

FIN630 - INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT ASSIGNMENT – SPRING 2009

TOTAL MARKS: 30

Due Date to Submit the Assignment is

June 12, 2009

INSTRUCTIONS: (Please read the following instructions carefully before attempting the assignment.)

- This assignment is a case study that covers up to Lesson No. 35.
- Last date for submission of solution is **June 12, 2009**.
- All instructions will be considered during checking assignment. So, consider all these.
- Go through the case study carefully and answer the question given at the end.
- **You are required to attempt the assignment as Word document (MS Word 2003 or any previous version). The assignments attempted in any other format (except MS Word) will not be accepted and will be marked zero.**
- **Give the answer according to question, no mark will be given for irrelevant material.**
- **Make sure that you reproduce the answer in your own words. Marks will be deducted for answers copied from the case study or from internet.**
- **Make sure that you upload the solution before due date. No assignment will be accepted through e-mail after the due date.**
- Avoid long paragraphs while answering the questions.
- Use 12 point font in Times New Roman.
- You may consult additional sources (like handouts, internet and books) to find the answers
- Cheating or copying of assignment is strictly prohibited; no credit will be given to copied assignment.
- Be very careful while uploading your solution file as you shall not be able to replace it once uploaded.

Case

Mr. John is an investment analyst in the investment services area of IMS Financial Services Company and assigned to handle Mr. David's account. As an investment advisor, Mr. John's responsibilities are to make investment recommendations to his clients, execute trades on their behalf, and expand the demand for IMS financial services by making new contacts and clients. Mr. David's account at IMS financial company is a portfolio of technology stocks worth \$50,000. His aunt established the account for college tuition, which she will need next year. The overall change in equity prices over the last three year has significantly affected the stock portfolio but, given the near-term need for cash, should have its risk profile adjusted.

"Just add a stock at random," advises Mr. Tom, another analyst in the same IMS office. "Pick a stock, any stock, and the risk of the portfolio should be lowered. Here, use my darts and throw them at the stock pages pasted on my office wall. It's fun and the client will never know. Just don't let Michael porter (IMS financial services company owner) catch you."

To Mr. John's thinking, there has to be a better way. The risk of David's portfolio should be reduced but Mr. David needs to stay in stocks for their expected return. Fifty thousand dollars tuition fee will not buy much education these days. Henry asks Mr. Tom to excuse him, and he calls IMS financial services headquarters for their stock recommendations. Mr. John knows additional analysis is needed but the recommendations are a starting point.

Random diversification is diversifying without looking at the relevant investment characteristics of the selected securities. The marginal risk reduction for the portfolio gets smaller and smaller as additional securities are added. Markowitz diversification is based on the active measurement and management of portfolio risk. Markowitz diversification takes advantage of expected return and risk for individual securities and how security returns move together.

To calculate the effect of the addition of security 'Y' to the risk (standard deviation) of an existing portfolio, σ_{old} ,

$$\sigma_{new}^2 = (w_y \times \sigma_y)^2 + (w_{old} \times \sigma_{old})^2 + 2 \times w_y \times w_{old} \times \sigma_{y,old}$$

The variable w is the proportion of total funds allocated either to security 'y' or the old portfolio and $\sigma_{y,old}$ is the covariance between the returns of security 'y' and the old portfolio. If securities are related only in their common response to market returns, the covariance between security 'y' and the old portfolio can be calculated as

$$\sigma_{y,old} = \beta_y \times \beta_{old} \times \sigma_{market}^2$$

The variable β is the beta of security 'y' or the old portfolio and σ_{market}^2 is the variance of market returns.

IMS Financial services headquarter recommends Coca-Cola Company (ticker symbol KO), General Electric Company (ticker symbol GE), or Procter & Gamble Company (ticker symbol PG) on their "buy" list. Mr. John knows of few Internet sites that can provide the information he needs to examine the effect of adding each of these stocks to Mr. David's portfolio: *Data Broadcasting Company*, *Yahoo Finance*, and *Morningstar*. *Market-level data*, such as for the *S&P 500 stock index*, could provide information available for decision making or taken from a text book on investment management, which can be found in Mr. John's office library.

Mr. John will recommend to Mr. David that one of the three stocks should be added to the portfolio by selling either 20% or 30% of the portfolio's value and reinvesting the proceeds in the selected stock. A greater percentage could be sold if warranted but capital gains tax considerations are an important constraint. Mr. John seeks the stock best able to reduce Mr. David's portfolio risk without sacrificing expected return significantly. Explaining why his recommendation reduces Mr. David's portfolio risk will also be a challenge.

Mr. John picks up his calculator and heads for Mr. Tom's office to review Markowitz diversification. Mr. Tom is very bright, just undisciplined. As Mr. John rounds the corner next to Mr. Tom's office, he overhears Michael porter's voice. "Mr. Tom, just what do you think you're doing to IMS financial service company wall?" Mr. John turns directly around and decides to gather information instead.

Questions

1. Which method of portfolio selection is better, Mr. Tom's or Mr. John's? Which requires more effort? Are the expected rewards different for Mr. Tom's method than Mr. John's method? Explain why?

(Marks 10)

2. Describe the various features that Mr. John must observe in a stock before adding it to the portfolio

(Marks 10)

3. Do you think Mr. John can completely eliminate risk from Mr. David's portfolio if he adds more and more stock to the portfolio? Justify your answer with reasons.

(Marks 10)