

Question Paper

Portfolio Management and Mutual Funds – II : October 2001

Part D : Case Study (50 Points)

- This part consists of questions with serial number 1 - 6.
- Answer **all** questions.
- Points are indicated against each question.
- Do not spend more than 80 - 90 minutes on Part D.

1. What are the different risk factors for investing in the scheme? Describe them.

(8 points)
2. Identify and describe an appropriate set of investment objectives and investment constraints for Mr. Poddar and write an investment policy statement based on these objectives and constraints.

(8 points)
3. Considering at the investment objectives of the scheme, do you agree with the asset allocation and selection strategy? Elucidate.

(6 points)
4. Rank the other three schemes on which Mr Poddar collected information, based on Treynor's and Sharpe's ratio. Which fund manager has been able to give abnormal returns?

(12 points)
5. What is the expected return from the fund? Show your calculations.

(6 points)
6. Construct an optimum portfolio from the equity stocks selected by the research department of the fund, using the Sharpes' optimization technique.

(10 points)

Mr. Kousik Poddar is a chief manager in a project construction company. He is around 38 years of age and has a son, who is reading in standard VIII. Mrs. Kousik Poddar like Mr. Poddar is also an engineer but works for a different firm. Mr. Poddar has recently got Rs.10 lacs from his company in the form of performance pay and bonus. Since the Poddars are quite well off and do not have immediate needs, Mr. Poddar thinks of parking his funds in an investment, which will give him relatively high return as well as relative safety. He plans to use the fund later in the future study of his son, like sending him abroad for higher studies. But since his son is now in standard VIII, the need may arise after say seven to eight years. Hence, in the mean time he wants the money to be invested.

With this in mind he fixes up an appointment with Mr. Pashupathi, fund manager, of a reputed fund management company. After going through what Mr. Poddar has to say, Mr. Pashupathi thinks that Mr. Poddar is best suited to invest his funds in a mutual fund. Mutual funds are relatively safe and at the same time gives the benefits of higher return. Hence, he chooses Birla Mutual Fund, the details of which are as follows:

I. BACKGROUND OF THE ASSET MANAGEMENT COMPANY PROMOTERS

The Aditya Birla Group

The Aditya Birla Group is a multinational group of companies, comprising some of the best-known companies in India. The manufacturing operations of the group extend across India, Thailand, Indonesia, Malaysia, the Philippines and Egypt. In India, the group companies have attained a leading position in a range of key core sector areas and rank among the country's largest, most profitable and fastest growing companies with an excellent track record of returns to investors. Some of the major companies in the Group are:

The above case is prepared only for the purpose of examination and not to illustrate either effective or ineffective performance of the fund. The case contains real information adapted and combined with other information to generate discussion or analysis on the desired topics.

Grasim Industries Ltd: The flagship company of the Aditya Birla Group, it is India's leading producer of viscose staple fibre. The diversified business lines of the company include cement, sponge iron, textiles, software and the export of agro products.

Hindalco Industries Ltd: The company is the largest integrated private sector aluminum producer in India, accounting for about 40 percent of the country's total aluminum production (Source CMIE). The company is also self-sufficient in terms of its power needs.

Indian Rayon and Industries Ltd: The company manufactures viscose filament yarn, textiles, grey and white cement, carbon black, insulators and caustic soda. It has a strong market position in all of its product lines.

Indo-Gulf Fertilisers and Chemicals Corporation Ltd: The company established the first gas-based fertiliser plant in the private sector. It is the largest urea producer in the private sector in India (Source CMIE). The company has recently implemented a 1,00,000 tonnes per annum copper smelting project.

Birla Global Finance Ltd: The company is an integrated financial services company. The services offered include asset-based financing, trade finance, collateral finance, money market operations, merchant banking and corporate advisory services. The company is engaged in stock-broking through subsidiaries.

Sun Life Assurance Company of Canada

Sun Life Assurance Company of Canada is a leading financial services organization, providing a diversified range of risk management, wealth management and money management products for individuals and corporations worldwide. Sun Life commenced business in Canada in 1871, and is headquartered in Toronto with major operations in Canada, the United States, the United Kingdom and Asia Pacific.

With company assets of Canadian \$101 billion, total assets under management of Canadian \$301 billion and a surplus of Canadian \$5.9 billion as of December 31, 1999, Sun Life's size is supported by its undisputed financial strength. It has consistently earned ratings that rank among the best in the North American financial services sector.

Sun Life has a major presence in the growing mutual fund markets through MFS Investment Management in the U.S., and through Spectrum United Mutual Funds in Canada. It is also active in the unit trust business in the U.K. and its near term plans include consideration of mutual fund offerings in the Philippines.

II. FUND ORGANISATION AND MANAGEMENT

Birla Mutual Fund has been constituted as a trust under the provisions of the Indian Trusts Act, 1882 (2 of 1882) and registered with SEBI bearing registration no. MF/020/94/8, dated December 23, 1994.

The Sponsors

The sponsors of Birla Mutual Fund are Birla Global Finance Ltd and Sun Life (India) AMC Investment.

The Trustee Company

Birla Sun Life Trustee Company Ltd. (BSLTC) is a company incorporated with limited liability under the Companies Act, 1956. Under the Trust Deed dated December 16, 1994 BSLTC has been appointed as the trustee for BMF with Birla Global Finance Ltd. as the Settlor.

III. HIGHLIGHTS OF THE SCHEME

- Open End Umbrella scheme with the objective of regular income through investments in a portfolio of fixed income securities normally maturing in line with the time profile of the respective plans.
- Scheme comprising a series of quarterly/ half yearly and yearly plans.
- Plans open for subscription during the said specified subscription period. After the expiry of the said Specified Subscription Period, the Plan will be temporarily closed for purchase of Units by the unit holders till the commencement of the next specified subscription Period.
- Initial Offer of units at Rs. 10/- and thereafter at NAV based prices.
- Choice of Dividend (Payout and Reinvestment) and Growth Plan under each investment plan
- Under the dividend plans of each investment plan, the scheme intends to declare quarterly dividends.
- Multiple tax benefits under the prevailing tax laws.

IV. SCHEME SUMMARY

Name of Scheme	Birla Fixed Maturity Plan
Nature of Scheme	Open-end Income Scheme
Scheme Objective	Scheme with the objective of regular income through investments in a portfolio of fixed income securities normally maturing in line with the time profile of the respective plans
Investment Plans	Quarterly Plan Group 1 Quarterly Plan Group 2 Quarterly Plan Group 3 Quarterly Plan Group 4 Half Yearly Plan Group 1 Half Yearly Plan Group 2 Yearly Plan Group 1 Yearly Plan Group 2 Yearly Plan Group 3 Yearly Plan Group 4 Each Plan to offer dividend (Payout & Reinvestment and Growth Option)
Asset Allocation	Corporate Debt Upto 20% Money market Upto 15% Equity Upto 60%
Face Value of Unit	Rs. 10/- per Unit
Issue Price	Rs. 10/- per Unit
Allotment	Full allotment to all valid applications.
Subscription Price (for ongoing subscriptions)	At NAV of that day plus subscription load not exceeding 6% thereon.
Subscription Amount	Rs. 1,00,000. Additional amounts in multiples of Rs.10,000
Redemption Price	At NAV of that day less redemption load not exceeding 6% thereon.
Load Structure	On any given day the difference between the redemption price and the subscription price of the units redeemed or issued on that day shall not exceed 7% of the subscription price.
Switch Over	Units issued under the Scheme can be transferred to the other domestic schemes managed by BSLAMC as per the load structure of the respective schemes.
Tax Benefits under the Income Tax Act, 1961	As may be available from time to time - Dividends tax free in the hands of the investor under the current provisions of the Income Tax Act. However, the scheme having an investment of less than 50% in equities would pay a dividend tax of 10% plus surcharge applicable on dividends declared.
Annual Accounting Date	31st March of each year.
Transparency	Declaration of NAV, Repurchase Price on every Business Day. Sale price on specific days. Quarterly Newsletter stating activities of the Scheme and detailed portfolio. Publication of Half Yearly and Annual Accounts.

Dividend Option

Under the Dividend Option of each of the above-mentioned plans, the scheme intends to declare quarterly dividends. Investors may choose between dividend payout and reinvestment. Reinvestment of dividends will be done at NAV related prices at the ex dividend NAV.

There is no assurance or guarantee to Unit holders as to the rate of dividend distribution nor that dividends will be regularly paid, though it is the intention of the fund to make regular dividend distributions under this Plan

Growth Option

Under the Growth Option returns come to investors in the form of capital appreciation as reflected in the NAVs. At the time of redemption, investors can avail of the Long Term Capital Gains Tax on the capital appreciation after taking into account the benefits of indexation for investments over 12 months.

Payment and Distribution Modes

The AMC will make arrangements to issue dividend warrants at designated centres as notified in the Application Form for subscription of Units under the Scheme. The AMC will endeavour to increase the number of locations where such warrants are payable at par at the centre nearest to where the investor resides. The cost of clearing these warrants will be borne by the investor.

V. INVESTMENT OBJECTIVES AND STRATEGY

Investment Objective

The primary objective of the scheme is to generate regular income through investments in debt and growth through investments in the equity market.

Income may be generated through the receipt of coupon payments or the purchase and sale of securities in the underlying portfolio.

ASSET ALLOCATION AND INVESTMENT POLICIES

The corpus will be invested in financial instruments like debt, money market instruments, units of other mutual fund schemes and equity including derivatives and other investments permitted by the regulations from time to time, with the objective of income generation.

	Asset Allocation
Corporate Debt	15-20%
Call Money or call linked Instruments	10-15%
Equity	50-60%
Units of other mutual fund schemes	Upto 5%
Derivatives	Upto 5%
GoI Securities	Upto 10%

Within the defined asset allocation parameters, there are many ways in which a portfolio can be constructed. Any specific asset allocation will be made keeping in mind the contemporary realities in the economy, financial system, investment as well as investors outlook.

The scheme may review the above pattern of investments based on views on interest rates and asset liability management needs. From time to time, it is possible that the portfolio may hold cash. However, at all times the portfolio will adhere to the overall investment allocation pattern as specified earlier. If the Scheme decides to invest in securitised debt, it is the intention of the Investment Manager that such investments will not, normally, exceed 95% of the corpus of the Scheme.

Selection Strategy

The investment strategy would emphasise investment in instruments that generate consistently superior yields at low levels of risk, and at the same time have maturities similar to the maturity of the overall plan. The investment focus will be on companies with a strong competitive position in good businesses, and having quality managements with strong balance sheet to assure us of a high margin of safety.

Investment Securities

To achieve the scheme objectives the Scheme will invest in a wide range of instruments including :

- Government of India Securities
- Obligations of Public Sector Undertakings (PSUs) including bonds, debentures and certificates of deposit
- Obligations of domestic public and private sector banks and development financial institutions including bonds, debentures and certificates of deposit.
- Obligations of domestic corporations, including bonds, debentures, non-convertible portion of convertible debentures, securitized debt and promissory notes, pass-through obligations, commercial paper and structured obligations.

- Call money, fixed deposit of domestic banks or corporations and other money market instruments as permitted by SEBI.
- Other domestic instruments listed or unlisted as may be offered in the domestic market and permitted by SEBI.
- Derivatives, options & any other investments permitted by regulations from time to time.
- The plans may also enter into repurchase and reverse purchase obligations in any or all securities held by it as per the guidelines and regulations applicable to such transactions.
- Equity of other companies

Investment limitations

The following investment limitations are presently applicable to the Scheme.

1. The scheme shall not invest more than 15% of its NAV in debt instruments issued by a single issuer which are rated not below investment grade by a credit rating agency authorised to carry out such activity under the act. Such investment limit may be extended to 20% of the NAV of the scheme with the prior approval of the Board of Trustees and the Board of the AMC. Provided that such limit shall not be applicable for investments in Government Securities and Money Market Instruments.
2. The scheme shall not invest more than 10% of its NAV in unrated debt instruments issued by a single issuer and the total investment in such instruments shall not exceed 25% of the NAV of the scheme. All such investments shall be made with the prior approval of the Board of Trustees and the Board of the AMC.
3. The Initial issue expenses in respect of any scheme will not exceed 6% of the funds raised under that scheme.
4. The AMC under all its schemes shall not own more than ten per cent of any company's paid up capital carrying voting rights.
5. The Scheme may invest in another scheme under the same asset management company or any other mutual fund without charging any fees, provided that aggregate inter-scheme investment made by all schemes under the same management or in schemes under the management of any other asset management company shall not exceed 5% of the net asset value of the mutual fund.
6. The scheme may buy or sell securities on the basis of deliveries and shall in all cases of purchases take delivery of relative securities and in all cases of sale, deliver the securities and will not make any short sales or engage in carry forward transactions or badla finance. Provided that the scheme shall enter into derivatives transactions in a recognised stock exchange for the purpose of hedging and portfolio balancing, in accordance with the guidelines issued by SEBI.
7. The scheme shall not make any investments in
 - a. Any unlisted security of an associate of Group Company of the sponsors
 - b. Any security issued by way of private placement by an associate or group company of the sponsors; or
 - c. The listed securities of group companies of the sponsor in excess of 25% or such other percentage limit on the net assets of the Fund, as specified by SEBI Regulations from time to time.
8. For investment in the equity of the companies the fund will follow the following specifications:
 - a. Should have been traded for the last 50% of the trading days.
 - b. The leverage should be less than 1.5
 - c. The average volatility for the last one-year should be less than 20%.
 - d. Should have a profitable record in 8 out of last 10 fiscal years.

Trading in Derivatives:

The Scheme may use derivatives instruments like Interest Rate Swaps, Forward Rate Agreements or such other derivative instruments as may be introduced from time to time for the purpose of hedging and portfolio balancing and as may be permitted under the Regulations and guidelines.

The Scheme shall under normal circumstances not have exposure of more than 25% of its net assets in derivative instruments. The AMC may, in times of market volatility and other abnormal market conditions increase

investments in derivative instruments unto a maximum of 50% of net assets under the Scheme, with a view to protecting the interests of the investors under the Scheme.

Based on the investment limitations and the investment policy, the research department of the fund has zeroed in on seven scrips , the details of which are as follows:

Name of the scrip	Return (%)	Total risk (%)	Beta
Tisco	16	20.00	1.2
Marico	17	21.26	1.08
ACC	17	18.65	1.11
Ranbaxy	16.4	19.18	1.1
Bata	15	17.66	0.95
Reliance	18	19.72	1.23
SBI	15	19.18	0.88

XIV FEES AND EXPENSES

Initial Issue Expenses

The Regulations provide that total initial issue expenses chargeable to the scheme shall not exceed six percent of the initial resources raised under that scheme during the initial offer period and any excess over the six percent initial issue expense shall be borne by the asset management company.

Category of Expenses	% to Target Mobilisation
Advertisement, Marketing, Printing & Distribution Expenses and Selling Commissions	0.3
Collection & Registrar	0.15
Bank Charges & Other Expenses	0.1
Total	0.55

The above percentages have been arrived at based on a target mobilisation of Rs. 1 lakh. The above estimates are subject to change as per actuals.

On an Ongoing Basis

The ongoing fees and expenses of operating the Scheme on an annual basis, expressed as a percentage of the amount of the Scheme's average weekly net assets, are estimated as follows:

Expense	Percent
Investment Management fees	0.50
Trustee fees	0.05
Custodial fees	0.05
Registrar's fees and related expenses	0.15
Marketing and Selling Expenses	0.25
Total Annual Recurring Expenses	1.00

Tax Benefits

Any income received in respect of Mutual Funds specified u/s 10(23D) is exempt u/s 10(33) of The Income Tax Act, 1961 ("the Act")

In respect of units held for a period of less than 12 months, short term capital gains would be taxable at the rates applicable under the relevant Finance Act and will depend on the total status/income of the investor.

Long-term Capital Gains in respect of Units held for a period of more than 12 months will be chargeable under Section 112 of the Income-tax Act, 1961, at a rate of 20% plus surcharge, if any. Capital gains would be computed after taking into account cost of acquisition as adjusted by Cost Inflation Index notified by the Central Government.

Finance Act 2000 has provided that an assessee will have an option to apply concessional rate of 10%, plus surcharge, if any to long term capital gains computed without adjusting cost of indexation.

In the case of unitholders other than a foreign company, in addition to the aforesaid tax, a surcharge of 10%/15% of such tax liability as may be applicable depending on the total income/status of the unitholder is also payable.

Mr. Pashupathi, has also collected information on the other schemes, the details of which are as follows:

Data on funds			
Fund	Return (%)	Beta	Unsystematic Risk (%) ²
I	31.89	2.23	400.26
II	32.36	2.18	518.26
III	18.86	1.88	148.25
IV	19.25	1.72	178.93

The historical average interest rates on different instruments are as follows:

364 days T-bill	7.25%
Corporate Debt	15.00%
Money market instruments	11.36%
GOI securities (5 years maturity)	12.50%
Average return on the market	18.00(%) ²
Volatility of market return	225(%) ²

END OF PART D

Part E : Caselets (50 Points)

- This part consists of questions with serial number 7 - 13.
- Answer **all** questions.
- Points are indicated against each question.
- Do not spend more than 80 - 90 minutes on Part E.

Caselet 1

Read the following caselet carefully and answer the following questions:

7. Discuss the advantage of debt instruments over other financial investments. Also describe the various segments of the Indian debt market?

(8 points)

8. While the fixed income securities market rose by leaps and bounds in other global markets, what are the reasons, for which Indian debt market is still at a nascent stage?

(8 points)

When a nation has capital, it can utilize it in two ways: either consume the capital i.e. spend it on things that will not give any future benefit or invest the capital into capacity building that will help the economy to grow. Sustainable economic growth is dependent on the level of investment activity. Therefore, industries and the government need money to grow. Household savings that accounted for 18.5 percent of the GDP (1999) is one of the key supply avenues. And the job of financial markets is to channelize this money into the industrial sector. In 1999, 10.9 percent of household savings was in the form of financial assets. However, a majority of this comprised of fixed deposits with the banks.

The development of these markets started in 1992, the year of glasnost (openness) and perestroika (restructuring) for India. The financial systems underwent changes as the country began its journey from a regulated to a free market economy. There were steps taken to de-regulate India's financial system and as a result interest rates would be increasingly determined by the market forces. The government began to borrow from the markets at rates determined by the market forces by a system of auctions. Previously this was being done at preannounced

rates. Other reforms instituted by the RBI in close coordination with Government of India included, introduction of new instruments such as zero coupon bonds, floating rate bonds and capital index bonds, introduction of Treasury Bills of varying maturities, conversion of Treasury Bills into dated securities and setting up system so that trading in debt instruments could be facilitated. This included the establishment of specialized institutions such as DFHI (Discount and Finance House of India) and STCI (Securities Trading corporation of India) as primary dealers in government securities. When the government auctions the debt instruments through the RBI, primary dealers are allowed to bid.

Caselet 2

Read the following caselet carefully and answer the following questions:

9. How has dividend stripping been a win-win situation for both investors and mutual funds prior to April, 2001?

(8 points)

10. How were the exchequer and the existing investors losing out due to the phenomenon of dividend stripping?

(8 points)

11. Do you agree with the suggestion of declaring dividend only out of income and not from capital reserves? What can be fall out if the suggestion is implemented?

(4 points)

Dividend stripping is a process, whereby an investor enters into the scheme just before or on the record date of dividend declaration. After becoming eligible for dividend, this investor immediately exists from the scheme, generally on the next working day. It had been a party time for both investors and mutual funds. The party is now over. Budget 2001 has plugged this loophole. Presented below the entire mechanics of the dividend stripping exercise and the tax benefits available till March 31, 2001 to an investor.

Mutual fund regulations require a scheme to announce a record date for dividend declaration in advance. The absence of any maximum time limit for announcement of dividend declaration by a scheme is exploited by mutual fund players. Mutual funds informally communicate the proposed dividend rate to their marketing associates, intermediaries and brokers in order to garner large subscription to their schemes. At the same time, AMC revises the entry load and introduces exit load into the scheme. This is done to protect the interests of the existing investors of the scheme and discourage sharp short-term movements of funds (inflow as well as outflow) into the scheme. On the record date, all investors are entitled to the dividend declared by the scheme.

The current SEBI regulations allow mutual funds to declare dividends subject to availability of distributable surplus. Mutual funds had been using the unclear SEBI guidelines and declaring dividends by making payment from capital/reserves instead of revenue income and capital profits. Funds are paying dividend out of the Equalization Reserves which is transferred to the revenue account. The Equalization Reserve is created on account of the difference between the sale price and the face value of the unit. Thus actually the payment is out of capital and not truly out of the income earned by the fund.

A new provision has been introduced to bring into tax ambit the notional short-term capital loss booked by investors on mutual funds. As per this provision, any investor who acquires mutual fund units before 3 months prior to the dividend record/distribution date and sells or transfers these units within a period of three months after the record date and obtains dividend income that is exempt from tax, then the capital loss arising from such purchase and sale will be ignored to the extent of the amount received as tax free dividend.

We feel that the new provisions for preventing dividend stripping will protect the interests of the long-term investors in mutual fund units. This is expected to considerably reduce the sharp short-term movement of funds into open ended equity oriented mutual funds.

However, the provisions became applicable with effect from April 01, 2001, large cases of dividend declaration by mutual funds in equity schemes was seen in March 2001. It is important for SEBI to come out with clear regulations which will allow mutual funds to declare dividends only out of income and not from capital/reserves. This is necessary for the long-term health of the mutual fund industry.

Caselet 3

Read the following caselet carefully and answer the following questions:

12. Investment is to diversify risk i.e., don't put all your eggs in one basket the essence being diversifying risk. What are the two different parts of risk? How do you differentiate asset allocation from diversification?

(6 points)

13. "Knowing how safe (or risky) a stock is can make a difference between making you a winner or loser as an investor". The key factors associated in assessing whether a stock's safety is suitable for investment.

(8 points)

Knowing how safe (or risky) a stock is can make the difference between making you a winner or loser as an investor.

I received a thing in the mail the other day called the "Hot Stocks Review." Phrases like "may even double again in the next twelve months," and "could have you crowing all the way to the bank" riveted my greedy eyes. Never one to pass up great investment opportunities, I decided to look into these "Hot Stocks." The blurb gave an 800 number of call for more information, but I prefer to do my own research.

The first thing I did was check my Vector Vest database of over 7,000 stocks. Only two of the 29 stocks recommended the "Hot Stocks Review" were covered by VectorVest.

This was not too surprising since only eight of the 29 stocks are traded on American stock exchanges. Both of the stocks covered by VectorVest had a below average Safety rating. Neither had a Buy recommendation. I found the same two stocks in Investors Alliance's Stock. Market Databank of over 5,000 stocks. One had a two diamond management rating, the other had a one diamond rating. Both stocks had a one diamond rating. Both stocks had the same comments on "Things to Review before Investing."

These were: Obviously, if one were to invest in any of these stocks they would have to believe the promotional material touting the stocks, or use the information sent by the companies. There are two problems here. First, it takes a lot of time and effort to analyze a company's financial statement, and though I wasn't sure, I wanted to do this even for the eight stocks traded on NASDAQ. Second, the investment caveats cited in company literature and prospectuses are designed more to protect the seller than the buyer. Of course, the publication featuring the "Hot Stocks Review" included the usual disclaimers that "all investments carry risks," and made it clear that "the publisher nor anyone else involved would be liable for any investment decision resulting from their recommendations. "That's fine, but how does one get a handle on finding out how risky a stock is anyway?

END OF PART E

END OF QUESTION PAPER

Suggested Answers

Portfolio Management and Mutual Funds – II : October 2001

Part D : Case Study

1.
 - i. **Interest Rate Risk:** As with all debt securities, changes in interest rates may affect the Scheme's Net Asset Value, as the prices of securities generally increase as interest rates decline and vice versa. Prices of long-term securities generally fluctuate more in response to interest rate changes than do short-term securities. Indian debt markets can be volatile leading to the possibility of price movements up or down in fixed income securities and thereby to possible movements in the NAV.
 - ii. **Liquidity or Marketability Risk:** This refers to the ease with which a security can be sold at or near to its valuation yield-to-maturity (YTM). The primary measure of liquidity risk is the spread between the bid price and the offer price quoted by a dealer. Liquidity risk is today characteristic of the Indian fixed income market.
 - iii. **Credit Risk:** Credit risk or default risk refers to the risk that an issuer of a fixed income security may default (i.e., will be unable to make timely principal and interest payments on the security). Because of this risk corporate debentures are sold at a higher yield above those offered on Government Securities which are sovereign obligations and free of credit risk. Normally, the value of a fixed income security will fluctuate depending upon the changes in the perceived level of credit risk as well as any actual event of default. The greater the credit risk, the greater the yield required for someone to be compensated for the increased risk.
 - iv. **Reinvestment Risk:** This risk refers to the interest rate levels at which cash flows received from the securities in the Scheme are reinvested. The additional income from reinvestment is the "interest on interest" component. The risk is that the rate at which interim cash flows can be reinvested may be lower than that originally assumed.
 - v. **Derivatives Risk:** Derivative products are specialized instruments that require investment techniques and risk analyses different from those associated with stocks and bonds. The use of derivative requires an understanding not only of the underlying instrument but also of the derivative itself. Derivatives require the maintenance of adequate controls to monitor the transactions entered into, the ability to assess the risk that derivative adds to the portfolio and the ability to forecast price or interest rate movements correctly. There is a possibility that loss may be sustained by the portfolio as a result of the failure of another party (usually referred as the "counter party") to comply with the terms of the derivatives contract. Other risks in using derivatives include the risk of mis pricing or improper valuation of derivatives and the inability of derivatives to correlate perfectly with underlying assets, rates and indices. Thus, derivatives are highly leveraged instruments. Even a small price movement in the underlying security could have a large impact on their value. Also, the market for derivative instruments is nascent in India.
 - vi. **Risks associated with stock lending:** The risks in lending portfolio securities, as with other extensions of credit, consist of the failure of another party, in this case the approved intermediary, to comply with the terms of agreement entered into between the lender of securities i.e. the Scheme and the approved intermediary. Such failure to comply can result in the possible loss of rights in the collateral put up by the borrower of the securities, the inability of the approved intermediary to return the securities deposited by the lender and the possible loss of any corporate benefits accruing to the lender from the securities deposited with the approved intermediary.
2. Investment objective: Safety with adequate return to beat at least the depreciation of the rupee and the inflation rate. The former is required in this case since Mr. Poddar plans to send his son abroad. Hence, when such need arises, Mr. Poddar is to be sure that the real value of the rupee remains at least equal to the beginning value. Hence, Mr. Poddar should want his investment to appreciate in the long term with minimal amount of risk undertaken.

Investment Constraints:

 - a. Liquidity: The liquidity needs for Mr. Poddar from the investment is minimal. Both Mr. And Mrs. Poddar works and they are also well off. Their son is in standard VIII and hence the time for higher studies is atleast seven to eight years away.
 - b. Time horizon: The time horizon is long term. Mr. Poddar is in the mid of his career and the need for his son will arise after seven to eight years.
 - c. Tax considerations (i.e., tax on interest income & capital gains): Mr. Poddar is pretty well-off. Hence, since the investment is long term in nature, with no liquidity constraints, the tax incidence is very minimal.

- d. Risk: The risk factor is high in such investments, especially since Mr. Poddar has to guard his investments against the depreciation of the rupee and also inflation. Hence the hurdle rate of return required is on the higher side. But since the time horizon for the investment is long, the same is minimized.

Investment policy statement: They should maximize total return with the above average risk taking ability and minimal liquidity needs, all in a long time horizon. Diversification should stress its positive role as a growth of capital enhancement technique. No income needs or other constraints require special attention.

3. The investment objective of the scheme states that “the primary objective of the scheme is to generate regular income through investments in the debt and money market instruments and growth through investments in the derivatives and equity markets. The income may be generated through the receipt of coupon payments or the purchase and sale of securities in the underlying portfolio”.

Mr. Poddar does not have the regular income needs. Therefore, the objective of the fund is not congruent with Poddar's need.

Further, typical asset allocation is:

Particulars	% of holding
Debt + Call money	30% (i.e., 20 + 10)
Equity	50%
Units of other mutual funds	5%
Derivatives + Govt securities	15% (i.e., 5 + 10)

The debt and call money percentage is low and the fund seems more tilted towards equity and growth. The fund also invests in derivatives. Hence, the fund is more risky. The variance of income will be high. The call money market is also very volatile and this volatility will creep into the fund's performance. The high risk of fund does not augur well with the safety requirement of Mr. Poddar.

4.

Data on funds						
Fund	Return (R_i)	Beta (β_i)	Sys Risk $\beta^2 \sigma_m^2$	Unsys Risk σ_{ei}^2	Total Risk (σ_i^2) in $(\%)^2$	(σ_i) in (%)
I	31.89	2.23	1118.9	400.26	1519.16	38.98
II	32.36	2.18	1069.3	518.26	1587.56	39.84
III	18.86	1.88	795.24	148.25	943.49	30.72
IV	19.25	1.72	665.64	178.93	844.57	29.06

Sharpe's Measure						
Fund	R_i	β_i	σ_i (%)	$(R_i - R_f)$	$(R_i - R_f) / \sigma_i$	Rank
I	31.89	2.23	38.98	24.64	0.632	1
II	32.36	2.18	39.84	25.11	0.630	2
III	18.86	1.88	30.72	11.61	0.378	4
IV	19.25	1.72	29.06	12.00	0.413	3

Trenor's Measure					
Fund	R_i	β_i	$(R_i - R_f)$	$(R_i - R_f) / \beta_i$	Rank
I	31.89	2.23	24.64	11.05	2
II	32.36	2.18	25.11	11.52	1
III	18.86	1.88	11.61	6.18	4
IV	19.25	1.72	12.00	6.98	3

To compare the performance of the fund managers we should check the Fama's net selectivity.

Fama's Total Selectivity						
Fund	R_i	β_i	$R_m - R_f$	$(R_m - R_f) * \beta_i$	$R_f + \beta_i \times (R_m - R_f)$	Return due to total selectivity $\alpha = R_i - [R_f + \beta_i (R_m - R_f)]$
I	31.89	2.23	10.75	23.97	31.22	0.67
II	32.36	2.18	10.75	23.44	30.69	1.67
III	18.86	1.88	10.75	20.21	27.46	-8.60
IV	19.25	1.72	10.75	18.49	25.74	-6.49

Fund III & IV above have earned less than required for this systematic risk

Fama's net selectivity							
Fund	R_i	(σ_i)	Market Risk (σ_m)%	$R_m - R_f$	$(R_m - R_f) \times \frac{\sigma_i}{\sigma_m}$	$R_f + \frac{\sigma_i}{\sigma_m} \times (R_m - R_f)$	Net selectivity $R_i - [R_f + \frac{\sigma_i}{\sigma_m} (R_m - R_f)]$
I	31.89	38.98	15	10.75	27.93	35.18	-3.29
II	32.36	39.84	15	10.75	28.55	35.80	-3.44
III	18.86	30.72	15	10.75	22.01	29.26	-10.40
IV	19.25	29.06	15	10.75	20.83	28.08	-8.83

All of the funds have set selectives as negative which means all of them have not earned the return required for diversifiable risk.

5. Considering the typical Asset Allocation:

Corporate debt	-	20%
Gol securities	-	10%
Call money	-	10%
Equity	-	50%
Derivatives & units of other mutual funds	-	10%
Total	-	100%

Further, assuming the return from derivatives products and investment of units of other mutual fund as nil we get:

$$\begin{aligned}
 \text{Return} &= (0.2 \times 0.15) + (0.1 \times 0.125) + (0.1 \times 0.1136) + (0.5 \times 0.180) + 0.1 \times 0 \\
 &= 0.03 + 0.0125 + 0.01136 + 0.09 + 0 \\
 &= 0.14386 \text{ i.e., } 14.39\%.
 \end{aligned}$$

6.

Name of the scrip	Return (%)	σ_i (%)	σ^2 (%)	Beta	(β^2)	Systematic risk ($\beta^2 \sigma_m^2$) (%) ²	Unsystematic Risk $\sigma_{ei}^2 = \sigma_i^2 - \hat{\alpha}_i^2 \sigma_m^2$ (%) ²
Tisco	16	20.00	400.00	1.2	1.44	324.00	76.00
Marico	17	21.26	452.00	1.08	1.1664	262.44	189.56
ACC	17	18.65	348.00	1.11	1.2321	277.22	70.78
Ranbaxy	16.4	19.18	368.00	1.1	1.21	272.25	95.75
Bata	15	17.66	312.00	0.95	0.9025	203.06	108.94
Reliance	18	19.72	389.00	1.23	1.5129	340.40	48.60
SBI	15	19.18	368.00	0.88	0.7744	174.24	193.76

Market return = 18%						
Risk free = 7.25%						
Market variance = 225% ²						
Name of the scrip	Return (%)	$R_i - R_f$	Beta	$(R_i - R_f)/\hat{\alpha}_i$	Unsystematic Risk $\hat{\sigma}_{ei}^2$ (%) ²	Rank
Tisco	16	8.75	1.2	7.29	76.00	7
Marico	17	9.75	1.08	9.03	189.56	1
ACC	17	9.75	1.11	8.78	70.78	3
Ranbaxy	16.4	9.15	1.1	8.32	95.75	5
Bata	15	7.75	0.95	8.16	108.94	6
Reliance	18	10.75	1.23	8.74	48.60	4
SBI	15	7.75	0.88	8.81	193.76	2

Rank	Name of the Scrip	$\frac{R_i - R_f}{\hat{\alpha}_i}$	$\hat{\sigma}_{ei}^2$	β_i	$(R_i - R_f) \times \beta_i$	$\frac{(R_i - R_f)\hat{\alpha}_i}{\hat{\sigma}_{ei}^2}$	$\Sigma \frac{(R_i - R_f)\hat{\alpha}_i}{\hat{\sigma}_{ei}^2}$	$\frac{\hat{\alpha}_i^2}{\hat{\sigma}_{ei}^2}$	$\Sigma \frac{\beta_i^2}{\sigma_{ei}^2}$
1	Marico	9.03	189.56	1.08	10.53	0.0555	0.0555	0.0062	0.0062
2	SBI	8.81	193.76	0.88	6.82	0.0352	0.0907	0.0040	0.0102
3	ACC	8.78	70.78	1.11	10.81	0.1527	0.2434	0.0174	0.0276
4	Reliance	8.74	48.60	1.23	13.22	0.2720	0.5154	0.0311	0.0587
5	Ranbaxy	8.32	95.75	1.10	10.07	0.1052	0.6206	0.0126	0.0713
6	Bata	8.16	108.94	0.95	7.36	0.0676	0.6882	0.0083	0.0796
7	Tisco	7.29	76	1.20	10.50	0.1382	0.8264	0.0189	0.0985

Rank	Name of the Scrip	$\frac{R_i - R_f}{\hat{\alpha}_i}$	$C = \frac{\hat{\sigma}_m^2 \hat{\sigma}_{ei}^2 (R_i - R_f) \hat{\alpha}_i}{1 + \hat{\sigma}_m^2 \hat{\sigma}_{ei}^2 \frac{\hat{\alpha}_i^2}{\hat{\sigma}_{ei}^2}}$	$Z = \frac{\hat{\alpha}_i}{\hat{\sigma}_{ei}^2} \times \left[\frac{R_i - R_f}{\hat{\alpha}_i} - C^* \right]$ [where, C* = 8.1933]
1	Marico	9.03	5.2124	0.00477
2	SBI	8.81	6.1935	0.00280
3	ACC	8.78	7.5957	0.00920
4	Reliance	8.74	8.1622	0.01384
5	Ranbaxy	8.32	8.1933	0.00146
6	Bata	8.16	8.1885	
7	Tisco	7.29	8.0276	$\Sigma Z = 0.03207$

Hence advised proportion to be invested in the scrips are as under:

$$\begin{aligned}
 \text{MARICO} &= \frac{0.00477}{0.03207} = 0.1487 \text{ i.e. } 14.87\% \\
 \text{SBI} &= \frac{0.00280}{0.03207} = 0.0873 \text{ i.e. } 8.73\% \\
 \text{ACC} &= \frac{0.00920}{0.03207} = 0.2869 \text{ i.e. } 28.69\% \\
 \text{RELIANCE} &= \frac{0.01384}{0.03207} = 0.4316 \text{ i.e. } 43.16\% \\
 \text{RANBAXY} &= \frac{0.00146}{0.03207} = 0.0455 \text{ i.e. } 4.55\%
 \end{aligned}$$

Part E: Caselets

Caselet 1

7. A bondholder who has fixed returns, enjoys the rise in price when the interest rates decline. The retail investor in India did not have much of a choice. Either he was at the mercy of the banks for fixed deposits or at the mercy of the securities and real estates which are risky. The numerous scams have time and again highlighted the poor efficiency of the equities markets in the country. Also due to the inherent uncertainty in returns, these markets did not suit the risk appetite of many investors. Therefore, the need of the hour is to have a market in which the price discovery is far more realistic, market determined and more in favour of the investor. Also important is liquidity. The answer to this is debt markets, where instruments with fixed returns could be traded.

The debt market in India can be divided into two categories:

- i. the govt. securities market or the G – Sec markets consisting of central govt. and state govt. securities;
- ii. bond market consisting of FI bonds, PSU bonds and corporate bonds/debentures.

The govt. securities segment is the most dominant category in the debt market.

8. The development of the debt market has been hindered by the lack of awareness amongst the retail investors. The investors have to be made aware that there is an avenue other than equities market where instruments can be traded just like equities. The interesting thing is that the amount of risk associated is far lower in case of bonds/debentures as compared to equities. Also, the returns are better than those offered by fixed deposits in banks. These instruments also have high liquidity. The other factors that have hindered the growth of the debt markets are the lack of infrastructure for price discovery and price information dissemination. The retail investors do not understand the mechanics of these markets as regards to pricing of the instruments. Therefore, the areas that need attention are investor education and creating a robust system that will allow this market to develop.

Caselet 2

9. Prior to April 2001, the benefits to the investor and mutual funds were as under:

- i. First of all the investor got tax free dividend in his hands. Secondly, he made short-term capital loss which was allowed to be adjusted against capital gains (either short-term or long-term) made by the investor in the same financial year. This capital loss occurred on account of difference between entry price (inclusive of entry load and dividend) and existing price (adjusted for dividend and inclusive of exit load).

Further the short-term capital loss by the investor is allowed to be carried forward for set off against the capital gains head up to eight subsequent assessment years. Apart from it the investors also received a portion of the load charged by mutual fund in cash popularly known as incentive payment, which was never recorded in the books.

- ii. The assets management company (AMC) is allowed to charge a maximum of 2.5% of average weekly net assets of the fund (which reduces by 0.25% depending on the incremental assets added by AMC) towards all their expenses in a financial year. After adjusting for the payout to the brokers and investors AMC's are generally able to retain 2% of the net load charged to the investors. Thus large subscriptions to the schemes and higher proportion of retained loads meant substantial accretion to the revenues of the AMC.

10. The Income Tax department lost on two counts. First, the dividend distributed by the equity scheme of a mutual fund are not subject to dividend distribution tax. This is because existing provisions of income tax exempts schemes, which have at least 50% of their assets in equity. Secondly, the notional capital loss was set off against actual short term capital gains made by investors.

The long-term investors were also losers in the dividend stripping. This is because fund managers generally deploy funds receivable before the dividend payout into short-term money call market instruments in this period. The existing investors lose out on the returns which would have been possible had there been an optional portfolio allocation.

11. No. The new provisions of budget 2001 has taken care of the players moving in and out of scheme just before and after of dividend declaration date. With the new provisions it is well neigh impossible to get the double benefits of tax free dividend as well as claim under capital loss.

The distribution of dividends from equalization reserves should be continued seeing the very nature of operation of Mutual Funds in fact, equalization reserve is created on account of the difference between the sale price and the face value of the unit. The reserve is made by debiting the same to revenue account hence the buffer helps to ward off the temporary market sentiments to impact the dividend disbursements.

In the scenario of dividend being changed to revenue account a plethora of new issues will crop up leading to further pressure on Mutual Fund which the present mutual fund industry can ill afford.

Caselet 3

12. Risk has two parts: (a) The probability of the occurrence of an unfavourable outcome and (b) The consequence derived from that unfavourable outcome.

Simply put investment risk entails the probability of losing money, and the pain associated with the loss. Each of us needs to know how much money we can afford to lose on any single investment. Once we have established over “tolerance for risk”. We can focus on assessing the risk involved with individual stocks.

Many investors believe that a diversified portfolio is all they need to balance the risks of investing. While the two concepts are related, asset allocation takes the process one step further. Diversification means spreading one’s money among different investments, asset allocation diversifies a portfolio among different asset classes such as stocks, bonds, cash equivalents, real estate and other tangible assets. Both concepts work to lesser the risks of investing, but each should be incorporated into the investment plan, as they generally work even better together.

13. a. Earnings Consistency: The larger risks that shareholders have is that company fails to meet earnings expectations. Therefore, the single most important factor in assessing stock safety is in quantifying the probability that quarterly earnings will meet investor’s expectations. If a company has a well established track record of consistent earnings performance, it is much more likely to meet the market’s expectations.
- b. Company size: It is generally true that the stocks of large companies are safer than those of smaller companies.
- c. Price behaviour: High beta stocks are more volatile than the market, and loss predictable. Therefore, they are riskier than the market. Ironically, they are not necessarily riskier than some low beta stocks. Absolute price behaviour not only provides an unequivocal measure of volatility, but it allows one to assess risk in relation to the stock’s price history. Since all things tend to move towards a mean, stocks which are above their price moving averages are more likely to move up. Therefore, a stock which move well above its price moving average is riskier than one which move well below its price moving average.
- d. Longevity: It is better to deal with the devil you know, than with the one you don’t. All other factors being equal, there’s less risk in dealing with a company with a long track record than one which is brand new.
- e. Dividend History: A company doesn’t have to pay a dividend to have a very safe stock. But if does pay a dividend it must maintain or increase the dividend without exception.
- f. Debt / Equity Ratio: Beware of companies with excessive debt. Don’t be fooled by the line about valuing a company based upon its cash flow. A company that cannot report positive earnings after interest and tax payments is in big trouble no matter how you slice it. Safety stocks belongs to companies with low debt / equity ratios.