make payment on a vulnerable, unsafe websites. These websites hold a high risk of getting hacked, giving away all of your credentials to the hacker.

(vi) **Look out for genuine websites:** When you go to a website to make any transaction, look out for the logo of Payment Certification Industry (PCI) at the top of the page. It is a globally renowned industry. Having its certification means that the website owner is concerned about user security and your bank details are in safe hands.

(vii) **Never store your password in any application:** Many a times, people save their important passwords and bank account credentials in rental applications. These applications use the details in carrying out cyber crimes. So, avoid storing your passwords in such applications.

(viii) **Be careful while using public wifi:** Avoid making any online payment when you are using public network, as a hacker, might be sitting on the same network, can gather all the details of your card or internet banking.

Also, avoid using social media websites as your log-in credentials can go directly to the hacker and he can use it adversely.

"Taking into consideration these measures, you can definitely avoid a lot of cyber crime risks and protect your personal data and hard-earned money,"

8.9 Dos and Don'ts to Protect Yourself from Online Banking Fraud

Worldwide, India is one of the top 5 countries known for credit card fraud. As India is trying to make all payments digital, a lot of awareness campaigns are being conducted by various parties to educate people about credit card fraud. In FY 19, more than 50,000 cases of fraudulent usage of debit cards, credit cards and internet banking to the tune of ₹150 crore was reported in India. Despite several measures to curb this menace, it continues to be the most widely reported form of cybercrime. So, it becomes crucial for users to understand the potential risks involved in online banking along with necessary measures, they must undertake to protect themselves. Here, we are sharing dos and don'ts to help you secure your account from online banking frauds.

Dos:

1. **Secure your password and PIN:** It is in the best interest of the users to memorise their net banking password or ATM PIN. One must avoid sharing passwords with anyone or saving it on online medium such as email, messenger or texts.
2. **Check bank statements regularly:** Check your bank statement at least once a week. In case of any suspicious activity, report immediately to the banks and cybercrime department.
3. **Change password regularly:** Reseting banking password every two months is the best security practice. It will not only reduce the risk of banking fraud but also secure you from potential hackers. Always verify the authenticity of the Bank's Net Banking webpage by checking its URL and the PAD Lock symbol at the bottom corner of the browser.
4. **Spot imposters:** Scammers often pretend to be someone you may trust, like a banking official, an insurance agent or even a job provider. They may try to persuade you into revealing your smart card details. Don't give out any credit card details, email addresses and other personal details to unknown persons. Avoid responding to such texts, phone calls, or emails.
5. **Report lost card immediately:** If your debit card or credit card is lost or stolen, immediately contact your bank and ask them to block the card.

Don'ts:

1. **Avoid the obvious:** Avoid using your date of birth, contact number or its combination as your ATM pin. Also, name, birthplace, and another familiar trope should not be part of your online banking password.
2. **Avoid using public computers for digital payment:** Do not access net banking or make payments using your credit card/debit card from shared computer networks such as cyber cafes or public Wifi networks like hotel/airport etc.
3. **Don't let the Debit card out of your sight:** Since only you are authorized to use your smart card, you must avoid sharing it with anyone. Even in restaurants, whenever possible pay the bill at the cashier rather than handing it over to the waiter.
4. **Do not click on suspicious links in emails:** Do not open unexpected email attachments or instant message download links. It may help a hacker get unauthorized access to your account.
5. **Where to report in case of online bank fraud:** Victims of online financial fraud can register their complaints on National Cyber Crime Reporting Portal. Complaints reported on this portal are handled by the state/UT police authorities concerned based on the selection of state/UT while reporting the complaint. It is imperative to provide accurate details while lodging complaint for immediate action.

Review Questions

1. Explain the ways in which Fraudsters and scamsters target people?
2. How do we spot fraud and stop them?
3. Define Ponzi Scheme? What you can do to avoid the Ponzi Scheme trap?
4. Define phishing? How the phishing is done? What we can do to protect ourselves from phishing?
5. Define credit card cloning/ skimming? How we can protect ourselves from card cloning frauds?
6. What are the preventive measure adopted to secure your online payments and avoid cyber fraud risks?
7. What are the dos and don't to be followed to protect from online frauds?

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9

Investment Planning and Management

Learning Outcomes

After studying this chapter, you should be able to:

- Understand the process and objective of investment;
- Explain the concept and measurement of return and risk;
- Introduction to portfolio risk and return;
- Diversification and portfolio formation.

9.1 Introduction

Investments play a significant role in your ability to accumulate and preserve wealth. However, it's crucial to realize from the start that no single investment is suitable for everyone. You have unique financial needs, goals, and a nest egg for retirement. Actually, the term investment means different things to different people; that is, while millions regularly invest in securities like stocks, bonds, and mutual funds, others speculate in commodities or options. Investing is generally considered to take a long-term perspective and is viewed as a process of purchasing securities wherein stability of value and level of return are somewhat predictable personal circumstances that determine which specific investments are appropriate for your individual situation.

We invest today to have more tomorrow. Investment is simply deferred consumption. By forgoing consumption today and investing the savings, investors expect to increase their future consumption possibilities by increasing their wealth. We choose to wait because we want more to spend later. Investment is an instrument that promises some certain or uncertain return in the future.

Why invest?

- Invest, so that your money will grow because of compound interest.
- If you keep your money with yourself, you risk losing purchasing power to inflation.
- Investing helps you achieve your financial goals.
- Invest so that you don't have to rely on anyone.

9.2 Investing Goals

What you want from your investments depends on who you are. Your investment goals will be different from those of other people, and they will change as you go through life. Usually, you have a variety of goals at the same time. You may be looking for long-term growth in value but also want a secure and flexible fund for emergencies. Each household will have a variety of objectives, and will need a different investment strategy for each one.

1. If your goal is to make as much money as you can, you have to be ready to take some risks. You are likely to choose shares in companies with a potential for growing rapidly.
2. If your goal is to keep your money safe, or to provide money to live on, you would choose different investments, such as guaranteed investments or bonds that pay a low but reliable return.

One easy way to see how personal factors affect investment choices is to think about your stage in life or, the phase of your life that you are in.

Stage 1: If you are young, you may be willing to take more risks because you are planning for the long term. If the value of your investments goes down, you'll have time to recover and your investments can grow over a long period of time.

Stage 2: If you are starting a new family, you want to provide security. You may still be planning for the long term, but you need to keep at least part of your money available to provide for shorter-term savings goals and emergencies, or to make major purchases such as a family home.

Stage 3: If your family is becoming more independent, you may have less need for short-term savings, and be able to save more for your retirement. You may be at the peak of your earning years, with cash available for investments, but unwilling to invest your money in anything risky.

Stage 4: Once you have retired, you may be relying on your investments to provide a regular, reliable income to add to benefits such as your public or private pensions.

9.3 Key Factors in Investment

You need to know at least three key factors about every investment: its return, the risk and liquidity.

(i) Return is the profit that an investor makes on an investment. It can come in two different forms: as income or as capital gain.

(ii) Risk means uncertainty. You are not sure whether your investments will give high returns or you will lose your money. Risk and return go hand-in-hand which means that to get higher return on your investments you will be exposed to more risk.

(iii) Liquidity is the ability to cash in or sell an investment quickly at or near the current market price. It affects the value of an investment. Listed stocks and government bonds are liquid, because you can usually sell them easily.

9.4 Objectives of Sound Investment

There are several features for which the investor should look into an investment. It must be noted that these features must be consistent with the objectives of the investors. Following are some of the objectives which should be kept into consideration while investing. Some of these objectives are discussed here:

- **Regular Return:** One of the main objectives of investment is to earn the highest possible return for a given level of risk. Some individuals invest in generating a second source of income. Consequently, they invest in products that offer returns regularly like bank fixed deposits, corporate and government bonds, etc. An investment is considered a good investment if it offers stable returns to the investors.
- **Growth:** Growth is also an important objective for many investors; a majority of them invest to receive capital gains, which means that they want the invested amount to grow over a period of time. Several options in the market offer these benefits to the investor. These include stocks, mutual funds, gold, property, commodities, etc.
- **Liquidity:** Many investment options are not liquid. This means they cannot be sold and converted into cash instantly. However, some prefer investing in options that can be used during emergencies. Such liquid instruments include stock, money market instruments and exchange-traded funds.
- **Tax Exemption:** Some people invest their money in various financial products solely to reduce their tax liability. Some products offer tax exemptions while many offer tax benefits on long-term profits. Tax benefits are of the following three kinds.
- **Initial Tax Benefit:** An initial tax benefit refers to the tax relief enjoyed when making the investment. For example, when you deposit in a public provident fund account, you will get a tax benefit under section 80C of the income tax act.
- **Safety of Principal:** While no investment option is entirely safe, some products are preferred by investors who are risk averse. Some individuals invest intending to keep their money safe, irrespective of the rate of return they receive on their capital.

9.5 Concept of Return

Return is the primary motivating force and the principal reward in the investment decision process. In simple words, return is the benefit or gain to an investor resulting from the investment process. So the return from an investment is the expected cash inflows in terms of dividend, interest, bonus, capital gains etc. available to the investor from investment. There are two types of return — (i) Realised return, and (ii) Expected return.

- **Realised return:** This is the historical return of an investment. Historical return on investment is the annual return on assets over several years. The return which has been earned by an investor over the holding period.
- **Expected return:** This is the predicted or estimated return and may or may not occur. Or we can say that the return that an investor anticipates to earn over some future investment period, say in one year. Research analysts and professional investors use historical returns, along with industry and economic data, to estimate future rates of return.

We can use actual and estimated returns to evaluate various assets, such as stocks and bonds, and different securities within each asset category. This evaluation process helps you pick the right mix of securities to maximise returns during your investment time horizon.

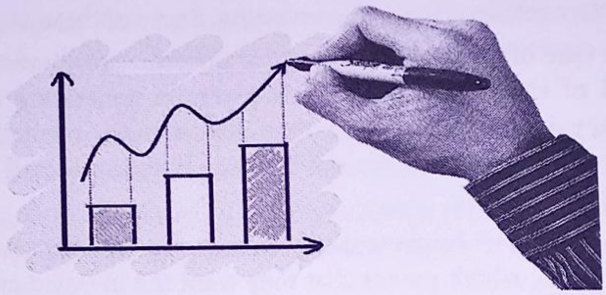


Fig.1: Investment-Based Return

9.6 Measurement of Return

Holding Period Return/Realised Return

The return may be measured as the total gain or loss to the holder over a given period of time and may be defined as a percentage return on the initial amount invested. The return can be measured as follow:

$$\text{Holding Period Return} = \frac{\text{Interest/Dividend} + \text{Price change in assets over the period}}{\text{Purchase price of the asset}}$$

Total return is divided into two parts: revenue return and capital return. Revenue return is the essential component of the return. It refers to the periodic cash inflow or income from investment in the form of interest or dividends. Capital return or price changes refers to the difference between the cost price of the investment and the rate at which it can be or is sold. It is the difference between the beginning price and the ending price of the investment.

Expected Return (Ex-Ante Return)

The average return based on a series of historical returns may not help make future predictions about expected returns. Therefore an investor may have several probable returns and assign probabilities to each expected outcome. Security analysts can actually construct a probability distribution of returns by assigning probabilities to the expected return outcomes. Expected returns can be calculated by multiplying the possible outcomes (expectation of the rate of return) by the chances of them (probability of earning the return) occurring, and summing the results. Simply, it is the weighted average of the expected return calculated by multiplying the possible return with the respective probability.

9.7 Real Rate of Return

Real rate of return is the inflation adjusted return. Rate of inflation may also reduce the income earned by an investor. So the prevailing inflation rate should also be considered at the time of making the investment decisions. The relationship between the real rate of return, nominal rate of return and inflation can be expressed as:

$$\text{Real Rate of Return} = \frac{\text{Nominal Rate of Return} - \text{Inflation Rate}}{1 + \text{Inflation Rate}} = \frac{1 + \text{Nominal Rate}}{1 + \text{Inflation Rate}} - 1$$

For example: Assume if the rate of interest is 10% and the rate of inflation is 6% then the real rate of return would be:

$$\text{Real Rate of Return} = \frac{(0.10 - 0.06)}{(1 + 0.06)} = \frac{0.04}{1.06} = 0.0377 = 3.77\%$$

So if the inflation in the market is 6% so instead of getting 10% return you actually got 3.77%.

9.8 Impact of Taxes on Investment Decision

Income from investment are also subject to tax. However the rates of tax differs from investment to investment. Some income from investment are also exempt from tax such as public provident fund, Tax free bonds etc. The dividend paid to equity shareholders are subject to tax to shareholders. However, interest in case of most of the investment are taxable in the hand of investors. Similarly the capital gain may also be required to be classified into short term and long term capital gain depending upon the relevant tax provisions. The shareholders are liable to pay long term capital gain tax on sale of shares @10% over and above ₹1 lakh. The short term capital gain on sale of shares is also tax @ 15%. Even now the sale of mutual fund units are also liable to tax under the short term and long term capital gain. An investor need not ignore the tax-implication in making investment decisions. An investor must find out the after tax return on his investment and then this after tax return be considered for decision making. In order to find out the total return from an investment, the tax implications of capital gains/losses should also be incorporated. As a measure of tax planning, investors can time the sale of investments.

The income tax adjusted return may be calculated as follows:

$$\text{Income tax adjusted return (net return)} = \frac{\text{Taxable rate of return}}{\text{Coupon rate } (1 - t)}$$

Where, t = tax rate.

For example, if Mr. X is earning 20% interest on bonds and his income is subject to tax @30%. The after tax rate of return is:

$$\text{After tax return} = 0.20\ (1 - 0.30) = 0.14 \text{ or } 14\%$$

In case the investor has been offered both types of options, tax free and taxable, either he can convert the taxable into income tax adjusted return or tax free return into tax equivalent return (before tax) in order to have the same ground of comparison.

$$\text{Tax equivalent return} = \frac{\text{Tax Free Return}}{1 - \text{Tax Rate}}$$

For example, if Mr A is earning 8% tax free interest on debenture and his income is subject to tax @20%. In this case the taxable equivalent return is

$$\text{Tax equivalent return} = \frac{0.08}{(1-0.30)} = 0.1143 = 11.43\%$$

9.9 Risk

Although the return is an essential aspect of determining whether an investment is appropriate, it's equally important to consider the risk associated with an investment. Each type of investment offers a different level or type of return; similarly, each investment has different associated risks.

Uncertainty and Risk

Uncertainty is the core concept of risk. It is often used in connection or interchangeably with the term risk. The meaning of uncertainty refers to a state of mind characterised by doubt due to a lack of knowledge about what will or will not happen in the future. In the case of risk, we can assign the probability of happening or not happening of an event based on facts and figures available. Regarding the decision, in case of uncertainty, we cannot assign a probability for the happening of events either the facts or figures are not available. While risk is a state of nature, uncertainty is a state of the human mind.

9.10 Types of Risk

There are two primary types of risk — Systematic risk and Unsystematic risk.

- **Systematic risk** is the type of risk that is impossible to avoid altogether. It refers to that portion of the variability in return which is caused by the factors affecting all the firms. ***Examples of systematic risk include inflation, recessions, interest rate policy of the government, political factors, credit policy, tax reforms and war. These are the factors which affect almost all firms.***
- **Unsystematic risk** is the risk that affects an isolated group of companies or industries. This risk represents the fluctuations in returns from investment due to factors which are specific to the particular firms and not the market as a whole. So these are the factors which are controllable by the firm.

9.11 Sources of Risk

Different sources contribute to variations in return from an investment. Each of these sources constitutes an element of risk. The different types of risk in investment are as follows:

(i) **Business Risk:** When investing in a company, you may have to accept the possibility that the firm will fail to maintain sales and profits or even stay in business. Such failure is due either to economic or industry factors or, as is more often the case, to poor management decisions. Business risk is the uncertainty surrounding the firm's cash flows and subsequent ability to meet operating expenses on time.

(ii) **Financial Risk:** Financial risk concerns the amount of debt used to finance the firm and the possibility that the firm will not have sufficient cash flows to meet these obligations on time. Look to the company's balance sheet to get a handle on a firm's financial risk. As a rule, companies with little or no long-term debt are relatively low in financial risk. This is particularly so if the company also has a healthy earnings picture.

(iii) **Market Risk:** Market risk results from the behaviour of investors in the securities markets that can lead to swings in security prices. Or we can say that it is caused due to the herd-mentality of investors i.e., the tendency of the investors to follow the direction of the market. These price changes can be due to underlying intrinsic factors and changes in political, economic, and social conditions or investor tastes and preferences.

(iv) **Purchasing Power Risk :** Changes in the general level of prices within the economy also produce purchasing power risk. In periods of rising prices (inflation), the purchasing power of the money declines. This means that the same amount of money can buy a smaller quantity of goods and services due to increased prices. Therefore if investment income does not increase in times of rising inflation, then the investor is actually getting lower and lower income in real terms. In general, investments (such as stocks and real estate) whose values tend to move with general price levels are most profitable during periods of rising prices, whereas investments (such as bonds) that provide fixed returns are preferred during periods of low or declining price levels.

9.12 Types of Investors

Based on investor preference or attitude towards risk, they are classified into three groups: risk averse, risk seeker and risk-neutral investors.

- **Risk Averse:** These investors try to avoid risk, however, they may be ready to take risks if the return available for taking extra risk is commensurate. For every additional unit of risk, they demand higher and higher compensation, in terms of higher returns. Some investors are more risk-averse investors also known as conservative investors. Some investors are less risk-averse investors and are called aggressive investors.
- **Risk Neutrals:** These investors require just a sufficient return for taking the risk. They make their investment decisions purely based on Return. They do not consider risk. They want no extra return for a given level of risk. Risk is not an essential factor for these investors.
- **Risk Seekers:** They undertake more and more risk even if it is not accompanied by higher returns. They are risk lovers and engage in fair games as well as gambling just for the sake of fun or excitement.

9.13 Risks in Different Types of Investment

Different kinds of investments are subject to different kinds of risk. The three major investment classes are cash, bonds, and stocks. The risks that typically affect each are:

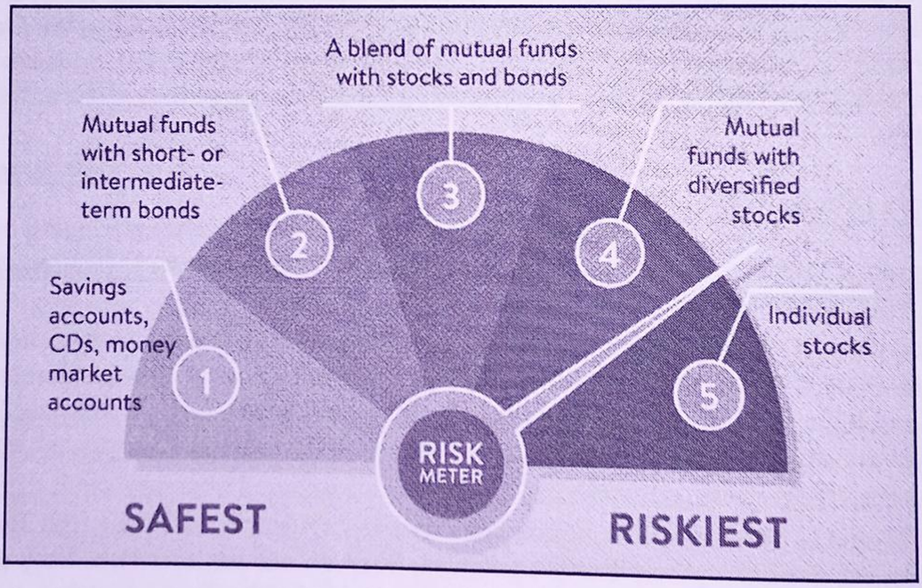
(i) **Cash:** The chief risk is purchasing power risk the risk that the return on the investment or value of investment principal, as measured by purchasing power, will decrease due to inflation. Here's an example: If you invest in a cash investment that pays you 4% while the inflation rate is 3.75%, you'll actually lose purchasing power if your 4% income is subject to tax.

(ii) **Bonds:** The investment in Bonds has two outcomes:

- The interest rate will beat inflation.
- The Interest will be paid, and you'll get your money back.

Consequently, the relevant risks here are interest rate risk (i.e., will interest rates rise, thereby reducing your bonds' value) and default risk (will the bonds' issuer pay you back).

(iii) **Shares:** The investor invests in shares of a company based on issuing company's performance over time. The stock's price can be valued based on what the market expects the company to pay each shareholder in the future. That value is based on the company's expected profits. If the profits turn out to be lower or higher than expected, you bought the stock for the wrong price. In addition, the Stock price may be affected by any economic consideration affecting the company, the industry, the region, or the entire stock market.



9.14 Measurement of Total Risk

Risk is defined as the variability in expected returns. This variability can be estimated using various statistical methods like Range, Standard Deviation and Variance.

(i) **Range:** It is defined as the difference between the highest and lowest possible returns from an investment. More the range higher will be the variability. Hence greater will be a risk.

(ii) **Variance or standard deviation:** The Square root of the variance is the standard deviation. The standard deviation of securities can be calculated by measuring the extent of deviations of the individual rate of return from the average rate of return. $= \sqrt{\frac{\Sigma(r_i - r_{avg})^2}{n-1}}$

Types of Risk

Systematic Risk	Unsystematic Risk
- Uncontrollable by an organisation	- Controllable by an organisation
- Macro in nature	- Micro in nature

9.15 Risk-Return Trade-Off

The different types of investments have different degrees of risk and the required rate of return. The government securities have a rate of return equal to the risk-free rate. As the risk increases, the required rate of return also increases. Equity shares have maximum risk, so the maximum required rate of return is also highest. The risk-return trade-off means that higher risk is associated with a greater probability of higher return and lower risk with a greater probability of smaller return. This trade-off an investor faces between risk and return while considering investment decisions is called the risk-return trade-off.

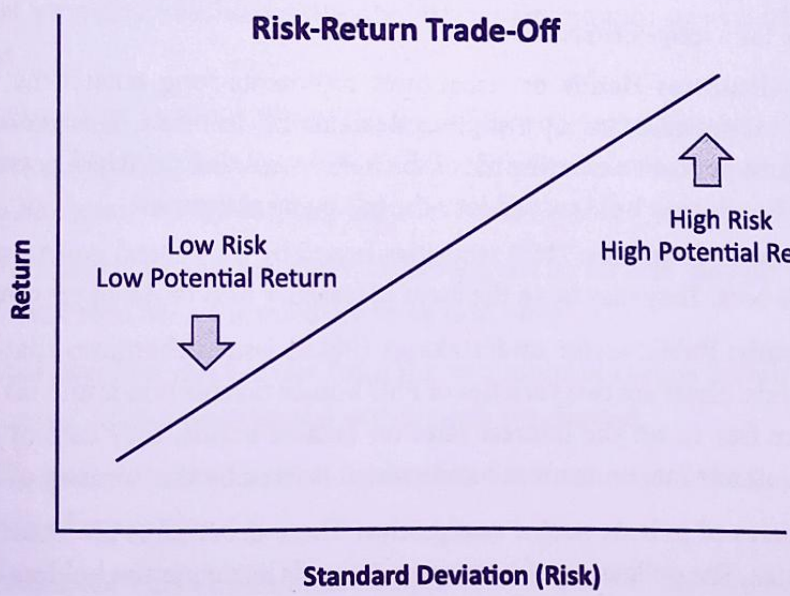


Fig. 2

***For example,** Rohan faces a risk-return trade-off while deciding to invest. If he deposits all his money in a savings bank account, he will earn a low return i.e. the interest rate paid by the bank. Still, all his money will be insured up to an amount of ₹1 lakh (currently the Deposit Insurance and Credit Guarantee Corporation in India provides insurance up to ₹1 lakh). However, if he invests in equities, he faces the risk of losing a significant part of his capital along with a chance to get a much higher return compared to a saving deposit in a bank.*

9.16 Investment Opportunities and Financial Products in India

Best Investment Options in India

1. **Equity Stocks:** Equity is a part of a company, also known as stock or share. When you buy shares of a company, you basically own a part of that company and can expect to profit when the company profits. These shares are traded on stock exchanges, which facilitate the buying and selling of stocks, thus providing a marketplace. Investing in equities is riskier and definitely demands more time than other investments. For beginners, it's better to invest in the share market via mutual funds which are professionally managed and are less expensive.

   Buying individual equity stocks of the companies listed or unlisted on the stock exchanges is known as Direct Equity investment. You can get capital gains or dividend returns from your direct stock investments. The performance of stocks depends on factors such as market position, company's performance, etc.

   - This option is one of the most volatile investments and has a high risk-return ratio.
   - One of the best investment options to generate inflation-adjusted wealth.
   - Suitable for a long-term horizon.

2. **Bonds or Debentures Bonds** or debentures represents long term debt insturments. The issuer of a bond promises to pay a stipulated stream of cash flow. This generally comprises of periodic interest payments over the life of the instrument and principal payment at the time of redemption. Bonds may be classified into the following categories:

   (i) **Government securities:** Debt securities issued by the central government are popularly called G-secs. They may be in the form of treasury bills or dated government securities.

   (ii) **PSU bonds:** Public sector undertakings (PSUs) issue debentures that are referred to as PSU bonds. There are two varieties of PSU bonds: taxable bonds and tax free bonds. While PSUs are free to set the interest rates on taxable bonds, they cannot offer more than a certain interest rate on tax free bonds which is fixed by the ministry of Finance.

   (iii) **Debentures of private sector companies:** These debentures are issued by private sector companies. The obligation of a company towards its debenture holders is similar to that of a borrower who promises to pay interest and principal at specified times.

3. **Mutual Fund:** A mutual fund pools money from many investors and invests in stocks, bonds, short-term money market instruments, other securities or assets, or some combination of these investments. The combined holdings that the mutual fund owns are known as its portfolio. Each unit represents an investor's proportionate ownership of the fund's holdings and the income those holdings generate. Buying a mutual fund unit is simple and easy since these are sold by many banks, and the minimum investment amount is small. Before investing, it's important to remember that if an offer is too good to be true, it probably is. Also, be sure that the product or company you are investing in is a registered entity engaged in legitimate business. There are different types of mutual fund in the market some examples are

   (i) **Equity Mutual Funds:** The type of mutual funds where the funds are primarily invested in equity stocks are known as Equity Mutual Funds. Equity mutual funds can invest anywhere between 70 to 95% of the fund value in equity stocks and related instruments. Since these are equity-based, they offer high risk-return ratio.

   (ii) **Debt Mutual Funds or Bond Funds:** We have seen that how investing in equity can give you the best of returns but also possess high risk. What if you do not have a high-risk appetite and do not want to take much risk? If that is the case then you can consider Debt Mutual Funds.

4. **National Pension Scheme (NPS):** National Pension Scheme is an investment designed to help you in your retirement. NPS is backed by the government and is regulated by Pension Fund Regulatory and Development Authority (PFRDA). NPS helps you to have a strong retirement corpus at your disposal. You can use the NPS retirement account as a salaried or self-employed investor.

5. **Public Provident Fund (PPF):** PPF is one of the most popular and safe investments for your long-term goals. Originally introduced as a safe retirement investment plan for self-employed, the plan has been popular for long-term investors because:

   - **Tax Efficiency:** You can claim deduction under section 80C up to ₹1.5 lakhs for ULIP investments. Also, the maturity value is tax-free.
   - **Liquidity:** You can borrow from the accumulated corpus within the first 5 years of the account. After 5 years partial withdrawals are allowed.
   - **Risk-Return Mix:** Low-risk investment with a market-linked rate of interest, which is updated every year.
   - **Investment Period:** Minimum 15 years; after that you can extend the account in batches of 5 years.

6. **Deposits:** A good portion of the financial assets of individuals is held in the form of deposits. They can be broadly classified as:
   (i) **Bank deposits**: It is a facility offered by the banks that ensures the safety of your invested money and provides stable returns. In Bank Fixed Deposits, you must invest a lump sum amount with the bank for a specific term and at an existing rate. After your term gets over you will receive your principal with the compound interest added over the term.
   (ii) **Post office deposits:** Similar to fixed deposits of commercial banks, post office also accepts deposits from the public. There are different types of post office schemes available in which the person can deposits their money.
   (iii) **Company fixed deposits:** Many companies, large and small, solicit fixed deposits from public. Fixed deposits mobilised by manufacturing companies are regulated by the company law board and fixed deposits mobilised by finance companies (more precisely non-banking finance companies) are regulated by the Reserve bank of India.
7. **Money Market Instruments:** Debt instruments which have a maturity of less than one year at the time of issue are called money market instruments- these instruments are highly liquid and have negligible risk. The major money market instruments are; treasury bills, Certificates of deposits, Commercial papers, Repos etc.
8. **Senior Citizens' Saving Scheme (SCSS):** Senior Citizen Saving Scheme or SCSS is an investment option designed for people who are retiring or have retired. It is a government-backed investment option where you can invest a lump sum and get a regular income stream post-retirement. You can open an SCSS account in 2 ways - Via post-office, - Via Bank
9. **Real Estate Investment:** Investing in real estate is also a good option. Real estate investment refers to buying properties such as buildings and land. This is one of the best investment options that can combat inflation. Real estate investment can give you a shot at both regular and capital gain income.
10. **RBI Bonds:** RBI Bonds are one of the safest investment options in the market. The Reserve Bank of India, i.e., RBI, issues bonds to the public to raise money for the development of various government projects. These bonds have a specific term. After maturity money is returned along with the interest generated. You can buy RBI bonds from any of the 12 national chains along with 4 private banks. To acknowledge your debt, RBI will issue you a certificate of holding. This certificate will act as proof during maturity.
11. **Gold:** In India, Gold is often seen as a go-to investment to keep a family's legacy safe. But rising costs and making charges rates have now made them less attractive.
12. **Financial derivatives:** A financial derivatives is an instrument whose value is derived from the value of an underlying asset. It may be viewed as a side bet on the asset. The most important financial derivatives from the point of view of investors are options and futures.

13. **Life insurance:** In a broad sense, life insurance may be viewed as an investment. Insurance premiums represents the sacrifice and the assured sum, the benefit. The important types of insurance policies in India are:
    (i) Endowment Assurance policy
    (ii) Money back policy
    (iii) Whole life policy
    (iv) Term assurance policy

9.17 Portfolio

A portfolio refers to a collection of investment avenues such as stocks, shares, mutual funds, bonds, cash and so on depending on the investor's income, budget and convenient time frame. In other words, a portfolio is a group of assets or a collection of assets. It is not desirable for any investor to invest all of his funds in one individual security/asset. The investor will invest in different types of securities depending upon their risk-return preferences. The portfolio allows diversifying risk.

9.17.1 Portfolio Management

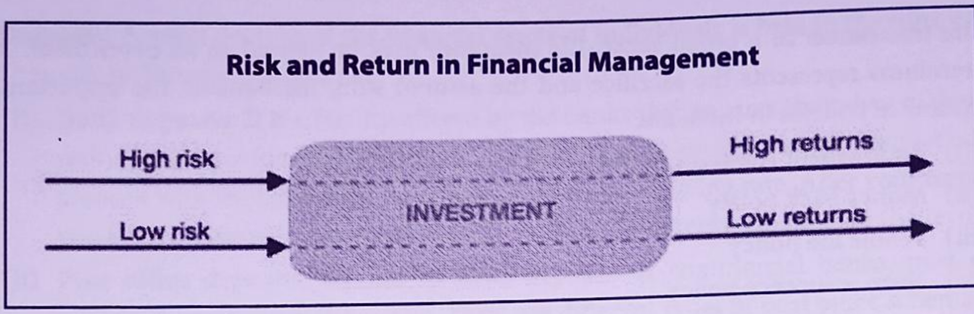
Portfolio Management, implies tactfully managing an investment portfolio, by selecting the best investment mix in the right proportion and continuously shifting them in the portfolio, to increase the return on investment and maximise the investor's wealth. So we can say that it is the art of selecting the right investment policy for individuals in terms of minimum risk and maximum return. Portfolio management refers to managing an individual's investments in the form of bonds, shares, cash, mutual funds etc so that he earns the maximum profits within the stipulated time frame. It is the process of construction, maintenance, revision and evaluation of a portfolio. *The objective of portfolio management is to build a portfolio which gives a return commensurate with the risk preference of the investor. Portfolio management deals explicitly with security analysis, analysis and selection of portfolio, revision of portfolio and evaluation of the portfolio.*

In layman's language, the art of managing an individual's investment is called portfolio management.

9.17.2 Activities Involved in Portfolio Management

- Selection of securities in which the amount is to be invested.
- Creation of an appropriate portfolio, with the securities chosen for investment.
- Making decisions regarding the proportion of various securities in the portfolio, to make it an ideal portfolio for the concerned investor.

These activities aim at constructing an optimal portfolio of investment, that is compatible with the risk involved in it.



9.17.3 Process of Portfolio Management

1. **Security Analysis:** It is the first stage of the portfolio creation process, which involves assessing the risk and return factors of individual securities, along with their correlation.
2. **Portfolio Analysis:** After determining the securities for investment and the risk involved, a number of portfolios can be created out of them, which are called feasible portfolios.
3. **Portfolio Selection:** Out of all the feasible portfolios, the **optimal portfolio**, that matches the risk appetite, is selected.
4. **Portfolio Revision:** Once the optimal portfolio is selected, the portfolio manager, keeps a close watch on the portfolio, to make sure that it remains optimal in the coming time, to earn good returns.

The portfolio management services are provided by financial companies, banks, hedge funds and money managers.

9.17.4 Portfolio Return

Portfolio return is the weighted average of the returns of the individual assets or securities comprising that portfolio. The weights are the proportions of total funds invested in a particular asset or security.

Example-1: Mr X has ₹1,00,000 for investment. He invested 30% of his funds in securities of X ltd which are likely to provide return of 14% and the remaining in securities Y ltd which is likely to provide return of 19% find the expected return on the total investment.

Solution: The expected return may be found as under:

Security	Weight	Return	WXR	Amount	Return
X	0.3	0.14	0.042	30,000	4200
Y	0.7	0.19	0.133	70,000	13300
			0.175		17,500

Absolute Return = ₹17500

% Return = 0.175 or 17.5%

$$= \frac{17,500}{1,00,000} \times 100 = 17.5\%$$

Example-2: An investor has a portfolio of fine securities whose expected returns and amount invested are as follow:

Security	1	2	3	4	5
Amount (₹)	1,50,000	2,50,000	3,00,000	1,00,000	2,00,000
Expected Return	12%	9%	15%	18%	14%

Find out the % expected return of the portfolio

Solution:

Total amount invested = ₹10,00,000

Hence the weight of each security can be calculated as follow:

$$\text{Weight of security } i = \frac{\text{Amount invested in security } i}{\text{Total amount investged}}$$

Security	Amount	Weight (W)	Expected Return	$W_i \times R_i$
1	1,50,000	0.15	12%	1.8
2	2,50,000	0.25	9%	2.25
3	3,00,000	0.30	15%	4.5
4	1,00,000	0.10	18%	1.8
5	2,00,000	0.20	14%	2.8
		Expected Return of Portfolio		13.15

9.17.5 Portfolio Risk

The risk of a portfolio is measured using the standard deviation of the portfolio. However, the standard deviation of the portfolio will not be simply the weighted average of the standard deviation of the two assets. To find the risk of the portfolio, the riskiness of each security *vis-s-vis* the overall portfolio is to be considered. This can be studied with the help of covariance/correlation between the assets. The covariance reflects the co-movement of the returns of the two assets. Covariance indicates the way the security returns vary with each other and affect the overall risk of the portfolio. If the rates of return of two securities move together, their covariance is positive.

9.17.6 Portfolio Diversification

Diversification is a technique of allocating portfolio resources or capital to a mix of different investments. The ultimate goal of diversification is to reduce the portfolio's volatility by offsetting losses in one asset class with gains in another asset class. A phrase commonly associated with diversification: "*Do not put all your eggs in one basket*". Having "eggs" in multiple baskets mitigates risk; if one basket breaks, not all eggs are lost. In the context of portfolio management, it may be defined as a risk management technique that makes various investments within a portfolio. Basically, it is a process of minimising unsystematic risk. It involves the selection of assets in a manner that the total risk may be brought down. It is the process of allocating capital in a way that reduces the exposure to any one particular assets or risk.

Diversification theory is based on the premise that the market values of some assets tend to rise and fall together. In contrast, the market values of other assets move in opposite directions. Factors independent of the financial characteristics of a particular investment, such as economic, political, and social events, can affect its value. While portfolio risk cannot be totally eliminated, it can be reduced by constructing a diversified portfolio that contains a mix of asset types whose values have historically moved in opposite directions or the same direction but to a greater or lesser magnitude. The basic idea behind diversification is that the excellent performance of some investment avenues balances or outweighs the negative performance of other investment avenues. Therefore, an investor should divide his total funds into as many securities or companies as possible and as many industries or economics as possible.

Practical Problems

Q1. (a) An investor 'A' purchased a bond at a price of ₹900 with ₹100 as coupon payment and add it at ₹1000. What is his holding period return?

(b) If the bond is sold for ₹750 after receiving ₹100 as coupon payment, then what is the holding period return?

Solution:

(a) $$\text{Holding period Return} = \frac{\text{Interest + Price change over the period}}{\text{Price at the beginning}}$$

$$= \frac{100+(1000-900)}{900} = 22.22\%$$

(b) $$\text{Holding period Return} = \frac{\text{Interest + Price change over the period}}{\text{Price at the beginning}}$$

$$= \frac{100+(750-900)}{900} = \frac{-50}{900} = -5.5\%$$

Q2. If the expected return of equity share is 20.01% and the rate of inflation during the year is 8%. Calculate inflation adjusted return?

Solution:

$$\text{Inflation adjusted Return} = \frac{1 + \text{Nominal Return}}{1 + \text{Inflation Rate}} - 1$$

$$= \frac{1+0.2001}{1+0.08} - 1$$

$$= \frac{1.2001}{1.08} - 1$$

$$= 0.1112 \times 100$$

$$= 11.12\%$$

Q3. **Mr A is earning 20% interest on bonds and he is paying income tax at the rate of 30% what will be the effective rate of return on interest income.**

Solution:

Rate of Interest (R) = 20%

Income tax rate = 30%

Effective Rate (r) = Interest rate (1 – Tax rate)

= 0.20 (1 – 0.30)

= 0.20 × 0.7

= 0.14 or 14%

Q4. **Mr X is interested to earn 12% net return on his investment. If his income is subject to 30% rate of tax. Find the tax equivalent rate of return.**

Solution:

Effective rate (r) = 2%

Tax rate (I) = 30%

$$\text{Tax equivalent rate (R)} = \frac{\text{Tax free rate}}{1-\text{Tax rate}}$$

$$= \frac{0.12}{1-0.30} = 0.1714$$

$$= 17.14\%$$

Q5. **Mr X has two options for investment. Option A offers 25% rate of interest whenever Option B offers 18% tax free. If Mr X's income is subject to income tax rate of 30% which one option is suitable for investment?**

Solution:

Mr X should go for the option providing higher net rate of return. Calculation of net rate of return in both of the cases:

Option A:

Normal Rate of Return (R) = 25%

Income tax Rate = 30%

Effective rate of Return = ?

Effective Rate = Rate of Return (I – Income tax Rate)

= 0.25 (1 – 0.30)

= 0.175 or 17.5%

Option B: 18% tax free return so Mr. X should opt option B that provide higher rate of return in comparison to option A.

Review Questions

1. What are the Various Financial Products in India? Describe in Details with Examples
2. Does Indian Market is Ready or Perfect for the Investment point of View. Explain with live Example
3. What do you mean by Concept of return from Investment point of view? Is return Really reliable for Investment.
4. Define Diversification. What tis the benefit of diversification while preparing the portfolio of securities.

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10

Mutual Funds

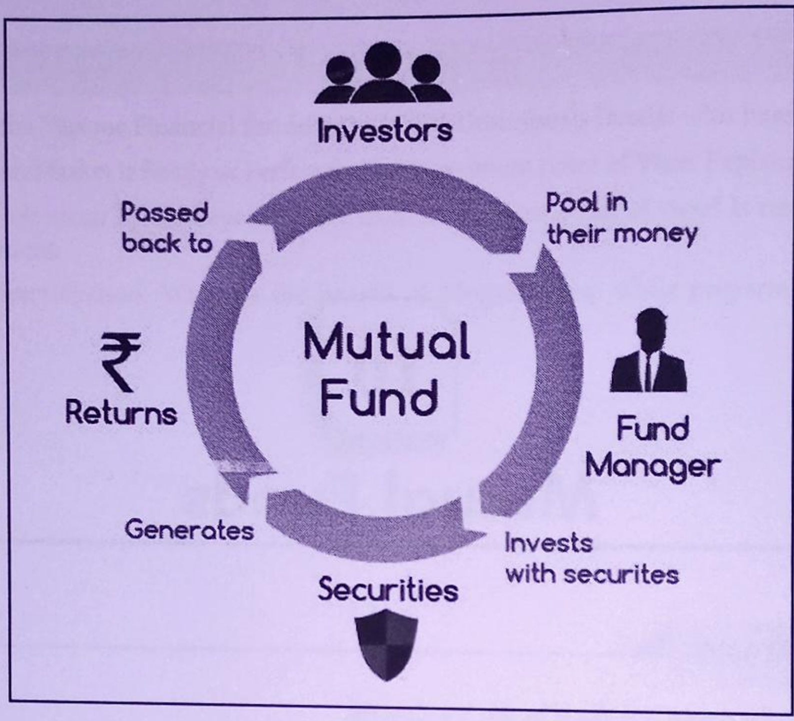
Learning Outcomes

After studying this chapter, you should be able to understand:

- Definition of mutual funds;
- Different type of mutual fund scheme;
- Systematic investment plan;
- Systematic withdrawal plan.

10.1 Introduction

A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities, including equity, bonds, debentures and other instruments issued by a business or government undertaking. Small investors, who are unable to participate in the capital market, can access the stock market through the medium of mutual funds which can manage their funds for maximizing return. The investment may be diversified to spread risk and to ensure a good return (dividend or capital gain or both) to the investors. Thus a mutual fund is a pool of funds contributed by individual investors having common investment preferences. All the returns from such investment, both in terms of dividends and capital appreciation, the net of various incidental expenses, accrues to the investors. A mutual fund provides many financial and non-financial benefits to the investors. Like shares, all mutual funds provide returns in the form of dividends and capital appreciation and even bonus issues.



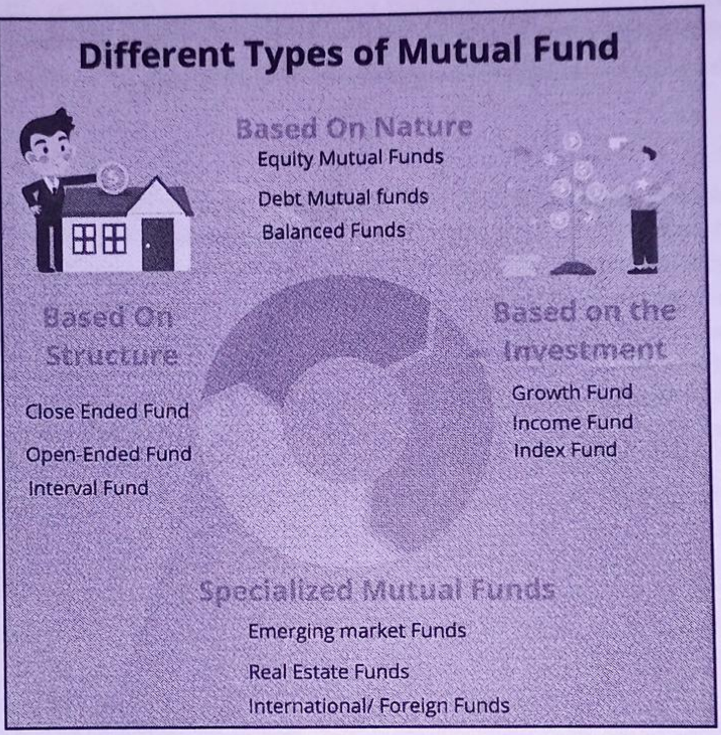
10.2 Net Asset Value

Net asset value is the market value of the assets minus the liabilities on the day of valuation. In other words, it is the amount the shareholders will collectively get if the fund is dissolved or liquidated. The net asset value of a unit of a mutual fund is the net asset value of the fund divided by the number of outstanding units.

10.3 Different Types of Mutual Funds Schemes

- **Open-Ended Schemes:** In the case of open-ended schemes, the mutual fund continuously offers to sell and repurchase its units at NAV. Open-ended funds do not have to be listed on the stock exchange and can offer repurchases soon after allotment. These do not have a fixed maturity. Investors can enter and exit the scheme during the life of the fund. There is no fixed redemption period in open-ended schemes, which can be terminated whenever the need arises. The key feature is liquidity. The majority of mutual funds, 59% approximately, are open funds.
- **Close-Ended Schemes:** Schemes with a stipulated maturity period (ranging from 2 to 15 years) are called close-ended schemes. Investors can invest directly in the scheme at the time of initial issue, and thereafter they can buy or sell the units of the scheme on the stock exchanges where they are listed. The market price at the stock exchange could vary from the scheme's NAV on account of the demand and supply situation, unit holders' expectations and other market factors. One of the characteristics of the close-ended schemes is that they are generally traded at a discount to NAV;

but closer to maturity, the discount narrows. The NAV of the close-ended schemes is generally disclosed every week.



Interval Schemes

These combine the features of open-ended and close-ended schemes. They may be traded on the stock exchange or be open for sale or redemption during predetermined intervals at NAV-related prices.

Growth Schemes

The objective of a growth fund is to provide capital appreciation over the medium to long term. These schemes normally invest most of their funds in equities and are willing to bear short-term declines in value for possible future appreciation. There is no guarantee or assurance of returns. These schemes are usually close-ended and listed on stock exchanges. These schemes are not for investors seeking regular income or needing their money back in the short term. Ideal for:

- ***Investors in their prime earning years.***
- ***Investors seeking growth over the long-term.***

Income Schemes

The aim of the income schemes is to provide regular and steady income to investors. These schemes generally invest in fixed income securities such as bonds and corporate debentures. Capital appreciation in such schemes may be limited. The return, as well as the risk, is lower in income funds as compared to growth funds. Ideal for:

- ***Retired people and others who need capital stability and regular income.***
- ***Investors who need some income to supplement their earnings.***

Balanced Schemes

The aim of a balanced fund is to provide both growth and income by periodically distributing a part of the income and capital gains they earn. They invest in shares and fixed-income securities in the proportion indicated in their offer documents. In a rising stock market, the NAV of these schemes may not usually keep pace, or fall equally when the market falls. The portfolio of such funds usually comprises companies with good profit and dividend track records. Their risk exposure is moderate, and they offer a reasonable rate of return. The NAVs of such funds are likely to be less volatile than pure equity funds. Ideal for: ***Investors looking for a combination of income and moderate growth.***

Case:

Rahul, aged 35, is the regional marketing head of a famous company. His only immediate family is his wife and twins aged 3. Ramesh is in the modern class of investors, who know how important savings and emergency funds are. Since he is an aggressive, unconventional investor, he prefers to invest in equity funds like SIPs. His needs are growing. The present net salary Ramesh is ₹1 lakh: Expenses Amount Household expenses ₹25,000 Personal expenses ₹10,000 Insurance premiums ₹5,000 Miscellaneous ₹10,000 Ramesh spends ₹50,000 of his ₹1 lakh salary on household expenses, personal expenses, insurance premiums and other miscellaneous expenses.

The present assets of Rahul include: Fixed deposits – ₹20,00,000 EPF – ₹10,00,000 Insurance value – ₹4,70,000 Property – ₹27,00,000

Findings: Ramesh Mehta's fixed deposits are enough to cover an emergency. Thus, he already has built a good emergency fund. Naresh is covered through employer group insurance policy of ₹5 lakh. Besides this, he is paying a monthly insurance premium which provides a term plan cover of ₹50,00,000. He also has two endowment policies. Thus, he is adequately covered. He should stop endowment policy which matures in two years. The yield on endowment policy is much lower and it makes sense to invest the amount in equity and debt funds which can provide higher returns. He can also consider surrendering his endowment policies and increase term cover. Rahul has no debt.

Money Market Schemes

The main aim of these schemes is to provide easy liquidity, preservation of capital and moderate income. These schemes generally invest in safer, short-term instruments, such as treasury bills, certificates of deposit, commercial paper and inter- bank call money. Returns on these schemes may fluctuate, depending upon the interest rates prevailing in the market. Ideal for: ***Corporate and individual investors as a means to park their surplus funds for short periods or awaiting a more favourable investment alternative.***

Other Schemes Tax Saving Schemes

These schemes offer tax rebates to the investors under tax laws as prescribed from time to time. This is made possible because the Government offers tax incentives for investment in specified avenues. For example, Equity Linked Savings Schemes (ELSS) and Pension Schemes.

Pension Schemes

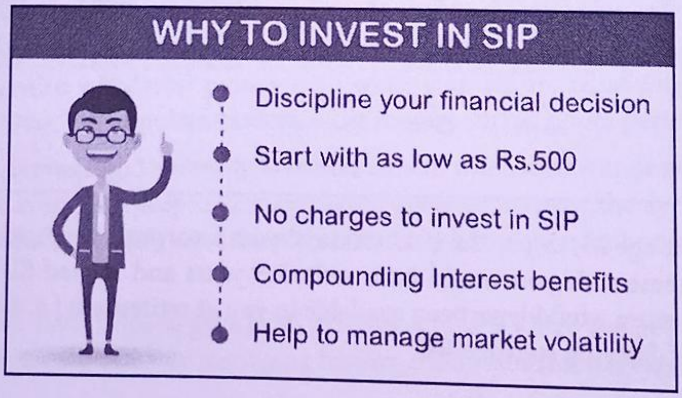
A pension scheme is a type of long-term savings plan. And it's a tax-efficient way to save during your working life. You save some of your income regularly during your working life. This gives you an income in later life, when you want to work less or retire. That's the point of pension – security when you're older.

10.4 Systematic Investment Plan (SIP)

Systematic Investment Plan, commonly referred to as an SIP, allows you to regularly invest a fixed sum in your favorite mutual fund schemes. In SIP, a fixed amount is deducted from your savings account every month and directed towards the mutual fund you choose to invest in. A systematic investment plan is a process of investment offered by the different mutual funds, in which the investors can make a periodic investment of a small amount instead of a lump sum.

> ***Case:***
> *I have started a SIP of INR 10,000 per month for the next 30 years. In this case, I am assuming that a well-diversified mutual fund scheme will deliver 12% per year. We have schemes in India that have done almost double of that for a decade. But, we should not be over-optimistic, and stick to 12 % for this and also for other scenarios. So, after investing 10K monthly for 30 years, the corpus will finally reach an amount of INR 3.24 Crores.*

The investment can be made weekly, monthly, or quarterly. SIP helps to grow money through compounding interest, ensuring higher returns on maturity. So we can say that SIP is a smart or rather hassle-free, mode of investing in mutual funds, where you are allowed to contribute a predetermined sum of money. It is flexible in nature, thus, investors can choose to decrease or increase the amount of investment, or stop investing in the plan whenever they want. SIP is the safest and best choice for investment beginners and for those who are not well-versed in the mechanism of the financial market.



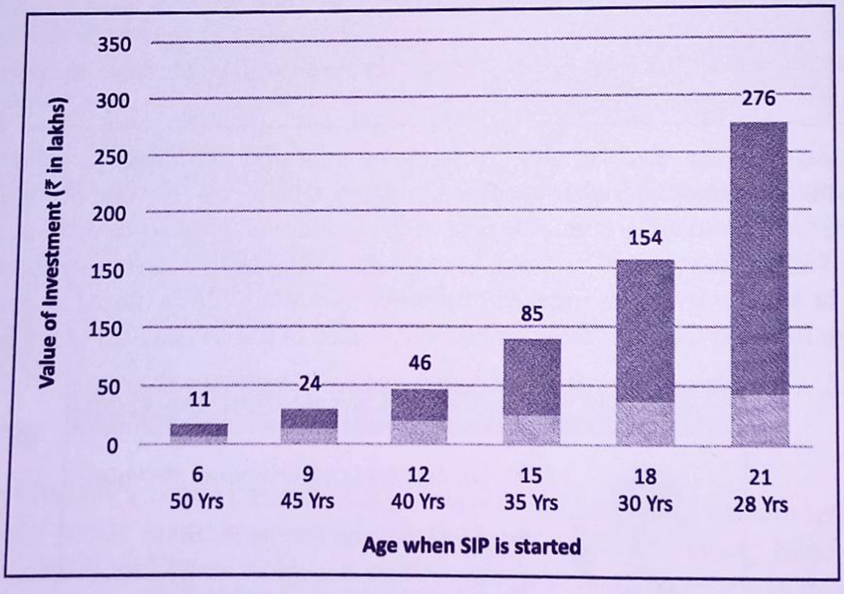
SIP is suitable for an investor who wants to tap the long-term potential of equities and is willing to invest regularly. Investors who want to invest a good amount but are unable to pile up a big amount in one shot, would also find SIP to be worthwhile. So, SIP is not a mutual fund, rather it is a method of investing in a mutual fund. It is a simple strategy designed to help investors to accumulate wealth in a disciplined manner over long-term to provide the following benefits:

(i) **Cost Averaging**: An investor invests a fixed amount irrespective of NAV in SIP. So he gets fewer units when NAV is higher. It can smoothen out the market ups and down and reduce the risk of investment when markets are more volatile. SIP helps reducing the average cost per unit and helps an investor to take advantage of market fluctuations and thereby reduces the risk.

(ii) **Power of Compounding**: An investor has two options to invest, First to invest regularly as and when surplus funds are available, and second, to accumulate these smaller savings and to invest at yearly interval. For example he may invest ₹1,000 per month for a period of 5 years and second he may invest ₹12,000 per year for a period of 5 year. In both cases he investment would be ₹60,000. But the accumulated amount when the interest rate is 10% in first case is `78,082 and in second case is the first option is an example of SIP.

(iii) **Disciplined Investing:** SIP offers a disciplined way of investing a portion of income of an investor. It helps an investor to eliminate the fear that he may buy mutual fund units at its peak just before the markets heads into a slump.

(iv) **Power of Starting Early:** The earlier one starts saving and investing regularly, the easier it is to achieve your goals. The graph below shows the impact of beginning to invest ₹5,000 monthly at various stages of life till the age of 60 years (assuming a return of 12% p.a.).



If you start SIP at age 25, as per the illustration shown a corpus of approximately ₹2.76 crores can be generated at retirement. If you would have waited 5 years and started SIP at age 30, a corpus of approximately ₹1.54 crore would have been available to you at retirement i.e. a difference of ₹1.21 crore – which is the 'cost of delaying starting SIP'.

10.5 Systematic Withdrawal Plan

Systematic Withdrawal Plan (SWP) works in an opposite way to Systematic Investment Plan (SIP). A Systematic Investment Plan (SIP) allows an investor to invest a fixed amount at pre-determined intervals and a Systematic Withdrawal Plan (SWP) is a facility which allows an investor to withdraw a fixed amount at pre-determined intervals. The investor can choose the amount, the frequency and the duration of the SWP according to his needs. The periodic intervals could be monthly, quarterly, half-yearly or annually, as per the investor's requirement. With every withdrawal, the value of your investment in the fund is reduced by the market value of the units you have withdrawn as the withdrawal happens at that day's NAV (Net Asset Value).

How Does Systematic Withdrawal Plan Work?

Let us understand this with the help of an example. Suppose Mr. X purchased 1,000 units of a mutual fund scheme for ₹1 lakh in January 2018. And, withdrew ₹1,000 per month for 4 months starting February 2018 via a systematic withdrawal plan.

Month	Cashflows	NAV	No. of Units Redeemed	Fund Units	Investment Value
January	₹1,00,000	100	0	1,000	₹1,00,000
February	-10,000	103	97	903	₹93,009
March	-10,000	102	98	805	₹82,110
April	-10,000	105	95	710	₹74,550
May	-10,000	106	94	616	₹65,296

So, by the end of May, Mr. X has withdrawn ₹40,000 total via SWP and owns an investment worth ₹65,296.

Advantage

1. **Disciplined Investing:** Systematically withdrawal plan automatically redeems some mutual fund units every month to meet the monthly expenses, regardless of market levels. It thus, protects you from withdrawing large amounts due to panic/fear during the times of market corrections. It also withdraws money even when markets are registering new highs and thus, protects you from the impulse to invest more money during boom periods.
2. **Rupee-Cost Averaging:** SWPs help investors benefit when they withdraw their investments due to rupee cost averaging. Rupee cost averaging gives an investor the average NAV of a mutual fund over several months/years rather than making him dependant on a NAV at a single point of time.
3. **Fixed Income:** SWP helps to get a fixed periodic amount which can help to get a steady income in his/her retirement years or managing his/her child's educational expenses.

4. **Tax Efficiency:** When we withdrawal through an SWP, it is considered to be a combination of capital and income. Tax is only payable on the income component and not the capital component. For example, assume that Mr X has invested ₹1 lakh in a mutual fund and this grows to ₹1.1 lakh (10% growth). He withdraws ₹10000 from his mutual fund at the end of each year. Only 10% of his withdrawal (₹1000) is considered as income and the balance (₹9,000) is considered as capital withdrawal. On the other hand, if he had invested in a bank FD and got ₹10000 interest on a principal of ₹1 lakh, the entire ₹10000 would be considered as income and would be taxable.

10.6 Regular and Direct Mutual Fund Schemes

Regular and direct mutual fund plans are just the two options of a mutual fund scheme, run by the same fund managers who invest in the same stock and bonds. The only difference between direct vs regular mutual funds is that in case of a regular plan your AMC or mutual fund house does not pay a commission to your broker as distribution expenses or transaction fee out of your investment. Whereas in case of a direct plan no such commission is paid. The absence of commission in direct plans leads to a higher rate of return then regular plans. Thus, it is always wiser to invest in direct mutual fund plans as long as you have a clear understanding of how mutual funds work.

10.7 Tax Implications on Mutual Funds

There are two types of earning from a mutual fund investment. Dividend and capital gains and both are taxed differently. While the mutual funds house deducts Dividend Distribution Tax (DDT) from the dividend paid to you at 10%, capital gains tax is taxable in the hands of the investor.

Asset Class	Holding Period	Rate of Tax on Capital Gain
Equity fund	Short term (less than 1 year)	15%
Equity fund	Long term (1 year & more)	10% (with indexation)
Debt funds	Short term (less than 3 years)	As per investor's income tax slab
Debt funds	Long term (3 years and more)	20% with indexation
Equity oriented hybrid funds	Taxed like equity funds	
Other hybrid funds	Taxed like equity funds	

Review Questions

1. Mutual fund is safest portion of investment from Indian point of view ? Does it really means or its myth?
2. What is SIP. Explain the benefit of Investing through SIP.
3. Why mutual fund is known as indirect investment.

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11

Life Insurance and Non-Life Insurance Scheme

Learning Outcomes

After studying this chapter, you should be able to understand:

- Concept of Life Insurance;
- Need for Life Insurance;
- Principle of Life Insurance;
- Types of Life Insurance policies;
- Concept of Non-life Insurance;
- Different type of Risk Involved in Insurance.

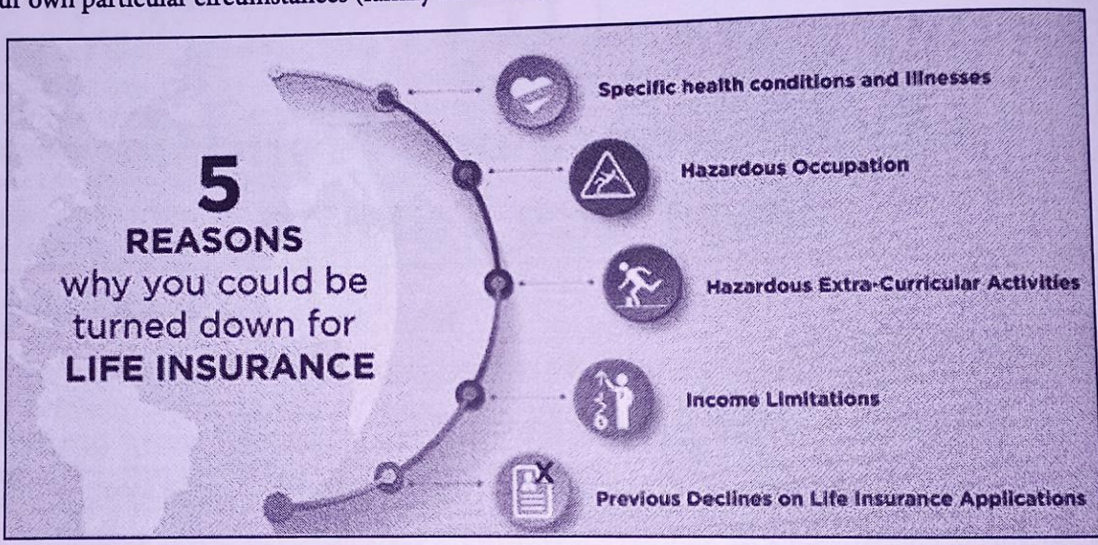
11.1 Introduction

No one plans to get in an accident or become seriously ill. The chances of these things happening to you may be very small. So we may put off buying the insurance we need. But these things do happen. It's only when the event occurs that we realise that we may not be as well protected as we would wish. Insurance is a way to protect yourself and your loved ones from financial hardship in case losses occur. In practice, many policies provide a mixture of savings and protection benefits. In this chapter we are going to discuss about the life insurance and non-life insurance scheme.

11.2 Life Insurance

When you buy a life insurance policy, you name a beneficiary. Life insurance provides a financial payment to your beneficiary upon your death.

First of all, everything you do about life insurance will be meaningless if you don't accept your own mortality and your family's needs in the aftermath of your death. This may sound self-evident; however, a remarkable number of people speak of their own death in terms of if, not when. So the starting point for a discussion of life insurance is literally to imagine that you're going to die tomorrow. Life insurance — in its pure form — is meant to replace your income in the event of premature death. If you're married, in a committed relationship, or have children who depend on your income, you need life insurance. If you have a stay-at-home spouse or partner caring for your home and children, you would be faced with some very substantial costs to replace those services in the event of his or her premature death. Then sit down and figure out what you want to happen afterward. Obviously, the answer will depend on the specifics of your own particular circumstances (family structure).



11.3 Need for Life Insurance

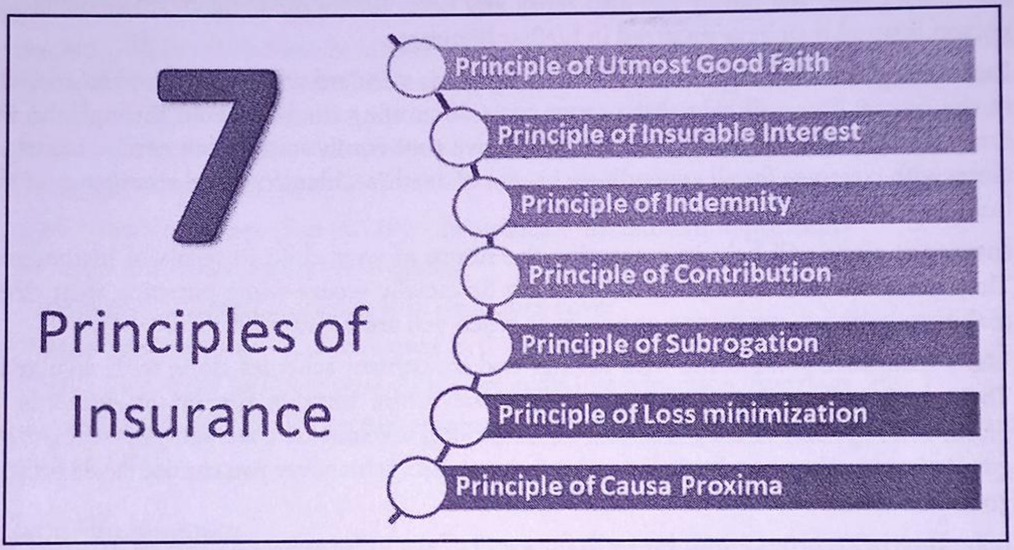
For life insurance to be necessary, two components need to be true. The first is that there must be lost economic value from the death of someone. Typically, this lost value represents the future earning power of the individual. Future earning power alone is not enough to justify life insurance on their life though. To need life insurance, another person or group of people must depend on that future earning power somehow. It could be a company depending upon that person's ability to bring in revenue, or it could be a spouse depending on the income from a job to pay for living expenses. Either way, both a future income earning potential and a reliance on that future income by another must be present to create an economic necessity for life insurance.

Case: *Amit is a 25 year old qualified Welder who is a subcontractor to various builders. He is earning ₹70,000 gross but pays ₹20,000 in expenses, most which are fixed expenses i.e a leased car and leased equipment. Amit rents an apartment and spends the rest of his earnings of ₹50,000 on living and entertainment expenses. Amit has little in the way of savings.*

Why Insurance is important : In this case if the Amit has a car accident and is hospitalised for one month. He then faces a long and painful rehabilitation process of 12 months to try to regain the use of one of his arms. Even with private health insurance there are medical bills to be paid particularly for physiotherapy and rehabilitation sessions. Amit has no income for 13 months but must continue to pay his lease costs of ₹20,000 per annum. What little money Amit receives in disability payments from the government won't cover his rental costs. Amit has to move back home and borrow money from his parents. If he doesn't recover the use of his arm Amit will never be able to work as a welder again and will have to retrain into a potentially lower paid job.

11.4 Principles of Life Insurance

Life insurance is based on a number of principles that are tailored to meet market conditions and ensure insurance companies make profits, while offering security policies to insured individuals.



There are broadly four major insurance principles applied in India, these being:

1. **Insurable Interest:** This principle pertains to the level of interest an individual is expected to have in a particular policy. The interest could be a family bond, a personal relationship and so on. Based on the interest level, an insurance company can choose to accept or reject an application in order to protect the misuse of a policy.
2. **Law of Large Numbers:** This is a theory that ensures long-term stability and minimises losses in the long run when experiments are done with large numbers.
3. **Good Faith:** Purchasing insurance is entering into a contract between company and individual. This should be done in good faith by providing all relevant details with honesty. Covering any information from the insurance company may result in serious consequences for the individual in the future. This being said, the insurer must an explain all aspects of a policy and ensure that there are no unexplained or hidden clauses and that the applicant is made aware of all terms and conditions.

4. **Risk & Minimal Loss:** Insurance is risky and companies have to do business and make profits keeping in mind the risk factor. The principle of minimal risk states that the insured individual is expected to take necessary action to limit him/herself from any hazards. This includes following a healthy lifestyle, getting a regular health check-up and more.

11.5 Need for Insurance Planning

Insurance plans are beneficial to anyone looking to protect their family, assets/property and themselves from financial risk/losses:

- Insurance plans will help you pay for medical emergencies, hospitalization, contraction of any illnesses and treatment, and medical care required in the future.
- The financial loss to the family due to unfortunate death of the sole earner can be covered by insurance plans. The family can also repay any debts like home loans or other debts which the person insured may have incurred in his/her lifetime.
- Insurance plans will help your family maintain their standard of living in case you are not around in the future. This will help them cover costs of running the household through the insurance lump sum payout. The insurance money will give your family some much needed breathing space along with coverage for all expenditure in case of death/accident/medical emergency of the policy holder.
- Insurance plans will help in protecting the future of your child in terms of his/her education. They will make sure that your children are financially secure while pursuing their dreams and ambitions without any compromises, even when you are not around.
- Many insurance plans come with savings and investment schemes along with regular coverage. These help in building wealth/savings for the future through regular investments. You pay premiums regularly and a portion of the same goes towards life coverage while the other portion goes towards either a savings plan or investment plan, whichever you choose based on your future goals and needs.
- Insurance helps protect your home in the event of any unforeseen calamity or damage. Your home insurance plan will help you get coverage for damages to your home and pay for the cost of repairs or rebuilding, whichever is needed. If you have coverage for valuables and items inside the house, then you can purchase replacement items with the insurance money.

11.6 How to Decide on the Best Life Insurance Plan that Suits Your Needs?

Before deciding on the best Life Insurance plan, you should understand some basic steps that will lead you to make the right decision.

- **Need-based policy**: The policy should be need-based. It means you should assess the number of dependants in your family, the source of income, and the monthly commitments before you decide on the Life Insurance policy. You should also draw a list of goals that you have set for yourself like education of your children, marriage of your children, retirement plans, buying a dream house, etc., and plan the investment accordingly.

- **Seek the help of an advisor:** There are insurance advisors who can help you with your decision. They will consider all the angles like the source of income, monthly expenditure as per your lifestyle, the number of dependents, your assets and liabilities, etc., and will arrive at a sum assured. They will be able to advise you on which plan to choose. They will help you choose the plan that would give you optimum returns for your investment. The plans could be a term plan, unit-linked plan, endowment plan, or a combination of the plans. So, it is necessary to seek the advice of these insurance advisors if you are confused about the best plan for you.
- **Compare products:** There are a lot of players in the market giving various benefits with varied premium levels. Compare the products and choose the one that would give you optimum benefit for the least investment. You can compare the different policy on policy bazaar.com.

11.7 Types of Life Insurance Policies

Broadly speaking, life insurance can be further categorized as a pure risk coverage plan – purely insurance and the other, which is a combination of insurance and investment component. But, maybe you are not sure which plan to opt for. Or maybe you need to know the different types of life insurance policies available in the market to make a wise choice!

1. Term Plan – Pure risk cover
2. Unit linked insurance plan (ULIP) – Insurance + Investment opportunity
3. Endowment Plan – Insurance + Savings
4. Money Back – Periodic returns with insurance cover
5. Whole Life Insurance – Life coverage to the life assured for whole life
6. Child's Plan – For fulfilling your child's life goals like education, marriage, etc.
7. Retirement Plan – Plan your retirement and retire gracefully Let's dive deeper to know each plan in detail.

11.7.1 Term Life Insurance

Term insurance is the simplest form of **life insurance plan**. Easy to understand and affordable to buy. A **term insurance** provides death risk cover for a specified period. In case the life assured passes away during the policy period, the life insurance company pays the death benefit to the nominee. It is a pure risk cover plan that offers high coverage at low premiums. There's an option to add riders to widen up the coverage. The death benefit is payable as lump sum, monthly payouts, or a combination of both. Most people elect to receive their death benefit as a lump sum. The term insurance is considered the simplest, most accessible insurance policy.

There's no payout if the life assured outlives the policy term. However, these days there are companies offering Term Plans with Return of Premiums (TROPS), where insurance companies payback all the paid premium amount in case the life assured outlives the term period. But, such plans are costlier than the vanilla term insurance plan.

Example: An individual non-smoker male who is looking for a term life plan of ₹1 crore cover, will cost him approximately ₹6,800 to ₹10,500 per year.

Age	Term	Sum Assured	Annual Premium Range
25 years	40 years	₹1 Crore	₹6,800 – ₹10,500

Benefit of Term Plan: In case of an untimely death of the breadwinner, family is supported with an enormous amount of money – sum assured, which helps them to replace the loss of the income caused due to the breadwinner's death. Moreover, the money could be utilized to pay off loan, monthly household expenses, child's education, child's marriage, etc.

11.7.2 Whole Life Insurance

Whole life insurance, on the other hand, is considered a permanent life insurance policy. Under this policy, the insured is covered for the lifetime, i.e. till his/her death. The maturity age is usually 100 years. Thus, you need to keep paying the premiums till 100 years of your age. Here, the beneficiary gets the sum assured along with maturity benefits on the untimely demise of the policyholder. On the other hand, the policyholder gets to enjoy the survival benefits, in case he/she happens to survive the policy term. A whole life insurance plan offers benefits in both the cases – when the policyholder survives the policy or on his/her sudden demise during the term.

Due to the fees and the extra feature, a whole life insurance policy can cost five to 15 times as much as a term life policy (for the same death benefit amount).

Whole life lasts for as long as you pay the premiums. However, the cash value component can make whole life more complex than term life because you have to consider surrender fees, taxes, and interest as well as other stipulations.

Comparison between Term Life and Whole Life Insurance

Term Life Insurance	Whole Life Insurance
• Suitable for persons who want only protection for a pre-defined period.	• Suitable for persons who want both protection as well as maturity benefit.
• Only death benefit is available and no maturity benefit.	• Ideal for persons who are planning for a future corpus.
• Provision for riders like critical illness, permanent disability due to an accident, hospital cash etc., is available.	• The cover is available for a lifetime that is until the insured is alive.
• Offers protection to dependents against debts.	• The policyholder can surrender the policy if he/she wishes to discontinue and obtain a lumpsum by way of the surrender value of the policy.
• High returns for low investment	• There is no provision for riders in this policy.
• Premium need not be paid until the maturity of the policy. Premium has to be paid only for a limited term as per the stipulation in the contract.	• The dependents can only get a death benefit but no protection against debts.
	• Both, the death benefit and maturity benefit are provided.

Term Life Insurance	Whole Life Insurance
	• Premium has to be paid for a premium payment term. Premium is much higher than when compared to the premium of the term plan. • An option to avail a loan when in need of funds is available.

11.7.3 Unit Linked Plans (ULIPs)

A unit linked plan is a comprehensive combination of insurance and investment. The premium paid towards ULIP is partly used as a risk cover (insurance) and partly is invested in funds. One can invest in different funds offered by the insurance company depending on his risk appetite. The insurance company then invests the accumulated amount in the capital market i.e. in bonds, equities, debts, market funds, or a hybrid funds.

Example:

Term	Sum Assured	Annual Premium	Fund Value
20 years	₹2 lakh	₹20,000	Depending on the fund value at the time of maturity.

Best known for: Long-term investment option with much more flexibility to invest.

Benefit of ULIP: Invest money as per your risk appetite. You have the option to invest either in equity, debt or in hybrid funds through the life insurance company with complete transparency.

11.7.4 Endowment Plans

Endowment plan is another type of life insurance plan, which is a combination of insurance and saving. A certain amount is kept for life cover – insurance, while the rest is invested by the life insurance company. In an endowment plan, if the life assured outlives the policy term, the insurance company offers him the maturity benefit. Moreover, Endowment Plans may offer bonuses periodically, which are paid either on maturity or to the nominee under death claim. On death, the death benefit is payable to the nominee.

Endowment plans are also commonly known as traditional life insurance, although, there is an investment component but the risk is lower than the other investment products and so are the returns.

Example:

Term	Sum Assured	Annual Premium Range	Bonus
30 years	₹10 lakh	₹20,000 – ₹25,000	Depending on the Bonus at the time of maturity.

11.7.5 Retirement Plan

Retirement plan helps to build corpus for your retirement. Helping you to live independently financially and without worries. Most of the child plans provide annual installments or one time payout after the age of 60 years.

In case of an unfortunate event, life assured passes away during the policy term - immediate payment is payable to the nominee by the insurance company. Death benefit will be higher of coverage or fund value or 105% of premiums paid. Vesting Benefit will be payable if the life assured survives the maturity age. In which case, payout will be fund value which has to be utilized for buying an annuity.

11.8 Other Types of Life Insurance

11.8.1 Group Life Insurance

Group life insurance is a type of life insurance that covers a group of people. It is mostly provided by companies to its employees. As the insurance is done in a group, a group life insurance is considered cost-effective. The group can comprise lawyers, members of cooperative banks, societies, doctors, etc. This life insurance can be contributory, where the employees contribute along with the employer in the payment of the premium, or non-contributory, where the employer pays the entire premium amount.

11.8.2 Life Insurance for Senior Citizens

You can brave various situations of life when you are young; however, in old age you need more protection and security. To manage such circumstances of life in old age, life insurance for senior citizens can be a good option. The insurance also provides financial coverage at times of need. For instance, in case you do not have any support for your spouse, life insurance for senior citizens can provide financial security to the spouse in case of your sudden demise. The death benefit can also be used to manage loans, debts and other financial needs.

11.9 Claim Settlement Process

On the happening of the event, the beneficiary is required to send claim intimation form to the insurance company as soon as possible. Claim intimation should contain details such as Date, Place, and Cause of Death. On successful submission of claim intimation form, an insurance company can ask for additional information about—

1. Certificate of Death
2. Copy of Insurance Policy
3. Legal Evidence of title in case insured has not appointed a beneficiary
4. Deeds of assignment

On successful submission of all the document, the insurance company shall verify the claim and settle the same.

11.10 Life Insurance Companies in India

Some of the prominent life insurance companies in India are:

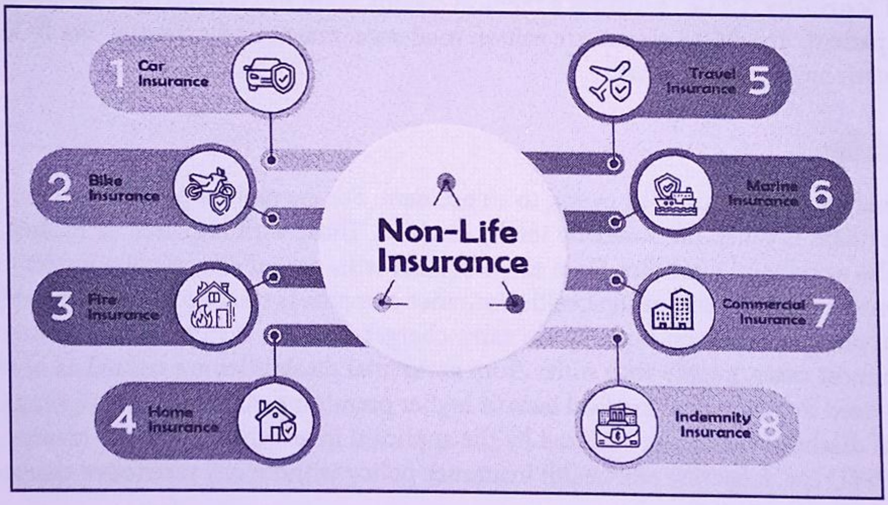
1. LIC – Life insurance corporation of India
2. SBI Life Insurance

3. ICICI Prudential Life Insurance
4. HDFC Standard Life Insurance
5. Bajaj Allianz Life Insurance
6. Max Life Insurance
7. Birla Sun Life Insurance
8. Kotak Life Insurance

We all are uncertain of the future and although no one wishes anything unfortunate to happen to them, we should be prepared for unforeseen circumstances. Having a life insurance policy is a financial cushion that makes sure your family is well protected. A life insurance policy hence is a very small investment compared to the greater peace of mind it will bring you.

11.11 Non-life Insurance

A general insurance is a contract that offers financial compensation on any loss other than death. It insures everything apart from life. A general insurance compensates you for financial loss due to liabilities related to your house, car, bike, health, travel, etc. The insurance company promises to pay you a sum assured to cover damages to your vehicle, medical treatments to cure health problems, losses due to theft or fire, or even financial problems during travel.



Simply put, a general insurance offers financial protection for all your assets against loss, damage, theft, and other liabilities. It is different from life insurance. Examples of non-life insurance policies include automobile policies, home-owners policies, damage cover from fire, marine accidents, travel, theft and any catastrophe etc. Since the probability of occurrence of these risks is very difficult to ascertain, it thereby is an extremely difficult task to measure the amount of damage they would do, on their incidence. General insurance covers non-life assets - such as your home, vehicle, and health, travel – from floods, fire, thefts, accidents and man-made disasters. General insurance is an annual contract with a lump sum premium.

> ***Examples** of non-life insurance are **Fire, Marine, Motor, Health insurance, home, factory, shop, travel and liability insurance** etc. In other words, you can say that other than life insurance products the types of insurance that provide cover are non-life insurance products.*

11.12 Different Type of Risk included in Insurance

Mortality Risk (Risk of Death)

The financial planning process for an individual begins by identifying the various goals at different stages of life. To achieve them one has to be alive and keep funding them till they arrive. However, the risk of an early death exits, which could derail the entire investment process. The surviving members of the family, in addition to the mental trauma, could also suffer from loss of income, thereby making long-term goals vulnerable to the circumstances. Mortality risk is the risk that an insurance company can suffer financially because too many of their life insurance policyholders die before their expected life spans. Actuaries working for insurance companies rely on mortality tables to make informed assumptions about how long their policyholders will live. With these estimates, they can get an idea of how much they will earn in premiums compared to how much they will pay out in death benefits or annuitization. If a fair number of their policyholders die well before their life expectancy, the insurer will make less profit than anticipated.

Risk of Mortality (ROM) provides a medical classification to estimate the likelihood of in hospital death for a patient. The ROM classes are minor, moderate, major, and extreme. The ROM class is used for the evaluation of patient mortality.

Risk of Disability

In this, a person becomes disabled owing to an accident. For example, a person who has lost his or her legs in an accident is called permanently totally disabled. Those with impaired or broken limbs are also covered under accidental disability. Even an individual with partial or complete vision loss caused due to an accident is covered. Most of the health insurance companies treat accidentally disabled individuals as normal applicants. They do not impose extra charges and has no restrictive clauses for providing coverage. In most cases, people who suffer from accidental disabilities are treated as normal applicants without any need for additional medical tests or higher premiums. At the time of signing up for a policy, all accidental disabilities must be declared by the applicant in advance. Once the insurer verifies all the details, the PWD can subscribe to a health insurance policy without any restrictive clauses or additional premium.

Risk of Property

Property insurance guards against catastrophic losses of real and personal property caused by such perils as fire, theft, vandalism, windstorms, and other calamities. In this chapter we discuss property insurance and home insurance. Property insurance provides protection against most risks to property, such as fire, theft and some weather damage. This includes specialized forms of insurance such as fire insurance, flood insurance, earthquake insurance, home insurance, or boiler insurance.

Risk of Health

There is always a slight chance that someone dear to us might be at the mercy of a chronic condition which requires long-term care. What will happen if there's an emergency medical situation and you're not financially adept to meet your medical needs? Obviously, the last thing that you would want to do is wipe off all your savings to meet your medical needs. Fortunately, there is health insurance. Health insurance ensures that undergoing long term treatment does not throw a family into dire financial straits. By paying a small amount of premium to the insurer, you can take a cover under a comprehensive health insurance plan. This will shield your savings from sudden shocks of medical treatments. In this way, health insurance acts as a protective cover for both savings and healthcare so that you and your beloved family can continue to enjoy their life.

Review Questions

1. Explain mortality risk? Why there is a need of life insurance policy.
2. Explain the principal of life insurance policy?
3. What are the benefit of life insurance policy?
4. How we will determine the life insurance policy on the basis of our needs?
5. Explain the difference between term life insurance and whole life insurance.

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12

Health Insurance

Learning Outcomes

After studying this chapter, you should be able to understand:

- Concept of health insurance and its need;
- Importance of buying health insurance product in India;
- Types of health insurance policies;
- Government sponsored health insurance scheme in India;
- Coverage of health insurance;
- Claim process of health insurance;
- Exclusions in health insurance policies.

12.1 Introduction

When you're healthy or in your younger years, you won't probably feel the need to buy health insurance. But, you certainly need to stay prepared for the worst. In our busy lives, there is always a probability of unexpectedly becoming sick and requiring expensive treatments. There is always a slight chance that someone dear to us might be at the mercy of a chronic condition which requires long-term care. What will happen if there's an emergency medical situation and you're not financially adept to meet your medical needs? Obviously, the last thing that you would want to do is wipe off all your savings to meet your medical needs. Fortunately, there is health insurance. Health insurance ensures that undergoing long term treatment does not throw a family into dire financial straits. By paying a small amount of premium to the insurer, you can take a cover under a comprehensive health insurance plan. This will shield your savings from sudden shocks of medical treatments. In this way, health insurance acts as a protective cover for both savings and healthcare so that you and your beloved family can continue to enjoy their life.

12.2 Need of Health Insurance

Health policies are designed to cover your medical expenses and give you the freedom to avail of quality healthcare (in one of the network hospitals) depending upon the insurance purchased. Thus, policyholders can access medical treatment of the covered perils without any hassle.

The fast-paced life, bad eating habits, high levels of pollution, and higher risk of incidence of diseases at a younger age are the major factors that may result in medical emergencies. If you have not covered yourself and your family under a **family health insurance plan,** a medical emergency can leave you cash-strapped. So, why wait for an emergency to occur when you can keep yourself protected with a health plan. Further, the rising medical costs again stress the need for every individual to be protected under a health plan.

There are 3 key reasons why you need health insurance.

- **You don't have enough savings to pay for healthcare:** Getting treated at a top healthcare facility is costly. People find it challenging to manage their finances when a family member gets diagnosed with a dreaded illness. Nearly 44% of India's population is not covered by health insurance`. In such situations, people dip into their savings or take loans or sell assets to fund treatments. However, the smart thing to do, is to take a health insurance plan- this will help you to secure your finances and health at the same time.
- **Healthcare costs are rising fast:** The rate at which medical costs are rising makes it necessary to have health insurance. Medical trend rate, i.e. the increase in per-person cost due to medical inflation. In India itself, this rate is expected to rise at double the inflation rate. The forecasted medical trend rate will be 10% in India, while inflation will be at 5%~. Cancer and diseases of the circulatory system remain the top two highest claims reported by most insurers, followed by gastrointestinal diseases and respiratory conditions. With a fixed benefit health insurance cover, you can effectively fight critical illnesses like cancer and conditions related to the heart.
- **Hospital costs includes various items:** Treatment at hospital is not merely related to surgery. Medical check-ups, doctor fees, and medicines can account for a higher chunk than the actual hospitalisation expenses. Separately, there are diagnostic tests, post-operative care such as having a medical attendant at home, which also cost a lot. Add up all, to understand why medical treatment seems so expensive. Health insurance plans offer coverage for several types of ailments and surgeries. They also cover other aspects of medical treatment. Fixed benefit health insurance plans give the money without asking for a detailed description of all the aspects of treatment costs. It is paid upfront to the policyholder on the submission of first diagnosis report.

12.3 Importance of Buying Health Insurance in India

The importance of buying health insurance is undeniable. Here's why buying a health plan is important:

(i) Financial Security

Sooner or later, everyone would want to lead a financially secured life. While achieving financial security is obviously linked to saving enough for your future, getting insured is an equally important part of it. If you do not have a health policy, then in the time of a medical need you will have to pay it out of your savings, which would ultimately affect your finances. Health plans help you manage your emergency medical expenses so that you can utilize the savings in a better manner. Plus, the cherry on the cake is the tax exemption that you get u/s 80D on the premium that you pay for your health policy.

(ii) Shift in Lifestyle

Lifestyle has changed a lot in recent times. We have to travel a lot, sit for long hours at work, don't get time to take care of our health, and also neglect small signs of an accumulating health problem. All these things can lead to serious health problems in the future. Hence, health policy is more than a requirement as it includes regular medical tests, covers a range of medical treatments, and provides medical services at the best healthcare facilities.

(iii) Early Disease Incidence

Lifestyle changes, bad eating habits, and pollution are major factors that have led to an increase in the early incidence of a range of serious health disorders. Having a health plan allows you to avail of free annual health checks ups, from time to time, thus saving you from developing serious health problems.

(iv) Rising Medical Costs

Healthcare expenses are unbelievably expensive, and it is estimated that the cost of medical expenses will rise further with the rise in inflation. So, to safeguard yourself against rising medicals costs and stay financially secure, having a health plan is a must.

Health insurance provides prompt access to medical treatment, with the flexibility to customize your policy as per your healthcare needs. So don't wait, cover yourself and your family with a family health insurance plan today.

(v) Money given upfront without Medical Bills

Fixed benefit health insurance plans pay the entire amount on diagnosis of the disease. Yes, there is no need to show actual proof of hospitalisation and treatment, like hospital bills or treatment bills. In this way, such health insurance policies offer full coverage for both, before and after hospitalisation expenses. There are no pre-specified durations/limits. If the policyholder is diagnosed with an ailment that is covered under the policy, the insurer will pay the money to the policyholder without asking any further questions.

(vi) Treatment at a Facility of your Choice

With proper health insurance, you can get treated anywhere in India and the world. If you have the right amount of health cover, you do not need to compromise with treatment. In a fixed benefit health insurance plan such as ICICI Pru Heart/Cancer Protect, you get a lump sum payout upon diagnosis, which removes the hassle of getting admitted to a network hospital for cashless treatment. With the health insurance claim money, you can opt for treatment anywhere in the world as per your own wish and convenience.

(vii) High Cover at Low Cost

Fixed benefit health insurance plans give high coverage amount for a comparatively lower premium. This saves you money and also allows you to remain worry-free even if diagnosed with a severe ailment. ICICI Pru Heart/Cancer Protect provides you with a cover of ₹20 lakh at ₹387 per month for a 35-year-old healthy male for a policy term of 20 years and inclusive of tax. What's more, in case of minor claim or on the diagnosis of permanent disability due to accident, the premium is waived completely.

(viii) Automatic Increase in the Sum Assured Amount

Health insurance is not just a cost-effective way to manage medical treatment. It also gives you bigger coverage with every year you do not claim. ICICI Pru Heart/Cancer Protect provides a 10% increase in sum assured if it is a no-claim policy year. This means if there is a year where there is no claim, your premium money is not wasted. The premium paid in a no-claim year gets you wider coverage.

(ix) Fixed Premium Cost

Health insurance plans offer fixed benefits at a fixed premium. The premium amount in such special plans remains fixed for the entire duration of the policy. This means that your household budget is not put under any strain due to rising health insurance costs. Some plans even offer a discount on the first-year premium if you and your spouse are covered.

(ix) Tax Benefits

Fixed benefit health insurance plans offer tax benefits. If you pay the premium, you can avail deduction up to ₹ 25,000 from your taxable income on the health insurance premiums paid. This amount of benefit is available under Section 80D of the Income Tax Act if your age is less than 60 years. If you and your family members are all more than 60 years old, the maximum deduction available is of ₹50,000. The same benefit is applicable for premiums that you pay for your parents.

12.4 Health Insurance Policies

Health insurance is available in various forms. However, all the health insurance policies can be broadly categorised under two types — **Indemnity plan** and **Fixed benefit plan**. Let us understand these two types in detail.

(A) Indemnity Plan

This plan covers hospitalisation expenses up to the limit decided during the purchase of the policy. An insured can opt for multiple claims in a year, but the total amount given should not exceed the maximum sum insured limit or the amount you are entitled to get from the insurance company. This plan type is also known as mediclaim policy. You also have the benefit of availing cashless treatment at various network hospitals, where the insurance company pays on your behalf.

Types of Indemnity Plans

1. **Individual Insurance Plans:** This type of health insurance is meant for an individual. Thus, the insurance provider covers only the medical expenses incurred by an individual. The treatment expenses covered in these plans usually include all the costs incurred through hospitalisation,

pre and post-admission, charges for various medical tests and laboratory charges, and consultation charges. Since this risk cover is only for an individual, the premiums are cheaper than that of other plans. These individual mediclaim policies don't cover any existing illnesses. However, after waiting for a certain period, these diseases might get covered by the insurance company. Many insurance policies do not cover ayurvedic, homeopathic or any other non-allopathic treatments.

2. **Family Floater Insurance Plans:** These types of insurance plans cover the entire family. Instead of buying different individual plans, you can get a family floater that would cover the medical and treatment expenses of all the family members. These plans include the policyholder, his/her spouse and children. Minor children up to 2 years can also be covered under this plan. Some plans also include siblings and in-laws. Family floaters can provide health coverage for up to 15 relatives in one single plan. Thus, all the family members share sum insured provided by the insurer.
3. **Senior Citizen Insurance:** These insurance plans cover medical treatment or hospitalisation expenses of individuals aged 60 years or more. Illness and other health-related problems after the age of 60 years are common. Retirement might also deprive people of any regular income. In such a situation, bearing all the medical expenses might be a big burden. Thus, senior citizen health insurance plans can help in meeting medical expenses during emergencies. It is mandatory by the IRDA that the policyholder must be at least 60 to 65 years while applying for the policy. Some of the insurance companies also make people undergo medical examination before sanctioning a policy. The waiting period for these policies can range from 1-4 years in case of certain illnesses.
4. **Maternity Insurance:** Maternity Insurance plans are specifically meant for women planning to have a child or are bearing one. It covers all the expenses before and after the pregnancy, the cost towards the child, mother's care expenses, and any complications that might arise due to pregnancy. Such a plan can be added to the main Individual or Family Floater policy. Moreover, it can also be attached with the Group Insurance plans provided by the employers which have a sub-limit of up to ₹50,000. All the expenses related to tests, medicines, labour, and admission can be reduced by taking this plan.

   Any emergency transportation due to pregnancy-related discomforts, expenses for delivery, nursing and consultation are also covered in this plan. It also includes the congenital or a critical disease diagnosed in the newborn. The waiting period is up to a maximum of 4 years, as only after that all the benefits can be availed. Hence it is advisable to purchase this plan well before conceiving. The exclusions include charges for regular checkups, diagnostic exams, and consulting fees, any medicines like vitamins, during the pregnancy.
5. **Group Medical/Employee Insurance:** Group Medical Insurance is provided by employers to their employees. The groups under such a policy include members of any associations, companies, etc. Moreover, by paying some extra amount, employees can also extend the plan to include other family members like spouses, children, parents, etc. Like other plans, the premiums paid under this plan are tax exempt. Some policies also cover existing diseases and maternity expenditures. Unlike other plans, to purchase the plan, employees don't need to produce any documents or undergo any medical examinations. Also, the premiums are cheaper here. The plan can be contributory, where employees also pay a part of the premium, or non-contributory, where only the employer pays the premium.

(B) Fixed Benefit Plan

This plan does not offer hospitalisation benefit. It pays a fixed amount for certain listed critical diseases and conditions, such as cancer, heart illnesses, etc. Under this plan, one also gets coverage on the diagnosis of certain diseases.

Types of Fixed Benefit Plans

1. **Preventive Insurance:** A preventive health insurance plan covers expenses for regular health checkups required to prevent any dangerous illness like cancer. For this, an annual medical examinations can be needed to analyse the possible symptoms. Such plans can provide coverage for any checkups done in a network hospital of the insurer. Expenses also cover all the preventive measures taken for the policyholder, spouses, children and parents. Children up to the age of 13 years are covered under this policy. Unlike other plans, this plan includes tests related to HIV/ AIDS, cancer and cholesterol.
2. **Critical Illness:** Critical illnesses are ailments not included in health insurance plans. These are some specific conditions which can lead to permanent disability or death. Some of the diseases covered by the plan include cancer, organ transplant, and failure, multiple sclerosis, paralysis, blindness, strokes and heart attacks, kidney failure, coma, critical heart surgeries, among others. The policy provides a lump sum amount for the treatment of these diseases. This policy can be bought either separately or as an add-on with a life insurance plan. Under such a plan, if the policyholder is diagnosed with any of the critical illnesses included in the list within the tenure, he/she gets the claim benefit along with other benefits. Some companies also provide a daily allowance benefit because the policyholder is unable to work and earn income due the illness. Such plans usually have a lower waiting period.
3. **Hospital Daily Cash Benefit:** It offers fixed benefits, usually after 24-48 hours of hospitalisation. The coverage is over and above the benefits provided by a health insurance plan. This plan covers expenses usually not included in a health plan. You get a fixed amount every day during hospitalisation.
4. **Personal Accident:** The plan offers coverage against accidental death and permanent total and partial disability of the policyholder. Such a policy would be a great add-on with the motor insurance to cover the death or bodily injury to the driver. In case of an untimely demise of the policyholder, the plan also offers sum assured to the family members to take care of various expenses and needs. No health documents are required to purchase this policy. It can be availed for both individuals and group. Also, many policies cover all the legal and funeral expenditures apart from covering any harm caused due to terrorist attacks.

   A Personal Accident cover can be classified into 2 types:

   - ***Individual Accident Cover:*** The plan covers an individual's disabilities, dismembering of body parts or death due to an accident.
   - ***Group Accident Cover:*** It is provided by employers to cover the expenses of the employee's families on his/her sudden demise.

12.5 Government Sponsored Scheme

There are certain scheme initiated by the government of India to make the health insurance accessible to the Poor and destitute. Here we are discussing the scheme launched by the government of India in Details.

(i) Pradhan Mantri Suraksha Bima Yojana

The PMSBY is an accident insurance policy introduced by the Government of India for its citizens. It provides cover up to ₹2 lakh for accidental death or full disablement of the policyholder for just ₹1 per month. Any Indian Citizen between ages 18 to 70 years regardless of their socio-economic status can buy this policy. It is linked directly to your bank account. The annual premium amount of ₹12 will be debited in a single installment from your bank account on or before 1 June every year. In case of dealth and full disability ₹2 lakh will be provided to the person insured under this scheme. Full Disability is described as Total and irrecoverable loss of both eyes or loss of use of both hands or feet, or Loss of sight of one eye and loss of use of hand or foot. In case of partial disability ₹1 lakh is provided. Partial Disability is described as "Total and irrecoverable loss of sight of one eye or loss of use of one hand or foot".

(ii) Pradhan Mantri Jeevan Jyoti Yojna

₹2 lakhs is payable on member's death due to any reason. If the Scheme Member dies during Insurable Membership, subject to Policy being in force and all due Premiums, Service Tax and any Other Levies (if any) having been paid and subject to any restrictions or qualifications referred to in these Clauses, the amount specified as the Sum Assured for such Scheme Member shall become due to the Nominee of the Scheme Member. No Maturity benefit is payable under the policy. No Surrender benefit is payable under the policy.

- You can have only one subscription to the insurance policy regardless of the number of bank accounts you may hold.
- The policy will be processed through the policyholder's AADHAR-linked bank account only- So if you don't have an AADHAR number (card is a distant dream at this point) time to stand in those long lines at the municipal corporation.
- To get the policy, you must authorize your bank during application to auto-debit the premium amount at the time of renewal and ensure the continuation of the policy.
- A shout out to all broke people- you must have sufficient balance (i.e. ₹12 for PMSBY and ₹330 for PMJJBY) in your linked bank account at the time of renewal each year. Failure to do so would result in the risk cover being suspended with reinstatement at the sole discretion of the insurance company.
- Your linked bank will be the Master PolicyHolder on behalf of you.

(iii) Rashtiya Swasthiya Bima Yojana (RSBY)

RSBY (Rashtriya Swasthiya Bima Yojana) has been launched by Ministry of Labour and Employment, Government of India to provide health insurance coverage for Below Poverty Line (BPL) families. The objective of RSBY is to provide protection to BPL households from financial liabilities arising out of health shocks that involve hospitalization. Beneficiaries under RSBY are entitled to hospitalization coverage up to ₹30,000/- for most of the diseases that require hospitalization. Government has even fixed the package rates for the hospitals for a large number of interventions. Pre-existing conditions are covered from day one and there is no age limit. Coverage extends to five members of the family which includes the head of household, spouse and up to three dependents. Beneficiaries need to pay only ₹30/- as registration fee while Central and State Government pays the premium to the insurer selected by the State Government on the basis of a competitive bidding.

(iv) Universal Health Insurance Scheme (UHIS)

The four public sector general insurance companies have been implementing Universal Health Insurance Scheme for improving the access of health care to poor families. The scheme provides for reimbursement of medical expenses upto ₹30,000/- towards hospitalization floated amongst the entire family, death cover due to an accident @ ₹25,000/- to the earning head of the family and compensation due to loss of earning of the earning member @ ₹50/- per day upto maximum of 15 days. The Universal Health Insurance Scheme (UHIS) has been redesigned targeting only the BPL families. The premium subsidy has been enhanced from ₹100 to ₹200 for an individual, ₹300 for a family of five and ₹400 for a family of seven, without any reduction in benefits.

(v) Aam Aadmi Bima Yojana (AABY)

Aam admi bima yojana, a Social Security Scheme for rural landless household was launched on 2nd October, 2007. The head of the family or one earning member in the family of such a household is covered under the scheme. The premium of ₹200/- per person per annum is shared equally by the Central Government and the State Government. The member to be covered should be aged between 18 and 59 years.

On natural death
₹30,000
On death due to accident / on permanent disability due to accident (loss of 2 eyes or 2 limbs)
₹75,000
On partial permanent disability due to accident(loss of one eye or one limb)
₹37,500

Benefits

A separate fund called "Aam Admi Bima Yojana Premium Fund" has been set up by Central Govt. to pay the Govt. contribution. Fund is maintained by LIC. A free add-on benefit in the form of scholarship to children is also available under the Scheme.

Eligibility Criteria

Most of the insurance companies providing health insurance in India offer coverage to persons under the age of 45 years without any medical examination. They might ask details of any pre-existing diseases like diabetes or hypertension. However, those above 55 years need to undergo medical examination.

Particulars	Details
Entry Age	Adults: 18-70 years; Dependent children: 90 days-25 years
Sum Insured	₹50,000–₹6 crore

12.6 Coverage of Health Insurance

Health insurance companies offer a plethora of plans and policies to choose from as per your need and requirement. You should understand the coverage well before opting for a particular plan and policy. Let us look at some of the common points covered by different plans offered by health insurance companies.

Pre- and post-hospitalisation expenses: This insurance pays for medical expenses incurred between 30 and 60 days before hospitalisation. These cover things like cost of medication and medical tests, etc. This is apart from the usual coverage like meeting the costs for hospitalisation of at least 24 hours, room rent, cost of surgery, etc. It also covers the medical expenses between 60 and 180 days after hospitalisation like that for medication, home treatment, etc.

Ambulance charge: Almost all health insurance plans cover the expenses related to ambulance service.

Day care charges: Some of the health insurance plans also cover the costs for treatments taken up without hospitalisation of up to 24 hours. These include cases like dialysis, radiotherapy, chemotherapy, etc.

Health check-ups: Some of the health insurance companies also cover the cost for preventive health check-ups.

12.7 Documents Required to Process Claims

In order to get the claims settled on time, certain specific documents are required.

- Duly filled in claim form
- Medical certificate from doctor
- Discharge summary
- Prescriptions
- Investigation report
- Pharmacy bills
- FIR (in case of accidents)

12.8 Claim Process

A health insurance policy helps manage any unforeseen medical expenses. Thus, in case of any eventuality, you need to properly file claims in order to get the benefit. There are two types of claims: cashless and reimbursement claims.

(i) Cashless Claims

To avail this kind of claim, you need to use one of the network hospitals, which is a hospital empanelled with the insurance company. Here, the policyholder does not have to pay the hospitalisation expenses as it is borne by the insurance company.

Let us understand the cashless claim process.

- In case of planned treatment, inform the insurance company in advance. This can be done through email or the toll-free number.
- On hospitalisation, provide the health card given by the insurance company to the Third Party Administrator (TPA) desk of the hospital along with an approval from the treating doctor.
- Also submit the required documents.
- Once the insurance company approves the case, it pays the medical expenses directly to the hospital.

(ii) Reimbursement Claims

Here, the policyholder makes the payment for the treatment and hospitalisation. However, he/she gets back the money later as per the sum insured amount after submitting the required documents.

Let us understand the reimbursement claim process.

- After paying the medical expenses on your own, submit the bills and other required documents to the insurance company.
- After an evaluation, if the insurance company finds the claim fit, it will make the payment to the insurer.

(iii) Time Taken to Settle Claims

After receiving a claim request, a health insurance company usually takes 30 days from the day of receipt of documents to settle the claim. However, if there is any kind of investigation needed to process the claim, it usually takes 45 days to settle the claim from the time of receipt of documents.

12.9 Exclusions

Health insurance provides coverage for various kinds of medical expenses, treatments and illnesses to help you to manage your finances better. However, certain situations and cases are not covered by health insurance plans, though the list varies for different providers. Always understand these exclusions well before finalising a plan so that you do not face problems later. Let us look at some common exclusions.

- Dental treatment, including surgery
- Treatment for AIDS and other sexually transmitted diseases

- Non-allopathic treatment
- Certain pre-existing diseases and critical illnesses
- Maternity or newborn coverage (You need a rider to get this coverage)

Review Questions

1. Explain the need of health insurance for every individual person?
2. Explain the different types of health insurance policies in India.
3. What are the different government sponsored schemes in health insurance for the peer?
4. What is covered under the health insurance policies?
5. Explain the claims process of health insurance policies?
6. What are the exclusions in the health insurance policies?

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13

Basic Tax Structure

Learning Outcomes

After studying this chapter, you should be able to understand:

- Define tax structure of India,
- Explain different types of tax prevailing in India,
- Explain tax authorities of India,
- Understand the income tax slabs rate,
- Compare the old and new tax regime.

13.1 Introduction

India offers a well-structured tax system for its population. Taxes are the largest source of income for the government. This money is deployed for various purposes and projects for the development of the nation.

The government collects money from the general public in the form of taxes which it uses for different developmental schemes and functioning of the economy. The general public may comprise salaried people, business people, industrialists and many other service providers. All these people pay taxes with the expectation that the government would function efficiently. In your lifetime, you definitely have to pay taxes. The prices that we pay when we buy things in the market, is inclusive of taxes that have been charged on them. We bear taxes when we spend money and also when we earn money. Not many of us willingly part with their hard earned money for taxes. You must have often heard your elders' say, "what do we get that we should pay taxes?" Payment of taxes is not only the duty of every citizen but an essential requirement for existence of our country as a prosperous, secure, stable and a just nation-state.

You know that government spends money for providing many public services, like, highways, police, defence, etc., and basic facilities such as schools and hospitals to the poor and underprivileged thus creating an egalitarian society. It is also used for funding developmental programmes and services. Government gets money from taxes and therefore it is vital for all its citizens to pay taxes. However, at the same time it is important for us to learn to be wise and smart so that all taxes that we legally owe are paid – and not a rupee more.

13.2 Tax Structure of India

India has a well-developed taxation structure. The tax system in India is mainly a three-tier system, comprising the Central government, State Governments and the local government's organizations which include panchayats and municipalities. The government cannot impose any tax unless it is passed as a law. The entire system is clearly demarcated with specific roles for the central and state government. The Central Government of India levies taxes such as customs duty, income tax, service tax, and central excise duty.

The taxation system in India empowers the state governments to levy income tax on agricultural income, professional tax, value added tax (VAT), state excise duty, land revenue and stamp duty. The local bodies are allowed to collect octroi, property tax, and other taxes on various services like drainage and water supply.

13.3 Types of Taxes

As said earlier we pay different types of taxes to the government, which can be classified as direct and indirect. Direct taxes are those that are imposed and paid by the tax payer directly to the government (like, taxes on income and wealth) Indirect taxes are those taxes that we pay indirectly to the government (like, taxes on commodities). An understanding of these taxes is necessary for us to be aware of the payments that we have to make

Taxes are classified under two categories namely direct and indirect taxes. The largest difference between these taxes is their implementation.

(i) Direct Taxes

Direct taxes are paid by the assessee while indirect taxes are levied on goods and services. **Direct taxes are levied on individuals and corporate entities and cannot be transferred to others. These include income tax, wealth tax, and gift tax.**

Income Tax

A tax levied against people or organisations (taxpayers) about their income or profits is known as an income tax (commonly called taxable income). Tax rates multiplied by taxable income are typically used to calculate income taxes.

Taxes are the primary source of funding for the government. Taxation is the process of levying taxes. A tax is a mandatory levy or charges the government imposes on people or businesses. No matter whether the government receives a similar return on the goods and services, the taxed parties are still required to pay the tax. The income and wealth of individuals or corporations may be subject to taxes, which may also vary in rate.

Salaried workers make up the majority of the nation's taxpayers overall, and thus have a substantial impact on the amount of taxes collected. The salaried class has access to various tax-saving alternatives through income tax deductions. One could significantly lower their tax obligation using these deductions and exemptions. There are 120 exemptions under the "previous tax regime." Not all of them provide benefits to taxpayers. Most of these make the direct tax system more complicated. The Ministry of Finance has eliminated over 70 exemptions after careful consideration. The new tax system does not permit maximum deductions.

(ii) Indirect Taxes

Indirect taxes are not directly paid by the assessee to the government authorities. These are levied on goods and services and collected by intermediaries (those who sell goods or offer services). Here are the most common indirect taxes in India:

(i) **Value Added Tax (VAT):** This is levied by the state government and was not imposed by all states when first implemented. Presently, all states levy such tax. It is imposed on goods sold in the state and the rate is decided by the state governments.

(ii) **Customs Duty:** Imported goods brought into the country are charged with customs duty which is levied by the Central Government.

(iii) **Octroi:** Goods that move from one state to another are liable to octroi duty. This tax is levied by the respective state governments.

(iv) **Excise duty:** All goods produced domestically are charged with excise duty. Also known as Central Value Added Tax (CENVAT), this is paid by the manufacturers.

(v) **Service Tax:** All services provided domestically are charged with service tax. The tax is paid by all service providers unless specifically exempted.

(vi) **Goods and Service Tax (GST):** As a significant step towards the reform of indirect taxation in India, the Central Government has introduced the Goods and Service Tax (GST). GST is a comprehensive indirect tax on manufacture, sale and consumption of goods and services throughout India and will subsume many indirect taxes levied by the Central and State Governments. GST will be implemented through Central GST (CGST), Integrated GST (IGST) and State GST (SGST). Four laws (IGST, CGST, UTGST & GST (Compensation to the States), Act) have received President assent. All the States & UT expected to pass State GST Act, by end of May 2017. GST law is expected to take effect from July 1, 2017.

GST has three Components:

(a) **CGST:** Stands for **Central Goods and Services Act**. The central government collects this tax on an intrastate supply of goods or services.

(b) **SGST:** Stands for **State Goods and Services Tax**. The state government collects this tax on an intrastate supply of goods or services.

(c) **IGST:** Stands for **Integrated Goods and Services Tax**. The central government collects this for inter-state sale of goods or services.

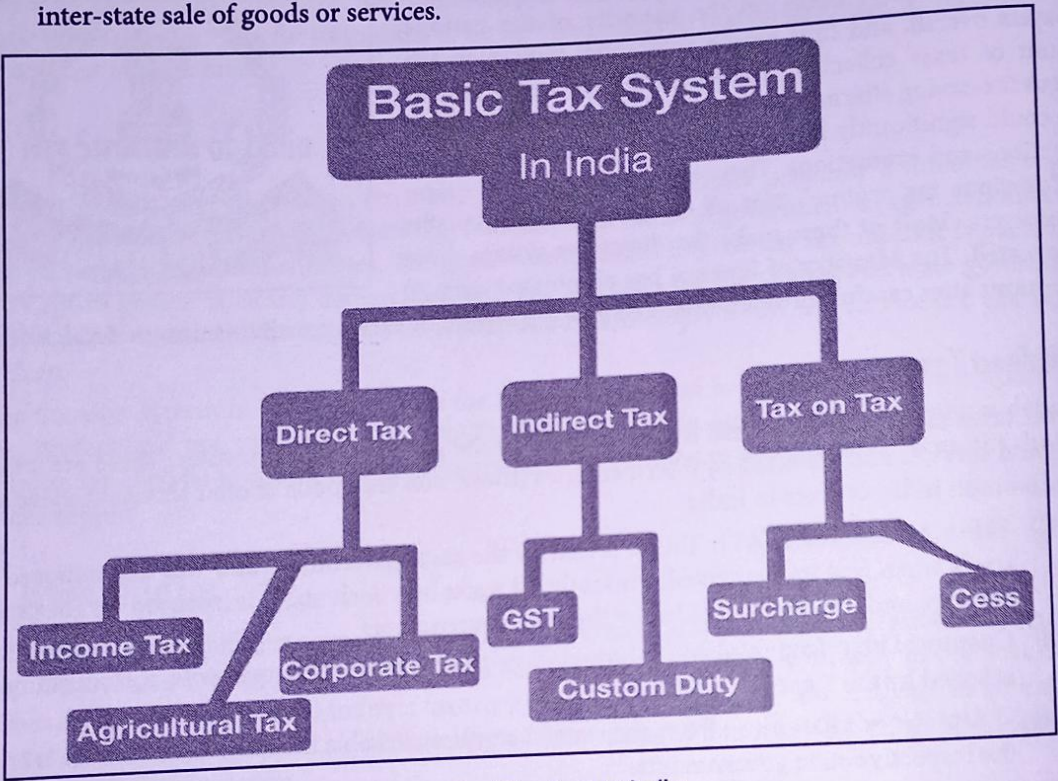


Fig-1: Tax Structure In India

13.4 Revenue Authorities

CBDT

The Central Board of Direct Taxes (CBDT) is a part of the Department of Revenue under the Ministry of Finance. This body provides inputs for policy and planning of direct taxes in India and is also responsible for administration of direct tax laws through the Income Tax Department.

CBEC

The Central Board of Excise and Customs (CBEC) is also a part of the Department of Revenue under the Ministry of Finance. It is the nodal national agency responsible for administering customs, central excise duty and service tax in India.

CBIC

Under the GST regime, the CBEC has been renamed as the Central Board of Indirect Taxes & Customs (CBIC) post legislative approval. The CBIC would supervise the work of all its field formations and directorates and assist the government in policy making in relation to GST, continuing central excise levy and customs functions.

Basic Definition

Compulsory monetary contribution to the state's revenue, assessed and imposed by a Government on the activities, enjoyment, expenditure, income, occupation, privilege, property, etc of individuals and organisations.

- ***ASSESSMENT YEAR***- "***Assessment year***" is "the period of twelve months starting from the first day of April every year." An assessment year begins on 1st April every year and ends on 31st March of the following year. For example, the Assessment year 2018-19 means the period of one year beginning on 1st April 2017 and ending on 31st March 2018. In an assessment year, the income of assesses during the previous year is taxed at the rates prescribed by the relevant Finance Act. It is, therefore, also called the "Tax Year".
- ***PREVIOUS YEAR***- "***Previous year***" as "the financial year immediately preceding the assessment year". Income earned in one financial year is taxed in the next financial year. The year in which income is earned is called the "previous year" and the year in which it is taxed is called the "assessment year" Common previous year for all sources of income: A person may earn income from more than one source but the previous year will always be typical for all the sources of income. This will be so even if a person maintains records or books of accounts separately for different sources of income. The total income of a person from all the sources of income will be taken together and considered in the previous year or the financial year immediately preceding the assessment year.
- ***PERSON*** - These are seven categories of persons chargeable to tax under the Act. The aforesaid definition is inclusive and not exhaustive. Therefore, any person, not falling in the abovementioned seven categories, May still fall within the four corners of the term "person" and accordingly may be liable to tax.
- ***ASSESSEE:*** "Assessee" means a person by whom income tax or any other sum of money is payable under the Act, and it includes: Every person in respect of whom any proceeding under the Act has been taken for the assessment of his income or loss or the amount of refund due to him. A person who is assessable in respect of income or loss of another person or who is deemed to be an assessee or An Assessee in default under any provision of the Act.

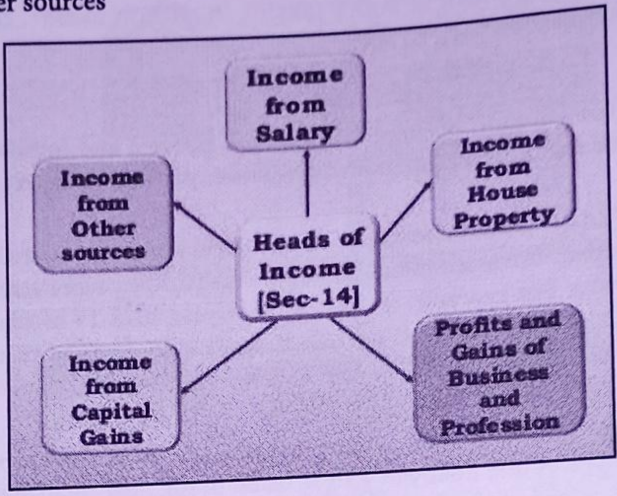
13.5 Various Heads Under Income Tax

Under Income Tax, 1961 the Tax is been Calculated into Five Categories under:

Five Heads of Income Tax:

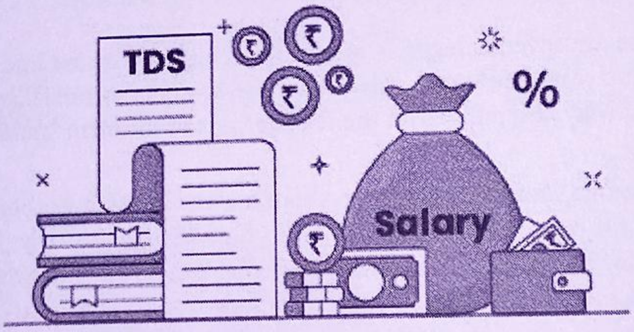
- Income from salary

- Income from house property
- Income from profits and gains from business or profession
- Income from capital gains
- Income from other sources



Income from Salary

Any income that you receive in terms of the service you provide on a contract of employment is applicable for taxation under this head. This includes salary, advance salary, perquisites, gratuity, commission, annual bonus and pension.



This tax head also includes some exemptions:

- ***House Rent Allowance (HRA):*** As a salaried individual, if you live in a rented house, you can claim House Rent Allowance for partial or complete tax exemptions.
- ***Conveyance Allowance:*** You can get a monthly tax exemption of up to ₹800.

Income from House Property

An individual's income from his or her property or land is taxable under the head of income from house property. To put it simply, this head includes the policy for calculating the tax on rental income that you receive from your properties.

If you own more than one self-occupied house, then only one house is considered to be occupied, and the rest are considered to be rented out. The taxation occurs on income received from both commercial and residential property.

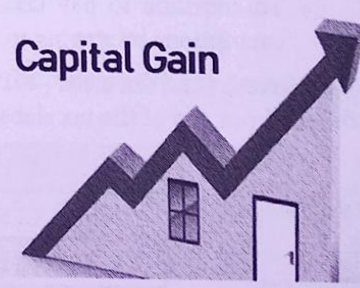
Income from Profits and Gains from Business or Profession

The profits that you earn from any kind of business or profession are taxable under this head. You can subtract your expenses from the total income to determine the amount on which tax is chargeable. Here are the types of income that are chargeable under this head:

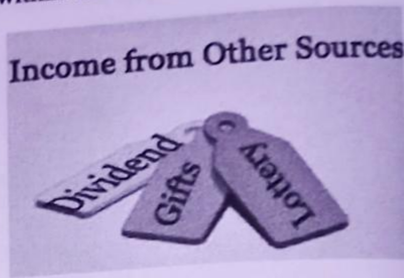
- Profits generated from selling a certain license.
- Gains earned by an individual during an assessment year.
- The profits that an organisation makes on its income.
- Cash received on the export of a government scheme.
- The benefits that a business receives.
- Gains, bonuses or salary that an individual receives due to a partnership with a firm.

Income from Capital Gains

When you earn profits by transferring or selling an asset that was held as an investment, that income is taxable under the head of income from capital gains. Many assets, like gold, bonds, mutual funds, real estate, stocks, etc., fall under capital assets. Now, you can subdivide capital gains into short-term capital gains and long-term capital gains.



When you sell your capital assets after holding them for a period of 36 months or more, they will fall under long-term capital gain and will have a tax rate of 20%. Alternatively, if you sell your capital assets within a period of 36 months, the tax deduction will be under short-term capital gain at the rate of 15%. In the case of securities, this is applicable if you sell your holdings within 12 months from the purchase date.



Income from Other Sources

One-time incomes such as winnings from lotteries, horse races, crossword puzzles, card games, gambling or betting of any form are categorised under ***Income from Other Sources.***

13.6 Income Tax Slab

Income tax is levied on the income earned by all individuals, HUF, partnership firms, LLPs and Corporates as per the Income-tax Act of India. In the case of individuals, tax is levied as per the slab system if their income is above the minimum threshold limit (known as the basic exemption limit).

1. What is Income Tax Slab?

Indian Income-tax levies tax on individual taxpayers based on a slab system. A slab system means different tax rates are prescribed for different income ranges. It means the tax rates keep increasing with an increase in the taxpayer's income. This type of taxation enables progressive and fair tax systems in the country. Such income tax slabs tend to undergo a change during every budget. These slab rates are different for different categories of taxpayers. Income tax has classified three categories of "individual "taxpayers such as:

- Individuals (aged less than 60 years) including residents and non-residents
- Resident Senior citizens (60 to 80 years of age)
- Resident Super senior citizens (aged more than 80 years)

2. Income Tax Slab Rates for FY 2021-22 (AY 2022-23)

Income tax slab rate for FY 2021-22 (AY 2022-23), New Tax regime – Why is it optional?. **In this new regime, taxpayers has an OPTION to choose either:**

- To pay income tax at lower rates as per New Tax regime on the condition that they forgo certain permissible exemptions and deductions available under income tax, Or
- To continue to pay taxes under the existing tax rates. The assessee can avail of rebates and exemptions by staying in the old regime and paying tax at the existing higher rate.

There are old tax slabs (2019-2020) and new tax slabs (2022-2023). The tax payer has the option to choose from any of the tax slabs according to tax liability.

Old Tax Slabs		New Tax Slabs	
Up to ₹2.5 lac	Nil	Up to ₹2.5 lac	Nil
₹2.5 - 5 lac	5%	₹2.5 - 5 lac	5%

Old Tax Slabs		New Tax Slabs	
₹5 - 10 lac	20%	₹5 - 7.5 lac	10%
₹10 lac & above	30%	₹7.5 - 10 lac	15%
-	-	₹10 - 12.5 lac	20%
-	-	₹12.5 - 15 lac	25%
-	-	₹15 lac & above	30%

*In case of senior citizens, Income up to ₹3,00,000 is tax exempted.

**In case of senior citizens, income slab applicable is for income between ₹3,00,000 – ₹5,00,000

Income Tax Slabs for Individual Aged below 60 Years & HUF

Income Tax Slab	Individuals below the age of 60 years – Income Tax Slabs
Upto ₹2.5 lakh	NIL
₹2.5 lakh – ₹5 lakh	5%
₹5.00 lakh – ₹10 lakh	20%
> ₹10.00 lakh	30%

Note:

1. Income tax exemption limit is up to ₹2,50,000 for Individuals, HUF below 60 years aged and NRIs.
2. An additional 4% Health & education cess will be applicable on the tax amount calculated as above.

Surcharge

Surcharge is an additional charge levied for persons earning Income above the specified limits, it is charged on the amount of income tax calculated as per applicable rates

- 10% - Taxable Income above ₹50 lakh - up to ₹1 crore
- 15% - Taxable Income above ₹1 crore - up to ₹2 crore
- 25% - Taxable Income above ₹2 crore - up to ₹5 crore
- 37% - Taxable Income above ₹5 crore

Maximum rate of Surcharge on Income by way of Dividend or Income under the provisions of Sections 111A, 112A and 115AD is 15%.

The tax calculated on the basis of such rates will be subject to health and education cess of 4%.

Any individual opting to be taxed under the new tax regime from FY 2020-21 onwards will have to give up certain exemptions and deductions.

- ***Points to remember while opting for the new tax regime:***
  1. Option to be exercised on or before the due date of filing return of income for AY 2022-23.
  2. In case a taxpayer has a business income and exercised the option, he/she can withdraw from the option only once. A business taxpayer withdrawing from the optional tax regime has to follow the regular income tax slabs.

13.7 Income Tax Calculator

What is Income Tax Calculator?

The Income tax calculator is an easy-to-use online tool that helps you estimate your taxes based on your income after the Union Budget is presented. We have updated our tool in line with the income tax changes proposed in the Union Budget 2022-23.

How to use the Income tax calculator for FY 2022-23 (AY 2023-24)?

Following are the steps to use the tax calculator:

1. Choose the financial year for which you want your taxes to be calculated.
2. Select your age accordingly. Tax liability in India differs based on the age groups.
3. Click on 'Go to Next Step'
4. Enter your taxable salary i.e., salary after deducting various exemptions such as HRA, LTA, standard deduction, and so on. (if you want to know your tax liability under the old tax slabs)
5. Or else, just enter your salary i.e., salary without availing exemptions such as HRA, LTA, standard deduction, professional tax and so on. (if you want to know your tax liability under the new tax slabs)
6. Along with taxable salary, you must enter other details such as interest income, rental income, interest paid on home loan for rented, and interest paid on loan for self occupied property.
7. For Income from Digital Assets, enter the net income (Sale consideration less Cost of Acquisition), such income is taxed at 30% Plus applicable surcharge and cess.
8. Click on 'Go to Next Step' again.
9. In case, you want to calculate your taxes under the old tax slabs,you will have to enter your tax saving investments under section 80C, 80D, 80G, 80E and 80TTA.
10. Click on 'Calculate' to get your tax liability. You will also be able to see a comparison of your pre-budget and post-budget tax liability (old tax slabs and new tax slabs)

How to calculate income tax?

The income tax calculation for the Salaried- Income from salary is the sum of

Basic salary + HRA + Special Allowance + Transport Allowance + any other allowance

Some components of your salary are exempt from tax, such as telephone bill reimbursement, and leave travel allowance. If you receive HRA and live on rent, you can claim an exemption on HRA. Calculate exempt portion of HRA, by using this HRA calculator.

Practical Examples

Taxpayers with annual income between ₹5 lakhs to ₹10 lakhs are taxed at 20%, under the old regime. And in the new regime, they will be taxed at half that rate i.e. 10%. Also, those with annual income of ₹7.5 lakhs to ₹10 lakhs will have to pay 15% income tax.

However, if the taxpayer is benefiting from exemptions and his net tax payable is less, he/she can choose to continue with the old tax regime.

Let's take an example, a person's annual income comes to ₹6 lakhs. If he goes by the new rates, he will have to pay ₹60,000. (Some of the exemptions allowed in the new tax regime may be beneficial)

If he chooses the old rates, he can deduct ₹1.5 lakhs under Sec 80C. His taxable income now is ₹4.5 lakhs. A simple preview of how much does the tax amount come to under different slabs with old and new tax regime will help you take the right call. Not everyone might invest in the same manner to save tax. If a person is not benefiting from the exemptions, he/she can choose the new regime.

A simple preview of how much does the tax amount come to under different slabs with old and new tax regime will help you take the right call.

Q1. Mr Aman is a salaried person and earn ₹750,000 per annum. His contribution to PF is ₹100,000 and he paid tuition fees for his child education is ₹50,000. He is claiming HRA exemption of ₹10,000. He is also contributing ₹50,000 toward NPS. Calculate his total tax liability under old tax regime and the New tax regime.

For annual income upto 7,50,000 with exemption.

Details		Old Regime FY 21-22	New Regime FY 21-22
Gross Total Income		7,50,000	7,50,000
Less– Standard deduction	50,000		
Total Deduction u/s 80c	1,50,000		
u/s 80cccd (1B)	50,000		
HRA	10,000	2,60,000	₹0
Taxable Income		4,90,000	7,50,000
Tax on Total Income		1,2500	37,500
Rebate		1,2500	₹0
Surcharge			
Health & Education Cess		₹0	1,500
Total Tax Payable		0	39,000

So we can see that if we are claiming deduction we have to **pay nil tax on our income and if we adopt the new tax regime we have to pay 39000 as tax.** If we don't want to make any saving then new tax regime is better.

Q2. Ahona is a salaried employee and earn ₹10 lakh per annum. She owns a house and paid interest on home loan ₹1,50,000 and principal amount of ₹50,000. She has contributed ₹1,00,000 toward PPF. She has taken a mediclaim policy of ₹25,000 for her dependend parents. She has also contribute ₹50,000 toward NPS. Calculate her total tax liability under the tax and old tax regime.

For annual income upto 10 lakh with exemption

Details		Old Regime FY 21-22	New Regime FY 21-22
Gross Total Income		10,00,000	10,00,000
Less– Standard deduction	50,000		
Total Deduction u/s 80c	1,50,000		
u/s 80cccd (1B)	50,000		
u/s 80 D	25,000		
Interest on home loan	1,50,000	4,75,000	₹0
Taxable Income		5,25,000	10,00,000
Tax on Total Income		27,500	75,000
Rebate			₹0
Surcharge			
Health & Education Cess		1,100	3,000
Total Tax Payable		28,600	78,000

Q3. Mr Mehul is a salaried individual with a salary of ₹15 lakh. He has a home loan in which interest of ₹2 lakh is paid. His contribution to PPF is 50,000 children tuition fees ₹70,000 and ₹30,000 as term insurance plan. He also contributed ₹50,000 in NPS to save extra tax. He has taken ₹25,000 toward the mediclaim policy for her family. Calculate the tax liability under old and new tax regime. Which tax regime should be opted by Mr Mahul and Why?

For annual income upto 15 lakh with exemption

Details		Old Regime FY 21-22	New Regime FY 21-22
Gross Total Income		15,00,000	15,00,000
Total Deduction u/s 80c	1,50,000		
Standard Deduction	50,000		
u/s 80cccd (1B)	50,000		
u/s 80 D	25,000		
Interest on home loan	2,00,000	4,75,000	₹0
Taxable Income		10,25,000	15,00,000
Tax on Total Income		1,20,000	1,25,000
Rebate		0	₹0

Details	Old Regime FY 21-22	New Regime FY 21-22
Surcharge		
Health & Education Cess	4,800	5,000
Total Tax Payable	1,24,800	1,30,000

Mr Mehul has to choose the old regime because his tax liability is lower in case of old regime as compared to new regime.

So we can compare whenever we decide about whether we have to choose between new regime or the old regime.

Q4. Mr Shah has a basic salary of ₹1,00,000 per month
House Rent Allowance (HRA) of ₹45,000 per month
Special allowance of ₹ 20,000 per month
Leave Travel Allowance (LTA) of ₹20,000 per annum
His taxable income would be calculated as follows:

Components	Amount (₹)	
Basic Salary	1,00,000 × 12	= 12,00,000
HRA (House Rent Allowance)	45,000 × 12	= 5,40,000
Special Allowance	20,000 × 12	= 2,40,000
Leave Travel Allowance (LTA)	20,000	= 20,000
Total Annual Salary (Income)		**20,00,000**

As his taxable income is ₹20,00,000, he falls in the slab of above ₹15 lakh of income tax. Now let us calculate his Total Taxable Income under both New Tax Regime and New Tax Regime.

Components	Old Tax Regime	New Tax Regime
Total Annual Salary	**₹20,00,000**	**₹20,00,000**
Gross Total Income	**₹20,00,000**	**₹20,00,000**
(Now less all the applicable deduction, allowances, and exemptions)		
Less: Standard Deduction	– ₹50,000	–
Less: Deductions under Section 80C	– ₹1,50,000	–
Less: Deductions under Section 80D	– ₹50,000	–
Less: House Rent Allowance (Out of 5,40,000 deduction of)	– ₹3,00,000	–
Less: Leave Travel Allowance (Out of 20,000 deduction of)	– ₹10,000 (bills must be submitted)	–
Total Taxable Income	**₹14,40,000**	
Total Tax Liability (Payable)	= **₹2,54,280**	= **₹3,37,500**

Under the old tax structure, one may save a lot of money by making different tax-saving investments and/or costs, as shown in the example above.

Q5. **Basis Salary:** ₹90,000 per month;
HRA: ₹45,000 per month;
Special allowance: ₹20,000 per month;
Leave Travel Allowance: ₹18,000 per year;
Rent that is Paid: ₹25,000 per month.

Components	Amount	Deductions	Taxable amount under the old scheme	Taxable amount under the new scheme
Basis Salary	₹10,80,000		₹10,80,000	₹10,80,000
Special Allowance	₹2,40,000		₹2,40,000	₹2,40,000
HRA	₹5,40,000	₹3,00,000	₹2,40,000	₹5,40,000
LTA	₹18,000	₹10,000 (bills must be submitted)	₹8,000	₹18,000
Deductions (Standard)	-	₹50,000	₹50,000	-
Gross Income			₹15,80,000	₹18,78,000

Under the new regime, several exemptions such as telephone bill reimbursement, investments made in savings instruments such as PPF, NPS, EPF, etc., and HRA are not available. The calculation of the gross taxable income under the new regime and the old regime are mentioned below:

Calculation of Gross Taxable Income under New Regime

Components	Amount	Total
Salary	₹18,78,000	
Income that is generated from other sources	₹30,000	
Gross Total Income		₹19,08,000
Total Income Tax		₹3,22,296
Components	**Percentage**	**Taxable Amount**
Upto ₹2,50,000	No tax needs to be paid	0
₹2,50,000 - ₹5,00,000	5% (₹5 lakh - ₹2.5 lakh)	₹12,500
₹5,00,000 - ₹7,50,000	10% (₹7.5 lakh - ₹5 lakh)	₹25,000
₹7,50,000 - ₹10,00,000	15% (₹10 lakh - ₹7.5 lakh)	₹37,500
₹10,00,000 - ₹12,50,000	20% (₹12.5 lakh - ₹10 lakh)	₹50,000
₹12,50,000 - ₹15,00,000	25% (₹15 lakh - ₹12.5 lakh)	₹62,500
Above ₹15,00,000	30% (₹19.08 lakh - ₹15 lakh)	1,22,400
Cess	4% (₹12,500 + ₹25,000 + ₹37,500 + ₹50,000 + ₹62,500+ ₹1,13,400)	₹12,396
Total Income Tax		₹3,22,296

Assumptions:

Interest generated from Savings Account: **₹5,000**

PPF: **₹40,000**

ELSS: **₹10,000**

LIC Premium: **₹6,000**

Medical Insurance: **₹10,000**

EPF Contribution: ₹1,15,200 can be claimed in a year

Type of Deduction	Maximum Deduction	Eligible Amount	Amount Claimed
Section 80C	₹1,50,000	₹40,000 + ₹10,000 + ₹6,000 + ₹1,15,200	₹1,50,000
Section 80D	₹25,000 (self) ₹50,000 (parents)	₹10,000	₹10,000
Section 80TTA	₹10,000	₹5,000	₹5,000
Total			₹1,65,000

Calculation of Gross Taxable Income under Old Regime

Components	**Amount**	**Total**
Salary	₹15,80,000	
Income that is generated from other sources	₹30,000	
Gross Total Income		₹16,10,000
Deductions under Section 80C	₹1,50,000	
Deductions under Section 80D	₹10,000	
Deductions under Section 80TTA	₹5,0000	₹1,65,000
Gross Income that is Taxable		₹14,45,000
Payable Tax, inclusive of Cess		₹2,55,840
Components	**Percentage**	**Taxable Amount**
Up to ₹2,50,000	No tax needs to be paid	0
₹2,50,000 - ₹5,00,000	5%	₹12,500
₹5,00,000 - ₹10,00,000	20%	₹1,00,000
Above ₹10 lakh	30%	₹1,33,500
Cess	4% (₹12,500 + ₹1,00,000 + ₹1,33,500)	₹9,840
Total Income Tax		₹2,55,840

The income tax department has brought out a tax comparison utility, which is available on their web portal and in which, an individual taxpayer can use to evaluate which option is better for him/her. The link to the same is as under: https://www.incometaxindiaefiling.gov.in/Tax_Calculator/

Please visit the following site for the calculation of Income tax.

- *https://www.bankbazaar.com/tax/how-calculate-income-tax-on-salary-with-example.html*
- *https://life.futuregenerali.in/life-insurance-made-simple/tax-hacks/blogs/how-to-calculate-income-tax-on-salary-with-example/*
- *https://tax2win.in/guide/how-to-calculate-income-tax-on-salary*

Review Questions

1. "Old tax regime was a burden on people with right level of income." Comment.
2. Give a comparative analysis between new tax regime and old regime.
3. "Old tax regime inculcated habit of saving among citizen." Explain.

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14

Personnel Tax Planning

Learning Outcomes

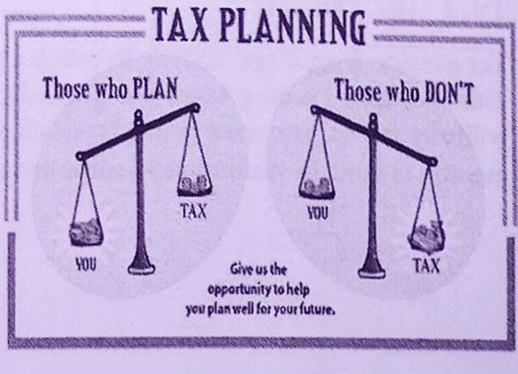
After studying this chapter, you should be able to understand:

- Need and advantage of tax planning;
- Types of tax planning;
- Concept of tax evasion, tax management and tax avoidance.

14.1 Introduction

Tax Planning may be described as a legal way of reducing tax liability in a year by investing in different schemes as prescribed by the income tax Act. It may also include entering or exiting investment schemes to save the maximum tax possible within the legal framework.

14.2 Need For Tax Planning:



Tax payments are compulsory for all individuals in the IT bracket. Nowadays tax planning is a must to reduce tax liability by investing in different investment schemes as prescribed by the income tax Act; with tax planning, one will be able to make his/her tax payments such that he or she will receive considerable returns over a specific period of time involving minimum risk. Also, effective tax planning will help reduce a person's tax liability.

14.3 Advantages of Tax Planning

1. **To claim the excess tax paid or deducted:** when we don't do tax planning results in excess tax payment & sometimes excess is deducted by the employer that could have been saved by tax planning.
2. **To reduce tax liabilities:** Every taxpayer wishes to reduce their tax burden and save money for their future. You can reduce your payable tax by arranging investments within the various benefits offered under the Income Tax Act, of 1961. The Act offers many tax planning investment schemes that can significantly reduce your tax liability.
3. **To plan events:** It helps us to decide when to realise a capital gain and when to withdraw money from different schemes.
4. **To earn tax-free returns:** when we invest in schemes specified in the income tax act we get risk-free returns or fixed rates of returns which are tax-free subject to conditions specified in the relevant section.

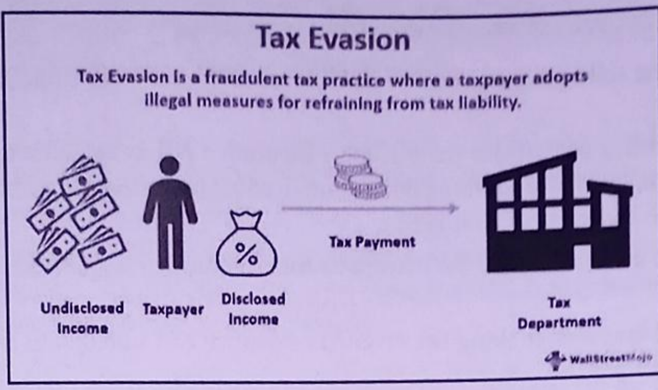
14.4 Types of Tax Planning

Most people merely perceive tax planning as a process that helps them reduce their tax liabilities. However, it is also about investing in suitable securities at the right time to achieve your financial goals. Following are some of the various tax planning methods:

1. **Short-range tax planning:** Under this method, tax planning is thought of and executed at the end of the fiscal year. Investors resort to this planning in an attempt to search for ways to limit their tax liability legally when the financial year comes to an end. This method does not partake in long-term commitments. However, it can still promote substantial tax savings.
2. **Long-term tax planning:** This plan is chalked out at the beginning of the fiscal and the taxpayer follows this plan throughout the year. Unlike short-range tax planning, you might not be offered immediate tax benefits. Still, it can prove helpful in the long run.
3. **Permissive tax planning:** This method involves planning under various provisions of the Indian taxation laws. Tax planning in India offers several provisions such as deductions, exemptions, contributions, and incentives. For instance, Section 80C of the Income Tax Act, of 1961, offers several types of deductions on various tax-saving instruments.

14.5 Tax Evasion

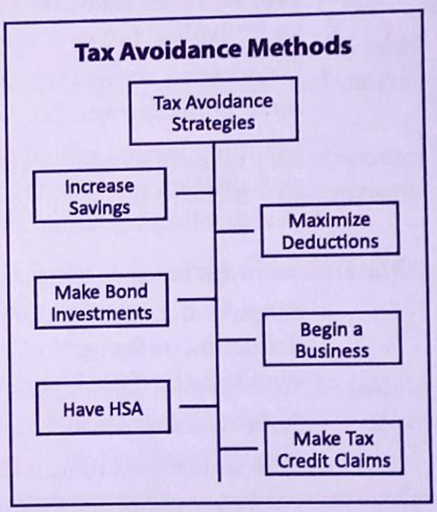
Tax evasion is an illegal activity in which a person or entity deliberately avoids paying a true tax liability. Those caught evading taxes are generally subject to criminal charges and substantial penalties. To willfully fail to pay taxes is a federal offense under the Internal Revenue Service (IRS) tax code. Tax evasion is done in various ways, some are stated example below:



- Purposefully not paying the required tax by hiding or misrepresenting their actual income.
- Smuggling the goods to avoid taxes. A smuggler does not pay the customs duty since it is not authorized through any ports because it is an illegal activity. Hence, they are not subjected to any duty or tax.
- Escaping the custom duty by faking the number either by under-invoicing or by misdeclaration of the quality of products.
- Not reporting the income, i.e. hiding them or bribing.

14.6 Tax Avoidance

Tax avoidance is the process of reducing the tax payable, given the deductions applicable to taxpayers. It helps reduce the tax burden of individuals and businesses, including major corporates. Avoiding taxes is a legal way of decreasing the tax liabilities of a citizen or business unit in an economy.



14.7 Tax Management

It means planning affairs in such a manner, so that the tax obligation is managed properly. The objective of Tax Management is to comply with the provisions of Income Tax Law and its allied rules. Tax Management helps in avoiding payment of interest, penalty, prosecution etc. Example:

1. Tax Management deals with filing of Return in time.
2. Getting the accounts audited.
3. Deducting tax at source etc.

Practical Problems

Q1. Specify whether the following acts can be considered as (i) Tax planning, (ii) Tax management, or (iii) Tax evasion.

- P pays a premium of ₹10,000 for a Health Insurance policy to reduce his total income from ₹6,40,000 to ₹6,30,000 by claiming deduction u/s 80D (assuming Mr P has not opted for section 115BAC of the Income-tax Act, 1961).
- SQL Ltd. pays advance tax by estimating its total income in the previous year to ensure timely compliance.
- An individual taxpayer making tax saver fixed deposit of ₹1,00,000 in a nationalised bank.
- A bank obtaining declaration from depositors in Form No. 15G /15H and forwarding the same to income-tax authorities.
- Z debits his household expenses as business expenses in the books.

Answer:-

- Paying a premium for a health insurance policy to reduce the total income by claiming a deduction u/s 80D and hence reducing tax liability is an act of Tax Planning.
- Payment of Advance tax by estimation of Total income to enable timely compliance is an act of Tax Management. Therefore, such an act by SQL Ltd. to enable timely compliance is an act of Tax Management.
- Investment in tax-saver fixed deposits is allowed as a deduction u/s 80C of the Income Tax Act, 1961 and is an act of Tax Planning. Therefore, depositing ₹1,00,000 in tax saver fixed deposit by an Individual taxpayer is an act of Tax Planning.
- Obtaining a declaration from depositors by a bank in Form 15G / 15H and forwarding the same to the Income Tax Authorities is an act of Tax Management.
- Claiming the household expenses as business expenses in the books of account is not allowed as deduction u/s 37 of the Income Tax Act, 1961 and is an act of Tax Evasion. Therefore, the act of Z debiting his household expenses as business expenses is an act of Tax Evasion.

Q2. Indicate whether the following acts can be considered tax evasion/tax avoidance or otherwise:

- Samarth deposits ₹65,000 in the term deposit of 5 years with the Post Office to avail of tax deduction under section 80C. Assuming Mr Samarth does not opt for a concessional tax regime u/s 115BAC of the Income-tax Act, 1961.
- Sushil is using a motor car for his personal purposes but charges it as business expenditure.
- PQR industries Ltd installed an air-conditioner costing ₹75,000 at the residence of a director as per terms of his appointment but treats it as fitted in the quality control section in the factory. This is to treat them as a plant for the purpose of computing depreciation.
- SQL limited maintains a register of tax deductions at the source affected by it to enable timely compliance.
- R. Ltd issues a credit note for ₹90,000 for brokerage payable to Suresh who is the son of R,

managing director of the company. The purpose is to increase his total income from ₹1,60,000 to ₹2,50,000 and reduce his income correspondingly.

Answer:-

- It is neither tax avoidance nor tax evasion. The claiming of deduction from gross total income under Section 80C by depositing ₹65,000 in the term deposit of 5 years with the Post Office falls under the purview of tax planning.
- It is an unlawful act to treat a personal expenditure as a business expenditure, which is disallowed under the law. Sushil is resorting to unfair means to claim the deduction by falsification of records. Therefore it is tax evasion and illegal.
- It is a case of tax evasion as the air-conditioner fitted at the residential place is furniture, depreciable at 10% whereas the depreciation rate applicable for plant and machinery fitted at the Quality control section in the factory is 15%. The wrong treatment unjustifiably increases the amount of depreciation and consequently, reduces profit unlawfully.
- It is tax management because maintaining the register of payment subject to TDS helps in complying with the obligations under the Income Tax Act, of 1961.
- Net effect of the transaction is the reduction of tax liability of the company by improper means. The company is liable to tax at the flat rate of 30% whereas Suresh would not be liable to pay tax since income does not exceed the basic exemption limit of ₹2,50,000. The issue of a credit note to reduce the company's liability amounts to tax evasion.

Q3. Specify with the reason, whether the following acts can be considered as tax planning or tax management or tax evasion or tax avoidance.

- "Mr. P deposited ₹1 lakh in PPF account to reduce his total income from ₹6 lakh to ₹5 lakh" assuming Mr P does not opt for concessional tax regime u/s 115BAC of the Income-tax Act, 1961.
- To reduce tax payable, Mr. Kunal Sharma, a resident individual, paid ₹55,000 as a life insurance premium on the policy of his minor son. Assuming Mr. Kunal does not opt for a concessional tax regime u/s 115BAC of the Income-tax Act, 1961.
- Company claiming depreciation on the motor car which is being used by the director for personal purposes.

Answer:-

- The investment of ₹1 lakh in the PPF account so as to reduce his total income from ₹6 lakh to ₹5 lakh is considered Tax Planning because the same is carried out within the framework of law by availing the deductions permitted by law and thereby minimising the tax liability.
- Premium paid on the life insurance policy of the minor son is allowed as a deduction under section 80C of the Income-tax Act, 1961. Therefore, ₹55,000 paid, by Mr Kunal Sharma, as a premium on the life insurance policy of his minor son is an act of Tax Planning.
- Claiming depreciation on the motor car being used for personal purposes is not allowed under section 32 of the Income Tax Act, 1961. Therefore, the depreciation claimed by the company on the motor car which is being used by the director for personal purposes is an act of Tax Evasion.

Review Questions

1. Distinguish between 'tax evasion and 'tax avoidance.
2. Distinguish between tax planning and tax evasion.
3. Differentiate between the diversion of income and the application of income in the context of the Income Tax Act.

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15

Income Tax Allowances and Allowances

Learning Outcomes

After studying this chapter, you should be able to understand:

- Meaning of allowances and deductions;
- Differentiate between exemption and deduction;
- Deduction and exemption allowed to salaried employees;
- Deductions with market linked instruments;
- Taxable, non-taxable and partially taxable allowance;
- Deduction, Exemption not available in new tax regime.

15.1 Introduction

Salaried employees form the major chunk of the overall taxpayers in the country and the contribution they make to the tax collection is quite significant. Income tax deductions offer a gamut of opportunities for saving tax for the salaried class. With the help of these deductions and exemptions and, one could reduce his/her tax substantially. In the 'old tax regime' there are 120 exemptions. Taxpayers do not benefit from all of them. Most of them complicate the direct tax system. After thorough study, the Ministry of Finance has removed around 70 exemptions. In the new tax regime maximum deductions are not allowed. In this chapter, we try to list some of the major deductions and allowances, available to the salaried persons, using which one can reduce their income tax liability.

15.2 Meaning of Allowances and Deductions

As per the current tax regulations, if your income is anywhere above ₹5 lakhs in a financial year, you would have to pay taxes. However, income tax regulations are not so bad after all. They allow you to lower your tax liability by various options. It is because of these options that everyone plans their taxes to make most of it. Everyone wants to avail the maximum reduction in their tax liability. Tax exemptions and Tax deductions are two such options which allow lowering of your tax liability.

To most of the people, these two terms sound similar. But they are not. Meaning and usage are completely different.

Most of us substitute tax exemption for a tax deduction and vice-versa due to lack of technical knowledge. They are, after all, getting a reduced tax liability. So, why bother with the details?

Let us now understand that Tax Exemption and Tax Deduction are two separate terms with separate tax treatments. Thus, knowing their difference is necessary.

15.3 Exemption

Tax exemption can be expenditure, income or an investment on which no tax is levied and thus reducing the overall taxable income. These incomes or investments pertain to a specific head of income and can be claimed from those heads only. After deducting allowed exemptions from the specific income head, the different heads of income are totaled to arrive at the gross income.

Some Example of tax exempt items are:

1. House Rent Allowance (HRA)
2. Leave Travel Allowance (LTA)
3. Any Gratuity/VRS/pension received in the year of assessment.
4. Company accommodation.
5. Leave Encashment

After these exemptions are availed, the taxable portion of 'Income from Salary' would be obtained.

All exempt items of income claimed by an employee must be informed to his employer before the tax filing season. The employer then computes tax on the balance income and deducts tax at source (TDS) based on the specific income slab of each employee.

For example, income from agriculture is exempted under tax. In addition, long-term capital gains arising from the sale of a property can be reinvested in a real estate property or specified bonds within a certain time period to get tax exemption. Salaried individuals get house rent allowance (HRA) as a component of their salary. This component can be used to claim tax exemption under certain conditions. Tax exemptions can also be termed as tax free incomes. For eg, interest income of PPF, Maturity/Death benefit from life insurance policies. In short, incomes which are not taxable in the first place.

15.3 Deductions

Once you compute your gross total income, the Income Tax Act allows you to deduct some amount from your income. So that your income reduces and thereby reduces your tax liability.

This amount is based on certain investments or expenses you make in a financial year as per Income Tax Act called Deductions. Allowed deductions can be found in Chapter VIA of the Income Tax Act. This chapter contains sections 80C to 80U.

Common examples include life insurance premiums, tuition fees, health insurance premiums, ELSS investments, PPF investment, Repayment of principal component of home loan etc.

Moreover, there are certain other deductions available from a particular head, like standard deduction from salary income, Interest paid on home loan from "Income from house property" which help in lowering tax outgo.

Tax deductions are deducted from the gross total income or individual head to help save taxes.

Exemption Vs Deduction

The following are the difference between the tax exemption and tax deduction.

- **Incidence**

  Tax exemption – The allowed exemptions are not included in your taxable income. They are deducted first to arrive at your gross total income.

  Tax deduction – Deductions remain clubbed with your income. Once the gross total income is calculated, the deductions are deducted to arrive at Net taxable income. On this income, tax slabs are applied to calculate the tax amount.

- **Application**

  Tax exemption – Exemptions are applied at each head of income to get the taxable amount of that particular head.

  Tax deduction – Deductions are applied to your gross total income.

- **Significance**

  Tax exemption – It consists of those items which are not taxable.

  Tax deduction – Deductions are those items which are taxable but because of the provisions of the act, their taxability has been reduced.

- **Applicability**

  Tax exemption – It applies to all taxpayers in the country. For instance, the amount paid to a salaried employee as HRA is not taxable.

  Tax deduction – It applies only to those who qualify for the specific criteria. For instance, Section 80D of the Income Tax Act can be used to claim deductions on premiums paid for medical insurance policies.

So, though exemptions and deductions have the same goal – reduction of your tax outgo, they are different. You should know the difference to file your taxes properly. Mistakes in tax filing can lead to penalties and unnecessary hassles. Though they sound technical the concept of exemptions and deductions is not complicated. Just a little understanding is all you need. So, the next time you file your taxes, know which items are exemptions, which are deductions and how they differ.

15.4 Deduction and Exemption

The following deductions and exemptions are allowed to salaried employees. The salaried employees can use these deductions and exemptions to reduce his/her tax liability.

(i) Standard Deduction

Section 16(ia) – Deductions under Section 16(ia) states that a tax payer having income chargeable under the heed 'salaries' shall be allowed a deduction of ₹50,000 or the amount of salary whichever is less for computing his taxable, income. Now all employees will get a standard deduction of ₹50,000 per annum. Hence, their taxable income will be reduced by ₹50,000 while calculating tax. This benefit is only for salaried individual and not for those having business income.

(ii) Professional Tax / Tax on Employment (Section 16(iii))

In some states of India, state government charge professional tax from the employees. While in some companies, employers pay this professional tax from their pocket while in others they deduct it from employees salary. In income tax it is allowed as deduction and net exemption.

(i) **If it is paid by employer:** It is included in total income as it is a benefit provided by company and then deduction is provided.

(ii) **If it is paid by employee:** It is not included in total income as no money is received from employer, it is only allowed as deduction.

***Note:** If professional tax is due but not paid, then it is not allowed deduction.*

Example: Basic salary = ₹20,000 per month

Professional tax = ₹500 per month

(i) ***Income from salary if professional tax paid by employer:***

Basic salary (20,000 × 12)	2,40,000
Add professional tax (500 × 12)	6,000
Gross taxable salary	2,46,000
Less deduction for professional tax	6,000
Income from salary	₹2,40,000

(ii) **Assuming employee pays professional tax:**

Basic salary	2,40,000
Less deduction for professional tax	6,000
Income from salary	₹2,34,000

(iii) Children Education Allowance and Hostel Expenditure

Children education allowance is allowed to an individual employed in India:

1. **Children education allowance:** ₹100 per month per child up to a maximum of 2 children.
2. **Hostel expenditure allowance:** ₹300 per month per child up to a maximum of 2 children.

These exemptions are allowed if expenses are incurred in India as per Sec.10(14) of the Income Tax Act.

(iv) Leave Travel Allowance (LTA)

The income tax law also provides for an LTA exemption to salaried employees, restricted to travel expenses incurred during leaves by them. Please note that the exemption doesn't include costs incurred for the entire trip such as shopping, food expenses, entertainment and leisure among others.

You can claim LTA twice in a block of four years. In case an individual doesn't use this exemption within a block, he/she could carry the same to the next block.

Below are the restrictions which are applicable to LTA:

- LTA only covers domestic travel and not the cost of international travel
- The mode of such travel must be either railway, air travel, or public transport

(v) Food Coupons

Your employer may provide you with meal coupons such as sodexo. Such food coupons are taxable as perquisite in the hands of the employee. However, such meal coupons are tax exempt up to ₹50 per meal. A calculation based on 22 working days and 2 meals a day results in a monthly benefit of ₹2,200 (22*100). Consequently, the yearly exemption works up to ₹26,400.

(vi) Deductions under Section 80

Under section 80 of the Income Tax Act, 1961, many deductions are available which bring down the taxable income for an individual and thus reduce the tax payable.

These deductions are as under:

Section	Maximum Limit	Deductions
Section: 80C	1,50,000	ULIP, ELSS, NSC, the Employee share of PF, LIC Premium, Children's tuition fees, Home loan principal repayment, 5-year deposit Scheme, purchasing of a deferred annuity, Senior citizen's saving scheme, Pension fund set up by UTI or mutual fund, annuity plan of LIC, Subscription to Home Loan Account Scheme of the National Housing Bank, Subscription to notified bonds of NABARD, Subscription to deposit scheme of a public sector or company engaged in providing housing finance.

Section	Maximum Limit	Deductions
Section: 80CCC	NA	
Section: 80CCC	NA	On the amount deposited in the annuity plan of LIC or any other insurance plan for a pension fund.
Section: 80CCD(1)	1,50,000	Employee's contribution to NPS account.
80CCD(2)	10% salary	Employer's contribution to NPS.
Section: 80CCD(1B)	50,000	Any other contribution to NPS by employee.
80TTA(1)	10,000	Income from interest earned on savings account.
80TTB	50,000	Interest received from banks, post office, etc. but applicable only to senior citizens.
Section: 80GG	5000 per month / 25% of total income/rent paid – 10% of total income (W.E.L.)	For rent paid when HRA is not received from an employer.
Section: 80E	Amount equal to the interest paid for 8 years	Interest paid on education loan.
Section: 80EE	50,000	Interest paid on home loans by the first time homeowners.
Section: 80CCG	25,000/ 50% of amount invested in equity shares (w.e.l.)	Rajiv Gandhi Equity Scheme for investments in Equities.
Section: 80D	25,000	Medical insurance of self, spouse and children
Section: 80D	50,000	Medical insurance of parents over 60 years or uninsured parents over 80 years of age.
80DD	75,000	Medical treatment of handicapped dependent.
Section: 80DD	75,000 (40%-80% disability), ₹1,25,000 (more than 80%)	Payment made to specific scheme taken for maintenance of handicapped dependent.
Section: 80DDB	40,000 or amount paid (w.e.l.)	Medical expense on self or dependent less than 60 years old.
Section: 80DDB	1,05,000 or amount paid (w.e.l.)	Medical expense on self or dependent more than 60 years old.
Section: 80U	1,25,000 (severe disability), ₹75,000 (less severe disability)	Self-suffering from physical disability including blindness and mental instability.
Sec: 80G	Donations to charitable organizations	50% or 100% of the amount donated, with or without restriction depend upon the receiving organisation.
Section: 80GGB	Contributed amount (Not in cash)	Contribution made to political parties by companies.

Section	Maximum Limit	Deductions
Section: 80GGC	Contributed amount (Not in cash)	Contribution made to political parties by individuals.
Section: 80RRB	Income received / 3,00,000 (w.e.l.)	Income received from royalty or patent.

(vii) Cab Facility Transport Provided by Employer

Employers generally provide cab facility to and from the office and residence of the employees. Such a facility is not taxed as a perquisite for the employee. The facility would be an expense for the employer.

As per the Indian Income Tax Act, use of any vehicle provided by a company or an employer for a journey by the employee from his residence to his office or another place of work, shall not be regarded as a taxable perquisite, even if provided to him free of cost or at a concessional rate.

(viii) Health Club Facility Provided by Employer

In the case of a health club facility provided by employer uniformly to all employees, the facility is not taxable as a perquisite in the hands of the employee.

(ix) Gifts or Vouchers Provided by Employer

Gifts or vouchers given by an employer in cash or in kind are tax exempt up to ₹5,000 per year.

(x) Medical Expenditure Incurred Outside India on Employee

In a case where the employer incurs expenditure on medical treatment outside India:

- On the employee
- Any member of the family of such employee
- Travel and stay abroad of the employee or any member of the family in connection with the medical treatment
- Travel and stay abroad of one attendant who accompanies the patient in connection with the medical treatment.

'Family' means the spouse and children of the individual. Also the parents, brothers and sisters of the individual or any of them, wholly or mainly dependent on the individual.

The above expenditure would be exempt from tax for the employee subject to the condition that –

(a) The expenditure on medical treatment and stay abroad shall be exempted only to the extent permitted by the Reserve Bank of India; and

(b) The expenditure on travel shall be excluded from perquisite only in the case of an employee whose gross total income, as computed before including therein the said expenditure, does not exceed two lakh rupees.

15.5 Tax Planning by Availing Relief of Tax

If you have received arrears of salary in financial year 2019-20 related to previous years then your tax liability for financial year 2019-20 will be on higher side due to arrears, received in current year but good news is that you can bifurcate your income from arrears in respective years on notional basis and can avail relief u/s 89(1) of the Income Tax Act.

15.6 Income Tax Exemptions Claimed in Specific Cases

The employer calculates the tax exemption on the retirement and resignation benefits mentioned below. The balance of the component (non-exempt portion) is taxed along with the basic salary of the employee.

Income component	Criteria for exemption	Exemption allowed
Gratuity	Allowed on retirement or resignation or death or disablement	Least of the following: • Last salary (basic + dearness allowance)* number of years of employment* 15/26; • ₹20 lakh (which has been hiked from ₹10 lakh as per the amendment); • Gratuity actually received.
Pension	Commuted value of the pension allowed at the time of retirement	• If the employee receives gratuity, then one-third of the amount of pension. • If only pension received, one-half of the pension.
Leave encashment	Allowed at the time of retirement or resignation	Least of the following: • Average salary drawn for the last 10 months; • Salary per day* unutilised leave (considering maximum 30 days leave per year) for every year of completed service; • Leave encashment received (i) Leave encashment received by Central or State government employee at the time of retirement or resignation is fully exempt; (ii) Leave encashment received by legal heirs of deceased employees is fully exempt.

15.7 Deduction with "Market-linked" Instruments

This tool concentrates in the market-linked securities where risk and return are in the same direction. Some important avenues are discussed below:

(a) National Pension Scheme (NPS)

NPS, introduced on May 1, 2009, is the new addition to the family of investments that qualify for deduction under Section 80C. It is basically an investment avenue to plan for your retirement. Contributions to this scheme are voluntary and available to individuals in the age bracket of 18-60 years. There are two types of accounts:

Tier-I account: In case of the Tier-I account, the minimum investment amount is ₹500 per contribution and ₹6,000 per year, and you are required to make minimum 4 contributions per year.

Under this account, premature withdrawals upto a maximum of 20% of the total investment is permitted before attainment of 60 years, however the balance 80% of the pension wealth has to be utilized to buy a life annuity.

Tier-II account: While opening this account you will have to make a minimum contribution of ₹1,000. The minimum number of contributions is 4, subject to a minimum contribution of ₹250. However, if you open an account in the last quarter of the financial year, you will have to contribute only once in that financial year. You will be required to maintain a minimum balance of ₹2,000 at the end of the financial year. In case you don't maintain the minimum balance in this account and do not comply with the number of contributions in a year, a penalty of ₹100 will be levied. In order to have this account, you first need to have a Tier-I account. This account is a voluntary account and withdrawals will be permitted under this account, without any limits.

While investing money, you have two investment choices in NPS i.e. Active or Auto choice. Under the Active asset class, your money will be invested in various asset classes viz. E (Equity), C (Credit risk bearing fixed income instruments other than Government Securities) and G (Central Government and State Government bonds); where you will have an option to decide your asset allocation into these asset classes. In case of Auto Choice, your money wil be invested in the aforesaid asset classes in accordance with predetermined asset allocation.

The return on your investment is not guaranteed; rather it is marketlinked. At the age of 60 years, you can exit the scheme; but you are required to invest a minimum 40% of the fund value to purchase a life annuity. The remaining 60% of the money can be withdrawn in lump sum or in a phased manner up to the age of 70 years.

Investments in NPS are eligible for deduction up to a maximum of ₹150,000 p.a. (part of the total 80C deduction). However, withdrawals will be subject to tax as the scheme has the Exempt-Exempt-Tax (EET) status.

(b) Equity Linked Savings Schemes (ELSS)

ELSS are 100% diversified equity funds with tax benefits. A distinguishing feature of ELSS is that unlike regular equity funds, investments in tax saving funds are subject to a compulsory lock-in period of three years. The minimum application amount is ₹500, with no upper limit. You can either make lump sum investments or investments through the Systematic Investment Plan (SIP). Investments in ELSS are eligible for a deduction up to ₹150,000 p.a. under Section 80C. Long term capital gains, if any, are exempt from tax.

15.8 Taxable, Non-Taxable and Partially Taxable Allowances AY 2021-22

Taxable Allowances	Partially-Taxable Allowances	Non-Taxable Allowances
• Dearness allowance • Entertainment allowance • Overtime allowance • City compensatory allowance • Interim allowance	• HRA except when it qualified as exempt under Section 10. • Fixed medical allowance. • Special allowance(including children education allowance, children hostel allowances).	• HRA upto 40% of basic salary (50% in case of employees staying in 4 metros - Delhi, Mumbai, Chennai and Bangalore) subject to actual rent paid being more than HRA plus 10% of basic..
• Project allowance • Tiffin/meals allowance • Uniform allowance • Cash allowance • Non-practicing allowance • Warden allowance • Servant allowance	• Conveyance allowance above ₹19,200 per annum under section 10 (14) (ii) of income tax act. • Entertainment allowance - deduction of 1/5 of salary or ₹5,000 whichever is less under section 16 (ii) of income tax act.	• Conveyance allowance upto ₹1,600 per month or ₹19,200 per annum. • Payments to government employees posted abroad. • Allowance for UN employees. • Sumptuary allowance paid to judges of Supreme Court and High Courts. • Compensatory allowance paid to judges of Supreme Court and High Courts.

Taxable Allowances

Taxable allowances are allowances that are treated as a part of salary and are not either fully or partially exempted under any sections of Income Tax. Some of the popular allowances that belong to this category are:

- **Entertainment Allowance**

Entertainment allowance is the amount of money given to an employee to make payments towards hospitality of their customers for drinks, meals, business outings, client meetings, hotels and more. The allowance is completely taxable for all private sector employees. However, government employees can claim exemption on this tax, as quoted under section 16 (ii) and the amount of exemption is limited to the lowest of following i) 20% of gross salary (excluding all other allowance, perks and benefits), ii) Actual entertainment allowance and iii) ₹ 5,000.

- **Overtime Allowance**

This allowance is received by employees who tend to work more than the operational hours decided by the company. It can happen due to urgent assignments and firm project deadlines. Any Overtime Allowance received by the employees is completely taxable.

- **Dearness Allowance (DA)**

Dearness allowance is allowed to be paid to public sector employees and pensioners as a cost of living adjustment to neutralize the impact of inflation and difference is cost of living for employees living in different cities and towns.

- **Meal Allowance**

Meal allowances are paid for meals/refreshments/tiffin services to their employees and are completely taxable.

- **City Compensatory Allowance (CCA)**

CCA is offered by companies to its employees compensate for a relatively high cost of living in metropolitan cities. This allowance is used to incentivize and retain employees in towns and cities where the cost of living is higher compared to employees working in other locations.

- **Interim Allowance**

Interim allowance is an allowance provided by the employer instead of final allowance. Interim allowance is entirely taxable.

- **Cash Allowance**

Cash allowance for expenditure like marriage allowance, holiday allowance and other similar allowances provided by employer, it is fully taxable in the hands of employees.

- **Servant Allowance**

Allowance provided for employees for hiring the services of servant, such allowance is always taxable.

- **Project Allowance**

If an employer provides allowance to employees to liquidate a project's expenses, then it called project allowance and it is completely taxable.

- **Warden Allowance**

If an employee pays tax to an employee who is working as a warden/keeper in any institute. This allowance is considered as taxable.

- **Non-Practicing Allowance**

When a doctor gets associated with clinics of various laboratories or medical institutes, any non practicing allowance paid to them is taxable.

Non-Taxable Allowances

Non taxable allowances are those allowances that are a part of an individual's salary which are fully exempted from taxes. Here is the list of allowances that are totally non -taxable.

- **Allowances Paid to Government Employees Abroad**

When Indian government servants are paid while serving their employment tenure in other countries, this allowance is considered as non taxable.

- **Allowances Paid to UNO Employees**

Allowances that are paid to UNO Employees are completely non taxable.

- **Allowances Paid to Judges of HC & SC**

Allowances that are paid to the judges of High Court and Supreme Court are completely exempted from tax. These allowances are called as sumptuary allowances.

- **Compensatory Allowances**

When Judges of High Court and Supreme Court receive any compensatory allowances, these are exempted allowances in income tax.

Partially Taxable Allowances in India

Partially taxable allowances are those allowances which can be exempted from tax to a certain limit, as per specified in the income tax rules & regulations. Some of the partially taxable allowances are mentioned below.

- **Conveyance Allowance Exemption Limit**

This type of allowance is paid to employees for commuting to their work place from home every day. If a conveyance allowance is less than ₹1,600, then it will be considered as non-taxable. The allowance is exempted up to ₹1,600 only, any amount more than that will be taxable as per income tax act.

- **House Rent Allowance (HRA) Exemption Limit**

House rent allowance is provided to the employees by a company to help them in coping up with their accommodation expenses. But, if an individual doesn't lives in a rented space, this allowance is fully taxable. This could be totally or partially exempted from income tax. If you couldn't submit rent receipts to your employer as proof to claim HRA, you can still claim the exemption from income tax while filing your income tax return. So, please keep rent receipts and evidence of any payment made towards rent.

Employees can claim deduction on house rent allowance under section 10 (13A), if:

- Actual HRA received by an individual from employer
- If the employee resides in metro cities like Delhi, Mumbai, Chennai or Bangalore, actual rent paid should be as much as 50% of the basic salary
- 40% of basic salary for people living in non metros
- Excess of rent paid annually over 10% of annual salary

- **Medical Allowance Exemption**

This is an allowance paid by an employer when the employee or any of his family members fall sick and requires prolonged medical treatment. However, if the medical expense exceeds a certain amount (e.g. ₹ 15,000), then it becomes taxable.

- **Special Allowance**

A special allowance is paid to an employee for the performance of a duty, under section 14(i). This allowance does not fall within the category of a perquisite and is partially taxable.

15.9 Deductions, Exemptions Not Available in Proposed New Tax Regime

All deductions under chapter VIA will not be claimable by those opting for the new tax regime, as per Budget 2020.

Individuals opting to pay tax under the new proposed lower personal income tax regime will have to forgo almost all tax breaks that they were claiming in the current tax structure. The important tax breaks that will not be available under the new tax regime include Section 80C (Investments in PF, NPS, Life insurance premium, home loan principal repayment etc.), Section 80D (medical insurance premium), tax breaks on HRA (House Rent Allowance) and on interest paid on housing loan. Tax breaks for the disabled and for charitable donations will also go. Therefore, it is not clear as to whether the new personal tax regime will really bring substantial tax savings for most.

"Under the new tax regime, the individuals can opt to pay tax at the reduced rates without claiming the various tax exemptions and deductions. The individuals will have to work out their tax liability under the old and new tax regime before deciding which one is more beneficial. While the new regime seems simple on account of no exemptions, there would be individuals who have already made commitment in recurring tax savings instruments who may still want to avail exemptions and get taxed under the old regime".

Here's a list of the main exemptions an deductions that tax payers will have to forgo if they opt for the new regime.

(i) Leave travel allowance exemption which is currently available to salaried employees twice in a block of block of four years.

(ii) House rent allowance normally paid to salaried individuals as part of salary. This could be claimed as tax exempt upto certain specified limits if the individual was staying in rented accommodation.

(iii) Standard deduction of ₹50,000 currently available to salaried tax payers.

(iv) Deduction available under section 80TTA/80TTB will not be available to the taxpayers.

(v) Deduction for entertainment allowance (for government employees) and employment/ professional tax as contained in section 16.

(vi) Tax benefit on interest paid on housing loan taken for a self occupied or vacant house property: Interest paid on housing loan for such a property could be claimed as a deduction from income from house property which resulted in a loss from house property (as the property was self/ occupied or vacant). This loss could be set off against salary income thereby reducing the individuals' taxable income and net tax liability. This comes under section 24.

(vii) Deduction of ₹15000 allowed from family pension under clause (iia) of section 57.

(viii) The most commonly claimed deductions under section 80C will also go. This includes the commonly availed section 80C deductions claimed for provident fund contributions, life insurance premium, school tuition fee for children and various specified investments such as ELSS, NPS, PPF etc.

However, deduction under sub-section (2) of section 80CCD (employer contribution on account of employee in notified pension scheme—mostly NPS) and section 80JJAA (for new employment) can still be claimed.

(ix) The deduction claimed for medical insurance premium under section 80D will also not be claimable.

(x) Tax benefits for disability under sections 80DD and 80DDB will not be claimable

(xi) Tax break on interest paid on education loan will not be claimable-section 80E.

(xii) Tax break on donations to charitable institutions available under section 80G will not be available.

All deductions under chapter VIA (like section 80C, 80CCC, 80CCD, 80D, 80DD, 80DDB, 80E, 80EE, 80EEA, 80EEB, 80G, 80GG, 80GGA, 80GGC, 80IA, 80-IAB, 80-IAC, 80-IB, 80-IBA, etc) will not be claimable by those opting for the new tax regime.

The above are part a total of 70 deductions and tax exemptions that will not be available in the proposed new tax regime.

Practical Problems

1. Mr. A lives in Delhi with his parents till 31.08.2019. He was transferred to Mumbai 01.09.2019 on the same scale of basic salary ₹30,000 p.m. He is also getting DA of 40% of salary out of which 70% was included in retirement benefits. He was also getting HRA of ₹10,000 p.m. In Mumbai he is living in a rented accommodation and paying ₹8,000 p.m. rent. Calculate taxable HRA.

Solution: From April to August he was living with his parents. Therefore, full HRA is taxable

$\therefore \quad 10{,}000 \times 5 = 50{,}000$

from September to March i.e. 7 months

Minimum of following is exempted:

$$\text{Actual HRA received } (10{,}000 \times 7) = 70{,}000$$

$$= \text{Rent paid} - 10\% \text{ of salary}$$

$$= 8000 \times 7 - 10\% \left[30{,}000 + 30{,}000 \times \frac{40}{100} \times \frac{70}{100}\right]$$

$$= 56000 - 26{,}880$$

$$\text{Exemption} = ₹29{,}120$$

50% of salary i.e. 2,68,800 × 50%

$$= ₹1{,}34{,}400$$

$$\text{Taxable HRA} = 70{,}000 - 29{,}120$$

$$= ₹40{,}880$$

2. Calculate amount of deduction available to salaried employed if he makes following investment.

LIP on the life of wife	30,000
Teen deposit of 5 years	30,000
Contribution to Sukanya Samridhi Account	40,000
Contribution to National Saving Certificate	25,000
Five year deposit in Post Office	10,000
Total	**₹1,55,000**

Solution: All the deduction mention here are available to salaried employed but u/s 80c deduction is allowed for maximum of ₹1,50,000, therefore, assesses will be given deduction of ₹1,50,000.

3. Mr. X retired on 30.04.2019 from A Ltd. He was entitled to a pension of ₹10,000 p.m. But his 80% pension is commuted and he received 2,40,000 for the same.

   Compute pension:

   (a) if he is receiving gratuity

   (b) if he is net receiving gratuity.

Solution:

(a) Total pension

$$2,40,000 \times \frac{100}{80} = 3,00,000$$

$\therefore$ Exempted $\quad 3,00,000 \times \frac{1}{3} = 1,00,000$

$$\text{Taxable Pension} = 2,40,000 - 1,00,000$$
$$= ₹1,40,000$$

(b) Exempted $\quad 3,00,000 \times \frac{1}{2} = 1,50,000$

$$\text{Taxable Pension} = 2,40,000 - 1,50,000$$
$$= ₹90,000$$

4. Suresh is employed in Delhi and is drawing ₹50,000 per month as salary. Besides, he got one month salary as bonus. He is given an option by the employer, either to accept HRA or a rent-free accommodation which is owned by the employer. HRA is payable @ ₹10,000 per month, while the rent for accommodation in Delhi is ₹12,000 per month. Advise Suresh, whether it would be beneficial for him to avail HRA or rent-free accommodation provided by the employer.

Solution:

Calculation of Tax Liability of Suresh, in case he accepts rent free accommodation

Particulars	Amount (₹)
Salary (₹50,000 × 12)	6,00,000
Bonus (One month Salary)	50,000
Value of rent free accommodation	
15% × ₹(6,00,000 + 50,000)	97,500
Gross salary	7,47,500
Less: deduction u/s 16 (ia)	50,000
Taxable Salary/Total Income	6,97,500
Tax Liability	
On first ₹2,50,000	Nil
(₹250000 to ₹500000) @5%	12,500
On remaining ₹1,97,500 @ 20%	39,500
Rebate under section 87A	(Nil)
Net Tax	52,000
Add: Health & Education cess @ 4%	2,080
Net Tax Liability	**₹54080**
Rounded off Tax Liability	**₹54080**

Calculation of Tax Liability of Suresh, in case, if he accepts H.R.A

Particulars	Amount (₹)
Salary (₹50,000 × 12)	6,00,000
Bonus (One month salary)	50,000
Taxable HRA (Note 1)	41,000
Gross salary	6,91,000
Less: deduction u/s 16 (ia)	50000
Taxable Salary/Total Income	6,41,000
Tax Liability	
On first ₹2,50,000	Nil
₹250000 to ₹500000) @ 5%	12,500
On remaining ₹1,41,000 @ 20%	28,200
Rebate under section 87A	(Nil)
Net Tax	40700
Add: Health & Education Cess @ 4%	1628
Net Tax Liability	**₹42328**
Rounded off Tax Liability	**₹42330**

Extra tax paid by Suresh, if Rent free accommodation is opted is ₹(54,080-42,330) i.e. ₹11,750. Thus, option II of accepting HRA is better.

Notes:

1. According to section 10(13A) and rule 2A of Income Tax Act, HRA is exempted as least of the following limits:
   (i) HRA actually received i.e. ₹1,20,000
   (ii) 50% of the salary i.e. 50% × ₹6,50,000 = ₹3,25,000
   (iii) Rent paid in excess of 10% of the salary i.e. (₹1,44,000 – ₹65,000) = ₹79,000
   Least of the above is ₹79,000 is allowed as exemption. Thus, taxable HRA would be: (₹1,20,000 – 79,000) = ₹41,000
2. It is assumed that both the houses under HRA and Rent free accommodation are identical.
3. Bonus is not a part of salary for the purpose of computation of HRA.

Review Questions

1. Define allowance? Explain how the salaried person can claim the HRA with the help of an example.
2. Define deduction? What are the difference between deduction and exemptions.
3. Mr. Sharma earns a basic salary of ₹20,000 per months and rents a flat in Mumbai for ₹5000 per month. His actual HRA is ₹8,000. Calculate the HRA exempted from tax?
4. Mr. Ankit retired on April 30, 2020. He will be receiving gratuity of ₹5.5 lakh and leave encashment of ₹2.20 lakh. He will also be receiving employee and employer contribution to provident fund. If he opt for the reduced rate of tax. Explain whether he will be eligible for the exemption under Income Tax Act.
5. What are the exemption allowed under new tax regime?
6. If an employee is not able to produce the LIC investments made by her to the employer, how can he claims the deduction now?
7. What are the deduction from salary available under section 16 to salaried employee?

❑❑❑

16

Income Tax Return

Learning Outcomes

After studying this chapter, you should be able to understand:

- Concept the E-Filing
- Ways to do E-filing
- Benefits of Filing income tax return
- Steps to register for E-Filing
- Documents required for E-filing
- PAN No

16.1 Introduction to E-Filing

E-filing is the short form of electronic filing of income taxes. E-filing is when you electronically file your income tax returns online for a particular year. This means you no longer need to visit the nearest Income Tax Department's office to file your returns physically. Instead, you log onto the internet and do the job. The process of electronically filing income tax return through the internet is known as e-FILING. ITR filing has become very easy with a few steps and can be done by self.

16.2 Who can E-file

The following person can file the E-file return.

- Individual
- Hindu Undivided Family

- Company/BOP/AOP/Firms/trust/Local authority/Artificial judicial Person
- External Agencies
- Tax Professional – Chartered Accountant
- Tax collector and Deductor
- Electronic Return Filing Intermediaries

16.3. 3 Ways to do E-Filing

There are three basic ways to file income tax returns electronically.

1. You can use a Digital Signature Certificate (DSC) to e-file. A DSC is a useful way of electronically signing documents, because it is the digital equivalent of physical or paper certificates.
2. You can e-file without a DSC. In this case, 'Income Tax Return–Verification' or ITR-V form is generated which is a one-page document. In case Aadhar details are not updated on Income Tax site, the form should be printed, signed and submitted to Central Processing Centre (CPC), Bangalore via post within 120 days from the date of e-filing.
3. You can e-file income tax return without DSC and verify it with Aadhar number or through a bank. In this case, ITR-V is not required be to submitted to CPC.

16.4 Benefits of Filing Income Tax Returns

Filing income tax returns is very helpful for certain activities. Be it applying for a loan, travelling overseas or dealing with financial losses, those who file income tax returns find it easy in every step of the way. Let us explain how.

- **Anywhere anytime Filing** – If we file the ITR through e filing then we can file the return anywhere and anytime without any hassles.
- **Immediate Acknowledge** – if we file through e filing then we immediate receive the acknowledge for the same.
- **Refund** – A portion of a taxpayer's income, whether salaried or business person, is deducted as Tax Deducted at Source (TDS). But, if you have made investments that are deductible from taxable income, then your actual tax dues as per your income tax slab may be much lesser than what is already paid. The excess tax paid can be claimed and refunded, but only if you file your taxes.
- **Visa** – Overseas trips to most countries require a visa. Visa processing requires that you as an Indian submitted your tax returns in the past few years. These returns have to be produced before the officials of the destination country's embassy or consulate.
- **Loans** – Be it any loan, as part of the documentation, banks will ask you to show tax returns for the past few years. The returns will be used to understand your financial situation. If you do not have returns, your application may be rejected.
- **Credit Card** – Credit card issuers want to know whether the credit card applicant is in a position

to pay back the credit. The income tax return is a document that shows the income of the person. Without income tax returns, you may not get a higher credit limit.

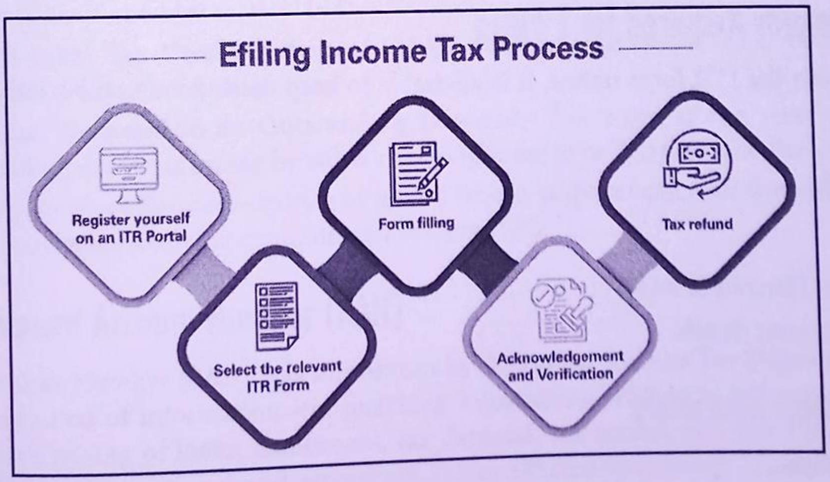
- **Dedicated Helpdesk to Support the Queries of Assesses-** There is a dedicated helpdesk of income tax department to support the queries of assesses. So it become very easy for the assess to file the return.
- **Loss Adjustment** – As per current income tax laws, an individual can carry forward losses to offset against future taxable income. This can be done for up to eight years consecutively. If you have income tax returns, you can use them to build a case and carry forward/adjust your losses against your future taxable income.

16.5 Steps to Register for E-Filing

To register for e-filing, follow the below steps:

- Open the income tax e-filing website using the following link: http://www.incometaxindiaefiling.gov.in/home
- Click on the option "Register Yourself"
- Select the user type
- Fill the necessary details such as PAN number, surname, first name and date of birth
- Fill the registration form
- Validate using the OTP sent on the mobile number and email address

16.6 Steps to do E-Filing in India



1. Register yourself on an ITR Portal	To register on an ITR portal, you'll have to provide Permanent Account Number (PAN), name and date of birth. Then you'll then be asked to choose a password. Remember, your PAN is your user ID.

2. Select the relevant ITR Form	Download the ITR form applicable to you. Use the following information for reference: • ITR 1 is for individuals having income from salaries, one house property, other sources (Interest etc) and having total income upto ₹50 lakhs • ITR 2 is for individuals and HUF not carrying out business or profession under any proprietorship. • ITR 3 is for individuals and HUFs having income from a proprietary business or profession • ITR 4 (Sugam) is for presumptive income from business & profession
3. Form filling	You can fill the ITR form online as well as offline. To fill the form offline go to the "Forms/Downloads – Income Tax Forms", download Income tax return utility and save it on your system to fill all the details offline. After filling the information in the utility you have to upload the same on the website.
4. Acknowledgement and verification	After uploading return on site you'll receive an acknowledgement in the form of ITR-V .In case Aadhar details are not updated on Income Tax site you will have to submit a physical signed copy of ITR-V to the Income Tax Department on the address mentioned on ITR-V to complete the e-filing process within next 120 days via ordinary post or speed post.
5. Tax refund	A tax refund is a refund on taxes when the tax liability is less than the taxes paid. Taxpayers can often get a tax refund on their income tax if the tax they owe is less than the sum of the total amount of the withholding taxes and estimated taxes that they paid.

16.7 Documents Required for E-Filing

While filling out the ITR form online, it is advisable to keep these documents handy for below-listed purposes:

General details

- PAN
- Aadhaar (Linked to PAN)
- Bank account details

Computing income from salary

- Salary slips
- Rent receipts for claiming House Rent Allowance (HRA)
- Form 16

Claiming deductions

- Interest certificates from savings and deposits account
- Insurance and home loan details
- Details about investments liable for deductions
- Any other proof of income (For e.g. Income from house property, income from capital gains)

16.8 E-Verification of Return

After you submit the return (or upload it through return utility), you'll receive an acknowledgement in the form of ITR-V. There are two ways to verify the return.

One, if your Aadhaar card/number is linked to your PAN, you can self-verify your returns. This is done by submitting an Electronic Verification Code (EVC) generated through the e-filing portal of Income Tax Department. The EVC is sent to the registered mobile number of the tax filer. Such taxpayers no longer have to send a one-page verification document, i.e. the ITR-V to the Income Tax Department in Bangalore. Two, taxpayers can send the ITR-V to the Income Tax Department in Bangalore via post within 120 days from date of e-filing to complete the verification process. If you are eligible for a tax refund, you will soon get the tax refund credited directly to your bank account. The Income Tax department will inform you about the refunds.

16.9 Important Functionalities of E-Filing Portal

1. **File Online Rectification–** In case the taxpayer wants to seek rectification of a mistake in an order or intimation issued by the department which is apparent from the record, taxpayer can seek 'rectification under section 154'.
2. **View Annual Tax Credit Statement (26AS)–** to views details of taxes paid by self or tax deducted/collected at source
3. **View and Respond to an Outstanding Demand–** The taxpayer can view and respond to outstanding demands online by either choosing to agree or disagree with the demand.
4. **Refund Re-issue Request–** In case of refund failure, taxpayer can raise the service request in e filing port upon receiving communication from CPC.

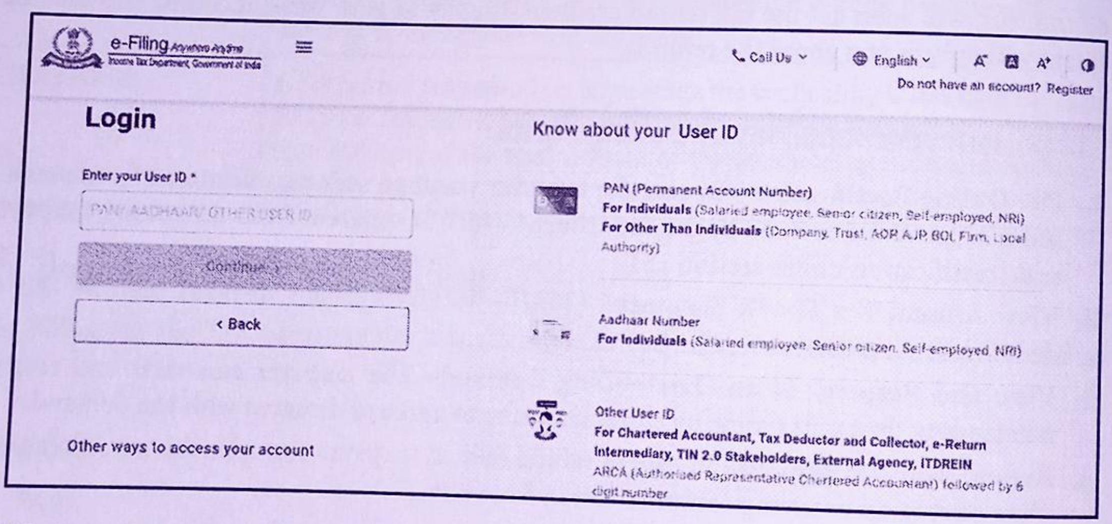
16.10 Permanent Account Number (PAN)

Permanent Account Number (PAN) was introduced by the Indian Income Tax Department in order to facilitate easy retrieval of information and matching information relating to an assessee's investment, payment of taxes, raising of loans, assessment, tax demand, tax arrears etc. The Permanent Account Number (PAN) is unique, national, and permanent. It is unaffected by a change of address, even between states in India. As a universal identification key the PAN helps to monitor all financial transactions of high net worth individuals and thereby indirectly prevent tax evasion.

Pan Card is issued by the Indian Income Tax Department under the supervision of the Central Board for Direct Taxes (CBDT) and is almost equivalent to a national identification number. It also serves as an important ID proof.

From 1 January 2005 it has been made mandatory to quote the Permanent Account Number (PAN) on challans for any payments due to Income Tax Department. It is also compulsory to quote PAN in all documents pertaining to most financial transactions.

Home page for e-filling of Income tax Return



List of Various Forms to be filled as per eligibility criteria

ITR 1

For individuals being a resident (other than not ordinarily resident) having total income up to ₹50 lakh, having Income from Salaries, one house property, other sources (Interest etc.), and agricultural income up to ₹5 thousand.

FORM	ITR-1 SAHAJ	**INDIAN INCOME TAX RETURN** [For individuals being a resident (other than not ordinarily resident) having total income upto Rs.50 lakh, having Income from Salaries, one house property, other sources (Interest etc.), and agricultural income upto Rs.5 thousand] [Not for an individual who is either Director in a company or has invested in unlisted equity shares or in cases where TDS has been deducted u/s 194N or if income-tax is deferred on ESOP] *(Refer instructions for eligibility)*	Assessment Year 2022-23

PART A GENERAL INFORMATION

(A1) PAN	(A2) First Name (A2a) Middle Name (A3) Last name	(A4) Date of Birth D D M M Y Y Y Y	(A5) Aadhaar Number *(12 digits)*/Aadhaar Enrolment Id *(28 digits)* (If eligible for Aadhaar No.)
(A6) Mobile No.	(A7) Email Address		Address: *(A8) Flat/Door/Block No. (A9) Name of Premises/Building/Village (A10) Road/Street/Post Office Area/Locality (A11) Town/City/District (A12) State (A13) Country (A14) PIN code*
(A15) Filed u/s *(Tick)* *[Please see instruction]*	☐ 139(1)-On or before due date, ☐139(4)-Belated, ☐139(5)-Revised, ☐ 119(2)(b)- After Condonation of delay.		(A16) Nature of employment- ☐ Central Govt. ☐ State Govt. ☐ Public Sector Undertaking ☐ Pensioners-CG ☐ Pensioners-SG ☐ Pensioners-PSU ☐ Pensioners-Others ☐ Others ☐ Not Applicable (e.g. Family Pension etc.)
(A17) Or Filed in response to notice u/s	☐ 139(9), ☐ 142(1), ☐ 148,		
(A18) If revised/defective, then enter Receipt No. and Date of filing original return *(DD/MM/YYYY)*			/ /
(A19) If filed in response to notice u/s 139(9)/142(1)/148 or order u/s 119(2)(b)- enter Unique Number/Document Identification Number (DIN) & Date of such Notice or Order			/ /
(A20) Are you opting for new tax regime u/s 115BAC? ☐ Yes ☐ No			

ITR 2

For Individuals and HUFs not having income from profits and gains of business or profession

FORM	ITR-2	**INDIAN INCOME TAX RETURN** [For Individuals and HUFs not having income from profits and gains of business or profession] (Please see Rule 12 of the Income-tax Rules, 1962) (Please refer instructions)	Assessment Year 2022-23

Part A-GEN GENERAL

PERSONAL INFORMATION

(A1) First name	(A2) Middle name	(A3) Last name	(A4) PAN
(A6) Flat/Door/Block No.	(A7) Name of Premises/Building/Village		(A5) Status *(Tick)* ☑ ☐ Individual ☐ HUF
(A8) Road/Street/Post Office	(A14) Date of Birth/ Formation *(DD/MM/YYYY)*		
(A9) Area/locality	(A15) Aadhaar Number *(12 digit)* / Aadhaar Enrolment Id *(28 digit)* (if eligible for Aadhaar)		
(A10) Town/City/District	(A11) State (A12) Country		(A13) PIN code/ZIP code
(A16) Residential/Office Phone Number with STD code/ Mobile No. 1		(A17) Mobile No. 2	
(A18) Email Address-1 (self)		(A19) Email Address-2	
(A20)	(ai) Filed u/s *(Tick)[Please see instruction]*	☐139(1)-On or before due date, ☐139(4)-After due date, ☐139(5)-Revised Return, ☐92CD-Modified return, ☐119(2)(b)-After condonation of delay.	
	(aii) Or Filed in response to notice u/s	☐ 139(9), ☐ 142(1), ☐ 148	
(a2)	Are you opting for new tax regime u/s 115BAC? ☐ Yes ☐ No		
(b)	Are you filing return of income under Seventh proviso to section 139(1) but otherwise not required to furnish return of income? - (Tick) ☐ Yes ☐ No If yes, please furnish following information [Note: To be filled only if a person is not required to furnish a return of income under section 139(1) but filing return of income due to fulfilling one or more conditions mentioned in the seventh proviso to section 139(1)]		
(bi)	Have you deposited amount or aggregate of amounts exceeding Rs. 1 Crore in one or more current account during the previous year? (Yes/No)		Amount (Rs) (If Yes)
(bii)	Have you incurred expenditure of an amount or aggregate of amount exceeding Rs. 2 lakhs for travel to a foreign country for yourself or for any other person? (Yes/No)		Amount (Rs) (If Yes)

ITR 3

For individuals and HUFs having income from profits and gains of business or profession.

FORM	ITR-3	INDIAN INCOME TAX RETURN (For individuals and HUFs having income from profits and gains of business or profession) (Please see rule 12 of the Income-tax Rules,1962) (Please refer instructions)	Assessment Year 2 0 2 2 - 2 3

Part A-GEN GENERAL

PERSONAL INFORMATION

(A1) First name	(A2) Middle name	(A3) Last name	(A4) PAN
(A5) Flat/Door/Block No.	(A6) Name of Premises/Building/Village		(A14) Status (Tick) ☑ ☐ Individual ☐ HUF
(A7) Road/Street/Post Office	(A8) Date of Birth/Formation (DD/MM/YYYY)		(A15) Date of Commencement of Business (DD/MM/YYYY)
(A9) Area/locality	(A16) Aadhaar Number (12 digit)/ Aadhaar Enrolment Id (28 digit) (if eligible for Aadhaar)		
(A10) Town/City/District	(A11) State (A13) Country		(A12) PIN code/ZIP code
(A17) Residential/Office Phone Number with STD code/Mobile No. 1		Mobile No. 2	
(A18) Email Address-1 (self)		Email Address-2	

FILING STATUS

(A19)(a)	(i) Filed u/s (Tick)[Please see instruction]	☐139(1)- On or Before due date, ☐139(4)- After due date, ☐139(5)- Revised Return, ☐92CD-Modified return, ☐ 119(2)(b)- after condonation of delay	
	(ii) Or Filed in response to notice u/s	☐139(9) ☐142(1), ☐148	
(b)	Have you opted for new tax regime u/s 115BAC and filed Form 10IE in AY 2021-22 ? ☐ Yes ☐ No Option for current assessment year ☐ Opting in now ☐ Not opting ☐ Continue to opt ☐ Opt out		
(bi)	For other than "not opting", please furnish	Date of filing of form 10IE DD/MM/YYYY	Acknowledgement number:
(c)	Are you filing return of income under seventh proviso to Section 139(1) but otherwise not required to furnish return of income? – (Tick) ☐ Yes ☐ No If yes, please furnish following information		

ITR 4

For Individuals, HUFs and Firms (other than LLP) being a resident having total income up to ₹50 lakh and having income from business and profession which is computed under sections 44AD, 44ADA or 44AE and agricultural income up to ₹5 thousand.

FORM	ITR-4 SUGAM	INDIAN INCOME TAX RETURN [For Individuals, HUFs and Firms (other than LLP) being a resident having total income upto Rs.50 lakh and having income from business and profession which is computed under sections 44AD, 44ADA or 44AE,] [Not for an individual who is either Director in a company or has invested in unlisted equity shares or if income-tax is deferred on ESOP or has agricultural income more than Rs.5000] (Please refer instructions for eligibility)	Assessment Year 2 0 2 2 - 2 3

PART A GENERAL INFORMATION

(A1) First Name	(A2) Middle Name	(A3) Last Name	(A4) Permanent Account Number
(A5) Date of Birth/Formation (DD/MM/YYYY)			(A6) Flat/Door/Block No.
(A7) Name of Premises/ Building/ Village	(A8) Road/Street/Post Office		(A9) Area/Locality
(A10) Town/City/District	(A11) State	(A12) Country	(A13) PIN Code/ZIP Code

Review Questions

1. Define E Filing of Return. Who can file the E filing?
2. What are the various ITR form available for filing the return?
3. What is Permanent account number?
4. How can a person E-Verify the return?

Reference

- https://www.iciciprulife.com/insurance-library/income-tax/efiling-income-tax-returns.html
- https://incometaxindia.gov.in/booklets%20%20pamphlets/how-to-e-file-your-itr-e-brochure.pdf

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