

Equity and portfolio management

[Economics](#), [Financial Markets](#)



A PROJECT REPORT ON EQUITIES AND PORTFOLIO MANAGEMENT Submitted in the partial fulfillment for the award of the degree of MASTER OF BUSINESS ADMINISTRATION BY A. INDU ROLL NO: 0640-60-121 Under the guidance of Mr. Mahender [pic] BHAVAN'S VIVEKANANDA COLLEGE Sainikpuri, Secunderabad (AFFILAITED TO OSMANIA UNIVERSITY) 2006-2008

DECLARATION I hereby declare that this Project Report titled EQUITIES AND PORTFOLIO MANAGEMENT submitted by me to the Department of Business Management, O. U., Hyderabad, is a bonafide work undertaken by me and it is not submitted to any other University or Institution for the award of any degree diploma / certificate or published any time before. Name of the Student Signature of the Student INDU ACKNOWLEDGMENT It plunge me in exhilaration in taking privilege in expressing our heart felt gratitude to all those who helped, encouraged and foreseeing successful completion of my project. Ecstasy to work under gregarious guidance of Mr. M. S. MAHENDRA, to whom extremely in debited for her valuable and timely suggestions. I convey my sincere thanks to Prof. ANAND REDDY BAVANS VIVEKANANDA College, SAINIKPURI and all those who directly or indirectly contributed their assistance in finishing out this project. | | INTRODUCTION | 1 | | | NEED

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BIBLIOGRAPHY | 47 | [pic] NEED FOR THE STUDY: - The purpose of the study

is to know the fluctuations in the share price of sample companies. - The

purpose of the study is to help the unknown investors for investing in

securities. - To update the portfolio reviewed and adjusted from time to time

in tune with market condition. - To analyse the risk and return on securities. -

To test portfolio strategies before taking decisions. OBJECTIVES OF THE

STUDY The objectives of Equities and investment /portfolio management can

be categorised as follows: - To observe the rate of fluctuations of selected

companies. - The amount of risk involved in the securities of the sample

companies. - To make comparative study of risk and return of the sample

companies. SCOPE OF THE STUDY The study covers all the information

related to the Equity fund and the Portfolio management it also covers the

investor risk in the investment in various securities. - Identification of the

investor's objectives, constraints and preferences. - Strategies are to be

developed and implemented in tune with investment policy formulated. - To

reduce the future risk in advance. - To earn maximum profit in the securities.

- Review and monitoring of the performance of the portfolio. - Finally the

evaluation of the portfolio. METHODOLOGY OF THE STUDY Primary Data: The

data provided by the firm was been analyzes by using Markowitz model

determines an efficient asset of portfolio return i. e., 1. Return 2. Standard

deviation 3. Coefficient of correlation Secondary Data: The data that is used

in this project is of secondary nature. The data is to be collected from

secondary sources such as various websites, journals, newspapers, books,

etc., the analysis used in this project has been done using selective technical tools. In Equity market, risk is analyzed and trading decisions are taken on basis of technical analysis. It is collecting share prices of selected companies for a period of five years. PERIOD OF THE STUDY: The study of Equity value and portfolio management for a period of five years (2003-2007).

LIMITATIONS: - The companies are selected on the basis of the performance - Expand or contract the size of the portfolio reflect the changes in investor risk disposition. SOURCE : NCE, The standards set by NSE in terms of market practices and technologies have become industry benchmarks and are being emulated by other market participants. NSE is more than a mere market facilitator. It's that force which is guiding the industry towards new horizons and greater opportunities. TOOLS & TECHNIQUES: The following statistical techniques were used for measuring the performance of the company's funds. 1. Rate of Return (ROR) $ROR = \frac{N2 - N1}{N1}$ Where, N1 is Close period at period1 N2 is Close period at period 2. Standard Deviation (SD) $\hat{\sigma} = \sqrt{\frac{1}{n} \sum (r - \text{avg}(r))^2}$ SD = n Where, R is rate of return N is total number of months 3. Beta $\hat{\beta} = \frac{\sum xy}{\sum x^2}$ Beta = $\frac{\sum xy}{\sum x^2}$ 4. Alpha $\hat{\alpha} = \text{Avg}(y) - (\hat{\beta} * \text{Avg}(x))$ 5. Coefficient of Correlation $\hat{r} = \frac{\sum xy - \hat{\beta} \sum x^2}{\sqrt{(\sum y^2 - (\hat{\beta} \sum x)^2) (\sum x^2 - (\hat{\beta} \sum x)^2)}}$ 6. Coefficient of Correlation Coefficient of determination = (Coefficient of Correlation) ² [pic]

INTRODUCTION TO INVESTMENT Investment may be defined as an activity that commits funds in any financial form in the present with an expectation of receiving additional return in the future. The expectations bring with it a probability that the quantum of return may vary from a minimum to a maximum. This possibility of variation in the actual return is known as investment risk. Thus every

investment involves a return and risk. Investment is an activity that is undertaken by those who have savings. Savings can be defined as the excess of income over expenditure. An investor earns/expects to earn additional monetary value from the mode of investment that could be in the form of financial assets. The three important characteristics of any financial asset are: - Return-the potential return possible from an asset. - Risk-the variability in returns of the asset from the chances of its value going down/up. - Liquidity-the ease with which an asset can be converted into cash. Investors tend to look at these three characteristics while deciding on their individual preference pattern of investments. Each financial asset will have a certain level of each of these characteristics. Investment avenues

There are a large number of investment avenues for savers in India. Some of them are marketable and liquid, while others are non-marketable. Some of them are highly risky while some others are almost risk less. Investment avenues can be broadly categorized under the following heads: Corporate securities - Equity shares. - Preference shares. - Debentures/Bonds. - Derivatives. - Others. Corporate Securities Joint stock companies in the private sector issue corporate securities. These include equity shares, preference shares, and debentures. Equity shares have variable dividend and hence belong to the high risk-high return category; preference shares and debentures have fixed returns with lower risk. The classification of corporate securities that can be chosen as investment avenues can be depicted as shown below: Equity shares By investing in shares, investors basically buy the ownership right to the company. When the company makes profits, shareholders receive their share of the profits in the form of

dividends. In addition, when company performs well and the future expectation from the company is very high, the price of the company's shares goes up in the market. This allows shareholders to sell shares at a profit, leading to capital gains. Investors can invest in shares either through primary market offerings or in the secondary market. The primary market has shown abnormal returns to investors who subscribed for the public issue and were allotted shares. Stock Exchange: In a stock exchange a person who wishes to sell his security is called a seller, and a person who is willing to buy the particular stock is called as the buyer. The rate of stock depends on the simple law of demand and supply. If the demand of shares of company x is greater than its supply then its price of its security increases. In Online Exchange the trading is done on a computer network. The sellers and buyers log on to the network and propose their bids. The system is designed in such ways that at any given instance, the buyers/sellers are bidding at the best prices. The transaction cycle for purchasing and selling shares online is depicted below: PORTFOLIO A portfolio is an appropriate mix of or collection of investments held by an institution or a private individual. It is a collection of securities, since it is rarely desirable to invest the entire funds of an individual or an institution in a single security. - Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. - Portfolio expected return is a weighted average of the expected return of individual securities but portfolio variance, in short contrast, can be something less than a weighted average of security variances. - As a result an investor can sometimes reduce portfolio risk by adding security with greater individual risk than any other security in the

portfolio. This is because risk depends greatly on the co-variance among return of individual securities. - Since portfolios expected return is a weighted average of the expected return of its securities, the contribution of each security to the portfolio's expected returns depends on its expected returns and its proportionate share of the initial portfolio's market value.

RISK Risk is a concept that denotes a potential negative impact to an asset or some characteristic of value that may arise from some present process or future event. In everyday usage, risk is often used synonymously with the probability of a known loss. Risk is uncertainty of the income / capital appreciation or loss of the both. The total risk of an individual security comprises two components, the market related risk called systematic risk also known as undiversifiable risk and the unique risk of that particular security called unsystematic risk or diversifiable risk. Types of risk |

Systematic risk (market) | Unsystematic risk (company risk) | | Examples: |
 Examples: | | Interest rate risk | Labor troubles | | Market risk | Liquidity problems | | Inflation risk | Raw materials risks | | Demand | Financial risks | | Government policy | Management problems | | International factors | |

PHASES OF PORTFOLIO MANAGEMENT Five phases can be identified in this process: Security analysis Portfolio analysis Portfolio selection Portfolio revision Portfolio evaluation **SECURITY ANALYSIS** An examination and evaluation of the various factors affecting the value of a security. Security Analysis stands for the proposition that a well-disciplined investor can determine a rough value for a company from all of its financial statements, make purchases when the market inevitably under-prices some of them, earn a satisfactory return, and never be in real danger of permanent loss.

PORTFOLIO ANALYSIS Analysis phase of portfolio management consists of identifying the range of possible portfolios that can be constituted from a given set of securities and calculating their return and risk for further analysis. **PORTFOLIO SELECTION** The proper goal of portfolio construction is to generate a portfolio that provides the highest returns at a given level of risk. A portfolio having this characteristic is known as an efficient portfolio. The inputs from portfolio analysis can be used to identify the set of efficient portfolios. From this set of efficient portfolios, the optimal portfolio has to be selected for investment. Harry Markowitz portfolio theory provides both the conceptual framework and analytical tools for determining the optimal portfolio in a disciplined and objective way. **PORTFOLIO REVISION** Having constructed the optimal portfolio, the investor has to constantly monitor the portfolio to ensure that it continues to be optimal. Portfolio revision is as important as portfolio analysis and selection. **PORTFOLIO EVALUATION** It is the process, which is concerned with assessing the performance of the portfolio over a selected period of time in terms of returns and risk. This involves quantitative measurement of actual return realized and the risk born by the portfolio over the period of investment. It provides a feedback mechanism for improving the entire portfolio management process. [pic]

ICICI Securities Limited ICICI Securities Ltd is a premier Indian Investment Bank, with a dominant position in its core segments of its operations - Corporate Finance including Equity Capital Markets Advisory Services, Institutional Equities, Retail and Financial Product Distribution. ICICI Securities Limited assists global institutional investors to make the right decisions through insightful research coverage and a client focused Sales

and Dealing team. ICICI Securities has the largest reach to the retail segment through its two pioneering branches. Winning is a habit that is assiduously cultivated at ICICI Securities Limited (I-Sec). Be it deals, mandates or awards, we manage them all in our quite and efficient way. For us winning awards is a matter of pride and honour. Each new award is a manifestation of our hard work and commitment to our clients. Since inception, I-Sec's expertise has been time and again widely recognized by both domestic and international agencies. I-Sec PD has been recognized as the 'Best Domestic Bond House in India' by Asiamoney for 2002, 2003, 2004, 2005 and 2007. I-Sec PD has been awarded the prestigious 'Best Bond House' by Financeasia.com for the years - 2001, 2002, 2003, 2004, 2005, 2006 and 2007. These awards are a strong testimony of our capabilities and continuing dominant position in the market. The equities team was adjudged the 'Best Indian Brokerage House-2003' by Asiamoney. The Corporate Finance group also was awarded a runner-up Best Merchant Banker by Outlook Money in 2007. ICICI Securities (I-Sec) topped the Prime Database League Tables 2007 for money raised through IPOs/FPOs. With a full-service portfolio, a roster of blue-chip clients and performance second to none, we have a formidable reputation within the industry. Today ICICI Securities is among the leading Financial Institutions both on the institutional as well as retail side. The Corporate Finance team regularly ranks highest among the leading capital markets league tables and recently topped the Prime Database League tables for funds mobilized through equity instruments in the first half of CY 07. Headquartered in Mumbai, I-Sec operates out of several locations in India. ICICI Securities Inc., the step-down wholly owned

US subsidiary of the company is a member of the National Association of Securities Dealers, Inc. (NASD). As a result of this membership, ICICI Securities Inc. can engage in permitted activities in the U. S. securities markets. These activities include Dealing in Securities and Corporate Advisory Services in the United States and providing research and investment advice to US investors. ICICI Securities Inc. is also registered with the Financial Services Authority, UK (FSA) and the Monetary Authority of Singapore (MAS) to carry out Corporate Advisory Services and Dealing in Securities. ICICI Securities — India's Leading Investment Bank A subsidiary of ICICI Bank - the largest and most recognized private bank in India — ICICI Securities Ltd is premier Indian Investment Bank, with a dominant position in its core segments of its operations - Corporate Finance including Equity Capital Markets Advisory Services, Institutional Equities, Retail and Financial Product Distribution With a full-service portfolio, a roster of blue-chip clients and performance second to none, we have a formidable reputation within the industry. | | [pic] MODELS Some of the financial models used in the process of Valuation, stock selection, and management of portfolios include: - Maximizing return, given an acceptable level of risk. - Modern portfolio theory—a model proposed by Harry Markowitz among others. - The single-index model of portfolio variance. - Capital asset pricing model. - Arbitrage pricing theory. - The Jensen Index. - The Treynor Index. - The Sharpe Diagonal (or Index) model. - Value at risk model. MARKOWITZ: PORTFOLIO SELECTION MODEL The basic portfolio model, developed by Harry Markowitz, derived the expected rate of return for a portfolio of assets and an expected risk measure. Markowitz showed that the variance of the rate of return was

meaning full measure of risk under a reasonable set of assumptions and derives the formulas for computing the variance of the portfolio. This portfolio variance formulation indicated the importance of diversification for reducing risk, and showed how to properly diversify.

PARAMETERS OF MARKOWITZ: THE MEAN VARIANCE CRITERION Based on his research, for building up the efficient set of portfolio, as laid down by Markowitz, we need to look into these important parameters.

1. Expected return
2. Variability of returns as measured by standard deviation from the mean.
3. Covariance or variance of one asset return to other asset returns.

ASSUMPTIONS OF MARKOWITZ MODEL:

1. Investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period.
2. Investors maximize one period expected utility and possess utility curves that demonstrate diminishing marginal utility of wealth.
3. Individuals estimate risk on the basis of the variability of expected returns.
4. Investors base decisions solely on expected return and risk; i. e., their utility curves are a function of expected return and variance (or standard deviation) of returns only.
5. For a given risk level, investors prefer higher returns to lower returns. Similarly, for a given level of expected return, investors prefer less risk to more risk.

EXPECTED RISK CALCULATION:

$$\text{PORTFOLIO RISK} = \text{SQRT} [((X^2 * \text{SD}_X^2) + (Y^2 * \text{SD}_Y^2) + (2 * X * Y * (r_{XY} * \text{SD}_X * \text{SD}_Y)))]$$

WHERE X_x , X_y = proportion of total portfolio invested in security X & Y respectively sd_x , sd_y = standard deviation of stock X & stock Y respectively r_{xy} = correlation coefficient of x & y

EXPECTED RETURN OF A PORTFOLIO CALCULATION:

$$\text{PORTFOLIO RETURN} = [(X * R_X) + (Y * R_Y)]$$

WHERE X = proportion of total portfolio invested in

security X X_Y = proportion of total portfolio invested in security Y R_X =
 expected return to security X R_Y = expected return to security Y FORMULAS
 USED IN MARKOWITZ MODEL Arithmetic return [pic] Where - V_i is the initial
 investment value and - V_f is the final investment value This return has the
 following characteristics: - $ROI_{Arith} = + 1.00 = + 100\%$ when the final value
 is twice the initial value - $ROI_{Arith} > 0$ when the investment is profitable -
 $ROI_{Arith} < 0$ when the investment is at a loss - $ROI_{Arith} = \hat{a}' 1.00 = \hat{a}'$
 100% when investment can no longer be recovered STANDARD DEVIATION
 $\hat{\sigma} = \text{Square root } (((\text{mean return} - \text{expected return})^2 / N)$ COVARIANCE COV
 $(X, Y) = 1/N [((R_X - R_X)(R_Y - R_Y)]$ BETA: The Beta coefficient, in terms of finance
 and investing, is a measure of a stock (or portfolio)'s volatility in relation to
 the rest of the market. Beta is calculated for individual companies using
 regression analysis. The beta coefficient is a key parameter in the capital
 asset pricing model (CAPM). It measures the part of the asset's statistical
 variance that cannot be mitigated by the diversification provided by the
 portfolio of many risky assets, because it is correlated with the return of the
 other assets that are in the portfolio. For example, if every stock in the New
 York Stock Exchange was uncorrelated with every other stock, then every
 stock would have a Beta of zero, and it would be possible to create a
 portfolio that was nearly risk free, simply by diversifying it sufficiently so that
 the variations in the individual stocks' prices averaged out. In reality,
 investments tend to be correlated, more so within an industry, or when
 considering a single asset class (such as equities). This correlated risk,
 measured by Beta, is what actually creates almost all of the risk in a
 diversified portfolio. The formula for the Beta of an asset within a portfolio is

[pic] Where r_a measures the rate of return of the asset, r_p measures the rate of return of the portfolio of which the asset is a part And $Cov(r_a, r_p)$ is the covariance between the rates of return. In the CAPM formulation, the portfolio is the market portfolio that contains all risky assets, and so the r_p terms in the formula are replaced by r_m , the rate of return of the market.

The beta movement should be distinguished from the actual returns of the stocks. For example, a sector may be performing well and may have good prospects, but the fact that its movement does not correlate well with the broader market index may decrease its beta. Beta is a measure of risk and not to be confused with the attractiveness of the investment. THE SECURITY

MARKET LINE The Security Market Line (SML) is the graphical representation of the Capital Asset Pricing Model. It displays the expected rate of return for an overall market as a function of systematic (non-diversifiable) risk (beta).

The x-axis represents the risk (beta), and the y-axis represents the expected return. The market risk premium is determined from the slope of the SML.

The securities market line can be regarded as representing a single-factor model of the asset price, where Beta is exposure to changes in value of the Market. The equation of the SML is thus: [pic] [pic]

IMPLICATIONS FOR INVESTORS FROM THE MEASUREMENT OF PORTFOLIO RISK If the investor conservative and interested in low variability of portfolio returns from the expected return (actual realizable return not from expected), he should: 1.

Invest his funds in securities with low standard deviations, and 2. Ensure that the securities chosen for his portfolio have relatively low coefficients of correlation with one another. Theoretically, if it is possible, he should include some securities with negative coefficients of correlation with other securities

in the portfolio. ICICI BANK Business Profile ICICI Bank was promoted in 1994 by ICICI Ltd., an Indian development financial institution. The two entities subsequently merged to become the largest commercial bank in the private sector. A new generation bank, ICICI Bank started with all the latest technologies to hit the Indian banking industry in the second half of the nineties. All its branches are fully computerised with the state-of-the-art technology and systems, networked through VSAT technology. The bank is connected to the SWIFT International network. In 2005, it expanded its network to 562 branches and 1, 910 ATMs. It continued to expand its electronic channels, namely internet banking, mobile banking, call centres and ATMs, and migrate customer transaction volumes to these channels. Over 70% of customer induced transactions take place through these electronic channels. It has acquired a small Russian banking entity, Investitsionno-Kreditny Bank (IKB), which will help boost its corporate business and deposit franchise overseas. The bank has also built several strategic alliances with banks like Wells Fargo in USA, Lloyds TSB in UK and DBS in Singapore. ICICI has entered into strategic alliance with Prudential plc. of UK for its mutual fund business. The duo have been fairly aggressive through their companies, Prudential ICICI Asset Management Company Limited and Prudential ICICI Trust Limited. The bank is also keen to offer its services to the Indian agricultural sector. Over 2, 000 Internet kiosks and 70 agri-desks have been established in locations with large agricultural markets.

Recent Developments ICICI Bank launched `Mutual Fund Sweep Account` - an automatic sweeping facility which allows current account holders to park their short-term surpluses into liquid mutual funds and earn higher returns.

Initially, ICICI Bank current account customers will have the facility to invest their account surpluses in the liquid fund schemes of Prudential ICICI Asset Management Company and GIC Mutual Fund. The bank is in the process of the reverse merger of ICICI with ICICI Bank. The merger of two wholly-owned subsidiaries of ICICI, ICICI Personal Financial Services Limited and ICICI Capital Services Limited, with ICICI Bank is also underway. ICRA has assigned an A1+ rating, indicating highest safety in the short-term, to the Rs 500 crore certificates of deposit (CD) programme of ICICI Bank Ltd (IBL). The rating agency said in its report that the rating takes into consideration IBL's strategic importance to its parent ICICI, IBL's comfortable profitability and capital adequacy, good control on asset quality.

Series	Date
0.825	1.03
1.216	1.339
60	3.298
0.6085	0.906
0.2776	0.045
0.002053	0.002053
0.1483	0.02199
0.2305	0.05313

BANK OF INDIA The Bank is actively involved since 1973 in non-profit activity called Community Services Banking. All our branches and administrative offices throughout the country sponsor and participate in large number of welfare activities and social causes. Our business is more than banking because we touch the lives of people anywhere in many ways. There commitment to nation-building is complete & comprehensive.

Series	Date	Prev Close
1.114		

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