

MUTUAL FUNDS

- A Mutual Fund is a trust that pools together the resources of like-minded investors for investment in the Capital Market.
- By investing in the units of the mutual fund, the investor becomes a part owner of the assets of the Mutual Fund.
- When the value of the MF's investments goes up, the return for the investor increases.

Fund Features:

- ✓ Polling of Resources
- ✓ Professional Management
- ✓ Ownership, not lending
- ✓ A share in the fund
- ✓ Owning a unit, not the asset
- ✓ Net Asset Value {NAV = $(MV - \text{Total Liabilities}) / \text{No. of Units}$ }
- ✓ Taxation

Structure of Mutual Funds

- A MF is constituted in the form of a trust.
- The Sponsor sets up the business.
- The Asset Management Company invests the money
- The Trustees oversees the Operations

Five Constituents:

- ✓ Sponsor
- ✓ Trustee
- ✓ Mutual Fund
- ✓ Asset Management Company
- ✓ Unit Holder

Three Intermediaries:

- ✓ Custodian
- ✓ Transfer Agents
- ✓ Depository

Advantages of Mutual Funds

1. Professional Management
2. Diversification
3. Economies of Search
4. Economies of Scale
5. Money at Call
6. Liquidity
7. Options Aplenty
8. A case of Conveniences
9. Going Places
10. Mimicking the Index
11. Well-Regulated - AMFI

Disadvantages of Mutual Funds

1. No Guarantee of Return
2. Diversification
3. Loads of Cost
4. Selecting the right fund
5. Unethical Practices.

Classification of Mutual Funds:

❖ Functional Classification

- ✓ Open Ended – can join the scheme any time
- ✓ Close Ended – only during IPO or from Stock Market

❖ Portfolio Classification

- ✓ Equity - Income, Balanced, Growth & Aggressive Growth
- ✓ Debt - Bond & Gilt
- ✓ Specialised – Index, International, Off Shore & Sector

❖ Ownership Classification

- ✓ Public Sector
- ✓ Private Sector
- ✓ Foreign Mutual

Net Asset Value:

- Amount which a Unit holder would receive if the MF were wound up today
- Market value of total assets of the fund less total liabilities attributable to those assets
- Computed per unit of holding

Formula:

$$\text{NAV /unit} = \text{Net value of Assets / No. of Units}$$

Nature of Asset

Valuation Rule

- | | |
|-------------------------------|--|
| 1. Liquid Assets | As per books |
| 2. All Listed & Traded Sec. | Closing Market Price |
| 3. Debentures & Bonds | Closing Traded Price or Yield |
| 4. Illiquid Shares or Debent. | Last known price or book value whichever is lower. |
| 5. Fixed Income Securities | Current Yield |

The Asset values derived as above have to be adjusted:

Additions: Dividends and interest accrued
Other Receivables considered good
Other Assets (e.g. Owned Assets)

Deductions from Liabilities: Expenses accrued
Liabilities towards unpaid assets
Other Short term or long term liabilities

Two components go to make up these costs

- ✓ Initial Expenses – attributable to scheme establishment
- ✓ Ongoing Recurring Expenses – represented by MER

Management Expense Ratio:

- ✓ Cost of employing technically skilled investment analysts
- ✓ Administrative Costs
- ✓ Advertisement Costs

Formula:

$$\text{Expense Ratio} = \text{Expense / Avg. value of Portfolio}$$

If expenses are expressed per unit, then

$$= \text{Expenses Per Unit / (NAV0 + NAV1) / 2}$$

Note: Brokerage Costs for trading should be excluded since, purchase is recorded including brokerage and sales is recorded excluding brokerage

Computation of Returns

Investors derive 3 types of income from owning MF Units

1. Cash dividend
2. Capital gains disbursements
3. Changes in the fund's NAV per unit (Unrealised gains)

For an investor who holds a MF for one year, the one-year holding period return:

$$\text{Return} = \{D1 + CG1 + (NAV1 - NAV0)\} / NAV0 \times 100$$

Where,

D1 = Dividend

CG1 = Realised Capital Gains

NAV1 - NAV0 = Unrealised Capital Gains

NAV0 = Base NAV

$$\therefore \text{Return} = (\text{Dividend} + \text{Realised CGs} + \text{Unrealised CGs}) / \text{Base NAV}$$

Evaluation Models

1. **Sharpe Model:** This model measures reward (the risk premium) earned per unit of total risk.

Computation Steps:

1. Compute return
2. Compute risk
3. Sharpe Index = $(RP - R_f) / \sigma_P$

Where, RP = Return on Portfolio

R_f = Risk free rate; σ_P = SD of Portfolio

Interpretation: The higher the Sharpe ratio, the better is the performance.

2. Treynor Model: This model measures the reward per unit of non-diversifiable risk.

☐ Risk means only non-diversifiable risk and is the beta of the rates of return

Computation Steps:

1. Compute Return
2. Compute Risk
3. Treynor Index = $(RP - R_f) / \beta_P$ Where, β_P = Beta of Stock

Interpretation: Higher the Treynor ratio, the better is the performance

3. Jensen Model: This measure deals with the return in excess of that which is mandated by the Capital Asset Pricing Model. Jensen's Measure is also known as Alpha.

Computation Steps:

1. Compute Return on Portfolio
2. Compute Return as per CAPM
3. Jensen's Alpha = $RP - \{R_f + \beta (R_m - R_f)\}$

Interpretation: Higher the Jensen measure, the better is the performance. If the Alpha is positive, the fund is undervalued. If negative, the fund is overvalued.

4. Morning Star: MS computes the relative return as average return less the average risk of loss.

Computation Steps:

1. Compute average return
2. Compute average risk of loss
3. Morning Star Index = Avg. Return - Avg. Risk of loss

Where,

Average Return = Simple average of the rates of return.

Average Risk of Loss = Simple average of the monthly risk of loss

Note: 1. If the actual return is greater than the Risk free return, there is no risk of loss.

2. Risk of loss is the lower of (a) $R_f - \text{Return}$ or (b) Zero

Interpretation: Higher the MS Index, the better is the risk adjusted performance of the MF.

5. Fama's Net Selectivity: It represents the return in excess of the return required for its level of total risk.

☐ If the Fama's measure is positive, the fund has outperformed the benchmark index.

Computation Steps:

1. Compute Return from Portfolio
2. Compute Return mandated by total risk
3. Fama = Step 1 – Step 2

Formula : $Fama = RP - \{ R_f + (\sigma_j / \sigma_m) \times (R_m - R_f) \}$

Demystifying Fama:

1. Compute the risk-premium earned by the Portfolio
2. Compute the risk-premium from the Market
3. Identify the Beta of the portfolio and the total risk premium is Beta x Step 2
4. Compute total gain Step 1 – Step 3.
5. Compute appropriate premium for full diversification as
 $(\sigma_j / \sigma_m) \times (R_m - R_f)$
6. Compute net gain = Step 1 – Step 5

Rupee-Weighted Rate of Return:

- RWR Considers the intervening inflows and outflows of cash.
- Returns earned because of timing of cash flows.
- Returns bear a link with the timing when the Investors brought additional money or withdrew existing money.

Time-Weighted Rate of Return:

- TWR ignores the intervening inflows and outflows of cash.
- A more appropriate indicator of the Fund Manager's Skills.
- It can be computed by tracking what happens to Re. 1 of investment over the time horizon.