Security Analysis and Portfolio Management

Term I Academic Year 2014-2015

PGDM

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Objectives:

1. To provide an in-depth knowledge of techniques of valuing stocks and bonds and of use of fundamental and technical analysis in taking investment decisions.

2. To develop an understanding of how to optimally allocate funds across alternative (risky) asset classes (e.g., stocks, bonds, etc.) to form an optimal portfolio and how to optimally allocate wealth between the optimal risky portfolio and a risk-free asset (such as the Treasury-bill).

3. To develop an understanding of alternative styles of investment management and alternative methodologies of evaluating portfolio performance.

Pedagogy:
The course will be delivered through a mix of lectures and real-life assignments involving thorough analysis and presentations.

Evaluation Criteria:

Class Participation	10%
Group Assignments	30%
Mid-term Examination	30%
Term-end Examination	30%

Session plan:

Session No.	Topic	Readings
1-2	Overview of investment process, expected return and risk of an individual security and portfolio of securities, measure of risk aversion	BKM: Ch. 1,5 Case: Beta Management
3-5	Equity Valuation Fundamental analysis	BKM: Ch.17-19 Case: Citrus Glow
6-8	Technical Analysis	BKM: Ch.12
9-12	Portfolio Building: Optimal asset allocation using mean-variance criterion, Single index model	BKM: Ch. 6-8
13-14	Portfolio Revision and Rebalancing	Handout
15-16	Portfolio performance measurement	BKM: Ch.24
17-18	Fixed Income Securities	BKM: Ch. 14-16
19-20	Market organization, Trading procedures Market efficiency, Behavioral Finance	BKM: Ch.3, 11,12

Reading Material:

Text Book:

Bodie, Zvi , Alex Kane et.al. (2009), Investments, Eighth Edition, Tata McGraw- Hill (Referred to as BKM)

Reference Books:

1. Fischer, Donald E. and Ronald J. Jordan, Security Analysis and Portfolio Management, Sixth Edition, Pearson/Prentice Hall.(FJ)

2. Reilly, Frank K. and Keith C. Brown (2006), Investment Analysis & Portfolio Management, Eighth Edition, Thomson South-Western.

3. Alexander, Gordon J; William F.Sharpe and Jaffery V. Bailey, Fundamentals of Investments, Third Edition, Pearson/Prentice Hall

4. Elton, Edwin J. and Martin J. Gruber, Modern Portfolio Theory and Investment Analysis, Fifth Edition, John Wiley & Sons.

Additional Readings:

W. Wagner and M. Edwards, "Best Execution," *Financial Analysts Journal*, January-February 1993.

E. Lie and H. Lie, “Multiples Used to Estimate Corporate Value,” *Financial Analysts Journal*, March-April 2002

T. Goodwin, “The Information Ratio,” *Financial Analysts Journal*, July-August 1998

H. Shefrin and M. Statman, "The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence," *Journal of Finance*, July 1985

H. Desai, B. Liang, and A. Singh, “Do All-Stars Shine? Evaluation of Analyst Recommendations,” *Financial Analysts Journal*, May-June 2000

GROUP ASSIGNMENTS

There are three group assignments. Each assignment will have a weight of 10%. A group shall not exceed three members.

Assignment 1: Fundamental Analysis

1. Each group will be assigned one industry and the group will perform the industry analysis in the framework provided herewith. Students can also refer to chapter 17 of the text book for guidance on industry analysis:

   Framework for Industry Analysis

   The key characteristics that should be considered in an industry analysis include:

   1. Past sales and earning performance
   2. Sensitivity to Business Cycle
   3. Competitive conditions and barriers to entry
   4. Stock prices relative to earnings
   5. Stage in industry life cycle
   6. Operating leverage
   7. Financial leverage
   8. Opinion on the investment prospects in the industry

The report on the industry analysis should be no more than 3 pages.

The group will then select one company from the chosen industry and prepare an analytical report covering, among other things, the following:

a. A brief description of company's history, products, competitive position and future prospects

b. Analysis of last five years' financial statements of the company (refer illustration given in chapter 19 of your text book)

c. Valuation of stock of the company using approaches outlined in chapter 18 of the text book.

d. Technical analysis of the company

e. Recommendation relating to investment in the company

Last date of submission: August 1, 2014

Assignment 2: Investment Simulation

Each group will be assigned an initial fund of Rs. 1,000,000. Out of this money Rs.100, 000 each must be invested in an exchange traded fund (ETF) and a corporate bond. The remaining fund can be invested in a portfolio of stocks. The stocks in the portfolio should be picked from stocks that are part of Nifty. The portfolios constructed by groups will be uploaded in the assignment folder by the evening of July 25, 2014 and the portfolio value will be based on closing stock prices on July 25.

In addition, the groups will identify two stocks that will represent their 'single egg' investment. One of the stocks will be selected based on fundamentals and the other on the basis of technical analysis. No investment is required in these two stocks. However, their performance needs to be tracked.

No trading is allowed in the ETF, corporate bond, and the two individual stocks. The groups can make three revisions in the portfolio. These revisions are to be done at the closing prices and the revisions are to be uploaded in the assignment folder immediately.

The groups will use Excel to record daily closing prices and all transactions including price/share, number of shares, date, transaction type (buy or sell), and total amount of transaction. There will be a transaction fee of 0.5% on all buying and selling transactions. Unused funds will earn interest at the rate of 9 % p.a.

The investment will continue till the end of the term. At that time, each group will submit a written report covering the following:

1. Rationale for selection of securities in the portfolio, the ETF, the corporate bond and the 'single egg' stocks.
2. A comparison of the rate of return, standard deviation, reward to variability and betas of all investments mentioned in (1) above.
3. Comments on the comparison.
4. Learning from the exercise.

Last date of submission: end of the term.

Assignment 3: Portfolio Optimization

a. Select five companies from the thirty companies comprised in the BSE Sensitive Index and collect their price data for the last three years from the BSE/NSE website.

b. Calculate the average historical returns, standard deviation of returns and correlation among returns of these stocks using the price data.

c. Based on the variance-covariance structure of the returns, find out the weights of the five stocks in the minimum variance efficient (MVE) portfolio of the chosen five stocks.

d. Calculate the expected return on the MVE portfolio.

e. Increase the expected return on MVE portfolio by small increments and build up a number (about ten) of efficient portfolios that have the smallest possible standard deviation for the given expected return

f. Draw an efficient frontier of the efficient portfolios and identify the optimal portfolio assuming that the investor has a risk-aversion index of 3.

g. Choose correlation coefficients between each pair of stocks. These correlation coefficients should be smaller in value than the correlation coefficients estimated from the historical data. Repeat steps (c) through (e) using these correlation coefficients.

h. Choose correlation coefficients between each pair of stocks. These correlation coefficients should be larger in value than the correlation coefficients estimated from the historical data. Repeat steps (c) through (e) using these correlation coefficients.

i. Draw three efficient frontiers (one with correlation coefficients derived from historical data, one with small correlation coefficients and one with large correlation coefficients) on the same graph. Mark the MVE portfolio on each frontier. Comment on how the efficient frontier changes with the change in the correlation coefficient between assets.

Last date of submission: August 27, 2014