l five-year return of the all the models. Based on
nore risk averse investor would select the M_p model

eturn goals. In this instance, the whole is greater
nethod to be successful, it is not only important to
investors as well. Each investor is paid based on his
the portfolio. Some important findings for the
e degree of curvature on the portion of the efficient
d risk points will impact the return enhancement and
nong the risk points also impacts the return

irt from this methodology. Shefrin and Statman
ral portfolio theory and explored the consequential
on and security design. Behavioral portfolio theory is
olios by considering expected wealth, desire for
els, and the probabilities of achieving these
r depicted in this theory deviates from the textbook
lf-control. Self-control is enforced by penalty
te-off for the investment. Their portfolios resemble a
kets. There are two types of behavioral portfolio
y- single mental account (BPT-SA) investors
that they integrate their portfolios into a single
iance. When compared with the mean-variance
PT-SA portfolios are on the mean-variance efficient
olios are identical to the mean-variance portfolios.
le mental accounts portfolio resembles a layered

pyramid where the layers are associated with aspirations and covariance is overlooked. The mental accounting feature accounts for the tendency to make decisions based on gains and losses relative to a reference point, such as purchase price. These mental accounts are associated with the investor's goals. Behavioral portfolio theory is used as an alternative to the descriptive framework of the mean-variance portfolio theory. But still it has no prescriptions.

Mutual fund companies come on the scene with a prescriptive model. They use questionnaires to determine a person's attitude toward risk and their goals. Fisher and Statman [1997] did a study on the model portfolios of mutual fund companies as compared to the mean-variance standard and the ERISA standard. Their findings indicated that mutual fund companies structure portfolios as layered pyramids in which each layer corresponds to a particular goal, time horizon and attitude toward risk. Under this framework, the covariances between the layers are ignored. Their diversification is "naive" in the sense of "don't put all your eggs in one basket" and does not take the investors to the mean variance efficient frontier. They also help investors maintain self-control with their savings. Fisher and Statman find that the differences between the mutual fund companies' model and the mean variance model are small. They also cite that almost any portfolio that combines mutual funds is close to the mean-variance frontier.

Another tool is the value at risk approach (VaR). Value at risk is defined as the maximum expected loss in a position or a portfolio of different positions, given some time horizon and confidence level. Its equation is given by:

$$VAR = -\alpha\sigma_{RP}W \qquad (2.3)$$

where α is the confidence parameter used to estimate VaR, σ_{RP} is the standard deviation of the portfolio return, W is a scale parameter reflecting the overall size of the portfolio. VaR calculations are challenging because the true distribution of future returns is unknown and different techniques must be employed to forecast the value changes. The three main techniques used to forecast these values changes are historical simulation, Monte-Carlo simulation, and the variance-covariance method. This model relies on historical data to predict the future. Johansson, Seiler and Tjarnberg [1999] studied this approach as it relates to J.P. Morgan's forecasting tool "Risk Metrics." This tool uses a simplified VaR approach that maps the different stocks to an equity index using the stock's beta to the same index. They compared this beta model with three other techniques used to calculate VaR: analytical VaR, historical simulation, and Monte Carlo simulation. Analytical VaR, or the variance-covariance, method of calculating value-at-risk is based on the assumption that price changes in a portfolio are normally distributed and serially independent. The mean and variance of the portfolio's future return distribution are estimated directly from historical estimates of the means, variance and covariances. In this case, VaR is characterized by:

$$VaR(x\%,t) = -(\mu - k\sigma)v_0 \qquad (2.4)$$

Where t is the time period for which the VaR is estimated, μ and σ are the estimates of the portfolios mean and standard deviation, and k is the number of standard deviations corresponding to the tolerance level x%. Equally weighted moving average and exponentially weighted moving average are the two approaches typically used to forecast the variance-covariance matrix. Historical simulation uses a fixed quantity of historic