School of Architecture, Science and Technology
Yashwantrao Chavan Maharashtra Open University

Common Course offered in BSc & BCA

Financial and Investment Skills

Programs & Course Codes

V92 - SEC511

V96 - SEC511

P131 – OPN272

Common Course in BSc & BCA

Email: director.ast@ycmou.ac.in

Website: www.ycmou.ac.in

Phone: +91-253-2231473

AST, YCMOU, Nashik – 422 222, MH, India

Brief Contents

Yashwantrao Chavan Maharashtra Open University

Vice-Chancellor: Prof. E. Vayunandan

School of Architecture, Science and Technology

Director (I/C) of the School: Dr. Sunanda More

Development Team

Course Coordinator and Instructional Technology Editor	Book Writer	Book Editor
Dr Sunanda More B.E.(Electronics), M.Sc. (SC), M.B.A.(HR), Ph.D. **Director (I/C)**, AST, YCMOU, Nashik Experience 30 Years	**Prof. Rajendra Shah** M. Sc. (Statistics), D.B.M., D.F.M., D.C.M. Managing Director, DS Actuarial Education Services Experience 40 Years	**Mukund G. Diwan** M. Sc. (Statistics), FIA, FIoA, FIII Chairman, DS Actuarial Education Services Experience 60 Years

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VICE CHANCELLOR'S MESSAGE

Dear Students, Greetings!!!

I offer cordial welcome to all of you for the Bachelor's degree programme of Yashwantrao Chavan Maharashtra Open University.

As a post graduate student, you must have autonomy to learn, have information and knowledge regarding different dimensions in the field of Finance and Investments and at the same time intellectual development is necessary for application of knowledge wisely. The process of learning includes appropriate thinking, understanding important points, describing these points on the basis of experience and observation, explaining them to others by speaking or writing about them. The science of Education today accepts the principle that it is possible to achieve excellence and knowledge in this regard.

The syllabus of this course has been structured in this book in such a way, to give you autonomy to study easily without stirring from home. During the counseling sessions, scheduled at your respective study centre, all your doubts will be clarified about the course and you will get guidance from some qualified and experienced counsellors/ professors. This guidance will not only be based on lectures, but it will also include various techniques such as question-answers, doubt clarification. We expect your active participation in the contact sessions at the study centre. Our emphasis is on 'self study'. If a student learns how to study, he will become independent in learning throughout life. This course book has been written with the objective of helping in self-study and giving you autonomy to learn at your convenience.

During this academic year, you have to give assignments, complete laboratory activities, field visits and the Project work wherever required. You may have to opt for specialization as per programme structure. You will get experience and joy in personally doing above activities. This will enable you to assess your own progress and there by achieve a larger educational objective.

We wish that you will enjoy the courses of Yashwantrao Chavan Maharashtra Open University, emerge successful and very soon become a knowledgeable and honorable Master's degree holder of this university.

I congratulate "Development Team" for the development of this excellent high quality "Self-Learning Material (SLM)" for the students. I hope and believe that this SLM will be immensely useful for all students of this program.

Best Wishes!

- Dr. Prof E. Vayunandan

Vice-Chancellor, YCMOU

FORWARD BY THE DIRECTOR

This book aims at acquainting the students with basic fundamentals of Financial and Investment Skills required at degree level. This course is common to B.Sc. Programmes V92 and V96 offered by the School of Architecture, Science & Technology and B.C.A. programme P131 of the School of Computer Sciences. Hence this SLM book is useful learning resource to all the students of the above said B.Sc. and B.C.A. programmes of the University.

The book has been specially designed for Science students. It has a comprehensive coverage of financial concepts and its application in practical life. The book contains numerous mathematical examples to build understanding and skills.

The book is written with self- instructional format. Each chapter is prepared with articulated structure to make the contents not only easy to understand but also interesting to learn.

Each chapter begins with learning objectives which are stated using **Action Verbs as per the Bloom's Taxonomy.**Each Unit is started with introduction to arouse or stimulate curiosity of learner about the content/ topic. Thereafter the unit contains explanation of concepts supported by tables, figures, exhibits and solved illustrationswherever necessary for better effectiveness and understanding.

This book is written in simple language, using spoken style and short sentences. Topics of each unit of the book presents from simple to complex in logical sequence. This book is appropriate for low achiever students with lower intellectual capacity and coversthe syllabus of the course.

Exercises given in the chapter include MCQs, conceptual questions and practical questions so as to create a ladder in the minds of students to grasp each and every aspect of a particular concept.

I thank the students who have been a constant motivation for us. I am grateful to the writers, editors and the School faculty associated in this SLM development of the Programme.

Best Wishes!

- Dr. Sunanda More
Director (I/C),
School of Architecture, Science and Technology

CREDIT 01

UNIT 01-01: INTRODUCTION TO STOCK MARKETS-01

LEARNING OBJECTIVES

After successful completion of this unit, you will be able to

- ❖ Understand the need to invest
- ❖ Explain role of regulators for financial markets
- ❖ Outline functions of financial intermediaries in investment process
- ❖ Explain what is IPO market and discuss the process leading to IPO

INTRODUCTION

This section should present an open ended question or discuss some interesting information along with relevant image so as to arouse curiosity of learners about this unit topic.

01-01: THE NEED TO SAVE AND INVEST

Before getting into the details of stock markets, let us first understand why do people save!

People need to save money from their regular income to meet irregular expenses and expenses to be met when the inflow of earned income stops which may happen beyond certain age! For instance, after your graduation, you accept an employment and your income starts flowing in. At that stage, expenses are limited. But as the time progresses, you get married, family expands, needs increase and occasions of irregular expenses such as buying your own house, marriage in the family increase. Similarly, after retirement from active work life, there may not be earned income. At that time savings will be used for future living.

Having realized the need to save, the next question of interest is where to park the savings?

Now, let us understand that in almost all countris (including India) Inflation is at work and the purchasing power of the money gets eroded. It is our common experience that to buy the same amount of vegetables in 2017, we spent more than what we spent in 2016.

Let us see what happens if we do not invest svings against the scenario where we invest.

Suppose Abhijit, aged 30, earns Rs. 60,000 p.m. and his expenditure towards cost of living is Rs. 40,000 p.m. This gives a monthly savings of Rs. 20,000.

To make our learning more interesting, lets take into account some realistic assumptions such as:

Income increases @9% p.a. year on year (Yoy)

Cost of living increases by 7% p.aYoy

No other earnings and expenses other than given above

Year	Annual Income	Annual Expense	Annual Savings
1	7,20,000	4,80,000	2,40,000
2	7,77,600	5,13,600	2,64,000
3	8,39,808	5,49,552	2,90,256
4	9,06,993	5,88,021	3,18,972
5	9,79,552	6,29,182	3,50,370
6	10,57,916	6,73,225	3,84,691
7	11,42,550	7,20,351	4,22,199
8	12,33,953	7,70,775	4,63,178
9	13,32,670	8,24,729	5,07,940
10	14,39,283	8,82,460	5,56,823
11	15,54,426	9,44,233	6,10,193
12	16,78,780	10,10,329	6,68,451
13	18,13,082	10,81,052	7,32,031
14	19,58,129	11,56,726	8,01,403

15	21,14,779	12,37,696	8,77,083
16	22,83,962	13,24,335	9,59,627
17	24,66,679	14,17,039	10,49,640
18	26,64,013	15,16,231	11,47,782
19	28,77,134	16,22,367	12,54,767
20	31,07,305	17,35,933	13,71,372
21	33,55,889	18,57,449	14,98,441
22	36,24,360	19,87,470	16,36,890
23	39,14,309	21,26,593	17,87,716
24	42,27,454	22,75,454	19,51,999
25	45,65,650	24,34,736	21,30,914
26	49,30,902	26,05,168	23,25,734
27	53,25,374	27,87,529	25,37,845
28	57,51,404	29,82,656	27,68,748
29	62,11,517	31,91,442	30,20,074
30	67,08,438	34,14,843	32,93,595
TOTAL			3,62,22,735

If Abhijit doesn't invest, his total savings at the end of 30 years, will be Rs. 3,62,22,735.

If Abhijit decides to invest his savings at 10% p.a. at the end of every year till his planned retirement at age of 60 years, his savings will be Rs. 10,85,28,478. The table below shows the calculations.

Year	Savings Opening Balance	Return @10%	Addition to Savings	Savings Closing Balance
1	0	0	2,40,000	2,40,000
2	2,40,000	24,000	2,64,000	5,28,000
3	5,28,000	52,800	2,90,256	8,71,056
4	8,71,056	87,106	3,18,972	12,77,134
5	12,77,134	1,27,713	3,50,370	17,55,217
6	17,55,217	1,75,522	3,84,691	23,15,430
7	23,15,430	2,31,543	4,22,199	29,69,172
8	29,69,172	2,96,917	4,63,178	37,29,268
9	37,29,268	3,72,927	5,07,940	46,10,135
10	46,10,135	4,61,013	5,56,823	56,27,971
11	56,27,971	5,62,797	6,10,193	68,00,961
12	68,00,961	6,80,096	6,68,451	81,49,509
13	81,49,509	8,14,951	7,32,031	96,96,490
14	96,96,490	9,69,649	8,01,403	1,14,67,543
15	1,14,67,543	11,46,754	8,77,083	1,34,91,380
16	1,34,91,380	13,49,138	9,59,627	1,58,00,145
17	1,58,00,145	15,80,014	10,49,640	1,84,29,799
18	1,84,29,799	18,42,980	11,47,782	2,14,20,561
19	2,14,20,561	21,42,056	12,54,767	2,48,17,383
20	2,48,17,383	24,81,738	13,71,372	2,86,70,493
21	2,86,70,493		14,98,441	3,30,35,983

		28,67,049		
22	3,30,35,983	33,03,598	16,36,890	3,79,76,472
23	3,79,76,472	37,97,647	17,87,716	4,35,61,835
24	4,35,61,835	43,56,184	19,51,999	4,98,70,018
25	4,98,70,018	49,87,002	21,30,914	5,69,87,934
26	5,69,87,934	56,98,793	23,25,734	6,50,12,462
27	6,50,12,462	65,01,246	25,37,845	7,40,51,553
28	7,40,51,553	74,05,155	27,68,748	8,42,25,456
29	8,42,25,456	84,22,546	30,20,074	9,56,68,076
30	9,56,68,076	95,66,808	32,93,595	10,85,28,478

We thus find that the accumulated savings of Abhijit will be significantly higher at 10,35,56,595 if invested (i.e. nearly 3 times) against 3,62,22,735 if not invested.

Is not it amazing?

By choosing to invest, one can be in a better of position to fight inflation or growth in cost of living. Not only that, Investment helps increase a person's wealth beyond the impact of inflation. It is also helpful in funding major life events like child's education, marriage, own retirement life etc.

There are a plenty of investment options available in the market that cater to an individual's need. These can be classified as equity, fixed income instruments, commodities and property or real estate. We shall discuss them in detail in the next sub-section.

To choose from the options available, one needs to take into account investor's appetite for risk and desired return level.

Solved Problems

Why is holding Cash not a good strategy?

Ans. Holding cash is not good because inflation leads to reduction in purchasing power of Cash.

Which investment instrument has proved to be the most profitable in long run?

Ans. Equities

SELF-TEST

1. Name the categories in which various investment options can be classified.
2. Why are equities said to be most profitable in the long run?

SHORT ANSWER QUESTIONS

1. Why may one choose to invest? Give reasons.
2. Compare an individual's accumulated fund value at the end of 20 years if he chooses to invest and if he doesn't.

01-02 INVESTMENT OPTIONS

There are a plenty of investment options available in the market that cater to an individual's need. These can be classified as equity, fixed income instruments, commodities and property or real estate. We list somne alternative instruments here.

Fixed Interest Securities:

Fixed income instruments are usually issued by corporations, government and semi-government bodies and financial institutions such as banks to raise funds. The price fluctuations for quoted fixed income instruments are relatively smaller for them than equity share However, fixed interest securities are more likely than shares to be affected by inflation (and changes in interest rates) and there might be credit/default risks if you choose corporate bonds or non- government bonds.

Government bills: Theyare short-dated securities issued by governments to fund their short-term spending requirements. They are issued at a discount and redeemed at par with no coupon. They are often highly marketable and secure.

There are two types of *government bonds*: fixed interest bonds which provide payments that are fixed in monetary terms, and index-linked bonds which provide payments that increase in line with changes in an inflation index.

Some bonds have variable redemption dates and some bonds are undated.

Bonds issued by the governments of developed countries in their domestic currency are the most secure long-term investment available but this should lead to a low expected return.

Corporate bonds are usually less secure and less marketable than government bonds. Investors will however require a greater yield as compensation.

Debentures are loans that are secured on some or all of the assets of the company.

With *unsecured loan stock* there is no specific security for the loan. *Convertible* unsecured loan stocks give their holders the right to convert into ordinary shares of thecompany at a later date.

Certificates of deposit are short-term investments usually issued by banks.

Variable Return Assets:

Equity Investment

Equity shares are the most common type of share capital. They give rights to a share of the residual profits of the company, and to the residual capital value if the company is wound up, together with voting rights and various other rights.

An equity investment generally refers to the buying and holding of shares of public limited companies. The shares can be purchased directly from the company via public offering or from other investors via (or otherwise) stock market.

The investor is rewarded by payment of dividend by the company or by making a capital gain at the time of selling at a higher price. The profit in terms of capital gains may attract a lower tax rate than other income.

Equities have proved to be the most attractive investment instrument over the years because of the level of return it offers in the long run. In India, BSE Sensex has grown from 124.15 on 3rd April, 1979 to 34056.83 on 29/12/2017. It shows 15.59% p.a. capital appreciation ignoring dividends. The consideration of dividend, will further increase the gain.

While equities are the most rewarding investment instruments, one should not forget the downside risk. If a choice turns out to be poor, the capital may take a huge beating. There are instances of share prices falling more than 90% even amongst well-known categories. For instance, Videocon Industries was quoting at Rs. 765.30 on 4 January, 2008 and at 16.00 on 19 October, 2017!

Property means a legal title to the use of land and buildings. The property characteristics include:

- large unit sizes
- uniqueness
- uncertain sale value
- higher dealing costs
- high maintenance expenses
- void periods

Gold

Gold is yet another popular investment option. In India, for centuries gold holding was treated as a barometer of wealth, thanks to social and cultural values. Gold is regularly purchased on various occasions like child birth, marriage, wedding anniversary, birth day, and festivals like Dusshehra, Dhanteras, etc. Also, gifting of gold within family is considered auspicious and is an integral part of celebrations.

The price of Gold is largely determined by supply and demand and because of its limited supply, prices tend to rise over the years with growth in demand.

Even the treasuries of Government across the world, maintain gold reserves against their currencies printed.

Amongst all commodities, gold is considered to be the best investment option. There are 2 primary reasons why you need to invest in gold.

i. Investment in gold is a hedge against inflation. Over a period of time, the return on gold investment is in line with the rate of inflation. Gold (standard mint, per 10 grams) price has moved up from Rs. 685 in 1978 to Rs. 29187 in 2017. This shows a growth rate of 10.10% pa. During the same period, inflation index has gone up from 75 to 1125 showing a growth of 7.19% pa.

ii. Gold is negatively correlated to equity investments. For instance, 2007 onwards, the equity markets started performing poorly whereas the gold performed well.

So having gold as an investment option in your portfolio mix will help you reduce the overall volatility of your portfolio.

Mutual Funds

A range of mutual fund schemes are also available for investments. For laymen, they would probably provide better returns with relatively lesser risk. Mutual funds are managed by experienced and skilled fund managers at very low cost. Most funds have outperformed Sensex in India. The funds provide a mix of baskets to choose, such as (i) only debt, (ii) only equity, (iii) a mixture of debt, equity, real estate in a specified proportion, etc.

To choose from the options available, one needs to take into account investor's appetite for risk and desired return level.

SOLVED PROBLEMS

1) What does one need to consider before deciding on where to invest?

Ans. To choose from the options available, one needs to take into account investor's appetite for risk and desired return level.

2) Which investment instrument has proved to be the safest?

Ans. Government Bonds.

SELF-TEST

1) Name the various investment options in the riskier category.
2) What are the characteristics of property investment.

SHORT ANSWER QUESTIONS

1) Discuss various fixed interest securities.
2) Why is Gold an important asset class for investors in India?

01-03: REGULATORS

Data of over 100 years in USA also indicate that the equities help beat inflation in the long run and they are the most attractive investment options.

We then start thinking: How to invest in equities? Where do I come across an interface that would help in investing in equities? Does someone regulate the transactions related to buying / selling equities?

The platforms that help the investors in trading in equities are known as Stock Exchanges. In India, there are two major stock exchanges, viz. Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

Also, the stock market in India is regulated by a regulatory body called Securities and Exchange Board of India (SEBI). SEBI also regulates the issuance of shares, bonds by companies.

The objective of SEBI is to protect the interest of retail investors, promote the stock exchanges to develop and regulate the market participants and intermediaries.

It also ensures that the stock exchanges (BSE and NSE) and brokers conduct the business fairly as well as keep a check on practices so that investors do not get exploited.

SEBI also tries to ensure that investors with a great funding support, do not try to manipulate the market direction.

The legal framework of working in the market is set by SEBI and they have the power of catching a person if he or she is upto something fishy in the market.

Securities and Exchange Board of India (SEBI)

The Securities and Exchange Board of India was established on April 12, 1992 in accordance with the provisions of the Securities and Exchange Board of India Act, 1992. The Act defines powers and functions of the Board.

SEBI's Preamble describes in detail the functions and powers of the board. Its Preamble states that SEBI must "protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected there with or incidental there to."

The Reserve Bank of india [RBI]

The Reserve Bank of India is the Central bank of India, just the same way as Bank of England is for UK.

The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934.

Though originally privately owned, since nationalization in 1949, the Reserve Bank is fully owned by the Government of India.

The Reserve Bank's affairs are governed by a central board of directors. The board is appointed by the Government of India in keeping with the Reserve Bank of India Act.

Main Functions of RBI

Banking Functions

- Banker to the Government: Acts as banker to the central and state governments and performs merchant banking function for them.
- Banker to banks: maintains banking accounts of all scheduled banks.

Issuer of currency:

- Issues and exchanges or destroys currency and coins not fit for circulation.
- Objective: to give the public adequate quantity of supplies of currency notes and coins and in good quality.

Manager of Foreign Exchange

- Manages the Foreign Exchange Management Act, 1999.
- Objective: to facilitate external trade and payment and promote orderly development and maintenance of foreign exchange market in India.

Monetary Authority of RBI:

- Formulates, implements and monitors the monetary policy.
- Objective: maintaining price stability and ensuring adequate flow of credit to productive sectors.

Regulator and supervisor of the financial system:

- Prescribes broad parameters of banking operations within which the country's banking and financial system functions.

- Objective: maintain public confidence in the system, protect depositors' interest and provide cost-effective banking services to the public.

Developmental role of RBI

- Performs a wide range of promotional functions to support national objectives.

SOLVED PROBLEMS

1)Explain what is meant by monetary policy

Solution: Monetary policy refers to the policy of controlling money supply and interest rates of the country

2)How does RBI acts as a bankers bank

Solution: It satisfies the marginal liquidity demand of bankers by borrowing and lending to various bankers

Banks maintain their accounts in RBI and use it to settle inter-banking debt

SELF-TEST

1) The following is a function of RBI

a) Making policies to run the country
b) Introducing money bills in the parliament
c) Acting as an issuer of currency
d) Running stock exchange

2) RBI is

a) A private bank
b) A bank owned by the banks in the country
c) A governments agent
d) An made-up bank name in the game of monopoly

SHORT ANSWER QUESTIONS

1) Explain the role played by RBI in the foreign exchange

2) Describe the regulation of the banks by RBI

INFLUENCE OF RBI ON INVESTMENT MARKET

The Reserve Bank of India and the money markets

The money markets cover transactions related to bank deposits and short term securities. The Reserve Bank of India directly intervenes directly in the market for short-term securities. Its primary objective is to influence the interest rates. It also encourages the development of private sector markets in which banks can manage their liquidity. It also seeks to enhance efficiency and bring on competition in these markets.

Controlling short-term interest rates

In order to control short-term interest rates, the RBI purchases and sells treasury bills and cash management bills at such a price, that it implies market rate to be the target rate. Automatically, other banks will have to adapt to this rate. if they do not do so, they will incur losses.

Controlling liquidity

RBI can buy Government securities from market to release cash and sell securities to suck the cash from the system. These open market operations lead to control liquidity. This is achieved by RBI with the help of some or all of the following parameters:-

- Repo rate: The rate at which commercial banks can borrow money from RBI
- Reverse Repo rate: The rate at which commercial banks park their extra cash with RBI
- Cash Reserve Ratio: The required percentage of bank deposits that have to be kept with RBI,
- Statutory Liquidity Ratio - The percentage of total deposits that have to be present as liquid cash within the banks. These assets have to be kept in non cash form such as G-secs, precious metals and approved securities.

An increase in repo rate, cash reserve ratio, statutory liquidity ratio, all help in controlling inflation.

The currency market

RBI maintains large amount of gold and foreign currencies. Together, they form foreign reserve. If RBI buys foreign reserve by spending Indian rupees, the exchange rate shall come down. on the contrary, if RBI sells foreign reserve, Indian rupee supply will decrease and its price vis-à-vis other currencies will increase.

Providing information to the investment markets

The Reserve Bank of India compiles and publishes a variety of monetary and financial statistics such as domestic banking statistics, external finance statistics and international banking statistics. This information is available at **https://www.rbi.org.in**

SOLVED PROBLEMS

1) How does RBI control short term interest rates?

   a) The RBI purchases and sells treasury bills and cash management bills at such a price, that it implies market rate to be the target rate.

      Other banks will have to adapt to this rate otherwise they will end up making losses

2) Why RBI maintains large amount of gold and foreign currencies?

   a) The large amount of gold and foreign currencies held are known as foreign reserves. Their main purpose is to maintain exchange rates at desirable levels

      If RBI buys foreign reserve by spending Indian rupees, the exchange rate shall come down. on the contrary, if RBI sells foreign reserve, Indian rupee supply will decrease and its price vis-à-vis other currencies will increase.

SELF-TEST

1) What is the primary objective of RBI to intervene directly in money markets?

a) To influence the interest rates.

b) To create chaos.

c) To maximize the shareholders wealth.

d) Both a & b.

2) Which of the following is not a function of RBI?

a) Controlling liquidity

b) Trading in currency derivatives

c) Providing information to the currency markets

d) Carrying out government's policies

SHORT ANSWER QUESTIONS

179) Explain how RBI can control the fall of Indian Rupee against the Euro
180) State and explain the parameters that RBI uses to control Liquidity.

PUBLIC DEBT OFFICE

A section of RBI called Public Debt Office performs public debt management function. It accomplishes the following tasks.

New issues of Treasury bills

In weekly auctions, treasury bills are issued to meet the government's short-term funding requirements.

The dated government securities market

Dated Government securities are long term securities and carry a fixed or floating coupon (interest rate) which is paid on the face value, payable at fixed time periods (usually half-yearly). The tenor of dated securities can be up to 30 years. The nomenclature of a typical dated fixed coupon Government security contains the following features - coupon, name of the issuer, maturity and face value.

The details of all the dated securities issued by the Government of India are available on the RBI website at **http://www.rbi.org.in/Scripts/financialmarketswatch.aspx**.

New issues

Just as in the case of Treasury Bills, dated securities of both, Government of India and State Governments, are issued by Reserve Bank through auctions. Auctions are conducted on the electronic platform called the NDS – Auction platform. The Reserve Bank announces the auctions a week in advance through press releases. Government Security auctions are also announced through advertisements in major dailies. The investors are given adequate time to plan for the purchase of government securities through such auctions.

Buying gilts

Often RBI buys dated securities from the market ahead of maturity date.

At times, central bank may buy back more government securities than those issued as a part of Public sector debt management program.

Regulation

In order to accomplish the objective of meeting the government borrowing needs as cheaply and efficiently as possible, a group of highly qualified financial firms/ banks are appointed to play the role of specialist intermediaries in the government security market between the issuer on the one hand and the market on the other. Such entities are generally called **Primary dealers** or **market makers**. In return of a set of obligations, such as making continuous bids and offer price in the marketable government securities or submitting reasonable bids in the auctions, these firms receive a set of privileges in the primary/ secondary market.

Settlement The Negotiated Dealing System (NDS) for electronic dealing and reporting of transactions in government securities was introduced in February 2002. It facilitates the members to submit electronically, bids or applications for primary issuance of Government Securities when auctions are conducted. NDS also provides an interface to the Securities Settlement System (SSS) of the Public Debt Office, RBI, Mumbai thereby facilitating settlement of transactions in Government Securities (both outright and repos) conducted in the secondary market.

The transactions relating to Government securities are settled through the member's securities / current accounts maintained with the RBI, with delivery of securities and payment of funds being done on a net basis. The Clearing Corporation of India Limited (CCIL) guarantees settlement of trades on the settlement date by becoming a central counter-party to every trade through the process of novation, i.e., it becomes seller to the buyer and buyer to the seller.

Quantitative easing

A monetary policy used by some central banks to increase money supply is called Quantitative Easing (QE).

It is achieved by direct increase in the money supply and a knock-on effect from the fractional reserve system changes.

QE often involves the purchase of government bonds by first crediting own account with money out of nothing and then purchasing government bonds, quasigovernment debt, mortgage-backed securities and corporate bonds, from banks and other financial institutions in open market operations.

QE can also be done by changing the reserve requirements for banks which, through the fractional reserve system, leading to increase the money supply.

SOLVED PROBLEMS

1) Where can one find the details of dated securities issued by the Government of India?

b) The details of all the dated securities issued by the Government of India are available on the RBI website at**http://www.rbi.org.in/Scripts/financialmarketswatch.aspx**.

2) Why do central banksbuy back more government securities than those issued?

c) At times, central bank may buy back more government securities than those issued as a part of Public sector debt management program. Bank of England did this during 1998-2001.

3) What are the equity trading platforms known as?

Ans. Stock Exchanges

4) Which body regulates the stock market in india?

Ans. SEBI

Self-Test

1) In India Public Debt office is a section

a) government
b) RBI
c) Local authorities
d) Private sector

2) How RBI issues dated securities of government?

a) Through Exchange
b) Through private dealings
c) Through auctions
d) Through issuing more debt

3) What are the objectives of SEBI?

4) What risk does investors with huge pile create for the market?

Short Answer Questions

1) Explain Quantitative easing.

2) How public debt office conducts settlement of debt.

3) Why does SEBI create a legal framework for the market?

4) Who all are regulated by SEBI?

01-04: FINANCIAL INTERMEDIARIES

To carry out a trade in the market, there are a number of entities with whom an investor is required to deal with. They include: Stock broker, Depository agency, Clearing Corporation and Bank. These entities are known as financial intermediaries.

A stock broker is the most important financial intermediary related to the stock market transactions.

A stock broker is an authorized entity that can trade on an exchange on your behalf. A stock broker holds a license to operate under the guidelines issued by SEBI. As an investor, you have to register yourself with a broker. In turn, the broker also gets a trader registered with a stock exchange. Any trade to buy/sell has to be done through the broker. So, an investor has to request his/her broker to carry out the trade of his interest. Some brokers also provide a "trading terminal" facility on your device so that you can directly carry out the trade.

When you buy a security through a broker, you shall pay to the broker and you shall get delivery from the broker. When you sell, you shall deliver the relevant security to the broker and you shall receive the proceeds from the broker.

The broker, registered with an exchange in turn shall accept/give delivery of the security from/to a clearing corporation which is a subsidiary of the respective stock exchange. For example, National Security Clearing Corporation Ltd (NSCCL) and Indian Clearing Corporation TD. (ICCL) are wholly owned subsidiaries of National Stock Exchange and Bombay Stock Exchange respectively.

In India, today, most securities are maintained in stock in Dematerialised (DEMAT) form. All investors need to hold DEMAT account to park their holdings. NSDL and SCDL are the two major agencies who were initially permitted to provide this facility.

Apart from a stock broker, there are other financial intermediaries such as depositories, banks etc.

We know that DEMAT account is a place where the shares that are owned are digitally stored. The service of DEMAT account is offered by another financial intermediary known as depository.

The basic part of transferring the fund from bank account for buying a share is done by banks.

To ensure that a transaction is completed and settled properly is the job of clearing corporations: NSCCL and ICCL are two clearing corporations wholly owned subsidiaries of NSE and BSE respectively.

Banks are involved as the monetary transactions happen through banks. Banks also provide depositories accounts for the investors in collaboration with NSDL / SDL.

Solved Problems

1) What is the basic requirement for trading in stock market?

Ans. To have a trading account

2) List down financial intermediaries apart from stock broker.

Ans. Apart from a stock broker, there are other financial intermediaries such as depositories, banks etc.

Self-Test

1) What is a DEMAT account?
2) What are financial intermediaries?

Short Answer Questions Who is the most important financial intermediary and why?

1) Which financial intermediary provides the service of DEMAT account?

01-05: THE IPO MARKETS

Till now, we have understood why to invest and how to invest. But the question that arises now is: who is selling the share that we are buying? How is he selling? Who decides the price?

To get answers to these, let us now start thinking from the perspective of a business!

Basically, one way of raising finance for a company is by issuing shares. Initially, shares are sold to the promoters of a company. To be more precise, two or more people come together to form a (limited) company by putting their capital into the business. For this capital investment, they are issued shares of the company. These initial investors are called promoters of the company.

Suppose Ashok and Nirman form a company by putting 60 and 40 millions of rupees as the seed money for the company. They decide on the face value of the shares of the company. If Face value mutually agreed by them is Rs. 10 per share, then they will be allotted 6 million and 4 million shares respectively. The total value of the company is regarded to as Rs. 100 million. By default, the promoters are issued shares at par at the time of company formation stage. The picture of holding looks like

Category of Investor	Investor/Share Holder	Capital Invested	Issue Price per share	No. of shares issued	% Share holding
Promoter	Ashok	60 million	10	6 million	60%
Promoter	Nirman	40 million	10	4 million	40%

After some time (may be a year or two), if the company needs more money in the business, Ashok and Nirman shall look out for some wealthy investors who can fund them. Such investors are asked to acquire some stake in the company by buying shares. These high net worth investors are called Venture Capitalists (VC). The VCs are issued shares at a premium depending upon the status of the business, estimated value of the future profit and total number of shares after the issue. Generally, VCs pay small premium as they walk in when the company is not able to borrow easily. VCs often jump into high potential business ventures who find it difficult to raise finance otherwise.

Suppose, if the business under discussion, based on future profits is valued at Rs. 300 million (increased from Rs. 100 million at the inception) having started with the operations, and if the duo agree to give 20% stake to Hritik, the only VC, then Hritik will have to pay Rs. 200 million and shall get 20% of total shares issued. Thus Hritik will be issued 2.5 million shares [20% of 6+4+2.5 = 12.5 million]. The share holding details will be as under:-

Category of Investor	Investor/Share Holder	Capital Invested	Issue Price per share	No. of shares issued	% Share holding
Promoter	Ashok	60 million	10	6 million	48%
Promoter	Nirman	40 million	10	4 million	32%
Venture Capitalist	Hritik	200 million	80	2.5 million	20%

When the company feels they require further cash to expand its business, it may decide to issue shares to the public at large. If such an issue is happening for the first time, it is known as Initial Public Offering (IPO), otherwise it is called a Follow-up Public Offering (FPO).

IPO market is a part of primary market as the shares sold here are being offered for the first time by a company and not being traded between the investors. Though some time, an IPO involves sale of shares held by VC.

The basic requirement for any company to get listed on the market is that 10%[this varies from country to country] of its authorized capital should be with the public. If this is not the case, a company may not be able to apply for listing!

But why may a company want to get listed, when it can continue to raise finance without the same?

There are several advantages of getting listed. Such as:

1) To provide an exit route to the investors
2) To increase the marketability of shares
3) To make it easier to raise finance in future either via equity or via debt
4) To enable valuation of its shares [how to know the value without market quotation?]

After deciding to go public, there is a process to be followed to ensure a successful Initial Public Offer (IPO).

- Appoint a merchant banker as issue manager (i.e. as an underwriter and/or consultant)
- Apply to SEBI with the registration statement
- Get approved from SEBI
- Decide on the price/price band and timing of the issue
- Announce the IPO details to the public

There are a number of risks that a company is exposed to when it is issuing shares to the public. The most common of them is the risk of undersubscription.

The issue price and no. of shares to be issued in an issue is determined by the same process as the one that was followed while issuing shares to the VC. So basically, the company's management has to estimate value of the company's business, amount of dilution of their holding and funding needed. If the Company's business net of liabilities is Rs. 500 million and the three shareholders together, now agree to accept a dilution to 85% from current 100%. However, the premium charged to public will not be low as it was for the VC.

If the issue is not fully subscribed or rather the subscription of shares is less than 90% [or as prescribed by regulator: SEBI for India] of the issue, the issue is said to get undersubscribed and stands cancelled!

A company after a successful IPO becomes what is known as a Public Limited Company. It can then apply to an exchange for listing. Often, companies apply for listing in advance and seek listing soon after the completion of successful IPO. When the listing begins, the demand and supply will determine the price quotation.

Some terminology related to an IPO:

Primary market: It is the market in which investors have the first opportunity to buy a newly issued security as in an IPO.

Prospectus: It is the offer document prepared for an IPO/FPO. It is a formal legal document that describes the details about the company, itsactivities, financial position, reasons for the issue and people involved in the

issue, future projects, prospects and the risks of an investment. The prospectus will also include anapplication form.

Book building: It is a systematic process by which an attempt is made to determine the price at which the securities are to be offered based on the demand from investors by arranging the bids received in the descending order and thereby determining the cut-off price.

Over Subscription: A situation in which the demand for shares offered in an IPO exceeds the number of shares offered.

Price band: Price band refers to the band within which the investors can bid. The spread between the floor and the cap of the price band is not be more than 10%(or as prescribed by the regulator) of the floor price. This is decided by the company and its merchant bankers. There is no cap or regulatory approval needed for determining the price of an IPO. The company must choose the price so that the issue is successful.

Listing: Shares offered in IPOs are required to be listed on stock exchanges for the purpose of trading.

Process involved in IPO:

Underwriting

Rather than selling shares directly to the public, the company or existing shareholders sometimes sell the shares to a merchant banker who acts as an underwriter. The underwriter undertakes the selling of shares to the public. If it fails to sell them to the public, it continues to own them and may sell them at a later date in the market.

Besides underwriting, the merchant bankers act as professional advisers to the company, getting involved in the whole process. The merchant bankers are paid a consulting fee for their servicers. Besides, being underwriter they are issued price at a rate slightly lower than theprice at which the securities are subsequently sold to the public. It is imperative that the merchant bankers are now more keen that issues with which they are involved are successful.

Often, the reputation of the merchant banker plays a key role in the eventual success of the issue.

About one year before the offer the company start talking to a merchant banker.The merchant banker guides the company in systematic publicity, fixation of issue price, holding investors meet, etc.

Typically, applications from the public to buy securities are invited and the application period is restricted usually 3 to 10 days. Often, the issues are oversubscribed by the time the offer is closed.

The merchant banker needs to determine the basis of allocation.

Usually, the following two objectives are to be met:

1. The securities are widely held (to propagate an active market in theshares)

2. Reduce administration costs.

The following IPOs (in anti-chronological order) took place in India during 2017.

Issuer Company	Issue Open	Issue Close	Offer Price (Rs)	Issue Size (in RsCrore)
Astron Paper & Board Mill Ltd	Dec 15, 2017	Dec 20, 2017	50	70.00
Future Supply Chain Solutions Ltd	Dec 6, 2017	Dec 8, 2017	664	649.70
Shalby Limited	Dec 5, 2017	Dec 7, 2017	248	504.80
HDFC Standard Life Insurance Company Ltd	Nov 7, 2017	Nov 9, 2017	290	8,695.01
Khadim India Limited	Nov 2, 2017	Nov 6, 2017	750	543.06
The New India Assurance Company Limited	Nov 1, 2017	Nov 3, 2017	800	9,600.00
Mahindra Logistics Limited	Oct 31, 2017	Nov 2, 2017	429	829.36
Reliance Nippon Life Asset Management Ltd	Oct 25, 2017	Oct 27, 2017	252	1,542.24
General Insurance Corporation of India	Oct 11, 2017	Oct 13, 2017	912	11,372.64
Indian Energy Exchange Ltd	Oct 9, 2017	Oct 11, 2017	1650	1,000.73
MAS Financial Services Ltd	Oct 6, 2017	Oct 10, 2017	459	460.04
Godrej Agrovet Limited	Oct 4, 2017	Oct 6, 2017	460	1,157.31
Prataap Snacks Limited	Sep 22, 2017	Sep 26, 2017	938	481.56
SBI Life Insurance Company Ltd	Sep 20, 2017	Sep 22, 2017	700	8,400.00
ICICI Lombard General Insurance Company Ltd	Sep 15, 2017	Sep 19, 2017	661	5,700.94

Capacit'eInfraprojects Limited	Sep 13, 2017	Sep 15, 2017	250	400.00
Matrimony.com Limited	Sep 11, 2017	Sep 13, 2017	985	496.88
Dixon Technologies (India) Limited	Sep 6, 2017	Sep 8, 2017	1766	600.00
Bharat Road Network Limited	Sep 6, 2017	Sep 8, 2017	205	600.65
Apex Frozen Foods Ltd	Aug 22, 2017	Aug 24, 2017	175	152.25
Cochin Shipyard Ltd	Aug 1, 2017	Aug 3, 2017	432	1,442.01
Security and Intelligence Services (India) Ltd	Jul 31, 2017	Aug 2, 2017	815	779.58
Salasar Techno Engineering Ltd	Jul 12, 2017	Jul 17, 2017	108	35.87
Au Financiers (India) Limited	Jun 28, 2017	Jun 30, 2017	358	1,912.51
GTPL Hathway Limited	Jun 21, 2017	Jun 23, 2017	170	484.80
Central Depository Services (India) Limited	Jun 19, 2017	Jun 21, 2017	149	523.99
Eris Lifesciences Limited	Jun 16, 2017	Jun 20, 2017	603	1,741.16
Tejas Networks Limited	Jun 14, 2017	Jun 16, 2017	257	776.69
IndiGridInvIT Fund	May 17, 2017	May 19, 2017	100	2,250.00
PSP Projects Ltd	May 17, 2017	May 19, 2017	210	211.68
Housing and Urban Development Corporation Ltd	May 8, 2017	May 11, 2017	60	1,224.35
S Chand and Company Ltd	Apr 26, 2017	Apr 28, 2017	670	728.56
IRB Inv IT Fund	May 3, 2017	May 5, 2017	102	5,921.10
Shankara Building Products Ltd	Mar 22, 2017	Mar 24, 2017	460	345.00
CL Educate Ltd	Mar 20, 2017	Mar 22, 2017	502	238.95
Music Broadcast Ltd	Mar 6, 2017	Mar 8, 2017	333	488.53
Avenue Supermarts Limited	Mar 8, 2017	Mar 10, 2017	299	1,870.00
BSE Limited	Jan 23, 2017	Jan 25, 2017	806	1,243.43

You can now check the current market price of any of the above company's shares to determine how many of them were fruitful for their investors.

SOLVED PROBLEMS

1) What is an IPO?

Ans. IPO is an issue of shares to the public that is happening for the first time.

2) What is the basic requirement for a company to apply for listing?

Ans. The basic requirement for any company to get listed on the market is that 10%[or as specified by respective regulator] of its authorized capital should be with the public. If this is not the case, a company may not be able to apply for listing!

SELF-TEST

1) List down the advantages of a company in getting listed.
2) What is a company called after a successful IPO?

SHORT ANSWER QUESTIONS

1) What is the process for completing an IPO?
2) When is an issue said to be undersubscribed?

INVESTMENT BANKS OR MERCHANT BANKS

Investment banks (or merchant banks) are consulting organisations with expertise in financing and management advising skills.

Thir role can be classified into a few categories:

- Financial advising
- Fund management
- Money market operations
- others

Under Financial advisory role they usually give advice on

- takeover and merger strategies and defences
- investment projects
- the optimum methods of procuring finance.

They also act as issuing house, underwriter of primary issues and facilitator for issue of Eurobonds.

In its role as fund manager, it can

- provide management for
    - unit trusts
    - investment trust companies
    - pension funds
    - large private investment portfolios.
    - organise the Eurobond market.

In money market operations, it can

- accept (i.e. guarantee) bills of exchange
- invest in Treasury bills and other government securities
- issue certificates of deposit

Apart from the above, investment banks can

- provide both short-term and long-term finance to companies
- act as trustees (e.g. for debenture issues)
- act as counterparties / brokers for Over-The-Counter (OTC) derivative contracts.

Notwithstanding the sufferings in 2007-8 global financial crisis, investment banks have grown their business operations and widened their horizons.

SOLVED PROBLEMS

1) List the money market operations of Investment banks.

Solution: The following are the money market operations of Investment banks

- issue certificates of deposit
- accept (i.e. guarantee)bills of exchange
- invest in Treasury bills and other government securities

2) What do investment bank specialize in?

Solution: Investment banks specialize in giving financial advice to companies and in fund management

SELF-TEST

1) Which of the following is not a function of Investment banks?

a) Provide management to unit trusts
b) Issue eurobonds and certificate of deposits
c) Approve government debt
d) Manage pension funds

2) Investment banks give advices to

e) Companies on investment projects
f) Celebrities for publicity stunts

g) Unit and Investment trusts for management
h) Both a & c

SHORT ANSWER QUESTIONS

1)Write a short note on the 2007-08 global financial crisis and its effects on Indian market/ Explain the sources and application of fund by an investment bank.

2)List the functions of Investment banks.

UNIT 01-02: INTRODUCTION TO STOCK MARKETS-02

02-01: THE STOCK MARKETS

A stock market is a market where:

- Companies issue new securities
- Investors trade on existing securities

The basic requirement for a share to get traded on is to have a price quotation. This price quotation on an exchange is determined by demand and supply. The stock exchange provides secondary market. When the shares are being issued to the public through a public offering (called primary market), the price is determined by the company.

Since the investors expect return on their investment, they will only buy the share or not sell their holding, if and only if they consider the profile of the company in good fashion and there is potential for appreciation.

More precisely, the share price of a company is affected by the estimates of its future profit!

Now, how does a trade take place?

Suppose you want to buy 10 shares of Vinati Organics Ltd. at a price of Rs. 980 each. You will have to tell your broker about your requirement and ask him to carry out an appropriate trade. The stock broker shall put in the request in the terminal electronically connected to the stock exchange server.

After this has been done, the stock exchange will try to find a seller or many sellers for that matter who can fulfil your demand of 10 shares at the specified price.

Once the counterparty is found, the transaction is carried out and a contract is generated by the broker for you to confirm. The broker will receive the sharesin his account. After making the payment, the broker will transfer the shares to your DEMAT account.

Why do Share Prices Change:

Share prices keep changing due to demand and supply. The causes of demad and supply are because of

- Need to invest/disinvest
- Varying view about the future outlook
- Arrival of new information and its interpretation

After owning a share, you will be entitled to benefits like dividends, bonus shares, voting rights etc.

A standard measure to describe the level of return that a stock has offered is Compounded Annual Growth Rate (CAGR).

This method takes into account the price at which investment was done, the price at the time of finding return level as well as the duration of the investment.

This can be calculated by:

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\left(\frac{1}{\text{\# of years}}\right)} - 1$$

A stock market is always made of two classes of people. One who thinks that a particular stock will perform good whereas the other class thinks exactly opposite. That is why, trading in the secondary market takes place. If all holders, think that the share is worth continuing to hold, there will be no sellers and hence no transaction.

The investors can be classified into short term and long term investors.The typical holding period of long term investors runs for a few years whereas it can be even seconds for short term speculators.

02-02: THE STOCK EXCHANGE AND ITS ROLE

Most stock exchanges in the world are associations of stock-broking firms. Some are corporatized like The Bombay Stock Exchange (BSE).

India has two major stock exchanges, viz. the Bombay Stock Exchange (BSE) of India and the National Stock Exchange (NSE) of India.

Established in 1875, BSE is Asia's first & the Fastest Stock Exchange in the world.

The National Stock Exchange (NSE), established in 1994, is the leading stock exchange in India and the fourth largest in the world by equity trading volume in 2015, according to World Federation of Exchanges (WFE).

The Stock Exchanges world over have two primary roles:

1. to facilitate raising new finance for companies and governments (the primary market)

2. to provide a mechanism (the secondary market) for buying and selling securities to investors.

The Stock Exchange brings together lenders and borrowers. The main lenders are:

- individuals
- financial institutions like

  - ➢ pension funds
  - ➢ life insurance offices
  - ➢ general insurance companies
  - ➢ unit trusts
  - ➢ investment trusts.

Securities dealt on the Stock Exchange

Both of BSE and NSE, facilitate trading of

- government securities
- ordinary shares, preference shares
- debentures, corporate bonds
- derivatives on stock indices, equities and currencies

There are different markets for the above categories.

The trading on BSE happens through an electronic system called BOLT. It facilitates order driven trading.

The roles of the Stock Exchange

- **Providing a market:** It is a primary objective of a stock exchange. It facilitates stock with cash and vice versa! All stock exchanges provide order driven transaction facilities. Some also provide quote- driven market maker systems.
- **Regulating the market:** Stock exchanges are responsible to the users. They must ensure that business through the exchange happen in an orderly manner and investors' interests are protected.
- **Regulating members of the Stock Exchange**: Stock brokers and market makers are members of the stock exchange. The stock exchange lays down its regulations to be followed by its members and ensures that they abide by the same. The exchange's objective is to to ensure fair trading practices and maintenance of professional standards.
- **Regulating transactions:** Every transaction has security, the type of trade, quantity, rate, identities of buyer and seller and time of execution as the most important part of its description. The exchange must record all of them as soon as the trade occurs. This will help oin eliminating any malpractices and perhaps even help in detecting possible instances of insider trading.
- **Regulating companies:** Exchanges put their own requirements over and above regulators' requirements for good corporate governance. The companies need to fulfil these requirements to get listed and thereafter continue to remain listed. A default in these requirements may invite punishment for the company. This may facilitate better regulation of companies through stock exchange..
- **Settlement of trades:** After a transaction in a security is carried out, the seller needs to deliver the security and it should reach the buyer. More precisely, the transfer has to be effected. The stock exchange must facilitate this to complete the transaction. While transfer of money is one part, transfer of security is another. Both are equally important parts of the transaction process.
- **Settlement for equities:** Generally, settlement of equities is done by means of rolling settlements.Generally, trades initiated on a day, are settled after three days through a computerised system.
- **Settlement for government securities:** Settlements of government securities happen very quickly. In some exchanges, they are settled on the next working day.
- **Settlement for derivatives:** In India, NSE is the major exchange providing facility to trade derivative contracts. It takes sufficient margins to safeguard against credit risk. The settlements happen on a daily basis.
- **Providing investors with information:** Stock exchanges requirements necessitate companies to comply with data needs and periodic announcements of their progress reports, notices of board meetings, their outcomes, etc. The companies have to supply with information about shareholding pattern and so on. The stock exchange publishes all these information on its website. In addition, it publishes trade statistics with analysis of various kinds including important parameters like volatility.

SOLVED PROBLEMS

1) List the main roles of stock exchange

Solution: Provide a new issue and secondary market

Regulate the market

Deal with settlement of trades

Provide information about the exchange

2) Why does Stock exchange regulate markets?

Solution: The stock exchange is responsible for ensuring that investors are afforded proper protection and are free from malpractices.

SELF-TEST

1)) Which one of the following statements represents the main roles of the stock exchange?

a) Settlement of equity trades
b) Certificates of Deposit
c) Money market deposit
d) Settlement of Debt trades

2) Which of the following are regulated by a stock exchange?

e) The stock market
f) Members of the stock exchange.
g) Investors
h) Both a & b

SHORT ANSWER QUESTIONS 04-04

1) Why is there a need for the secondary market along with the primary market?

2) Explain the settlement procedure of the Stock exchange

02-03: DERIVATIVE EXCHANGE

In many counties derivative exchanges are separate from stock exchanges. In India, NSE is providing bulk of derivative trading. The derivative segment functions independent of equity segment and debt segment in it.

The derivatives are the most risky to face. The exchange has very strict margin requirements to ensure the interests of its clients. The margins are increased with increase in volatility and daily settlements are effected to keep default risks at bay.

SOLVED PROBLEMS

1)Who is the counterparty to every trade for derivatives traded in exchange in NSE?

d) The NSE acts as a counterparty to every trade for derivatives traded in exchange in India

2)Why are daily settlements necessary?

e) The prices of derivative contracts are based on the underlying fincial instrument and hence change frequently. Hence daily payments has to be made to control the credit risk for the clearing house which act as the counterparty to every trade

SELF-TEST

1) The following are not traded through derivative exchange

a) over the counter derivatives
b) forwards
c) both a &b
d) none of the above

2) Which of the following is NOT correct regarding Variation Margin:

i) Is made on a daily basis.
j) Ensures that the credit risk of the clearing house is controlled.
k) Is an additional cushion against potential losses from future adverse price movement.
l) Is the initial deposit paid to the clearing house by the buyer and seller of a future and the writer of an option.

SHORT ANSWER QUESTIONS

181) Describe the features of NSE/ Explain why there are strict margin requirements
182) Why are derivatives risky investments?

Solved Problems

1) What is a stock market?

Ans. A stock market is an electronic market where:

- Companies issue new securities
- Investors trade on existing securities

2) What is the popular way of measuring return on stocks?

Ans. A popular way of measuring the level of return that a stock has offered is Compounded Annual Growth Rate (CAGR).

Self-Test

1) What benefits are one entitled to after owning a share?
2) How is the price of a stock decided in secondary market?

Short Answer Questions

1) How does a trade take place?
2) How do you calculate CAGR?

02-02: THE STOCK MARKETS INDEX

There are two main stock market indices in India.

S&P BSE SENSEX and CNX NIFTY representing Bombay stock exchange and National stock exchange respectively.

The objective of an index is to provide the investors with up to date information about the way market participants think of about the future, ie. optimistically or pessimistically. Optimism is reflected in an up move and the pessimism in a down move.

It helps investors to compare the return that they have gained from a particular stock with the market as a whole.

Let us now understand how is the value of an index calculated.

We consider the case of BSE SENSitive index. Its value is based on 30 stocks.

Sensex is calculated as per the following steps:

1. The market capitalization of each of the 30 companies comprising the index is first determined by multiplying the price per share with the number of shares issued by that company.

2. The market capitalization is then multiplied by the free-float factor to determine the free-float market capitalization. (The free-float factor of a company is the ratio of shares available to public to the total number of shares issued by the company. Generally, if for a company, 55% of the shares are held by its promoters, then free-float

factor = 1- 0.55 =0.45. Free-float factor is determined by BSE on the basis of the information submitted by the companies.)

3. The aggregate free-float market capitalization of the Index constituents is then expressed as percentage of thecorresponding aggregate free-float value for the base period, which is 1978-79 for BSE Sensex.

Thus, if a days' Market Capitalization based on the performance of the 30 key stocks is say, 12,000,000 and if the corresponding value in 1978-79 is 60,000 then SENSEX on that day would become 12,000,000/60,000 *100 =20,000. Currently, the sensex is based on the following thirty companies' shares.

Company Name	Industry
Adani Ports	Infrastructure - General
Asian Paints	Paints & Varnishes
Axis Bank	Banks - Private Sector
Bajaj Auto	Auto - 2 & 3 Wheelers
BhartiAirtel	Telecommunications - Service
BHEL	Infrastructure - General
Coal India	Mining & Minerals
Dr Reddys Labs	Pharmaceuticals
HDFC	Finance - Housing
HDFC Bank	Banks - Private Sector
Hero Motocorp	Auto - 2 & 3 Wheelers
HUL	Personal Care
ICICI Bank	Banks - Private Sector
IndusInd Bank	Banks - Private Sector
Infosys	Computers - Software
ITC	Cigarettes
Kotak Mahindra	Banks - Private Sector
Larsen	Infrastructure - General
M&M	Auto - Cars & Jeeps
Maruti Suzuki	Auto - Cars & Jeeps
NTPC	Power - Generation & Distribution
ONGC	Oil Drilling And Exploration
Reliance	Refineries
SBI	Banks - Public Sector
Sun Pharma	Pharmaceuticals
Tata Motors	Auto - LCVs & HCVs

Tata Steel	Steel - Large
TCS	Computers - Software
Wipro	Computers - Software
Yes Bank	Banks - Private Sector

While BSE Sensex is the most widely followed index for most purposes, BSE has several indices. They are as under:

S&P BSE SENSEX
S&P BSE SENSEX 50
S&P BSE SENSEX Next 50
S&P BSE 100
S&P BSE Bharat 22 Index
S&P BSE MidCap
S&P BSE SmallCap
S&P BSE 200
S&P BSE 150 MidCap Index
S&P BSE 250 SmallCap Index
S&P BSE 250 LargeMidCap Index
S&P BSE 400 MidSmallCap Index
S&P BSE 500
S&P BSE AllCap
S&P BSE LargeCap
S&P BSE SmallCap Select Index
S&P BSE MidCap Select Index

Based on National stock Exchange prices, we have a slightly more elaborated 50 share based NIFTY 50. In addition to this, NSE has many more indices including sectorial indices

NIFTY 50
NIFTY NEXT 50
NIFTY 100
NIFTY 200
NIFTY 500
NIFTY MIDCAP 50
NIFTY MID100 FREE
NIFTY SML100 FREE

INDIA VIX
NIFTY BANK
NIFTY AUTO
NIFTY FIN SERVICE
NIFTY FMCG
NIFTY IT
NIFTY MEDIA
NIFTY METAL
NIFTY PHARMA
NIFTY PSU BANK
NIFTY PVT BANK
NIFTY REALTY
NIFTY DIV OPPS 50
NIFTY GROWSECT 15
NIFTY QUALITY 30
NIFTY50 VALUE 20
NIFTY50 TR 2X LEV
NIFTY50 PR 2X LEV
NIFTY50 TR 1X INV
NIFTY50 PR 1X INV
NIFTY50 DIV POINT
NIFTY COMMODITIES
NIFTY CONSUMPTION
NIFTY CPSE
NIFTY ENERGY
NIFTY INFRA
NIFTY100 LIQ 15
NIFTY MID LIQ 15
NIFTY MNC
NIFTY PSE
NIFTY SERV SECTOR
NIFTY GS 8 13YR
NIFTY GS 10YR
NIFTY GS 10YR CLN
NIFTY GS 4 8YR
NIFTY GS 11 15YR
NIFTY GS 15YRPLUS
NIFTY GS COMPSITE

FULL LIST OF CNX NIFTY 50 COMPANIS

Company Name	Industry	Weightage as on 15/12/2017
Adani Ports	Infrastructure - General	1.11%
Ambuja Cements	Cement - Major	0.70%
Asian Paints	Paints & Varnishes	1.44%
AurobindoPharma	Pharmaceuticals	0.52%
Axis Bank	Banks - Private Sector	1.76%
Bajaj Auto	Auto - 2 & 3 Wheelers	1.24%
Bajaj Finance	Finance - Leasing & Hire Purchase	1.33%
BhartiAirtel	Telecommunications - Service	2.77%
BhartiInfratel	Telecommunications -	0.88%

	Equipment	
Bosch	Auto Ancillaries	0.81%
BPCL	Refineries	1.52%
Cipla	Pharmaceuticals	0.62%
Coal India	Mining & Minerals	2.25%
DrReddys Labs	Pharmaceuticals	0.53%
Eicher Motors	Auto - LCVs & HCVs	1.07%
GAIL	Oil Drilling And Exploration	1.10%
HCL Tech	Computers - Software	1.66%
HDFC	Finance - Housing	3.68%
HDFC Bank	Banks - Private Sector	6.49%
Hero Motor Corp	Auto - 2 & 3 Wheelers	0.94%
Hindalco	Aluminium	0.73%
HPCL	Refineries	0.91%
HUL	Personal Care	3.84%
ICICI Bank	Banks - Private Sector	2.61%
IndiabullsHsg	Finance - Housing	0.69%
IndusInd Bank	Banks - Private Sector	1.35%
Infosys	Computers - Software	3.15%
IOC	Refineries	2.69%
ITC	Cigarettes	4.32%
Kotak Mahindra	Banks - Private Sector	2.63%
Larsen	Infrastructure - General	2.26%
Lupin	Pharmaceuticals	0.52%
M&M	Auto - Cars & Jeeps	1.23%
Maruti Suzuki	Auto - Cars & Jeeps	3.71%
NTPC	Power - Generation & Distribution	1.96%
ONGC	Oil Drilling And Exploration	3.14%
Power Grid Corp	Power - Generation & Distribution	1.39%
Reliance	Refineries	7.80%
SBI	Banks - Public Sector	3.61%
Sun Pharma	Pharmaceuticals	1.66%
Tata Motors	Auto - LCVs & HCVs	1.84%
Tata Power	Power - Generation & Distribution	0.33%
Tata Steel	Steel - Large	0.90%
TCS	Computers - Software	6.52%
Tech Mahindra	Computers - Software	0.65%
UltraTechCement	Cement - Major	1.58%
UPL	Chemicals	0.49%
Vedanta	Mining & Minerals	1.48%
Wipro	Computers - Software	1.89%
Yes Bank	Banks - Private Sector	0.97%

Zee Entertain	Media & Entertainment	0.73%

As you can see, Reliance Industries Limited (RIL) has the highest weightage. This means the Nifty index is most sensitive to price changes in RILand least sensitive to price changes in Tata Power Ltd.

SOLVED PROBLEMS

1) How many main stock exchanges are there in India?

Ans. There are two main stock exchanges in India.

2) Name at least five stocks used to construct BSE Sensex.

Ans. Following are some important stocks used in construction of BSE Sensex:

HDFC Bank Ltd.

Infosys Ltd.

Larsen & Toubro Ltd.

Mahindra and Mahindra Ltd.

Reliance Industries Ltd.

SELF-TEST

1) What are sectoral indices?
2) What is free float market capitalization?

SHORT ANSWER QUESTIONS

1) What is the objective of an index?
2) How is the value of an index calculated?

02-03: COMMONLY USED JARGONS AND TYPES OF TRADERS/INVESTORS

Some of the terms that are commonly used in the market:

1) Bull Market: When the stock market index is moving upwards during a particular period, the market is known as bull market.
2) Bear Market: When the stock market index is moving downwards during a particular period, the market is known as bear market.
3) Long position: A trading party who has bought a security is said to have long position
4) Short position: A trading party who has solda security is said to have short position
5) Square off: Squaring off refers to moving out of a long/short position by performing an exactly opposite trade.
6) OHLC: stands for Open, high, low and close. Traditionally, these four levels of prices are used to determine trends and comparing changes in prices of two or more securities.
7) F&O market: this denotes the Futures and Options market which is formed by derivatives like futures and options.

In India, the only way to have a short position to continue for a few days, it can be done through derivatives market.

Each market participant must decide, what does he want to be – a trader or an investor.

We classify traders as

a) Day Trader – who before the end of the day will square off position the position taken earlier during the day
b) Swing Trader – who may hold on to the position for a few days, before closing it.

We classify Investors as

a) **Growth Investors** – These investors identify the companies which are expected to grow significantly because of the nature of their industry, management competence and macro- economic trends. They remain invested in such companies for several years and sometimes decades. Some such growth companies are Larsen & Toubro, MRF tyres, Infosys, ITC, Hindustan Unilever, etc.

   Some famous Growth investors are Warren Buffett, John Templeton,Benjamin Graham.

b) **Value Investors** – The investors in this case identify opportunity to buy long term growth shares, if they are available cheaper sometime due to temporary setback. The strategy may result into great returns.

SOLVED PROBLEMS

1) Define bull market.

Ans. if the stock market index is moving towards the positive side during a particular period, then it is known as bull market

2) Define bear market.

Ans. if the stock market index is moving towards the negative side during a particular period, then it is known as bear market

SELF-TEST

1) Explain what is meant by short and long positions.
2) What is meant by squaring off?

SHORT ANSWER QUESTIONS

1) What is OHLC?
2) What is F&O?

02-04: THE TRADING TERMINAL

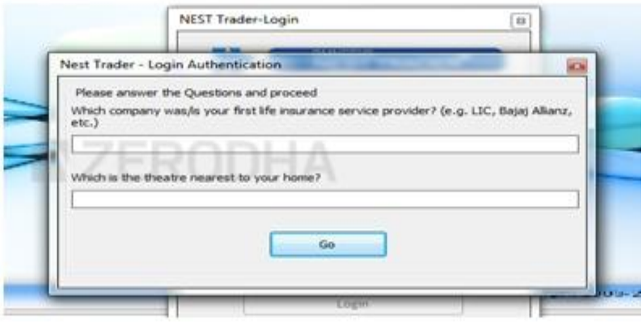
In the starting of this credit, we came across a term called Trading Terminal where trading takes place. Now is the time to understand this software in detail.

This software serves many purposes such as trading on shares, tracking the profit and loss history, managing funds, tracking market movements, viewing stock charts etc. To access this terminal, one needs to have a trading account with a licensed broker.

Using Trading Terminal:

1) The login process:

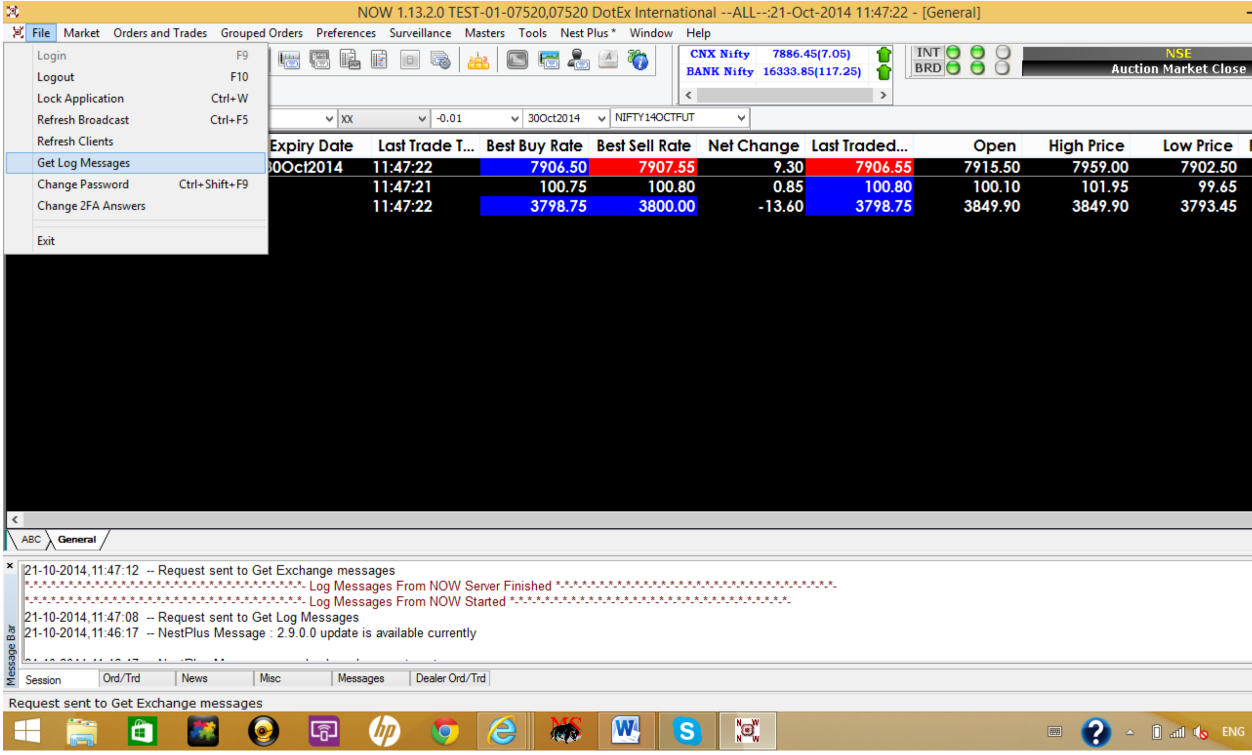
The trading terminal contains all the information which is private to an investor. Therefore a secured login process exists that involves entering password and doing further security checks.



2) After logging in, one needs to select the stocks that it wants to keep an eye on. There is a separate area for this purpose on the screen.

   One can keep a check on last traded price, OHLC, percentage change, trading volumes etc. for the selected stocks.

3) To buy/sell a stock on a trading terminal, one needs to enter details of the buy/sellin order form and specify the price and quantity that he is willing to buy /sell. One needs to confirm on the price request, i.e. whether to buy / sell at the specified price or the market price.



The terminal also has various other options such as order book and trade book. We can track the orders made from our login under the order book tab and see the trading history under trade book tab.Teerminals also provide charts.

Solved Problems

1) What is trading terminal?

Ans.A software for trading. It is offered by exchange / stock broker.

2) How can one access this software?

Ans. To access this terminal, one needs to have a trading account with a licensed broker. The broker has to be registered with an exchange to get his terminal facility.

Self-Test

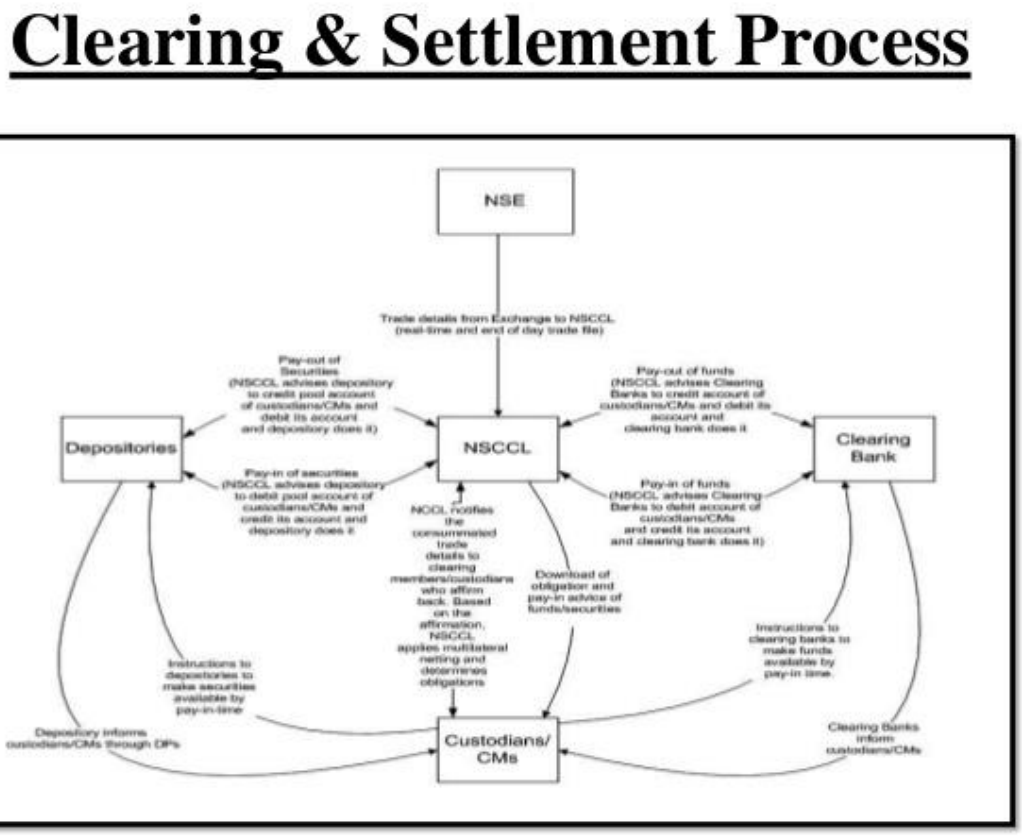
1) How is trading terminal useful?
2) Why is there a login process for this?

Short Answer Questions

1) How to buy a stock on trading terminal?
2) What are order book and trade book?

UNIT 01-03: INTRODUCTION TO STOCK MARKETS-03

03-01: CLEARING AND SETTLEMENT PROCESS



The clearing and settlement process of a trade is not really useful for normal investors as there are intermediaries who take care of this. However, there are certain aspects of this that need to be learnt and hence our study here will be restricted to that part only.

National Stock Exchange describes its Clearing Settlement Process as under:

"NSCCL carries out clearing and settlement functions as per the settlement cycles provided in the settlement schedule.

The clearing function of the clearing corporation is designed to work out

a) what members are due to deliver and

b) what members are due to receive on the settlement date.

Settlement is a two way process which involves transfer of funds and securities on the settlement date.

NSCCL has also devised mechanism to handle various exceptional situations like security shortages, bad delivery, company objections, auction settlement etc.

Clearing is the process of determination of obligations, after which the obligations are discharged by settlement.

NSCCL has two categories of clearing members: trading clearing members and custodians. Trading members can trade on a proprietary basis or trade for their clients. All proprietary trades become the member's obligation for settlement. Where trading members trade on behalf of their clients they could trade for normal clients or for clients who would be settling through their custodians. Trades which are for settlement by Custodians are indicated with a Custodian Participant (CP) code and the same is subject to confirmation by the respective Custodian. The custodian is required to confirm settlement of these trades on T + 1 day [T=trading day] by the cut-off time 1.00 p.m. Non-confirmation by custodian devolves the trade obligation on the member who had input the trade for the respective client.

A multilateral netting procedure is adopted to determine the net settlement obligations (delivery/receipt positions) of the clearing members. Accordingly, a clearing member would have either pay-in or pay-out obligations for funds and securities separately. In the case of securities in the Trade for Trade – Surveillance segment and auction trades, obligations are determined on a gross basis i.e. every trade results into a deliverable and receivable obligation of funds and securities. Members pay-in and pay-out obligations for funds and securities are determined by 2.30 p.m. on T + 1 day and are downloaded to them so that they can settle their obligations on the settlement day (T+2).

NSCCL carries out the clearing and settlement of trades executed on the exchange except Trade for trade - physical segment of capital market. Primary responsibility of settling these deals rests directly with the members and the Exchange only monitors the settlement. The parties are required to report settlement of these deals to the Exchange."

When an investor buys shares from one's trading account, an amount worth the shares along with other charges such as brokerage etc. is debited from one's account. However, the shares come in the DEMAT by the end of another 2 days.

On the other hand, when one sells some securities from his trading account, the shares get blocked instantly but the proceeds minus brokerage and other charges is credited into the account by the end of 2 days.

SOLVED PROBLEMS

1) What other charges are debited when you buy a security?

Ans. Brokerage, Transaction tax, etc.

2) What is a multilateral netting procedure?

Ans. A multilateral netting procedure is adopted to determine the net settlement obligations (delivery/receipt positions) of the clearing members. Accordingly, a clearing member would have either pay-in or pay-out obligations for net funds and net deliverable securities separately.

SELF-TEST

1) What happens when one buys stocks from his trading account?
2) What is clearing and settlement process?

SHORT ANSWER QUESTIONS

1) What happens when one sells some stocks via telephonic order to his broker and not from his What happens when one sells some stocks via telephonic order to his broker and not from his from his trading account?
2) National Stock Exchange adopts settlement on gross basis for certain segments. What is gross basis? What are the relevant segments?

03-02: FIVE CORPORATE ACTIONS AND THEIR IMPACT ON STOCK PRICES

There five important corporate actions that impact share prices. They are dividends, bonus shares, stock split, rights issue and buyback of shares.

Dividend

Dividends can be understood as a reward given by a company to its shareholders for investing their money. They are expressed as percentage of the face value of a share or as an absolute amount per share. For example, Larsen and Toubro Ltd. paid a dividend of Rs. 21 per share having a face value of Rs. 2. This amounts to 1050% divided.

Usually, Directors try to maintain (if cannot increase) the dividend year after year. Sometimes, a company may decide to not pay any dividends and rather use the funds for business growth. It is necessary for the Directors to explain such a proposal to the shareholders. Otherwise, shareholders may begin selling shares and the market price may fall significantly.

The decision to pay dividends is taken during the meeting of Board of Directors, but is required to approved by Shareholders. Shareholders can accept dividend proposed by the Directors or seek to reduce it, but cannot demand an increase.

If the dividend is paid during the financial year, it is known as interim dividend and if it is paid at the end of the year, it is known as final dividend. Some companies pay one or more interim dividends before paying final dividend.

The decision of declaring dividends or investing the fund somewhere else is very tricky and needs fundamental analysis so as to keep the shareholders happy and keep them continue to invest their money in the company.

Bonus Shares

A bonus issue of shares means some shares are given away free to the existing shareholders. Bonus share issue is in the proportion of holding of shares.

Issue of bonus shares is a result of capitalizing the reserve. When shares become ex-bonus, the share price gets adjusted so that total value of share after bonus become almost same as what it was before. Suppose Kartikeya is holding 1200 shares of a company having market price of Rs. 300 per share. If the company gives bonus shares in the ratio 1:2, then after issue of ½*1200 = 600 bonus shares his holding will increase to 1800 shares and price per share fall to (2*300 + 1*0)/300 =200 per share. As a result, the total value of shares will continue to be Rs. 360,000 [=1200*300=1800*200].

So, a question arises: If shareholders' wealth remains unchanged, what is the use of bonus share issue?

Usually, Directors of a company decide to issue bonus shares when they are confident of company's improved future outlook for the next few years. The shareholders used to conclude that future is brighter when bonus share issue is proposed. With this conclusion, the share price used to move upwards. Also, after price adjustments, some people think the share has become cheaper and the demand tends to increase.

Splitting of Shares

A stock split implies that the number of stocks in the holding increases but the value of the investment remains the same. If a share with face value of Rs. 10 is split into five shares of Rs. 2 each, the share price will fall to its one-fifth. However, with this the share will look very cheap and the demand shall increase significantly taking price upwards.

Right Shares

The existing shareholders have the first right to subscribe to the shares that a company may be wanting to issue for raising capital. If approved by shareholders, they are offered new shares in proportion of their holding. This type of issue is known as rights issue. An individual shareholder may subscribe for all or some of the rights or may decline the issue. This will obviously affect his holding ratio.

A share holder can also sell some of his rights in order to buy another so as to maintain his absolute holding.

Buyback of Shares

Buyback of shares refers to the company purchasing the shares from the investors at a price which is higher than the prevailing market price. There are restrictions on the upside by regulators.

Buyback of shares is a better alternative to dividend payout because of tax treatment.

As buying back of shares from the public is done at a price higher than market price, on announcement of shares buyback, market price goes up. Also, the share buyback does not attract tax liability for the company as whole, but dividend payment attracts dividend, distribution tax.

This method is gaining more popularity among the companies as it is beneficial to both the investors as well as the business.

SOLVED PROBLEMS

1) Why are dividends declared?

   Ans. That is the primary method of distributing profits earned by a company to its owners, viz. shareholders.

2) What is an alternative to dividends?

   Ans. Shares buyback is another method of rewarding shareholders. This method has become more popular today because of the tax treatment. Share buyback amounts to company purchasing its own shares from its shareholders.

SELF-TEST

1) Explain the advantages of share buyback.
2) Explain rights issue.

Short Answer Questions

1) What is stock split?
2) Is bonus issue really beneficial for shareholders? Justify.

03-03: KEY EVENTS AND THEIR IMPACT ON MARKETS

So far we have learnt how a company's internal working and it's decisions affect the share price.

However, there are certain events which are beyond the control of a business which have an impact on the share price and therefore on the market as a whole.

Some of such important events are:

Monetary policy changes, inflation, Index of Industrial Production, Purchasing Managers' Index, Budget declaration and corporate earnings announcement.

For a market participant, understanding events which affect market sentiments is very important. Various external factors and economic and non-economic events also have a key impact on the outlook and performance of stocks and markets in general.

Let us now look at some such factors/events.

Monetary Policy

Central bank of every country (Reserve Bank of India is India's central bank) uses monetary policy as a tool to control the money supply and the interest rates in order to control inflation or propagate industrial growth.

Lower interest rates and easy money supply permits increased borrowing, higher demand for products and higher production. This in turn will lead to growing economy. However, with more money in the hands of consumers, there is increased spending. Some sellers will tend to increase prices leading to inflation.

On the other hand, with high interest rates, corporate find it expensive to grow, consumers also find it expensive to borrow to buy and the economy slows down. Reduction in money supply will also show a similar effect.

Therefore, RBI has to strike a balance between growth and inflation while setting up their monetary policy.

The monetary policy hovers around the following key parameters:

Repo Rate –It is the rate at which RBI lends money to other banks. If repo rate is high that means the cost of borrowing is high for the bank and consequently for everyone else. This leads to a slow growth in the economy.

Reverse repo rate – When banks park their idle fund with RBI, RBI pays them interest at a rate (which is less than repo rate) which is known as reverse repo rate. An increase in reverse repo rate is not great for the economy as it tightens the supply of money.

Cash reserve ratio (CRR) – CRR represents mandatory percentage of the total bank deposits that a bank has to be keep in the current account with RBI. RBI may increase CRR to bring down the mony supply and contend the inflation. On the other hand, reduction in CRR will spur growth.

SLR, statutory liquidity ratio is the proportion of money that is required to be invested in certain specified securities predominantly central government and state government securities.

Currently, RBI meets every two months to review the monetary policy. The stock market keenly watches out for this event as it has direct impact on inflation, growth and more importantly the stance of the policymakers. Some stocks are very sensitive. They are across sectors such as – banks, automobile, housing finance, real estate, etc.

INFLATION

Inflation can be described as a measure of sustained increase in the general prices of goods and services. It is measured as an annual percentage change. Inflationary conditions erode the purchasing power of money. If your family spending was Rs. 50,000 pm a year ago and it is Rs. 55,000, if there is no change in family size and no change in life style, we may say that you are experiencing 10% inflation. Inflation is inevitable but a high inflation rate is not desirable as it could lead to economic uneasiness. A high level of inflation tends to send a bad signal to markets. Governments work towards cutting down the inflation to a manageable level. Inflation is generally measured using an index. If the index is going up by certain percentage points then it indicates rising inflation, likewise index falling indicates inflation cooling off.

There are two types of inflation indices – Wholesale Price Index (WPI) and Consumer Price Index (CPI).

Wholesale Price Index (WPI) – The WPI indicates the movement in prices of goods at the bulk level. It portraits the price increase or decrease when they are sold to stockists or resellers rather than the end users. Data collection for constructing WPI is relatively easier and hence it is a convenient tool to calculate inflation. However the inflation measured here is at an institutional level and does not necessarily describe the inflation experienced by the end users.

Consumer Price Index (CPI)– In contrast to WPI, CPI is based on the prices payable by the end users. For a consumer, CPI inflation is what really matters. Its construction takes into account consumption into various categories and sub categories across urban and rural areas. Each of these categories is represented by a group index and the CPI index is a composition of several internal indices.

The calculation of CPI is quite elaborated and detailed with data collected from several parts in the country. It is one of the most critical measures for studying the economy of the country. Ministry of Statistics and Programme Implementation (MOSPI) publishes the CPI numbers around the second week of every month. [http://www.mospi.nic.in]

CONSUMER PRICE INDEX NUMBERS(GENERAL) FOR AGRICULTURAL AND RURAL LABOURERS (BASE 1986-87=100)

Sr.No.	State	Agricultural Labourers Oct 2017	Agricultural Labourers Nov 2017	Rural Labourers Oct 2017	Rural Labourers Nov 2017
1	Andhra Pradesh	985	995	981	990
2	Assam	851	855	860	863
3	Bihar	734	741	738	745
4	Gujarat	908	906	907	906
5	Haryana	996	1000	991	995
6	Himachal Pradesh	742	744	783	789
7	Jammu & Kashmir	839	853	839	854
8	Karnataka	1072	1076	1058	1062
9	Kerala	979	987	987	994
10	Madhya Pradesh	802	805	826	829
11	Maharashtra	980	975	973	967
12	Manipur	898	863	862	867
13	Meghalaya	882	886	883	887
14	Orissa	774	778	776	780
15	Punjab	968	975	969	976
16	Rajasthan	956	955	945	943
17	Tamil Nadu	1027	1032	1017	1022
18	Tripura	754	756	765	767
19	Uttar Pradesh	798	798	803	803
20	West Bengal	832	838	845	849
	ALL INDIA	901	905	907	910

Index of Industrial Production (IIP)

The Index of Industrial Production (IIP) is a short term indicator of how the industrial sector in the country is performing. Ministry of Statistics and Programme implementation (MOSPI) releases data every month on IIP along with inflation data. This index uses year 2004-05 as base year.

It uses data submitted by about 15 different industries. Obviously, increasing IIP indicates a positive outlook for the economy and markets. A lower IIP number puts pressure on the RBI to lower the interest rates.

Purchasing Managers Index (PMI)

Purchasing Managers Index (PMI) is an index that measures the performance of manufacturing and service sectors of a country.

A survey is conducted every month where the respondents – usually the purchasing managers indicate their change in business perception with respect to the previous month. Independent surveys are conducted for the service sector and the manufacturing sector. The data from the survey are pooled together to form a single index. Typical areas covered in the survey include new orders, output, business expectations, employment and other related factors..

The PMI number usually moves around 50. A reading above 50 indicates growth and below 50 indicates a decline in the economy.

Budget

The Finance Minister on behalf of the ministry makes a presentation of Union budget for the country anually. During the budget, major policy announcements and economic reforms are announced. Tax policies, planned expenditure, welfare schemes and reliefs from tax are also announced in the budget. They all have a direct impact on various industries across the markets. Therefore the budget has significant importance in the economy.

Corporate Earnings Announcement

From market perspective, it is very important event. The stock market reacts to it. All companies listed on stock exchange are required to declare their earning numbers quarterly and hence this earning announcement cycle occurs four times in a year. The quarterly performance in comparison with past performance provides a guidance for the future. During an earnings announcement the companies provide unaudited statement of income and balance sheet. Also, the companies give their assessment of performance in the upcoming quarters called guidance.

When a company declares its earnings, the market participants match the earnings with their own expectation of how much the company should have earned. We shall call this as market expectation. Often, this market expectation is based on market analysts (thanks to media). The stock price will move up if the company's earnings are better than the market expectation. The stock price will react negatively if the actual numbers are poorer than the market expectations.

Traders sometimes get benefited from: "Buy on rumors and sell on news"strategy.

In many cases, guidance is paid more attention to rather than the past performance as the share price is based on future and not past.

Solved Problems

1) Define inflation.

Ans. Inflation can be described as a measure of sustained increase in the general prices of goods and services. It is measured as an annual percentage change.

2) List 2 methods of measuring inflation.

Ans. Wholesale Price Index and Consumer Price Index.

Self-Test

1) Explain what is IIP.
2) What is the role of PMI?

Short Answer Questions

1) Define the implications of a budget on the market.
2) Define the implications of corporate earnings announcements on the market.

03-04: Getting Started

The most important concept that we understood through this journey so far in this book was that the share price of a company depends upon the estimates of future profit and not past performance.

Warren Buffet says: *"If past history was all that is needed to play the game of money, the richest people would be librarians."*

Having understood the mechanism, I'm sure you would be excited enough to apply these learnings in reality and head towards stock market!

The first decision to be made is the role that you intend to play – a trader or an investor. Whether the time horizon is long term or short term?

Based on this, you have to judge the trend for your time horizon.

The trader has to ascertain whether to buy first and then sell or to sell first and then buy. A trader would be more helped by technical analysis and a little by fundamental analysis.

An investor has to decide a good stock to invest for the time horizon under consideration in terms what will get the best returns. An investor will be much helped by fundamental analysis in selection of good stocks. The best time to buy may be based on technical analysis.

The important part is to have a correct thinking and reasoning.

Mr. Warren Buffett has made the point that you don't have to be a genius to be a good investor, but there is a lot of hard work and due diligence involved. There are some basic investing rules that you need to learn, and if you follow those rules, you'll be successful.

Some tips from him are:

"Only buy something that you'd be perfectly happy to hold if the market shut down for 10 years."

Our favorite holding period is forever."

"It's far better to buy a wonderful company at a fair price, than a fair company at a wonderful price."

"Risk comes from not knowing what you are doing. So buy stocks of those companies whose business you understand."

"You do things when the opportunities come along. I've had periods in my life when I've had a bundle of ideas come along, and I've had long dry spells. If I get an idea next week, I'll do something. If not, I won't do a damn thing.

"Opportunities come infrequently. When it rains gold, put out the bucket, not the thimble."

Finally, top two rules for investors from Mr. Buffet:

"Rule No. 1: Never lose money.

Rule No. 2: Never forget rule No.1"

Solved Problems

1) Share price of a company depends upon:

Ans. Its expected future profit.

2) What is a bullish view?

Ans.A bullish view expects stock prices to improve over the time horizon under consideration.

Self-Test

1) What are the top two rules that Mr. Buffet suggest to the investors?
2) Why do people have different views on the same stock?

Short Answer Questions

1) What are the factors on which market builds expectations?
2) What type of analysis is required for developing proper reasoning on the markets?

CREDIT 02

Unit 02-01 Fundamental Analysis-01

01-01 Introduction

To evaluate fair value (or intrinsic value) of a security, we need to understand the related business. To judge fair price of share of a company (or for that matter, even that of a bond issued by the company) it is necessary to understand its business, its management, their policies and future prospects in conjunction with related economic, financial and other qualitative and quantitative factors. An analysis that does this is called fundamental analysis. The ultimate objective of fundamental analysis is to produce a quantitative value that an investor can compare with a security's current market price. This leads to ther guidance as to whether irt is a good price to buy or sell!

01-02 Mindset of a Market Player

We shall consider three types of market layers: Speculator, Trader and an Investor.

The author of books Security Analysis and The Intelligent Investor: Benjamin Graham says: "investment is most successful when it is most businesslike. An investment operation is one which, upon thorough analysis, promises safety of principal and a satisfactory return. Operations not meeting these requirements are speculative"- *(Benjamin Graham, Security Analysis,1951).*

If we go by Mr. Garham's perception, an investor is the one who invests his fund based on sound detailed analysis whereas Speculator is the one acts on hope and blind faith!

A speculator is the one who is willing to take high risk in business in the hope to get high reward. Speculators constantly look for potential risky opportunities in the market and the business world with a possibility of high rewards.

An investor gainfully engages his capital based on sound logic, typically for a long term.

A trader on the other hand, is a very short term investor, who tries to plan his strategy and may take calculated risk to make profits with a little or no investment in a very short period of time.

An investor should understand what are good companies to invest their money for a long term. We have several examples of companies which have consistently produced good growth. There are also companies which have moved downwards. Some winners are:-

Larsen and Toubro

Reliance Industries Limited

ITC Limited

Some losers are

Reliance Power

The above pictures show that it is very important to understand what are growth companies. Identifying them requires a detailed study and analysis.

Where do we get the data for such a study?

- Company's Financial statements: Profit and Loss Account, Balance Sheet, Cashflow Statement
- Company's Management Profile
- Company's Business details: products, services, future projects

- Risk factors for the company's business
- Various financial parameters/indicators for comparison with other companies in the same industry

Where do we find these data?

The sources for items under 1,2, 3 may be available from Company's Annual Report and Directors' reports.

For Item 4, one has to do some research. Some websites may provide information in this regard. Please do not follow blogs and Bulletin Board comments of different individuals.

Item 5 needs some quantitative analysis.

In this section, now we shall study some basic accounting terms and concept.

We shall then go to understanding of different reports.

Next, we shall try and understand the contents of the three financial statements.

We shall then learn different tools and their uses.

01-03 DIRECTORS' REPORT

The main items that a directors report must contain are:-

Certain details about company's activities over the year, likely events in the coming year and opinions about them. It contains a brief summary of financial decisions that have been made during the year including

- Proposed dividend
- Amount of shareholders' retained profit

- Charitable donations made
- Details of any of company's own shares that have been purchased over the year
- Subsidiary companies
- Changes in composition of directors
- Details of persons who were directors during the year, their shareholding and their other interests in the company

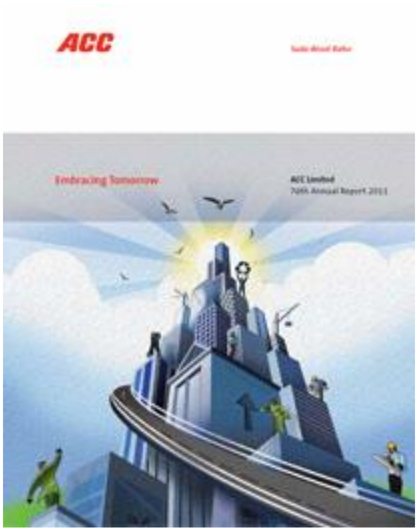
The published statements of a company requires Directors' report and not Chairman's report.

Some sample Director's reports can be reached using following links:-

1. **http://economictimes.indiatimes.com/ultratech-cement-ltd/directorsreport/companyid-3027.cms**
2. **http://economictimes.indiatimes.com/itc-ltd/directorsreport/companyid-13554.cms**
3. **http://economictimes.indiatimes.com/axis-bank-ltd/directorsreport/companyid-9175.cms**

It is interesting to note that the responsibility of preparing a company's financial statements is that of the Board of Directors.

01-04 ANNUAL REPORTS:



A typical annual report may include the following:

- Director's biographical details
- Highlights of financial statements (key ratios)
- Analysis of turnover and profits
- Chairman's statements for members
- Map showing company's worldwide offices
- Review about operations and main business segments
- Disclosure of corporate governance
- Director's report
- Statement of Accounting policies which were used

In Annual Report, chairman's report is not mandatory.

Some specimen annual reports can be reached using following links:

1. **http://www.itcportal.com/about-itc/shareholder-value/annual-reports/itc-annual-report-2016/pdf/ITC-Report-and-Accounts-2016.pdf**
2. **www.riil.in/pdf/Annual_Report_2015_16.pdf**

3. **https://www.infosys.com/investors/reports-filings/annual-report/annual/Documents/infosys-AR-16.pdf**

SOLVED PROBLEMS

1) Which of the following is required as part of a listed company's accounting statements: -

a) Directors' Report
b) CEO's Report
c) Chairman's Report
d) Actuary's Report

Answer :a) Directors' Report

2) Directors' Report does not require

a) A tribute to all employees who died during the year
b) Details of persons who were directors during the year
c) A summary of financial results
d) A mention of Proposed dividend

Answer : a) A tribute to all employees who died during the year

SELF-TEST

1) Who bears the responsibility for the preparation of a company's financial statements?

a) The shareholders.
b) The finance director.
c) The board of directors.
d) The external auditor.

2) The directors' report must include

a) holding of each employee of the company at the end of the year and changes during the year
b) list of all holders of shares having at least 1% equity shares.
c) list of all customers whose purchases exceeded 1% of company's annual turnover
d) none of the above.

SHORT ANSWER QUESTIONS

1) In the directors' report, a list of financial decisions made during the year must appear. In this list detailed description of the following should be included:-

b) What the company has done to fight global warming
c) What the company has done as a part of Swatchh Bharat Abhiyaan
d) What the company has done for its Corporate Social Responsibility
e) none of the above

2) Study the three sample Directors' reports for which the links are given above. Mention some items which may appear as disclosures in the report.

SOLVED PROBLEMS 02-04

1) Which of the following reports is not compulsory in Annual report of a company?

a) Directors' report

a) Chairman's report
b) Auditor's report
c) Actuary's report for valuation of liabilities such as employee benefits

Answer: b) Chairman's report

2) An Indian Company has its operations spread over 37 countries. The most appropriate approach for the company is to prepare

a) separate financial statements for all countries
b) one single set of statements for company as a whole
c) separate statements for all 37 countries and then aggregate them to prepare overall statements
d) all a), b) , c) are appropriate

Answer: b)one single set of statements for company as a whole

SELF-TEST

1)) In which report included in an annual report would you be able to find the company's policy in respect of pay to directors?

a) Auditors' report
b) Directors' remuneration report
c) Directors' report
d) Chairman's report

2) An annual report contains a great many statements and reports. Which one of the following statements/reports is not covered either by statute or by accounting standards?

e) Directors' report
f) Auditor's report
g) Quarterly summaries
h) Cash flow statement

SHORT ANSWER QUESTIONS

1) "Directors' Report must include certain required items. If in the annual report of a company, Chairman's report appears, that includes all the required items of a directors' report in addition to what he additionally wants to convey, then a separate Directors' report is not necessary." Give your comments.

2)Chairman's report is same as Directors' report where the Directors' report is signed by the Chairman." discuss.

01-05: AUDITOR'S REPORT

Auditing of the account is necessary to ensure that the accounts written serve their basic purpose, i.e. it gives an honest view of the transactions and events.

The management may appoint an auditor for this purpose. Such an auditor is called internal auditor.

Statutorily, if necessary, an external auditor is required to be appointed. External auditors are appointed in Annual General Meeting to hold office from that day till the day of the next Annual General Meeting. The shareholders appoint auditor and fix their fee.

Accounts are prepared by the management of the company and they are supervised and checked by auditors. True and fair view is the overriding principle in the financial statements.

An auditor is a qualified Chartered Accountant who examines the accounting records maintained by the client organization and issues certificate mentioning whether the accounting records are maintained satisfactorily as per the law of the land. The auditors must comment on whether, in their opinion, the statement of financial position and statement of profit or loss have been prepared in accordance with the Companies Acts and relevant accounting standards, and whether, in their opinion, the accounts give a true and fair view.

The primary objective of an external auditor's report is to add credibility to the financial statements.

Contents of Auditor's Report:

1) The auditor's report must contain a little specifying the person or persons to whom the report is addressed.
2) An introductory paragraph mentioning the financial statement audited
3) Specific sections with suitable headings dealing with

    (i) Responsibility of Director and auditor
    (ii) The basis of auditor's opinion
    (iii) The auditor's opinion on the financial statement audited

4) The manuscript of the report on the letter head with signature (physical one), membership number, date, stamp

Auditor gives one of the following types of reports.

1) A clean chit: "In our opinion and to the best of our information and according to the explanations given to us, and based on the consideration of the reports of other auditors, on the financial statements/consolidated financial statements of the subsidiaries and associates noted below, the aforesaid consolidated financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the consolidated state of affairs of the Group as at 31st March, XXXX and its consolidated profit and its consolidated cash flows for the year ended on that date."
2) There is a mention of emphasis of certain matter. Here the auditor says there is some significant uncertainty disclosed in the account. The auditor says that the financial statements give true and fair view with the problems mentioned by the management in some concerned matter. The emphasis is to draw attention of the readers of this report on the matter being emphasized.
3) A qualified opinion: It says that the auditor is not supplied all the information/reports as required. An auditor gives a qualified opinion when the auditor is not supplied with documents and evidences that support some statement made in director's report. It indicates that the auditor disagrees with the manner in which some matter is treated. It may say that financial statement gives true and fair view except for ……..

4) <u>Disclaimer of opinion:</u> When auditor finds extreme uncertainties about financial statement he may find it impossible to express an opinion then the auditor will issue a disclaimer saying that he is unable to form an opinion.
5) <u>Adverse opinion:</u> The auditor issues an adverse opinion in extreme cases of the opinion saying that the statement does not give the true and fair view.

Each one of 3), 4) and 5) are not good for the client organization, degree of goodness worsening from one to the next. Investment in such companies must be avoided.

In case of 2) do a thorough study before investing.

A sample auditor's report is given below:

Independent Auditor's Report

To the Members of Infosys Limited

Report on the Standalone Financial Statements

We have audited the accompanying standalone financial statements of Infosys Limited ('the Company'), which comprise the balance sheet as at 31 March 2016, the statement of profit and loss and the cash flow statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Standalone Financial Statements

The Company's Board of Directors is responsible for the matters stated in Section 134(5) of the Companies Act, 2013 ("the Act") with respect to the preparation and presentation of these standalone financial statements that give a true and fair view of the financial position, financial performance and cash flows of the Company in accordance with the accounting principles generally accepted in India, including the Accounting Standards specified under Section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding the assets of the Company and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these standalone financial statements based on our audit.

We have taken into account the provisions of the Act, the accounting and auditing standards and matters which are required to be included in the audit report under the provisions of the Act and the Rules made there under.

We conducted our audit in accordance with the Standards on Auditing specified under Section 143(10) of the Act. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal financial control relevant to the Company's preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Company's Directors, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion on the standalone financial statements.

Opinion

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid standalone financial statements give the information required by the Act in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the state of affairs of the Company as at 31 March 2016 and its profit and its cash flows for the year ended on that date.

Report on Other Legal and Regulatory Requirements

1. As required by the Companies (Auditor's Report) Order, 2016 ("the Order")

issued by the Central Government of India in terms of sub-section (11) of section 143 of the Act, we give in the Annexure A, a statement on the matters specified in the paragraph 3 and 4 of the order.

2. As required by Section 143 (3) of the Act, we report that:

(a) we have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.

(b) in our opinion proper books of account as required by law have been kept by the Company so far as it appears from our examination of those books;

(c) the balance sheet, the statement of profit and loss and the cash flow statement dealt with by this Report are in agreement with the books of account;

(d) in our opinion, the aforesaid standalone financial statements comply with the Accounting Standards specified under Section 133 of the Act, read with Rule 7 of the Companies (Accounts) Rules, 2014;

(e) on the basis of the written representations received from the directors as on 31 March 2016 taken on record by the Board of Directors, none of the directors is disqualified as on 31 March 2016 from being appointed as a director in terms of Section 164 (2) of the Act;

(f) with respect to the adequacy of the internal financial controls over financial reporting of the Company and the operating effectiveness of such controls, refer to our separate report in "Annexure B"; and

(g) with respect to the other matters to be included in the Auditor's Report in accordance with Rule 11 of the Companies (Audit and Auditors) Rules, 2014, in our opinion and to the best of our information and according to the explanations given to us:

i. the Company has disclosed the impact of pending litigations on its financial position in its financial statements – Refer Note 2.20 to the financial statements;

ii. the Company has made provision, as required under the applicable law or accounting standards, for material foreseeable losses, if any, on long-term contracts including derivative contracts – Refer Note 2.7 to the financial statements;

iii. There has been no delay in transferring amounts, required to be

transferred, to the Investor Education and Protection Fund by the Company. *for* **B S R & Co. LLP** Chartered Accountants Firm's registration number: 101248W/W-100022 **SupreetSachdev** Partner Membership number: 205385 Bangalore 15 April 2016

Note: For the sake of brevity, the annextures are not included here. The full report can be read from the following link: **https://www.infosys.com/investors/reports-filings/quarterly-results/2015-2016/q4/Documents/standalone/SA-FY16-Annual-AuditorsReport.pdf**

As an investor, you must very carefully read the auditor's report. If the auditor's report is not giving a clean chit, it is very important. In such a case, try to find more details as to why auditor has not given a good report. Ideally, avoid investing in such a company.

SOLVED PROBLEMS

1) Directors' Report does not require

a) A tribute to all employees who died during the year
b) Details of persons who were directors during the year
c) A summary of financial results
d) A mention of Proposed dividend

Answer : a) A tribute to all employees who died during the year

2)Which of the following appropriately describes the qualified opinion?

a) The auditor is not supplied all the information/reports

b) The auditor feels that the financial statements do not give the true and fair view.

c) The auditor finds extreme uncertainties about financial statement he may find it impossible to express an opinion Department of Trade and Industry.

d) The auditor says that in his view, the management is qualified by giving a perfect report.

Answer: a)The auditor is not supplied all the information/reports

SELF-TEST

1) Who bears the responsibility for the preparation of a company's financial statements?

a) The shareholders.
b) The finance director.
c) The board of directors.
d) The external auditor.

2) The directors' report must include

a) holding of each employee of the company at the end of the year and changes during the year
b) list of all holders of shares having at least 1% equity shares.
c) list of all customers whose purchases exceeded 1% of company's annual turnover
d) none of the above.

3) Which of the following statements most accurately describes the role of the external audit of a limited company?

a) To review the company's accounting systems and related internal controls.
b) To assist the directors to prepare the company's annual financial statements.
c) To express an opinion on the truth and fairness of the company's annual financial statements.
d) To prevent and detect fraud within the company.

4) The auditor believes that the financial statement do not give a true and fair view and the effect is so material that a disclosure is required to the extent that financial statement may be misleading or incomplete in nature, the auditor should issue –

a) a disclaimer of opinion
b) a qualified opinion
c) an adverse opinion

an unqualified opinion, but includes a reference to this matter in the audit report

SHORT ANSWER QUESTIONS

1)Study the three sample Directors' reports for which the links are given above. Mention some items which may appear as disclosures in the report.

2) A company s external auditor has warned that the next audit report might be qualified unless the financial statements are amended prior to publication. Explain the significance of a qualified audit report.

3) Much of the recent discussion of the role of the firm deals with a range of stakeholder interests, rather than the previous emphasis on the shareholder only. Identify two stakeholders other than the shareholders and briefly explain why their interests might conflict with those of the shareholders.

UNIT 02-02: FUNDAMENTAL ANALYSIS-02

02-01 BASIC ACCOUNTING ITEMS

There are four types of accounting items:

- Assets [what you own]
- Liabilities [what you owe]
- Item of Income [what you earn]
- Item of Expenditure [what you spend]

While assets and liabilities appear in the Statement of Financial position (i.e. balance sheet), incomes and expenditures appear in the Statement of Income.

Details of these items shall be seen in the next few subsections.

SOLVED PROBLEMS

1) Identify from the following list, items which can be regarded as items of income or expenditure:-

Salary to employees, Sales in cash, Sales on credit (with 90 days' credit), Rent received, Interest paid, Advertisements through social media

Solution:

Income: Sales in cash, Sales on credit, Rent received,

Expenditure: Salary to employees, Interest paid, Advertisements through social media.

2) Identify from the following list, items which can be regarded as items of assets or liabilities:-

Factory, Cash in Bank, Debentures (issued 5 years ago and due for redemption after 3 years), Debtors, Receivables, Raw material (purchased 10 days ago, yet to be consumed in production), Equity Shares issued by company, Dividend (declared but not paid).

Solution:

Assets: Factory, Cash in Bank, Debtors, Receivables, Raw material

Liabilities: Debentures, Equity Shares, Dividend

02-02: ASSETS

What a company owns is an **asset** of the company. It is an economic resource. International Accounting Standards Board defines asset as *"An asset is a resource controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise."*

Assets can be classified as

1) Long Term Assets called Fixed Assets or Non-Current Assets
2) Short Term Assets known as Current Assets e.g. Bank Balance, Debentures, Stock

What type of asset do you find below?

From another perspective assets may be

a) Tangible i.e. the physical asset eg Land
b) Intangible i.e. non-physical asset eg Goodwill, Brand. Usually intangible assets are long-term assets.

Tangible Assets

Intangible Assets

SOLVED PROBLEMS

25) Which of the following best describes current assets?

a) all of the assets owned as at the balance sheet date

b) physical assets that can be seen and touched

c) non-physical assets

d) cash and items that will be converted into cash in the normal course ofBusiness

Answer :d) cash and items that will be converted into cash in thenormal course ofBusiness

26) Classify the following assets as Non-current or Current, Tangible or Intangible**:**

Factory, Delivery Van, Machinery, Pre paid insurance premium, Stock, Brand value, Bank balance, Receivables, Rent paid in advance.

Solution:

Tangible Non-current Assets: Factory, Delivery Van, Machinery.

Intangible Non-current Assets: Brand Value

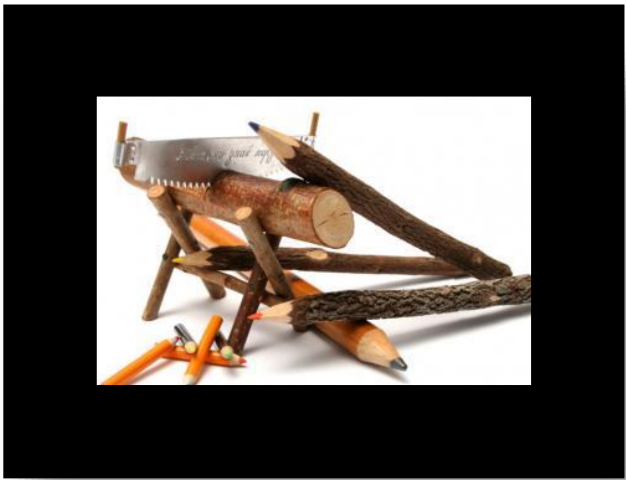
(Tangible) Current Assets: Prepaid insurance premium, Stock, Bank balance, Receivables, Rent paid in advance, Divide

02-03: LIABILITY

A liability is what one owes. For a company, one may regard this as the future sacrifices of economic benefits that the company is obliged to make to other entities as a result of past transactions or other past events.

A liability can be defined by the following characteristics:

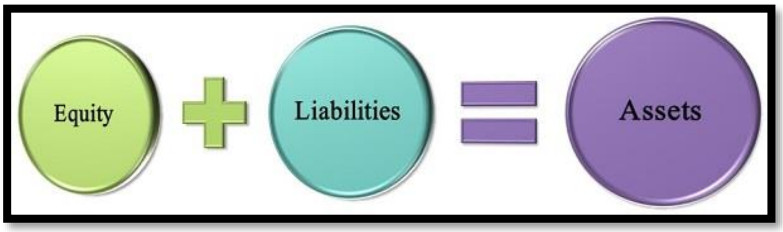
- Any type of borrowing from others that is repayable in future;
- A duty or responsibility to others that needs settlement by future transfer or use of assets, provision of services, or other transaction yielding an economic benefit, at a specified or determinable future date, on occurrence of a specified event, or on demand;
- A duty or responsibility that obligates the entity to another, leaving it little or no discretion to avoid settlement; and,
- Obligations arising from a transaction or an event that has already occurred.

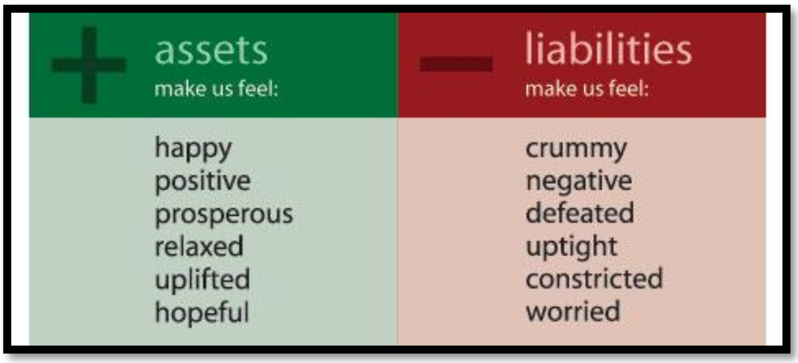


Debt

The liabilities can be split into following categories:-

1) Capital e.g. Share Capital, Reserve and Surplus
2) Other Long Term Liabilities, e.g Bank Loan, Long Term Loan, Bond, Debentures, Loan Capital
3) Current Liabilities e.g. Overdraft, Payables, Advances Received, Accrued expenses payable, Accrued interests payable





Solved Problems

1)Classify the following liabilities as Capital or other long term liabilities and current liabilities:

Equity Capital, Bank Loan, Reserves and Surplus, Bank Overdraft, Dividend provision, Tax provisions, Trade Creditors, Wages due but unpaid.

Solution:

Capital: Equity capital, Reserves and Surplus

Other long-term liabilities: Bank loan.

Current liabilities: Bank overdraft, Dividend provision, tax provisions, trade creditors, Wages due but unpaid.

2) Problem 03-10 What is a current liability?

a) a liability that usually falls due within one year from the date of balance
b) a liability that can be generally offset by current assets
c) a liability, e.g. of repaying a 7-years loan, but now due to be paid in next 6 months
d) all of the above

Solution: d)all of the above

02-04: INCOME AND EXPENDITURE

Income: Income is what one earns. It is used for consumption or savings in a given time period. In simple terms Income is the sum of all types of earnings in a given time period that includes wages, salaries, profits, interest payments, rents, and other forms of earnings received.

The International Accounting Standards Board (IASB) defines Income as: "Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants."

Expenditure: Payment of Cash or cash-equivalent for receiving goods or services is expenditure.

For an organization, payment for raw material purchase, payment of wages and salaries are expenditures. A loan given to its employee is not expenditure. Why?

SOLVED PROBLEMS

1) Identify the most appropriate classification for Value of Material Purchased and consumed in production process but not yet paid for:

a) Asset
b) Liability
c) Income
d) Expenditure
e) Liability and Expenditure

Answer: e)Liability and Expenditure

2) Identify what is insurance premium just paid in advance for 12 months:

a) Asset

b) Liability
c) Income
d) Expenditure
e) Asset and Expenditure

b) **Answer:** e)Asset [As the time goes by it will get converted to expenditure]

SELF-TEST

1) ABC Ltd. paid a rent of Rs. 48 lakhs for its factory on 1st January, 2017 for a period of one year in advance. For its financial year ended 31st March, 2017 how much of it would be income, expenditure, asset, liability ?

a) Expenditure of Rs. 48 lakhs
b) Expenditure of Rs. 12 lakhs and Asset of Rs. 36 lakhs
c) Expenditure of Rs. 12 lakhs and Liability of Rs. 36 lakhs
d) none of the above

2) ABC Ltd. invested a sum of Rs. 44 million in Commercial paper issued by a co-operative bank on 1st January, 2017 with maturity period of one year and maturity value of Rs. 50 million. For its financial year ended 31st March, 2017 how much of it would be income, expenditure, asset, liability?

Assume notional interest due in 3 months to be Rs. 1.5 million to be received only at the end of the year.

a) Income of Rs. 6 millions and Asset of Rs. 50 millions
b) Income of Rs. 1.5 millions and Asset of Rs. 45.5 millions
c) Income: Nil and Asset of Rs. 44 millions
d) none of the above

3)What are non-current assets?

A) tangible assets with an expected life of more than one year

B) tangible assets which are not held for sale in the normal course of business

C) assets which are not held for sale in the normal course of business

D) machines, factories and other immobile assets which are not intended for resale

4) The following items may appear in a company's balance sheet under the heading "intangible assets":

I. development expenditure

II. goodwill

III. investments

a) I and II only are correct
b) II and III only are correct
c) I only is correct
d) III only is correct

5) Which of the following is NOT a current liability?

a) trade receivables
b) trade payables
c) bank overdraft
d) tax payable (within next three months)

6) Which of the following is not a non-current liability?

a) Share Capital
b) Loan capital procured in 2010, now due for payment in next nine months
c) Share Premium reserve
d) Bank Loan

7) How do you classify Sales return as?

a) Asset
b) Liability
c) Income
d) Expenditure
e) None of the above

8) If AAP Ltd. buys material with value Rs. 1 million in cash, its immediate impact will be on

a) total asset
b) total liability
c) Income
d) Expenditure
e) None of the above

SHORT ANSWER QUESTIONS

1) What are the four types of accounting items? Which statement do they appear in?

2)Explain the difference between (with an example each) (i) earned income and received income, (ii) incurred expenditure and accrued expenditure.

3) Classify the following assets as Non-current or Current, Tangible or Intangible:

Land for Factory, Car for Chairman, Computers, Printers, Equipments Pre-paid rent, Stock, Brand value, Cash, Advance given to employees to be recovered by deducting installments from next 10 months' salary

4) Give some salient features of current assets and non-current assets

5) Classify the following liabilities as Capital or other long term liabilities and current liabilities:

Equity Capital, Revaluation Reserve, Bank Overdraft, Rent provision, Tax provisions, Accounts Payables, 10% Debentures 2022 Series (issued in 2014), Advance received from customers

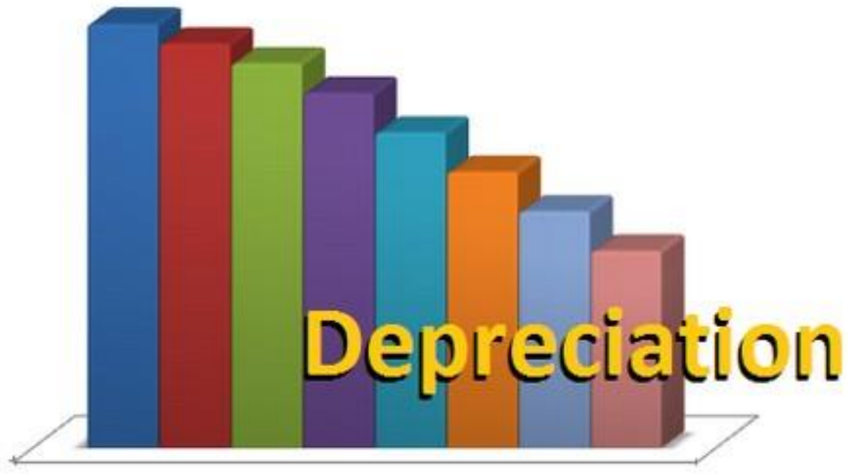
6)Explain different types of liabilities with examples.

7)Classify the following items as asset, liability, income and expenditure. In case of asset and liability give further sub classification also.

Revenue, Material Purchased, Material consumed, Creditors, Debtors, Equity Capital, Reserves, Cash, Bank Overdraft, Term Loan, 7 year- Bond Series issued 2 years ago, Salaries paid, Advance Rent paid, Tax provision.

8) Explain what is income and what is expenditure with examples.

02-05 DEPRECIATION



Is depreciation an accounting method? Is depreciation an observable fact that assets go down in their value due to wear and tear? Is depreciation a result of obsolescence?

You shall get answers to such questions in this Unit.

PURPOSE OF DEPRECIATION

Virtually all non-current assets have finite useful economic lives. This makes it necessary to make depreciation adjustments for its value. Land is an exception to this treatment. More often than not, land appreciates rather than depreciate due to limited supply of land. Therefore, land is usually revalued rather than depreciated over time.

The statement of profit or loss needs to show the cost of using non-current assets – not the value of non-current assets purchased during the year. There are two reasons for this:

1. Usually. all non-current assets have a life spread over a few years. Therefore the amount spent on buying it, should spread as a notional cost over those years and not just one year. If a company buys an asset and continues to own at the end of the year, the company has not lost the whole amount spent as its useful life is still balance. The real loss experienced by the company is the difference between the value of the asset at the start of the year and the value of the asset at the end of the year.

2. The actual amount spent (for purchase, maintenance, etc.) on non-current assets can vary considerably from year to year. In fact, there will be a large outflow in the year of purchase of a non-current asset.If this entire amount is debited as expenditure in that year, the profit for the year shall become significantly lower. It will therefore not give us a true and fair view of the underlying long-term profitability.

For these reasons, instead of showing expenditure on non-current assets in a year, companies are guided to debit the amount by which their assets have depreciated over the year. Thus, Depreciation measures the amount of the asset value that has been used up/consumed during the year.

DEFINITION OF DEPRECIATION

Depreciation is the measure of the wearing out, consumption or other reduction in the useful economic life of a non-current asset, whether arising from:

- *the passage of time, or*
- *obsolescence through technological or market changes*.

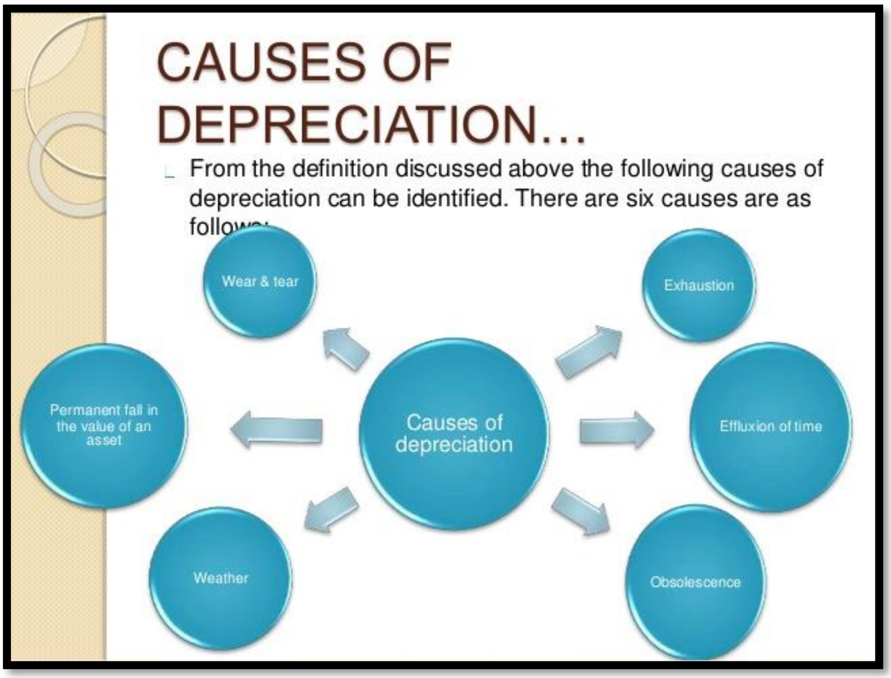
It implies that the depreciation adjustments are not attempts to reflect the value of non-current assets in the statement of financial position. Rather, the purpose is to charge the purchase price of non-current assets and other capital expenses on them in the statement of profit or loss in a systematic way. *Depreciation is, therefore, an application of the matching concept referred to earlier in 01-03.*

Providing Depreciation is an accounting method of allocating the cost of a tangible asset over its useful life.

The definition of depreciation explains that the nature of the non-current assets influences the way an asset's life deteriorates.

- Financial assets have a fixed lifespan. Eg. A lease on some property is for a fixed length of time.
- Physical assets are likely to wear out through use and are likely to deteriorate more rapidly when they are used more heavily.
- Some assets, such as computers, are more likely to be overtaken by new technology long before the end of their physical lives.

Ideally, these differences should be reflected by having different bases for depreciation which reflect the nature of the assets. In practice, the cost of calculating depreciation in this way would involve such detailed record keeping of usage and output that the charge is usually based on the passage of time.



SOLVED PROBLEMS

1)Which of the following best describes depreciation?

a) An annual accounting adjustment that has no real purpose.

b) A process of correcting the balance sheet to make valuations more relevant.

c) A process of reflecting market values for depreciating assets.

d) A process of writing the cost of an asset off over its useful life

Answer: d) A process of writing the cost of an asset off over its useful life

2)Select the most appropriate statement in relation to financial statements –

a) The cashflow statement is not intended to supplement the income statement and statement of financial position.
b) Depreciation adjustments are required because virtually all non - current assets have infinite useful economic lives.
c) Prudence should only be applied in situations where there is uncertainty.
d) The statement of change in debt summarizes the change in the capital and reserves attributable to debt holders of the company over the accounting period.

Answer: c) Prudence should only be applied in situations where there is uncertainty.

STRAIGHT LINE METHOD OF DEPRECIATION

Suppose a new asset is purchased for Rs.10,000. Management might estimate that it will have a useful life of five years (or that normal wear and tear will bring it to the end of its useful economic life in five years' time), at which time it will be sold for scrap for, say, Rs.1,000. This raises the question of the most appropriate way to spread that Rs. 9,000 loss of value over the next five statements of profit or loss.

A simple most likely common sense answer could be to spread it equally over these 5 years.

This simplest method is called the straight line method.

This method charges equal amounts as depreciation for all years irrespective of the age.

The depreciation by straight line method

$$= \frac{\textbf{Cost - Estimated residual value}}{\textbf{Estimated useful life}}$$

Thus for the asset under discussion, the depreciation charge would be

$$\frac{10{,}000 - 1{,}000}{5}$$

= 1,800 per annum.

Amortization of Cost of Intangible Asset

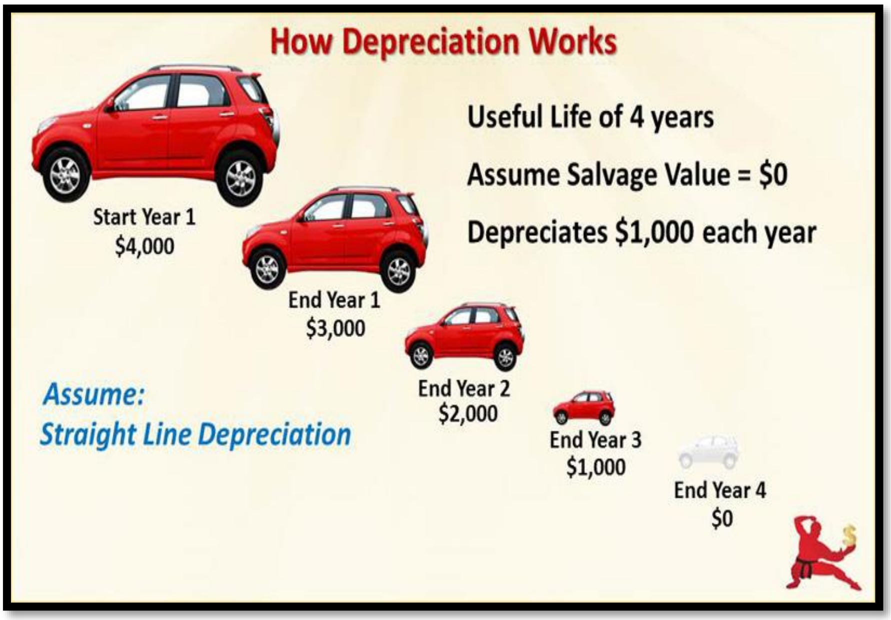
Intangible assets may also suffer depreciation. Depreciation of intangible assets can be calculated in the same ways as depreciation of tangible assets. For example, a company's purchase of the right to use the name Reliance for the next 20 years at a cost of Rs.2,000,000 will suffer depreciation of Rs.100,000 each year (ie based on the straight line method of depreciation with no residual value). The depreciation of intangible assets is called amortization.

SOLVED PROBLEMS

1)Consider a motor car that costs $4,000 and has a useful life of 4 years with a salvage value at the end to be $0.

Calculate the depreciation and net value of the car progressively. S

Solution: For the car the depreciation p.a. would be $(4,000 – 0)/4 = $1,000 p.a.



2) machine is bought for Rs. 200 millions. Its estimated useful life is 10 years, with a salvage value at the end equal to Rs. 5 millions. Calculate the depreciation for the third year of its life by straight line method. Also state its net value after 3 years.

Solution: By straight line method, annual depreciation = (200-5)/10 =19.50 million rupees.

Therefore, Depreciation for the third year = 19.50 million rupees.

Net Value of the asset after 3 years = (200 – 3*19.5) =141.50 million rupees.

REDUCING BALANCE METHOD OF DEPRECIATION

The ***reducing balance method*** (also called ***written down value method***) is the other common method of chargingdepreciation. This charges a fixed percentage of "book value" (ie cost less depreciation to date) each year so that the whole cost is charged over the life ofthe asset.

The depreciation rate is calculated as follows:

$$1- \sqrt[n]{\frac{Estimated\ Residual\ Value}{Cost}}$$

where n is the estimated useful life in years.

Thus, the rate to be applied to our example would be:

$$1- \sqrt[5]{\frac{1000}{10000}}$$

= 36.9 % (rounded and expressed as a percentage)

The depreciation charged for a particular year under this method will be the value of theasset at the beginning of the year multiplied by the rate of depreciation. The charge tothe statement of profit or loss of depreciation on a particular non-current asset willtherefore fall each year under the reducing balance method.

That means that the first year's depreciation will be £10,000 x36.9% = £3,690, leavinga book value of £6,310. The second year's depreciation will be £6,310 x 36.9% = £2,2281 and so on.

Notice that the depreciation rate is the effective rate of discount, which you might havestudied in CC0101.

Over the life of the asset, the following pattern would emerge:

Year	Book value at startof year	Depreciation	Book value at end of year
1	10,000	3,690	6,310
2	6,310	2,228	3,982
3	3,982	1, 469	2,512
4	2.512	9,27	1,585
5	1,585	5,85	1,000

If d denotes rate of depreciation p.a. by reducing balance method, then the Book value of the asset after n years $= Cost\,.(1-d)^n$

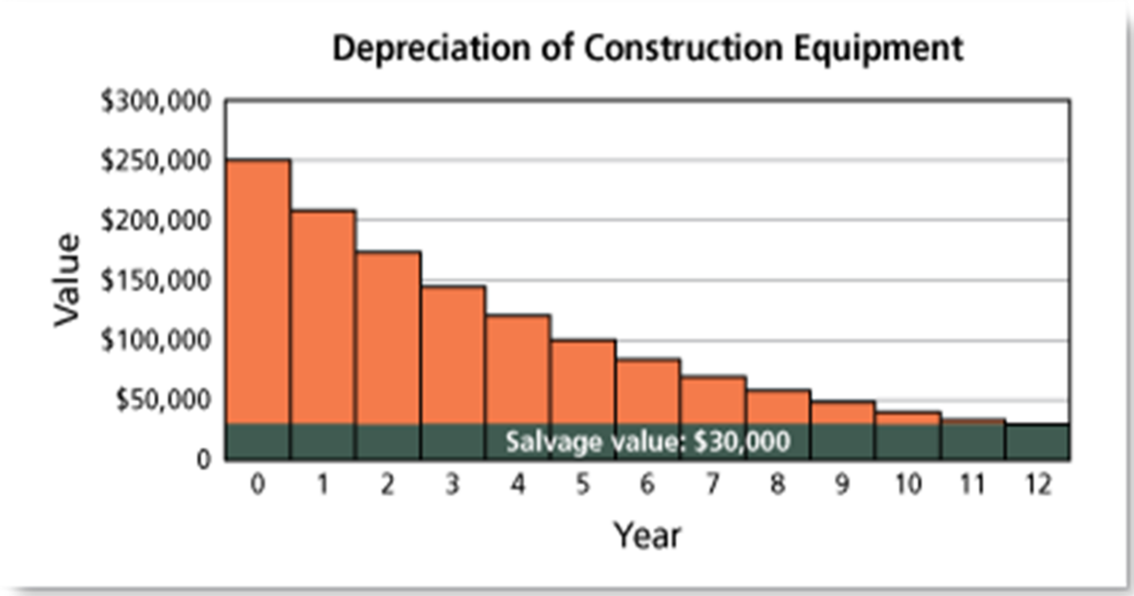
SOLVED PROBLEMS

1) Consider a Construction Equipment that is considered to depreciate @17.53% p.a. With its cost price of $250,000 and having a salvage value of $30,000 and useful life of 12 years, calculate the net value of the asset as shown below. Also show them graphically.

a) Solution

Year	Book value at startof year	Depreciation @17.53%	Book value at end of year
1	2,50,000	43,825	2,06,175
2	2,06,175	36,142	1,70,033
3	1,70,033	29,807	1,40,226
4	1,40,226	24,582	1,15,644

5	1,15,644	20,272	95,372
6	95,372	16,719	78,653
7	78,653	13,788	64,865
8	64,865	11,371	53,494
9	53,494	9,378	44,117
10	44,117	7,734	36,383
11	36,383	6,378	30,005



2)A Machine was purchased for Rs. 12,00,00,000. It has useful economic life of 20 years with an estimated scrap value of Rs. 50,00,000. By reducing balance method, calculate its rate of depreciation p.a. and hence the book value after 5 years.

Solution: The rate of depreciation d is given by $d = 1 - \sqrt[n]{\frac{Estimated\ Residual\ Value}{Cost}}$

$$\boldsymbol{d = 1 - \sqrt[20]{\frac{50,00,000}{12,00,00,000}}}$$

= 0.14692p.a.

The Book value of the machine after 5 years

$$= \boldsymbol{Cost}\,.\,(\mathbf{1}-\boldsymbol{d})^{\mathbf{5}}$$

=5,42,16,120.22 rupees.

SELF-TEST

1) The following statement must show value of a non-current asset at the end of a year.

a) Statement of income and expenditure
b) Statement of financial position
c) Cash flow statement
d) Statement of change in equity

2) The following statement must show value of using a non-current asset during a year.

a) Statement of income and expenditure
b) Statement of financial position
c) Cash flow statement
d) Statement of change in equity

3) Which of the following best describes the purpose of the depreciation charge?

a) An adjustment to the balance sheet value to reflect market values.

b)An adjustment to the balance sheet value to avoid overvaluing assets.

c) An adjustment to the profit and loss account to reflect the use of the assetduring the year.

d)An adjustment to the profit and loss account to reflect the decline in valuesduring the year.

4) Which of the following statement is TRUE for a straight line method of Depreciation –

a) It is generally used wherever the equal allocation of cost provides a reasonably fair measure of the company's service.

b)The annual depreciation charge represents a fixed percentage of the net book value brought forward.

c) The net book value can never get nil, as it can only be reduced by a proportion each year.

d) It is very difficult to calculate and conceptually complex to understand.

5) A machine costs £5,000 and has an estimated useful life of ten years, at which time it is anticipated that it will be scrapped and sold for £200. The machine is now three years old. What is this machine's book value (i.e. value in the books of accounts after depreciation) if the company uses the straight-line method of depreciation?

a) £3,360

b) £3,440

c) £3,500

d) £3,560

6)) Which of the following statements list the merits of written down value method depreciation –

a) Assets can be completely written off.

b) No undue pressure in later years.

c) Simplicity of calculation.

d) Equality of depreciation burden.

7) During the year ended 30 September 2002 a company bought a fixed asset for £125,000. The company charges depreciation at the rate of 20% per annum on the reducing balance basis, with a full years depreciation in the year of acquisition and none in the year of disposal. During the year ended 30 September 2005 the asset was sold for £45,000.

What was the loss on sale of the asset?

a) £5,000

b) £6,200

c) £19,000

d) £35,000

Short Answer Questions

1)A machine having useful economic life of 20 years is purchased on 1st April, 2016. For the financial year ending on 31st March, 2017, should the value of the machine be treated as an expenditure? Explain why.

2)Explain why generally land is not applied depreciation treatment.

3) Give an account of causes of depreciation.

4) Define depreciation. Justify its purpose.

5)Explain straight line method of depreciation. Justify its logic.

6)With the help of an illustration, explain how depreciation can be calculated using straight line method.

7) Shamitabh Ltd purchased a non-current asset for INR 1250 million. It had a useful life of 5 years at the end of which its estimated residual value was INR 259 million. The company decided to charge depreciation using the reducing balance method. The total depreciation (rounded to the nearest million) charged by the company up to the end of the third year is:

a) INR 764 million

b) INR 486 million

c) INR 180 million

d) INR 595 million

Answer: a) INR 764 million

8) With the help of an illustration, explain how depreciation can be calculated using reducing balance method.

Comparison of the Two Methods of Depreciation

The straight line method charges depreciation uniformly across all useful years. This becomes a disadvantage in inflationary periods.

On the other hand, a meritorious characteristic of the reducing balance method is that it tends to charge a heavier proportion of the cost of the assets when they are new. This will make the depreciation charge in the statement of income and expenditure more meaningful because most of the charge will arise from the cost of more recent assets.

It is a common practice for companies to assume that all assets of a particular class will have a "standard" useful lifespan (e.g. four years for vehicles and ten years for manufacturing plants). These rates will be based on experience and will reflect the general patterns observed by that company. It is possible that some assets are depreciated too slowly and some others are depreciated too rapidly. We believe that their adverse impacts will get nullified.

The management of a business has a considerable amount of discretion over the amount to be charged for depreciation in any given year in terms of their assumptions. The estimates of useful life and residual value will affect both the statement of income and expenditure as well as the statement of financial position. The selection of either straight line or reducing balance depreciation will also have an impact.

Solved Problems

1)A machine is purchased for Rs. 10,00,000. It has useful life of 10 years and a scrap value of Rs. 20,000. Calculate its depreciation for the first year if (i) straight line method is used, (ii) reducing balance method is used. Comment on your finding.

Solution

(i) Using Straight line method

$$\boldsymbol{Depreciation\ p.a. = \frac{Cost - Resale\ value}{Useful\ economic\ life} = \frac{10,00,000 - 20,000}{10} = 98.000}$$

Therefore depreciation for the first year by Straight line method = Rs. 98,000.

(ii) Using Reducing balance method

Rate of depreciation p.a. is

$$d = 1 - \sqrt[n]{\frac{Estimated\ Residual\ Value}{Cost}}$$

$$\boldsymbol{d = 1 - \sqrt[10]{\frac{20,000}{10,00,000}}}$$

= 0.323756662 p.a.

The depreciation of the machine for the first year

$$\boldsymbol{= Cost\,.\,d}$$

= 3,23,756.66 rupees.

We observe that in the first year, the depreciation is significantly larger at Rs. 3,23,756.66 by the reducing balance method compared with only Rs. 98,000 by the straight line method.

2) In case of the machine in the last problem, viz. Problem 04-09, calculate depreciation in the last year, i.e. 10^{th} year by both the methods and comment.

Solution

(i) Using Straight line method

By this method, depreciation is same each year of its useful economic life.

Therefore Depreciation for the 10^{th} year = Rs.98,000.

(ii) Using Reducing balance method

Depreciation for 10^{th} year $= Book\ value\ after\ 10\ years - Book\ value\ after\ 9\ years$

$= Cost.(1-d)^9 \; - \; Cost.(1-d)^{10}$

$= 10{,}00{,}000\,.\,(1-0.323756662)^9 \; - \; 10{,}00{,}000.\,(1-0.323756662)^{20}$

= 29,575.15 – 20,000

= 9575.15

SELF-TEST

1) Which of the following best summarises the difference between straight line and reducing balance depreciation?

a) Reducing balance will lead to a higher charge in the short term after fresh investment in assets and a higher total charge over the life of the assets.
b) Reducing balance will lead to a lower charge in the short term after fresh investment in assets and a higher total charge over the life of the assets.

c) Reducing balance will lead to a higher charge in the short term after fresh investment in assets but the same total charge over the life of the assets.

d) Reducing balance will lead to a higher charge in the short term after fresh investment in assets but a lower total charge over the life of the assets.

2) XYZ buys a high value machine having a useful life of 12 years. It has commissioned a project two years ago and it has started contributing significantly to the bottom line. The company would like to set off the profit arising from this project against depreciation from the new purchase of machine. What do you recommend as the choice of depreciation method.

a) The straight line method
b) The reducing balance method
c) The straight line method in the odd years and the reducing balance method in the even years
d) The reducing balance method in the odd years and the straight line method in the even years

SHORT ANSWER QUESTIONS

1)Explain the difference between the two methods of finding depreciation known to you. How do they impact on the profitability and tax liability?

2)Under what conditions, would the Straight line method be a better choice than the reducing balance method? Explain.

You must be wondering why have we got into so much details about depreciation. Depreciation is one such tool that a company can play around to increase or decrease reported profit at will without violating any rules and financial reporting standards.

The straight line method charges depreciation uniformly across all useful years. This becomes a disadvantage in inflationary periods.

The depreciation charged using the reducing balance method decreases every year.

So, if in a particular year, a company switches from straight line method to reducing balance method, the depreciation in that year will increase and profit will decline. This will save some tax too.

On the other hand, if a company switches from reducing balance method to straight line method, depreciation will decrease in that year pushing the profit upwards.

A company can use this switch option to increase/decrease reported profit.

As an investor you must look for such switches happening and make your conclusion based on the details.

BOOKS

Books			
T71142-W01	Accounting and Financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		0324023618 South-Western College Pub.

UNIT 02-02: FUNDAMENTAL ANALYSIS-02

02-01: CAPITAL AND RESERVES

Capital and Reserves

The statement of financial position of a company lists the assets owned by the company andthe liabilities which are owed to third parties. The excess of asset values over liabilities is the owners' (i.e. shareholders') fund called capital or equity capital.

Equity capital can arise in three main ways:

- by the sale of shares
- by the retention of profit after tax
- by certain adjustments, such as the revaluation of non-current assets.

EQUITY SHARE CAPITAL AND SHARE PREMIUM

Equity shares carry a value known as "nominal" value or "face" value. When the total face value of all the shares issued appears in the Statement of Financial Position as Equity Capital.

From the perspective of the business, share capital belonging to shareholders is treated as a liability. Interestingly, market value of sharesis based on the future performance of the company and the no. of shares issued and not on the face value of the share.
When shears are issued, they are issued either at par (i.e. at face value) or at a premium (but not at a discount).**It is not permissible to issue shares at a discount.**

If shares are issued at a premium, the amount of premium collected, appears in the balance sheet under the heading: Share Premium Reserve (also called Share Premium Account).

Both equity capital and share premium reserve are parts of shareholders' fund. The share premium reserve is appears in the balance sheet as a part of other reserves and other reserves appears under Shareholder’s Fund.

Thus if a company issues 1 million shares of face value Rs.10 each at a price of Rs.50per share to people, comprising of Rs.10 of equity capital and Rs.40 of premium then they it will result into an increase in equity capital by rupees 1 million and share premium reserve by Rs.4 million.

The difference between the nominal value of the shares and the amount paid for them is placed in the “share premium account”.

As the share premium account is comprising of the money received from shareholders, it can be used to meet certain expenses. They are

- the preliminary expenses of forming a company
- the expenses and commissions incurred in any issue of shares
- the expenses and commissions incurred in
- issue of loan stock
- any loss on the issue of loan stock
- any premium paid on the redemption of loan stock
- any premium paid for buyback of shares

These items can be charged to the share premium account as and when desired.

Share Premium account may be treated as the excess of shareholder investment over the nominal value of the shares.

SOLVED PROBLEMS

1)The following is not a possible use of Share Premium Reserve to meet :-

a) the preliminary expenses of forming a company
b) expenses and commissions incurred in issue of loan stock
c) any loss due to sale of machinery
d) any premium paid for buyback of shares

Answer: c) any loss due to sale of machinery

2)When a company issues 100,00 shares of face value Re. 1/- @Rs. 25/- per share, the total increase in Share Premium Reserve will be

a) Rs. 100,000
b) Rs. 2,400,000
c) Rs. 2,500,000
d) at most Rs. 2,400,000

Answer: d)at most Rs. 2,400,000 [taking into consideration of the cost of the issue which may or may not be charges to Share Premium Account]

SELF-TEST

43) A Company has 1,000,00 shares in issue. They are quoted on stock exchange @Rs. 549/- . The face value of each share is Rs. 2/- per share. The company proposes a follow-up issue. The management is seeking your opinion about the issue price. Which of the following can be the issue price?

a) Rs. 1.50

b) Rs. 600

c) Rs. 300

d) Rs. 549

44) A Company has 1,000,00 shares in issue. They are quoted on stock exchange @Rs. 549/- . The face value of each share is Rs. 2/- per share. The company proposes a follow-up issue@ Rs. 325. The total premium collected shall added directly to the value in the following item in the Statement of financial position:-

a) equity capital

b) long-term borrowing

c) account receivables

d) share premium account

SHORT ANSWER QUESTIONS

43) Explain how equity capital can arise.
44) Explain uses of Share Premium Reserve.

RESERVES AND ITS TYPES

Statement of Financial Position consists of Share Capital and Other Liabilities on the side of liabilities.

Equity Shareholders' Capital (also called Shareholders' Fund) is made up of Equity Capital and Reserve.

Equity Capital is the nominal value of all equity shares issued.

Reserves are made up of Retained Earnings (i.e. General Reserve) and Other Reserves made up of Share Premium Reserve and Revaluation Reserve.

We thus have:

Equity Shareholders' Fund

- Equity Capital (issued)
- Reserves
    - Retained Earnings (General Reserve)
    - Other Reserves

- Share Premium Reserve
- Revaluation Reserve

Some companies also create special purpose reserves, e.g. Redemption Reserve, Foreign Currency Translation Reserve, Contingency Reserve, etc.

Issued share capital is a part of Authorized share capital. Issued Equity Capital is referred to as the Equity Capital.

SOLVED PROBLEMS

1) Share premium account reflects the difference between

a)the market price and the issue price of the share

b)the nominal value and the issue price of the share

c)the market price and purchase price of the share

d)the market price and the nominal value of the share

Answer : b)the nominal value and the issue price of the share

2) The total permanent investment by stockholders is equal to

a) Capital in excess of par and retained earnings.

b) Capital stock and retained earnings.

c) Total stockholders' equity.

d) Total stockholders' equity less retained earnings.

Answer: d) Total stockholders' equity less retained earnings

SELF-TEST

1) The share premium account is not used for which one of the following purposes: -

a) Any profit or loss on the issue of loan stock.

b) Preliminary expenses of forming a company.

c) Expenses & commissions incurred in any issue of debentures.

d) Expenses & commissions incurred in any issue of shares.

2) The following is not a part of equity shareholders' fund:

a) authorised share capital
b) retained earnings
c) revaluation reserve
d) share premium account

SHORT ANSWER QUESTIONS

1)State different components of Equity shareholders' fund.

2) A machinery is purchased by a company for Rs. 5 crores. Is its value a part of shareholders' equity? Explain.

REVALUATION RESERVE

As the land and properties generally grow in value, we normally do not depreciate land. On the other hand to reflect the current value of land and properties, it is common practice to revalue them periodically.

The revaluation is done with the assistance of certified property valuation consultants.

If, for example, the company owned a factory which had cost of $500,000 and hadbeen depreciated by $100,000, the statement of financial position would show its net value of $400,000. Now suppose the company's property valuation consultant values the property at, say, $600,000. Then the company can substitute its net value of $400,000 bt $600,000. This change has to be compensated by an adjustment to BALANCE the Statement of Financial Position. It is done by adding the difference of $200,000 in the Revaluation Reserve. The gross value of the property now becomes $600,000 and accumulated depreciation on the same as $0 to arrive at the net value of $600,000.

Generally, the Gain on Revaluation is not treated as income/profit. However, if one wishes to do so, it would take effect as a part of "Other Comprehensive Income", not in the regular Profit and Loss statement. The amount of recognized gain is treated as income and would be subject to appropriate tax treatment.

Once revaluation of an asset is done, the company is at liberty to take a fresh call on its estimate of future useful life, the scap value at its end and even the method of depreciation. The future annual depreciation is then based upon the revalued amount and the revised estimates of the parameters stated. The following example shows revaluation through the revaluation reserve.

SOLVED PROBLEMS

1)To illustrate the effect of revaluation, assume that the company under discussion which owned the factory had no other assets. Draw up its financial position entries beforeand after the revaluation.

Solution: Its statement of financial position entries beforeand after the revaluation might be made up as follows:

Particular	As at 31st March 2016 (before revaluation)$	As at 31st March 2016 (after revaluation)$
Non-current Assets		
Factory (Cost)	500,000	600,000
Factory (Depreciation)	(100,000)	-
Factory (Net)	400,000	600,000
Total Non-current Assets	400,000	600,000
Current Assets	40,000	40,000
Current Liabilities	(20,000)	(20,000)
Total Assets [net of current liabilities]	**420,000**	**620,000**
Share Capital	50,000	50,000
Retained Earnings	145,000	145,000
Other Reserves		
Share Premium Reserve	25,000	25,000
Revaluation Reserve	-	*200,000*
Total Shareholders' Fund	*220,000*	*420,000*
Non-current liabilities		
Bonds	200,000	200,000
Total non-current liability	200,000	200,000
Total Equity and Liabilities	**420,000**	**620,000**

The statement after revaluation appears much stronger. The multiple of non-current liabilities in the form of total assets has grown from 2.1 to healthier 3.1 giving a lot of comfort to the lenders! The shareholder's fund also almost doubled.

The most important benefit would be seen in future years with increased depreciation using the revised asset value.

2) GOGATE Plc is in the process of preparing its statement of financial position for31 March, 2014. So far, the items (valued at 31 March 2014 unless otherwise stated) are:

	$'000
Non-current assets at cost	385
Accumulated depreciation (31st March 2013)	50
Current assets	165
Long-term loans	138
Share capital	200
Share premium	50
Revaluation reserve	30
Retained earnings (31st December 2012)	55

For the year to 31 March 2014:

- the depreciation figure in the statement of profit or loss is $12,000
- the profit after tax is $30,000
- the directors distributed half of the company's earnings to its shareholders in the form of a dividend.

The company's accountants take the view that the company's non-current assets should be revalued at $600,000.

Calculate the value of the non-current assets after revaluation as on 31st March, 2014. Also determine the value of Revaluation Reserve post revaluation.

Solution:

Before Revaluation as on 31st March, 2014

Non-current asset (cost)	385,000	
Non-current asset (depreciation)		
[50,000 + 12,000]	(62,000)	
Non-current asset (net)		323,000

After Revaluation as on 31st March, 2014

Non-current asset (cost)	600,000
Non-current asset (depreciation)	-
Non-current asset (net)	600,000

Incraese in the Net Value of Non-current asset = 600,000 – 323,000

= 277,000

Hence Increase in Revaluation Reserve = $ 277,000.

SELF-TEST

1) Which of the following would NOT be included in a firm's equity?

a) share capital

b) retained earnings

c) dividend

d) the effect of revaluation of a non-current asset

2) An increase in the value of a non-current asset recognised in the revaluation reserve would:

I. increase the equity of the company
II. make the balance sheet look stronger
III. increase the profit of the company.

- **a)** I and II only are correct
- **b)** II and III only are correct
- **c)** I only is correct
- **d)** III only is correct

Short Answer Questions

1)A company paid £400,000 for a property. The property was depreciated at 2% of cost each year for ten years. The directors have had the property revalued at £700,000.

How much is the gain on revaluation?

A £140,000

B £300,000

C £308,000

D £380,000

2)Explain why revaluation reserve is created.

RETAINED EARNINGS RESERVE

The balance on the earnings made by the company after tax during its lifetime, after distributing to the shareholders or charging appropriately for certain expenses, constitute General Reserve of Retained Earnings Reserve.

The balance on the retained earnings together usually constitutes the distributable reserve. The Share Premium Reserve cannot be regarded as distributable, although it is directly obtained from shareholders.

In the preceding example, the maximum dividend payment would be $145,000 and this is not increased though, the equity increased as a result of the revaluation.

Solved Problems

1)Rahul Ltd had incurred heavy losses during the last two years. The balance of reserves and retained earnings was however sufficient to pay a small amount of dividend. The company needs to replace its old and ailing assets at significant costs to improve efficiency and start making profits. Given its strong asset base and the reputation of its promoters, borrowers are willing to offer the necessary loans to fund the new assets. The share prices have fallen significantly in recent times.

List the factors that should be considered by the company to determine whether to continue to offer small dividends in order to boost the share price.

Solution:

Factors to be considered:

- Whether the cash that may be used for paying a dividend, instead could help to partially fund the new assets and thereby reduce the interest burden in the future. If the cash saved by not paying the dividend is very small as compared to the cost of the new asset, paying the dividend may be preferred use of the cash.
- Whether the small dividend will significantly change the shareholders' perception and mind frame about the company. Shareholders may not value the small dividend and may rather feel that the same cash could have been put to better use.
- Whether the new assets to be purchased will immediately turn around the fortunes of the company and start generating cash. If the new assets are expected to have a long gestation period, it would be wise to avoid any dividend and use the cash for survival in the interim.
- Whether the shareholders would expect such dividends in the future even if the company continues to make losses. It would be better to avoid setting any expectations which won't be met in the future. If the company makes it clear to its shareholders that the dividend is one-off and future dividends will entirely depend on company's profitability, it would be acceptable to pay dividends.
- Whether the terms on which the providers of finance for new assets remain unchanged after paying the dividend. A cash outflow (in the form of dividends) may be seen as detrimental to the survival of the company and the lenders may hike the interest rate and make the other terms and conditions more onerous. In an extreme situation, they may even refuse to lend money.

2)Which of the following is the best measure of the cost of retained profits in a business?

a) Retained earnings are a cost-free source of finance.
b) The cost of retained earnings is the same as that of the weighted average cost of capital (WACC).
c) The cost of retained earnings is the same as that of ordinary share capital.
d) The cost of retained earnings is the same as that of secured loan stock.

SELF-TEST

1) Retained earnings are

a) An indication of company’s liquidity
b) The same as cash in bank
c) Not important when determining dividends
d) The cumulative earnings of the company after dividends

2) Which of the following statement is incorrect

a) Reserves are a part of retained earnings, but retained earnings are not a part of the reserves.
b) Retained earnings reserves ensures the solvency of the company
c) Retained earnings are reported at the advance of an accounting period as the accumulated amount of a company’s prior earnings, net of dividends
d) It help in increasing the financial stability of the company and helpful in covering future uncertainties and losses.

SHORT ANSWER QUESTIONS

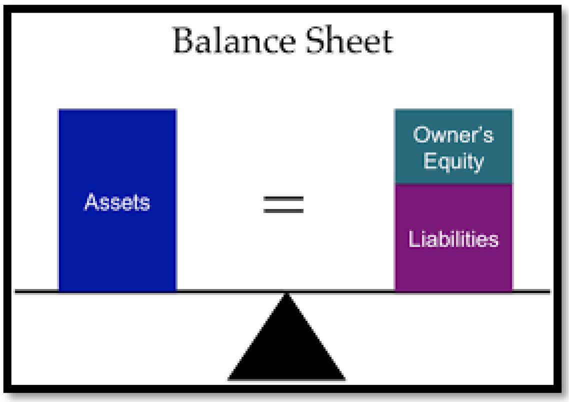
1) State the primary objective of keeping retained earning reserves?

2) A trade creditor is owed £6,000 by a company that is in the process of being liquidated. The company was financed by £1m of ordinary shares, £2m of preference shares, £2.5m of retained earnings, £0.6m of secured debentures and £3.7m of other loans, including the trade creditor’s balance.

The creditor hopes to recover 20% of the amount owed. How much would the company’s assets have to realise in order for this to happen?

a) £0.86m
b) £1.34m
c) £3.34m
d) £4.34m

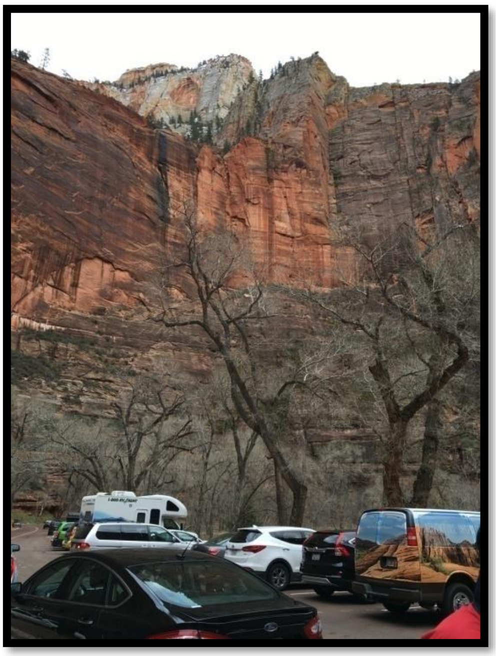
02-02: Balance Sheet or Statement of Financial position



In this Unit, We are going to discuss how assets of a business match against owner's equity fund and liabilities.

NON-CURRENT ASSETS

Non-current assets also known as fixed assets include assets which are held by a business for long periods. They can be split into two broad categories, viz. In-tangible assets and Tangible assets.



Non-current assets are Rock-solid!

The intangible assets are those which are difficult to value and their values are always debatable. Intangible assets are not physical in nature.

The examples of intangible assets are:

Trademarks and Brands, Patents, Goodwill, Research and Development costs, Concessions, etc.

Because of their nature, intangible assets are often ignored for valuation purposes.

As an investor, you must be careful in interpretation when a company's balance sheet shows intangible assets.

Please note that under IAS 38, brand names, publishing titles and customer lists that are internally generated should not be recognised as assets.

The tangible assets (except for investment) are initially considered at their cost value in the statement of financial position. They are subject to depreciation. The Statement of Financial Position will exhibit their Cost values, accumulated depreciations and the net values.

Some examples are:

- Factory
- Office buildings
- Machinery
- Land
- Vehicles

These net values do not truly reflect the current market values of non-current assets. This is because the market values keep increasing particularly of land and buildings. To counter this, it is a common practice to regularly revalue such assets and replace the earlier net values by newly identified values. This will also require toadd the difference between the new value and earlier net value to Revaluation Reserve.

The investments maintained or expected to be held for more than a year are treated as non-current assets. The examples of such investments are mostly in the form of shares, bonds, debentures, loan stock, conventional loans and so on.

The non-current asset investments are generally placed in the Statement of Financial Position at their market values.

Can this Facebook HQ be the face of your Non-current assets?

SOLVED PROBLEMS

1)What are the two types on non current assets?

Solution

Non-current assets also known as fixed assets include assets which are held by a business for long periods. They can be split into two broad categories, viz. Intangible assets and Tangible assets.

2)Give some examples of intangible assets.

Solution

Examples of Intangible assets

- Trademarks and Brands
- Patents
- Goodwill
- Research and Development costs

SELF-TEST

1) Which of the following is not an intangible asset?

a) Patent
b) Trademark
c) Concessions
d) Office building

2) Which of the following is not a tangible asset?

a) Machinery
b) Land
c) Goodwill
d) Vehicles

SHORT ANSWER QUESTIONS

51) What are revaluation reserves?
52) Explain intangible and tangible assets.

CURRENT ASSETS

Current assets are like fruits and flowers!

Assets held for short term [typically, less than a year, often few days to few weeks] are called current assets. The name "current" indicates that they change dynamically.

Companies hold current assets e.g. Cash to meet their regular spending needs. Sometimes they get created by regular business processes, e.g. Stock, Accounts Receivables, Short-term loans to employees, Prepaid expenses, etc.

Current assets get encashed in a short period. Some current asset such as Account Receivable gets encased more quickly than some others like Stock.

Some short term investments like short term deposits with banks are treated as current assets.

It is a good practice to revalue and adjust assets like stock for anticipated losses due to obsolescence or deterioration. The same applies to assets like trade receivables due to likelihood of default.

SOLVED PROBLEMS

1)What are current assets?

Solution

Assets held for short term [typically, less than a year, often few days to few weeks] are called current assets

For example: Account receivables, Stock, Cash, Short term deposits.

2) What is the need to hold current assets?

Solution

Companies hold current assets e.g. Cash to meet their regular spending needs. Sometimes they get created by regular business processes, e.g. Stock, Accounts Receivables, Short-term loans to employees, Prepaid expenses, etc.

SELF-TEST

1) Which of the following is not included in current asset?

a) Trade receivables
b) Debtors
c) Creditors
d) Inventories

2) A company holds 200000 in cash, has 100000 in trade receivables, has paid advance tax of 50000 and has trade payables of 200000.

What is the total amount of current assets held by the company?

a) 300000
b) 250000
c) 350000

d) 550000

Short Answer Questions

1) Give five examples of current assets.

2) "Higher the current assets of the company higher is the liquidity of the company"

Discuss the above statement.

EQUITY

Equity represents the amount that belongs to the shareholders or the owners of the company. It is inevitable component on the liability side of Statement of financial position (i.e. balance sheet).

The equity is also known as the capital or the shareholders' fund.

It includes the share capital which is the nominal value of the shares issued. In addition to the share capital, it comprises of

- retained earnings (also called general reserve)
- share premium account (it is the Share Premium Reserve)
- revaluation reserve (amounts by which the non-current assets are enhanced in value).

Solved Problems

1) What is Equity?

Solution

Equity represents the amount that belongs to the shareholders or the owners of the company. It is inevitable component on the liability side of Statement of financial position. The equity is also known as the capital or the shareholders' fund.

2) What are the components of equity?

Solution

The equity is also known as the capital or the shareholders' fund.

It includes the share capital which is the nominal value of the shares issued. In addition to the share capital, it comprises of

- retained earnings (also called general reserve)
- share premium account (it is the Share Premium Reserve)
- revaluation reserve (amounts by which the non-current assets are enhanced in value).

SELF-TEST

1) Retained earnings is also known as

a) Share premium reserve
b) Revaluation reserve
c) Excess profit reserve
d) General reserve

2) Compute general reserve if for a company profit during the year is 10000000 and the company revalued its building to 5000000 from 3500000.

a) 10000000
b) 11500000
c) 1500000
d) 8500000

SHORT ANSWER QUESTIONS

1) Why is Equity on the liability side of the balance sheet?

2) A Ltd. made a profit of 3000000 during the financial year 2016, also during the year A Ltd.

- raised 50,00,000 via issue of new shares
- revalued its land to 20,00,000 from 15,00,000

What will be the change in shareholder’s equity during the year?

OTHER LONG TERM LIABILITIES OR NON-CURRENT LIABILITIES

Non-current liabilities include the liabilities which are not due within one year.

They include the following typical items:

- Long term borrowings such as
  - bonds
  - debentures
  - Eurobonds(i.e. loan in foreign currency)
  - medium term bank loans
  - finance leases

- Long term provisions which are subject to uncertainty-sometimes uncertainty of the timing to pay and sometimes the uncertainty about the actual amounts to be paid

  They typically include

  - the estimated liabilities with respect to the differed taxation
  - the liabilities in respect of employee benefits.

As an investor you must examine whether provisions are made for the liabilities.

SOLVED PROBLEMS

1)What are long term liabilities?

Solution

Non-current liabilities include the liabilities which are not due within one year. They include Long term borrowings and Long term provisions.

2)What are long term provisions?

Solution

Long term provisions are liabilities which are subject to uncertainty-sometimes uncertainty of the timing to pay and sometimes the uncertainty about the actual amounts to be paid

They typically include

- the estimated liabilities with respect to the differed taxation
- the liabilities in respect of employee benefits.

SELF-TEST

1) Which of the following will lead to increase in non current liability?

a) Purchasing goods on credit
b) Taking bank loan
c) payment to supplier
d) payment to customer

2) Which of the following is non- current liability?

a) Inventories
b) Share capital
c) Tax payable
d) Mortgage

SHORT ANSWER QUESTIONS

1) Give 5 examples of long term liabilities.

2) Give an example of long term provision.

CURRENT LIABILITIES

The current liabilities typically are for a period below one year. They include items such as

- trade payables i.e. Creditors
- bank overdraft
- other short term borrowings e.g. bills of exchange payable
- current components of long-term borrowings [e.g. a ten-year bond, now due for redemption in 5 months]
- current tax payables [tax calculated, payable shortly]
- dividends payables[dividend declared, payable on fixation of date to pay]

SOLVED PROBLEMS

1) What are current liabilities?

Solution

The liabilities which are for a period below one year are called current liabilities.

2) Give two examples of current liabilities.

Solution

Creditors and bank overdraft.

SELF-TEST

1) Which of the following is not current liability?

a) Creditors
b) Bank overdraft
c) Mortgage
d) dividends payable

2) What is the current liability if

Bank balance=-12000

Debtors=20000

Creditors =2000

a) 10000
b) 12000
c) 14000
d) 6000

SHORT ANSWER QUESTIONS

1) Give 5 examples of current liabilities.

2)Under what circumstances will the long term borrowings be included in current liabilities?

BOOKS

Books			
T71142-W01	Accounting and financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		0324023618 South-Western College Pub.

02-03 Statement of Income and Expenditure

Learning Objectives

After successful completion of this unit, you will be able to

- classify expenses of different types
- calculate cost of sales
- describe different types of profit
- calculate profits of different types
- describe structure of Statement of Income and Expenditure
- construct Statement of Income and Expenditure from simple data

Introduction

When we receive an income statement from our bank or Asset management company, we get excited and open it with a smile to see our assets growing.

The management of every business prepares a Statement of Income, more precisely, Statement of Income and Expenditure. It reflects the performance of the business and shows how much profit or growth it has achieved. We shall learn here, the structure of a statement of Comprehensive income in this section.

03-01: REVENUE AND COST OF SALES

REVENUE: The Statement of Income and Expenditure begins with Income. The Income from primary line of business is the Sales or Revenue. For a business, we use realization concept and account for the revenue in the year in which the sales transaction is carried out, notwithstanding the delay (if any) in receiving the sales value from the customer.

The form or nature of revenue varies as per the kind of business. Revenue for a manufacturing company, is the sales value. Revenue for a consulting agency, an architect, a lawyer, a chartered accountant and others alike is the Professional fee.

While Revenues are based on realization concept, costs or expenses are consistent with accrual concept. Also, at times matching concept is also used for consistence of appropriateness of the profit.

COST OF SALES: For a manufacturing Company, Cost of Sales would typically include those costs which are related to production of the goods sold. Thus they consist of the following:

- cost of material consumed [this can be calculated as opening stock + material purchased – closing stock]
- wages of Factory workers
- factory rent
- depreciation of Factory
- depreciation of Machinery
- any other production related expense

SOLVED PROBLEMS

1)What is revenue?

Solution

The Income from primary line of business is the Sales or Revenue.

The form or nature of revenue varies as per the kind of business. Revenue for a manufacturing company is the sales value. Revenue for a consulting agency, an architect, a lawyer, a chartered accountant and others alike is the Professional fee.

2)What is cost of sales?

Solution

Cost of sales is the cost which is incurred in the production of the goods sold.

SHORT ANSWER QUESTIONS

1) What components are required to calculate cost of sales?

2) How is the accounting of revenue done?

03-02 DISTRIBUTION COST AND ADMINISTRATIVE EXPENSES

All expenses of the core business that are not related to production in case of manufacturing business would be included in this class of expenses. Thus we may include expenses such as

- advertising expenditure
- marketing expenditure
- office rent
- all other expenses related to office
- distribution expenses
- office staff salaries

SOLVED PROBLEMS

1) What is distribution cost?

Solution

Cost or expenses incurred in moving goods from the point of production to point of consumption is called distribution cost.

E.g. Transportation cost, commission etc.

2)How would you calculate Cost of material consumed?

Solution

Cost of Material consumed = Purchase cost + Opening Stock – Closing stock

SELF-TEST

1) The following will not be a part of Cost of Distribution and Administrative expense:

a) Advertising expense
b) Depreciation on delivery vans
c) Depreciation on factory
d) CEO's Salary

SHORT ANSWER QUESTIONS

1)The following will be a part of Cost of Distribution and Administrative expense:

a) Sales revenue
b) Depreciation on delivery vans
c) Depreciation on factory
d) Factory rent

2) What is the relationship between Advertising Expenditure and CEO's Salary?

03-03: FINANCE INCOME, FINANCE EXPENSES AND TAX EXPENSES

Having seen the core income and expenses for the core business, we now look at the income and expenses related to investment/finance and subsequently tax.

The **finance income** of a business comprises of the income from its investments. It would therefore typically include items such as

- Rent income from a property
- Interest income from investments in bonds, debentures, other fixed interest securities
- Dividend income from investments in shares.

Like finance income, there are **finance costs**. They usually include interests paid/payable on bonds and other long term borrowings.

The reason for showing this explicitly is to make the readers understand the capacity of the company to pay these costs.

A company is required to pay **Corporate tax** on its adjusted accounting profit.

SOLVED PROBLEMS

1) What is finance income?

Solution

The finance income of a business comprises of the income from its investments. It would therefore typically include items such as

- Rent income from a property
- Interest income from investments in bonds, debenture, other fixed interest securities
- Dividend income from investments in shares.

SELF-TEST

1) Which of the following is not a finance income?

a) Interest
b) rent
c) sales
d) dividend

SHORT ANSWER QUESTIONS 02-03

1)What are finance costs?

2) What are tax provisions?

03-04: TYPES OF PROFIT, EARNING PER SHARE AND REALISED CAPITAL GAINS

While preparing statement of income and expenditure we arrive at **four stages** of **profit**.

At the first stage, we calculate what is known as **Gross profit**. The gross profit is the difference between the revenue from the business end the cost of goods or services to earn this revenue.

The second is **Operating profit**. It is arrived at by subtracting cost of sales and distribution and administrative cost and other overheads from **Gross profit**.

We then and finance income and subtract all finance expenses (such as interests paid) from operating profit to arrive at **Profit before tax.**

The last one is the **Net Profit (i.e. profit after tax)** which is obtained by subtracting the applicable tax amount from profit before tax.

It is customary to calculate the profit after tax earned by the company per share issued. It is called Earning per share. Thus, if a company makes a profit after tax of Rs. 32 millions and it has 4 million shares in issue, then Earning per share will be Rs. 32 millions/4 million = Rs. 8.

If a company has sold a non-current asset during the period under consideration, the transaction may result into a capital gain or loss. Net Realised Capital Gains from all such transactions in the period after adjusting carried forward capital losses is to be added in the Operating Profit. A tax is payable on the positive net capital gains at the prescribed rate. The tax treatment for the capital gains may different from other profit. An appropriate tax is to be accounted for Capital Gains as well.

The final profit of the company is after taking into account regular profit plus capital gains.

We shall see more on Capital Gains later in the study of Corporate Finance.

SOLVED PROBLEMS

1)What are four stages of profit in the preparation of statement of income and expenditure?

Solution

The four stages in the preparation of statement of income and expenditure are

- Computation of gross profit which is the difference between revenue and cost of sales
- Computation of operating profit which is gross profit less all overhead expenses (including sales cost, distribution cost and other administrative expenses)
- Calculation of profit before tax arrived at by considering finance income and finance expenses in addition to the operating profit calculated earlier.
- Computation of Net Profit after tax which is obtained from profit before tax by subtracting the applicable tax amount.

2) What is gross profit?

Solution

The gross profit is the difference between the revenue from the business end The cost of goods or services to earn this revenue.

SELF-TEST

1) Earnings per share = ___________

a) Profit after tax / Number of shares
b) Profit before tax / earnings per share
c) (Profit after tax + dividends) / Number of shares
d) (Profit after tax - dividends) / Number of shares

2) The following information has been extracted from the recent financials of Upswing Ltd, a quoted company. (All figures are in crores of Rupees)

Earnings before interest and tax = 40

Interest = 4

Tax = 9

Share capital (5 crore shares of Rs 10 each)

Book value per share = Rs. 40

Market value per share = Rs. 175

Earnings per share of Upswing Ltd is

a) Rs 5.40
b) Rs 6.75
c) Rs 4.5
d) Rs 1.54

SHORT ANSWER QUESTIONS

1) Explain how capital gains tax is computed.

2) What is earnings per share?

03-05: OTHER COMPREHENSIVE INCOME

The concept of Other Comprehensive Income is introduced in 2009.

The account of other comprehensive income includes income and expenses that are not recognized in the regular profit and loss account. This account helps in giving a more detailed picture of the income of the organization.

When a non-current asset is revalued, there is a case of unrealized capital gains. The practice is to revise the Asset value and adjust it by adding this increased amount in revaluation reserve. An adjustment is made only in the balance sheet, and not in the profit and loss account. Now to reflect such changes appropriately, the other comprehensive income account is used to reflect this change.

In general the other comprehensive income account includes a variety of items such as the following:

- change in the revaluation reserves
- change in fair value of financial asset or an investment
- profit or loss due to currency conversion
- actuarial gains or losses on defined benefit pension schemes
- gains or losses on cash flow hedges
- tax related to other financial income

The sums of the above items are carried to balance sheet and in the statement of change in equity.

SOLVED PROBLEMS

1)List 5 any items included in other comprehensive account.

Solution

- change in the revaluation reserves
- change in fair value of financial asset or an investment
- profit or loss due to currency conversion
- actuarial gains or losses on defined benefit pension schemes
- gains or losses on cash flow hedges
- tax related to other financial income

2)Explain the accounting of Revaluation of noncurrent asset.

Solution

When a non-current estimate is revalued, there is a case of unrealized capital gains. The practice is to revise the Asset value and adjust it by adding this increased amount in revaluation reserve. An adjustment is made only in the balance sheet, and not in the profit and loss account. Now to reflect such changes appropriately, the other comprehensive income account is used to reflect this change.

SELF-TEST

1) The following is not an item in the list of other comprehensive income:

a) change in the revaluation reserves
b) change in fair value of financial asset or an investment
c) profit or loss due to currency conversion
d) profit from sale of factory

2) The following is an item that is included in other comprehensive income:

a) capital gain/loss on sale of furniture

b) capital gain on sale of factory

c) profit or loss due to currency conversion

d) gain on sale of materials purchased

SHORT ANSWER QUESTIONS 02-05

1)The following is not an item in the list of other comprehensive income:

a) gains or losses on cash flow hedges
b) change in fair value of financial asset or an investment
c) profit or loss due to currency conversion
d) profit from sale of office

2)When a non-current asset is revalued, there is a case of unrealized capital gains. How are the entries made to reflect this in (i) balance sheet, (ii) profit and loss account?

03-06: TYPICAL PROFIT AND LOSS ACCOUNT

Typical Statement of Profit and Loss Account for the Period from 1st January, 2xxx to 31st December, 2xxx

Amount in millions of rupees

Revenue			x	
Less: Cost of Sales				
Cost of Materials consumed				
Opening Stock	x			
Material Purchases	x			
Closing Stock		(x)		x
Factory Depreciation			x	
Machine Depreciation		x		
Wages		x	x	
Gross Profit			x	
Less: Distribution and Administrative Expenses				
Advertising		x		
Marketing		x		
Salary of Office Staff		x		
Depreciation of Delivery Vehicles		x		
Office Rent		x		
Other Administrative expenses		x	x	
Add Other Operating income			x	
Operating Profit			x	
Finance income		x		
Finance Cost			(x)	x

Profit before Tax	x
Tax expense	(x)
Net Profit for the year	x
Other Comprehensive income	
Gain on Revaluation	x
Total Comprehensive income	x

Earnings per share for profit attributable to equity holders x

Dividend of p per share given to shareholders

SOLVED PROBLEMS

1)The published financial statements of a company show a gross profit for the year of Rs. 6.5 mn. A major error in the stock valuation has just been discovered. The figure for opening stock was incorrectly overvalued by Rs 1.3 mn. and the closing stock was incorrectly undervalued by Rs 1.6 mn. What would be the revised figure for gross profit for the year after correcting for the error?

Solution

Opening stock is overvalued by 1.3 mn, this means gross profit will be undervalued by 1.3 mn.

Also, closing stock is undervalued by 1.6 mn, which means gross profit will be undervalued by 1.6 mn.

Thus overall gross profit is undervalued by 2.9 mn.

Therefore revised gross profit is 9.4 mn

2) Which of the following is a tax deductible expense from business income?

i) Cost of machinery purchased during the year

ii) Interest paid on loan taken to acquire machinery

iii) Training expenses incurred to train employees on how to use the new machine

Solution

The tax deductible expenses are

- Interest paid on loan taken to acquire machinery
- Training expenses incurred to train employees on how to use the new machine.

SELF-TEST

1) Depreciation provided by a company will affect:

I Profit and loss account

II Balance sheet

III Market value of assets

a) I only
b) I and II only
c) all of the above
d) none of the above

2) Which of the following head doesn't appear in a Profit & Loss A/c?

I) Accumulated Depreciation

II) Advance Tax

III) Deferred Tax

IV) Advertising Expenses

a) All the above
b) None of the above
c) I and III only
d) I, II and III

SHORT ANSWER QUESTIONS

1)Which of the following errors in recording transactions has an impact on profitability? What type of impact?

I. Purchase of a new machinery in the last month of the financial year was not recorded at all

II. Cash paid to one of the suppliers recorded as being paid to buy a depreciable asset

III. Loan taken from bank at the start of the year not being recorded at all

IV. Amount collected from one of the customers to whom goods were sold on credit being recorded as additional sales made

2)State all the steps in computation of Profit after tax.

BOOKS

Books			
T71142-W01	Accounting and financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		0324023618 South-Western College Pub.

02-04: Cashflow Statement & Statement of Change in Equity

Introduction

The Bankruptcy filing of Lehman Brothers is the Largest in the US History till date with $ 600 billion in assets.

Lehmans were killed by three Ls:

1. **Leverage**
2. **Lack of Liquidity [i.e. Cash**

It is commonly observed that when a company/individual went bankrupt, the main cause was the lack of liquidity to pay to its creditors.

It is prudent to keep an eye on the cash continuously.

04-01: NEED OF A CASH FLOW STATEMENT

The Statement of Financial Position and Profit and Loss Account cannot explain how the cash levels moved during the period. It is therefore necessary to supplement them by a Cash flow statement that can explain the changes and movements of cash. Even profitable companies may go bankrupt due to insufficient liquidity.

We sometimes observe conflicting phenomenons:

(i) A company that makes 10% operating profit consistently for more than 10 years, is always out of funds during July to September and needs an overdraft during those months!

(ii) A company makes profit, but is in overdraft for more than a year!

(iii) A company took a loan of Rs. 10 crores during the year, but ends up the year with an overdraft of Rs. 2 crores!

Detection of the real reasons for all of the above needs cash flow statement. The cash flow statement can explain the sources of fund and applications of fund. Interestingly, it is not expected to use accruals concept.

Though Profitability can tell us about the long term health of a business, cash flow tells us about the short term health. To make profit in the long run, one must survive in the short term. The stability in short term is indicated by cash flows.

Increase in bank balance of a business is not equal to profit made during the period. This is because depreciation is an expense without a cash outflow, credit sales does not bring cash immediately, credit purchase does not take away cash instantaneously, a machinery purchase takes away cash, but is not an expense and so on. Long and Short, Profit does not mean increase in bank balance by the same amount.

Another interesting characteristic of a Cash flow statement is that it is less subjective than Profit and Loss account. For instance, choice of method of depreciation, choice of method of stock valuation, quantum to be provided for bad debt can affect profit calculation but not cash calculation!

Structure of Cash flow Statement

We split cash flow statement into three parts. Each part explains how cash is generated/consumed for different aspects of business. These are as under:

- cashflows from operating activities - reconciling operating profit to cash
- cashflows from investing activities –purchases and sales of non-current assets and other investments not included in cash equivalents
- cashflows from financing activities - changes in the size of equity capital and borrowings.

SOLVED PROBLEMS

1)Why is there a need to supplement profit and loss account and balance sheet by a cash flow statement?

Solution

The Statement of Financial Position and Profit and Loss Account cannot explain how the cash levels moved during the period. It is therefore necessary to supplement them by a Cash flow statement that can explain the changes and movements of cash. Even profitable companies may go bankrupt due to insufficient liquidity.

2)Why is profit not equal to the change in bank balance?

Solution

Increase in bank balance of a business is not equal to profit made during the period. This is because depreciation is an expense without a cash outflow, credit sales does not bring cash immediately, credit purchase does not take away cash instantaneously, a machinery purchase takes away cash, but is not an expense and so on. Long and Short, Profit does not mean increase in bank balance by the same amount.

SELF-TEST

1) Purchases and sales of non-current assets is included in______

a) cash flows from operating activities
b) cash flows from investing activities
c) cash flows from financing activities
d) None of the above

2) Choice of method of depreciation will have no impact on_____.

a) Profit and loss account
b) Balance sheet
c) Profit
d) Cash flow statement

SHORT ANSWER QUESTIONS

1) Give two examples of conflicting phenomenon between profit and loss account and cash flow statement.

2) Give Structure of cash flow statement.

04-02: CASH GENERATION FROM OPERATING ACTIVITIES

Normally, we begin from Operating Profit and mane adjustments for Depreciation and Changes in the working capital as shown below:-

Operating profit	x	
Adjustments for:		
Depreciation	d	
Changes in working capital:		
Increase in Stock	(s)	
Increase in Trade and other receivables		(r)

Increase in Trade and other payables	p

Cash generated from operations x + d –s –r + p

Let us understand the logic behind these adjustments.

(i) While calculating operating profit, depreciation was subtracted to arrive at the profit, but there was no cash outflow. Hence to determine cash, depreciation is required to be added back.

(ii) Increase in Stock was added in the process of subtracting cost of material consumed, therefore we subtract it now. Alternatively, increase in stock is an application of fund, hence fund availability reducers.

(iii) Increase in Trade Receivables reduces receipt of sales value and hence needs to be subtracted. Looking at it differently, like increase in stock, increase in receivables is also an application of fund.

(iv) Increase in payables is just the opposite of increase in receivables. Hence its impact is opposite and requires opposite treatment.

Using Cash generated from operations, we can now calculate Cash generated from operating activities as shown below:

Cashflows from operating activities

Cash generated from operations	x + d –s –r + p
Interest paid	(i)
Tax paid	(t)
Net cash generated from operating activities	x +d –s –r +p –i -t

Payment of interest and taxes is considered to be the consequences of regular operations. Hence they are subtracted in this part of cash flow calculation.

SOLVED PROBLEMS

1) How is depreciation dealt with in cash flow statement?

Solution

While calculating operating profit, depreciation was subtracted to arrive at the profit, but there was no cash outflow. Hence to determine cash, depreciation is required to added back to operating profit.

2) How is inventory dealt with in cash flow statement?

Solution

Increase in Stock was added in the process of subtracting cost of material consumed, therefore we subtract it now. Alternatively, increase in stock is an application of fund, hence fund availability reducers.

SELF-TEST

1) Increase in _______ is _________ to/from operating profit in calculation of cash generated from operation.

a) Trade payables, Added
b) Trade receivables, Subtracted
c) Trade payables, subtracted
d) Inventory, Added

2) _________ is/are added back to operating profit in order to calculate cash generated from operation.

a) Depreciation and Increase in inventory
b) Increase in trade receivables and payables
c) Increase in trade payables and inventory
d) Increase in trade payables and depreciation

SHORT ANSWER QUESTIONS 03-02

1)How is cash generated from operations arrived at?

2)How is change in trade receivables and trade payables accounted for in cash flow statement?

04-03: CASH GENERATION FROM INVESTING ACTIVITIES

The actions of Purchase of and sale of non-current assets, grant of loans and returns of the same with interest are the transactions which impact cash level and they all appear in this arm of cash flow statement.

Thus, cash generated from investments may be calculated as under:-

Cashflows from investing activities

Purchases of property, plant and equipment	(a)
Proceeds from sale of property, plant and equipment	b
Purchases of intangible assets	(c)
Loans granted to related parties	(d)
Loan repayments received from related parties	e
Interest received	f
Net cash used in investing activities	-a+b-c-d+e+f

While purchase of assets and granting of loan uses cash, sale of assets and receipt of loan amount back and interest received, increase cash.

SOLVED PROBLEMS

1)What is included in the investing activities part of cash flow statement?

Solution

The actions of Purchase of and sale of non-current assets, grant of loans and returns of the same with interest are the transactions which impact cash level and they all appear in investing activity part of cash flow statement.

2) What effect each of the following will have in computation of net cash used in investing activity?

a) Purchases of property, plant and equipment
b) Proceeds from sale of property, plant and equipment
c) Purchases of intangible assets

Solution

a) Purchases of property, plant and equipment - Subtracted as there is cash outflow
b) Proceeds from sale of property, plant and equipment –Added as there is cash inflow
c) Purchases of intangible assets - Subtracted as there is cash outflow

SELF-TEST

1) Which of the following will be added in computation of net cash used in investing activity?

a) Increase in trade payables
b) Issue of shares
c) Interest received
d) Purchase of intangible assets

2) ______ will lead to decrease in cash balance?

a) Loan repayment received
b) Interest Received
c) Purchase of machinery
d) Sale of equipments

SHORT ANSWER QUESTIONS

1) How is net cash from investing activity arrived at?

2) What effect each of the following will have in computation of net cash used in investing activity?

a) Loans granted to related parties
b) Loan repayments received from related parties
c) Interest received

04-04: CASH GENERATION FROM FINANCING ACTIVITIES

Issue of shares, procuring long term loans and repayment of the same are regarded as financing activities. The related impacts on cash are parts of this module of cash flow statement.

Cashflows from financing activities

Proceeds from issuance of ordinary shares	A
Proceeds from borrowings	B
Repayments of borrowings	(C)
Dividends paid to company's shareholders	(D)

Net cash used in financing activities_ A + B – C – D_

SOLVED PROBLEMS

1) What are financing activities?

Solution

Issue of shares, procuring long term loans and repayment of the same are regarded as financing activities.

2) How will the below items impact net cash used in financing activities?

- Issue of shares
- Proceeds from borrowings
- Interest received

Solution

- Issue of shares will lead to increase in net cash used in financing activities.
- Proceeds from borrowings will also lead to increase in net cash used in financing activities
- Interest received will have no impact on net cash used in financing activities

SELF-TEST

1) Which of the following will lead to increase in the net cash used in financing activities?

a) Issue of shares
b) Dividend payments
c) Repayment of loans
d) Sale of investments

2) Which of the following will lead to decrease in the net cash used in financing activities?

a) Issue of shares
b) Share buyback
c) Proceeds from borrowings
d) Purchase of machinery

SHORT ANSWER QUESTIONS

1)How is cash used in financing activities computed?

2)How will the below items impact net cash used in financing activities?

- Repayments of borrowings
- Dividends paid to company's shareholders
- Share buyback
- Sale of plant

04-05: TYPICAL CASH FLOW STATEMENT

The following is an example of a cash flow statement:

		Amount (in millions of rupees)
Cash flows from operating activities		
Cash generated from operations	x	
Interest paid	(x)	
Tax paid	(x)	
Net cash generated from operating activities		**x**
Cash flows from investing activities		
Purchases of property, plant and equipment	(x)	
Proceeds from sale of property, plant and equipment	x	
Purchases of intangible assets	(x)	
Loans granted to related parties	(x)	
Loan repayments received from related parties	x	
Interest received	x	
Net cash used in investing activities		**x**

Cash flows from financing activities		
Proceeds from issuance of ordinary shares	x	
Proceeds from borrowings	x	
Repayments of borrowings	(x)	
Dividends paid to company's shareholders	(x)	
Net cash used in financing activities	(x)	
Net (decrease)/increase in cash, cash equivalents and bank overdrafts		**x**
Cash, cash equivalents and bank overdrafts at beginning of the year		**x**
Cash, cash equivalents and bank overdrafts at end of the year	**x**	

SOLVED PROBLEMS

1) A business made a loss during the financial year just ended but has more cash at the end of the year than it did at the beginning. State two possible reasons for this?

Solution

1. Sale of fixed assets
2. Repayment of loan received

2) Which of the following will have an impact on cash flow statement

- Dividends payments
- Share buyback
- Depreciation
- Writing off trade payables
- Proceeds from borrowings
- Amortization

Solution

The following will have an impact on cash flow statement

- Dividends payments
- Share buyback
- Proceeds from borrowings

Self-Test

1) Which of the following best describes the purpose of a cash flow statement?

a) to forecast future inflows and outflows of cash
b) to show historical inflows and outflows of cash
c) to show the company's financial position
d) to show the company's profitability

2) Which of the following items will not appear in a cash flow statement

a) Purchase of plant & machinery
b) Purchase of personal car
c) Issue of shares
d) Loan repayments

Short Answer Questions

1)Structure of the cash flow statement.

2)Last year, Ambani Brothers had positive net cash flow from operations, yet cash on the balance sheet decreased. Give two possible reasons for this.

04-06: STATEMENT OF CHANGES IN EQUITY AND NOTES TO ACCOUNTS

International Standards Board also requires a Statement of Changes in Equity. This statement will reflect changes that have resulted in Share Capital and all kinds of Reserves during the year. It thus reconciles the amounts for these items shown in the statement of financial position at the start and end of the year.

A typical statement may look like the following:-

Description	Shareholders' Fund (in millions of rupees)			
	Share Capital	Other Reserves	Retained Earnings	Total Equity
Opening Balance as at 1st January, 2xxx	350	100	200	650
Fair value gains net of tax: Land and buildings Depreciation on L/B		20 (10)		20 (10)
Net income recognised directly in equity		10		10

Profit for the year			50	50
Total recognised income for 2xxx		10	50	60
Issue of Share Capital at 100% premium	30	30		60
Closing Balance as at 31st December, 2xxx	380	140	250	770

For Revaluation of land and building, the net income recognised goes to Revaluation Reserve in Other Reserves.

In case of Issue of Shares @100% premium, the Premium goes to Share Premium Account in Other Reserves.

This is very significant statement for an investor.

SOLVED PROBLEMS

1)If a Company in a year made a right issue of Rs. 50 crores where shares were issued at a premium of 400%, what will be the Change in total equity?''

Solution

The Change in Total Equity would be an increase by Rs. 50 crores.

2)If a Company in a year made a bonus issue involving capital of Rs. 20 crores, what will be the Change in total equity?

Solution

There will be no Change in Total equity as Issued Share Capital will increase and reserves will decrease by the same amount.

SELF-TEST

1) Which of the following best describes the statement of changes in equity?

a) a summary of revenues and expenses for the period
b) a summary of the assets, liabilities and equity as at the end of the period
c) a summary of changes in capital and reserves attributable to the equity holders
d) a summary of movements in cash and cash equivalents for the period

2) The following does not affect Statement of Changes in Equity:

a) Issue of Shares to Executives by way of Stock option

b) Net profit for a year is distributed 100% by way of dividend

c) Revaluation of non-current assets

d) Part of retained earnings is capitalized by issue of bonus shares

SHORT ANSWER QUESTIONS

1)If a company sells factory in a year for Rs. 25 crores, what will be the change in total equity?

2)If a company makes a bond issue of Rs. 100 croresina year, what will be the change in total equity?

BOOKS

Books			
T71142-W01	Accounting and financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		0324023618 South-Western College Pub.

02-05: ACCOUNTING RATIOS USEFUL TO LENDERS

INTRODUCTION

Look at this. A businessman is trying to keep his money safe!

A lender or financer wants his borrower to earn enough to pay interests in time. The lender also wishes the borrower has sufficient assets so that he can return the loan capital when it falls due for redemption. A test for the same is possible with tools like interest cover ratios and asset cover ratios. We shall discuss them in next few sections.

05-01: INTEREST COVER RATIOS

The interest payments ordinarily happen out of operating profit earned by the borrowing organization. Therefore, lenders should look for sufficient operating profit stream. A high ratio of operating profit to interests payable will give comfort to the lenders. A high ratio means it would take time for the profits to decline, if the times become bad in terms of economic conditions.

Definition of Interest Cover

An overall interest cover may be defined as

Interest Cover= *profit on ordinary activities before interest and tax*

Here, we conside

r profit on ordinary activities because they are the regular ones and interest is to be paid regularly. It is the profit before interest and tax as the interest is payable out of such profit. This profit has to cover entire year's interest on loans of all types.

If a company needs to pay an annual interest of 8 millions, and has a profit before interest and tax of 40 million, the income cover shall be 5x (i.e. 5 times). For a medium term loan capital this ratio may indicate sufficient safety.

Safe Value of Interest Cover

For a term of 3-5 years, a ratio of 2.5-3 may be good, for a term of 5-10 years, ratio of 3-4 may be good while for a term of 10-20 years ratio of 4-6 may be good. The safe value of ratio also depends on the term of the loan capital. Unfortunately, numerical value of ratio does not take into account the term.

Interest Cover Splits

Loans have different flavors and different priorities in terms of payments. We can classify them into three categories. In the descending order of priority to pay, they areas under:-

(1) Secured Loans – Debentures, Secured Loans from financial institutions like Banks
(2) Unsecured Loans – Bonds, Eurobonds, Loan Capital
(3) Least Priority Unsecured Loans – Subordinated Loan Stock

If we now look at the income cover ratio from the perspective of each category of lender, than we may define, asset cover for a lender as

Interest Cover for a loan

$$= \frac{\text{profit on ordinary activities before interest and tax}}{\text{annual interest payments on all loans of the same and higher category}}$$

Each category of lender is looking for the profit that is available to him along with others who must be paid with him or ahead of him.

We illustrate use of this in the following example.

Solved Problems

1)When is the interest cover ratio considered to be safe?

Solution

For a term of 3-5 years, a ratio of 2.5-3 may be good, for a term of 5-10 years, ratio of 3-4 may be good while for a term of 10-20 years ratio of 4-6 may be good. The safe value of ratio also depends on the term of the loan capital.

2) What are the three categories of loans?

Solution

We can classify loans into three categories. In the descending order of priority to pay, they areas under:-

i. Secured Loans – Debentures, Secured Loans from financial institutions like Banks
ii. Unsecured Loans – Bonds, Eurobonds, Loan Capital
iii. Least Priority Unsecured Loans – Subordinated Loan Stock

Self-Test

1) Which of the following is correct?

a) $Income\ cover\ = \dfrac{total\ annual\ profit\ before\ interest\ and\ tax}{annual\ interest\ payments\ due\ on\ that\ issue\ of\ loan\ stock\ all\ prior\ loan\ stock}$

b) $Income\ cover\ = \dfrac{total\ annual\ profit\ before\ interest\ and\ tax}{total\ annual\ interest\ payments, including\ accrued\ but\ not\ due}$

c) $Income\ cover\ = \dfrac{\text{profit on ordinary activities before interest and tax}}{total\ annual\ interest\ payments, including\ accrued\ but\ not\ due}$

d) $Income\ cover\ = \dfrac{\text{profit on ordinary activities before interest and tax}}{\text{annual interest payments due on that issue of loan stock all prior loan stock}}$

2) Calculate the income cover for unsecured loan if PBIT is 2mn and Interest on mortgage loan is 0.1mn and that on unsecured loan is o.5mn.

a) 20
b) 3.33
c) 4
d) 3.8

SHORT ANSWER QUESTIONS

1)The outstanding loans of company X are:

(i) 10 % unsecured 2008 – Rs 10 lakhs

(ii) 11 % subordinated loan 2013 – Rs 20 lakhs

(iii) 8 % mortgage loan 2007- Rs 10 lakhs

Calculate Income cover for all the three loans.

2)Why do we calculate interest cover using PBIT and not profit after tax as it is the actual profit made?

05-02: INCOME PRIORITY PERCENTAGES

The concept of split of lenders is considered here, to find what % of profit is required to be used to pay the interest to all lenders in his category taking the order of priority for interest payment into consideration.

We consider allocation of Profit for interest payment in the order of priority and determine what % of profit is used for this purpose.

For instance, if a company's Profit before interest is 50 million, consider the following:

Priority Category	Annual Interest million	Allocation of Profit million	Prioritywise Allocation from beginning	Income Priority Percentages as % of Profit
Secured	5	First 5	0-5	0-10%
Unsecured	8	Next 8	5-13	10-26%
Subordinated Debt	2	Next 2	13-15	26-30%

If the interst amounts are a, b, c respectively and profit is , then the income priority percentages are given by 0 to a/P, a/P to (a+b)/P and (a+b)/P to (a+b+c)/P respectively.

SOLVED PROBLEMS

1) What is interest priority percentage?

Solution

Interest priority percentages show the slice of profit on ordinary activities beforeinterest and tax which covers the annual interest payments due on each issue ofloan capital.

2) Calculate the interest priority percentage if

Issue of loan capital	Interest cover
Mortgage	22
Unsecured loan stock	8
Subordinated debt	3

Solution

Interest priority percentage for mortgage is

0% - (100/22)%

i.e. 0% - 4.55%

Interest priority percentage for Unsecured loan stock is

4.55% - (100/8)%

i.e. 4.55% - 12.5%

Interest priority percentage for subordinated debt stock is

12.5% - (100/3)%

i.e. 12.5% - 33.33%

SELF-TEST

161) Calculate the income priority percentage for mortgage loan if PBIT is 2mn and Interest on mortgage loan is 0.1mn and that on unsecured loan is o.5mn.

a) 0% -5%

b) 0% - 15%
c) 5% - 15%
d) 5% - 26%

162) Lower bound of interest priority percentage of a particular is equal to

a) Inverse of income cover of that loan
b) Inverse of income cover of next lower ranked loan
c) Inverse of income cover of previous higher ranked loan
d) 0%

SHORT ANSWER QUESTIONS

1)The outstanding loans of company X are:

(i) 10 % unsecured 2008 – Rs 10 lakhs

(ii) 11 % subordinated loan 2013 – Rs 20 lakhs

(iii) 8 % mortgage loan 2007- Rs 10 lakhs

Calculate Income cover for all the three loans if PBIT for the year is 25lakhs.

2)Calculate the interest priority percentage if

Issue of loan capital	Interest cover
Mortgage	22
Unsecured loan stock	8
Eurosterling	8

05-03: ASSET COVER RATIOS

For the receipt of interest a lender will look at the regular profit before interest and tax. When the time of redemption comes, what should be the lender looking at? Of course, the retained profit over the years! That is the ideal scenario. What if the retained earnings are insufficient? What if at any point of time earlier than the scheduled redemption, the company defaults on interest payments? The backup resource is of course the assets of the company. What assets? Obviously, all assets except intangible ones (there is no easy way to encash them and no clue on what they may fetch on winding-up basis), of course, after meeting all current liabilities.

Definition of Asset Cover

With this logic we now define overall asset cover as under:

$$\text{Asset Cover} = \frac{\textit{total tangible assets less current liabilities}}{\textit{total loan capital}}$$

If a company has a total loan capital of 150 million and has tangible assets worth 330 million with a current liability of 30 million, then even after paying the current liability shall have 300 million available to pay for its loans. Thus its asset cover would be (330-30)/150 =2x (i.e. 2 times). For a medium term loan capital this ratio may indicate just safe.

Safe Value of Asset Cover

For a term of 3-5 years, a ratio of 2 may be good, for a term of 5-10 years, ratio of 2.5-3 may be good while for a term of 10-20 years ratio of 3-5 may be good. The safe value of ratio also depends on the term of the loan capital. Just as in case of the interest cover, even asset cover ratio's numerical value does not take into account the term.

Asset Cover Splits

Much the same way as the interest cover split, we can define asset covers splits for all the three categories of loans separately.

If we now look at the asset cover ratio from the perspective of each category of lender, than we may define, asset cover for a lender as

Asset Cover for a loan

$$= \frac{\text{total tangible assets less current liabilities}}{\text{loan capital of loans of the same and higher category}}$$

Each category of lender is looking for the assets that is available to him along with others who must be paid with him or ahead of him.

We illustrate use of this in the following example.

SOLVED PROBLEMS

1)What value of asset cover is considered safe?

Solution

For a term of 3-5 years, a ratio of 2 may be good, for a term of 5-10 years, ratio of 2.5-3 may be good while for a term of 10-20 years ratio of 3-5 may be good. The safe value of ratio also depends on the term of the loan capital. Just as in case of the interest cover, even asset cover ratio's numerical value does not take into account the term.

2)Define asset cover.

Solution

If we now look at the asset cover ratio from the perspective of each category of lender, than we may define, asset cover for a lender as

Asset Cover for a loan

$$= \frac{total\ tangible\ assets\ less\ current\ liabilities}{loan\ capital\ of\ loans\ of\ the\ same\ and\ higher\ category}$$

SELF-TEST

1) Which of the following is most conservative definition of asset cover?

a) $\frac{\text{Total assets} - \text{Current liabilities} - \text{intangible assets}}{\text{loan capital (all prior charges)}}$

b) $\frac{\text{(Total assets} - \text{current liabilities} - \text{intangible assets)}}{\text{balance sheet amount of loan capital}}$

c) $\frac{\text{Market value of total assets}}{\text{market value of total loan}}$

d) $\frac{\text{(Total assets} - \text{current liabilities} - \text{intangible assets)}}{\text{(market value of loan capital} + \text{all prior charges)}}$

2) Calculate the asset cover if Total assets =200000, current assets = 50000, Intangible assets = 30000 and mortgage = 50000

a) 2.5
b) 2.4
c) 3
d) 3.6

Short Answer Questions

1)What is asset cover?

2)Explain how asset cover is calculated with help of an example.

05-04: ASSET PRIORITY PERCENTAGES

The concept of split of lenders is considered here, to find what % of disposable asset (in excess over current liabilities) is required to be used to repay the capital to all lenders in his category taking the order of priority for capital repayment into consideration.

We consider allocation of Profit for capital repayment in the order of priority and determine what % of assets is used for this purpose.

For instance, if a company's tangible assets net of current liability is 300 million, consider the following:

Priority Category	capital million	Allocation of assets million	Priority wise Allocation from beginning	Asset Priority Percentages as % of Profit
Secured	40	First 40	0-40	0-13.33%
Unsecured	100	Next 100	40-140	13.33-46.67%
Subordinated Debt	10	Next 10	140-150	46.67-50%

The above allocation process is similar to that of income allocation for payment of interest.

Solved Problems

1) The outstanding loans of company X are:

(i) 10 % unsecured 2008 – Rs 10 lakhs

(ii) 11 % subordinated loan 2013 – Rs 20 lakhs

(iii) 8 % mortgage loan 2007- Rs 10 lakhs

Calculate asset priority percentage if the company has non current assets of 100 lakhs.

Solution

For mortgage loan asset cover is 100/10

Therefore asset priority percentage is 0% - 10%

For Unsecured loan asset cover is 100/(10+10)

Therefore asset priority percentage is 10% - 20%

For Subordinated loan asset cover is 100/(10+10+20)

Therefore asset priority percentage is 20% - 40%

2) Asset priority percentage values are highest for

a. debentures
b. secured loans
c. unsecured loans
d. subordinated debt.

Solution: d. subordinated debt.

SELF-TEST

1) Calculate the asset priority percentage if Total assets =200000, current assets = 50000, Intangible assets = 30000 and mortgage = 50000

a) 0% - 15%
b) 15% - 42%
c) 0% - 41.67%
d) 0% - 33.33%

2) Lower bound of asset priority percentage of a particular is equal to

a) Inverse of asset cover of that loan
b) Inverse of asset cover of next lower ranked loan
c) Inverse of asset cover of previous higher ranked loan
d) 0%

Short Answer Questions

1)What is asset priority percentage?

2)Explain how asset priority percentage is calculated with help of an example.

05-05: ASSET GEARING OR CAPITAL GEARING RATIO

Ordinarily all non-current assets are financed out of shareholders' fund (or equity, in short) and long-term debt. The lenders or providers of long-term like to keep a track of relative proportions of debt to equity called **gearing** or **leverage**.

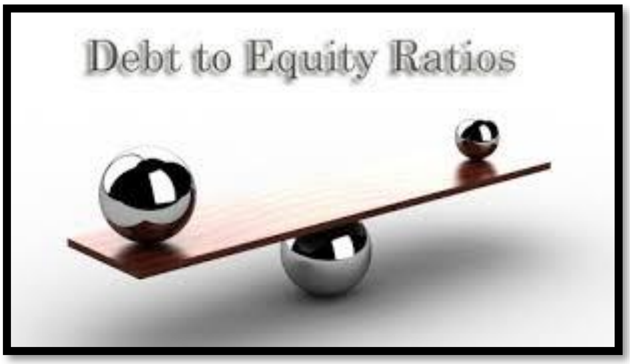
A debt free company is called ungeared company. A company with a high proportion of debt is called highly geared company. A highly geared company keeps its lenders on alert all the time!

Definition of Asset Gearing Ratio

Asset gearing ratio also called capital gearing ratio is defined in two forms, viz.

1. $\frac{\text{Debt}}{\text{Equity}}$ [this is debt to equity]

2. $\frac{\text{Debt}}{\text{Debt + Equity}}$ [this is debt to total fund]



In the expressions above, "equity" refers to shareholders capital plus all reserves. If the company has intangible assets, they are adjusted against appropriate reserves. Often, we discount intangible assets for their questionable worth. So, most analysts, prefer to deduct value of tangible assets from the Shareholders fund. In words, **Equity** is considered to be **net of tangible assets**.

Preference shares are more similar to debt rather than equity and hence it is generally treated debt.

For most industries, debt equity ratio of 1;;2 or lower is treated as safe.

Shareholder's Equity Ratio: This ratio is associated with debt-equity ratios. Precisely, it is defined as

$$\text{Shareholders equity ratio} = \frac{\text{shareholders equity} - \text{intangibles}}{\text{Total assets} - \text{intangibles} - \text{current liabilities}}$$

On the face of it, it looks very different from asset gearing rations. But let us understand it more clearly. The numerator of this ratio is the equity net of intangible assets, i.e. same equity stated earlier.

The denominator is total assets – intangibles – current liabilities

= Shareholder's fund+ long term liabilities – intangibles

= equity + debt.

$$\text{Thus Shareholders Equiy Ratio} = \frac{\text{Equity}}{\text{Equity} + \text{Debt}}$$

While the second form of Asset Gearing ratio measures proportion of debt in the total long term fund, Shareholder's equity ratio measures proportion of equity in the total long-term fund.

SOLVED PROBLEMS

1) Define asset gearing ratio.

Solution: Asset gearing ratio also called capital gearing ratio is defined in two forms, viz.

1. Debt [this is debt to equity]

Equity

2. Debt ____ [this is debt to total fund]

Debt + Equity

2) How are intangible assets treated in calculation of gearing ratio?

Solution

If the company has intangible assets, they are adjusted against appropriate reserves. Often, we discount intangible assets for their questionable worth. So, most analysts, prefer to deduct value of tangible assets from the Shareholders fund. In words, Equity is considered to be net of tangible assets.

SELF-TEST

1) Which of the following is true?

a) Debt to equity ratio is equal to shareholders equity ratio
b) Debt to total fund ratio is equal to shareholders equity ratio
c) $\frac{Debt}{equity} = \frac{\text{shareholders equity} - \text{intangibles}}{\text{Total assets} - \text{intangibles} - \text{current liabilities}}$
d) $\frac{Debt}{equity+Debt} = \frac{\text{shareholders equity} - \text{intangibles}}{\text{Total assets} - \text{intangibles}}$

2) Without any other information, which of the following company can be most risky?

Company with debt to equity ratio of 1:2

Company with debt to total fund ratio of 1:3

Company with debt to equity ratio of 1:3

Company with debt to total fund ratio of 1:2

SHORT ANSWER QUESTIONS

1)Why are preference shares normally treated as debt when calculating the gearingratio?

2)Define shareholders equity ratio.

05-06: INCOME GEARING RATIO

The second form of asset gearing i.e. capital gearing ratio was Debt/(Debt+Equity).

The income needed to service Debt is equal to the annual interest for all debts. Collectively, the money available to service both dent and equity is the profit before interest and tax.

If we now replace Debt and (Debt + Equity) by the income used to service each part (ignoring tax), then we shall get what we call income gearing ratio as

Income gearing ratio

$$= \frac{\text{total interest}}{\text{Profit before interest and tax}}$$

Observe that this ratio is simply the inverse of overall income cover ratio.

If the company has issued preference shares, we treat it as a debt. The preference share dividend will be a part of total interest in the numerator. The payment of preference dividend is done after payment of tax. Other interests are all payable from profit before tax. Therefore, an adjustment is needed. Equity dividend from profit after tax is equivalent to Preference Dividend / (1 – tax rate). Thus the income gearing ratio would become

Income gearing ratio

$$= \frac{\text{Interest on loans + Preference Dividend /(1 – tax rate)}}{\text{Profit before interest and tax}}$$

SOLVED PROBLEMS

1)Define income gearing ratio.

Solution

Income gearing ratio = $\frac{\text{total interest}}{\text{Profit before interest and tax}}$

If we include preference dividend

Income gearing ratio = $\frac{\text{Interest on loan} + \frac{\text{Preference Dividend}}{1 - \text{tax rate}}}{\text{Profit before interest and tax}}$

2)Calculate income gearing ratio for ABC Ltd. which has only equity capital of 50 millions, 8% loan capital of 20 millions and a profit before interest and tax of 16 millions.

Solution: Income gearing ratio = Interest on Loans / Profit before interest and tax

= 0.08*20/16

= 0.1 i.e. 10%

SELF STUDY QUESTIONS

1)If a company has to pay Rs. 2 crores of interest out of a profit of Rs. 8 crores and tax rate is 30%, then its Income gearing ratio is

a) 25%

b) 30%

c) 55%

d) 37.5%

2)If a company has to pay Rs. 2 crores of interest on loans and 0.7 crores of preference dividend out of a profit of Rs. 8 crores and tax rate is 30%, then its Income gearing ratio is

a) 25%

b) 30%

c) 55%

d) 37.5%

Short Answer Questions

1) What is income gearing ratio?

2) Why are preference shares treated as debt in calculation of income gearing ratio?

Books

Books			
T71142-W01	Accounting and financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		0324023618 South-Western College Pub.

02-06: Accounting Ratios for Shareholders

Mr. Warren Buffet is one of the biggest investors in the world today. He has his own principles for making his investment choices. Not everyone has the the luck he posses. But everyone has an access to certain basic tools that are useful in financial analysis. We shall learn some such tools in this section.

Primarily these are the ratios involving share information.

06-01: EARNINGS PER SHARE

This ratio measures the profit earned by the company that belongs to the shareholders per share. we can define it as

$$\text{Earnings per share (EPS)} = \frac{\text{Profit after interest and tax} - \text{Preference dividend}}{\text{Total no. of equity shares issued}}$$

It is customary to mention the earnings per share at the end of profit and loss account. The listed companies are required to disclose two types of earnings per share. They are basic earnings per share and diluted earnings per share.

The **Basic EPS** is the same as the one just defined, i.e.

$$\text{Basic Earnings per share} = \frac{\text{Profit after interest and tax} - \text{Preference dividend}}{\text{Total no. of equity shares issued}}$$

The **Diluted EPS** is given by

$$\text{Diluted Earnings per share} = \frac{\text{Profit after interest and tax} - \text{Preference dividend}}{\text{Total no. of equity shares issued or committed to be issued}}$$

The diluted earnings per share considers the scenario when all the shares committed to be issued in future gets issued.

For example, if a company's profit after interest and tax for 2016 is 300 million with 10 million shares in issue at the end of 2016.then its Basic EPS would be 300/10= 30.

Suppose the Company issued convertible bonds on 1st January, 2016. Its conversion terms are such that the bond holders will have an option to convert bonds to shares on 1st July, 2018.If the option exercised, then 2 million new shares will get issued.

Consequently, Diluted Earnings per share= 300/(10+2) =25. This takes into account a possibility of addition of 2 million shares which the company will be obliged to issue at a later date.

Since this commitment was made right on the 1st day of 2016, throughout the year no. of shares issued or committed = 12 million.

On the other hand, if bonds were issued on 1st July, 2016, then

No. of shares issued or committed = 10 million for first 6 months

= 12 million for next 6 months.

Therefore, for the year 2016 as a whole, we shall consider

No. of shares issued or committed = (6x10 + 6x12)/ (6+6) = 11 million.

Accordingly, Diluted Earnings for 2016 = 300/11 = 27.27.

SOLVED PROBLEMS

1)Why preference dividend is subtracted from the numerator of EPS and diluted EPS?

Solution: Preference dividend is always a fixed amount to be paid to preference shareholders. Therefore it won't matter to preference shareholders to the number of shares issued as long as company can pay preference dividend

Hence EPS is generally calculated for ordinary shareholders, for whom preference capital is a form of debt and hence preference dividend should be subtracted from PBIT

2)Which of the following could cause the earnings per share figure to be diluted?

a) a decline in revenues
b) a loss on the revaluation of an asset
c) the correction of an accounting estimate
d) the issue of a convertible bond

Solution: d) the issue of a convertible bond

SELF-TEST

1) A company has 5m ordinary shares in existence and 2m 7% convertible preference shares. Both categories of shares have a par value of 25p. The convertible shares can be exchanged for ordinary shares on a 1 for 1 basis. The company's net profit was Rs. 800,000. What is the company's diluted earnings per share?

a) 10.9 paise
b) 11.4 paise
c) 15.3 paise
d) 16.0 paise

2) Which of the following would explain the need to publish a figure for diluted earnings per share?

a) There is an active market in traded options on the company's shares.
b) The company has convertible loan stock in issue.
c) The company's profit is declining.
d) The company made a rights issue during the year.

SHORT ANSWER QUESTIONS

1)A fellow student has made the following comment regarding diluted EPS. "Since diluted EPS takes into account the number of shares not yet issued, it should have a lower importance than EPS" Do you agree with this view?

2)Explain the formula of diluted EPS by general reasoning along with an example.

06-02: PRICE EARNINGS RATIO

This ratio measures how much would you pay for one share of a company per unit earning by it. The earnings in this case may be the last reported earning or estimated prospective earning. Mostly, we use last historical earning for calculations.

$$\text{Price Earnings Ratio} = \frac{\text{Market Price Per Share}}{\text{Earnings Per Share}}$$

The market price of a share contains all the information that the market knows about the company.

Use of Price Earnings Ratio
If the price earnings ratio (where earnings are the last reported earnings) is high, it indicates one of the following:
1. The company's shares are attractively priced and the future earnings are expected to increase
2. The market believes that investment in the company carries a low risk
3. The shares of the company are overpriced (this is confirmed if similar companies in

the industry have relatively much lower P/E ratio)

In practice, the P/E ratio will keep changing as a result of the change in the market price. It is inappropriate to believe that the P/E ratio is constant and the share price can be improved by overstating the EPS.

SOLVED PROBLEMS

1)What does a high P/E Ratio indicate?

Solution A high Price Earnings Ratio indicate can indicate the following:

1. Company is expected to have high future earnings.
2. The company is relatively low risk.
3. Shares are overpriced.

2)For what purpose is estimated prospective earnings used in calculation of P/E ratio?

Solution: Estimated prospective earnings can be used by an analyst to estimate the growth in future earnings or by an potential buyer to estimate the fair price of a share

SELF-TEST

1) Changes in which of the following items would not lead to a change in price earnings ratio

a) Increased demand for shares of a company resulting in increase in price
b) A short term recession leading to lower profits while market price remains constant
c) Market price of shares increases due to increase in confidence of investors while EPS remains the same
d) None of the above

2) Which of the following ratio is considered to assess the likely growth prospects of the company and that the company is a low risk investment : -

a) Earning Per Share
b) Diluted Earning Per Share
c) Price Earning ratio

d) Dividend Yield

Short Answer Questions

1) How could share price be improved by overestimating EPS?

2) A student comments," A high Price Earnings Ratio of shares of a company indicates that the company is a good investment opportunity." Do you agree with students views?

06-03: DIVIDEND YIELD

The dividend yield measures the amount of current dividend income that an investor receives per unit interested in the company's share.
We can define gross dividend yield as

$$\text{(Gross) Dividend Yield} = \frac{\text{(Gross) dividend per share}}{\text{Market price per share}}$$

Use of Dividend Yield

The gross dividend yield is the dividend received by a shareholder plus the corresponding dividend distribution tax / tax credit.

The net dividend yield would be net of dividend distribution tax in India and tax credit in UK.

A low dividend yield may indicate that

1. The company's shares are attractively priced and the future earnings are expected to increase
2. The market believes that investment in the company carries a low risk
3. The shares of the company are overpriced

The gross dividend yield cannot be regarded as the return per share for an investor because it ignores the capital appreciation. In the present times dividend is losing its importance as increasing number of companies are using share buyback for distribution of profit rather than the dividend.

SOLVED PROBLEMS

1) What does a low dividend yield may indicate?

e) A low dividend yield may indicate:
f) Company is expected to have a increase future earnings.

c) The market believes that the company is relatively a low risk.

d) Shares are overpriced.

2) Is dividend yield, the total return that an investor in shares entitled to?

Solution: No, the dividend yield is not the total return that an investor is entitled to, since it ignores capital appreciation of shares.

SELF-TEST

1) Market price of a share of Company XYZ is Rs. 5. The company has issued 5 million shares in total. Dividend paid for current year was Rs. 1 million. Calculate gross dividend yield. There is no dividend distribution tax

a) 4%
b) 20%
c) 10%
d) Not enough information

2) Which of the following would not affect Gross dividend yield?

a) An dividend tax paid by the investors on dividend received

b) Change in the market perception of risk for the company resulting in lower share price but earnings by company remains constant

c) Increase in Corporate tax

d) None of the above

SHORT ANSWER QUESTIONS

1) Can dividend yield be directly comparable to income yield?

2) Give reasons why dividend yield for a company must be low initially.

06-04: DIVIDEND COVER

Dividend cover measures how many times did the dividend per share is the earnings-per-share.

$$\text{Dividend Cover} = \frac{\text{Earnings per share}}{\text{Dividend per share}}$$

Since dividends are paid out of earnings, it may be interesting to know the ratio of the earnings to the dividend. It also exhibits management's policy about profit distribution.

Use of Dividend Cover

A low dividend cover indicates that the company may not be able to maintain its dividends in future. On the other hand a high dividend cover indicates the possibility of increase in future dividend.
The inverse of Dividend cover is known as Payout ratio. Thus

$$\text{Payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}}$$

In the ratios pertaining to dividend, we sometimes consider gross dividend and sometimes net dividend.
Using net dividend, we can express Payout ratio

Payout ratio = P/E ratio x Net dividend yield.

SOLVED PROBLEMS

1) What is dividend cover?

Solution: it measures dividend per share times earning per share

2) Why is this useful?

Solution: Since dividends are paid out of earnings, it may be interesting to know the ratio of the earnings to the dividend. It also exhibits management's policy about profit distribution.

SELF-TEST

1) High dividend cover indicates:

a) Inability to maintain dividends

b) Possibility of increase in dividends

c) Possibility of company getting acquired

d) All of these

2) What relation do dividend cover and payout ratio share?

a) Inverse

b) The former is 2 times the latter

c) The former is half the latter

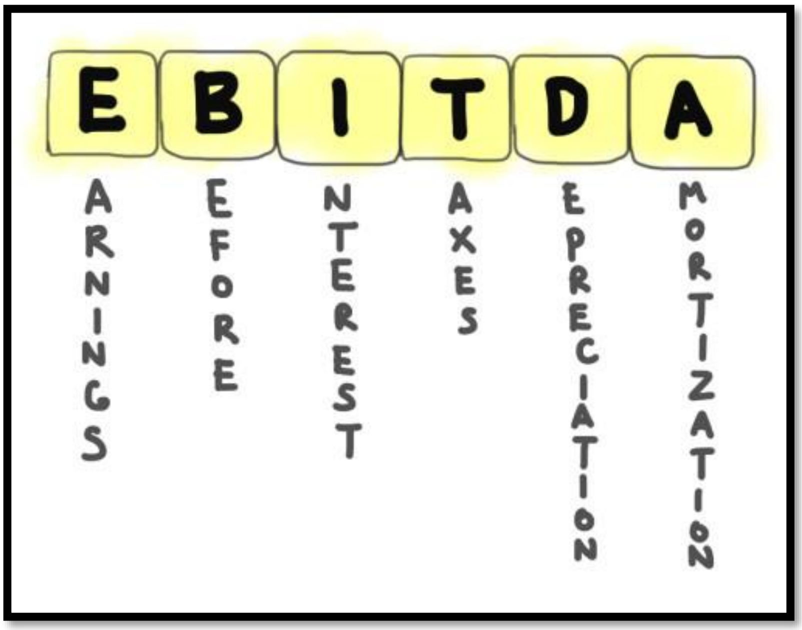
d) No relationship

SHORT ANSWER QUESTIONS

1) Give the uses of dividend cover.

2) What is the connection between P/E ratio, dividend yield and dividend cover?

06-05: EBITDA



While preparing statement of comprehensive income or profit and loss account we consider revenue minus cost of sales, cost of distribution, administrative expenses and other operating income to arrive at operating profit. The operating profit plus finance income leads us to profit before interest and tax. This is also known as earnings before interest and tax (EBIT).

While calculating EBIT we would have charged depreciation for noncurrent assets and amortization for intangible assets. Both of depreciation charge and amortization charge are subjective. Moreover they do not involve an actual cash outflow. So to find cash flow from operations both depreciation and amortization should be added to EBIT. This will give us EBITDA i.e. Earnings before interest, tax, depreciation and amortization.

Many analysts prefer EBITDA to EBIT as this is the true measure of operational success.

SOLVED PROBLEMS

1)How would one calculate net profit from EBITDA?

aOne can use the following approach:

Add the charges for depreciation and amortization.

Subtract interest payable and add finance income receivable

Subtract tax amount payable

2)What does a low EBIT but high EBITDA indicate?

a) It indicates that the ratio of depreciation and amortization to net profits is very high

SELF-TEST

1) Which of the following best explains why investment analysts often calculate Earnings before Interest, Taxation, Depreciation and Amortisation (EBITDA)?

a. EBITDA is less prone to fluctuations and volatility than net profit.
b. Depreciation and amortisation are not real costs to the business.
c. Investment analysts are only interested in performance before tax.
d. EBITDA is regarded as less prone to manipulation than net profit.

2) Operating profits of a company is Rs.50 million. Total amortization and depreciation cost is Rs.1 million. Calculate EBITDA. There are only two assets available. One is Depreciated while other is amortized

a) Rs.51 million

b) Rs.49 million

c) Rs.49.5 million

d) Rs.50.5 million

SHORT ANSWER QUESTIONS

3) Why is EBITDA a true measure of operational success?

4) Why is EBITDA important?

06-06: NET ASSET VALUE PER SHARE

Net assets are the assets net of intangible assets and all [current and non-current] liabilities. It is therefore equal to Shareholders' fund (i.e. equity) less intangible assets. The value of this Net Assets per equity share issued is known as Net Asset Value per share.

$$\text{Net Asset Value per share} = \frac{\text{Equity – intangible assets}}{\text{No. of equity shares issued}}$$

In case a company has issued convertible instruments, then it is necessary to reconstruct the balance sheet assuming that conversion is to happen immediately. This would mean that net asset value computed thereafter is effectively the diluted net asset value.

The net asset value shows the value that each share will fetch from the company if it is to wind up immediately and if all assets were to sell at their respective book values.

The market price of the share is based on the going concern assumption and hence is different from its net asset value.

A problem with net asset value is that it relies on the book value of assets and they are not necessarily just revalued. Therefore it may not represent fair value.

SOLVED PROBLEMS

1)What is the use of NAV to a shareholder?

a) NAV represents the total value available to an equity shareholder if the the company were to wound up.

Thus NAV gives a measure of risk of capital loss to the shareholder if a company becomes bankrupt

2) Name three accounting practices which are likely to have an effect on NAV in long term.

a) The following are the three accounting practices:

Cost concept, Going concern concept and Prudence

SELF-TEST

1) Which of the following companies do you expect to have the highest NAV during times of inflation given that the number of share issued are equal

a) A property company that revalues its assets periodically

b) A property company that does not revalues its assets periodically

c) An advertising firm consisting mainly of human resources

d) A firm in a declining industry making assets almost obsolete

2) Net asset value per share is calculated by subtracting intangible assets from ordinary shareholders' equity and dividing the remainder by the number of shares in issue.Which of the following best explains the relevance of net asset value per share?

a) In the event that the entity is wound up the chances are that its intangible assets will not have any market value, but the shareholders will be certain to receive the value of the remaining net assets after disposal.

b) In the event that the entity is wound up the net asset value per share is likely to represent the best possible outcome that the shareholders can expect.

c) The shareholders should monitor the net asset value per share and should insist that the entity be wound up in the event that net asset value per share exceeds the market value of the company's share

d) Net asset value per share is likely to correspond to the value that an unquoted company's shares would have on the open market.

Short Answer Questions

1)What is the use of NAV to a shareholder?

2)Why should one subtract the value of intangible from the numerator of NAV?

Books

Books			
T71142-W01	Accounting and financial fundamentals for nonfinancial executives by Robert Rachlin& Allen Sweeny.	1996	AMACOM, New York
T71141-R01	Accounting Fundamentals by William Ruland,		

02-07: ACCOUNTING RATIOS FOR PROFITABILITY, LIQUIDITY AND EFFICIENCY

A healthy company should have good profitability for its investors. But what if the company is surviving on thin cash all the time? It can default and put all investors into deep water. Also, investors would feel that investor in one of the best when the company is efficiently managed.

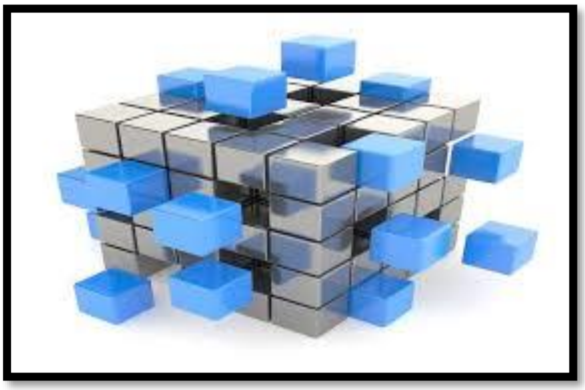
In this unit we shall consider tools useful for this health checks.

They are

- profitability ratios
  - return on capital employed
  - profit margin
  - asset utilization
- liquidity ratios
  - current ratio
  - quick ratio
- efficiency ratios
  - stock turnover ratio
  - debtors turnover ratio

- creditors turnover ratio

07-01: RETURN ON CAPITAL EMPLOYED (ROCE)



It is the most primary measure of return on investment in a company.

There are two ways of looking at what is the capital employed:

(i) shareholders' capital (with reserves)
(ii) overall capital = shareholder's capital + long term loan capital.

If we consider the Capital as Shareholders Capital, then the corresponding profit would be profit before tax. On the other hand, if we consider overall capital as defined in (ii) above, as it includes shareholders capital and lenders capital, the profit to be considered would be profit before interest and tax. The two versions of return on Capital employed are given by

[1] Return on Capital Employed = $\frac{\text{Profit before tax}}{\text{Shareholders' Capital}} \times 100$

[2] Return on (overall) Capital Employed

$= \frac{\text{Profit before interest and tax}}{\text{Shareholders' Capital + Long-term Loan Capital}} \times 100$

where in both the cases, shareholders capital is assumed to include reserves.

It is interesting to observe the consistence between numerator and denominator. The profit in the numerator corresponds to the investors whose capital appears in the denominator.

If a company has revalued its non-current assets, the denominator would increase due to increase in revaluation reserve and the return on Capital employ would decrease. To get a true view of return, one must consider the non-current assets without considering revaluation.

Use of Return on Capital Employed (ROCE)

As it represents, return from the business on capital invested, it can be compared with the cost of the capital.

Comparisons of the ratios for different companies, can tell us about the relative efficiencies of their managements to get returns from the funds available to them.

The company managements can use the ratios for

(i) decision to borrow further, if cost of borrowing is less than the ROCE and ROCE is stable
(ii) decision regarding expansion/closure of a division, by calculating ROCE for different divisions of the business and deciding on expansion of divisions with high return and selling off those with very poor returns.

Variations

Analysts consider ROCE with a few variations. Some variations are

- exclude intangibles from shareholders' fund
- use market values of shareholders' fund and loan capitals instead of book values
- use average capital employed during the period of accounting rather than the beginning / end values.
- include current liabilities along with non-current liabilities
- treat a long standing overdraft as a long-term borrowing

Break up of Overall ROCE

The overall ROCE can be broken down to two parts, viz. Profit Margin and asset utilization ratio such that

Overall ROCE = Profit Margin x Asset Utilization Ratio

They would be defined in the next two sections.

SOLVED PROBLEMS

1) Explain when interest payable should be included in the numerator of ROCE ratio

Solution: If the liability, that is the long term debt, is subtracted in the denominator the income paid ,that is the interest, should be deducted from the numerator

2) Is ROCE similar to a previously studied ratio

Solution: The denominator of ROCE is nearly the same figure used to calculate asset cover. Ignoring tangibles the two definitions are the same

SELF-TEST

1) The net profit before tax is Rs.35 lakhs. Interest payable is Rs. 30 thousand. Share capital and reserves is Rs. 170 lakhs. Calculate ROCE without considering Long term debt

a) 20.6%

b) 18.825

c) 22.35%

d) 17%

2) How will the components of the return on capital employed ratio be affected if a company charges depreciation too slowly?

a) Return will be understated and capital employed will be overstated.

b) Return will be overstated and capital employed will be overstated.

c) Return will be overstated and capital employed will be understated.

d) Return will be understated and capital employed will be understated.

SHORT ANSWER QUESTIONS

1) List the variations in the ROCE ratio.

2) Give a general reasoning of ROCE ratio.

07-02: PROFIT MARGIN

Profit margin is defined as ratio of returns to sales. Precisely, it is given by

$$\text{Profit Margin} = \frac{\text{Profit before interest and tax}}{\text{Sales revenue}}$$

Variations

Except for the finance companies, it may be a good idea to consider operating profit in place of profit before interest and tax. That would then become operating profit margin.

Some analysts consider gross profit margin instead of profit margin.

Adding depreciation to operating profit is also another common variation.

Use of Profit Margin

This ratio measures proportion of revenue that emerges as the profit. It measures profitability of the line of business. Analysts are interested in comparing profit margin year-to-year to understand the trend.

A low value of profit margin has several possible reasons or implications:

- a low margin – high volume marketing strategy to increase market share
- poor market product range
- poor management resulting into high costs and poor margin
- abnormally low profits may lead to exit in long run

Sometimes different accounting policies used by different companies may lead to different ratios and a direct comparison would be difficult to pass remarks. Also, different industries usually have different margins.

For example, retail industry has low margins, drug industry has high margins.

Some analysts use the profit margin and an estimate of future sales to predict future profits as shown below:

Operating profit margin x estimated revenue = estimated operating profit

Solved Problems

1)Why do different accounting policies lead to different ratios?

b) Accounting practices allow more than one alternative treatment. Thus producing a set of accounts is somewhat subjective. Hence different companies can still produce drastically different accounts while being in the same industry leading to different ratios

2)Name a ratio where estimated profit derived through profit margin can be used

c) The derived estimated profit can be used in the Price Earnings ratio

Self-Test

1) Which of the following may not result in low margins relative to other firms in the industry?

e. an attempt to increase market share
f. low margin high volume" marketing strategy
g. a niche product range
h. poor management/excessive costs

2) A company has a high return on capital employed but a low gross profit percentage.

Which of the following is the best interpretation of these results?

a) The company is profitable because it prices its sales aggressively.

b) The company should increase its selling prices.

c) The company is unprofitable despite a high return on capital employed.

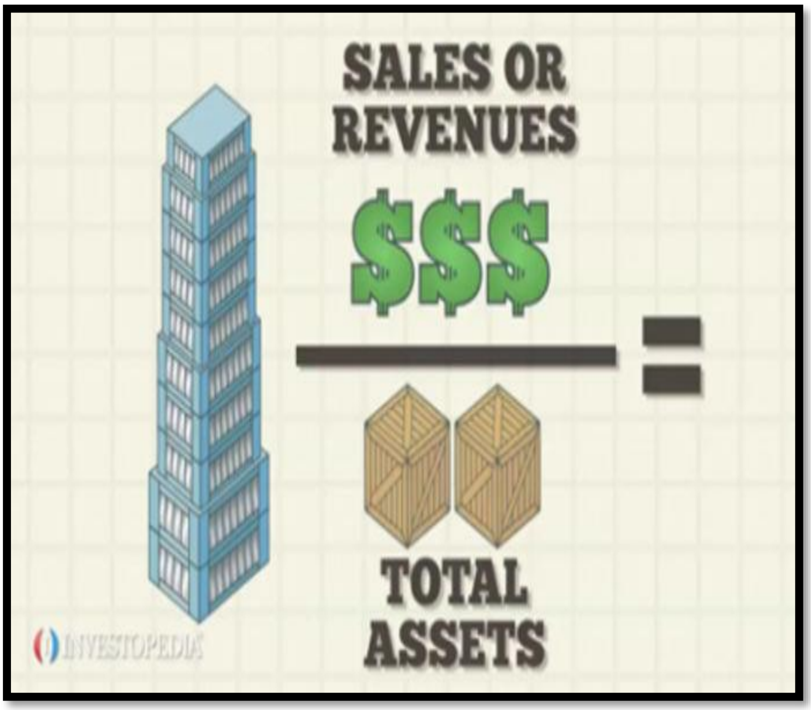
d) Gross profit is a very straightforward measure, so the company should disregard the return on capital employed.

Short Answer Questions

1)A firm is seen to have continuously low profit margin. What might be the reas on for this?

2)ABC Ltd started trading on 1 January 2005 and has a gross profit margin of 24%. It made sales of £184,650 during the year to 31 December 2005 and made purchases of £178,600. What is ABC Ltd s closing stock?

07-03: ASSET UTILIZATION RATIOS



Assets are held by business to generate revenue. In light of this, we can define asset utilization as

$$\text{Asset utilization ratio} = \frac{\text{Sales revenue}}{\text{Shareholder's Fund + Long-term debt}}$$

Use of Asset Utilization ratio

It measures efficiency of the management in utilizing assets of the company. If the value decreases from one year to another, it needs further investigation. It may indicate

- poor management if assets have increased
- production problems or marketing problems or increased competition or recession or falling demand due to price increase or obsolescence

Profit Margin and Asset Utilization

These two ratios must be seen alongside. You can see that their product makes overall Return on Capital employed. It is possible that a decrease in value one and an increase in the other may still make up for the returns.

SOLVED PROBLEMS

1)What does asset utilization ratio measures

Solution: It measures efficiency of the management in utilizing assets of the company. If the value decreases from one year to another, it needs further investigation.

2)When will there be a low asset utilization ratio?

Solution: There will be a low asset utilization ratio when there will be:

- poor management if assets have increased
- production problems or marketing problems or increased competition or recession or falling demand due to price increase or obsolescence

SELF-TEST

1) The ROCE ratio of a company was 5% in the previous year. In current year profit margin falls by 10%. How much should asset utilization ratio change so that ROCE ratio remains unchanged

a) 5%

b) 15%

c) 10%

d) 0.1%

2) Which of the following statement is correct regarding asset utilization ratio:

a) It expresses sales revenue as a percentage of capital employed

b) It indicates a niche product range

c) It will be the same every year

d) It does not depend on the costs of assets.

SHORT ANSWER QUESTIONS

1)Explain the use of profitability ratios to the management of a firm

2)This year's sales revenue is Rs. 1500 thousands. According to the Balance sheet Net current assets are Rs. 50 thousands. Non-current assets are Rs. 500 thousands. Long term debt is Rs. 100 thousands. Calculate asset utilization ratio. There are no other long term liabilities. Calculate asset utilization ratio.

07-04: CURRENT RATIO

It is the primary ratio for assessing liquidity. As the name suggests, it is given by

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Here, current liabilities are generally regarded as liabilities due in one year's time. But that is not necessarily the case with assets. A careful examination of the assets and their characteristics and objectives of investing in those assets will tell what may be regarded as current.

Use of Current ratio

Primarily, this ratio measures the ability of a business to pay its short term dues from short term resources.

A low value indicates financial instability and chances of getting into winding up situation.

A high value may indicate inefficiency of the management so that large proportion of money is locked up into current assets.

However, what is low and what is high varies as per the industry and the general trend in the industry. A change in the trend is significant and needs investigation.

For majority of industries, a ratio of 2:1 may be regarded as optimum.

SOLVED PROBLEMS

1)A company has a low current ratio. When will this be not a matter for concern?

Solution: Current ratio is useful to compare two firms of facing similar business risks. A company might always have a low but stable current ratio according to the industry it operates in.

2)What does a high current ratio says about a company?

Solution: This ratio measures the ability of a business to pay its short term dues from short term resources. A high current ratio indicates higher current assets compared to current liabilities.

However a high current ratio might indicate excess cash lying with the company.

SELF-TEST

1) A company expects to have net current liabilities at the financial year end. Raising funds by taking out a short term loan would:

a) reduce the current ratio

b) either increase or decrease the current ratio depending on the balances involved and the extra funds raised

c) have no effect on the current ratio

d) increase the current ratio

2) The current ratio of a company depends upon a number of factors listed below except for any one of the following –

a) The volatility of the working capital requirement.

b) The nature of company's business.

c) The imminence of current liabilities.

d) The long term investments of the company.

SHORT ANSWER QUESTIONS

183) Explain the current ratio by general reasoning giving an example.
184) When will the current ratio will be low?

07-05: QUICK RATIO

We all know that receivables and stock are both current assets. But they differ in their speed with which can be converted to cash. Stock has to be converted to sale/receivable and later to cash. In other words, receivable is more liquid than stock. We say that receivables can be converted to cash quickly but not stock. Accordingly, we define Quick ratio as

$$\text{Quick ratio} = \frac{\text{Current Assets- Stock}}{\text{Current Liabilities}}$$

The quick ratio is also known as acid test or acid test ratio or the liquidity ratio.

Use of Quick ratio

The objective of this ratio is to see how comfortable would be the position of short term payments if stock does not get converted to sale quickly. The ratio stresses on quickly realizable cash only.

A quick ratio much smaller than 1, indicates troubles in payments. A ratio of a little above 1 should be treated as comfortable.

Rather than absolute value, a change in trend is of greater significance.

Agreement with bankers on the liquidity front for their support is of more importance than the values of these current and quick ratios.

Variation

Sometimes marketable investment may be treated as current assets. However, the objective of investment should hold the key.

SOLVED PROBLEMS

1)Why does Quick ratio neglect the effects of inventories?

d) The purpose of quick ratio is to see how much readily available cash is with the company. The inventories takes time to be processed and sold and hence may not be able to convert in cash sales quickly. Hence they are neglected.

2)Explain why a low quick ratio may not be a problem.

e) Quick ratio is useful to compare two firms of facing similar business risks. A company might always have a low but stable quick ratio according to the industry it operates in. An industry may be such that there will be a high percentage of inventories of current assets.

SELF-TEST

1) Which of the following is likely to cause the greatest concern for a shareholder who wishes to analyse the liquidity position of a company?

a) an increasing current ratio

b) a declining quick ratio

c) a declining current ratio

d) an increasing quick ratio

2) Which of the following best explains why liquidity ratios based on a company's published accounts are unlikely to be useful for credit control purposes?

a) The figures are likely to be based on historical costs.

b) The figures are likely to be inaccurate.

c) The figures are likely to be out of date.

d) The figures are likely to be manipulated by creative accounting.

SHORT ANSWER QUESTIONS

1)You have decided to research why companies go Bankrupt and have decided to look into ratios of Companies that actually ran out of business. Which of the ratios would you choose to look first and why?

2)Explain the difference between the Quick and current ratio.

07-06: EFFICIENCY RATIOS

We consider efficiency in terms of ability to quickly use stock, recover receivables and withhold the payables to the extent possible.

(i) **Stock turnover ratio** is defined in terms of the duration for which inventory is held on an average. It is given by

$$\text{Inventory turnover period (in days)} = \frac{\text{Inventory}}{\text{Cost of Sales}} \times 365$$

Here, the cost of sales is the cost of material consumed. The inventory includes raw material stock, in-process inventory and stock of finished goods.

Difficulties arise in case of items which have seasonal sales. Therefore, it may be good to use average inventory rather than year-end inventories. A method of stock valuation also influences the ratio value.

Use of Stock turnover ratio

The ratio is designed to find average time required to convert stock to Sales. If (ideally, average) stock is 300 and the annual Cost of material consumed is 3600, it means that stock is rolled 12 times in a year. In other words, Average inventory turnover period is (30/360)x365= 30.42 days.

A small value of the period is desirable.

A longer inventory turnover period than other companies in the same industry indicates inefficient handling of stock. An increasing trend shows that sales is slowing down and stock is piling up.

Ratios vary significantly between industries.

Variation

A variation in the expression can be provided by using Sales instead of Cost of Sales.

(ii) **Debtors Turnover ratio** is defined in terms of duration required on an average to convert a credit sale to cash. It is given by

$$\text{Debtors turnover period (in days)} = \underline{\text{Debtors}} \times 365$$

Credit Sales

A difficulty is that often details of cash sales and credit sales are not explicitly available.

Use of Debtors Turnover

The information tells how quickly, is the organization able to collect its trade receivables. It helps in planning of cash flows. Besides, it can guide how much to pay for factoring.

Variation

A variation in the expression can be provided by using Sales instead of Credit Sales.

(iii) Creditors Turnover ratio is defined in terms of duration required on an average to convert a credit sale to cash. It is given by

$$\text{Creditors turnover period (in days)} = \frac{\text{Creditors}}{\text{Credit Purchases}} \times 365$$

A difficulty is that often details of cash purchases and credit purchases are not explicitly available.

Use of Creditors Turnover

The information tells how quickly, is the organization able to withhold its trade payables. It helps in planning of cash flows.

Variation

A variation in the expression can be provided by using Purchases instead of Credit Purchases.

Another variation is to use Cost of Sales [or just the Sales] for the denominator.

Solved Problems

1)Warren Buffet does not understand why his company is short of cash despite having an increase in sales. Explain which ratios he should check.

Solution: Warren Buffet should check the efficiency ratios followed by liquidity ratios. Efficiency ratios give a rough idea about the changes in working capital of the company whereas liquidity ratios give an idea about cash and cash convertibles.

2)The efficiency ratios described use values from both the income statement and balance sheet. Explain the difficulty arising out of it

Solution: Balance sheet is a snapshot of financial position at a particular time whereas income statement records events occurring throughout the year. This results in a mismatch of time.

SELF-TEST

1) Which of the following is NOT a potentially valid interpretation of the fact that the creditors' turnover period based on figures from a company's annual report is very rapid?

a) The company has no liquidity problems.

b) There are limitations in the relevance of the figures in the annual report.

c) The company is having difficulty in obtaining trade credit.

d) The company wishes to maintain an excellent relationship with its suppliers.

2) Which of the following is most likely to occur when a company's trade receivables turnover period, in days, has reduced?

a) A decrease in trade receivables and a decrease in cash.
b) A decrease in trade receivables and an increase in cash.
c) An increase in trade receivables and a decrease in cash.
d) An increase in trade receivables and an increase in cash.

SHORT ANSWER QUESTIONS

1)A company had cash sales of £60 million and credit sales of £150 million during its most recent financial year. The company had trade receivables of £40 million and £5 million of sundry receivables for rental income and similar balances at the year end.

2)The director of a Banking firm where you work as an accountant has asked to you to show the efficiency ratios for the current year. Explain the difficulty in producing the particular ratio

SUMMARY

Return on capital employed measures the relationship between the amount invested in the business and the returnsgenerated for those investors.

Profit Margin= $\frac{\text{Profit before interest and tax}}{Sales\ \text{revenue}}$

Asset utilization ratios = $\frac{\boldsymbol{Sales\ revenue}}{\boldsymbol{Shareholder's\ Fund + Long{-}term\ debt}}$

Current ratio = $\frac{Current\ Assets}{Current\ Liabilities}$

Quick ratio = $\frac{Current\ Assets - Stock}{Current\ Liabilities}$

Inventory turnover period (in days)=$\frac{Inventory}{Cost\ of\ Sales} * 365$

Debtors turnover period (in days) =$\frac{Debtors}{Credit\ Sales} * 365$

Creditors turnover period (in days) =$\frac{Creditors}{Credit\ Purchases} * 365$

UNIT 02-03 FUNDAMENTAL ANALYSIS-03

Present Value of Discounted Cash Flows

$$PV = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} \cdots \frac{CF_n}{(1+r)^n}$$

CF equals cash flow for a period,

r equals the discount rate, and

n equals the number of periods.

03-01: INVESTMENT DUE DILIGENCE

Having understood how to evaluate a company's strength by a variety of measures, we finally have to identify what are the stocks worth a buy. We call them investment Grade stocks. What do we consider as parameters for finding them? What salient features should they possess to be considered as investment grade stocks?

Some important techniques to choose good stocks are discussed below.

1. **Market Observations:** Keep ears and eyes open and look for companies whose products and services are becoming popular. For example, if you find Enfield bikes are popular amongst users, then its manufacturer: Eicher Motors may be a stock worth looking at.

Also, if you suddenly find a company advertising too much, look at its credentials. It may become a good stock to invest for short/medium term

2. **Stock Filter:** A stock filter software can be used to filter out stocks (from all listed stocks) that satisfy some criterion of your choice such as (i) ROE of at least 30% and Gross Profit Margin is at least 40%, (ii) ROE shows an increasing trend for last three years, etc.

3. **Macroeconomic Trend:** Keep an eye on macroeconomic trend and identify the industry to benefit from the same. For example, we find that infrastructure development

is a thrust area today in India. Therefore, one industry to benefit from it is Cement Manufacturing. So study fundamentals and growth prospects of different cement producing companies. Identify some winners from there.

4**. Sector Trends**: An investor can look for sectors with emerging trends and find the companies which be the best poised to befit from this. For example, demand for Green Tea is increasing in India. So investor can

look for tea companies which may have potentials to grow with this trend.

5**. Special Events:** Look for events like inclusion of a well known professional on Board of Directors or appointment of such a professional as CEO. It can have significant impact on the share price of the stock.

For example, appointment of (i) Nandan Nielekani as Non-executive chairman of Infosys in August 2017 and

(ii) Salil Parekh as CEO of Infosys in December, 2017 both lead to a surge in price of Infosys's stock.

6. **Professional Expertise**: A medical doctor or a pharmacist may be able to judge the Pharmaceutical sector potential and compare the companies in the sector better than a stock broker. So look for good stocks in the sector of your domain.

7. **Economic moat:** Mr. Warren Buffet's preference is companies with stronger economic moat. They are the companies with competitive advantage over its peers. Some examples are Eicher Motors, Bajaj Automobiles, Tata Chemicals, Infosys, HDFC, etc.

For equity investment, due diligence process involves the following steps after iIdentifying some good looking promising stocks.

1. Understand their business. Use annual reports, published news, google search, company's website, etc.

Search for information like

- business line, industry or industries
- promoters and their backgrounds
- directors and their backgrounds
- who are major shareholders
- details of products or services

- market share
- capacity utilization for various plants
- who are end users
- who are competitors
- projects under set-up
- proposed projects
- import/export
- labor situation, etc.

2. Examine whether characteristics that you are looking for in Investible stocks are present. These may be about the company's profitability, market share, etc.

3. Valuing a company to determine fair price of its stock.

We have discussed earlier how to analyse certain information contained in annual report earlier.

Desirable characteristics may be pertaining to profitability of the company, revenue growth, business diversification, etc.

Valuing accompany can be done using Discounted Cashflow Analysis. We shall soon look at it.

03-02 Equity Research

[source: www.wallstreetmojo.com]

1. **Equity research** aims at determining the valuation of a listed (Listed companies trade on stock exchange like BSE, NSE, etc) company.
2. Once you have identified the company under consideration, you look at the economic aspects like growth rates, market size of the industry and the competition aspects etc.

3. Once you understand the economics behind the business, perform the **financial statement analysis** of the historical balance sheet, cash flows and income statement to form an opinion on how the company did in the past.
4. Based on management's expectation, historical performances and industry competition, project the financial statements like the BS, IS and CFs of the company. (also called as Financial Modeling in Equity Research)
5. Use the Equity valuation models like **D**iscounted Cash Flows**,** Relative valuations**,** sum of parts valuation **the company**
6. Calculate the Fair price based on the above models and compare the fair price with the Current Market Price (stock exchange)
7. If the **Fair Price < Current Market Price**, then the company stocks are overvalued and should be recommended as a **SELL**.
8. If the **Fair Price > Current Market Price**, then the company shares are undervalued and should be recommended as a **BUY**.

ROLE OF EQUITY RESEARCH

[source: www.wallstreetmojo.com]

- Equity Research plays a very critical role that fills the information gap between the buyers and sellers of shares.
- Reason is that at all levels (individual or institutional) may not have the resources or the capabilities to analyze every stocks.
- Additionally, full information is not provided by the management due to which further in-efficiencies are created and stocks trade **below or above the fair value.**
- Equity Research analyst spend lot of time, energy and expertise to analyze stocks, follow news, talking to the management and provide an estimate of stock valuations.
- Also, equity research tries to identify the value stocks out of the massive ocean of stocks and help the buyers to generate profits.

03-03 Time Value of Money

To evaluate an investment option, we need to understand time value of money and consequently discounted cashflow analysis.

If you have Rs. 10,000 today, you may invest it in a bank in a fixed deposit and get back Ts. 10,750.We can therefore say that Present value of Rs. 10,750 a year hence is equal to Rs. 10,000. In general, we can find present value of a future value by multiplying the future value by a suitable term called discount factor.

If I represents annual return on 1 rupee, then Present Value = Future Value (at time=n years)* v^n where v=1/(1+i).

Thus Present Value of Rs. 1 crore 30 years hence = 1 cr. * $v^{30.}$ Using i=0.075, we get v=1/1.075 and

Present Value=11.42 lakhs.

This means, if you invest 11.42 lakhs on a compound interest @7.5% pa., for 30 years, it will have a maturity value of Rs. 1 crore.

In a generic case, if we have a sum of Rs. C invested initiall, it will result in accumulated value of $C(1 + i)^n$ at the end of n years.

So it follows that an investment of $C/(1 + i)^n$ at time 0 (the present time) will give C at time $n \geq 0$.

This is called the **discounted present value** (or, more briefly, the present value) of C due at time $n \geq 0$.

It is the amount that is needed to be invested at time 0 at compound interest rate i to accumulate to C at time n.

We now define the function $v = 1/(1 + i)$.

So we can say that discounted present value of C due at time $n \geq 0$ is Cv^n.

Solved Problems

Q1

An investor must make a payment of Rs. 50,000 in 5 years' time. The investor wishes to make provision for this payment by investing a single sum now in a deposit account that pays 10% per annum compound interest.

How much should the initial investment be?

Solution

Let Y denote amount of initial investment then Y × $(1.10)^5$ = 50,000 ⇒ Y = 50,000/1.10^5 = Rs. 31,046.07

We get directly using PV = $50{,}000v^5 = 50{,}000 \times 1.10^{-5}$ = Rs. 31,046.07.

SELF-TEST QUESTIONS

MCQ1

What could a guaranteed promise of £10,000 payable in ten years time be sold for, assuming the rate of interest was 4.5%?

a) £7123.89
b) £3000.00
c) £6439.28
d) £6900.78

03-04 DISCOUNTED CASHFLOW ANALYSIS

A company is regarded as a Collection of Projects. Therefore (Net Present) Value of a company = Sum of (Net Present) Values of All Projects.

(Net Present) Value of a Project = Sum of all discounted cashflows (inflows and outflows all included) pertaining to the Project

Discounted Cashflow = Cashflow x Discount Factor.

NET PRESENT VALUE (NPV)

Net present value (NPV) of a project represents the actual net earnings from the projects after adjusting the cashflows for their timing of occurrence. The cashflows are adjusted by an appropriate risk discount rate. This can be the WACC discussed previously.

Let $(CF)_t$ denote Cash Flow at time t.

If i denotes the risk discount rate and $v=\frac{1}{(1+i)}$, then

NPV=$\Sigma(CF)_{t}.v^t$

where $v^{t.}$ represents the discount factor for $(CF)_t$.

SOLVED PROBLEMS

1) A project has following cash flows at the beginning in 3 consecutive years. [-10,000 , +6000 , +5000] . Find NPV of the project at 8% and comment.

Answer: The given cashflows are at the beginning of first three years. So they are at times 0, 1, and 2.

As i = 0.08, $v = \frac{1}{1+0.08} = \frac{1}{1.08}$.

∴ NPV= -10,000 + 6,000 .v +5,000 v^2

= -10,000 + (6000/1.08) + (5000/1.08^2)

= -157.7503

Comment: We observe that in absolute terms, income(6,000+5,000=11,0000) is greater than outflow(10,000), but in present value terms the project is causing a loss of 157.75.

2) For a company, Net Profit after tax is estimated for next five years as

Year	1	2	3	4	5
Net Prfit(in Creores of rupees)	32	48	64	80	100

Using 10% discount rate, calculate Total Discounted cashflow.

Solution: Total Discounted Cashflow = Sum of Cashflow * Discount factor

= $32v + 48v^2 + 64v^3 + 80v^4 + 100v^5$ where v=1/(1+0.1)

=233.58 crores.

It is a common practice to value a company, based on next five years earnings. Therefore, wec may regard this value as the Value of the company.

If the company has 100,000 issued shares, we can say that

Fair Price of a share is 233.58 crores/100,000 = 23,358.

This is a conservative estimate as earnings after 5th year are ignored.

03-05 Margin of Safety

In the above, DCF analysis, we can use the following ways to bring in safety.

(1) Deduct 20 % from the value as safety margin and treat Value of Company = 0.8*233.58=186.86 crores

(2) Treat risk discount rate higher say 12% pa instead of 10% pa.

This will reduce Value of Company to 219.97 crores.

(3) Use certainty equivalent factors (CEF) because future cashflows are all estimates after all.

Using Certainty equivalent factors, Value of Company = Sum of (Cashflow)*(CEF)*(Discount Factor).

If we use CEFs' for the example under consideration as

Year	1	2	3	4	5
CEF	0.9	0.85	0.8	0.75	0.7

then Value of Company= Sum of (Cashflow)*(CEF)*(Discount Factor).

= 182.81 crores.

03-06 When To sell

This is a very difficult decision for an investor. Every investor wishes to sell at a highest rate. This however is wishful thinking. Do not regret if price goes up after you sell!

A decision based on technical analysis can be made using several tools. We shall see that in the next section.

On the other hand other scenarios when sell may be done are listed below.

- Sell when you need money
- Sell when there is a change of trend observed

- Sell when you are satisfied with the profit made.
- Sell when another more lucrative investment needs money to be invested
- Sell when recessionary indications are found.
- Sell when everybody else is buying
- Sell when company's products/services are lagging in technological innovations
- Sell when you observe another company in the same segment is coming up quickly
- Sell when the a good professional director/CEO leaves the company
- Sell if War begins
- Sell when your cab driver asks you what shares to buy!!!

Mr. Buffet has some interesting tips:

"If you aren't thinking about owning a stock for 10 years, don't even think about owning it for 10 minutes."

"Only buy something that you'd be perfectly happy to hold if the market shut down for 10 years."

"Our favorite holding period is forever."

03-07 Portfolio Size

It is very difficult tom keep a track of toom manyb companies. A portfolio ofc10-12 companies in different industries will be good.

Diversification will be helpful until you become an expert and blessed like M. Buffet. He has some interesting tips:

"An investor should act as though he had a lifetime decision card with just twenty punches on it."

"Opportunities come infrequently. When it rains gold, put out the bucket, not the thimble."

"Diversification is protection against ignorance. It makes little sense if you know what you are doing."

Credit 03

Unit 03-01: Technical Analysis

Learning Objectives

After successful completion of this unit, you will be able to

- ❖ understand the trend in the market
- ❖ identify stocks which are worth buying/selling
- ❖ determine better time to buy and time to sell
- ❖ estimate potential profit
- ❖ estimate downside risk
- ❖ obtain guidance for the period of holding

Introduction

01-01: Objective of Technical Ananlysis (TA)

The objective of Technical analysis is to ascertain the following:-

1. Price at which one should buy and sell stocks

2. Risk involved

3. Expected reward

4. Expected holding period

What does it involve?

Technical Analysis relies on graphical presentation of **historical prices** (along with volume data) and it attempts to identifying patterns which can help understanding certain trends. The analysis of these trends and indications lead to answers for the objectives.

Technical analysis can be applied for all types of assets: shares, bonds, gold, etc.

Typically, long term investors use fundamental analysis to determine what to buy. They can use technical analysis to judge timing for buy / sell actions.

Traders or short term investors can use technical analysis to determine what to buy / sell as well as the timings for the actions. They also use TA to determine potential profit and expected holding period. They can also judge the severity of the risk if market behaves differently.

Basic tool applied is the time series analysis with enhanced features. It does take into account fundamental information about the company.

While day traders will keep an eye on intraday movements, investors can do well with charts based on (i) Daily Open, High, Low, Close prices and (ii) Daily trading volume data.

Technical analysis is based on certain premises:

a) All the information about the company's performance and prospects are contained in historical price and volume data

b) Market discounts everything in advance and hence the market behavior in terms of price and volume has reflected future news.

c) price moves in a trendy manner

d) history keeps repeating itself

SOLVED PROBLEMS

1) Who can use technical analysis?

    a) investor

    b) trader

    c) speculator

    d) all of the above

    Solution: d) all of the above

2) Technical Analysis is useful in deciding

a) what to buy/sell
b) when to buy/sell
c) potential profit
d) all of the above

Solution: d) all of the above

SELF-TEST

1) Technical Analysis is useful to
   a) A Stock market participant
   b) An HR manager to hire an employee
   c) A purchase manager to choose his supplier
   d) An institute to select hits student
2) Fundamental analysis is useful to
   a) A Stock market participant
   b) An HR manager to hire an employee
   c) A purchase manager to choose his supplier
   d) All of the above

SHORT ANSWER QUESTIONS

1) What are the assumptions underlying Technical analysis?
2) Technical analysis is independent of fundamental analysis. Discuss.

01-02: TYPES OF CHART

.BSE Sensex Movements are shown above.

Some popular varieties of Charts used by analysts are

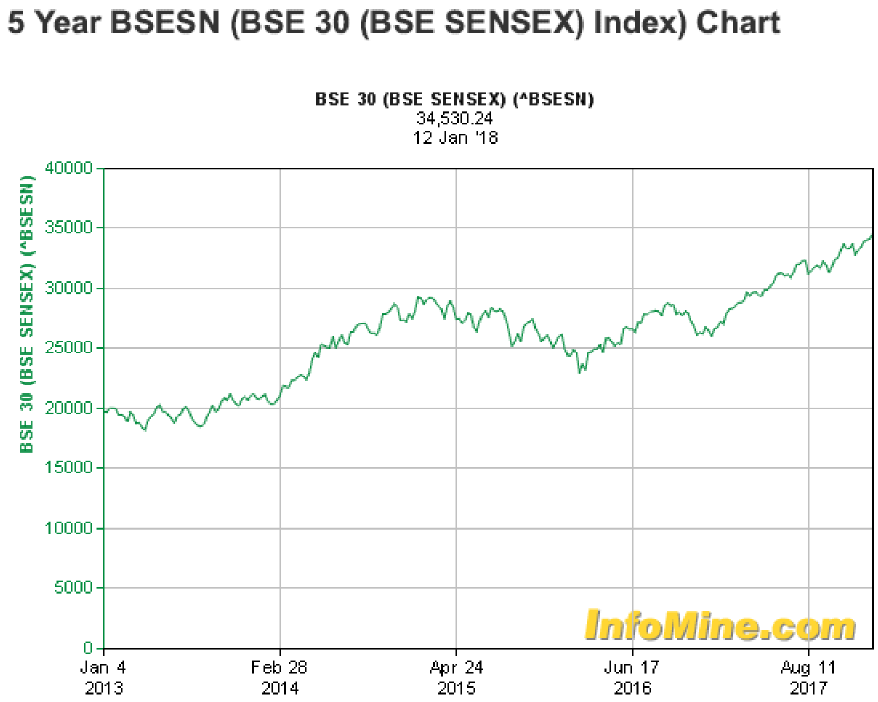
1. Line Chart

2. Bar Chart

3. Candlestic Chart.

Line Chart

It shows Closing price against Date. It does not exhibit how the price fluctuated within day.



A one-day line chart shows continuous time changes. See 12 January 2018 chart.

Bar Chart

A bar represents total price fluctuation from low tom high every day with ticks indicating open and close.

A typical bar may look like:-

High Price

|

Open Price _|

|_ Close Price

|

|

Low Price

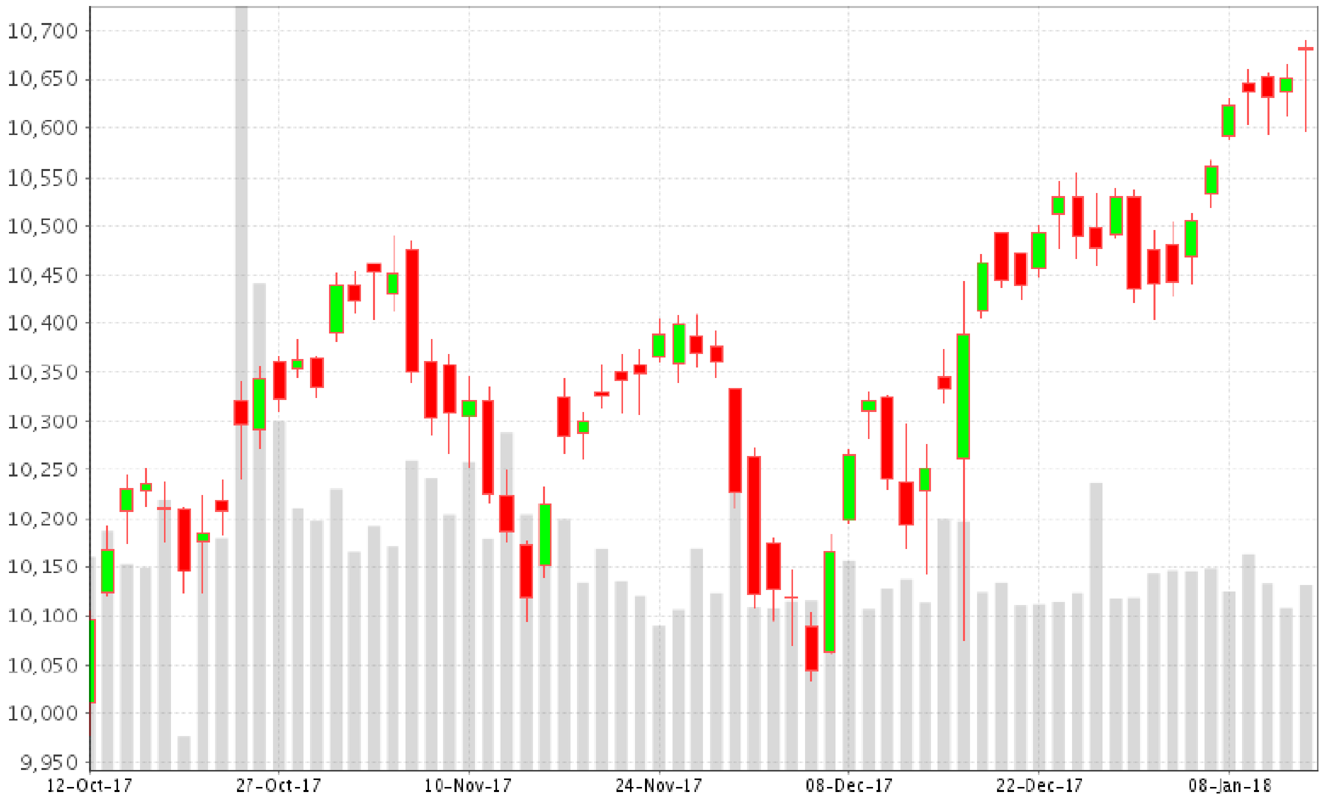
The following bar chart represents Nifty data.

21 Jul 17
8 Jan 18

Candlestick Chart

Japanese candlestick chart is an improvisation of bar chart in the sense that in addition to Open, High, Low and Close price it also provides whether price has increased/decreased during the day. A bar is replaced by a candle, it is shown as hollow or white (or green) if the price has increased and as solid or black (or red) if the price has decreased.

A candle stich chart is shown below:



Solved Problems

3) Explain what is line chart.
   a) Solution; A line chart shows the price movement against time.
4) What is a candle stick chart?
   a) A candle stick chart shows open, high, low and close pricesalong with an indication for increase/decrease.

Self-Test

3) Which of the following chart is the most informative amonbgst them?
   a) Line chart
   b) Bar Chart
   c) Pie Chart
   d) Candlestick chart
4) What is not easily indicated by a bar chart?
   a) Open Price
   b) Close Price
   c) Option C
   d) Nature of Change i.e. increase/decrease

SHORT ANSWER QUESTIONS

3) Draw a line chart using the following values:

Date	Sensex
08.01.18	34,352.79
09.01.18	34,443.19
10.01.18	34,433.07
11.01.18	34,503.49
12.01.18	34,592.39

4) Explain how a candlestick chart is an improvement over bar chart.

Timeframe

A chart can be prepared for various timeframes.

A daily chart shows one point/bar/candle for a day

A Weekly chart shows one point/bar/candle for a week and so on.

For day traders, a point/bar/candle may represent value for a small interval, say of 5 minutes.

UNIT 03-02: CANDLESTICK PATTERNS

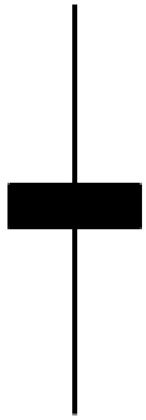
There are several candlestick patterns. They are classified as single stick patterns and multiple stick patterns. We shall discuss some of them now.

Nasdaq.com, the official website of NASDAQ stock Exchange in USA discusses some patterns as under:-

[SOURCE: NASDAQ.COM]

02-01SINGLE CANDLESTICK PATTERNS

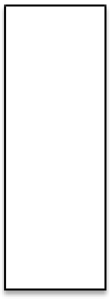
SPINNING TOP



A spinning top has two long equal length shadows with a small body and typically signals a reversal when they occur during a trend. In indicates an indecision between buyers and sellers, and that neither of them can close much higher or lower than the opening.

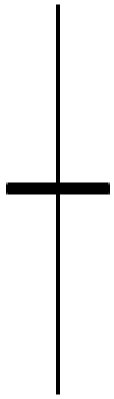
Most traders use the strategy of going long if a spinning top occurs during a downtrend and shorting if it occurs during a downtrend.

MARUBOZA



A Maruboza is when a candlestick forms with a long body and little to no shadow. This signals strong movement in one direction, which will likely continue movement in that direction in the near future. In the bullish Maruboza case, the opening price is equal to the low and the closing price is equal to the high. With a bearish Maruboza the opening price is the high and the closing is the low.

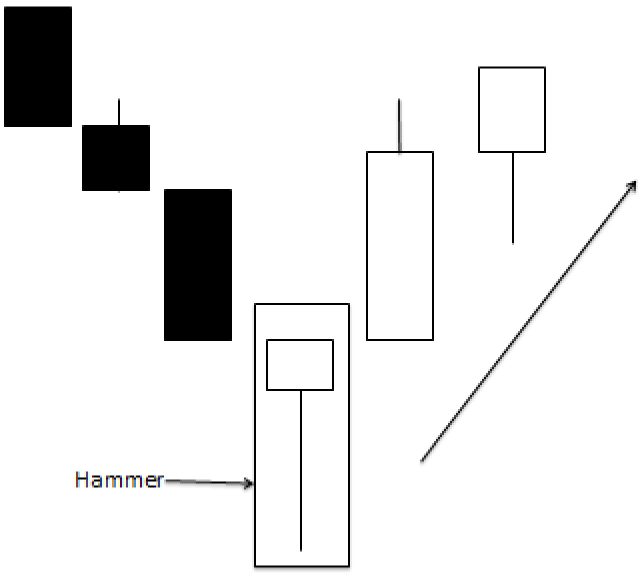
DOJI



A doji is a candlestick where the opening price is almost the exact same as the opening price, with long shadows in one direction or both. What this can signal is indecision between buyers and sellers. If these occur at the top or bottom of a trend it can signal a reversal as it shows a slowing of momentum.

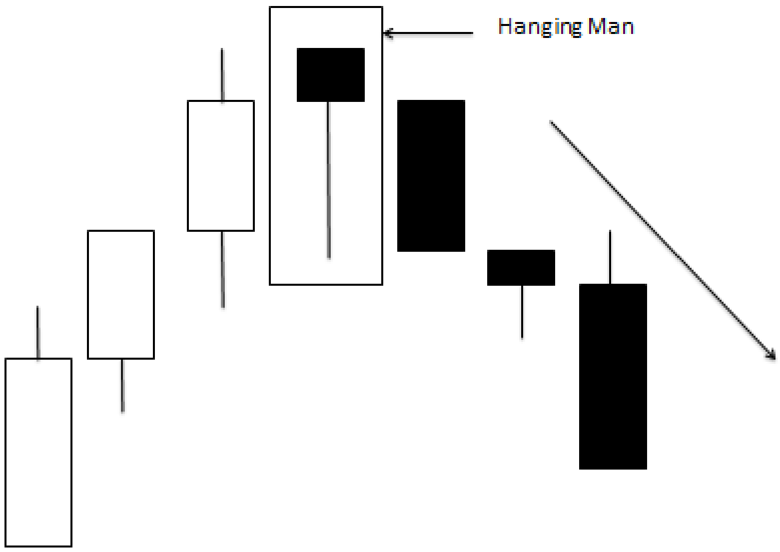
HAMMER

The hammer chart pattern is a Japanese candlestick that has a small body with a short to no shadow on top of the body with a long shadow on the bottom. When this candlestick occurs at the bottom of a trend, it can signal for a reversal.



HANGING MAN

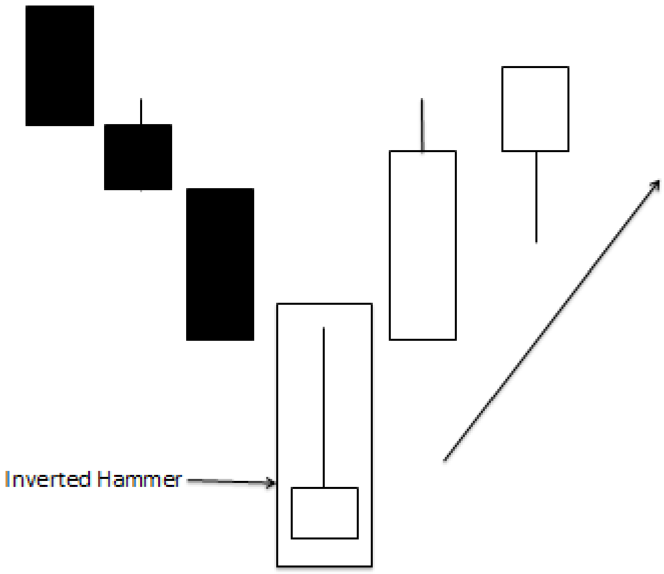
The hanging man candlestick pattern has the exact same candlestick as the hammer but has different price action before it, so it signals for a reversal downwards.



INVERTED HAMMER

The inverted hammer is a candlestick similar to the hammer and hanging man patterns in that it can signal a reversal. With an inverted hammer, a small bullish candlestick body forms with a long shadow on top, and occurs during a downtrend.

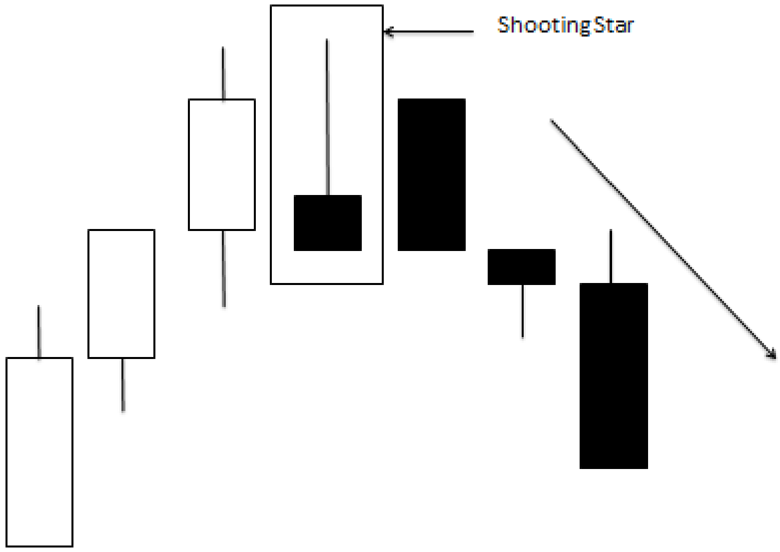
The reason this signals a possible reversal is because of an inability of the bears to force the price below the close after a strong effort by the bulls. The shortage of sellers is a signal for a change towards upward momentum.



SHOOTING STAR

The shooting star is similar to the inverted hammer but occurs during an uptrend and can signal a reversal downwards. The candlestick for a shooting star is a small bearish body with a long shadow on top.

The reason behind the reversal in strength is that the bears out strengthened the bulls after a strong push by the bulls. When this occurs during an uptrend it signifies a change in momentum downwards.



02-02 Double Candlestick Patterns

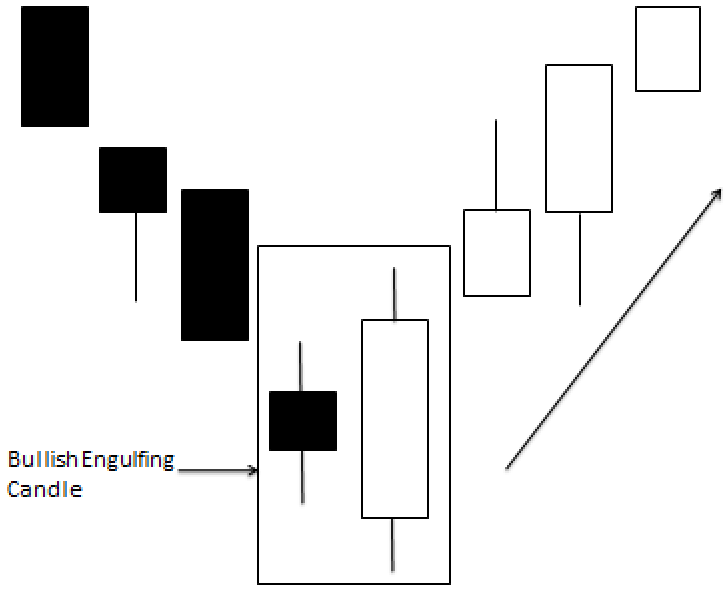
[Source: NASDAQ.com]

Bullish Engulfing Candles

A bullish engulfing candle is a dual candlestick pattern, which might signal an upcoming uptrend. The pattern applies after there's been a period of consolidation or downtrend.

The two-candlestick pattern is a bearish candle followed by a larger bullish candle. The reason this is an indicator for an uptrend is that bulls are showing more strength than bears. The change in strength with the bulls shows a reversal of momentum that will likely continue into the future.

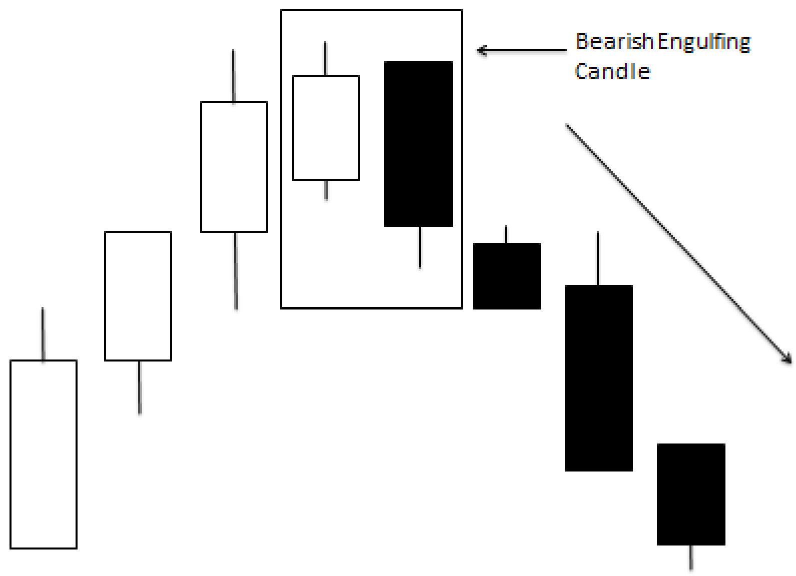
The name of the pattern comes from the idea that the bullish candle "engulfs" the bearish candle that came before it.



BEARISH ENGULFING CANDLES

The bearish engulfing pattern is similar to the bullish engulfing patterns but signals an upcoming downtrend instead.

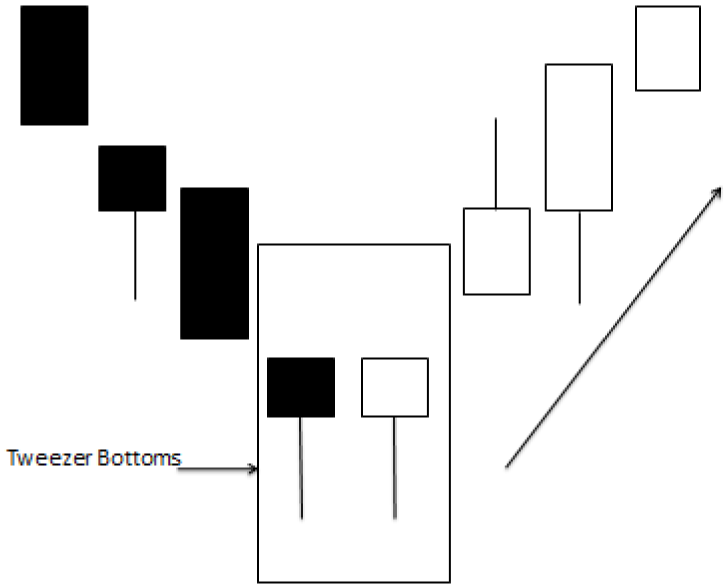
One difference between bearish and bullish engulfing patterns is that a larger bearish candle follows a smaller bullish candle instead. The reason for this reversal is that bears have started to out strengthen the bulls and the momentum might continue into the future.



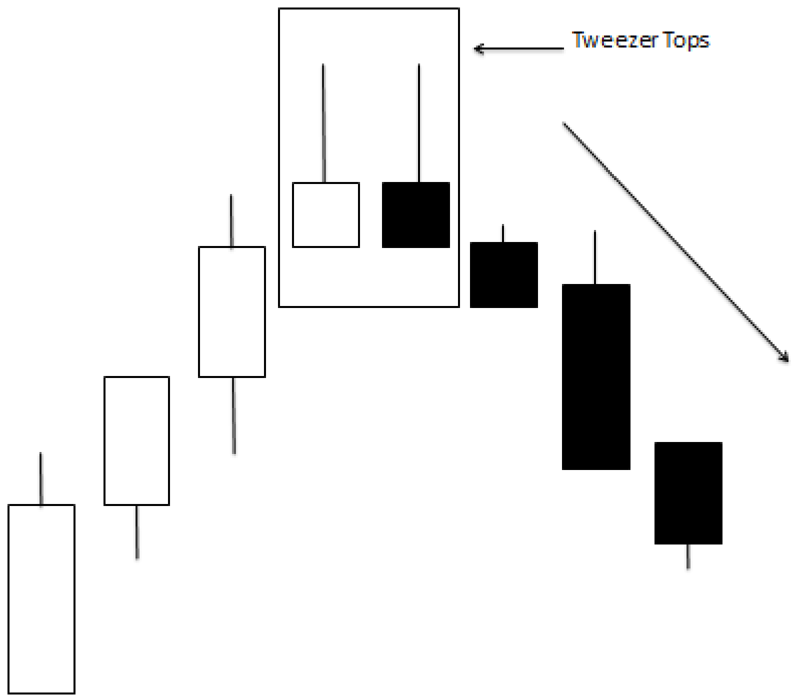
TWEEZER BOTTOMS AND TOPS

Tweezer bottoms and tops are another type of dual candlestick pattern, which signal a reversal after an extended uptrend or downtrend.

A tweezer bottom follows an extended downtrend and signals a reversal upwards. The first candlestick for a tweezer bottom has a bearish candle with a moderately length shadow below. The second candlestick is a bullish candlestick with an equal length body and shadow sharing the same low as the first candle.



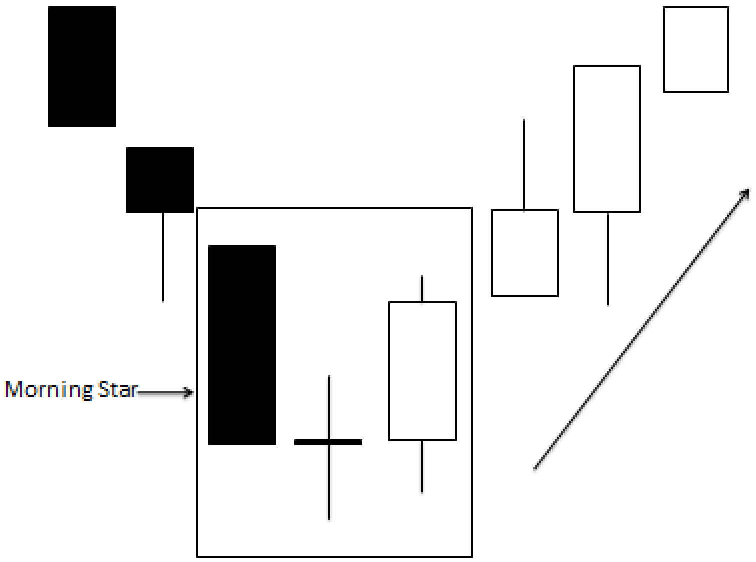
A tweezer top is the opposite of a tweezer bottom as it follows an extended uptrend and signals a reversal downwards. The tweezer top pattern has a bullish candle with a shadow on top, and a bearish candle with a shadow on top following it. Similar to the tweezer bottom, the bodies and shadows must share the same high, low, open and close.



02-03 Triple Candlestick Patterns

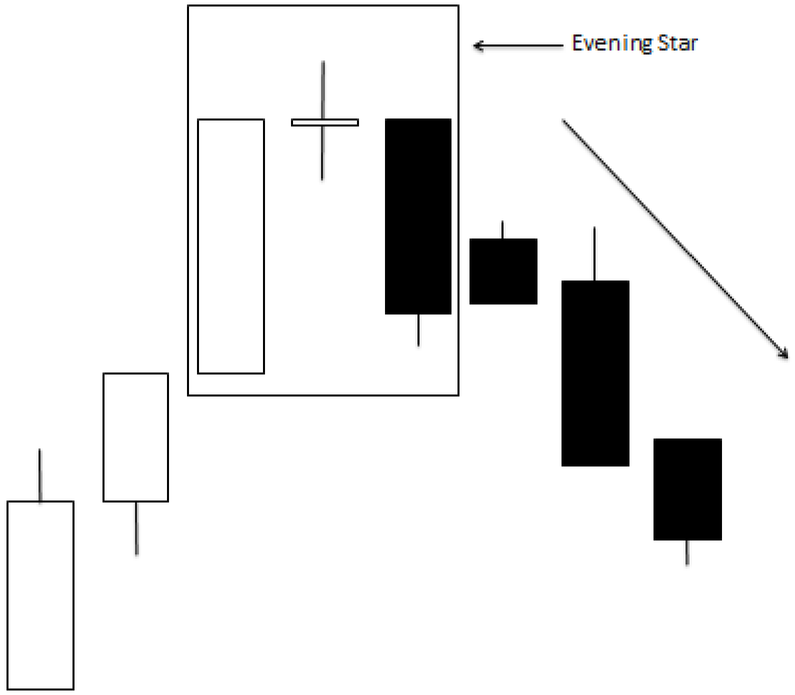
Morning Stars and Evening Stars

These are triple candlestick patters. Both morning and evening stars occur during a trend and can signal a reversal in momentum.



The first candlestick for a morning star is a bearish candle with a long body. It is then followed by a doji (a small body candle with long shadows on bottom and top). The doji signals indecisions and doesn't matter if it closes up or down. The third candlestick is a bullish candlestick that should at least pass the halfway point of the first bearish candle. The morning star is a buy indicator.

The evening star is similar to the morning star pattern but occurs during an uptrend and signals a reversal downwards. The evening stars' first candle is a bullish candle with a long body. The second candle is a doji, which signals indecision. The third and final candle in the chart pattern is the bearish candle that closes past at least the halfway point of the first bullish candle.



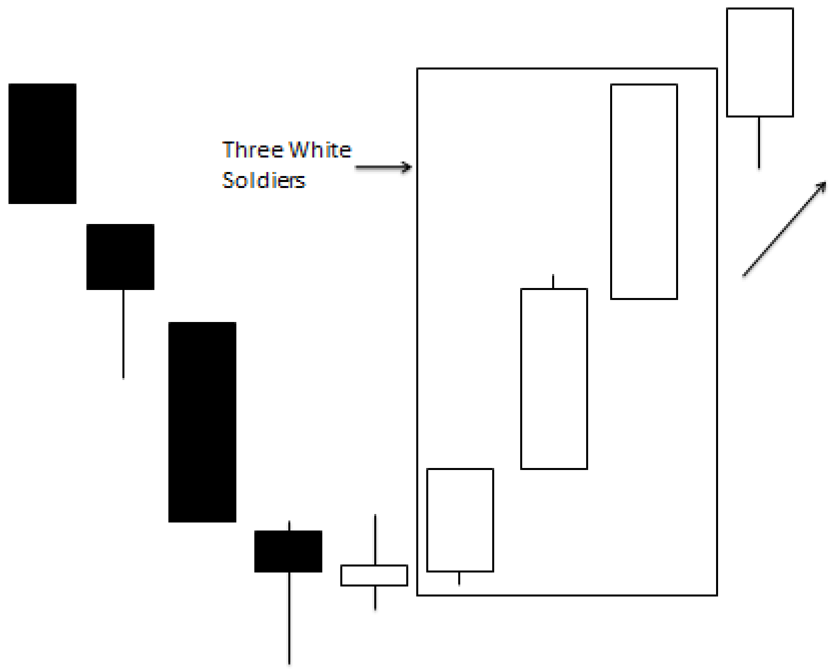
An important note is that the doji, the second candle for both patterns, doesn't have to close higher or lower, it just maters that the body is small.

Three White Soldiers and Black Crows

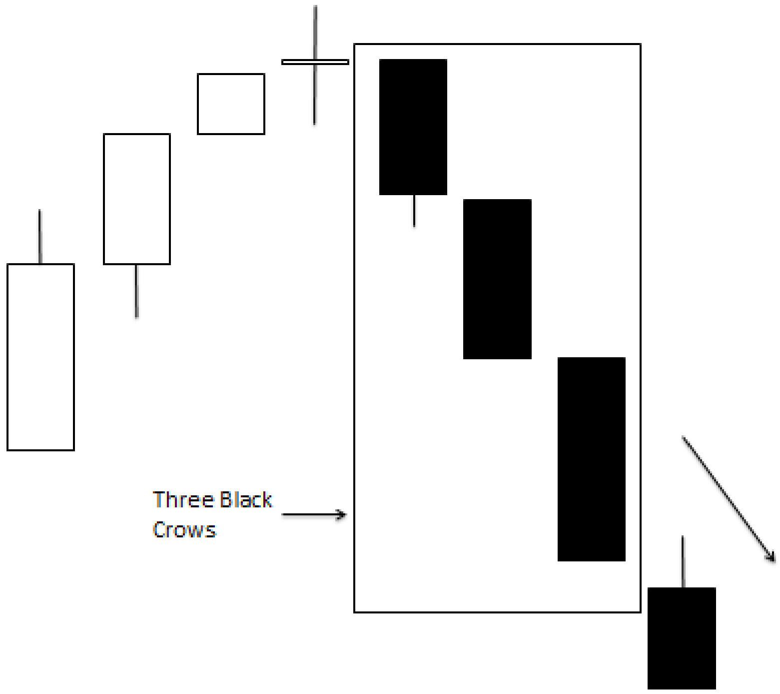
The three white soldiers and black crows are another type of three-candlestick pattern. Instead of signaling a reversal, compared to many other patterns we've looked at, the white soldiers and black crows are used to confirm a trend.

Both patterns occur after there's been an extended trend and a period of consolidation following that trend.

The three white soldiers pattern can appear after an extended downtrend and a period of consolidation. The first candlestick of the chart pattern that needs to appear is a bullish candlestick with a long body. The next candlestick in the pattern is another bullish candlestick, but this candlestick needs to have a body of greater size than the first candlestick. This second candlestick also needs to have little to no shadow. The last candlestick is another bullish candlestick that needs to be equal or greater length of a body than the second candlestick.



When all three candlesticks appear, this chart pattern can be used to confirm the start of a new uptrend.



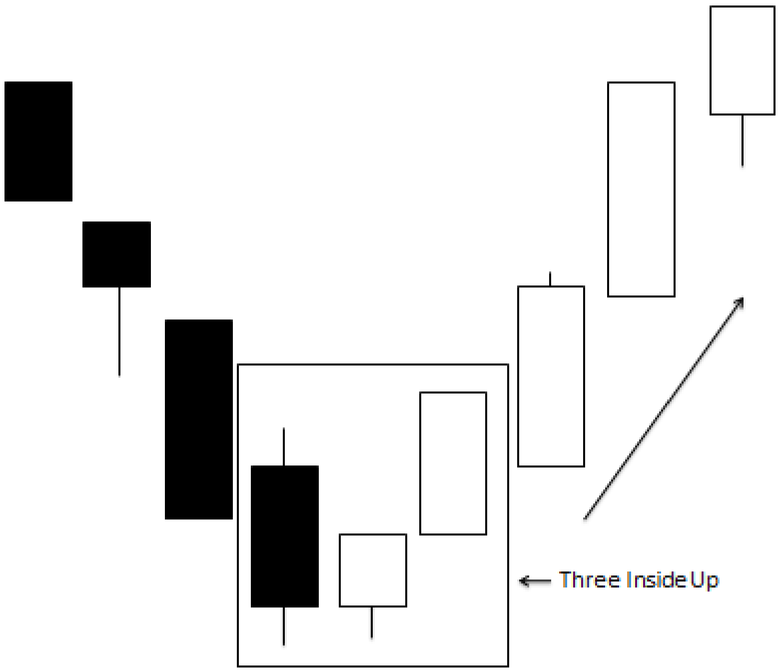
The three black crows chart pattern is the opposite of the three white soldiers chart pattern. Instead of three bullish candles with the three white soldiers, you have three bearish candles instead. Also, the three black crows pattern needs to come after an extended uptrend and consolidation for it to confirm a new downtrend.

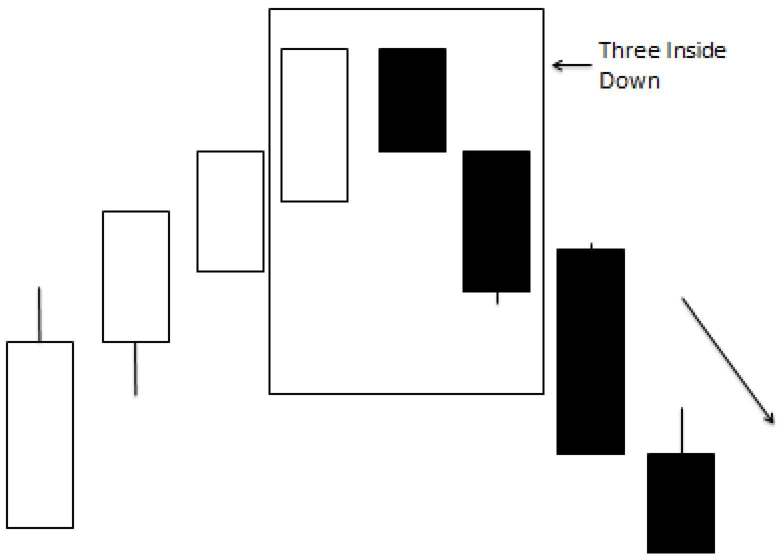
Three Inside Up and Down

The three inside up and down candlestick patterns are the last type of triple candlestick patterns. Both signal the reversal of a trend.

The three inside up pattern occurs after a recent downtrend and signals for a reversal to an uptrend.

The first candle in the pattern is a bearish candle with a long body. The next is a bullish candle that passes at least the halfway point of the first bearish candle. The third and final candle is another bullish candle that passes at least the high of the first bearish candle.





The three inside down pattern is the opposite of the three inside up pattern. In this case, the pattern is an indicator for a reversal downwards and must follow a recent uptrend. The first candlestick in the pattern is a bullish candle with a long body. The second is a bearish candle that passes at least the halfway point of the first bullish candle. The last candlestick is another bearish candle that passes at least the low of the first bullish candle.

CANDLESTICK PATTERNS OBSERVED FOR NIFTY

Pattern	Timeframe	Reliability	Candles Ago	Candle Time
		Completed Patterns		
Hanging Man	1W		3	Dec 24, 2017
Shooting Star	5H		4	Jan 11, 2018 12:30
Three Inside Up	1W		13	Oct 15, 2017
Three Outside Up	1D		18	Dec 19, 2017
Bullish Engulfing	1D		19	Dec 18, 2017
Harami Bullish	1W		21	Aug 20, 2017
Downside Gap Three Methods	1M		22	Mar 16
Three Outside Down	15		24	Jan 12, 2018 12:15
Engulfing Bearish	15		25	Jan 12, 2018 12:00
Engulfing Bearish	30		26	Jan 11, 2018 14:30
Inverted Hammer	1M		27	Oct 15
Bullish Hammer	1H		27	Jan 10, 2018 11:30
Dragonfly Doji	1M		28	Sep 15
Bullish doji Star	1M		28	Sep 15

Pattern	Timeframe	Reliability	Candles Ago	Candle Time
Dragonfly Doji	1M		31	Jun 15
Falling Three Methods	1M		33	Apr 15
Engulfing Bearish	1M		34	Mar 15
Three Black Crows	30		35	Jan 11, 2018 10:00
Engulfing Bearish	1M		37	Dec 14
Shooting Star	1D		38	Nov 21, 2017
Doji Star Bearish	1M		40	Sep 14
Inverted Hammer	1D		43	Nov 14, 2017
Falling Three Methods	1D		44	Nov 13, 2017
Doji Star Bearish	1M		45	Apr 14
Deliberation Bearish	1M		45	Apr 14
Three Outside Down	1D		47	Nov 08, 2017
Engulfing Bearish	1M		48	Jan 14
Engulfing Bearish	1D		48	Nov 07, 2017
Three Black Crows	15		49	Jan 11, 2018 14:45
Hanging Man	1M		50	Nov 13
Three Outside Up	1W		53	Jan 08, 2017
Doji Star Bearish	1W		53	Jan 08, 2017
Bullish Engulfing	1W		54	Jan 01, 2017
Bullish doji Star	30		54	Jan 10, 2018 09:30
Belt Hold Bearish	30		55	Jan 10, 2018 09:00
Bullish Hammer	5H		57	Dec 14, 2017 09:30
Inverted Hammer	1W		58	Dec 04, 2016
Harami Cross	5H		58	Dec 14, 2017 04:30
Engulfing Bearish	1M		59	Feb 13
Bullish Hammer	1W		59	Nov 27, 2016
Harami Bullish	1W		59	Nov 27, 2016
Dragonfly Doji	1W		59	Nov 27, 2016
Inverted Hammer	15		65	Jan 11, 2018 10:45
Shooting Star	15		65	Jan 11, 2018 10:45
Inverted Hammer	1W		66	Oct 09, 2016
Harami Bullish	1W		66	Oct 09, 2016
Bullish Engulfing	1M		67	Jun 12
Shooting Star	1D		67	Oct 10, 2017
Doji Star Bearish	5H		69	Dec 07, 2017 17:30
Deliberation Bearish	5H		69	Dec 07, 2017 17:30
Inverted Hammer	15		69	Jan 11, 2018 09:45

Go to the chart of nifty and examine how many of these you can detect.

02-04 Support And Resistance

Let us now understand how to identify support and resistance levels. Look at the chart below.

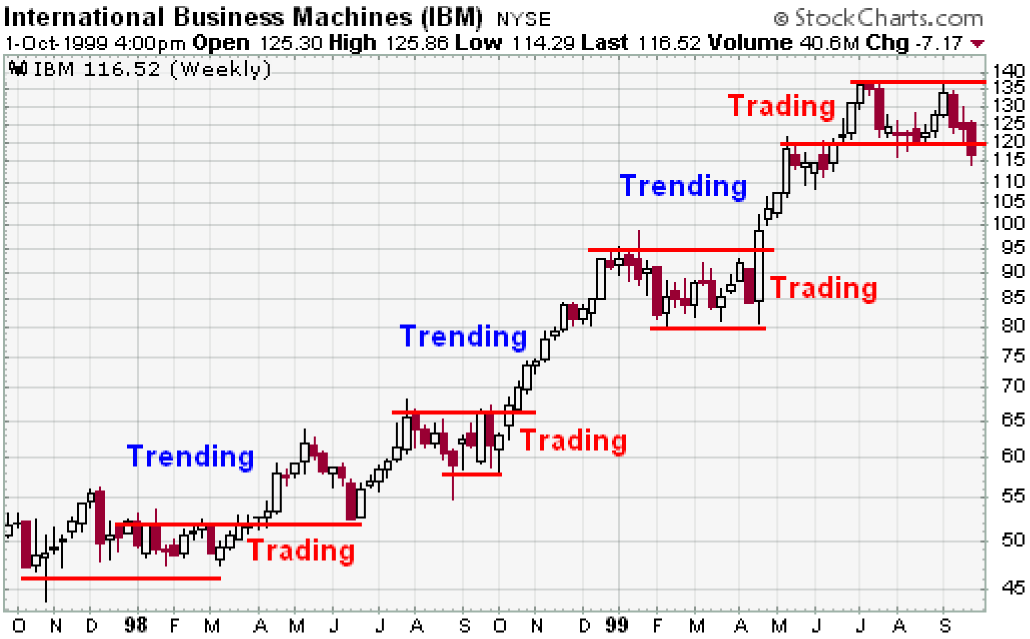
On two occasions, months apart, the closing prices have started moving downwards while being on uptrend. The line connecting these reversal points, say 538—5400 level may be regarded as resistance level.

In July 2010, around 5225 on one occasion trend has reversed from down to up. It can therefore be regarded as support level.

Also observe the higher bottoms and higher tops formed consistently during June-July. This is a bullish indicator.

02-05 Trading and Trending

Look at the chart of IBM on New York Stock Exchange. Very clearly, Trading zones and Trending phases are visible on the chart.



Can you now define trading and trending characteristics?

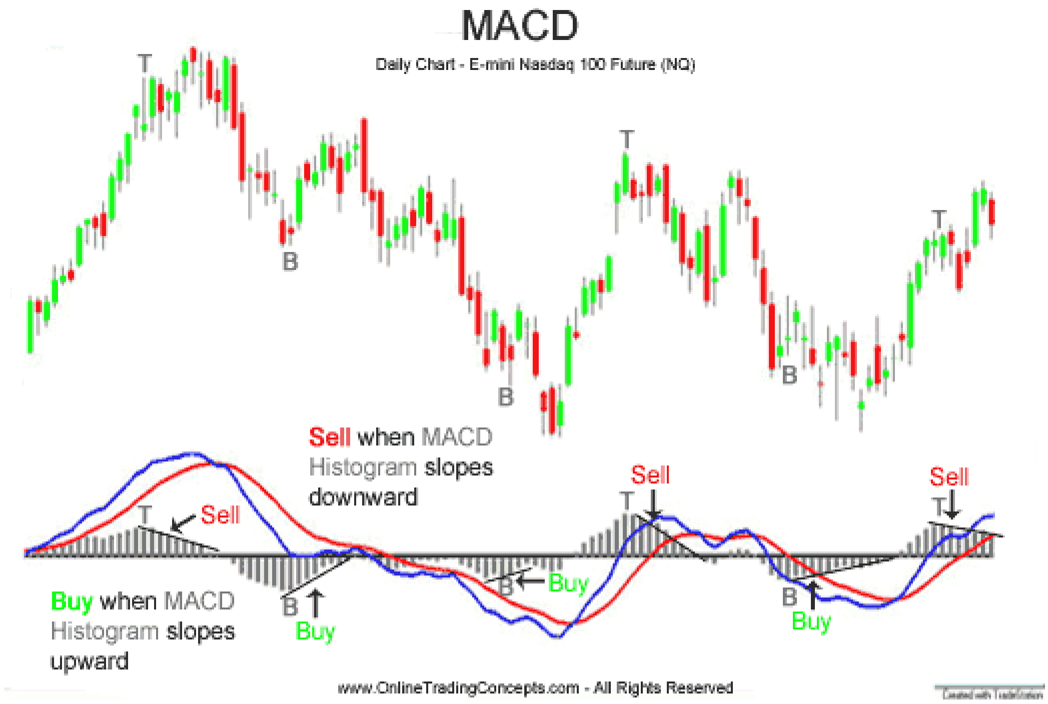
UNIT 03-03: MOVING AVERAGE AND OTHER TOOLS

LEARNING OBJECTIVES

After successful completion of this unit, you will be able to

- ❖ understand volume significance
- ❖ interpret moving average indications
- ❖ conclude from indicators like RSI
- ❖ understand the effect of Fibonacci retracements
- ❖ apply Dow theory

INTRODUCTION



03-01 VOLUMES

Volumes traded play an important role in indicating the strength of trend or impact of a news.

For example, if price is increasing for three days with rising volumes than it shows great momentum and investors will do well to holding on. However, some profit will come when the volumes start declining and traders will start book profits.

The markets are always influenced by momentum effect.

In fact any trend with decreasing volumes indicate trend reversal will happen sooner than later.

03-02 Simple Moving Averages (SMA)

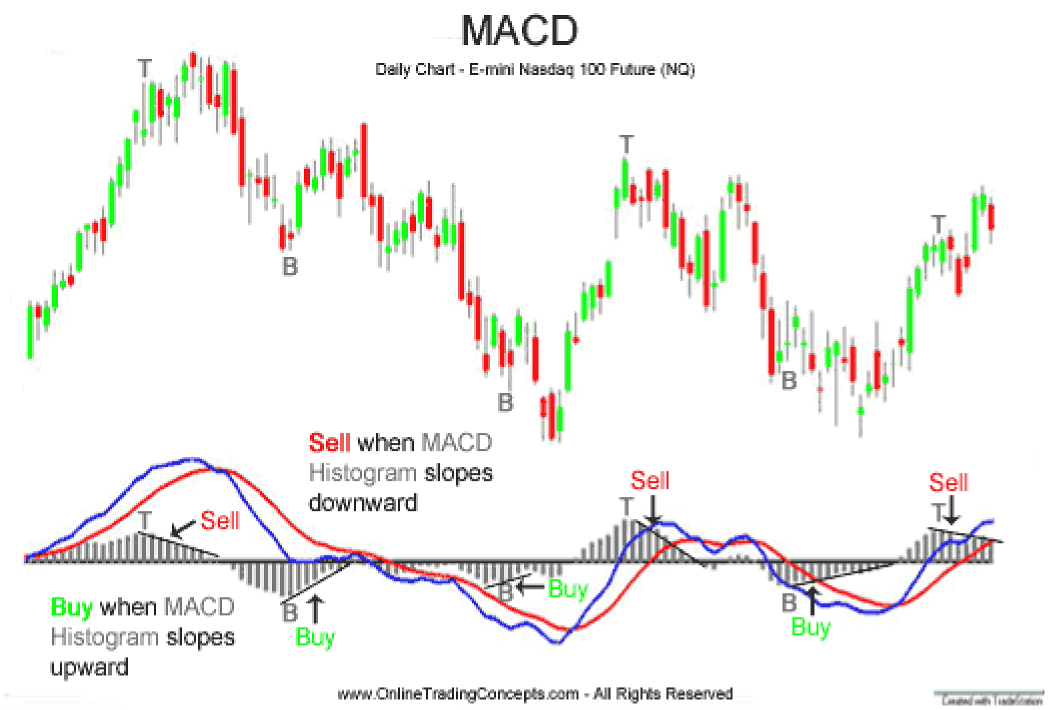
A simple moving average is plotted on a chart and tracks the change in average price over time.

Long term investors use long period for moving average such as 200 days. A medium term investor may use 50 days and a short term trader may use 5 days' period.

The shorter the time period for the moving average the closer that moving average will be to the actual price changes. The longer the moving average, the more "smoothed" the line will be.

Often, a combination of two or three moving averages is used for decision making.

Moving Average Convergence Divergence is an excellent tool. look at the chart below:



You can observe that MACD histogram slopes downwards it gives a sell signal and when it slopes upwards it gives buy signal. What is important is that it has produced signals in advance before the actual down trend was set in. It can give enormous profits and timely indications.

Exponential Moving Averages (ema)

This is an alternative to simple moving average. Analysts prefer this because Unlike, SMA which assigns equal weight to all observations, EMA tracks the data better as it assigns maximum weight to the recent value and decreasing weights as we move in the direction of past. Also, it is easier from data management perspective.

Its parameter alpha can be regarded as 2/(N+1) where N is the period of simple moving average.

In terms of interpretation, it is similar to simple moving average.

03-03 INDICATORS

RSI INDICATOR

Relative Strength Index is defined as RSI= Average Gain/(Averagre Gain + Average Loss)*100.

RSI is the most popular leading indicator, which gives out strongest signals during the periods of trading and non trending phases.

Analysts use RSI to determine whether the asset is in an oversold or overbought territory. If it shows a value less than 30, it indicates that the stock, or the index, is in the oversold territory, while a value higher than 70 suggests an overbought status.

When a stock is in overbought zone, a correction will happen sooner and when a stock is in oversold position a bounce back is indicated.
Read more at:
//economictimes.indiatimes.com/articleshow/52487919.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

"Relative strength index or RSI is a well-versed momentum-based oscillator, which is used to measure the speed (velocity) as well as change (magnitude) of directional price movements that give a clear measure of the strength of a trend. One can also get the idea of whether the present trend is likely to reverse or continue," says Rohit Gadia, Founder & CEO, CapitalVia Global Research.

Illustration

Consider a stock with prices:

Day	1	2	3	4	5	6	7	8	9	10
Price	30	32.5	33	31.5	34	35.5	36	36.5	39	38

Gain	2.5	0.5	0	2.5	1.5	0.5	0.5	2.5	0
Loss	0	0	1.5	0	0	0	0	0	1

Hence Average Gain=10.5/9=1.1667

Average Loss= 2.5/9=0.2778

RSI= 1.1667/(1.1667+0.2778)*100=80.77.

This indicates that the stock is overbought and a correction would soon occur. Short term investors amy book profit or a dat trader may short it.

THE BOLLINGER BANDS (BB)

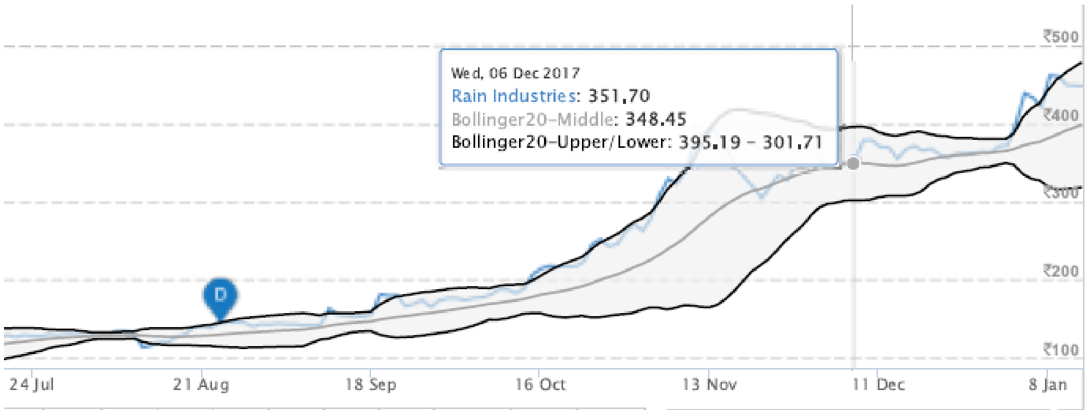
John Bollinger proposed this in the 1980s. BBs are also useful in finding overbought and oversold levels. When the price touches upper band, it indicates ooverbought and when it reached lower band, it indicates oversold.

The BBs upper and lower band values are found as

upper band = 20 day's SMA + 2*Standard deviation of the SMA

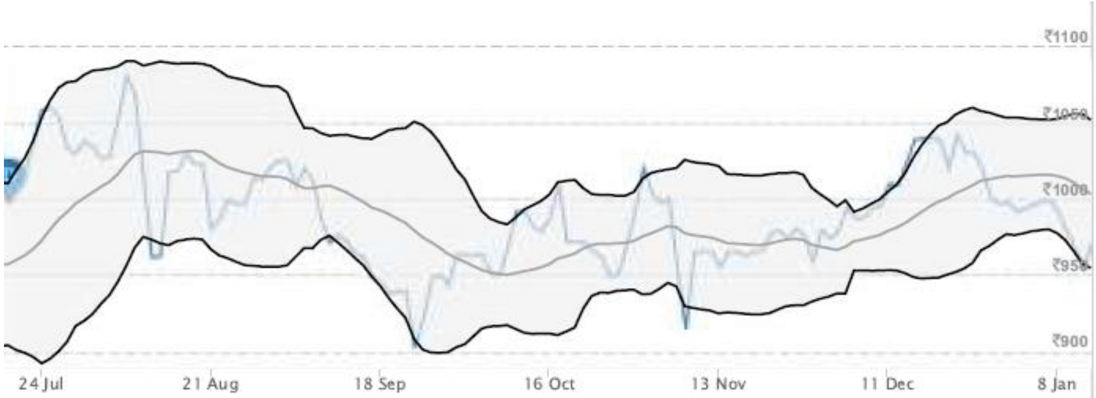
lower band = 20 day's SMA + 2*Standard deviation of the SMA

The logic is that with 95% confidence, price should remain within these limits.



You can observe that the market price has almost certainly remained within the bands. Thec stock in this case is so bullish that it has not come down to touch the lower band for almost six months!

Look at the following chart of Vinati Organics. It has properly kept on moving between the bands.



03-04 THE FIBONACII RETARCEMENTS

Fibonacci number series is :

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657, 46368, 75025, 121393, 196418, 317811, ….where each number in the series sum of previous two numbers.

Fibonacci ratios are the ratios of two successive terms in the series.

Fibonacci Retracements levels are created by pairing a major peak and trough and then dividing the vertical distance by the Fibonacci ratios of 23.6 percent, 38.2 percent, 50 percent, 61.8 percent and 100 percent. ..

The most popular type of retracement used in the Forex market is, the Fibonacci retracement. Popular Fibonacci retracements are 25%, 38.2%, 50%, 61.2% and 78.6%.

It is experienced that retracement in the market price matches with the Fibonacci ratio levels.

03-05 THE DOW THEORY

The Dow theory on stock price movement includes some aspects of **sector cyclic** behaviour. The theory was derived from 255 **Wall Street Journal** editorials written by **Charles H. Dow** (1851–1902), journalist, founder and first editor of **The Wall Street Journal** and co-founder of **Dow Jones and Company**. Dow himself never used the term Dow theory nor presented it as a trading system However, after Dow's death, **William Peter Hamilton**, **Robert Rhea** and **E. George Schaefer** organized and collectively represented Dow theory, based on Dow's editorials.

Such is the importance of Dow's theory that NYSE index is called Dow Jones' Index. Dow's theory is based on the following principles or beliefs:

[Source: Wikipedia.com]

(1) The market has three movements

The "main movement", primary movement or major trend may last from less than a year to several years. It can be bullish or bearish. (*2*) The "medium swing", secondary reaction or intermediate reaction may last from ten days to three months and generally retraces from 33% to 66% of the primary price change since the previous medium swing or start of the main movement. (*3*) The "short swing" or minor movement varies with opinion from hours to a month or more. The three movements may be simultaneous, for instance, a daily minor movement in a bearish secondary reaction in a bullish primary movement.

(2) **Market trends** have three phases

Dow theory asserts that major market trends are composed of three phases: an accumulation phase, a public participation (or absorption) phase, and a distribution phase. The accumulation phase (*phase 1*) is a period when investors "in the know" are actively buying (selling) stock against the general opinion of the market. During this phase, the stock price does not change much because these investors are in the minority demanding (absorbing) stock that the market at large is supplying (releasing). Eventually, the market catches on to these astute investors and a rapid price change occurs (*phase 2*). This occurs when trend followers and other technically oriented investors participate. This phase continues until rampant speculation occurs. At this point, the astute investors begin to distribute their holdings to the market (*phase 3*).

(3) The stock market discounts all news

Stock prices quickly incorporate new information as soon as it becomes available. Once news is released, stock prices will change to reflect this new information.

(4) Stock market averages must confirm each other

In Dow's time, the US was a growing industrial power. The US had population centers but factories were scattered throughout the country. Factories had to ship their goods to market, usually by rail. Dow's first stock averages were an index of industrial (manufacturing) companies and rail companies. To Dow, a bull market in industrials could not occur unless the railway average rallied as well, usually first. According to this logic, if manufacturers' profits are rising, it follows that they are producing more. If they produce more, then they have to ship more goods to consumers. Hence, if an investor is looking for signs of health in manufacturers, he or she should look at the performance of the companies that ship their output to market, the railroads. The two averages should be moving in the same direction. When the performance of the averages diverge, it is a warning that change is in the air.

(5) Trends are confirmed by volume.

Dow believed that volume confirmed price trends. When prices move on low volume, there could be many different explanations. An overly aggressive seller could be present for example. But when price movements are accompanied by high volume, Dow believed this represented the "true" market view. If many participants are active in a particular security, and the price moves significantly in one direction, Dow maintained that this was the direction in which the market anticipated continued movement. To him, it was a signal that a trend is developing.

(6) Trends exist until definitive signals prove that they have ended.

Dow believed that trends existed despite "market noise". Markets might temporarily move in the direction opposite to the trend, but they will soon resume the prior move. The trend should be given the benefit of the doubt during these reversals. Determining whether a reversal is the start of a new trend or a temporary movement in the current trend is not easy. Dow Theorists often disagree in this determination. Technical analysis tools attempt to clarify this but they can be interpreted differently by different investors.

it can be seen that Dow's theory was based on sound logic at the time when he was observing and analyzing the nmarket.

03-06: Getting Started

Having equipped with so many varieties of tools, you can start your initial trades on paper. See how successful you are on your judgements. Only when make 7)5 or more correct decisions, think of embarking on real trade.

Please remember the top two rules given by Mr. Buffet, viz.

1. Do not make a loss.

2. Do not forget Rule 1.

CREDIT 04

UNIT 04-01: MARKET AND TAXATION

INTRODUCTION

When you start participating on market and make profit, you need to know whether you are liable to pay taxes.

Well, we shall soon see that tax rates applicable are different on trading profit, on short term investment profit and long term investment profits. So you have to first clkassify all your trades into these three categories.

01-01: IMNCOME TAX RATES FOR INDIVIDUAL IN INDIA

Income tax is levied by the Government of India on the income of every person.

Income is to be computed for a financial year starting 1st April and ending next 31st March. The tax rates vary based on the aggregate income.

Normal tax rates applicable to a resident individual below the age of 60 years i.e. born on or after 1.4.1958

Net income range	*Income-tax rates*	*Education Cess*	*Secondary and higher Education Cess*
Up to Rs. 2,50,000	*Nil*	*Nil*	*Nil*
Rs. 2,50,000 – Rs. 5,00,000	5% of (total income *minus* Rs. 2,50,000) [*]	2% of income-tax	1% of income-tax
Rs. 5,00,000 – Rs. 10,00,000	Rs. 12,500 + 20% of (total income *minus* Rs. 5,00,000)	2% of income-tax	1% of income-tax
Above Rs. 10,00,000	Rs. 1,12,500 + 30% of (total income *minus* Rs. 10,00,000)	2% of income-tax	1% of income-tax

Surcharge: Surcharge is levied @ 10% on the amount of income-tax if net income exceeds Rs 50 [As amended by Finance Act, 2017] Lakh but doesn't exceed Rs. 1 crore and @ 15% on the amount of income tax if net income exceeds Rs. 1 crore. In a case where surcharge is levied, EC of 2% and SHEC of 1% will be levied on the amount of income tax plus surcharge. However, marginal relief is available from surcharge in such a manner that in the case where net income exceeds Rs. 50 lakh but doesn't exceed Rs. 1 Crore, the amount payable as income tax and surcharge shall not exceed the total amount payable as income tax on total income of Rs 50 Lakh by more than the amount of income that exceeds Rs 50 Lakhs. Further, in a case where net income exceeds Rs. 1 crore, marginal relief shall be available from surcharge in such a manner that the amount payable as income tax and surcharge shall not exceed the total amount payable as income-tax on total income of Rs. 1 crore by more than the amount of income that exceeds Rs. 1 crore.

Normal tax rates applicable to a resident individual above the age of 60 years but below 80 years is

Net income range	*Income-tax rates*	*Education Cess*	*Secondary and higher Education Cess*
Up to Rs. 3,00,000	*Nil*	*Nil*	*Nil*
Rs. 3,00,000 – Rs. 5,00,000	5% of (total income *minus* Rs. 3,00,000) [*]	2% of income-tax	1% of income-tax
Rs. 5,00,000 – Rs. 10,00,000	Rs. 10,000 + 20% of (total income *minus* Rs. 5,00,000)	2% of income-tax	1% of income-tax
Above Rs. 10,00,000	Rs. 1,10,000 + 30% of (total income *minus* Rs. 10,00,000)	2% of income-tax	1% of income-tax

Normal tax rates applicable to a resident individual above the age of 80 years is

Net income range	*Income-tax rates*	*Education Cess*	*Secondary and higher Education Cess*
Up to Rs. 5,00,000	*Nil*	*Nil*	*Nil*
Rs. 5,00,000 – Rs. 10,00,000	20% of (total income *minus* Rs. 5,00,000)	2% of income-tax	1% of income-tax
Above Rs. 10,00,000	Rs. 1,00,000 + 30% of (total income *minus* Rs. 10,00,000)	2% of income-tax	1% of income-tax

There are changes in the surcharges for senior citizens as well, but you need not worry about it in your case.

01-02: Nature of Income

As per Central Board of Direct Taxes: "If you buy shares with the intent of earning income through dividends you are an investor, and if you buy and sell shares with the intent to profit, you are a trader"..

When trading or investing you need to classify your income under one of these heads:

1. Long term capital gain (LTCG)

2. Short term capital gain (STCG)

3. Speculative business income

4. Non-speculative business income

Capital Gains

To encourage savings and investments into various types of assets, governments may want to charge lower tax on the profit from sale of such assets. This is systemized by creating a system of capital gains tax.
As tax is calculated on taxable income, capital gains tax if calculated on chargeable capital gains.
Capital gains on most assets are chargeable with a few exceptions.

- A chargeable capital gain

= [sale price - cost of selling]
- [purchase price + other incidental cost on purchase]- cost of enhancement (if any)

If shares are held for a period of 1 year or more, gains arising from it is treated are long-term capital gain. Long term capital Gainds tax rate today is 0%.
If shares are held for a period of less than 1 year, gains arising from it is treated are short term capital gain. Short term capital Gain is taxed at 15%.

Capital Losses
If chargeable gain is found negative, it is actually a capital loss. Capital losses can be usually set off against other capital gains in the same year. Any unused capital loss can be carried forward to set off against capital gains in future years.

There is limit for the carrying forward of the losses:

Losses under Futures and Options Segment: Max. of 8 Years

Losses under Capital Gains: 8 years

Losses under Speculative Business: 4 years

Speculative business income

As per section 43(5) of the Income Tax Act, 1961, profits earned by trading equity or stocks for intraday

or non-delivery is categorized under speculative business income.

Non-speculative business income

This is regular business income.

All business income has to be added to the individual's total income and taxed as per the slabs given earlier.

If you show business income, it is necessary to prepare a profit and Loss Account. We discussed it earlier in Section 1. You can seek deductions of all business related expenses.

It is necessary to maintain a balance sheet to determine whether gains are long term/short term., etc. Incidently, we also discussed balance sheet in details earlier.

ITR Forms

Depending upon the nature of your income, you need tom use appropriate form to file your income tax return.

You can download the form from the official web-site of Department of Income tax at **http://incometaxindiaefiling.gov.in/downloads** and even e-file your return at **https://incometaxindiaefiling.gov.in/home**.

SOLVED PROBLEMS

1)Ravi (aged 45) has business income of Rs. 7 lakhs (net of allowable deductions), log term capital gain of Rs. 2 lakhs and short term capital gains of Rs. 3 lakhs. Calculate his tax liability.

Solution:

On LTCG tax @0% = 0

On STcG@15% = 45,000

On Personal income

Upto first 250,000 @0%= 0

Next 250,000@5%= 12,500

Balance 200,000@20%=40,000

Total Tax Payable= 87,500

UNIT 04-02: TRADING PSYCHOLOGY AND RISK MANAGEMENT

02-01: RISK FOR INVESTOR

Different investors have different risk appetite. Neverthless, There are various that you should be aware of before beginning to invest. Some of them are:

- Market risk. The risk of investments declining in value because of economic developments or other events that affect the entire market. The main types of market risk are equity risk, interest rate risk and currency risk. Currency risk The risk of losing money because of a movement in the exchange rate. Applies when you own foreign investments.
- Liquidity risk. The risk that you are unable to liquidate your holding at a time when you need to do it.
- Concentration risk. There is a chance that an investor puts major part of his fund in a single investment .
- Credit risk. This applies to investment in debt. It is the risk that the issuer of the bonds will run into financial difficulties and won't be able to pay the interest or repay the principal at maturity.
- Reinvestment risk. It is the risk that after withdrawing the money from an investment, you are unable to finfd another equally good or better investment avenue.
- Inflation risk. It is the risk that your investments earn less return than the inflation rate.

- Horizon risk. It is the risk that you may need to shorten your investment period and consequently earn less
- Longevity risk. It is the risk that you may live loinger than what your saving can serve you with.
- Foreign investment risk. It is the risk that you may have to face risks different from what are known to you.

01-02 COST OF EQUITY AND EQUITY CURVE

Asw we can see in the above equity curve, price of an equity share of a company keeps fluctuating in the market. However, demand and supply in turn depends on several other factors including the returns expected from the investment.

Cost of equity can be understood as the return required by an investor for investing in the equity of a company. It can also be looked upon as the rate of return given up from the next best option in favor of the current choice (i.e. opportunity cost of capital).

SOLVED PROBLEMS

1) A high net worth investor has his investment made in real estate for the last 10 years. During last 1 year, he has yielded 11% return. He expects next 3 years to be slow in real estate and pretty confident that he may not get better returns than this over the period. When would the investor be inclined to switch over to equity investment?

Answer: He may want to switch if either he gets more than 11% return or he does not find more attractive options or he feels that equity is less risky than real estate investment

2) If the above investor invests in ALI LTD. and buys 1% of its shares, can we conclude that cost of equity of ALI LTD. is 11%?

Answer: Yes if the investor has a good understanding of investments.

SELF-TEST

1) Cost of equity for a company is:

a) Market price of its shares
b) Nominal price of its shares
c) Difference between market price and nominal price
d) None of the above

2) Sensex increased by 20% last year. Therefore, the cost of equity of each share:

e) Quoted on BSE is 20%
f) Included in sensex is 20%
g) Both a and b hold
h) None of them holds

SHORT ANSWER QUESTIONS

1) If risk free return from government bond is 7%, then the cost of equity is:

a) 7%
b) At least 7%
c) At most 7%
d) 6.45%

2) A student who has just joined a course in Corporate Finance says, ‘cost of equity of a company is the cost to acquire its share’. Comment.

01-03: RISK AND RETURN

Your friend underwent a minor surgery and you paid a visit to him with a bunch of flowers. You met his cousin. She said that she is running a private equity fund. During last year her investors earned a whopping 58% return against the sensex gain of 22% over the same period. Your immediate reaction was: It must be very risky, isn't it? She very calmly said: "I give my investors two options. One in which I charges an advisory fee of only 5% of the fund value, with a guarantee of no loss. The other option is where guaranteed return is 24% p.a. and excess profit is shared equally by my client and me." You are tempted to invest! You feel that if you can take even a personal loan @14% p.a. from a bank, it makes a case of riskless profit!

Just think, why she is not borrowing from people at a much lower cost and invest it all by herself to make still more money for herself?

Do not get into the trap! There is no free lunch!

The cost of equity is directly proportional to the risk attached with the investment in the equity of the company. Higher the risk, higher is the required return by the investors, i.e. higher the risk, higher the cost of equity.

The risk that a company may be exposed to is broadly divided into two parts: namely specific risk and systematic risk which we will see later in detail.

SOLVED PROBLEMS

1)Identify the riskiest options amongst:

a) Property Investment that guarantees 6% p.a. of investment value as rental income
b) Investment in a fund that guarantees 18% p.a. interest and guaranteed redemption at par after 3 years.
c) Investment in Shares of ABC Ltd. in its public issue with the company guaranteeing buy back after 3 years @145 against issue price of 100.
d) Government bonds which offer 7.95% p.a. yield to maturity in 3 years

Answer The riskiest option is the one that offers highest return and one that is a private investment. Therefore, b) appears to be the riskiest.

2) Arrange the following in the descending order of riskiness:-

e) Property Investment that guarantees 6% p.a. of investment value as rental income
f) Investment in a fund that guarantees 18% p.a. interest and guaranteed redemption at par after 3 years.

g) Investment in Shares of ABC Ltd. in its public issue with the company guaranteeing buy back after 3 years @145 against issue price of 100.
h) Government bonds which offer 7.95% p.a. yield to maturity in 3 years.

Solution: b), c), a), d)

SELF-TEST

1)Increase in gearing requires higher return for equity holders because:

i) Risk of default increases due to increase in gearing
j) Risk of default decreases due to increase in gearing
k) Decrease in volatility of return due to increase in gearing
l) None of the above

2) Which of the following best describes the cost of providing finance from retained earnings?

m) There is no cost attached with retained earnings
n) Retained earnings are less expensive than equity share capital
o) Retained earnings are more expensive than equity share capital
p) Retained earnings are equally expensive as equity share capital

SHORT ANSWER QUESTIONS

1) What are the two broad categories of risks faced by a company?

a) Generic risk and particular risk
b) Specific risk and systematic risk
c) Systematic risk and unsystematic risk
d) Dynamic risk and static risk

2) Why equity of a company is likely to provide more returns to an investor as compared to the bonds of the same company?

01-04: REQUIRED RATE OF RETURN USING CAPM

As we all agree that investment in a company's equity is risky, it must offer a return at a rate higher than the risk free rate of return.

The excess of (equity) market return over risk free return is called (equity) **market risk premium**. It is sometimes called **equity** (market) **risk premium**. The common practice is to ignore the term in the bracket.

The Cost of Equity or required rate of return from the equity of a company is given by

Cost of equity= risk free return+ Beta *(equity risk premium)

Symbolically this equation can be written as

$$r_E = r_f + \beta(r_m - r_f)$$

where, risk free rate r_f is the return from government securities and equity risk premium is the difference between equity market return r_m and risk free return r_f .

Beta(β) can be interpreted as the rate of change observed in equity return per unit increase in the overall market return. This is simply the regression coefficient of equity return on market return.

Beta = Covariance of equity and market returns/ variance of market returns. Thus beta is the regression coefficient of returns offered by company's equity on the overall market return.

It can also be calculated as coefficient of correlation multiplied with the ratio of standard deviation of equity return to the standard deviation of market return.

SOLVED PROBLEMS

1)Given a company's equity risk premium is 5% and the risk free rate is 3%, calculate the market return.

Answer: Equity risk premium = Market return - risk free rate. Therefore, market return = 8%

2) For the above example, if the beta of the company is 1.2, find its cost of equity.

Answer:Cost of equity= risk free return+ Beta (equity risk premium)

= 3 + 1.2 (5)

= 9%.

SELF-TEST

1)ABD Ltd.'s common stock beta is 1.2 and the debt equity ratio is 0.7. the tax rate is 30%. The risk free rate is 6% and the equity risk premium is 5%. Find the required rate of return on equity investment in the company.

q) 12.0%
r) 15.73%
s) 9.83%
t) 9.24%

2)In a company's cost of equity is 14%, equity risk premium is 5% and risk free tae is 6%, calculate its beta.

u) 1.2
v) 1.4
w) 1.6
x) 1.8

Short Answer Questions

1) What is beta of a stock?

2) How would you calculate cost of equity of a company using CAPM approach?

01-05: Risk for Business

Risk means a transition from the desired objectives. In financial world, the risk of for a company can be broadly classified as specific risk and systematic risk.

Specific Risk

Specific risk is the risk that a company or a small group of companies faces; all others may not be affected by it. This can be eliminated by diversification in the business.

For example, a new governmental regulation affecting a particular group of companies is an example of specific risk.

<u>The specific risk can be diversified away by investors.</u>

Systematic Risk

Systematic risk is the risk to which everyone is exposed. No amount of diversification can eliminate or reduce the systematic risk.

For instance, Business cycles, inflation, interest rates, tax rate changes, freak events etc. It can also be looked upon as aggregate risk that comes from natural disasters, wars, broad changes in government policies and other events that cannot be planned for or avoided.
Everyone is affected by such events.

If an investment's beta is more than one, it indicates that it has more systematic risk than the market as a whole.

SOLVED PROBLEMS

1)Segregate the following as specific risks and systematic risks:-

1) War between two major oil producing countries
2) Bankruptcy of a major multinational bank
3) Sudden strike by employees of a large factory
4) Floods affecting many industrial units in a city

Answer: Specific risks are 3) and 4)

Systematic risks are 1) and 2)

2)What is the assumption regarding investors in CAPM?

Answer: Investors are rational, risk averse and can lend or borrow unlimited at risk free rates.

SELF-TEST

1)Systematic risk in context of equity is

a) Same as specific risk
b) Risk which cannot be diversified
c) Risk that can be diversified
d) Unmanageable risk

2)Rahane Ltd. is a listed company. Which of the following is a specific risk that can be diversified away by shareholders?

e) Being highly geared and exposed to increase in interest rates
f) Having a great deal of foreign competition and so changes in exchange rates affecting its competitive position.

g) The main product line requiring a steady supply of a rare mineral that is only found in region that is politically unstable.
h) Producing luxury goods, demand for which is highly vulnerable to change in economic climate.

SHORT ANSWER QUESTIONS

1)CAPM is only valid within a special set of assumptions, which of the following assumptions do not hold in CAPM?

a) Investors are rational
b) Volatility of returns is a good measure of risk
c) Unlimited lending and borrowing is possible at riskfree rate
d) The market is inefficient.

2)Which of the following are examples of systematic risk?

1) A new government regulation to prevent sales of liquor within 500 meters of all national highways of the country.
2) A collapse of realty sector in a coutry
3) Failure of a major power plant of the country
4) A country's decision to devalue its currency

01-06: PORTFOLIO OPTIMIZATION

Portfolio optimization is the process of choosing the proportions of various **assets** to be held in a **portfolio**, in such a way as to make the portfolio better than any other according to some criterion. The criterion will combine, directly or indirectly, considerations of the **expected value** of the portfolio's **rate of return** as well as of the return's **dispersion** and possibly other measures of **financial risk**. Also, one has to maximize utilty/satisfaction for the investor.

01-07 VALUE AT RISK (VAR)

It is a measure of the risk of loss from investments. VaR estimates the potential losses on a portfolio over a given future time period with a specified probability. For Example, if we can say that for a particular investment, Loss will not be more than 5 lakhs,with 99% assurance, then VsaR= 5 Lakhs.

VaR is typically used by firms and regulators in the financial industry to gauge the amount of assets needed to cover possible losses.

As an investor you should think of VaR to arrive at stop-loss strategy.

02-07: POSITION SIZING

Also, keeping in mind the maximum loss you can afford, you should restrict the size of your position.

Every investor must decide that I shall not lose more than say 10% (or another suitable limit) of my investible capital in a trade. It is as much important to preserve capital as earning from investment. This is because recovery from the loss will be easier if loss is restricted.

UNIT 04-03: MUTUAL FUNDS

03-01: CONCEPT OF MUTUAL FUND

A mutual fund is a professionally-managed investment scheme. It is usually run by an asset management company(AMC). Many people come and invest their money in the scheme. The AMC invests their money in stocks, bonds and other securities.

In return of the expertise provided, the AMC charges a fund management charge annually which is a fixed percentage of funds held. Also, the AMC may charge an entry load (at the time of investment) or exit load (at the time of withdrawal) or both.

As an investor, you can buy mutual fund 'units', which basically represent your share of holdings in a particular scheme. These units can be purchased or redeemed as needed at the fund's current net asset value (NAV). These NAVs keep fluctuating, according to the fund's assets' performance on the market.

All the mutual funds are registered with SEBI. They function within the regulation created to protect the interests of the investors.

There are restrictions on entry/exit loads and fund management charges.

03-02 STRUCTURE OF MUTUAL FUNDS IN INDIA

[Source: Nirmal Bang]

In India, the mutual fund industry is highly regulated with a view to imparting operational transparency and protecting the investor's interest. The structure of a mutual fund is determined by SEBI regulations. These regulations require a fund to be established in the form of a trust under the Indian Trust Act, 1882. A mutual fund is typically externally managed. It is now an operating company with employees in the traditional sense.

Instead, a fund relies upon third parties that are either affiliated organizations or independent contractors to carry out its business activities such as investing in securities. A mutual fund operates through a four-tier structure. The four parties that are required to be involved are a sponsor, Board of Trustees, an asset management company and a custodian.

Sponsor: A sponsor is a body corporate who establishes a mutual fund. It may be one person acting alone or together with another corporate body. Additionally, the sponsor is expected to contribute at least 40% to the net worth of the AMC. However, if any person holds 40% or more of the net worth of an AMC, he shall be deemed to be a sponsor and will be required to fulfill the eligibility criteria specified in the mutual fund regulation.

Board Of Trustees: A mutual fund house must have an independent Board of Trustees, where two-thirds of the trustees are independent persons who are not associated with the sponsor in any manner. The Board of Trustees of the trustee company holds the property of the mutual fund in trust for the benefit of the unit-holders. They are responsible for protecting the unit-holder's interest.

Asset Management Company: The role of an AMC is highly significant in the mutual fund operation. They are the fund managers i.e. they invest investors' money in various securities (equity, debt and money market instruments) after proper research of market conditions and the financial performance of individual companies and specific securities in the effort to meet or beat average market return and analysis. They also look after the administrative functions of a mutual fund for which they charge management fee.

Custodian: The mutual fund is required by law to protect their portfolio securities by placing them with a custodian. Nearly all mutual funds use qualified bank custodians. Only a registered custodian under the SEBI regulation can act as a custodian to a mutual fund.

Over the years, with the involvement of the RBI and SEBI, the mutual fund industry has evolved in a big way giving investors an opportunity to make the most of this investment avenue. With a proper structure in place, the industry has been able to cater to more number of investors. With the increase in awareness about mutual funds several new players have joined the bandwagon.

[Source: Money Control]

Benefits of Mutual Fund

Diversification:

Diversified investment improves the risk return profile of the portfolio. Optimal diversification has limitations due to low liquidity among small investors. The large corpus of a mutual fund as compared to individual investments makes optimal diversification possible. Due to the pooling of capital, individual investors can derive benefits of diversification.

Low Transaction Costs:

Mutual fund transactions are generally very large. These large volumes attract lower brokerage commissions and other costs as compared to smaller volumes of the transactions that individual investors enter into. The brokers quote a lower rate of commission due to two reasons. The first is competition for the institutional investors business. The second reason is that the overhead cost of executing a trade does not differ much for large and small orders. Hence for a large order these costs spread over a large volume enabling the broker to quote a lower commission rate.

Professional Management:

Management of a portfolio involves continuous monitoring of various securities and innumerable economic variables that may affect a portfolio's performance. This requires a lot of time and effort on part of the investors along with in-depth knowledge of the functioning of the financial markets. Mutual funds are managed by fund managers generally with knowledge and experience whose time is solely devoted to tracking and updating the portfolio. Thus investment in a mutual fund not only saves time and effort for the investor but is also likely to produce better results.

Liquidity:

Liquidating a portfolio is not always easy. There may not be a liquid market for all securities held. In case only a part of the portfolio is required to be liquidated, it may not be possible to see all the securities forming a part of the portfolio in the same proportion as they are represented in the portfolio; investing in mutual funds can solve these problems. A fund house generally stands ready to buy and sell its units on a regular basis. Thus it is easier to liquidate holdings in a Mutual Fund as compared to direct investment in securities.

Returns:

In India dividend received by investors is tax-free. This enhances the yield on mutual funds marginally as compared to income from other investment options. Also in case of long-term capital gains, the investor benefits from indexation and lower capital gain tax.

Flexibility:

Features of a MF scheme such as regular investment plan, regular withdrawal plans and dividend reinvestment plan allows investors to systematically invest or withdraw funds according to the needs and convenience.

Well Regulated:

All mutual funds are registered with SEBI and they function within the provisions of strict regulations designed to protect the interest of investors. The SEBI regularly monitors the operations of an AMC.

03-03 Classification of Mutual Funds

There are four basic types of mutual funds: equity, bond, hybrid and money market. Equity funds concentrate their investments in stocks. Similarly bond funds primarily invest in bonds and other securities. Equity, bond and hybrid funds are called long-term funds. Money market funds are referred to as short-term funds because they invest in securities that generally mature in about one year or less. Mutual funds generally offer a number of schemes to suit the requirement of the investors.

03-04 Evaluation and Selection of Mutual Funds

[Source: HDFC mutual Fund]

Pedigree of the fund house

When you invest in a mutual fund, you are trusting the fund house to manage your money. This is why the pedigree of the fund is important. Decisions taken by the fund house and the fund manager may have a direct impact on your investment's performance and the realisation of your financial goals. Hence, it is important to do a check on the fund house, history of existence, track record across schemes before selecting a scheme.

Consistency in past performance

Before you choose a scheme, check how the scheme compares with others on the stated benchmarks. Do not select funds only on the basis of their performance over a 6-months to 1-year period. Instead, choose funds that have performed consistently and given steady returns over 3, 5 or 10 years by beating their benchmarks. Funds that have not just performed well when the markets are doing well, but the ones that remain steady even during a slump, are the ones to watch out for.

For example, let's say you have to choose between two funds A and B. Fund A gives more than 80% return in the first year due to a good bull run in the market, but witnesses a sharp decline in the NAV the next year due to volatile markets. On the other hand Fund B has been giving consistent returns over a three year period. Which one would you choose?

While past performance is no measure or guarantee for future returns, a fund house giving consistent returns denotes efficient processes and sound management practices. In the above example, Fund B may be a better choice with the fund house demonstrating efficiency, risk measures and sound investment processes.

Investment strategy and objectives

You should read the scheme related documents thoroughly and understand the investment objective (which is nothing but the investment goal and the underlying rationale e.g. growth, income) of the mutual fund scheme and know the kind of securities in which your money will be invested. Evaluate the objectives and see if they are in line with your risk profile and investment goals.

Diversification

Mutual funds, by their character itself, provide diversification across stocks, sectors, and asset classes. Thus, you can use mutual funds to diversify your portfolio adequately. When you are investing in equity schemes, choose from top performing diversified equity schemes. Ensure that there is good spread of large-cap and mid-cap stocks in such schemes, and the fund has been consistent in performance for a minimum of three years. On the other hand, when you are choosing a debt fund, the first thing to do is to choose a fund that matches your investment horizon. Along with that you will have to consider the fund manager's view on the direction of interest rates and the sensitivity of your fund towards interest rate movement. The idea of diversification is to ensure that your risks are well spread across asset classes, market sectors and the style of fund management.

Goals and their time horizon

Mutual fund schemes must be chosen carefully in accordance with one's goals, time horizon, risk tolerance and overall financial plan. In fact, based on these parameters every investor must follow an asset allocation plan. Once you know how much you need to invest across different asset classes such as equity and debt, you must choose funds that match your tenure. If your goal is less than three years away, you should consider investing in a debt oriented fund. For a medium-term goal that is typically between 3 – 5 years, you can consider balanced funds that have exposure to both equity and debt. For long-term goals, equity mutual funds offer a good option.

Keeping the above factors in mind, you can choose a mutual fund scheme that is right for you and participate in the capital markets to reap the benefits of good returns.

The portfolio management process is the process an investor takes to aid him in meeting his investment goals.

03-05 PORTFOLIO MANAGEMENT PROCESS:

[Source: Investopedia.com]

“The procedure is as follows:
Create a Policy Statement -A policy statement is the statement that contains the investor's goals and constraints as it relates to his investments.

1. *Develop an Investment Strategy* **-** This entails creating a strategy that combines the investor's goals and objectives with current financial market and economic conditions.
2. ***Implement the Plan Created -***This entails putting the investment strategy to work, investing in a portfolio thatmeets the client's goals and constraint requirements.
3. ***Monitor and Update the Plan -***Both markets and investors' needs change as time changes. As such, it is important to monitor for these changes as they occur and to update the plan toadjust for the changes that have occurred.

Policy Statement
A policy statement is the statement that contains the investor's goals and constraints as it relates to his investments. This could be considered to be the most important of all the steps in the portfolio management process. The statement requires the investor to consider his true financial needs, both in the short run and the long run. It helps to guide the investment portfolio manager in meeting the investor's needs. When there is market uncertainty or the investor's needs change, the policy statement will help to guide the investor in making the necessary adjustments the portfolio in a disciplined manner.

Expressing Investment Objectives in Terms of Risk and Return
Return objectives are important to determine. They help to focus an investor on meeting his financial goals and objectives. However, risk must be considered as well. An investor may require a high rate of return. A high rate of return is typically accompanied by a higher risk. Despite the need for a high return, an investor may be uncomfortable with the risk that is attached to that higher return portfolio. As such, it is important to consider not only return, but the risk of the investor in a policy statement.

Factors Affecting Risk Tolerance
An investor's risk tolerance can be affected by many factors:

- *Age*- an investor may have lower risk tolerance as they get older and financial constraints are more prevalent.
- *Family situation* - an investor may have higher income needs if they are supporting a child in college or an elderly relative.
- *Wealth and income* - an investor may have a greater ability to invest in a portfolio if he or she has existing wealth or high income.
- *Psychological* - an investor may simply have a lower tolerance for risk based on his personality.”

TAXATION OF MUTUAL FUNDS

[Source: Investopedia.com]

"The way your mutual fund is treated for tax purposes has a lot to do with the type of investments within the fund's portfolio. In general, most distributions you receive from a mutual fund must be declared as investment income on your yearly taxes. However, the type of distribution received, the duration of the investment holding and the type of investment are all important factors in determining how much income tax you pay on each dollar of a distribution. In some cases, distributions are subject to your ordinary income tax rate, which is the highest rate, but in other cases, you may be eligible to pay the lower capital gains tax rate. Still other distributions may be completely tax-free.

If you receive a distribution from a fund that results from the sale of a security the fund held for only six months, that distribution is taxed at your ordinary income tax rate. If the fund held the security for several years, however, then those funds are subject to the capital gains tax instead. When a mutual fund distributes **long-term capital gains**, it reports the gains on **Form 1099-DIV**, Dividends and Distributions, and issues the form to you before the annual tax filing date."

UNIT 04-04: FINANCIAL PLANNING

LEARNING OBJECTIVES

After successful completion of this unit, you will be able to

- assess liabilities
- assess insurance needs
- assess post retirement needs
- plan investments to meet different life needs

04-01: PLANNING

Financial planning is important because it gives you a plan to achieve your financial goals in different life stages. A prudent plan can help you to achieve your goals. Some misconceptions are:

1. Financial planning is needed close to retirement.

2. A lot of money is required to do financial planning.

3. Financial planning is same as investment

4. Once done, it does not require a review. [A periodic or adverse-event driven review is necessary.]

Some desirable characteristics of good financial planning are:-

- Satisfy today's financial needs by monitoring your savings and expenses.
- Save for emergencies by providing a financial cushion to deal with unexpected crises.
- Meet future financial goals by helping you to save enough to buy a house and get married, have children, etc..
- Provide protection for you and your family by having the right insurance in place if something goes wrong.
- Plan for your retirement by collecting enough wealth to meet your future expenses.

Ket Steps to Perform Financial Planning are

1. Assess your financial state

2. Create a budget

3. Set your financial goals

4. Identify your risk tolerance

5. Design and implement a basic financial plan.

6. Review your plan regularly or on occurrence of an unforeseen event and do necessary adjustments.

04-02 INVESTING

Having prepared a financial plan,. your investment should be such that

a) Investment is diversified

b) timing of withdrawal should not affect returns for the planned expenses

c) optimum returns are achieved

d) liquidity is good in case fund is needed in an emergency.

04-03 INSURANCE

Provide protection for you and your family by having the right insurance in place if something goes wrong. The best insurance is term insurance. If your income is Rs. 10 lakhs pa., have an insurance of 1.50 crores so that in case of untoward happening to you, family still will have enough investment income. Proceeds of 1.5 crores will barely fetch an income of Rs. 10 lakhs from risk free assets.

Keep increasing insurance every 3 years unless you are saving enough

04-04 Tax

Do your investment planning to get optium after tax returns. As a rule of thumb, utilize PPF investment option first as it gives tax benefit, taxfree returns and fund is secured from other perspectives.

04-05 Retitrement

Invest in an annuity product.

Earn enough to meet financial needs after retirement.

04-06 Loans

Housing loans may have tax advantages. Otherwise, avaoid loans. If you have cto take lioan, understand the correct interest rates on reducing balance basis, particularly for EMI type repayment.

04-07 Credit Cards

It is good to have a credit card as it builds your credit worthiness, earns you reward points and some discount benefits. But use credit cards as charge cards. Otherwise, the charges are very high.

04-08 Real Estate

Buy property to stay, not for investment! The days of investment to property for simply appreciation are gone!

If you buy real estate, think about the quality. It should not be difficult to sell should you require a shift due tom workplace change.

04-09 Fixed Income Securities

They may be good options, if investment is for a short period and shares do not look promising for the period under consideration. Nevertheless, some fund must be maintained in good nationalised banks.

Answers to Self-Tests