Biyani's Think Tank

Concept based notes

Security Analysis and portfolio Management

(Master of Business Administration: III Semester)

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Preface

I am glad to present this book, especially designed to serve the needs of the students. The book has been written keeping in mind the general weakness in understanding the fundamental concepts of the topics. The book is self-explanatory and adopts the "Teach Yourself" style. It is based on question-answer pattern. The language of book is quite easy and understandable based on scientific approach.

Any further improvement in the contents of the book by making corrections, omission and inclusion is keen to be achieved based on suggestions from the readers for which the author shall be obliged.

I acknowledge special thanks to Mr. Rajeev Biyani, *Chairman &* Dr. Sanjay Biyani, *Director* (*Acad.*) Biyani Group of Colleges, who are the backbones and main concept provider and also have been constant source of motivation throughout this endeavour. They played an active role in coordinating the various stages of this endeavour and spearheaded the publishing work.

I look forward to receiving valuable suggestions from professors of various educational institutions, other faculty members and students for improvement of the quality of the book. The reader may feel free to send in their comments and suggestions to the under mentioned address.

Author

Syllabus

Section A

Investment Scenario & Security Markets: concept of investment-investment objectives and constraints-security and non security forms of investment. Securities markets: markets and their functions-methods of raising capital-development of stock market in India-demat, listing, membership, trading and settlement procedure, stock market indices, regulation of securities market (SEBI).

Risk and Return: total risk and its factors-concept and components of total risk-security returns: measuring historical and ex ante (expected) returns-systematic and unsystematic risk-quantifying portfolio risk and return-benefits of diversification-capital market line and capital assets pricing model.

Introduction to portfolio management: The investment process-definition of investments-investment categories. Capital market theory: CAPM, CML-application of the security market line, APT. Portfolio analysis: diversification, portfolio risk and return-Markowitz risk return optimization-single index model-the Sharpe index model-portfolio beta.

Economic analysis, Industry analysis, Company analysis, Technical analysis.

Section B

Case and Problems

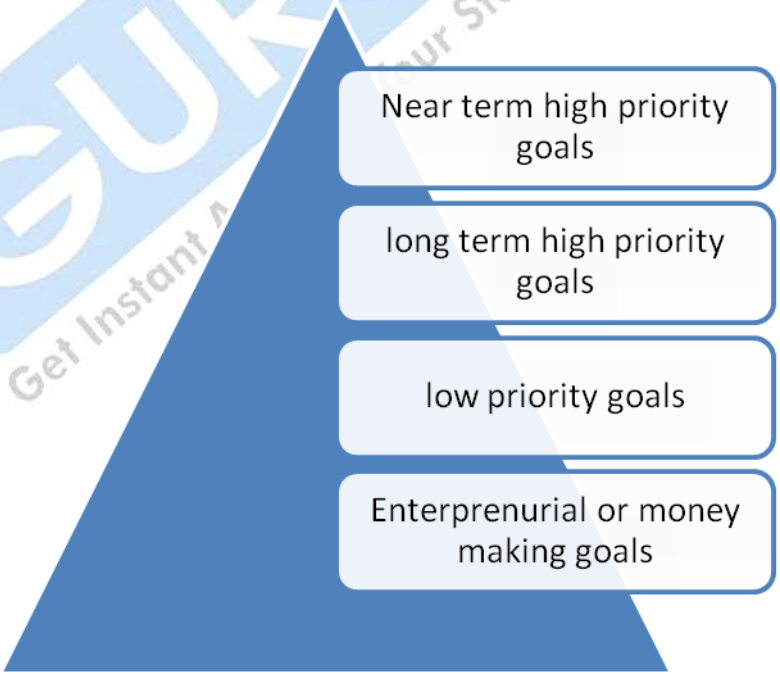
Unit-1
Investment Scenario & Security Markets

Q.1 Define Investment ?

Ans Investment has different meanings in finance and economics. Finance investment is putting money into something with the expectation of gain, that upon thorough analysis has a high degree of security for the principal amount, as well as security of return, within an expected period of time. In contrast putting money into something with an expectation of gain without thorough analysis, without security of principal, and without security of return is speculation or gambling. Investment is related to saving or deferring consumption. Investment is involved in many areas of the economy, such as business management and finance whether for households, firms, or governments.

Q.2 Explain constraints and objectives of Investment?

Ans Investment Objective



Investment Constraints

- **Liquidity**
- **Age**
- **Need for regular income**
- **Time horizon**
- **Risk tolerance**
- **Tax liability**

Q.3 what is investment? Is investment different from Speculation and Gambling?

Ans.

	Investors	**Speculators**
Planning Horizon	Longer Planning horizon	Shorter Planning horizon
Risk Disposition	Investor not take more than moderate risk	Willing to assume high risk.
Return Expectation	Modest rate of return	High rate of return in exchange for the high risk
Basis for the decisions	Investor analysis based on the fundamental factors.	A speculator relies more on the technical charts, market psychology.

Gambling:

- Rational people gamble for fun, not for income
- Gambling is bet. It is not involve economic activity. It is based on risk that is created artificially.
- Compared to investment and speculation the result of gambling is known more quickly. The outcome of a roll of dice or the turn of card is known as almost immediately.

Q.4 Explain the Book Building Process? How it is different from the normal issue?

Ans **Book Building Process**

Book Building process is price discovery mechanism in an IPO. This process is helpful to discover a better offer prices based on the price

and demand discovery .under this process bids are collected from the investors using the network of BSE/ NSE, which are above , below or equal to the floor price.
Floor price is a minimum bid price it is decided at beginning of the bidding process. Offer price is determined after the bid closing date .
The process
Bidding shall be permitted only if electronic linked facility is used.
Issuing company appoint a lead merchant banker called book runner.
Issuing company should disclose the following information

- Price band
- Nominated lead merchant banker
- Syndicated members with who orders can be placed by the investors.

Investor can quota the price with the help of syndicate members. Bid price should always be more than the floor price and it can be revised before closure of the issue.
After closing the issue book runner analysis the bids and evaluated the bid prices. These evaluation is based on many factors example Price Aggression, investor quality or earliness of bids.
Company and the book runner finalized the price.
Finally Securities allocated to the success.
Difference between shares offered through Book Building and through normal Issue

	Features	**Fixed price process**	**Book Building Process**
1	Pricing	Prices of securities are offered or allocated is known in advance to the investor	Not Known in advance to the investor only an inductive price is known.
2	Demand	Offered securities demand is known after the closure of the issue.	Demand for the securities offered cab be known every day as the book is built.
3	payment	Payment is made at the time of Subscription where as refund is possible after allocation	Payment only after Allocation.

Q.5 Stock Market indices are the Barometer of the Stock Market? Discuss?

Ans **Security Market Indicators**

Security market Indicators measures the behaviour of the security prices and the stock market. Indicators represent the entire stock market and its segments which measure the movement of the stock market. The most popular index in India are the Bombay stock exchange sensitivity Index (BSE Sensex or BSE – 100) and the National Stock Exchange Nifty.

Purpose of Index

- Security Index is helpful to show the economic health and analyzing the movement of price of various securities listed into the stock exchange.
- Helpful to evaluate the Risk – return portfolio analysis.
- Helpful to measure the growth of the secondary market.
- Index can be used to compare a given share prices behaviour with its movement.
- It is helpful to the investor to make their Investment decision.
- Funds can be allocated more rationally between stocks with knowledge of the relationship of price of individual with the movements in the market.
- Market indices act as sensitive barometer of the changes in trading pattern in the stock market.

Factors that influence the construction of Index numbers.

- **Selecting the shares for inclusion in the index making.**
- **Determine the relative importance of each share included in the sample weighting**
- **Average the included share into single share measure.**

List of Indices

- BSE- SENSEX
- BSE100 Index
- BSE200 Dollex
- BSE 500 and Sectoral Indices
- INDO text
- S&P CNX 50

- CNX Nifty Junior
- OTCEI – Composite Index

Q.6 What are Objective and functions of SEBI? Explain the organization of SEBI?

Ans **Objective of SEBI**

1. To protect the interest of the investor in Securities
2. To promote the development of security market in India
3. To regulate the Security market.

SEBI Functions

- Regulate the business of the stock exchanges and any other securities market.
- Regulate the working of capital market intermediaries. (Merchant bankers, Brokers, portfolio Managers)
- Prohibit the insider trading and fraudulent and unfair trade practices in securities market.
- Provide investor education and training of intermediaries of securities market.
- Regulate and register the working of Mutual funds.

Q.7 Explain the organisation of SEBI and its Department?

Ans. **Organization OF SEBI**

a. A Chairman

b. Two members from amongst the officials of the ministry of the central government dealing with finance and administration of the companies act 1956.

C. one member nominated by the RBI among its Officials

d. Five other members nominated by the central government of whom at least three shall be whole time members.

Departments of SEBI

- Primary Market Department
- Secondary Market Department
- Venture Capital Department
- Mutual Fund Department
- Collective Investment Scheme Department
- Takeover Department

- Legal Department
- Foreign Institutional Department
- Depositories Department
- Derivative Department
- Investigation & Enforcement and Surveillance Department

Q.8 What are the initiative taken by the SEBI in recent years?

Ans. Initiatives or Steps taken by the SEBI

- Freedom in designing and pricing instruments.
- Ban on Badla
- Screen based trading
- Electronic transfer
- Risk management
- Rolling settlement
- Corporate governance code
- Change a management structure
- Registration and regulation of Intermediaries
- Redressal of investor grievance
- Regulation of Mutual funds
- Regulation of foreign Investment
- Introduction of equity derivatives
- Integrated Market surveillance system.

Q.9 What is meant by listing of securities and what are the advantages of listing?

Ans Listing of Securities

Listing means admission of the securities for trading on the stock exchange through a formal agreement between the stock exchange and the company. Securities are buy and sell in the recognized through members who are known as brokers. The price at which the securities are buy and sales are known as official Quotation.

Types of listing

- Initial listing
- Listing public issue of shares and debentures
- Listing of right issue of shares and debentures
- Listing of Bonus issue of shares
- Listing share issued on Amalgamation, mergers etc.

Advantage of listing

To The Company:

- The company enjoys concession under direct tax laws.
- The company goodwill increase at the international & national Level.
- Term loan facilities/extend by the financial institution / bankers the form of Rupee currency and the foreign currency.
- Avoiding the fear of easy takeovers of the organization by others because of wide distribution.

To the investors

- Maintain liquidity and safety in securities.
- Listed securities are preferred by the bankers for extending term facility.
- Rule of the stock exchange protect the interest of the investor.
- Official quotation of the securities on the stock exchange corroborate the valuation taken by the investor for the purpose of tax assessments under income tax act , wealth tax act.

Q.10 Explain the Security and Non Security form of Investment?

Ans.

Security From of Investment	Non Security form of Investment
Gilt edged securities • Treasury Bills • Central Govt Securities • Semi govt dated securities	• National Saving Schemes • Public provident fund • Post office saving deposit schemes • Bank Deposited: • Post office Saving Account • Post office time deposit • Monthly Income scheme of the post office • Kisan Vikas Patra • National Saving certificate • Company Deposits • Employee provident fund scheme • Public provident fund. • Units of UTI • Children gift growth
Corporate debenture Types of Debenture • Straight and mortgage • Registered and bearer • Convertible and non convertible	
Preference Share	
Equity Shares	

Q.12 Describe the listing requirements for new companies?

Ans Minimum Listing Requirements for new companies

The following revised eligibility criteria for listing of companies on the Exchange, through Initial Public Offerings (IPOs) & Follow-on Public Offerings (FPOs), effective August 1, 2006.

ELIGIBILITY CRITERIA FOR IPOs/FPOs

a. Companies have been classified as large cap companies and small cap companies. A large cap company is a company with a minimum issue size of Rs. 10 crores and market capitalization of not less than Rs. 25 crores. A small cap company is a company other than a large cap company.

I. In respect of Large Cap Companies

i. The minimum post-issue paid-up capital of the applicant company (hereinafter referred to as "the Company") shall be Rs. 3 crores; and
ii. The minimum issue size shall be Rs. 10 crores; and
iii. The minimum market capitalization of the Company shall be Rs. 25 crores (market capitalization shall be calculated by multiplying the post-issue paid-up number of equity shares with the issue price).

II. In respect of Small Cap Companies

i. The minimum post-issue paid-up capital of the Company shall be Rs. 3 crores; and
ii. The minimum issue size shall be Rs. 3 crores; and
iii. The minimum market capitalization of the Company shall be Rs. 5 crores (market capitalization shall be calculated by multiplying the post-issue paid-up number of equity shares with the issue price); and
iv. The minimum income/turnover of the Company should be Rs. 3 crores in each of the preceding three 12-months period; and
v. The minimum number of public shareholders after the issue shall be 1000.
vi. A due diligence study may be conducted by an independent team of Chartered Accountants or Merchant Bankers appointed by the Exchange, the cost of which will be borne by the company. The

requirement of a due diligence study may be waived if a financial institution or a scheduled commercial bank has appraised the project in the preceding 12 months.

III. For all companies :

I. In respect of the requirement of paid-up capital and market capitalisation, the issuers shall be required to include in the disclaimer clause forming a part of the offer document that in the event of the market capitalisation (product of issue price and the post issue number of shares) requirement of the Exchange not being met, the securities of the issuer would not be listed on the Exchange.

II. The applicant, promoters and/or group companies, should not be in default in compliance of the listing agreement.

III. The above eligibility criteria would be in addition to the conditions prescribed under SEBI (Disclosure and Investor Protection) Guidelines, 2000.

Q.13 Describe the Minimum Listing Requirements for companies listed on othe stock exchanges?

Ans. Minimum Listing Requirements for companies listed on other stock exchanges

The Governing Board of the Exchange at its meeting held on 6th August, 2002 amended the direct listing norms for companies listed on other Stock Exchange(s) and seeking listing at BSE. These norms are applicable with immediate effect.

1. The company should have minimum issued and paid up equity capital of Rs. 3 crores.

2. The Company should have profit making track record for last three years. The revenues/profits arising out of extra ordinary items or income from any source of non-recurring nature should be excluded while calculating distributable profits.

3. Minimum networth of Rs. 20 crores (networth includes Equity capital and free reserves excluding revaluation reserves).

4. Minimum market capitalisation of the listed capital should be at least two times of the paid up capital.

5. The company should have a dividend paying track record for the last 3 consecutive years and the minimum dividend should be at least 10%.

6. Minimum 25% of the company's issued capital should be with Non-Promoters shareholders as per Clause 35 of the Listing Agreement. Out of above Non Promoter holding no single shareholder should hold more than 0.5% of the paid-up capital of the company individually or jointly with others except in case of Banks/Financial Institutions/Foreign Institutional Investors/Overseas Corporate Bodies and Non-Resident Indians.

7. The company should have at least two years listing record with any of the Regional Stock Exchange.

8. The company should sign an agreement with CDSL & NSDL for demat trading.

Multiple Type Questions

Q.1 Which of the following is nit the investment constraints?

Ans.

(A) Liquidity (B) The Absences of the need of the regular income
(C) Time Horizon (D) Risk tolerance

Q.2 Which of the following is not the a non security form of investment

Ans.

(A) NSC (B) Bank Deposit (C) Purchase of Arts & Gold
(D) None of the above

Q.3 Which of the following Security is most liquid

Ans.

(A) Money Market instruments (B) Capital Market instruments
(C) Gilt edged security (D) Index Future

Q.4 The best estimate of intrinsic value of an assets is its

Ans.

(A) Net assets value (B) Economic Value (D) Market value
(D) Replacement Value

Q.5 Secondary market for shares are regulated by

Ans.

(A) RBI (B) SEBI (C) Ministry of Finance (D) Company law board

Q.6 SEBI has become statuary body

Ans.

(A) 1988 (B) 1989 (C) 1990 (D) 1992 (E) 1987

Q.7 Total Number stock exchange in India.

Ans.

(A) 22 (B) 21 (C) 23 (D) 25

Q.8 Following is/are the players who have an important role in the demat set up

Ans.

(A) NSDL (B) Depositary participants (C) None of the above
(D) Both of the above

Q.9 For the Demat trading the minimum marketing lot is

Ans.

(A)1 share (B)10share (C) 50share (E) 100 Share

Q.10 The Current settlement period in NSE and BSE?

Ans.

(A)A month (B) A fore night (C) ten days (D) T+Z settlement

Q.11 The NSE was established in the year

Ans.

(A)1990 (B)1991 (C) 1992 (D) 1993

Q.12 The basic requirement for the capital formation.

Ans.

(A)Saving (B) Investment (C) desire to invest (D) Capital

Q.13 The urgent need of conferring statutory powers to SEBI was in order to

Ans.

(A)Encourage the paper based trading
(B) Prevent scam in the market
(C)Provide incentives to the market participants
(D) None of the above

Q.14 A trader invest Rs.95 in 91 days treasury bills his annualized yield if held till due date is

Ans.

(a) 20.11 (B) 21.11 (C) 22 (D) 22.35

Q.15 The S&P CNX 500index takes into account

Ans.

(A)Fundamental of the company
(B) Market capitalization
(C)Turnover of the scrip on the stock exchange
(D)All of the above

Unit-2
Risk & Return

Q.1 Define the concept of Risk?

Ans. Risk is possibility of losses or injury, the degree or probability of such losses. Uncertainty and variability in the return is also called a risk. Risk Consist two type of Risk (A) Systematic Risk (B) unsystematic Risk.

The systematic risk is caused by the factors external to the particular company or uncontrollable by the company.

In case of unsystematic risk factors are specific controllable and related to the particular industry or company.

Q.2 Explain the different types of Risk?

Systematic Risk

The systematic risk is caused by the factors external to the particular company or uncontrollable by the company. Systematic risk is also known non diversifiable or market risk, is the portion of the security that cannot be eliminated through the diversification.

- Market Risk: market prices of investments, particularly equity shares may fluctuate widely within a short span of time even though the earnings of the company are not changing. The reasons for this change in prices may be varied. Due to one factor or the other, investors' attitude may change towards equities resulting in the change in market price. Change in market price causes the return from investment to very. This is known as market risk. The market risk refers to variability in return due to change in market price of investment. Market risk appears because of reaction of investors to different events. There are different social, economic, political and firm specific events which affect the market price of equity shares. Market psychology is another factor affecting market prices. In bull phases, market prices of all shares tend to increase while in bear phases, the prices tend to decline. In such situations,

the market prices are pushed beyond far out of line with the fundamental value.

- Interest-rate Risk: interest rates on risk free securities and general interest rate level are related to each other. If the risk free rate of interest rises or falls, the rate of interest on the other bond securities also rises or falls. The interest rate risk refers to the variability in return caused by the change in level of interest rates. Such interest rate risk usually appears through the change in market price of fixed income securities, i.e., bonds and debentures. Security (bond and debentures) prices have an inverse relationship with the level of interest rates. When the interest rate rises, the prices of existing securities fall and vice-versa.

- Purchasing power or Inflation Risk: The inflation risk refers to the uncertainty of purchasing power of cash flows to be received out of investment. It shows the impact of inflation or deflation on the investment. The inflation risk is related to interest rate risk because as inflation increases, the interest rates also tend to increase. The reason being that the investor wants an additional premium for inflation risk (resulting from decrease in purchasing power). Thus, there is an increase in interest rate. Investment involves a postponement in present consumption. If an investor makes an investment, he forgoes the opportunity to buy some goods or services during the investment period. If, during this period, the prices of goods and services go up, the investor losses in terms of purchasing power. The inflation risk arises because of uncertainty of purchasing power of the amount to be received from investment in future.

Unsystematic Risk

In case of unsystematic risk factors are specific controllable and related to the particular industry or company. Unsystematic risk also called diversifiable and the business risk. , is the portion of security which we can eliminate by the diversification

- Business Risk: Business risk refers to the variability in incomes of the firms and expected dividend there from, resulting from the

operating condition in which the firms have to operate. For example, if the earning or dividends from a company are expected to increase say, by 6%, however, the actual increase is 10% or 12 %. The variation in actual earnings than the expected earnings refers to business risk. Some industries have higher business risk than others. So, the securities of higher business risk firms are more risky than the securities of other firms which have lesser business risk.

- Financial Risk: It refers to the degree of leverage or degree of debt financing used by a firm in the capital structure. Higher the degree of debt financing, the greater is the degree of financial risk. The presence of interest payment brings more variability in the earning available for equity shares. This is also known as financial leverage. A firm having lesser or no risk financing has lesser or no financial risk.

Q.3 What is the Capital assts pricing model? Explain the assumption on which the CAPM based?

Ans. **Capital Assets Pricing Model**

The total risk of security consists two type (1systematic risk (2) unsystematic Risk. Systematic risk is also known non diversifiable or market risk, is the portion of the security that cannot be eliminated through the diversification. Unsystematic risk also called diversifiable and the business risk. , is the portion of security which we can eliminated by the diversification .the capital assets pricing model shows the relationship to the expected return on a security or its systematic risk.

The Model

CAPM is developed by the Willam F Sharpe. It provides the relationship between the Return and non diversifiable risk. The basic them of CAPM is that expected return is increased linearly with the systematic risk measured by the beta. The excess return over the and above the risk free return is called risk premium. it is the reward to take more risk .

Mathematical representation

Rf+ B (Rm - Rf)

Security Market line

A graphical representation of the CAPM model is known as Security Market Line. SML shows what rate of return is required to compensate for a given level of risk.

Assumptions

- Market is perfect
- Risk Free rate
- Homogenous expectation
- Time period
- Rational Investors
- Divisible
- Diversification

Benefits of CAPM

- Risk Adjusted return
- No dividend Company
- Undervalued overvalued shares
- Analysis of risk of project
- Minimization of risk.

Q.4 Describe the basic Arbitrage pricing theory?

Ans. APT (Arbitrage pricing theory)

Apt is developed by the Stephen Ross, it is alternative model of assets pricing. It explains the nature of equilibrium in the assets pricing in a less complicated manner with fewer assumption compared to CAPM. APT generates the riskless profit in the security market; it is selling of security at higher price and purchase the security at the lower prices.

The APT Model Assumption

- Investor has homogeneous expectation
- Investors are risk averse and utility maximizes
- No transaction cost
- Security returns are generated according to factor model
- Risk returns are not the basis.

There are various factors considered when we calculate the APT. these are

a. Change in the level of industry production

b. Change in the shape of yield curve
c. Change in the inflation rate
d. Change in the real interest rate
e. The level of the consumption
f. The level of the money supply

Q.4 Explain the term beta with example?

Ans. Beta shows relationship between the market risk (systematic risk) and security return. It is denoted by the Greek letter beta β.
A β 2 implies if the market return increase or decrease by the 10% over a period the security return increase or decrease by the 20%in these case the security return moves twice as much as the market return.
If the market beta is 0.5 it means the security moves half as much as the market return.

B=1	**B=0**	**Beta greater than 1**	**Beta less than 1**
Market portfolio	Risk Free Security	Aggressive security	Defensive security

Example: What is the beta of a stock whose expected return is 15% if the expected return on the market is 10% and the risk free rate is 5%?

Solution: Rf+ β (Rm - Rf)
15 =.05+β(.10-.05)
β = 2.0

Q.5

The historical rates of return of two securities over the past ten years are given. Calculate the covariance and the correlation of the two securities.

Years	:	1	2	3	4	5	6	7	8	9	10
Security 1 (return per cent)	:	12	8	7	14	16	15	18	20	16	22
Security 2 (return per cent)	:	20	22	24	18	15	20	24	25	22	20

Solution

Calculation of Covariance

Year	R_1	*Deviation* $(R_1 - \bar{R}_1)$	R_2	*Deviation* $(R_2 - \bar{R}_2)$	*Product of deviations*
1	12	-2.8	20	-1	2.8
2	8	-6.8	22	1	-6.8
3	7	-7.8	24	3	-23.4
4	14	-0.8	18	-3	2.4
5	16	1.2	15	-6	-7.2
6	15	0.2	20	-1	-0.2
7	18	3.2	24	3	9.6
8	20	5.2	25	4	20.8
9	16	1.2	22	1	1.2
10	22	7.2	20	-1	-7.2

$$\bar{R}_1 = \frac{148}{10} = 14.8 \qquad \bar{R}_2 = \frac{210}{10} = 21 - 8.00$$

$$\text{Covariance} = \frac{\sum_{i=1}^{N}\left[R_1 - \bar{R}_1\right]\left[R_2 - \bar{R}_2\right]}{N}$$

$$= \frac{-8}{10} = -0.8$$

For calculation of correlation, the standard deviation of the two securities are also required.

Calculation of Standard Deviation

Year	R_1	R_1^2	R_2	R_2^2
1	12	144	20	400
2	18	64	22	484
3	7	49	24	576
4	14	196	18	324
5	16	256	15	225
6	15	225	20	400
7	18	324	24	576
8	20	400	25	625
9	16	256	22	484
10	22	484	20	400
	148	2398	210	4494

Standard deviation of security 1:

$$\sigma_1 = \sqrt{\frac{N\Sigma R_1^2 - \left(\Sigma R_1\right)^2}{N^2}}$$

$$= \sqrt{\frac{(10 \times 2398) - (148)^2}{10 \times 10}} = \sqrt{\frac{23980 - 21904}{100}}$$

$$= \sqrt{20.76} = 4.56$$

Standard deviation of security 2:

$$\sigma_2 = \frac{\sqrt{N\Sigma R_2^2 - (\Sigma R_2)^2}}{N^2}$$

$$= \sqrt{\frac{(10 \times 4494) - (210)^2}{10 \times 10}}$$

$$= \sqrt{\frac{44940 - 44100}{100}}$$

$$= \sqrt{840} = 28.98$$

Correlation:

$$r_{12} = \frac{Cov_{12}}{\sigma_1 \sigma_2}$$

$$= \frac{-0.8}{4.56 \times 28.98} = \frac{-0.8}{132.15}$$

$$= -0.0061$$

Q.6

Security J has a beta of 0.75 while security *K* has a beta of 1.45. Calculate the expected return for these securities, assuming that the risk free rate is 5 per cent and the expected return of the market is 14 per cent.

Solution The expected return can be calculated using CAPM

$$\bar{R}_i = R_f + \beta_i(\bar{R}_m - R_f)$$

For security *J*

$$\bar{R}_i = 5 + 0.75\ (14 - 5)$$

$$= 5 + 6.75 = 11.75 \text{ per cent}$$

For security *K*

$$\bar{R}_i = 5 + 1.45\ (14 - 5)$$

$$= 5 + 13.05 = 18.05 \text{ per cent}$$

Q.7

A security pays a dividend of Rs. 3.85 and sells currently at Rs. 83. The security is expected to sell at Rs. 90 at the end of the year. The security has a beta of 1.15. The risk free rate is 5 per cent and the expected return on market index is 12 per cent. Assess whether the security is correctly priced.

Solution To assess whether a security is correctly priced, we need to calculate (a) the expected return as per CAPM formula, (b) the estimated return on the security based on the dividend and increases in price over the holding period.

Expected return

$$R_i = R_f + \beta_i(R_m - R_f)$$
$$= 5 + 1.15\ (12 - 5)$$
$$= 5 + 8.05 = 13.05 \text{ per cent}$$

Estimated return

$$R_i = \frac{(P_1 - P_0) + D_1}{P_0}$$
$$= \frac{(90 - 83) + 3.85}{83}$$
$$= \frac{7 + 3.85}{83} = \frac{10.85}{83} = 0.1307 = 13.07 \text{ per cent}$$

As the estimated return on the security is more or less equal to the expected return, the security can be assessed as fairly priced.

Q.8

The data for three stocks are given. The data are obtained from correlating returns on these stocks with the returns on the market index.

Stock	α_i	β_i	*Residual variance (per cent)* (σ_{ei}^2)
1	−2.1	1.6	14
2	1.8	0.4	8
3	1.2	1.3	18

Which single stock would an investor prefer to own from a risk-return view point if the market index were expected to have a return of 15 per cent and a variance of return of 20 per cent?

Solution Here we have to calculate the expected return and risk of each security under the single index model.

Expected return

$$\bar{R}_i = \alpha_i + \beta_i R_m$$

Security 1 = −2.1 + (1.6) (15) = −2.1 + 24 = 21.9

Security 2 = 1.8 + (0.4) (15) = 1.8 + 6 = 7.8

Security 3 = 1.2 + (1.3) (15) = 1.2 + 19.5 = 20.7

Security risk

$$\sigma_i^2 = \beta_i^2 \sigma_m^2 + \sigma_{ei}^2$$

Security 1 = $(1.6)^2(20)$ + 14 = 51.2 + 14 = 65.2

Security 2 = $(0.4)^2 20$) + 8 = 3.2 + 8 = 11.2

Security 3 = $(1.3)^2(20)$ + 18 = 33.8 + 18 = 51.8

Now we can calculate the ratio of return to risk to assess the return per unit of risk.

Security 1 = $\frac{21.9}{65.2} = 0.34$

Security 2 = $\frac{7.8}{11.2} = 0.70$

Security 3 = $\frac{20.7}{51.8} = 0.40$

The investor would prefer 'security 2' as it provides the highest return per unit of risk.

Multiple choice questions

Q.1 The risk of the whole market is measured by Beta is

Ans.

(A)1 (B)0 (C)-1 (D)greater than 1

Q.2 Systematic risk encompass

Ans.

(A)Interest rate risk (B) inflation risk (C) Market Risk
(D) All of the above

Q.3 The expected return for the security If RF=6.5% Beta = 1.24 Market return=11.5%

Ans.

(A)11.7 (B) 12.7 (C)13.7 (D) 14.7

Q.4 Covariance between a stock and a market index and the variance of the market index were found to be 33.56 and 19.15 respectively. The beta of the stock is

Ans.

(A)1.55 (B) 1.75 (C) 1.95 (D) none of the above

Q.5 The rati0o of the following risk of the security to total risk can be symbolically represented as

Ans.

(A)Coefficient of determination (B) Alfa (C) Beta
(D) Coefficient of correlation

Q.6 A portfolio consisting of 12 different assets will have …….. Unique covariance terms

Ans.

(A)78 (b)25 (C) 66 (D) none of the above

Q.7 The systematic risk of a stock is 25 whereas its market risk is 16 the beta of the security will be

Ans.

(A)4.00 (B) 1.25 (C) 1.56 (D) 0.80

Q.8 Beta of security measures

Ans.

(A)Diversifiable risk (B) Market Risk (C) Financial Risk

(D) None of the above

Q.9 The reduction of bad delivery and transaction cost was the result of the introduction

Ans.

(A) Badla (B) Rolling System (C)Depositors (D) Margin Collection

Q.10 The committee to make the regulatory framework for derivatives trading in India was headed

Ans.

(A)GN bajpai (B) LC Gupta (C) Carry Forward System (D) Bhave

Q.11 In the stock market indices scrip's with the largest market value have significant effect as they

Ans.

(A) Average indices (B) value weighted indices
(C) price weighted indices (D) none of the above

Q.12 limitation of index can be due to

Ans.

(A) Coverage (B) adjustment made (C) method of complication
(D) all of the above

Q.13 Annual report of the company give information regarding

Ans.

(A) Balance Sheet & P&L (B) Auditors Report
(C) past and future business environment (D) all of the above

Case study I

The Sock market research division Of M/S Kothari Investment services has developed Ex-ante probability distribution for the likely economics scenarios over the next one year and estimates the corresponding one period rates of return on stocks A, B and the market index as follows

Economic Scenarios	**Probability**	**One period rate of return %**		
		Stock A	Stock B	**Market**
Recession	0.15	-15	-3	**-10**
Low Growth	0.25	10	7	**13**
Medium Growth	0.45	25	15	**18**
High Growth	0.15	40	25	**32**

The Expected risk free real rate of return and the premium for inflation for inflation are 3.0% and 6.5% respectively.

As an analyst in a research division you are required to

A. Calculate the following for the stock A and B

(1) Expected return
(2) Covariance of returns with the market return
(3) Beta

B. Recommend for fresh investment in any of these two stocks. Show all necessary calculation.

Case study II

An Analyst had forecast three economic scenario and its associate probabilities. Also conditional return of three stocks A, B, C during this period were estimated. For a portfolio with 40% of the funds invested in stock with lowest standard deviation and the rest invested equally in other two stocks, compute the return, variance and the standard deviation of the portfolio.

Economic scenario	Probability	Conditional Return (%)		
		A	B	C
Growth	0.40	15	11	13
Stagnation	0.35	12	13	9
Recession	0.25	8	14	6

Unit-3
Introduction of Portfolio Management

Q.1 Explain the process of portfolio management?

Ans.

- Identifying and specifying the investor's objective, preference and constraints to develop clear investment policies.
- Developing strategies by choosing optimal combination of financial and real assets available in the market and implementing the strategies.
- Monitoring the market conditions relative assets value and the investor circumstances.
- Making adjustment in the portfolio to reflect significant changes in one or more relevant variables.

Q.2 Explain the Efficient Market Hypotheses and discusses its forms and tests?

Ans. Efficient Market Hypothesis

EMH explain that the capital markets are efficient and all the information available in the market is related to the stock prices. The market adjusts to the new information and therefore the return to the investor varies depending on the efficiency on the market. According to the EMH investors are rational and they do not affect with the movement in the stock prices.

Forms of the EMH

Weak Form of EMH: according to the weak form of EMH prices are depends on the past information and investor cannot earn the more return based on his predication about the future prices depending on the past price trends.

Semi Strong Form of Efficiency: According this form prices in the market is affected by the all the information that is made public like the stock splits, dividend etc. in this form analysis cannot use the information to make excess return because these information is absorb by the market in very short time period.

Strong form of efficiency: according to this form prices not only reflected by the publicly available information abut also private information. Private information is available only to the selected groups like management, Financiered.
Strong Form of EMH has two parts
(A) Near Strong Form of Efficiency
(B) Super Strong form of Efficiency

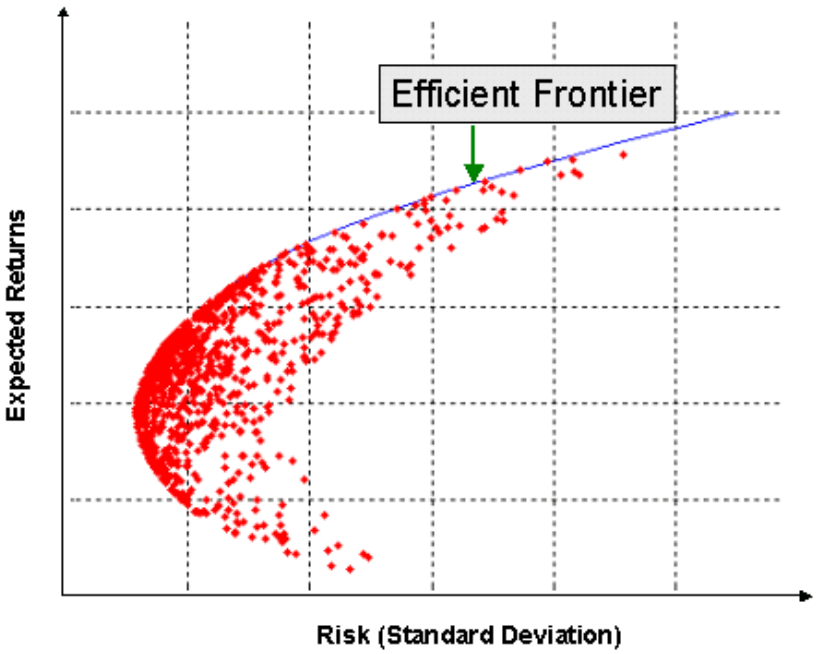
Test of Weak Forms
(A) Auto correlation test
(B) Runs test

Test of Semi strong test
(A) Residual test
(B) Event Studies

Test of Strong Form of Efficiency
(A) Trading by official exchanges
(B) Trading by Mutual fund managers
(C) Insider trading

Q.3 Explain the concept of efficient Frontier.

Ans. Markowitz model is a set of efficient frontier. Efficient portfolio means maximum expected return for a given level of risk or it offers minimum risk for a given level of expected return.



Each red dot represents the mean and standard deviation of a portfolio. The blue line is the efficient frontier. The efficient frontier has all the optimal portfolios. Portfolios on the efficient frontier have maximum return for a given level of risk or, alternatively, minimum risk for a given level of return. Clearly, a rational investor will select a portfolio on the efficient frontier.

Multiple Choice Questions

Q.1 Sharpe measure of the portfolio performance is based on

Ans. (A) Systematic risk (B) unsystematic risk (C) total risk (D) none of the above

Q.2 Jensen measure of the portfolio performance is

Ans. (A) Relative measure (B) Absolute measure (C) negative measure (D)None of the above

Q.3 Which of the following are not affected by the market surrogate that we apply

Ans. (A) Sharpe ratio (B) Fama Ratio (C) Trenyor Ratio (D) None of the above the

Q.4 The Jensen performance index is sometimes referred as

Ans. (A) Jensen alpha model (B) Jensen beta model (C) jensen sigma model (d) none of the above

Q.5 If the return of the portfolio is 13% and the risk free rate of the return is 7% while the beta of the portfolio is 1.2% the trenyor measure of the portfolio is

Ans. (A) 5 (B) 6 (C) 6.5 (D) 7.5

Q.6 If the return of the portfolio is 15% and the Risk free rate of return is 10% while the standard deviation of the portfolio return is 25% the shape measure for the portfolio is

Ans. (A) 0.15 (b) 0.20 (C) 0.25 (D) None of the above

Q.7 If the Jensen alpha is positive it indicates

Ans.

(A) Inferior performance of the fund

(B) Superior performance of the fund

(C) Neutral performance

(D) None of the above

Q.8 Which of the following in an equation of the security market line?

(A) Rf+ B (RM-RF)

(B) Rf- B (RM-RF)
(C) Rf+ B (RM+RF)
(D) Rf-B (RM+RF)

Q.9 If the required return of a security is greater than its expected return
Ans. (A) Security is overpriced (B) Security underpriced
(C) Security highly risk (D) Security is less risky

Q.10 The first mutual fund growth scheme was introduced in INDIA in the year
(A) 1964 (B) 1986 (C) 1988 (D) 1956

Case Study I

Mr. Ram an investor seeks your help to construct a portfolio from the security in which he is interested securities numbered 1 to 10 for which he has collected the following

Security	Mean return	Beta	Unsystematic Risk
1	20	1.2	20
2	14	1.0	30
3	12	2.0	40
4	16	0.8	20
5	24	1.1	15
6	18	1.0	50
7	19	0.8	16
8	13	1.3	25
9	11	1.5	30
10	9	1.6	10

Risk free rate = 8%
Market return = 15%
Market variance = 20%
Required:
Construct an optimum portfolio using Sharpe Portfolio Optimization Model.

Unit-4

Economic Analysis, Fundamental Analysis, Company Analysis

Q.1 Explain the basic framework of Fundamental Analysis?

Ans. Fundamental Analysis

Fundamental Analysis based on the intrinsic value of any security. It determines the "what ought to be prices". Its objective is to identify the underpriced and overpriced securities in the market place so that the investment decision buying & selling can be made.

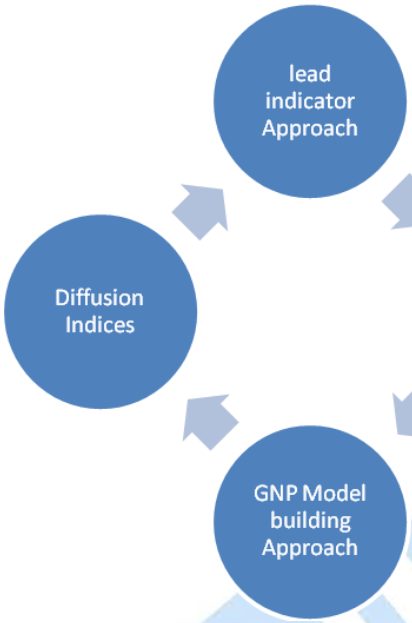
Framework of Fundamental Analysis

Q.2 What are the key characteristics of Economic Analysis and list the Economic Forecasting methods?

Ans **Key Characteristics of economic Analysis**

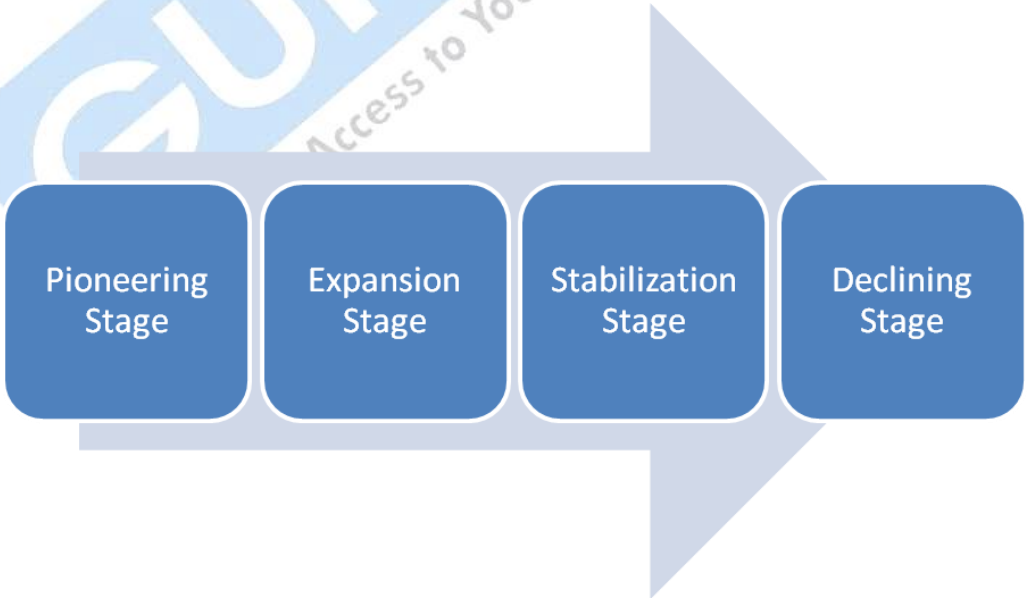
- A Past Sales and earnings performance
- Permanence of industry
- The attitude of the government towards the industry
- Labour condition within the industry
- The competitive condition as reflected by the existence of the entry barriers.
- The stock prices of the firms in the industry relative to their earnings.

Economic Forecasting Method



Q.3 Explain the industry life Cycle?

Industry Life Cycle

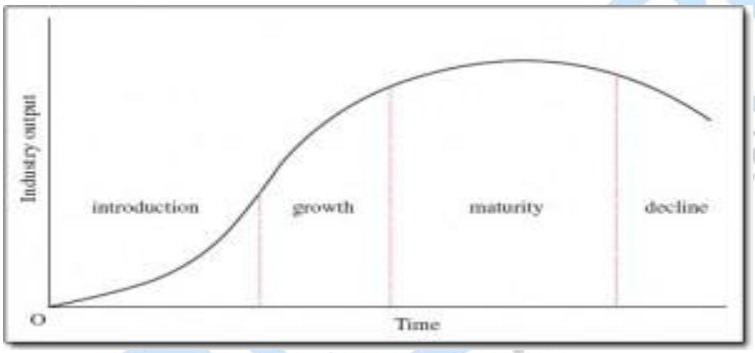


Pioneering Stage:

- **Rapid Growth in Demand**
- **High Competitive pressures**
- **Opportunity available attracts the new company.**
- **Real winners are survivor.**

Expansion Stage:

- **Survival of the pioneering stage is identifiable**
- **Improving their products and lowering their prices.**
- **More stable and solid**
- **Investors are willing to invest in this industry.**
- **The risk of failure is decreased.**



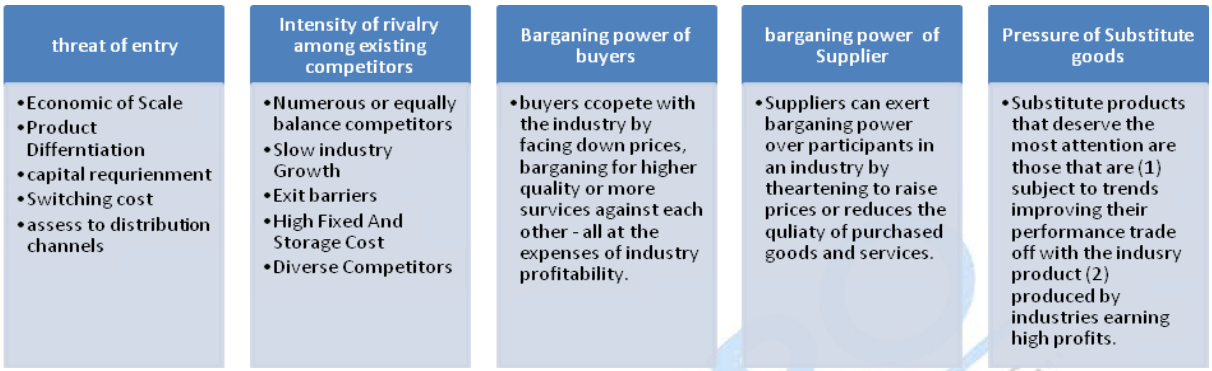
Stabilizations Stage

- **Growth begins to moderate.**
- **Sales increase but slower rate.**
- **Market place is full of competition.**
- **Cost rate stable rather than decreasing.**
- **High dividend payouts.**

Decline Stage

Q.4 Discuss the Structural Analysis?

Structural Analysis



Q.5 Explain the concept of Company Analysis? Discuss the factors considered to be most important in apprising the Company Analysis?

Ans. A company analysis includes basic information about the company such as the mission statement and vision as well as the values and goals. During a company analysis, an investor also looks at the history of the company, focusing on events that have shaped the company.

A company analysis looks into what goods or services the company sells. If the company is a manufacturing company, an analysis studies what products the company makes, and analyzes the quality and the demand of these products. If it's a service business, the investor studies the services offered.

Factors

- A trend analysis of company market shares
- Cost Structure and BEP analysis
- Leverage and coverage ratio analysis
- Fund flow analysis
- Profitability analysis
- A trend analysis of book value per share
- An analysis of growth in dividend per share.
- Estimation of dividend yield
- Estimation of price to earnings per share

- **An assessment of quality of per share**

Multiple Choice Questions

Q.1 Industry can be classified according to

Ans. (A) Products (B) Business cycle (C) Specific function they perform (D) all of the above

Q.2 High growth rates earnings and market shares in characteristics of the companies which are in

Ans. (A) Maturity stage (B) Expansion Stage (C) Pioneering Stage (E) Declining Stage

Q.3 A Company can benefit from the economies of scale in relation to

Ans. (A) Investment in research & development (B) Distribution channel (C) purchasing raw material (D) all of the above

Q.4 The measure of the leverage is

Ans. (A) PAT/ Equity (B) Equity/ Debt (C) Total assets / Equity (E) None of the above

Q.5 The ROE for the above company if ROA is 0.195 and the leverage factor of 1.8 is

Ans. (A).269 (B) 0.278 (C) 0.398 (D) none of the above

Q.6 A measure which reflects the effectiveness and efficient use of firm resources is

Ans. (A) Return on equity (B) return on assets (C) operating profits (D) none of the above

Q.7 Company has ROE of 0.25 and book value of Rs. 15.63. The EPS of the company is

Ans. (A) 3.91 (B) 3.41 (C) 4.51 (D) none of the above

Q.8 Which of the following is not the entry barriers

Ans. (A) Product differentiation (B) Low value addition (C) Switching Cost (D) Capital requirement

Q.9 Which of the following as the example of an exit barrier?

Ans. (A) Capital requirement (B) product differentiation (C) Strategic Interrelationship (D) Economies of scale

Q.9 If the rate of inflation is 4% and the nominal rate of return is 10% then the real rate of return

Ans. (A) 6.00 (B) 5.77 (C) 5.88 (D) 5.99

Q.10 Which of the following is the cycle industry

Ans. (A) Steel and iron (B) Construction (C) Shipping (D) All of the above

Q.11 In a balance sheet fixed assets are expressed in terms of their

Ans. (A)Market value (B) book value (C) none of the above
(D) all of the above

Q.12 As the business cycle enters the initial phase of economic recovery the stock prices generally

Ans. (A) Decline (B) Rise (C) Same as the trend before
(D) none of the above

Q.13 Trend analysis of the net profit margin and the leverage ratios helps in identifying

Ans. (A) Business risk (B) Interest rate Risk (C) Financial Risk
(D) Both a and c

Q.14 A business division with high growth and low relative market share is referred to as a

Ans. (A) Cash Cows (B) Question marks (C) Star (D) Dogs

Q.15 The ratio of PBT to PBIT for a company is a measure of

Ans. (A) Profitability (B) Leverage (C) operational efficiency
(D) None of the above

Case Study

Automotive industry in India
An Overview of Industry

The automotive industry in India is one of the largest in the world and one of the fastest growing globally. India's passenger car and commercial vehicle manufacturing industry is the sixth largest in the world, with an annual production of more than 3.9 million units in 2011.[1] According to recent reports, India overtook Brazil and became the sixth largest passenger vehicle producer in the world (beating such old and new auto makers as Belgium, United Kingdom, Italy, Canada, Mexico, Russia, Spain, France, Brazil), growing 16 to 18 per cent to sell around three million units in the course of 2011-12.[2] In 2009, India emerged as Asia's fourth largest exporter of passenger cars, behind Japan, South Korea, and Thailand. In 2010, India beat Thailand to become Asia's third largest exporter of passenger cars.

As of 2010, India is home to 40 million passenger vehicles. More than 3.7 million automotive vehicles were produced in India in 2010 (an increase of 33.9%), making the country the second (after China) fastest growing automobile market in the world. According to the Society of Indian Automobile Manufacturers, annual vehicle sales are projected to increase to 5 million by 2015 and more than 9 million by 2020.[6] By 2050, the country is expected to top the world in car volumes with approximately 611 million vehicles on the nation's roads.

The majority of India's car manufacturing industry is based around three clusters in the south, west and north. The southern cluster consisting of Chennai and Bangalore is the biggest with 35% of the revenue share. The western hub near Mumbai and Pune contributes to 33% of the market and the northern cluster around the National Capital Region contributes 32%. Chennai, is also referred to as the "*Detroit of India*"] with the India operations of Ford, Hyundai, Renault, Mitsubishi, Nissan, BMW, Hindustan Motors, Daimler, Caparo, and PSA Peugeot Citroën is about to begin their operations by 2014. Chennai accounts for 60% of the country's automotive exports.[10] Gurgaon and Manesar in Haryana form the northern cluster where the country's largest car manufacturer, Maruti Suzuki, is based.[11] The Chakan corridor near Pune, Maharashtra is the western cluster with

companies like General Motors, Volkswagen, Skoda, Mahindra and Mahindra, Tata Motors, Mercedes Benz, Land Rover, Fiat and Force Motors having assembly plants in the area. Aurangabad with Audi, Skoda and Volkswagen also forms part of the western cluster. Another emerging cluster is in the state of Gujarat with manufacturing facility of General Motors in Halol and further planned for Tata Nano at Sanand. Ford, Maruti Suzuki and Peugeot-Citroen plants are also set to come up in Gujarat.[14] Kolkatta with Hindustan Motors, Noida with Honda and Bangalore with Toyota are some of the other automotive manufacturing regions around the country.

TATA MOTORS

Tata Motors Limited formerly TELCO, (NSE: TATAMOTORS, BSE: 500570, NYSE: TTM) is an Indian multinational automotive corporation headquartered in Mumbai, India. It is the eighteenth largest motor vehicle manufacturing company in the world by volume. Part of the Tata Group. Its products include passenger cars, trucks, vans and coaches. Tata Motors has been ranked 314th in the Fortune Global 500 rankings of the world's biggest corporations for the year 2012.

Tata Motors is South Asia's largest automobile company; it is the leader in commercial vehicles and among the top three in passenger vehicles. Worldwide it is the world's fourth-largest truck manufacturer and second-largest bus manufacturer.[2] It has auto manufacturing and assembly plants in Jamshedpur, Pantnagar, Lucknow, Sanand, Dharwad and Pune, India, as well as in Argentina, South Africa, Thailand and the United Kingdom. Tata Motors has produced and sold over 6.5 million vehicles in India since 1954.

Originally a manufacturer of locomotives, the company manufactured its first commercial vehicle in 1954 in a collaboration with Daimler-Benz AG, which ended in 1969. In 2010, Tata Motors surpassed Reliance to win the coveted title of 'India's most valuable brand' in an annual survey conducted by Brand Finance and *The Economic Times*.[5]. Tata Motors was ranked as India's 3rd Most Reputed Car manufacturer [6] in the Reputation Benchmark Study - Auto (Cars) Sector, launched in April 2012.

Tata Motors is a cross-listed company; its stock trades on the Bombay Stock Exchange and the New York Stock Exchange as TTM

Important Developments

In January 2008, Tata Motors launched Tata Nano, the least expensive production car in the world at about 120,000 (US$3,000).[20] The city car was unveiled during the Auto Expo 2008 exhibition in Pragati Maidan, New Delhi.[21]

Tata has faced controversy over developing the Nano as some environmentalists are concerned that the launch of such a low-priced car could lead to mass motorization in India with adverse effects on pollution and global warming. Tata had set up a factory in Sanand, Gujarat and the first Nanos were rolled out in summer 2009.

Tata Nano Europa had been developed for sale in developed economies and it hit markets in 2010 while the normal Nano had hit markets in South Africa, Kenya and countries in Asia and Africa by late 2009. A battery version is also planned

Tata Ace, India's first indigenously developed sub-one ton mini-truck, was launched in May 2005. The mini-truck was a huge success in India with auto-analysts claiming that Ace had changed the dynamics of the light commercial vehicle (LCV) market in the country by creating a new market segment termed the small commercial vehicle (SCV) segment. Ace rapidly emerged as the first choice for transporters and single truck owners for city and rural transport. By October 2005, LCV sales of Tata Motors had grown by 36.6 percent to 28,537 units due to the rising demand for Ace. The Ace was built with a load body produced by Autoline Industries. By 2005, Autoline was producing 300 load bodies per day for Tata Motors.

Ace is still a top seller for TML with 500,000 units sold to date (June 2010).[23]

Ace has also been exported to several Asian, European, South American and African countries and all-electric models are sold through Chrysler's Global Electric Motorcars division.[24] In Sri Lanka it

is sold through Diesel & Motor Engineering (DIMO) PLC under the name of DIMO Batta.

Tata Motors unveiled the electric versions of passenger car Tata Indica and commercial vehicle Tata Ace. Both run on lithium batteries. The company has indicated that the electric Indica would be launched locally in India in about 2010, without disclosing the price. The vehicle would be launched in Norway in 2009.

Tata Motors' UK subsidiary, Tata Motors European Technical Centre, has bought a 50.3% holding in electric vehicle technology firm Miljøbil Grenland/Innovasjon of Norway for US$1.93 million, which specialises in the development of innovative solutions for electric vehicles, and plans to launch the electric Indica hatchback in Europe next year. On September 17, 2010, Tata Motors presented to the DTC (Delhi Transport Corporation) four CNG–Electric Hybrid low-floored Starbuses to be used for Commonwealth games. These are the first environmentally friendly buses to be used for public transportation in India.

Acquisitions

- In 2004 Tata Motors acquired Daewoo's truck manufacturing unit, now known as Tata Daewoo Commercial Vehicle, in South Korea.[8]
- In 2005, Tata Motors acquired 21% of Aragonese Hispano Carrocera giving it controlling rights of the company.
- In 2007, formed a joint venture with Marcopolo of Brazil and introduced low-floor buses in the Indian Market.]
- In 2008, Tata Motors acquired British Jaguar Land Rover (JLR), which includes the Daimler and Lanchester brand names.[10][11][12][13]
- In 2010, Tata Motors acquired 80% stake in Italy-based design and engineering company Trilix for a consideration of €1.85 million. The acquisition is in line with the company's objective to enhance its styling/design capabilities to global standards.

Expansion

After years of dominating the commercial vehicle market in India, Tata Motors entered the passenger vehicle market in 1991 by launching the Tata Sierra, a multi utility vehicle. After the launch of three more vehicles, Tata Estate (1992, a stationwagon design based on the earlier

'TataMobile' (1989), a light commercial vehicle), Tata Sumo (LCV, 1994) and Tata Safari (1998, India's first sports utility vehicle). Tata launched the Indica in 1998, the first fully indigenous passenger car of India. Though the car was initially panned by auto-analysts, the car's excellent fuel economy, powerful engine and aggressive marketing strategy made it one of the best selling cars in the history of the Indian automobile industry. A newer version of the car, named Indica V2, was a major improvement over the previous version and quickly became a mass-favorite. Tata Motors also successfully exported large quantities of the car to South Africa. The success of Indica in many ways marked the rise of Tata Motors.

Tata Motors technology and design subsidiaries

Tata has dozens of technology and design subsidiaries. These include the main ones.

Telco Construction Equipment (TELCON)

TELCON is a joint venture between Tata Motors and Hitachi, which focuses on excavators and other construction equipment; research work is going on for developing futuristic Excavators.

HV Transmission (HVTL) and HV Axles (HVAL)

HVAL and HVTL are 100% subsidiary companies of Tata Motors engaged in the business of manufacture of gear boxes and axles for heavy and medium commercial vehicles, with production facilities and infrastructure based at Jamshedpur.

Tata Technologies Limited (TTL)

TTL provides Engineering and Design (E&D) solutions to the Automotive Industry. Tata Motors holds 86.91% of TTL's share capital. TTL is based in Pune (Hinjawadi) and operates in the US and Europe through its wholly owned subsidiaries in Detroit and London respectively. It also has a presence in Thailand. Tata Technologies is a software service provider in the IT services and BPO space. Its global client list includes Ford, General Motors, Toyota and Honda, to name a few. It bought over the British engineering and design services

company, Incat International Plc for 4 billion in August 2005. Incat specializes in engineering and design services and product lifecycle management in the international automotive, aerospace and engineering markets. With this acquisition, Tata Motors will have closer proximity to its global customers and be able to provide a wider range of services.

Tata Motor European Technical Centre

Tata Motor European Technical Centre is Tata's subsidiary based in the UK. It was the joint developer of the World Truck.

Read the case carefully and answer the following questions:

1. Perform the Michael porter analysis of the Indian auto motive industry
2. Perform the SWOT Analysis of Tata Motors by using the information provided in the case

Case Study II

Calrisk LTD. Had an equity base of Rs10.Some of the ratios for this firm are as shown below

Current debt to total debt= 0.40

Total debt to equity =0.10

Fixed assets to equity= 0.85

Total assets turnover =2 time

Inventory = 8 time

Given this data you are required to calculate

(A) Total Debt
(B) Fixed assets
(C) Total capital
(D) Total Assets
(E) Sales and inventories

KEY WORDS

Correlation: it is a statistical measure that tells hoe securities rare related to each other.

Portfolio: it is a collection of investment (stocks, bonds, options t-bills commercial papers)

Liquidity: any stock converted into cash within short time period.

Right Issue: offer of a new issue to the existing shareholders.
Private placement: it involves the sale of shares directly to the individuals or institution to raise funds by a company.

Derivatives: derivative is the financial instrument that drives the value of the underlying assets like bonds stock currency etc.

Yield: return earned by the investor on a security.
Regression equation: It is a statistical tool used to forecast the value of dependent variable.

Risk: Risk means uncertainty and the variability in the returns.

Stock Broker: An intermediary between the company and the investor who trade in share on the behalf of the investors.
Rolling Settlement: It is related to the settlement of security transaction.

PAN : Permanent Account Number.

Demat : Dematerlisation means transfer the physical certificates into the electronic certificates.

Regulators: Company Law Board, The Reserve Bank of India, The Security exchange board of India, The department of economics and affairs, The department of company affairs.

Stock Exchanges: A stock exchange is a place where securities that have already been issued buy and sells. Presently there are 23 stock exchanges in India.

Listed Securities: Securities that are listed on various stock exchange and eligible for being traded that are called listed securities.

Depositors: A depository is an institution which dematerialize physical certificates and effects transfer of ownership by electronic book entries. Presently there are two depositors in India
(A)National securities depository limited
(B) Central Depository limited.

Merchant bankers: they are registered with the SEBI and specialized in managing the new issue of securities.

Mutual Funds: A mutual fund is a company that brings together money from many people and invests it in stocks, bonds or other assets. The combined holdings of stocks, bonds or other assets the fund owns are

known as its *portfolio*. Each investor in the fund owns shares, which represent a part of these holdings.

Custodian : A financial institution that has the legal responsibility for a customer's securities. This implies management as well as safekeeping.

Underwriters: A company or other entity that administers the public issuance and distribution of securities from a corporation or other issuing body. An underwriter works closely with the issuing body to determine the offering price of the securities, buys them from the issuer and sells them to investors via the underwriter's distribution network.

Credit rating agencies: A credit rating agencies assigns ratings to the financial instruments.

Venture capital funds: An investment fund that manages money from investors seeking private equity stakes in start-up and small- and medium-size enterprises with strong growth potential. These investments are generally characterized as high-risk/high-return opportunities.

APT: generates the riskless profit in the security market; it is selling of security at higher price and purchase the security at the lower prices.

Systematic risk: is also known non diversifiable or market risk, is the portion of the security that cannot be eliminated through the diversification.

Unsystematic risk: also called diversifiable and the business risk. , is the portion of security which we can eliminate by the diversification.

Beta: shows relationship between the market risk (systematic risk) and security return. It is denoted by the Greek letter beta β.

Listing: means admission of the securities for trading on the stock exchange.

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M.B.A. (Sem.III)
(Main & Back) Examination, December-2010
M-303: Security Analysis & Portfolio Management

Time: 3 Hours **Total Marks: 70**
Min. Passing Marks: 28

The question paper is divided in two sections. There are sections A and B. Section A contain 6 question out of which the candidate is required to attempt any 4 questions. Section B contains short case study/application base 1 question which is compulsory.
All questions are carrying equal marks.

Use of following supporting material is permitted during examination.

Section-A

1. "Risk is inherent part of the investment activity, systematic risk can not be avoided; however non-systematic risk can be avoided" Explain
2. "Stock index is the barometer of not only the stock market but of whole of the economy" Explain
3. What is an efficient portfolio? How does the efficient frontier change, when the possibility of leading and borrowing at a risk- free rate is introduced?
4. The following table gives an analyst's expected return on two stock for particular market returns:

Market return	Aggressive Stock	Defensive Stock
6	2	8
20	30	16

(a) What are the betas of the two stocks?
(b) What is the expected return on each stock if the market return is equally likely to be 6% or 20% ?
(c) If the risk-free rate is 7% and the market return is equally likely to be 6% or 20% what is the SML?

(d) What are the Alphas of the two stocks?

5. **Write short notes on the following:**

(i) Lead indicators
(ii) Prominent ratios for company analysis.

6. **An investor has gathered the following information about five popular mutual funds:**

Mutual fund	Return %	Risk (σ) %	β
A	15	5	1.50
B	11	4	0.50
C	17	7	1.00
D	11	6	0.70
E	19	5	1.20

Return on zero beta portfolio is 4% and return on market portfolio is 18% Evaluate these mutual funds using;
(i) Tenor's Index
(ii) Jensen's Index

Section B

7. **The risk free rate of return is 5 per cent. The index of the market has risk of 10 per cent. An analyst has short listed the following eleven stocks:**

Security	Return	Beta	Unsystematic Risk
1	15	1.00	50
2	8	1.50	40
3	12	1.00	20
4	17	2.00	10
5	11	1.00	40
6	11	1.50	30
7	11	2.00	40
8	7	0.80	16
9	7	1.00	20
10	5.6	0.60	6
11	12	1.00	30

Construct the portfolio of the stock from the list using Sharpe's model.