1. INTRODUCTION

Equities represent a significant part of value of many investment portfolios. Before investing in equities the foremost question is how much should be allocated to equity. After allocating amount to equities, the investor has to decide how to invest that amount i.e. by doing passive management or by active management.

2. THE ROLE OF THE EQUITY PORTFOLIO

These days, equity represents a major source of wealth. In equity investments, both domestic and international equities play a major role. Different countries have different percentage of weights invested in domestic and international equities due to the following reasons:

- Market capitalization of domestic & international equities i.e. the larger the market cap of domestic equities relative to international equities, the larger weight they will have in global portfolio.
- Differences in attitudes of investors.
- Differences in investment constraints.

NOTE:

Domestic equities: Equities in the home market of investors.

International equities: Equities outside home market of investors.

Equities have historically served as a good inflation hedge. Inflation can be hedged easily when:

- Stock price incorporates the effect of inflation i.e. through lower share prices to avoid higher taxes.
- There is less competition in the industry in which firms operate so that they are able to pass inflation to consumers by charging higher prices.

- In contrast, bonds have been a poor hedge because their returns are fixed and are negatively affected by inflation.
- Historically, equities have comparatively high long-term real rates of return relative to bonds.
- Many long-term investors prefer to add equities to bonds' portfolio to meet diversification objectives with an acceptable level of risk and/or income. This is known as ***Equity Bias***.

Importance of Investing Internationally: International investing provides diversification benefits to investors because any one market regardless of its large size and greater diversity cannot completely capture all global economic factors.

3. APPROACHES TO EQUITY INVESTMENT

Passive management: In passive management,

- Portfolio manager does not attempt to forecast market movements and does not incorporate his/her investment expectations.
- Only changes in the index cause the portfolio composition to change.
- Portfolio manager attempts to match the performance of some benchmark (known as Indexing approach).
- Portfolio manager may slightly underperform the target index due to fees and commissions.

Characteristics: Relative to active and semi-active strategies, passive strategies are characterized by low costs, low turnover, lowest expected active return, lowest tracking risk, and lowest information ratio.

Rationale for this approach:

- Higher costs of active management are usually difficult to overcome in risk-adjusted performance.
- It is most appropriate to use when markets are relatively efficient because in efficient markets it is difficult to overcome research & transaction costs.
- It is tax efficient because it has low turnover, fewer realized capital gains, and hence lower associated taxes.
- It is most preferable for large-cap stocks, which are informationally efficient and for international investing when investors are not familiar with international securities.
- Passive management is preferred when investors seek to minimize high transaction costs associated with small cap markets.

Functions to perform: This approach is passive only in the sense that investors' expectations are not incorporated regarding securities' holdings. It requires reinvesting

income (e.g. dividends) and rebalancing the portfolio when there are changes in the index composition (i.e. addition or deletion of any security).

Advantages: Compared to the average actively managed fund that has similar objectives, a well-run indexed fund's major advantage is that it is expected to generate superior long-term net-of-expenses performance because of relatively:

1. Low Portfolio turnover
2. Low Management fees
3. High Tax efficiency

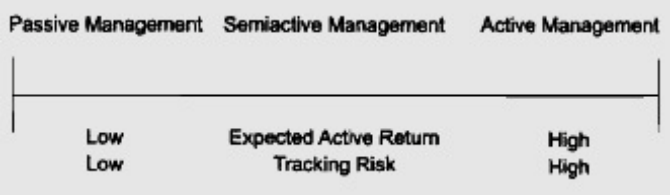
1. Active management:

Historically, active management represents a principle way of managing equities by investors. In spite of growth of indexing, majority of equity assets are actively managed to obtain higher returns relative to the benchmark.

- Goal of active portfolio manager is to outperform the benchmark i.e. to maximize active return relative to the benchmark with a target tracking risk.
- Active management is most appropriate when markets are believed to be inefficient by investors.
- It is also preferable for small-cap stocks, which are considered to be informationally inefficient.
- It is characterized by highest expected active return, higher information ratio relative to passive management and highest tracking risk.

2. Semi-active management/ enhanced indexing or risk-controlled active management:

- Portfolio manager seeks to outperform benchmark but with the objective of minimizing tracking risk.
- It is characterized by an expected active return & tracking risk between active and passive managers and highest information ratio relative to both active and passive management,



NOTE:

Active Return = Portfolio's return – Benchmark's return

Tracking Risk (active risk) = annualized S.D of active returns

$$\textbf{Information Ratio} = \frac{\text{Active Return}}{\text{Active Risk}}$$

4. PASSIVE EQUITY INVESTING

Many studies have found that active strategies are not usually profitable and effective after taking into account the trading costs, administrative expenses and management fees.

- The average active manager after costs produces returns that are less than those of the benchmark.
- The average active manager before costs produces returns that are equal to those of the benchmark.

Often the poor performance of active management is attributed to higher expenses.

NOTE: The increase in equity holdings by institutions has resulted in less active management opportunities available to investors.

4.1 Equity Indices

Uses of Equity Indices:

1. To represent benchmark for portfolio management.
2. To represent investment "neighborhood" of managers.
3. To measure return of a market or market segment.
4. Use as a basis for creating an index fund.
5. To study factors that influence share price movements.
6. To perform technical analysis.
7. To measure a stock's systematic risk or beta.

Characteristics of index:

1. Boundaries of index's universe.
2. Criteria used for inclusion in the index.
3. Method of determining weights of the stocks.
4. Method of calculating returns of the stocks.
   - Price only returns means capital appreciation.
   - Total return means both capital appreciation & dividends.

4.1.1) Index Weighting Choices:

One of greatest differences among indices is attributed to different ways of determining weights of the stocks.

1. Price-weighted Index:

- Weight of each stock is assigned according to its absolute share price.
- A price-weighted index (PWI) is simply an arithmetic

average of current prices

$PWI = (P_1+P_2+\ldots+P_n) / n$

Where,

P_i = price of stock i

n = total number of stocks in the index

- Index movements are affected by the changes in the ***prices*** of the stocks.
- It is adjusted for stock splits and changes in the composition of index over time.
- Its performance represents the buy/hold return of ***1 share of each stock*** *(*or equal number of shares invested in each stock) in the index.

Example: Dow Jones Industrial Average (DJIA) and Nikkei Dow Jones Average

Bias:

- PWI is biased towards highest price stock i.e. higher priced stocks receive higher weights.
- It is affected by stock splits, reverse splits and changes in index composition and thus requires adjustment.

Advantages:

- It is easy and simple to compute.
- Historical Stock price data is more easily available than market value data.

2. Value-weighted Index:

- Each stock in the index is weighted according to its market capitalization.
- A value-weighted Index is estimated by adding the total market value of all stocks in the index:

Market Value of stock = Number of Shares Outstanding × Current Market Price of stock

- Its performance represents the buy/hold return of ***all the outstanding shares*** of each stock in the index.
- In a value-weighted Index, stock splits and other changes in the index composition are automatically adjusted.

Example: S&P 500 and Nasdaq Composite, Russell 3000.

Bias:

- VWI is biased towards the shares of firms with the largest market caps (mostly large, mature firms and overvalued firms) i.e. companies with larger market values have higher weights.
- It is more influenced by positive pricing errors than by negative pricing errors. It can be corrected by adopting a weighting scheme based on fundamentals, such as adjusting the market cap upwards when a Price-to-Fundamentals ratio e.g. P/E is low and vice versa.
- It is less diversified as it is highly concentrated in a few issues i.e. large cap firms. Therefore, it is less useful for those professionally-managed portfolios that are prohibited to invest more than 10% of their value in any one stock in order to meet professional fiduciary duty regarding diversification.

Advantages:

- It most appropriately represents changes in the total wealth of investors or changes in total value of companies.

Float-weighted index: It is a sub category of value-weighted index. In float-weighted index, weights are assigned according to market capitalization of publicly-traded (free float) shares only.

Weight of a stock = Market cap weight × free-float adjustment factor

Where, Free-float adjustment factor = fraction of shares that float freely.

- Its performance represents the buy/hold return of all the shares of each stock in the index that are available for trading to the public.

Example: FTSE 100, Russell 1000 & 2000, S&P 500 etc.

Bias:

FWI is biased towards the shares of firms with the largest market caps.

Advantages:

- It most appropriately represents the range and weights of securities that are held by public investors.
- It helps to minimize tracking risk and portfolio turnover.

3. Equal-weighted:

- Each stock in the index is weighted equally regardless of their price or market value i.e. a $25 stock is as important as a $50 stock in the index and the total market value of the company is not important.
- Its performance represents the buy/hold return of ***equal dollar amount*** invested in the shares of each stock in the index.

Example: Value Line and the Financial Times Ordinary Share Index.

Bias*:*

i. It is biased towards small cap firms because it contains more small firms.
ii. It requires frequent periodic rebalancing which increases transaction costs.
iii. It usually contains potentially illiquid stocks.

Practice: Example 1
Volume 4, Reading 25.

4.1.2) Equity Indices: Composition and Characteristics of Major Indices

Exhibit 10 – List of Equity Indices Worldwide

Committee-Determined Indices versus Algorithm/rule based Indices:

- Committee-determined indices have lower turnover, low transaction costs and greater tax advantages than algorithm based indices that are reconstituted periodically according to pre-defined rules.
- Committee-determined indices have higher risk of drift than algorithm based indices.

Trade-off b/w transaction costs & return premiums among indices: Less liquid shares have higher transaction costs but provide higher premium for lack of liquidity.

4.2 Passive Investment Vehicles

4.2.1) Indexed Portfolios

i. ***Conventional Index mutual funds:***

- Return on the index fund is usually less than the underlying benchmark because of:
  - ✓ Cost of management and administration of the fund.
  - ✓ Transaction costs related to changes in index composition.
  - ✓ Transaction costs associated with investing & disinvesting cash flows, e.g., reinvesting dividends.
  - ✓ Cash Drag costs: "Drag" on performance (decline in returns) from any cash position during up-ward trending equity markets.

Note: *Cash drag refers to amount not invested in the index and put aside to meet liquidity needs of investors arising from redemptions.*

ii. ***Exchange traded funds (ETFs)***

iii. ***Separate or pooled accounts:*** It is mostly preferred by institutional investors and is used to track a benchmark.

Separate accounts are managed by separate managers while in pooled accounts index portfolios are pooled together and are managed by one manager.

- Pooling is more advantageous to smaller funds in terms of costs.
- It has lowest management costs relative to both index mutual funds and ETFs.
- However, in pooled accounts, it is difficult to differentiate performance of pooled accounts.
- Also, pooled accounts need to hold more excess cash to meet liquidity requirements of pooled investors.
- However, revenues earned by lending securities can help to offset some of these costs.

Conventional Index mutual funds	ETFs
1. Trade less frequently	1. Trade throughout the day
2. Require shareholder recordkeeping	2. Do not require shareholder recordkeeping
3. Pay lower licensing fees to Standard & Poor's and other index providers relative to ETFs	3. Pay higher licensing fees to Standard & Poor's and other index providers relative to mutual funds
4. Less tax-efficient: Index mutual funds usually sell securities to satisfy redemptions, which increase taxes.	4. More tax efficient because of the feature of "in-kind redemptions" i.e. unlike mutual funds, do not need to buy/sell securities based on investor cash flows.
5. Have higher exiting costs e.g. fees, taxes etc.	5. Do not have higher exiting costs but do have higher transaction costs i.e. brokerage commissions and "inactivity" costs charged by brokers
6. Investors have to bear the cost of providing liquidity to short-term investors.	6. Protect long-term investors from bearing the cost of providing liquidity to short-term investors when they sell shares.

4.2.2) Equity Index Futures:

It involves a long position in cash + long futures on the underlying index.

- It is preferred when futures markets are available and have adequate liquidity.
- Equity futures is based on a transaction known as "exchange of futures for physicals (EFP)". In EFP, index securities are traded as a basket (known as portfolio/program/basket trades) and this basket is exchanged for the futures contract.

Advantages:

- It facilitates risk-management transactions for investors.
- It has lower transaction costs.

Disadvantages:

- Equity futures contracts have a finite life and must be periodically rolled over into a new contract to maintain desired market exposure whereas ETFs have a theoretically infinite life.
- It has an uptick rule which makes short selling difficult whereas ETFs are exempt from the uptick rule.

NOTE:

- In a portfolio trade, a basket of securities is traded as a basket or a single unit.
- Uptick rule: Security is not to be shorted if the last price movement was downward.

4.2.3) Equity Total Return Swaps

It involves a long position in cash + long swap on the index.

- One counterparty receives the total return of an equity index portfolio; the other can receive an interest rate (e.g., LIBOR) or the return on a different index.

Advantages:

- It can be used for tactical asset allocation or for strategic asset allocation because it is more cost effective to use a swap than to change the portfolio.
- It provides a tax-efficient way to earn equity return.
- The trading costs in an equity total return swap are usually lower than those from trading in the underlying asset.

NOTE:

Index fund investors face losses due to arbitrageurs (who act on anticipated changes) when they don't rebalance their portfolios on time as reconstitution of benchmark occurs

Types of constructing Index:

1. Full replication refers to reconstructing the index exactly i.e. holding all securities in the index and in the same proportion (or %) as in the index.

Conditions appropriate for usage: It is most appropriate to use when number of securities is small i.e. less than 1000 stocks in an index, securities have high liquidity and manager has a large amount to invest and when the objective is to minimize tracking error.

- ***Example:*** If index consists of liquid stocks, e.g., S&P 500, it is preferred to use full replication.

Drawbacks:

- It is the most costly method to use i.e. has high transaction costs, administration costs, cash-flow management, cash holdings.
- Its return < benchmark index due to high trading costs.

Advantages:

- It has the lowest tracking error/risk.
- It has a self-rebalancing property i.e. when it is based on value-weighted index.
- It involves less frequent rebalancing.

2. **Stratified sampling (representative sampling)** refers to dividing the securities in multi-dimensional cells or groups according their style, market cap, industry etc. Then a sample from each group/cell is selected (which is the representative of that group/cell) according to its weight in the index e.g. if 30% securities fall in the large cap value cell/group, then a sample of that group will be selected and purchased so that it represents 30% of the portfolio as well. *This action implies that both the index and portfolio will have the same exposure/sensitivity to large cap value stocks.*

Note: The greater the number of dimensions and the finer the divisions, the more closely portfolio will replicate the index benchmark.

Conditions appropriate to use: It is most appropriate to use when number of securities is large in an index, securities are illiquid, limited funds are available and when the objective is to reduce costs while bearing some tracking error.
Drawbacks:

- It has higher tracking error relative to full replication.
- It does not take into account the covariances between different risk factors.

Advantages:

- It has lower costs relative to full replication.
- It facilitates to construct a portfolio by matching the basic characteristics of the index without buying all the stocks in the index.
- It can be used to replicate a concentrated index without actually taking a concentrated position and thus helps to meet diversification requirements.

3. Optimization refers to constructing a multi-factor model that replicates the factor sensitivities of the index.

- A model is built with the objective of minimizing tracking risk subject to constraints i.e. non-negative weights, diversification requirements etc.

Conditions appropriate to use: It is most appropriate to use when number of securities is large in an index, securities are illiquid, limited funds are available to invest and when the major objective is to replicate the factor

sensitivities of the portfolio with the benchmark while bearing some tracking error.

Drawbacks:

- It is based on historical data and thus not reliable to predict future when risk sensitivities change over time.
- It has Overfitting problem in case of skewed sample data.
- It requires frequent rebalancing even when there are no changes in the index composition and/or dividend reinvestment due to the need of matching risk sensitivities over time.

Advantages:

- It generates lower tracking error than stratified sampling.
- It takes into account the covariances between different risk factors.

NOTE:

Because of these limitations, optimization ***understates*** the actual tracking risk.

Preferable Approach: It is preferred to use combination of full replication & other approaches i.e. using full replication approach for the largest stocks and stratified sampling/optimization approach for small stocks.

5. ACTIVE EQUITY INVESTING

5.1 Equity Styles

Investment Style refers to a natural categorization of different investment disciplines that facilitates to predict the future variation of returns across different portfolios.

Role of Investment Styles: Investment Styles help in risk management and performance evaluation.

Types of Investment Styles:

1. Value
2. Core or blend
3. Growth

1. Value:

Value style investors invest in low price-multiple stocks i.e. stocks with relatively low prices in relation to earnings or assets per share. Value style investors are more concerned about stock's relative cheapness than about its growth prospects.

Characteristics

1. High dividend yield;
2. Low price-to-book ratio and/or;
3. Low price-to-earnings ratio.

Typical sectors include financial sector, utilities etc.

Rationales:

- Value investors believe that earnings will tend to revert to mean; this implies that temporarily depressed earnings provide opportunities for generating higher returns.
- Value investors believe that investors overpay for "glamour" stocks and expensive stocks are exposed to risk of both decrease in price multiples and earnings.

Risks faced by the investor:

- Stock's cheapness can be misinterpreted because stocks may be cheap for a good economic reason.
- Correction of mispricing may not occur within the investment horizon of investor.

Sub-styles:

1. Low P/E: Prefers to invest in stock with low prices relative to current or normal earnings.

Example: Stocks of cyclical, defensive or out-of-favor industries.

2. Contrarian: Prefers to invest in stocks with low P/Bs i.e. < 1.00 and stocks of firms with very low or zero current earnings.

Example: Depressed Industries.

3. High yield: Prefers to invest in stocks with high dividend yield.

- Positive return premium earned by value style investors is usually associated with:
  1. Higher financial distress risk involved in cheap securities.
  2. High premium paid by illiquid stocks because of lack of liquidity.

2. Growth:

Growth style investors invest in stocks with higher expected earnings. Growth style investors are more concerned about stock's growth prospects than its price.

Characteristics:

1. High P/E ratio &/or high P/Bs.
2. Low dividend yield
3. Strong Earnings Per Share (EPS)

Typical sectors include telecommunications, technology, health care and media.

Rationale: High expected earnings growth will force the stock price to further rise in value.

Risks faced by the investor:

- Expected earnings growth fails to materialize.
- Instead of rising, Price-multiple and stock price may fall.

Sub-styles:

1. Consistent growth: Prefer to invest in companies with a long history of growth in unit-sales, superior profitability and sustainable earnings growth rate. ***Example:*** Companies that are leaders in consumer-oriented industries and tend to trade at higher P/Es.
2. Earning momentum: Prefer to invest in companies with higher but less sustainable earnings growth rate compared to consistent earnings. Investors prefer to hold a security when momentum is expected to continue and sell security when momentum is busted.

Important: *Growth investors are expected to perform well during recessions/ slowing economy relative to economic expansion because during recessions, companies with positive earnings momentum are usually rare and there are opportunities to earn above-average growth premium*

NOTE: Price momentum indicator i.e. Relative strength indicator is used by some growth investors. Relative strength indicator is used to compare stock's performance to its past performance or to the performance of group of stocks over a specified time horizon.

3. Market Oriented (Blend or core approach):

It is a combination of both value & growth styles and resembles a broad market index over time.

- Valuations are close to market average.

Rationale: Investing is done according to market conditions and stocks with high P/E are purchased only when their prices can be justified by their intrinsic values and future expected earnings growth rate.

Risk: Manager must outperform the broad market index; otherwise, investors will prefer low cost indexing or enhanced indexing strategies.

Sub-styles:

1. *Value bias:* Prefer to tilt portfolios more towards value. However, it is not done aggressively and portfolio is well diversified.
2. *Growth bias:* Prefer to tilt portfolios more towards growth. However, it is not done aggressively and portfolio is well diversified.
3. *Growth at reasonable price (GARP):* Prefer to invest in companies with higher expected earnings growth rate but trading at a reasonable (moderate) price. This portfolio is less diversified.
4. *Style rotators:* In this style, investors prefer to invest according to the style that is most likely to be favored by the market in near term.

4. Market Capitalization:

1. Small cap: They are expected to produce higher risk-adjusted returns than those with large market capitalizations because:

- They are assumed to have higher growth prospects in the future.
- Investors interested in small stock believe that smaller stock price base means greater potential to earn higher return.
- They are assumed to have less coverage by analysts, thus provide greater mispricing opportunities.

Micro-cap: It refers to investing in the smallest cap stocks in the small cap segment.

2. Mid cap: They are preferred because they are assumed to have less coverage relative to large cap but are less risky and less volatile than small cap.

3. Large cap: They are preferred because by investing in larger, more financially stable and less risky firms, managers can add value to their portfolios.

5.1.4) Techniques for Identifying Investment Styles

1. Return based Style Analysis:

It refers to regressessing portfolio returns against a set of style indices that must be:

i. Mutually exclusive
ii. Exhaustive with respect to manager's investment universe
iii. Distinct sources of risk (i.e., not highly correlated)

General form of Regression is:

$Rp = b_0 + b_1 I_1 + b_2 I_2 + \ldots. b_n I_n + \varepsilon$

Where,

Rp = return on portfolio
I_i = return on Index style i
b_i = portfolio's sensitivity to the respective style index. The betas are also interpretable as portfolio weights e.g. 0.45 coefficient of the small cap value index means that portfolio is assumed to have 45% invested in small cap value stocks.
ε = error term which represents selection return
n = number of style indices
R^2 = Coefficient of determination represents style fit.

Constraint: Sum of Estimated betas or slope coefficients must be non-negative and equal to 1.

Uses of Returns-based Analysis:

- It can be used to create a custom benchmark (also known as natural or normal benchmark) of the actively-managed portfolio for the purpose of attribution analysis.
- A series of regressions can be used to evaluate style consistency of managers over time.

Advantages:

- It can be used to characterize the entire portfolio.
- It facilitates comparison across portfolios.
- It is helpful in summarizing the entire investment process.
- Its methodology is based on theory.
- It requires limited or minimal inputs/data.
- It is an easy and cost effective method.
- Similar conclusions are drawn by using different models.

Disadvantages:

- It cannot effectively characterize current style.
- Misspecifying indices in model may result in inaccurate conclusions.

2. Holdings-based Style Analysis:

In holdings-based style analysis, individual securities are categorized by their characteristics such as:

1. Valuation levels i.e. P/E, P/B, dividend yields etc.
2. Forecasted EPS growth rate.
3. Earnings variability i.e. companies with greater earnings volatility (e.g. cyclical firms) are preferred by value style investors.
4. Industry sector weightings i.e. technology and health care sectors are preferred by growth style investors. However, classifications based on industries are not reliable because various sectors are sensitive to business cycles.

Advantages:

- Characterizes each position in the portfolio.
- Facilitates comparisons of individual positions in the portfolio.
- Detects changes in style more quickly than returns based analysis.

Disadvantages:

- It does not represent a consistent way with which most managers select securities.
- It is based on subjective classification of securities.
- It requires more data/inputs than returns-based analysis.

Practice: Example 5, 6, 7, 8 & 9, Volume 4, Reading 25.

Style Index Methodologies:

1. **Categories:** It involves no overlap i.e.

a) Either value or growth but not both.
b) Value or growth or neutral based on some threshold level.

2. **Quantity:** It is with overlap i.e. 70% value and 30% growth.

Most indices consist of just two categories i.e. value or growth because many investment managers have a clear focus about their style to follow.

NOTE: The difference between value and growth stocks is hard to identify. This "fuzziness" in the differentiation between growth and value stocks has benefited portfolio managers by providing them with greater flexibility to use a wide range of techniques and instruments to add value to their portfolios.

Buffering Rules: It refers to the rule that a category of stock is not changed immediately when its style characteristics change only slightly. It provides the following benefits to investors:

- Turnover is decreased in indices.
- Transaction costs arising due to rebalancing are reduced.

5.1.6) The Style Box

Equity style box is a matrix used to determine style of investment.

Characteristics:

It separates the investment universe into nine cells in a matrix according to:

- Capitalization (small, mid, large)
- Style (value, core/blend, growth)

Example: Morningstar style box for Vanguard's Mid-Cap Growth Fund (according to market value of assets falling into each category as defined by Morningstar)

2	1	13	Large
3	17	60	Mid
0	1	3	Small
Value	Core	Growth	

- Characteristics of style box are different among

index providers because of different criteria and techniques used to categorize stocks.
- However, portfolio divisions based on size i.e. market cap are relatively standard among different index providers.

5.1.7) Style Drift in Equity Portfolios

Style drift refers to inconsistency in management style that indicates straying from stated objectives.

- It acts as an obstacle to investment planning and risk control.
- It is considered a negative sign because:
  - Investors do not get desired style exposure.
  - It indicates that manager has started to operate out of his/her area of expertise.
- It can be detected quickly using holdings-based style analysis.

NOTE: A rolling style chart can be used to evaluate the changes in portfolio's style exposures over time.

Practice: Example 10
Volume 4, Reading 25.

5.2 Socially Responsible Investing

Socially responsible investing (SRI) incorporates ethical, social and religious concerns in the investment decisions.

- Typical stock screens used in SRI include:
  1. **Negative screens** are used to exclude stocks of firms with undesirable characteristics (such as gambling, tobacco, etc.)
  2. **Positive screens** are used to include stocks of firms with desirable characteristics (such as high labor standards, high environment quality standards or good corporate governance etc.)
- SRI criteria of selecting securities include:
  1. Industry classification that is based on sources of revenue earned i.e. by ethical means.
  2. Corporate practices i.e. company's practices regarding labor standards, pollution etc.
- Screens are selected according to client's concerns and needs.
- SRI can introduce different style biases i.e.
  - The portfolio may develop a growth bias due to exclusion of most energy and utilities firms, under the allegation of causing pollution.
  - Some SRI mutual funds also have small cap bias.

Benefits of monitoring style bias in SRI portfolio include:

1. Style bias can be neutralized by analyzing the portfolio's biases that are inconsistent with clients' stated objectives.
2. By analyzing style biases in a portfolio, an appropriate benchmark for the SRI portfolio can be determined.

Usually, returns-based style analysis is used to identify & measure style biases in SRI.

5.3 Long-Short Investing

Long-short investing exploits constraint regarding short selling.

- Value added by manager is known as alpha i.e. portfolio's return in excess of its required rate of return given its risk.
- Alpha in long-short investing strategy is ***Portable*** i.e. it can be added to a variety of different systematic (beta) risk exposures.

Market - neutral long-short strategy: Market neutral strategy is designed to have no beta exposure (***Beta = 0***). In a market-neutral long-short strategy, two alphas can be generated i.e. one from long position and one from short position.

Pairs trade/pairs arbitrage: This trade is used in market neutral strategy.

- It refers to taking long and short position in two similar stocks in a single industry with equal currency amounts i.e. going long by investing in perceived undervalued stock and going short by investing in perceived overvalued stock.
- In pairs trade, systematic risk (beta exposure) is zero and the portfolio is exposed to company specific risks only.

Advantages of Long-Short Strategies:

- Long-short strategies have more than one source of return.
- Provides opportunity to earn the full performance spread i.e. instead of simply avoiding a stock with a bad outlook, a long-short manager can short it.
- Allows investors to fully exploit both positive and negative views on the stock.

NOTE: *The investor must have negative views on the stock to be categorized as a candidate for short selling.*

Drawbacks **of Long-Short Strategies:**

- The strategy may suffer amplified loss with double negative alphas, if short position rises while long position falls
- The ability to short sell may provide opportunities to generate higher returns but risk exists that adverse short-term movements may force the manager to disadvantageously unwind positions.
- Leverage used in long-short investing magnifies both the opportunity to earn alpha/excess return and risks

of prematurely liquidating positions in case of margin calls or when borrowed securities have to be retuned to lenders.

5.3.3) The Long-Only Constraint

The long-only strategy is based on fundamental analysis.

- Traditional long only equity strategies can earn only one source of return i.e. long alpha only.
- Long-only strategy is exposed to both systematic and unsystematic risks.

Drawbacks of long-only strategy: Long-only strategy limits the portfolio manager's ability to take advantage of both positive and negative information. Negative views on a company/stock can be exploited at most by reducing the current weight in the portfolio or by not holding the stock at all in the portfolio e.g. if a stock's weight in the portfolio is 5%, the investor can underweight it at most by -5%. While in case of positive views about a stock, investor can overweight that stock maximum to 100% of the portfolio value. (Hypothetically)

Hence, opportunity regarding active weights available to investors is asymmetric i.e. stock can be underweighted limited to its weight in the portfolio and overweighed without any limit.

5.3.1) Price inefficiency on the short side

It refers to the following four reasons for greater number of overvalued stocks than undervalued stocks.

1. Because of the constraints & risks of short selling, fewer investors search for overvalued stocks.
2. Opportunities to short may exist due to management fraud, window-dressing, or negligence which artificially increases stock prices.
3. Sell-side analysts issue more reports with buy recommendations than with sell recommendations because there are generally more buyers than sellers. Also, sell recommendations are avoided because analysts do not want to offend large stockholders.
4. Sell-side analysts may be reluctant to issue negative recommendation on companies' stocks because they do not want to anger management and to maintain a good relationship with the company. Analysts face pressures from management against issuing sell recommendations because managers have stock holdings and options in their firms.

However, it should be noted that CFA members, candidates and charterholders are required to comply with standard I (B) of independence & objectivity of code of ethics and standards of professional conduct.

5.3.2) Equitizing a Market-Neutral Strategy

A market-neutral long-short portfolio can be equitized by going long / short on stock index futures on a permanent basis i.e. by periodically rolling over contracts so that portfolio is always exposed to full stock market exposure. Long futures position is built with a notional value approximately equal to the value of the cash position resulting from shorting securities.

Objective of Equitizing: To add an equity beta/market exposure to the alpha generated from the stock selection skill of active manager.

- ***Market return is generated from Equitizing instrument i.e. derivatives.***
- ***Alpha/excess return is generated from stock selection skill of the manager of long-short portfolio.***

Rate of return of Equitized market neutral strategy:

= (Gains/losses on the long & short securities positions + Gains/losses on the long futures position + interest earned by the investor on the cash from short sale) / portfolio equity

NOTE: A long-short spread can be added to various asset classes i.e. fixed income.

ETFs v/s Futures:

- Market neutral strategy can also be equitized by using ETFs. ETFs may be more cost effective and convenient for Equitizing market neutral portfolio as compared to futures.
- ETFs are not required to be rolled over, have lower expenses and provide an easy way to shorting.

Selection of Appropriate Benchmark:

- A market neutral strategy's benchmark should be the nominal risk-free rate i.e. Treasury-bill return (provided the portfolio is not leveraged).
- If equitized, the benchmark should be the index underlying the Equitizing instrument i.e. futures contract or the ETF.

5.3.4) Short Extension Strategies

Short Extension Strategy is also known as partial long-short strategies.

- It is a portfolio with **beta = 1** with long positions of (100% + x%) and short position of x%.
- Manager shorts securities equal to a set percentage of his long portfolio and then purchases an equal amount of securities. For example, in a 130/30 short extension strategy, the manager shorts securities equal to 30% of the market value of the long portfolio and then purchases an equal amount of stocks i.e. Long = 100% + 30% and short = 30%.
- A short extension strategy is effectively a single portfolio. The shorted securities are taken from the

long portfolio and with that amount either new securities are purchased or weight of existing securities is increased.
- ***Market return is generated from equity long position in the portfolio.***
- ***Alpha/excess return is generated from stock selection skill of manager(long and short in the same portfolio).***
- The costs of a short extension strategy include trade execution costs and lending fees paid to brokers.

Advantages:

- Allows the portfolio manager to make more efficient use of his/her information regarding stocks i.e. manager can short an over-priced stock and increase the positive active weight on an under-priced stock.
- It can result in appreciable increment in returns.

NOTE: Active weight = Stock's weight in the actively managed portfolio – stock's weight in the benchmark

Disadvantages:

- Market Return and Alpha are generated from the same source i.e. from same portfolio.
- It is relatively constrained as compared to a market neutral long-short position. Therefore, it has less opportunity to generate alpha.

Comparison

Market Neutral	Short Extension Portfolio
• Market exposure can be added only with futures, swaps etc. (known as Equitizing).	• Market exposure can be added in absence of liquid swap or futures market.
• Source of alpha & market return is different i.e. alpha is generated from the long-short portfolio and market return is added through use of derivatives. Thus, it provides flexibility to generate alpha from wherever possible without disturbing strategic asset allocation.	• Source of alpha & market return is same i.e. market related return on the portfolio & alpha are generated from the same portfolio.
• Since beta = 0, they are considered to be alternative investments even when underlying investments are equities.	• Since beta = 1, they are considered as substitutes for long-only strategy

100/0 long-strategy + 30/30 strategy	130/30 short extension strategy
• Portfolio decisions on long & short positions are unrelated.	• Portfolio decisions on long & short positions are coordinated.
• Long (100%) and 30L/30S are treated as separate portfolios.	• Both long (130%) & short (30%) are treated as a single portfolio.
• Portfolios can have offsetting positions i.e. stock A can have +ve weight in long position while –ve weight in the long-short position.	• Portfolio cannot have offsetting positions.

NOTE: When manager's benchmark is market capitalization weighted, long-only constraint more adversely limits the opportunity to exploit information regarding small and mid cap stocks because these stocks have small weights in the index.

5.4 Sell Disciplines / Trading

Turnover in equity portfolios occur due to many reasons i.e.

- Rebalancing
- Changes in asset allocations
- Meeting Liquidity needs
- Replace existing holdings with other stocks or updating portfolio
- Investment disciplines

Investment disciplines include:

A. Substitution Strategies:

1. ***Opportunity cost sell discipline****:* Stock is sold whenever another stock represents a better opportunity (i.e. higher risk-adjusted return) after taking into account transaction costs and tax consequences.

2. ***Deteriorating fundamentals discipline:*** Stock is sold when its business prospects are expected to deteriorate/ worsen in the future.

Rule Driven Strategies:

1. ***Valuation level sell discipline:*** Stock is sold when stock reaches specified valuation (i.e. if its P/E ratio rises to its historical mean).

2. ***Down-from cost:*** Stock is sold if its price declines more than x% from the purchases price. It is also known as stop-loss measure.

3. ***Up-from-cost:*** Stock is sold once it has increased by x% or by $x.

4. ***Target price sell disciplines:*** Stock is sold when it reaches its predetermined intrinsic value.

Sell Disciplines: Evaluation

- The outcomes of sell disciplines should be evaluated on an after-tax basis.
- Portfolio turnover depends on investment style of managers. Value investors will have less turnover than growth managers because they buy cheap stocks with an expectation of higher long term returns. While Growth style investors are less persistent & therefore, have high turnover.

6. SEMIACTIVE EQUITY INVESTING

It is also known as enhanced index or risk-controlled active strategies**.** The goal of this strategy is to add slightly higher returns with a marginal increase in the overall level of tracking error. Enhanced indexing strategies with strict control of tracking risk usually have the ***highest*** information ratio because they facilitate investor to employ his/her information to a large number of securities.

Limitations of Semiactive investing:

1) Alpha becomes obsolete and disappears when the strategy is followed & replicated by everyone.
2) Models based on historical data do not turn out to be good predictors of the future due to secular changes, economic changes and shocks that occur in the market.

Two basic forms of semi-active strategy include:

1. Derivatives-based strategies/synthetic enhancement strategies:

These strategies are used to provide desired exposure to different segments of the equity market via derivative-based products i.e. futures, swaps, and/or options and generating alpha by adjusting duration of other than equity investments e.g. fixed income position.

- Index return is generated from derivative-based products.
- Alpha is generated from the ability of the manager to successfully manage a fixed income portfolio i.e. by changing duration.

Managing duration: When a yield curve is upward sloping, longer-duration fixed income is preferred because higher yield compensates the investor for higher risk. When a yield curve is flat, shorter-duration is preferred because longer-duration does not offer higher yields.

Advantages of derivatives-based strategies: It is a straightforward and simple approach relative to stock-based strategy.

Disadvantages of derivatives-based strategies:

- It has lower information breadth (IB) relative to stock-based approach (i.e. decision is only based on duration or credit bet); thus, it requires higher information coefficient to generate as high information ratio as that of a stock-based strategy.
- It is difficult to achieve satisfactory information coefficient (IC) in all active strategies.

2. Stock-based strategies:

In this strategy, manager will hold the actual stocks and overweight or underweight his/her holdings in particular issues depending upon various characteristics of the stock and his/her overall views about the company. Alpha (excess return) is generated through selecting stocks that outperform the index i.e. overweighting those stocks while *controlling both factor risk and industry concentrations risk* (limiting exposure to industries, sectors, etc.)

The two primary methods used in stock-based strategies include:

1. Analyst-based methods i.e. by analyzing company's valuation or growth prospects.
2. Computer-based methods i.e. by using complex models based on quantitative factors.

Advantages of stock-based strategies: It has greater information breadth (IB) relative to synthetic approach.

Disadvantages of stock-based strategies: It is difficult to achieve satisfactory information coefficient (IC) in all active strategies.

Active management v/s Enhanced index stock selection:

- When an active manager has no opinion regarding a given stock in the index, he/she will not hold that stock in the portfolio.
- In enhanced index stock selection strategy, in case of no opinion regarding a given stock, the benchmark represents the neutral portfolio and the manager will hold that stock according to its weight in the benchmark.

NOTE: In enhanced index strategy, portfolio manager is basically an active manager but with high degree of risk control.

Practice: Example 13
Volume 4, Reading 25.

An investor's information ratio is determined by two factors i.e.

1. **Depth of knowledge:** Correlation between historical forecasts and actual returns. It is measured by the information coefficient (IC).

2. **Number of independent investment decisions in a year:** It is measured by the investor's breadth (IB). It does not necessarily increase with the increase in the size of the research universe.

Fundamental Law of Active Management:

$$IR \approx IC\sqrt{IB}$$

where,

IR = information ratio
IC = information coefficient
IB = information breadth

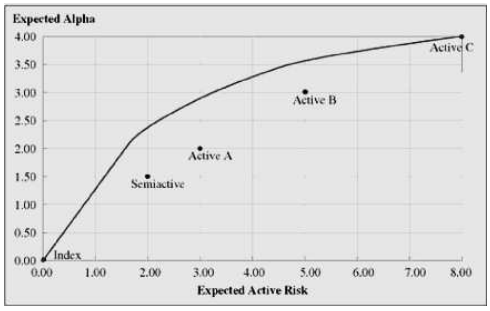
Practice: Example 12
Volume 4, Reading 25.

7. MANAGING A PORTFOLIO OF MANAGERS

The basic optimization/utility function for active management used to allocate funds across managers is similar to the usual asset allocation utility function, but return and risk are stated in active terms rather than total terms.

Optimal asset allocation v/s optimal allocations to group of managers:

- For optimal asset allocation, objective is to maximize expected ***total return*** subject to a given level of ***total risk***.
- For optimal allocations to a group of managers, objective is to maximize ***active return*** subject to a given level of ***active risk*** determined by risk aversion to active risk.



Objective of the utility function is to maximize expected utility. *To* maximize active return for a given level of active risk determined by investor's aversion to active risk.

$$Max \quad U = r_A - \lambda_A \sigma_A^2$$

where,

U_A = *expected utility of the active returns generated by the managers held; also known as* ***risk-adjusted*** *expected active return.*

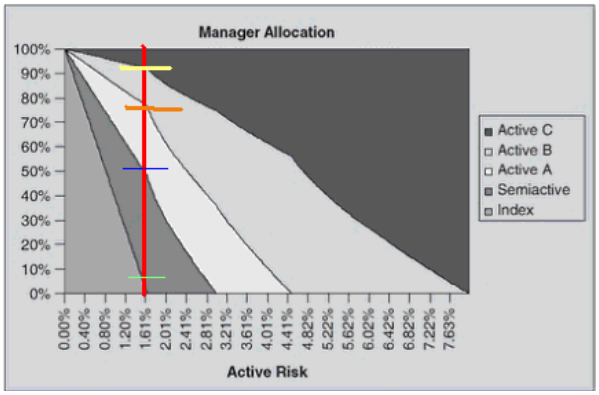
r_A = *expected or forecasted active return for the manager structure*
λ_A = *risk aversion with respect to active risk*
σ^2_A = *variance of the active return*

The utility of active return increases as:

- Active return increases
- Active risk decreases
- The investor's risk aversion to active risk decreases

Optimal allocations to mix of managers: Optimal level of mix of managers is determined by level of active risk aversion e.g. when no active risk is preferred, it is optimal to hold entirely an index fund.

Waterfall chart: It is used to divide manager mix according to given level of active risk.



Example: If desired active risk of investor is 1.61%; from the above chart it can be concluded that:

- Area below green line i.e. approx 8% will be invested in index fund.
- Area b/w green line and blue line i.e. approx 42% will be invested in semiactive.
- Area b/w blue line and orange line i.e. approx 29% will be invested in active A.

- Area b/w orange line and yellow line i.e. approx. 16% will be invested in active B.
- Area above yellow line i.e. approx. 5% will be invested in active C.

Investors are usually more risk averse when facing active risk than facing total risk because:

1. When active management is preferred by investors, there is a need to believe that successful active management is possible and that they have ability to select successful active managers.
2. It is difficult to outperform a passive benchmark on a consistent basis (known as institutional conservatism).
3. In order to have higher active returns, investors have to forgo diversification by investing more funds in the highest active return manager.

The active return for the total portfolio is a weighted average of the active returns for each manager i.e.

$$\text{Portfolio active return} = \sum_{i=1}^{n} h_{A_i} r_{A_i}$$

where,

h_{Ai} = *weight assigned to the ith manager*
r_{Ai}= *active return of the ith manager*

Assuming active returns of managers are uncorrelated (i.e. follow different investment styles);Active portfolio risk is the square root of the sum of the squared weight of each manager times their squared active risk.

$$\text{Portfolio active risk} = \left(\sum_{i=1}^{n} h^2{}_{A_i} \sigma^2{}_{A_i} \right)^{1/2}$$

where,

h_{Ai} = *weight assigned to the ith manager*
σ_{Ai}= *active risk of the ith manager*

$$\textbf{Information Ratio of Portfolio} = \frac{\textbf{Active Portfolio Return}}{\textbf{Active Portfolio Risk}}$$

7.1 Core-Satellite Portfolios

The core-satellite portfolio is constructed by passively managing a large core asset allocation by using indexing or enhanced-indexing strategies and actively managing the remaining asset allocation.

- **Core:** Portion of overall portfolio that uses indexing or enhanced indexing strategies.
  - The index and enhanced index funds must resemble the investor's benchmark asset class.
- **Satellite:** Portion of overall portfolio that is managed actively. It is preferred for areas where there are price inefficiencies and/or where managers have specific skills.
  - The active fund can be pegged against either the overall investor's benchmark (more restrictive approach) or can be pegged to their customized benchmarks.

Objective of Strategy:

- To support strategy with either an index portfolio or an enhanced index portfolio
- Add further value through active managers
- Achieve an acceptable level of active return while eliminating some of the active risk associated with entirely an actively managed portfolio
- The core limits active risk while the satellites provide active return.

Core-Satellite Performance

Performance can be decomposed into two dimensions:

1. **Manager's "true" active return** = Manager's return – Manager's Normal benchmark
2. **Manager's "misfit" active return** = Manager's normal benchmark return –Investor's benchmark

where,

Normal Portfolio refers to a customized benchmark which represents a universe of securities from which a manager selects securities for his/her portfolio. It is the benchmark that accurately reflects the manager's style.

Investor's Benchmark refers to a benchmark that is used by investors to evaluate performance of a given portfolio or asset class.

True active return refers to performance of the manager relative to the normal portfolio.

Misfit active return refers to performance of the manager relative to the imperfect benchmark (i.e. a benchmark that is not suitable for the manager's style). It basically represents returns earned due to stock selection skill of manager.

Total active risk refers to variations in the returns of the portfolio relative to the investor's benchmark.

$$\text{Total active risk} = \sqrt{(\text{True active risk})^2 + (\text{Misfit active risk})^2}$$

where,

True active risk = standard deviation of true active return
Misfit risk = standard deviation of misfit active return
The most accurate measure used to evaluate manager's risk adjusted performance is the ***True Information Ratio i.e.***

$$\textbf{IR} = \frac{\text{Manager's True active return}}{\text{Manager's True active risk}}$$

Uses of true/misfit distinction:

1. Performance appraisal:
   - Managers' results should be evaluated against normal benchmark instead of investor's

benchmark to get accurate results.

2. Optimizing portfolio of managers i.e. maximize total active return for a given level of total active risk and with optimal level of misfit risk.
   NOTE: Zero misfit risk is not necessarily the optimal level. In some cases, non-zero misfit is optimal i.e. when higher true active return can be generated for a given level of misfit risk.

Practice: Example 14
Volume 4, Reading 25.

7.2 Completeness Fund

A completeness fund is a portfolio of active managers with an overall risk exposure similar to the investor's benchmark.

It is added to actively managed funds with an objective to:

- match factor risk exposures of the overall portfolio to that of investor's benchmark
- maintain the ability to generate excess returns (alpha) from stock selection skill of active managers.

- It can be managed passively or semiactively.
- It needs to be rebalanced periodically in response to the changes in active portfolios.

Advantage: Active return can be retained while active risk can be minimized using completeness fund approach.

Disadvantage: This approach reduces active returns (i.e. the amount value added through stock selection ability of managers) by eliminating misfit risk.

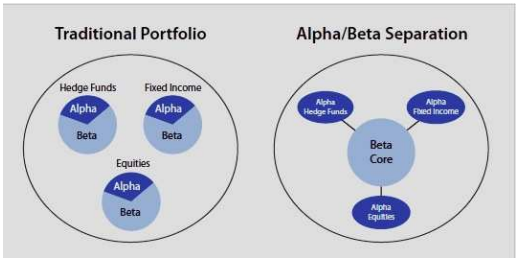
NOTE: Mismatches in factor risk exposures can result from factor biases in active portfolios e.g. generally, alpha can be more easily generated in the small cap universe, than in the large cap universe.

7.3 Other Approaches: Alpha and Beta Separation

Long-only active portfolio has exposure to beta (market return) and alpha (manager skill).
Long-short market neutral portfolios refer to pure alpha strategy and are constructed to have beta exposure of zero.

Alpha and Beta Separation: *In an Alpha/Beta Separation Strategy, the decisions regarding asset allocation and manager selection are separated. Fundamental asset allocation decisions are made using pure, core instruments, but the Alpha managers are selected purely on the basis of their skill. These Alpha managers are evaluated only on the basis of their risk and return profile, regardless of where they invest.*

- In alpha & beta separation approach, a long systematic risk exposure is gained through a low-cost index or ETF and;
- An alpha is added through a long-short strategy.



Advantages	Disadvantages
• Allows access to different equity styles and asset classes outside of the systematic risk class e.g. in bonds.	• This strategy is difficult to implement in small or emerging markets due to higher costs.
• It facilitates better understanding of risk. • It allows managing risks effectively and reduces tracking error.	• Long-short strategy used may not be truly market neutral.
• By segregating the Beta decision from manager selection, expected portfolio returns can be analyzed more clearly.	• Alpha/Beta separation portfolio can be complex, and requires attention and analyses
• It facilitates better understanding of investment costs i.e. fees associated with (cheap) beta exposure & (expensive) alpha exposure.	• It may not be permitted for some investors i.e. some investors are prohibited from using long-short strategy.

A. When long-short investing is allowed:

- ***To generate Alpha:*** Invest with an active manager who manages market neutral long-short portfolio in an inefficient market (i.e. small cap) and generate some alpha i.e. x%.
- ***To generate Beta:*** Go long an efficient part of equity market to get beta exposure i.e. long Russell Top 200.

Thus, strategy = Russell Top 200 + x%

B. When long-short investing is not allowed i.e. by using portable alpha:

To generate Alpha:

- Invest with an active manager who manages e.g. a Japanese equity portfolio indexed to TOPIX index and generates a Return = $\alpha + \beta_J$
- Short the futures contract based on manager's index (TOPIX) i.e. - β_J
- Thus, net position = $\alpha + \beta_J - \beta_J = \alpha$

To generate Beta: Take long position in a large-cap index (S&P 500) to get beta/market exposure i.e. + $\beta_{S\&P\ 500}$.

Thus, strategy = $\beta_{S\&P\ 500}$ + alpha associated with Japanese equity portfolio

NOTE:

Strategy explained in point 2 is less efficient strategy relative strategy explained in point 1.

8. IDENTIFYING, SELECTING, AND CONTRACTING WITH EQUITY PORTFOLIO MANAGERS

Both institutional and private wealth investors have to deal with issues regarding identifying, selecting and contracting equity portfolio managers either by themselves or by using outside consultants.

8.1 Developing a Universe of Suitable Manager Candidates

Qualitative factors used by consultants to evaluate investment managers include:

1. People and Organizational structure
2. Investment philosophy of firm.
3. Decision-making Process.
4. Strength of equity research of firm.

Quantitative factors include:

1. Performance relative to benchmarks and peers.
2. Style orientation and valuation characteristics of managed portfolios.
3. Consistency between stated and actual practices of firm.

8.2 Predictive Power of Past Performance

Past performance has little or no predictive power. It is therefore a legal requirement for fund managers to state in their advertisements that "past performance is no guarantee of future results". However, past performance needs to be examined because portfolio managers with poor past performance are unlikely to be hired as active managers.

Investors and consultants place great importance on equity manager's investment process and the strength of the manager's organization i.e. consistent performance that is achieved by a consistent staff and investment philosophy are highly valued relative to high performance achieved by a firm with high manager turnover and shifts in investment philosophy.

8.3 Equity Manager Fee Structures

Investment management fees represent a difference between investor results and skill of managers i.e.

Investors' net of fees alpha = Gross of fees alpha (or manager's alpha) – Investment management fees

Two major types of fee structure are:

1. Ad valorem fees are paid according to value (also known as a percentage of assets under management i.e. **AUM**). This fee is charged regardless of whether the fund has been profitable and it is used to cover operational expenses.

Example: First $100 million at 0.45%. Second $100 million at 0.35%. Remaining balance at 0.25%.

Advantages:

- It is straightforward and easy to compute.
- It is easily predictable.

Disadvantage: It does not align the interests of investors (sponsors) and managers.

2. Performance based fee consists of a combination of a base fee + some percentage of the return in excess of benchmark (alpha). (It is also known as incentive based fee).

Example: 2% of AUM plus 20% of outperformance relative to the benchmark.

Advantage: It better aligns the interests of investors (sponsors) and managers (particularly when compensation is symmetric).

Disadvantages:

- It is more complicated than ad valorem and is needed to be defined precisely.
- It increases the volatility of compensation; thus, creates uncertainty regarding revenues for firms which affect the firm negatively (especially when firm has underperformed its competitors).

Performance based fee involves following two features:

1) Fee cap: It is used to place a maximum limit on the performance fee paid in order to prevent managers from undertaking higher risk to earn higher fees.
2) High water mark condition: This provision requires the fund manger to make up for past underperformance before receiving a performance-based fee i.e. to generate returns in excess of previous underperformance to receive performance based fee. However, base fee is paid even when negative alpha is generated.

NOTE: One sided performance based fee (asymmetric incentive fee) refers to compensation without any penalty for underperformance. It is similar to a call option to the investment manager. Its value is estimated using option pricing model and net cost to the investor (sponsor) is evaluated against ad valorem fee.

Which fee structure is preferred under what conditions:

- When manager has high (low) consistency in outperformance, investors should prefer to use ad valorem (performance-based) fee structure.
- When volatility in performance is incorporated into the returns, both managers and investors are indifferent to the fee structure.

Practice: Example 16 Volume 4, Reading 25.

8.4 The Equity Manager Questionnaire

The equity manager questionnaire is used to compare and evaluate equity managers on formal basis. First step in the screening process is based on following ***five key areas:***

1. ***Organization, structure and personnel i.e.***

- Vision of firm, comparative advantages, definition of success etc.
- Background of professionals who manage portfolio i.e. past experience, education & professional qualification etc.
- Managers' turnover and reasons for turnover.

2. ***Investment philosophy, policy and process:***

How portfolio is managed i.e.

- Risk management function
- Conformance to stated style & philosophy
- Stock selection techniques and portfolio construction process etc.

3. ***Research capabilities and resources:***

It refers to the allocation of resources within the firm i.e.

- Guidelines about how & by whom research will be conducted.
- How outputs of research are incorporated into portfolio construction process
- Which quantitative models are employed and
- Trading function (turnover, trading strategies, costs etc.)

4. ***Performance:***

It refers to historical performance/risk factors (i.e. benchmark, alpha, risk sources, holdings)

5. ***Fee structure*** (i.e. ad valorem fee v/s performance based fee).

Note that this questionnaire helps investors only to ***short list*** suitable fund managers. Afterwards, these short listed managers are interviewed and /or their organizations are visited to better evaluate fund managers to make final selection decision.

9. STRUCTURING EQUITY RESEARCH AND SECURITY SELECTION

Equity research is used in both active and semiactive investing.

9.1 Top-Down Versus Bottom-Up Approaches

Top-Down Approach to Security Selection: Top-down approach focuses primarily on macroeconomic factors or investment themes to make investment decisions.

1. An analyst first evaluates and forecasts the future economic outlook based on macroeconomic conditions, business cycles etc.

2. Then, analyst chooses the proportions to invest in each country or economic region.
3. The sectors and industries that are expected to perform well based on forecasted economic outlook are identified and the proportions to be invested are decided.
4. Finally, analyst chooses the best securities/companies in each sector and industry selected.

NOTE:

From a global perspective, investors focus on global economic factors and forecasts for currencies.

Bottom-up Approach to Security Selection: In bottom-up approach security selection is based on company-specific information i.e. revenues, earnings, cash flows etc. It does not attempt to forecast macroeconomic and industry conditions.

1. Analyst searches for good companies/stocks based on well defined characteristic of individual stocks i.e. those which are selling at a low price in relation to their fundamentals i.e. P/B, P/E etc.
2. Then, further information is collected on the companies that meet the first condition.
3. Afterwards, on the basis of information collected in step 2, analyst identifies and selects companies for potential investments based on other company-specific criteria.

Combination of two approaches: For example, selecting countries on the basis of top-down analysis and then selecting stocks in those countries on the basis of bottom-up analysis.
Technical analysis which is based on forecasting future stock prices with the help of time series of past prices can also be used.

9.2 Sell-side versus Buy-side Analysts

Buy-side: It refers to performing equity research with the intention of actually managing & assembling equity portfolios; e.g. research departments in mutual funds.

Characteristics:

- Its primary function is to assemble a portfolio instead of just rating a company.
- Investment recommendations generated from buy-side research are presented to a committee for approval and these recommendations are used as rationale for buying or selling a stock in the portfolio.
- Most of a buy-side analyst's work is intended primarily for internal use and thus, it is not available outside the firm.
- Buy side analysis is considered "exclusive" and therefore it is used as a source of comparative advantage.

Sell-side: It refers to performing equity research for the purpose of selling the outcomes to generate business and revenues; e.g., independent research firms like S&P, Moody's etc. or investment banks/brokerage firms.

Characteristics:

- It is used to provide information regarding earnings, and also to provide ratings to companies (i.e. buy, hold, sell).
- Investment banks use sell-side analysis to promote stocks that they are intending to sell i.e. in case of IPOs.
- It also used to produce research reports (on a company or sector) for sale.
- Sell side research is primarily produced for external users e.g. the brokers' clients; thus, it is available outside the analyst's firm.

Practice: Example 17
Volume 4, Reading 25.

9.3 Industry Classification

Different government organizations and private firms provide formal classifications of an industry or sector. Companies are first categorized into one sector → then one industry group → then one industry and finally → into one sub-industry.

Practice: End of Chapter Practice Problems for Reading 25 & FinQuiz Item-set ID# 7749