Learning Objectives
After going through the chapter student shall be able to understand

- **Basics of Mutual Funds** - including its concepts and benefits etc.
- **Classification of Mutual Funds**
  1. Functional Classification
  2. Portfolio Classification
  3. Ownership Classification
- **Types of Schemes**
  1. Balanced Funds
  2. Equity Diversified Funds
  3. Equity Linked Tax Savings Scheme
  4. Sector Funds
  5. Thematic Funds
  6. Arbitrage Funds
  7. Hedge Fund
  8. Cash Fund
  9. Exchange Traded Funds
- **Key players in Mutual Funds**
  1. Sponsor
  2. Asset Management Company
  3. Trustee
  4. Unit Holder
  5. Mutual Fund
- **Advantages of Mutual Fund**
- **Drawbacks of Mutual Fund**
- **Evaluating performance of Mutual Funds**
  1. Net Asset Value (NAV)
9.2 Strategic Financial Management

(2) Costs incurred by Mutual Fund
(3) Computation of Returns
(4) Holding Period Return (HPR)
(5) Entry and Exit load in Mutual Fund
(6) Trail Commission

- The criteria for evaluating the performance
  (1) Sharpe Ratio
  (2) Treynor Ratio
  (3) Jensen’s Alpha
- Factors influencing the selection of Mutual Funds
- Signals highlighting the exit of the investor from the Mutual Fund Scheme
- Money Market Mutual Funds (MMMFS)
- Exchange Traded Funds

1. Introduction

Mutual Fund is a trust that pools together the resources of investors to make a foray into investments in the capital market thereby making the investor to be a part owner of the assets of the mutual fund. The fund is managed by a professional money manager who invests the money collected from different investors in various stocks, bonds or other securities according to specific investment objectives as established by the fund. If the value of the mutual fund investments goes up, the return on them increases and vice versa. The net income earned on the funds, along with capital appreciation of the investment, is shared amongst the unit holders in proportion to the units owned by them. Mutual Fund is therefore an indirect vehicle for the investor investing in capital markets. In return for administering the fund and managing its investment portfolio, the fund manager charges fees based on the value of the fund’s assets.

How does a mutual fund work?

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1.1 Mutual Benefits: Investing in mutual funds is an expert’s job in the present market scenario. A systematic investment in this instrument is bound to give rich dividends in the long-term.

1.2 What is a Mutual Fund: A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal. A mutual fund is the most suitable investment for the cautious investor as it offers an opportunity to invest in a diversified professionally managed basket of securities at a relatively low cost. So, we can say that Mutual Funds are trusts which pool resources from large number of investors through issue of units for investments in capital market instruments such as shares, debentures and bonds and money-market instruments such as commercial papers, certificate of deposits and treasury bonds.

1.3 Who can invest in Mutual Funds: Anybody with an investible surplus of as little as a few thousand rupees can invest in mutual funds by buying units of a particular mutual fund scheme that has a defined investment objective and strategy.

1.4 How Mutual Funds work for you: The money collected from the investors is invested by a fund manager in different types of securities. These could range from shares and debentures to money market instruments depending upon the scheme’s stated objectives.

The income earned through these investments and capital appreciation realized by the scheme are shared by its unit holders in proportion to the units owned by them.

(please refer the above diagram)

1.5 Should we invest in Stocks or Mutual Funds?

As soon as you have set your goals and decided to invest in equity, the question arises is - should you invest in stocks or mutual funds? Well, you need to decide what kind of an investor you are.

First, consider if you have the kind of disposable income to invest in 15-20 stocks. That is how many stocks you will have to invest in if you want to create a well-diversified portfolio. Remember the familiar adage: Do not put all your eggs in one basket? If ₹ 5,000 were all you have to spare, it would be impractical to invest it across many stocks.

Many beginners tend to focus on stocks that have a market price of less than ₹ 100 or ₹ 50; that should never be a criterion for choosing a stock. Also, brokerage could eat into your returns if you purchase small quantities of a stock.

On the other hand, you would be able to gain access to a wide basket of stocks for ₹ 5,000 if you buy into a fund. Investing in funds would also be an easy way to build your equity portfolio over time.

Let's say you can afford to put away only ₹ 1,000 a month in the market. You can simply invest in a fund every month through a systematic investment plan (SIP) as a matter of financial discipline. You can save yourself the trouble of scouting for a stock every month.

That brings us to the next point. Do you have the time to pick stocks? You need to invest a considerable amount of time reading newspapers, magazines, annual reports, quarterly updates, industry reports and talking to people who are familiar with industry practices. Else,
you certainly won’t catch a trend or pick a stock ahead of the market. How many great
investors have you heard of who have not made investing their full-time job?

Plus, you may have the time, but not the inclination. You have to be an active investor, which
means continuously monitor the stocks you pick and make changes – buy more, cut
exposures – depending upon the turn of events. These actions have costs as well. As you
chum your portfolio, you bear expenses such as capital gains tax. Funds do not pay capital
gains tax when they sell a stock.

All this assumes you know what you are doing and have the skill to pick the right stocks. You
are likely to be better at investing in an industry you understand. Only, too bad if that industry
appears to be out of favour in the market.

If you love the thrill and the ups and downs of the stock market offers; if you find yourself
turning into business channels and scouring business papers hoping that you can pick the
next Infosys; if you have an instinct for spotting stocks and, importantly, the discipline to act
on it; if you have the emotional maturity to cut your losses when you are ahead, then you can
trust yourself to invest in stocks.

Otherwise, hand over your money to the professional. Mutual funds could be the best avenue
for the risk-averse Investors.

2. Classification of Mutual Funds

There are three different types of classification of mutual funds. (1) Functional, (2) Portfolio,
and (3) Ownership. Each classification is mutually exclusive.

2.1 Functional Classification: Funds are divided into:

(1) Open ended funds
(2) Close ended funds and

In an open-ended scheme, the investor can make entry and exit at any time. Also, the capital
of the fund is unlimited and the redemption period is indefinite. On the contrary, in a close
ended scheme, the investor can buy into the scheme during Initial Public offering or from the
stock market after the units have been listed. The scheme has a limited life at the end of which
the corpus is liquidated. The investor can make his exit from the scheme by selling in the
stock market, or at the expiry of the scheme or during repurchase period at his option. Interval
schemes are a cross between an open ended and a close ended structure. These schemes
are open for both purchase and redemption during pre-specified intervals (viz. monthly,
quarterly, annually etc.) at prevailing NAV based prices. Interval funds are very similar to
close-ended funds, but differ on the following points:

• They are not required to be listed on the stock exchanges, as they have an in-built
  redemption window.
• They can make fresh issue of units during the specified interval period, at the prevailing
  NAV based prices.
• Maturity period is not defined.
2.2 **Portfolio Classification:** Funds are classified into Equity Funds, Debt Funds and Special Funds.

Equity funds invest primarily in stocks. A share of stock represents a unit of ownership in a company. If a company is successful, shareholders can profit in two ways:

- the stock may increase in value, or
- the company can pass its profits to shareholders in the form of dividends.

If a company fails, a shareholder can lose the entire value of his or her shares; however, a shareholder is not liable for the debts of the company.

*Equity Funds are of the following types viz.*

(a) **Growth Funds:** They seek to provide long term capital appreciation to the investor and are best to long term investors.

(b) **Aggressive Funds:** They look for super normal returns for which investment is made in start-ups, IPOs and speculative shares. They are best to investors willing to take risks.

(c) **Income Funds:** They seek to maximize present income of investors by investing in safe stocks paying high cash dividends and in high yield money market instruments. They are best to investors seeking current income.

(d) **Balanced Funds:** They are a mix of growth and income funds. They buy shares for growth and bonds for income and best for investors seeking to strike golden mean.

*Debt Funds are of two types viz.*

(a) **Bond Funds:** They invest in fixed income securities e.g. government bonds, corporate debentures, convertible debentures, money market. Investors seeking tax free income go in for government bonds while those looking for safe, steady income buy government bonds or high grade corporate bonds. Although there have been past exceptions, bond funds tend to be less volatile than stock funds and often produce regular income. For these reasons, investors often use bond funds to diversify, provide a steady stream of income, or invest for intermediate-term goals. Like stock funds, bond funds have risks and can make or lose money.

(b) **Gilt Funds:** They are mainly invested in Government securities.

*Special Funds are of four types viz.*

(a) **Index Funds:** Every stock market has a stock index which measures the upward and downward sentiment of the stock market. Index Funds are low cost funds and influence the stock market. The investor will receive whatever the market delivers.

(b) **International Funds:** A mutual fund located in India to raise money in India for investing globally.

(c) **Offshore Funds:** A mutual fund located in India to raise money globally for investing in India.

(d) **Sector Funds:** They invest their entire fund in a particular industry e.g. utility fund for utility industry like power, gas, public works.

(e) **Money Market Funds:** These are predominantly debt-oriented schemes, whose main
9.6 Strategic Financial Management

Objective is preservation of capital, easy liquidity and moderate income. To achieve this objective, liquid funds invest predominantly in safer short-term instruments like Commercial Papers, Certificate of Deposits, Treasury Bills, G-Secs etc.

These schemes are used mainly by institutions and individuals to park their surplus funds for short periods of time. These funds are more or less insulated from changes in the interest rate in the economy and capture the current yields prevailing in the market.

(f) Fund of Funds: Fund of Funds (FoF) as the name suggests are schemes which invest in other mutual fund schemes. The concept is popular in markets where there are number of mutual fund offerings and choosing a suitable scheme according to one’s objective is tough. Just as a mutual fund scheme invests in a portfolio of securities such as equity, debt etc, the underlying investments for a FoF is the units of other mutual fund schemes, either from the same fund family or from other fund houses.

(g) Capital Protection Oriented Fund: The term ‘capital protection oriented scheme’ means a mutual fund scheme which is designated as such and which endeavours to protect the capital invested therein through suitable orientation of its portfolio structure. The orientation towards protection of capital originates from the portfolio structure of the scheme and not from any bank guarantee, insurance cover etc. SEBI stipulations require these types of schemes to be close-ended in nature, listed on the stock exchange and the intended portfolio structure would have to be mandatory rated by a credit rating agency. A typical portfolio structure could be to set aside major portion of the assets for capital safety and could be invested in highly rated debt instruments. The remaining portion would be invested in equity or equity related instruments to provide capital appreciation. Capital Protection Oriented schemes are a recent entrant in the Indian capital markets and should not be confused with ‘capital guaranteed’ schemes.

(h) Gold Funds: The objective of these funds is to track the performance of Gold. The units represent the value of gold or gold related instruments held in the scheme. Gold Funds which are generally in the form of an Exchange Traded Fund (ETF) are listed on the stock exchange and offers investors an opportunity to participate in the bullion market without having to take physical delivery of gold.
2.3 Ownership Classification: Funds are classified into Public Sector Mutual Funds, Private Sector Mutual Funds and Foreign Mutual Funds. Public Sector Mutual Funds are sponsored by a company of the public sector. Private Sector Mutual Fund are sponsored by a company of the private sector. Foreign Mutual Funds are sponsored by companies for raising funds in India, operate from India and invest in India.

3. Types of Schemes

3.1 Balanced Funds: Balanced funds make strategic allocation to both debt as well as equities. It mainly works on the premise that while the debt portfolio of the scheme provides stability, the equity one provides growth. It can be an ideal option for those who do not like total exposure to equity, but only substantial exposure. Such funds provide moderate returns to the investors as the investors are neither taking too high risk nor too low a risk.

3.2 Equity Diversified Funds: A diversified funds is a fund that contains a wide array of stocks. The fund manager of a diversified fund ensures a high level of diversification in its holdings, thereby reducing the amount of risk in the fund.

a. Flexicap/Multicap Fund: These are by definition, diversified funds. The only difference is that unlike a normal diversified fund, the offer document of a multi-cap/flexi-cap fund generally spells out the limits for minimum and maximum exposure to each of the market caps.

b Contra fund: A contra fund invests in those out-of-favour companies that have unrecognised value. It is ideally suited for investors who want to invest in a fund that has the potential to perform in all types of market environments as it blends together both growth and value opportunities. Investors who invest in contra funds have an aggressive risk appetite.

c. Index fund: An index fund seeks to track the performance of a benchmark market index like the BSE Sensex or S&P CNX Nifty. Simply put, the fund maintains the portfolio of all the securities in the same proportion as stated in the benchmark index and earns the same return as earned by the market.

d. Dividend Yield fund: A dividend yield fund invests in shares of companies having high dividend yields. Dividend yield is defined as dividend per share divided by the share’s market price. Most of these funds invest in stocks of companies having a dividend yield higher than the dividend yield of a particular index, i.e., Sensex or Nifty. The prices of dividend yielding stocks are generally less volatile than growth stocks. Besides, they also offer the potential to appreciate. Among diversified equity funds, dividend yield funds are considered to be a medium-risk proposition. However, it is important to note that dividend yield funds have not always proved resilient in short-term corrective phases. Dividend yield schemes are of two types:

- Dividend Payout Option: Dividends are paid out to the unit holders under this option. However, the NAV of the units falls to the extent of the dividend paid out and applicable statutory levies.
- Dividend Re-investment Option: The dividend that accrues on units under this option is re-invested back into the scheme at ex-dividend NAV. Hence investors receive additional units on their investments in lieu of dividends.
3.3 **Equity Linked Tax Savings Scheme:** ELSS is one of the options for investors to save taxes under Section 80 C of the Income Tax Act. They also offer the perfect way to participate in the growth of the capital market, having a lock-in-period of three years. Besides, ELSS has the potential to give better returns than any traditional tax savings instrument.

Moreover, by investing in an ELSS through a Systematic Investment Plan (SIP), one can not only avoid the problem of investing a lump sum towards the end of the year but also take advantage of “averaging”.

3.4 **Sector Funds:** These funds are highly focused on a particular industry. The basic objective is to enable investors to take advantage of industry cycles. Since sector funds ride on market cycles, they have the potential to offer good returns if the timing is perfect. However, they are bereft of downside risk protection as available in diversified funds.

Sector funds should constitute only a limited portion of one’s portfolio, as they are much riskier than a diversified fund. Besides, only those who have an existing portfolio should consider investing in these funds.

For example, Real Estate Mutual Funds (REMFs) invest in real estate properties and earn income in the form of rentals, capital appreciation from developed properties. Also, some part of the fund corpus is invested in equity shares or debentures of companies engaged in real estate assets or developing real estate development projects. REMFs are required to be close-ended in nature and listed on a stock exchange.

3.5 **Thematic Funds:** Thematic funds are those mutual funds that invest in various sectors related to a particular theme. For example, if the mutual fund concentrates in infrastructure theme, then it will invest in the equity shares of construction companies, cement companies, steel companies and other companies that are related to the infrastructure sector.

A Thematic fund focuses on trends that are likely to result in the ‘out-performance’ by certain sectors or companies. In other words, the key factors are those that can make a difference to business profitability and market values.

However, the downside is that the market may take a longer time to recognize views of the fund house with regards to a particular theme, which forms the basis of launching a fund.

3.6 ** Arbitrage Funds:** Arbitrage funds are those mutual funds which purchases stock in the cash market (i.e. purchase at spot price or current price of a stock) and simultaneously sell in the futures market. However, the margin between stock prices and futures prices are low. Therefore, arbitrage mutual funds undertake large number of trades to make substantial profit on the difference between cash and futures price.

Typically, these funds promise safety of deposits, but with better returns, tax benefits and greater liquidity.

The open-ended equity scheme aims to generate low volatility returns by investing in a mix of cash equities, equity derivatives and debt markets. The fund seeks to provide better returns than typical debt instruments and lower volatility in comparison to equity.
This fund is aimed at an investor who seeks the return of small savings instruments, safety of bank deposits, tax benefits of RBI relief bonds and liquidity of a mutual fund.

Arbitrage fund finally seeks to capitalize on the price differentials between the spot and the futures market.

3.7 Hedge Fund: Hedge Funds are those funds that collect money from various investors such as banks, insurance firms, high net worth individuals, pension funds etc. They then invest the amount collected in various asset classes such as derivatives, equities, bonds, currencies and convertible securities.

A hedge fund is a lightly regulated investment fund that escapes most regulations by being a sort of a private investment vehicle being offered to selected clients.

The big difference between a hedge fund and a mutual fund is that the former does not reveal any thing about its operations publicly and charges a performance fee. Typically, if it out performs a benchmark, it takes a cut out of the profits. Of course, this is a one way street, any losses are borne by the investors themselves. Hedge funds are aggressively managed portfolio of investments which use advanced investment strategies such as leveraged, long, short and derivative positions in both domestic and international markets with the goal of generating high returns (either in an absolute sense or over a specified market benchmark). It is important to note that hedging is actually the practice of attempting to reduce risk, but the goal of most hedge funds is to maximize return on investment.

3.8 Cash Fund: Cash Fund is an open-ended liquid scheme that aims to generate returns with lower volatility and higher liquidity through a portfolio of debt and money market instrument.

3.9 Exchange Traded Funds: An Exchange Traded Fund (ETF) is a hybrid product that combines the features of an index fund. These funds are listed on the stock exchanges and their prices are linked to the underlying index. The authorized participants act as market makers for ETFs.

ETFs can be bought and sold like any other stock on an exchange. In other words, ETFs can be bought or sold any time during the market hours at prices that are expected to be closer to the NAV at the end of the day. Therefore, one can invest at real time prices as against the end of the day prices as is the case with open-ended schemes.

There is no paper work involved for investing in an ETF. These can be bought like any other stock by just placing an order with a broker. ETFs may be attractive as investments because of their low costs, tax efficiency, and stock-like features. An ETF combines the valuation feature of a mutual fund or unit investment trust, which can be bought or sold at the end of each trading day for its net asset value, with the tradability feature of a closed-end fund, which trades throughout the trading day at prices that may be more or less than its net asset value. Following types of ETF products are available in the market:

- **Index ETFs** - Most ETFs are index funds that hold securities and attempt to replicate the performance of a stock market index.
9.10 Strategic Financial Management

- **Commodity ETFs** - Commodity ETFs invest in commodities, such as precious metals and futures.
- **Bond ETFs** - Exchange-traded funds that invest in bonds are known as bond ETFs. They thrive during economic recessions because investors pull their money out of the stock market and into bonds (for example, government treasury bonds or those issues by companies regarded as financially stable). Because of this cause and effect relationship, the performance of bond ETFs may be indicative of broader economic conditions.
- **Currency ETFs** - The funds are total return products where the investor gets access to the forex spot change, local institutional interest rates and a collateral yield.

4. Key Players in Mutual Funds

Mutual Fund is formed by a trust body. The business is set up by the sponsor, the money invested by the asset management company and the operations monitored by the trustee. There are five principal constituents and three market intermediaries in the formation and functioning of mutual fund. There are five constituents of Mutual Fund which are as follows:

4.1 **Sponsor**: A company established under the Companies Act forms a mutual fund.

4.2 **Asset Management Company**: It is an entity registered under the Companies Act to manage the money invested in the mutual fund and to operate the schemes of the mutual fund as per mutual fund regulations. It carries the responsibility of investing and managing the investors’ money. Professional money managers are appointed by the asset management company to take care that the investor’s corpus are invested in profitable securities based on the risk appetite of the investors and according to the mutual fund scheme. The AMC typically has three departments viz. (a) Fund Management (b) Sales & marketing (c) Operations & Accounting.

4.3 **Trustee**: The trust is headed by Board of Trustees. The trustee holds the property of the mutual fund in trust for the benefit of unit holders and looks into the legal requirements of operating and functioning of the mutual fund. The trustee may also form a limited company under the Companies Act in some situations. The trustees have the duty to monitor the actions of the AMC to ensure compliance with the SEBI regulations and to see that the decisions of the AMC are not against the interests of the unit holders.

4.4 **Unit Holder**: A person/entity holding an undivided share in the assets of a mutual fund scheme.

4.5 **Mutual Fund**: A mutual fund established under the Indian Trust Act to raise money through the sale of units to the public for investing in the capital market. The funds thus collected are passed on to the Asset Management Company for investment. The mutual fund has to be registered with SEBI.

The three market intermediaries are:

(a) Custodian; (b) Transfer Agents; (c) Depository.
(a) **Custodian**: A custodian is a person who has been granted a Certificate of Registration to conduct the business of custodial services under the SEBI (Custodian of Securities) Regulations 1996. Custodial services include safeguarding clients’ securities along with incidental services provided. Maintenance of accounts of clients’ securities together with the collection of benefits / rights accruing to a client falls within the purview of custodial service. Mutual funds require custodians so that AMC can concentrate on areas such as investment and management of money.

(b) **Transfer Agents**: A transfer agent is a person who has been granted a Certificate of Registration to conduct the business of transfer agent under SEBI (Registrars to an Issue and Share Transfer Agents) Regulations Act 1993. Transfer agents’ services include issue and redemption of mutual fund units, preparation of transfer documents and maintenance of updated investment records. They also record transfer of units between investors where depository does not function.

(c) **Depository**: Under the Depositories 1996, a depository is body corporate who carries out the transfer of units to the unit holder in dematerialised form and maintains records thereof.

5. **Advantages of Mutual Fund**

(a) **Professional Management**: The funds are managed by skilled and professionally experienced managers with the backup of a Research team.

(b) **Diversification**: Mutual Funds offer diversification in portfolio which reduces the risk.

(c) **Convenient Administration**: There are no administrative risks of share transfer, as many of the Mutual Funds offer services in a demat form which save investor’s time and delay.

(d) **Higher Returns**: Over a medium to long-term investment, investors always get higher returns in Mutual Funds as compared to other avenues of investment. This is already seen from excellent returns, Mutual Funds have provided in the last few years. However, investors are cautioned that such high returns riding on the IT boom should not be taken as regular returns and therefore one should look at the average returns provided by the Mutual Funds particularly in the equity schemes during the last couple of years.

(e) **Low Cost of Management**: No Mutual Fund can increase the cost beyond prescribed limits of 2.5% maximum and any extra cost of management is to be borne by the AMC.

(f) **Liquidity**: In all the open ended funds, liquidity is provided by direct sales / repurchase by the Mutual Fund and in case of close ended funds, the liquidity is provided by listing the units on the Stock Exchange.

(g) **Transparency**: The SEBI Regulations now compel all the Mutual Funds to disclose their portfolios on a half-yearly basis. However, many Mutual Funds disclose this on a quarterly or monthly basis to their investors. The NAVs are calculated on a daily basis in case of open ended funds and are now published through AMFI in the newspapers.

(h) **Other Benefits**: Mutual Funds provide regular withdrawal and systematic investment
plans according to the need of the investors. The investors can also switch from one scheme to another without any load.

(i) **Highly Regulated**: Mutual Funds all over the world are highly regulated and in India all Mutual Funds are registered with SEBI and are strictly regulated as per the Mutual Fund Regulations which provide excellent investor protection.

(j) **Economies of scale**: The way mutual funds are structured gives it a natural advantage. The “pooled” money from a number of investors ensures that mutual funds enjoy economies of scale; it is cheaper compared to investing directly in the capital markets which involves higher charges. This also allows retail investors access to high entry level markets like real estate, and also there is a greater control over costs.

(k) **Flexibility**: There are a lot of features in a regular mutual fund scheme, which imparts flexibility to the scheme. An investor can opt for Systematic Investment Plan (SIP), Systematic Withdrawal Plan etc. to plan his cash flow requirements as per his convenience. The wide range of schemes being launched in India by different mutual funds also provides an added flexibility to the investor to plan his portfolio accordingly.

6. **Drawbacks of Mutual Fund**

(a) **No guarantee of Return** – There are three issues involved:

   (i) All Mutual Funds cannot be winners. There may be some who may under perform the benchmark index i.e. it may not even perform well as a novice who invests in the stocks constituting the index.

   (ii) A mutual fund may perform better than the stock market but this does not necessarily lead to a gain for the investor. The market may have risen and the mutual fund scheme increased in value but the investor would have got the same increase had he invested in risk free investments than in mutual fund.

   (iii) Investors may forgive if the return is not adequate. But they will not do so if the principal is eroded. Mutual Fund investment may depreciate in value.

(b) **Diversification** – A mutual fund helps to create a diversified portfolio. Though diversification minimises risk, it does not ensure maximizing returns. The returns that mutual funds offer are less than what an investor can achieve. For example, if a single security held by a mutual fund doubles in value, the mutual fund itself would not double in value because that security is only one small part of the fund’s holdings. By holding a large number of different investments, mutual funds tend to do neither exceptionally well nor exceptionally poorly.

(c) **Selection of Proper Fund** – It may be easier to select the right share rather than the right fund. For stocks, one can base his selection on the parameters of economic, industry and company analysis. In case of mutual funds, past performance is the only criterion to fall back upon. But past cannot predict the future.

(d) **Cost Factor** – Mutual Funds carry a price tag. Fund Managers are the highest paid executives. While investing, one has to pay for trail commission and when leaving he has
to pay for exit load. Such costs reduce the return from mutual fund. The fee paid to the Asset Management Company is in no way related to performance.

(e) **Unethical Practices** – Mutual Funds may not play a fair game. Each scheme may sell some of the holdings to its sister concerns for substantive notional gains and posting NAVs in a formalized manner.

(f) **Taxes** – When making decisions about your money, fund managers do not consider your personal tax situations. For example when a fund manager sells a security, a capital gain tax is triggered, which affects how profitable the individual is from sale. It might have been more profitable for the individual to defer the capital gain liability.

(g) **Transfer Difficulties** – Complications arise with mutual funds when a managed portfolio is switched to a different financial firm. Sometimes the mutual fund positions have to be closed out before a transfer can happen. This can be a major problem for investors. Liquidating a mutual fund portfolio may increase risk, increase fees and commissions, and create capital gains taxes.

7. **Evaluating the Performance of Mutual Funds**

(1) **Net Asset Value (NAV)**: It is the amount which a unit holder would receive if the mutual fund were wound up. An investor in mutual fund is a part owner of all its assets and liabilities. Returns to the investor are determined by the interplay of two elements Net Asset Value and Costs of Mutual Fund. Net Asset Value is the mutual fund’s calling card. It is the basis for assessing the return that an investor has earned. There are three aspects which need to be highlighted:

(i) It is the net value of all assets less liabilities. NAV represents the market value of total assets of the Fund less total liabilities attributable to those assets.

(ii) NAV changes daily. The value of assets and liabilities changes daily. NAV today will not be NAV tomorrow or day later.

(iii) NAV is computed as a value per unit of holding.

<table>
<thead>
<tr>
<th>Nature of Asset</th>
<th>Valuation Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Assets e.g. cash held</td>
<td>As per books.</td>
</tr>
<tr>
<td>All listed and traded securities</td>
<td>Closing Market Price</td>
</tr>
<tr>
<td>(other than those held as not for sale)</td>
<td></td>
</tr>
<tr>
<td>Debentures and Bonds</td>
<td>Closing traded price or yield</td>
</tr>
<tr>
<td>Illiquid shares or debentures</td>
<td>Last available price or book value whichever is lower. Estimated Market Price approach to be adopted if suitable benchmark is available.</td>
</tr>
<tr>
<td>Fixed Income Securities</td>
<td>Current Yield.</td>
</tr>
</tbody>
</table>
Netting the Asset Values

The asset values obtained from above have to be adjusted as follows:

<table>
<thead>
<tr>
<th>Additions</th>
<th>Deductions for Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends and Interest accrued</td>
<td>Expenses accrued</td>
</tr>
<tr>
<td>Other receivables considered good</td>
<td>Liabilities towards unpaid assets</td>
</tr>
<tr>
<td>Other assets (owned assets)</td>
<td>Other short term or long term liabilities</td>
</tr>
</tbody>
</table>

Computation of NAV

Net Asset Value (NAV) is value of net assets of the funds. The investor’s subscription is treated as the unit capital in the balance sheet of the fund and the investments on their behalf are treated as assets. The funds net assets are defined as the assets less liabilities.

\[
\text{NAV} = \frac{\text{Net asset of the scheme}}{\text{Number of units outstanding}}
\]

where net assets of the scheme is defined as below:

Net Assets of the Scheme = Market value of investments + Receivables + Other accrued income + other assets - Accrued Expenses - Other Payables - Other Liabilities

Illustration 1

Based on the following data, determine the NAV of a Regular Income Scheme

<table>
<thead>
<tr>
<th>₹ (in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed Shares at cost (ex-dividend)</td>
</tr>
<tr>
<td>Cash in hand</td>
</tr>
<tr>
<td>Bonds and Debentures at cost</td>
</tr>
<tr>
<td>Of these, Bonds not listed and quoted</td>
</tr>
<tr>
<td>Other fixed interest securities at cost</td>
</tr>
<tr>
<td>Dividend accrued</td>
</tr>
<tr>
<td>Amounts payable on shares</td>
</tr>
<tr>
<td>Expenditure accrued</td>
</tr>
<tr>
<td>Number of Units (₹ 10 F.V. each)</td>
</tr>
</tbody>
</table>

All the listed shares were purchased at a time when index was 1200. On NAV date, the index is ruling at 2120. Listed bonds and debentures carry a market value of ₹ 5 (lakhs) on NAV date. Current realizable value of fixed income securities of F.V. of ₹ 100 is ₹ 106.50.
### Solution

<table>
<thead>
<tr>
<th>Particulars of assets at cost (or liabilities)</th>
<th>Adjustment</th>
<th>Value (₹ in lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity shares</td>
<td>Index (2120/1200) × 20</td>
<td>35.33</td>
</tr>
<tr>
<td>Cash in hand</td>
<td>Book Value</td>
<td>1.23</td>
</tr>
<tr>
<td>Bonds and Debentures not listed</td>
<td>Book Value</td>
<td>1.00</td>
</tr>
<tr>
<td>Bonds and Debentures listed</td>
<td>Market Value</td>
<td>5.00</td>
</tr>
<tr>
<td>Dividends accrued</td>
<td></td>
<td>0.80</td>
</tr>
<tr>
<td>Fixed Income Securities</td>
<td>MV (106.50/100 × 4.50)</td>
<td>4.7925</td>
</tr>
<tr>
<td>Sub Total Assets (A)</td>
<td></td>
<td>48.1525</td>
</tr>
<tr>
<td><strong>Less : Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due on shares</td>
<td></td>
<td>6.32</td>
</tr>
<tr>
<td>Expenses Payable</td>
<td>Accrual Basis</td>
<td>0.75</td>
</tr>
<tr>
<td>Sub Total Liabilities (B)</td>
<td></td>
<td>7.07</td>
</tr>
<tr>
<td>Net Asset Value (A) – (B)</td>
<td></td>
<td>41.0825</td>
</tr>
<tr>
<td>Units under the scheme</td>
<td>Number</td>
<td>2,40,000</td>
</tr>
<tr>
<td>Net Asset Value</td>
<td>Per Unit</td>
<td>₹ 17.12</td>
</tr>
</tbody>
</table>

### (2) Costs incurred by Mutual Fund: Costs when high reduce the returns of an investor.

High Costs are the cause of below par performance of some mutual funds. Costs carry two components:

1. **Initial Expenses** attributable to establishing a scheme under a Fund and
2. **Ongoing recurring expenses** (Management Expense Ratio) which is made up of:
   a. Cost of employing technically sound investment analysts
   b. Administrative Costs
   c. Advertisement Costs involving promotion and maintenance of Scheme funds.

The Management Expense Ratio is measured as a % of average value of assets during the relevant period.

**Expense Ratio** = Expense / Average value of Portfolio

If Expenses are expressed per unit, then **Expense Ratio** = Expenses incurred per unit / Average Net Value of Assets

The Expense Ratio relates to the extent of assets used to run the Mutual Fund. It is inclusive of travel cost, management consultancy and advisory fees. It however excludes brokerage expenses for trading as purchase is recorded with brokerage while sales are recorded without brokerage.
9.16 Strategic Financial Management

(3) **Computations of Returns:** Investors derive three types of income from owning mutual fund units

1. Cash Dividend
2. Capital Gains Disbursements
3. Changes in the fund’s NAV per unit (Unrealised Capital Gains)

For an investor who holds a mutual fund for one year, the one-year holding period return is given by

\[
\text{Return} = \frac{\text{Dividend} + \text{Realised Capital Gains} + \text{Unrealised Capital Gains}}{\text{Base Net Asset Value}}
\]

\[
= D_1 + CG_1 + \frac{(\text{NAV}_1 - \text{NAV}_0)}{\text{NAV}_0} \times 100
\]

Where \(D_1\) → Dividend, \(CG_1\) → Realised Capital Gains, \(\text{NAV}_1 - \text{NAV}_0\) → Unrealised Capital Gains, \(\text{NAV}_0\) → Base Net Asset Value.

**Illustration 2**

A mutual fund, that had a net asset value of ₹ 10 at the beginning of the month, made income and capital gain distribution of ₹ 0.05 and ₹ 0.04 per unit respectively during the month and then ended the month with a net asset value of ₹ 10.03. Compute the monthly return.

**Solution**

Given \(D_1 = 0.05\), \(CG_1 = 0.04\), Unrealised Capital Gains = \(\text{NAV}_1 - \text{NAV}_0 = ₹ 10.03 - ₹ 10.00 = ₹ 0.03\). Monthly Return = \(\frac{0.05 + 0.04 + 0.03}{10} \times 100 = 1.2\%\).

**Illustration 3**

A mutual fund’s opening NAV is ₹ 20 and its closing NAV is ₹ 24. If the expense per unit is ₹ 0.50, what is the expense ratio?

**Solution**

Expense Ratio = \(\frac{\text{Expense incurred per unit}}{\text{Average NAV}}\) = \(\frac{0.50}{(20+24)/2} = 2.27\)

**Illustration 4**

A mutual fund raised ₹ 150 lakhs on April 1, by issue of 15 lakh units at ₹ 10 per unit. The fund invested in several capital market instruments to build a portfolio of ₹ 140 lakhs. Initial expense amounted to ₹ 8 lakhs. During the month of April, the fund sold certain securities costing ₹ 44.75 lakhs for ₹ 47 lakhs and purchased certain other securities for ₹ 41.6 lakhs. The fund management expenses for the month amounted to ₹ 6 lakhs of which ₹ 50,000 was in arrears. The dividend earned was ₹ 1.5 lakhs. 80% of the realized earnings were distributed. The market value of the portfolio on 30\textsuperscript{th} April was ₹ 147.85 lakhs.

An investor subscribed to 1 unit on April 1 and disposed it off at closing NAV on 30\textsuperscript{th} April. Determine his annual rate of earning.
Solution

<table>
<thead>
<tr>
<th>Amount in ₹ lakhs</th>
<th>Amount in ₹ lakhs</th>
<th>Amount in ₹ lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Bank (150-140-8)</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td><strong>Add</strong>: Proceeds from sale of securities</td>
<td>47.00</td>
<td></td>
</tr>
<tr>
<td><strong>Add</strong>: Dividend received</td>
<td>1.50</td>
<td>50.50</td>
</tr>
<tr>
<td><strong>Deduct</strong>:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of securities purchased</td>
<td>41.60</td>
<td></td>
</tr>
<tr>
<td>Fund management expenses paid (6.0 - 0.5)</td>
<td>5.50</td>
<td></td>
</tr>
<tr>
<td>Capital gains distributed = 80% of (47.00 – 44.75)</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>Dividend distributed =80% of 1.5</td>
<td>1.20</td>
<td>50.10</td>
</tr>
<tr>
<td>Closing Bank</td>
<td></td>
<td>0.40</td>
</tr>
<tr>
<td>Closing market value of portfolio</td>
<td>147.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>148.25</td>
<td></td>
</tr>
<tr>
<td>Less: Arrears of expenses</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Closing Net Assets</td>
<td>147.75</td>
<td></td>
</tr>
<tr>
<td>Number of units (Lakhs)</td>
<td>15.00</td>
<td></td>
</tr>
<tr>
<td>Closing NAV per unit</td>
<td>9.85</td>
<td></td>
</tr>
</tbody>
</table>

Rate of Earning

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income received (1.8+1.2)/15</td>
</tr>
<tr>
<td>Less: Loss on disposal (10-9.85)</td>
</tr>
<tr>
<td>Net earning</td>
</tr>
<tr>
<td>Initial investment</td>
</tr>
<tr>
<td>Rate of earning (monthly)</td>
</tr>
<tr>
<td>Rate of earning (Annual)</td>
</tr>
</tbody>
</table>

(4) Holding Period Return (HPR): A simple but effective measure of performance is to describe mutual fund return in terms of the following three major sources:

(a) Dividend Earned
(b) Capital Gain Distribution/ Earned
(c) Change in price or NAV.

In case investment is held for a period less than one year, then pay offs can be easily converted into returns by using Holding Period Return (HPR) formula, which is as follows:

\[ HPR = \frac{\text{(NAV}_1 - \text{NAV}_0) + \text{Capital Gain Distribution/ Earned} + \text{Dividend/Regular Income Received}}{\text{NAV}_0} \]
Illustration 5

A mutual fund that had a net asset value of ₹ 20 at the beginning of month made income and capital gain distribution of Re. 0.0375 and Re. 0.03 per share respectively during the month, and then ended the month with a net asset value of ₹ 20.06. Calculate monthly return.

Solution

Calculation of monthly return on the mutual funds:

\[ r = \frac{(NAV_t - NAV_{t-1}) + I_t + G_t}{NAV_{t-1}} \]

Where,

- \( r \) = Return on the mutual fund
- \( NAV_t \) = Net assets value at time period \( t \)
- \( NAV_{t-1} \) = Net assets value at time period \( t - 1 \)
- \( I_t \) = Income at time period \( t \)
- \( G_t \) = Capital gain distribution at time period \( t \)

\[ r = \frac{(₹ 20.06 - ₹ 20.00) + (₹ 0.0375 + ₹ 0.03)}{20} \]

\[ = \frac{0.06 + 0.0675}{20} \]

\[ = \frac{0.1275}{20} = 0.006375 \]

or \( r = 0.6375\% \text{ p.m.} \)

or say = 7.65\% p.a.

However, in most of the cases it has been found that the dividend and capital gains are reinvested, in such cases question arises how to obtain a measure of return when investor receives his/her (dividend and capital gains) payouts in form of additional shares or units rather than cash. In such cases, the formula for calculating the HPR discussed above shall be slightly modified with only difference that to keep a track of number of units acquired through reinvestment. We can use the following formula for calculating the HPR in such cases:

\[ \frac{(\text{No. of units at end of Period} \times \text{Ending Price}) - (\text{No. of units at beginning of Period} \times \text{Initial Price})}{\text{No. of units at beginning of Period} \times \text{Initial Price}} \]

Illustration 6

Mr. X, an investor purchased 200 units of ABC Mutual Fund at rate of ₹ 8.50 p.u., one year ago. Over the year Mr. X received ₹ 0.90 as dividend and had received a capital gains distribution of ₹ 0.75 per unit.
You are required to find out:

(a) Mr. X’s holding period return assuming that this no load fund has a NAV of ₹ 9.10 as on today.

(b) Mr. X’s holding period return, assuming all the dividends and capital gains distributions are reinvested into additional units as at average price of ₹ 8.75 per unit.

Solution

(a) Return for the year (all changes on a per unit basis):

<table>
<thead>
<tr>
<th>Change in Price (₹ 9.10 - ₹ 8.50)</th>
<th>₹ 0.60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends received</td>
<td>₹ 0.90</td>
</tr>
<tr>
<td>Capital gains distributions</td>
<td>₹ 0.75</td>
</tr>
<tr>
<td>Total return</td>
<td>₹ 2.25</td>
</tr>
</tbody>
</table>

Holding period return = \[\frac{₹ 2.25}{₹ 8.50}\] = 26.47%

(b) When all dividends and capital gains distributions are reinvested into additional units of the fund (₹ 8.75/unit):

Dividends and capital gains per unit: ₹ 0.90 + ₹ 0.75 = ₹ 1.65

Total amount received from 200 units: ₹ 1.65 \times 200 = ₹ 330.00

Additional units added: ₹ 330/₹ 8.75 = 37.7 units

Value of 237.7 units held at end of year: 237.7 units \times ₹ 9.10 = ₹ 2,163

Price paid for 200 units at beginning of year: 200 units \times ₹ 8.50 = ₹ 1,700

Thus, the Holding Period Return would be:

\[
\text{H.P.R.} = \frac{(\text{No. of units at end of Period} \times \text{Ending Price}) - (\text{No. of units at beginning of Period} \times \text{Initial Price})}{\text{No. of units at beginning of Period} \times \text{Initial Price}}
\]

\[
\text{H.P.R.} = \frac{₹ 2,163 - ₹ 1,700}{₹ 1,700} = \frac{₹ 463}{₹ 1,700} = 27.24\%
\]

(5) Entry and Exit Load in Mutual Funds

Some Asset Management Companies (AMCs) have sales charges, or loads, on their funds (entry load and/or exit load) to compensate for distribution costs. Funds that can be purchased without a sales charge are called no-load funds.

Entry load is charged at the time an investor purchases the units of a scheme. The entry load percentage is added to the prevailing NAV at the time of allotment of units.

Exit load is charged at the time of redeeming (or transferring an investment between schemes). The exit load percentage is deducted from the NAV at the time of redemption (or transfer between schemes). This amount goes to the Asset Management Company and not
9.20 Strategic Financial Management

into the pool of funds of the scheme. In simple terms, therefore, Entry and Exit Load in Mutual Fund are the charges one pays while buying and selling the fund respectively.

Illustration 7

Mr. X earns 10% on his investments in equity shares. He is considering a recently floated scheme of a Mutual Fund where the initial expenses are 6% and annual recurring expenses are expected to be 2%. How much the Mutual Fund scheme should earn to provide a return of 10% to Mr. X?

Solution

\[ r_2 = \frac{1}{1 - \text{initial exp}} \times r_1 + \text{recurring exp.} \]

The rate of return the mutual fund should earn:

\[ = \frac{1}{1 - 0.06} \times 0.1 + 0.02 \]

\[ = 0.1264 \text{ or } 12.64\% \]

(6) Trail Commission

It is the amount that a mutual fund investor pays to his advisor each year. The purpose of charging this commission from the investor is to provide incentive to the advisor to review their customer’s holdings and to give advice from time to time.

Distributors usually charge a trail commission of 0.3-0.75% on the value of the investment for each year that the investor's money remains invested with the fund company. This is calculated on a daily basis as a percentage of the assets under management of the distributor and is paid monthly. This is separate from any upfront commission that is usually paid by the fund company to the distributor out of its own pocket.

8. The Criteria for Evaluating the Performance

8.1 Sharpe Ratio: This ratio measures the return earned in excess of the risk free rate (normally Treasury instruments) on a portfolio to the portfolio’s total risk as measured by the standard deviation in its returns over the measurement period. Nobel Laureate William Sharpe developed the model and the results of it indicate the amount of return earned per unit of risk. The Sharpe ratio is often used to rank the risk-adjusted performance of various portfolios over the same time. The higher a Sharpe ratio, the better a portfolio’s returns have been relative to the amount of investment risk the investor has taken. The major advantage of using the Sharpe ratio over other models (CAPM) is that the Sharpe ratio uses the volatility of the portfolio return instead of measuring the volatility against a benchmark (i.e., index). The primary disadvantage of the Sharpe ratio is that it is just a number and it is meaningless unless you compare it to several other types of portfolios with similar objectives.

\[ S = \frac{\text{Return of Portfolio} - \text{Return of Risk free investment}}{\text{Standard Deviation of Portfolio}} \]
**Example:** Let's assume that we look at a one year period of time where an index fund earned 11%.
Treasury bills earned 6%.
The standard deviation of the index fund was 20%.
Therefore \( S = \frac{11 - 6}{.20} = 25\% \).
The Sharpe ratio is an appropriate measure of performance for an overall portfolio particularly when it is compared to another portfolio, or another index such as the S&P 500, Small Cap index, etc.

That said however, it is not often provided in most rating services.

**Example:** Consider two funds A and B. Let return of fund A be 30% and that of fund B be 25%. On the outset, it appears that fund A has performed better than Fund B. Let us now incorporate the risk factor and find out the Sharpe ratios for the funds. Let risk of Fund A and Fund B be 11% and 5% respectively. This means that the standard deviation of returns - or the volatility of returns of Fund A is much higher than that of Fund B.

If risk free rate is assumed to be 8%,
Sharpe ratio for fund A= \( \frac{30 - 8}{11} = 2\% \) and
Sharpe ratio for fund B= \( \frac{25 - 8}{5} = 3.4\% \).

Higher the Sharpe Ratio, better is the fund on a risk adjusted return metric. Hence, our primary judgment based solely on returns was erroneous. Fund B provides better risk adjusted returns than Fund A and hence is the preferred investment. Producing healthy returns with low volatility is generally preferred by most investors to high returns with high volatility. Sharpe ratio is a good tool to use to determine a fund that is suitable to such investors.

**8.2 Treynor Ratio:** This ratio is similar to the above except it uses beta instead of standard deviation. It's also known as the Reward to Volatility Ratio, it is the ratio of a fund's average excess return to the fund's beta. Treynor ratio evaluates the performance of a portfolio based on the systematic risk of a fund. Treynor ratio is based on the premise that unsystematic or specific risk can be diversified and hence, only incorporates the systematic risk (beta) to gauge the portfolio's performance. It measures the returns earned in excess of those that could have been earned on a riskless investment per unit of market risk assumed. The formula is typically used in ranking Mutual Funds with similar objectives.

\[
T = \frac{\text{Return of Portfolio} - \text{Return of Risk Free Investment}}{\text{Beta of Portfolio}}
\]

The absolute risk adjusted return is the Treynor plus the risk free rate.
In the illustration discussed earlier, beta of Fund A and B are 1.5 and 1.1 respectively,
Treynor ratio for fund A= \( \frac{30 - 8}{1.5} = 14.67\% \)
Treynor ratio for fund B= \( \frac{25 - 8}{1.1} = 15.45\% \)
The results are in sync with the Sharpe ratio results.
Both Sharpe ratio and Treynor ratio measure risk adjusted returns. The difference lies in how risk is defined in either case. In Sharpe ratio, risk is determined as the degree of volatility in returns - the variability in month-on-month or period-on-period returns - which is expressed through the standard deviation of the stream of returns numbers you are considering. In Treynor ratio, you look at the beta of the portfolio - the degree of "momentum" that has been built into the portfolio by the fund manager in order to derive his excess returns. High momentum - or high beta (where beta is > 1) implies that the portfolio will move faster (up as well as down) than the market.

While Sharpe ratio measures total risk (as the degree of volatility in returns captures all elements of risk - systematic as well as unsystemic), the Treynor ratio captures only the systematic risk in its computation.

When one has to evaluate the funds which are sector specific, Sharpe ratio would be more meaningful. This is due to the fact that unsystematic risk would be present in sector specific funds. Hence, a truer measure of evaluation would be to judge the returns based on the total risk.

On the contrary, if we consider diversified equity funds, the element of unsystematic risk would be very negligible as these funds are expected to be well diversified by virtue of their nature. Hence, Treynor ratio would me more apt here.

It is widely found that both ratios usually give similar rankings. This is based on the fact that most of the portfolios are fully diversified. To summarize, we can say that when the fund is not fully diversified, Sharpe ratio would be a better measure of performance and when the portfolio is fully diversified, Treynor ratio would better justify the performance of a fund.

**Example:** In 2005 - 06 where Fidelity Magellan had earned about 18%, many bond funds had earned 13%. Which is better? In absolute numbers, 18% beats 13%. But if we then state that the bond funds had about half the market risk, now which is better? We don’t even need to do the formula for that analysis. But that is missing in almost all reviews by all brokers. For clarification we do not suggest they put all the money into either one - just that they need to be aware of the implications.

### 8.3 Jensen's Alpha

This is the difference between a fund’s actual return and those that could have been made on a benchmark portfolio with the same risk - i.e. beta. It measures the ability of active management to increase returns above those that are purely a reward for bearing market risk. Caveats apply however since it will only produce meaningful results if it is used to compare two portfolios which have similar betas.

**Assume Two Portfolios**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>Market Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return</td>
<td>12</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Beta</td>
<td>0.7</td>
<td>1.2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Risk Free Rate = 9%

The return expected = Risk Free Return + Beta portfolio (Return of Market - Risk Free Return)
Using Portfolio A, the expected return = \( 0.09 + 0.7 \times (0.12 - 0.09) = 0.09 + 0.021 = 0.111 \)

\[ \text{Alpha} = \text{Return of Portfolio} - \text{Expected Return} = 0.12 - 0.111 = 0.009 \]

As long as “apples are compared to apples”- in other words a computer sector fund A to computer sector fund B- it is a viable number. But if taken out of context, it loses meaning. Alphas are found in many rating services but are not always developed the same way- so you can’t compare an alpha from one service to another. However, we have usually found that their relative position in the particular rating service is to be viable. Short-term alphas are not valid. Minimum time frames are one year- three year is more preferable.

**8.4 Expense Ratio:** It is the percentage of the assets that were spent to run a mutual fund. It includes things like management and advisory fees, travel costs and consultancy fees. The expense ratio does not include brokerage costs for trading the portfolio. It is also referred to as the Management Expense Ratio (MER).

*If one pays a close attention to the expense ratio, it can sometimes be as high as 2-3% which can seriously undermine the performance of one’s mutual fund.*

**8.5 Tracking Error:** When the returns on a mutual fund vary with its corresponding benchmark market index, it is generally called a tracking error. Since, tracking error gives an investor a feeling of how volatile his portfolio is in comparison to its benchmark, it is basically reported by index funds.

In other words, tracking error can also be arrived at by deducting fund’s returns from the return of the index it is tracking. However, tracking error is all about deviation and can be statistically defined. Therefore, tracking error is the standard deviation of the difference between the returns of the fund and its corresponding benchmark market index and is computed as follows:

Moreover, an index mutual fund is a passive investment avenue because it is benchmarked to popular stock market indexes such as S&P BSE Sensex. Since the index funds entirely follow their benchmark index, the fund manager’s role is almost negligible in this regard. Generally, the fund managers are very upbeat about their fund’s return but not so in case of index funds.

The construction of the portfolio of index funds is such that, theoretically, they are always expected to move in tandem with the benchmark index. However, factors such as change in constituents of index, cash holdings, expense ratio and excessive volatility can impact tracking error. For example, an announcement is to be made by the stock exchange of a reconstitution of its index in the next 30 days. The effect of this news is that the stock that is moved out will show immediate reduction in its value. On the other hand, the newly added fund will show increase in its value.

However, the fund manager, in this situation cannot immediately rejig the fund’s portfolio. When the reconstitution officially happens, only then the change can be made by the fund manager.

**9. Factors Influencing the Selection of Mutual Funds**

(1) **Past Performance** – The Net Asset Value is the yardstick for evaluating a Mutual Fund.
The higher the NAV, the better it is. Performance is based on the growth of NAV during the referral period after taking into consideration Dividend paid.

\[
\text{Growth} = (\text{NAV}_1 - \text{NAV}_0) + \frac{D_1}{\text{NAV}_0}.
\]

(2) **Timing** – The timing when the mutual fund is raising money from the market is vital. In a bullish market, investment in mutual fund falls significantly in value whereas in a bearish market, it is the other way round where it registers growth. The turns in the market need to be observed.

(3) **Size of Fund** – Managing a small sized fund and managing a large sized fund is not the same as it is not dependent on the product of numbers. Purchase through large sized fund may by itself push prices up while sale may push prices down, as large funds get squeezed both ways. So it is better to remain with medium sized funds.

(4) **Age of Fund** – Longevity of the fund in business needs to be determined and its performance in rising, falling and steady markets have to be checked. Pedigree does not always matter as also success strategies in foreign markets.

(5) **Largest Holding** – It is important to note where the largest holdings in mutual fund have been invested.

(6) **Fund Manager** – One should have an idea of the person handling the fund management. A person of repute gives confidence to the investors.

(7) **Expense Ratio** – SEBI has laid down the upper ceiling for Expense Ratio. A lower Expense Ratio will give a higher return which is better for an investor.

(8) **PE Ratio** – The ratio indicates the weighted average PE Ratio of the stocks that constitute the fund portfolio with weights being given to the market value of holdings. It helps to identify the risk levels in which the mutual fund operates.

(9) **Portfolio Turnover** – The fund manager decides as to when he should enter or quit the market. A very low portfolio turnover indicates that he is neither entering nor quitting the market very frequently. A high ratio, on the other hand, may suggest that too frequent moves have lead the fund manager to miss out on the next big wave of investments. A simple average of the portfolio turnover ratio of peer group updated by mutual fund tracking agencies may serve as a benchmark. The ratio is lower of annual purchase plus annual sale to average value of the portfolio.

### 10. Signals Highlighting the Exit of the Investor from the Mutual Fund Scheme

(1) When the mutual fund consistently under performs the broad based index, it is high time that it should get out of the scheme. It would be better to invest in the index itself either by investing in the constituents of the index or by buying into an index fund.

(2) When the mutual fund consistently under performs in comparison to its peer group instead of it being at the top. In such a case, it would have to pay to get out of the scheme and then invest in the winning schemes.

(3) When the mutual fund changes its objectives e.g. instead of providing a regular income
to the investor, the composition of the portfolio has changed to a growth fund mode which is not in tune with the investor's risk preferences.

(4) When the investor changes his objective of investing in a mutual fund which no longer is beneficial to him.

(5) When the fund manager, handling the mutual fund schemes, has been replaced by a new entrant whose image is not known.

11. Money Market Mutual Funds (MMMFs)

The Government of India thought of introducing Money Market Mutual Funds (MMMFs) on Indian financial canvass in 1992. The aim of the Government was to develop the money market and to enable individual investors to gain from money market instruments since it is practically impossible for individuals to invest in instruments like Commercial Papers (CPs), Certificate of deposits (CDs) and Treasury bills (TBs) which require huge investments. The Government constituted a Task Force on MMMFs under the chairmanship of Shri D. Basu.

The broad framework of guidelines in respect of MMMFs issued by RBI are as follows:

- The investment by individuals and other bodies would be in the form of negotiable and transferable instruments and MMMF deposit accounts.
- The minimum investments would be ₹ one lakh.
- The re-purchase would be subject to a minimum lock-in-period of 3 months.
- The funds will not be subject to reserve requirements as these will be invested in money market instruments.
- Minimum of 20 per cent of funds will be invested in 182 days treasury bills.
- Maximum of 20 per cent of funds will be diverted to call money markets.

Money market funds are generally the safest and most secure of mutual fund investments. The goal of a money-market fund is to preserve principal while yielding a modest return. Money-market mutual fund is akin to a high-yield bank account but is not entirely risk free. When investing in a money-market fund, attention should be paid to the interest rate that is being offered.

12. Exchange Traded Funds

Exchange Traded Funds are a type of financial instrument whose unique advantages over mutual funds have caught the eye of many investors.

12.1 What is an Exchange Traded Fund

An Exchange Traded Fund (ETF) is a hybrid product that combines the features of an index fund. These funds are listed on the stock exchanges and their prices are linked to the underlying index. The authorized participants act as market makers for ETFs.

ETFs can be bought and sold like any other stock on an exchange. In other words, ETFs can be bought or sold any time during the market hours at prices that are expected to be closer to
the NAV at the end of the day. Therefore, one can invest at real time prices as against the end of the day prices as is the case with open-ended schemes.

There is no paperwork involved for investing in an ETF. These can be bought like any other stock by just placing an order with a broker.

An exchange-traded fund trades like a stock. Just like an index fund, an exchange traded funds represents a basket of stocks that reflect an index such as the Nifty, BSE, S&P 500 in global market. An exchange traded fund, however, isn't a mutual fund; it trades just like any other company on a stock exchange. Unlike a mutual fund that has its net-asset value (NAV) calculated at the end of each trading day, an exchange traded funds's price changes throughout the day, fluctuating with supply and demand. It is important to remember that while exchange traded funds attempt to replicate the return on indexes, there is no guarantee that they will do so exactly. It is not uncommon to see a 1% or more difference between the actual index's year-end return and that of an exchange traded funds.

Exchange Traded Funds (ETF) is a type of passive fund because of following reasons:

(i) Serves as a good platform for an investor who desires to invest in equity for 5-10 years.
(ii) While expenses for actively managing the equity fund hovers around 2.25-2.5%, ETF expenses hovers around 0.3-0.5%. In some cases, it may be as low as 0.05%.
(iii) There is no need of stock selection and fund manager to track the performance of the funds.

By owning an exchange traded funds, investors get the diversification of an index fund plus the flexibility of a stock. Because Exchange Traded Funds trade like stocks, one can short sell them, buy them on margin and purchase as little as one share. Another advantage is that the expense ratios of most Exchange Traded Funds are lower than that of the average mutual fund. When buying and selling Exchange Traded Funds investors pay their broker the same commission that they would pay on any regular trade.

A great reason to consider Exchange Traded Funds is that they simplify index and sector investing in a way that is easy to understand. If investors feel a turnaround is around the corner, they can go long. If, however, they think ominous clouds will be over the market for some time, they have the option of going short. The combination of the instant diversification, low cost and the flexibility that Exchange Traded Funds offer makes these instruments one of the most useful innovations and attractive pieces of financial engineering to date.

They first came into existence in the USA in 1993. It took several years to generate public interest. But once they did, the volumes took off with a vengeance.

ETFs can be bought/sold through trading terminals anywhere across the country. A comparative view of ETFs vis-à-vis other funds have been depicted as below:
### ETFs vs. Open Ended Funds vs. Close Ended Funds

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Open Ended Fund</th>
<th>Closed Ended Fund</th>
<th>Exchange Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund Size</td>
<td>Flexible</td>
<td>Fixed</td>
<td>Flexible</td>
</tr>
<tr>
<td>NAV</td>
<td>Daily</td>
<td>Daily</td>
<td>Real Time</td>
</tr>
<tr>
<td>Liquidity Provider</td>
<td>Fund itself</td>
<td>Stock Market</td>
<td>Stock Market/Fund itself</td>
</tr>
<tr>
<td>Sale Price</td>
<td>At NAV plus load, if any</td>
<td>Significant Premium/Discount to NAV</td>
<td>Very close to actual New Scheme</td>
</tr>
<tr>
<td>Availability</td>
<td>Fund itself</td>
<td>Through Exchange where listed</td>
<td>Through Exchange with Fund itself.</td>
</tr>
<tr>
<td>Portfolio Disclosure</td>
<td>Monthly</td>
<td>Monthly</td>
<td>Daily/Real-time</td>
</tr>
<tr>
<td>Uses</td>
<td>Equitising cash</td>
<td></td>
<td>Equitising Cash, hedging, Arbitrage</td>
</tr>
<tr>
<td>Intra-Day Trading</td>
<td>Not possible</td>
<td>Expensive</td>
<td>Possible at low cost.</td>
</tr>
</tbody>
</table>

(Source: www.nseindia.com)