

Question Paper

Portfolio Management and Mutual Funds – II : April 2002

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.

Case Study

Read the case carefully and answer the following questions:

1. Prepare a comprehensive investment strategy for Mr. Singh clearly mentioning the investment objectives and constraints.

(9 points)
2. Based on the information given in the case, what is the outlook for investments in debt and equity in the next few years? Explain.

(6 points)
3. Prepare an investment plan using the strategy of dedication with zeros (zero coupon bonds) so that the funds required for the education of Mr. Singh's children can be provided. Calculate the duration of the resulting portfolio of zero coupon bonds at the beginning of the first year.

(7 + 3 = 10 points)
4. If sensex futures are currently trading at 3635, with a multiple of 50, how many contracts should the portfolio manager buy/sell to make the beta of the stock portfolio 1.05 and that of the total portfolio (debt and equity) 0.75?

(7 points)
5. Determine whether returns from the shares identified are according to the single factor model developed by the portfolio manager and show how arbitrage profits can be made using deviations if any.

(8 points)
6. Describe the different types of bond swaps that can be used to improve the performance of a bond portfolio.

(10 points)

Mr. Sunder Singh is currently thinking of entrusting his surplus of Rs.40 lakhs with M/s. Trust & Co., a firm offering portfolio management services. M/s. Trust & Co. currently manages the portfolios of high networth individuals for a fee. The track record of M/s. Trust & Co is quite noteworthy. It has consistently outperforming the sensex for the last 5 years. It believes in passive portfolio strategies and hence does not churn portfolios much. This saves transaction costs which in turn result in higher returns.

The portfolio manager of the company had a meeting with Mr. Singh, during which he tried to understand the needs of Mr. Singh. He noted the following points:

1. Mr. Singh is 44 years of age. His wife, Parul is a housewife. They have two children, a son and a daughter. His son is planning to pursue education in medicine. His daughter just passed the X standard. She later plans to become a software engineer.
2. He is in the computer hardware business, the sector which is not doing particularly well. However, his business is profitable and every year there is likely to be a surplus of Rs.3 lakhs.
3. Total current running expenditure of the family is Rs.20,000 p.m. Other than the business and the investments, there are no other sources of income for him.
4. Mr. Singh wants to send his son abroad for higher studies in about 7 – 8 years from now.
5. He plans to obtain substantial capital gains from his investment to finance (partly) his plans for establishing a hospital for his son in 10 – 12 years from now. His total investment needs are expected to be around Rs.75 lakhs and he wants to be able to obtain at least 50% of it from his investments.
6. He wants a substantial portion of the services of the hospital to be offered to weaker sections of the society and wants to build an endowment of Rs.25 lakhs for it.

The research division of M/s. Trust & Co. has come up with the following general findings on the economy and the capital markets.

1. The outlook for the growth of the economy is encouraging. The growth rate of the current year (of GDP) is higher than last year and may further increase next year.
2. The fiscal deficit for the current year is more than expected by and may be above 5% of GDP. Hence the government is expected to borrow heavily from the markets.
3. The industrial production fell steeply and may continue to do so. The growth of GDP may be led by the agricultural and service sector.
4. The P/E multiples of stocks in most of the sectors have been falling. If the performance of the industry is poor, the same trend may continue.
5. There may be no major equity or debt issues in the market. Debt issues are being made mostly through the private placement route.
6. The investment of FIIs has been positive and may continue to be so in the near future.
7. Exports will continue to fall and imports are likely to show an upward trend.
8. The government may continue to push interest rates further down. At the same time, the borrowings of the government are rising, while the credit raised by the private sector is falling.
9. The position of foreign exchange reserves is comfortable and there is unlikely to be any pressure on the rupee.
10. The introduction of rolling settlements and instruments for hedging are likely to bring down the volatility of the markets.

The bond investment desk of the firm generally invests in any (but not exclusively) of the following securities:

1. Securities created and issued by the central and state governments and/or repos/reverse repos/in such Government securities as may be permitted by RBI (including but not limited to coupon bearing bonds, zero coupon bonds and treasury bills).
2. Securities guaranteed by the Central, State Governments and local bodies (including but not limited to coupon bearing bonds, zero coupon bonds and treasury bills).
3. Debt obligations of domestic government agencies and statutory bodies, which may or may not carry a Central/State Government guarantee.
4. Corporate debt of both public and private sector undertakings.
5. Obligations of banks (both public and private sector) and development financial institutions.
6. Money market instruments as permitted by SEBI/RBI, having maturities of up to one year and more than one year, in call money market is in alternative investment for the call money market as may be provided by RBI to meet the liquidity requirements.
7. Certificate of deposits (CDs).
8. Commercial paper (CPs).
9. Bills of exchange/Promissory notes.
10. Securitised debt.
11. Privately placed debentures.
12. Interest rate strips.
13. Any other domestic fixed income securities.
14. Derivative instruments like interest rate swaps, forward rate agreements and such other derivative instruments permitted by SEBI/RBI.

The securities mentioned above could be listed or unlisted, secured or unsecured, rated or unrated and of varying maturity. The securities may be acquired through primary issues, secondary market operations, private placement, rights offers or negotiated deals.

The portfolio manager of the company advised Mr. Singh that in view of his unwillingness to take chances about the availability of funds for the education of his children, he should invest the money required for it only in debt related instruments. The rest may be invested in stocks. *That is, the portfolio should be divided equally between equities and debt.* The funds requirement of Mr. Singh, to finance the education of his children, is projected to be as follows:

End of Year	Liability (Rs. lacs)	End of Year	Liability (Rs. lacs)
1	2.00	5	3.00
2	3.00	6	4.00
3	3.00	7	12.00
4	5.00		

While the portfolio manager generally suggests its clients to invest in debt instruments of different credit qualities to enhance the yield, for Mr. Singh, the portfolio manager suggested only top rated instruments, keeping in view his risk aversion. To remove all uncertainty regarding availability of cash, he suggested the strategy of dedication with zero coupon bonds. The yields on the zero coupon bonds being considered for investment are as follows:

Days/Years	Yield %	Years	Yield%
0 – 91 days	6.78	4 years	10.50
91 – 180 days	7.25	5 years	10.75
181 – 360 days	8.25	6 years	11.25
2 years	9.30	7 years	12.15
3 years	10.00	8 years	13.00

The portfolio manager further suggested that the yield on the bond portfolio can be improved and the risk reduced by using bond swaps.

The portfolio manager also suggested investment in the following stocks to which Mr. Singh agreed:

Stock	Return in past one year (%)	Standard deviation of return (%)	Beta
Contech Soft	14.00	25.00	1.50
Adventis Pharma	12.00	17.00	1.25
Prism Cement	4.75	12.00	1.35
KLG Steel	17.00	20.00	0.75
Lyca Products	14.90	18.00	0.95

Investment is proposed to be made equally in all the above stocks. The portfolio manager analyzed the stock prices of the above stocks for the past 4 – 5 years in relation to various factors that may explain changes in stock prices. He finally arrived at a single factor model which he thinks can be used to predict the returns on the stocks. The model is:

$$E(r_i)\% = 10 + 2.35\beta$$

Where $E(r_i)$ is the expected return on the stock and b represents the beta of the stocks as given above.

The returns of the stocks selected independent of the model developed are expected to be as follows:

Stock	Return (%)	EPS (Rs.)
Contech Soft	13.53	2.00
Adventis Pharma	15.00	12.00
Prism Cement	13.17	8.00
KLG Steel	11.76	25.00
Lyca Products	10.50	20.00

END OF PART D

Part E : Caselets (50 Points)

- This part consists of questions with serial number 7 - 14.
- 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. According to the caselet, holding a bond fund is better than holding individual bonds, as bond funds provide diversification. How does diversification help in the context of a bond portfolio? Explain.

(6 points)
8. How does the yield spread between the high yielding and high-risk bonds and the low yielding and safe bonds change during economic booms and recessions? Explain.

(6 points)
9. Conservative and careful investors are referred to as Guardians according to the Bielard, Biehl and Kaiser five-way model. Describe the other types of investors according to the model.

(5 points)

Conservative investors seek the advice of the professionals in their investment decisions. Holding cash is not advisable especially in declining interest rate scenario. When inflation is taken into account the yield will be negative. So, professional money managers make their presence felt in such situations. Some money managers prefer to lock their funds in a mixture of equity and bond portfolio. It is a general opinion that bonds play an important role in a long-term portfolio.

The preferred strategy is to buy bond funds as a transitional play with a view to switch over to equity in the next six to eight months. The preference of bond funds to individual bonds is to achieve diversification. Another variant of bond funds is guaranteed funds which serve as a good bridge product allowing people to preserve their capital while at the same time provide upside potential. The main purpose of the guaranteed funds is that the principal is guaranteed and if the invested funds yield a positive return, there is a good chance of obtaining reasonable returns too.

But these guaranteed funds are not always the choice of all the money managers though many of them still favor them. The indifferent money managers argue that the investors can build such funds on their own by buying T-bills and either a basket of securities or even an indexed mutual fund. Furthermore, the upside potential of the funds are capped and the exit penalties for withdrawing from the funds are unattractive. Another alternative suggested was enhanced cash fund. In this fund, the average life of the underlying assets is nine months. As the rates are being cut, the investors enjoy a roll down effect since the portfolio yields do not adjust immediately whereas in overnight markets re-pricing is immediate. The high yield corporate bond market is to be assessed as these are issued by the corporate issuers with below investment grade credit ratings. The industry tends to focus on how these trade relative to treasuries of comparable duration. Despite the risks involved in such investments the money managers are considering this avenue because of the positive statistics. It is argued that high yields have low correlation with equities and other high grade fixed income.

Hedge funds are also delivering fantastic absolute and relative returns. Net inflow in the global hedge funds are increasing the market-neutral hedge fund is becoming more popular because they are usual risk controlled and will be indifferent to the performance of the market. However, hedge funds are complex to deal with money managers view that hedge funds should only be bought by less sophisticated investors by which they can get a diversity of funds and wider range and quality of hedge fund managers.

Caselet 2

Read the following caselet carefully and answer the following questions:

10. What are the measures suggested by the Tarapore Committee to improve the functioning of the UTI?
(8 points)
11. Do you agree that the repurchase of units is unjust towards the unit holders who choose to retain their units? Explain.
(6 points)
12. UTI, once again, is assuring a minimum repurchase price to small investors. What are the implications of such assurances for the management of the fund?
(6 points)

India's largest mutual fund, the Government-owned Unit Trust of India (UTI), has been grabbing headlines with its initiative to go in for a restructuring process particularly for Unit Scheme-64 (US-64) which is now taking shape. However, the main thorny issue which remains is whether this process will install investor confidence.

The US-64, the flagship scheme of UTI, the most sought after mutual fund in the country, is today in the midst of a crisis. Although UTI created several schemes, none of them came anywhere close to enjoy the level of success that was achieved by US-64. Beginning July 2001, retail investors were hurt bitterly when it came to light that the mammoth financial institution, in which they reposed all their faith, stopped repurchase and sales of units of US-64. The investor anxiety further deepened recently with the strictures passed by the expert committee – under S S Tarapore – that was setup by the Government, revealed that its portfolio contained a lot of lemons.

However, UTI restored the sales and repurchase facility for unitholders up to 3000 units from August 1, 2001 and this was further enhanced to 5000 units with effect from January 1, 2002. While speaking to The Hindu, the UTI Chairman M Damodaran said, "We felt it was necessary to help the investors who have been with us for a long time," He also reiterated that the limited repurchasing facility started from August 1, 2001 would continue to operate till May 31, 2003. Investors are certainly believing him and this is evident from the fact that post August 1, 2001 and post January 1, 2002, contrary to many analysts predictions, there was an absence of serpentine queues outside UTI offices for redemptions.

A welcome development at the end of December, 2001 was that for the first time in the history of US-64, UTI announced its net asset value (NAV) so that investors will now know the market value of their investment. This is a primary requisite of a mutual fund scheme stipulated by the Securities and Exchange Board of India (SEBI). Further, UTI has also lived up to the commitment it had given. "It is a welcome step and also the package they have announced is encouraging," said AP Kurien, Chairman, Association of Mutual Funds in India (AMFI). Up to 5,000 units, the investors will get an administered price which may go up to Rs.12 per unit by May 2003. And even thereafter the value has been assured at Rs.10 or NAV whichever is higher. This, in essence, should give comfort to individual investors.

As the longest serving Executive Trustee of UTI, Kurien feels this as an encouraging, helpful package that has been announced by UTI. According to him, "Investors should patiently wait and as the market improves they may reap greater returns. Unit Trust is an institution of national heritage and it enjoys an investor base that encompasses every taluk of the country. The package will go a long-way in protecting the interest of the small investors spread across the country."

However, another school of thought believes that the limited repurchase facility is essentially a scheme that robs Peter (the unitholder who is denied the use of the facility) to pay Paul (the unitholders who use the facility). "Given this inherent inequity of the scheme, I disagree with the measure," said Samir K Barua, Professor, Indian Institute of Management, Ahmedabad. "Enhancement of the repurchase facility to 5,000 units from 3,000 units therefore in my view accentuates the inequity and violates the rights of investors who are forced to stay invested in the scheme," he added.

Caselet 3

Read the following caselet carefully and answer the following questions:

13. According to the caselet, the tax laws helped in promoting the buy and hold strategy. Do you agree? Explain.

(5 points)

14. Do the reasons mentioned in the caselet against long-term investing hold good in India? Explain.

(8 points)

Buy-and-hold investing was never as smart as Warren Buffett made it look. Good things come to those who wait. Better a tortoise than a hare. Patience is a virtue. Conventional wisdom touts that long-term investing is the best way to maximize returns. Now, however, is the perfect time for a deeper reconsideration of the idea, as this may prove disastrous for investors. Investing in even the so-called good companies has just become another kind of gambling and the so-called flight to safety is a rush toward another kind of risk. Buffett helped buy and hold to its current sheen, the tax code helped institutionalize it.

Sometimes long-term investing can prove to be painfully long. Investors in the late 1960s had to wait until the early 1980s for their portfolios to recover. It may be the best approach in the best of times. The recent flamed-out longest bull market had more than its share of examples in which a long-term strategy even in growth companies would have yielded only average success. Long-term investing has its own inherent flaws that are more dangerous in today's economic environment. There are 10 reasons supporting the view.

Globalization enables continuous innovation that accelerates the rate of change, which means an acceleration of risk. Thus, a long-term strategy can blindside an investor. As the companies are reinventing themselves the company in which one has invested may not remain the same. As the future course of events are unpredictable and has a chance of drifting, the long-term hold is out of rhythm as against one's short-term life. Technology, Internet and global supply chain have lowered entry barriers in virtually every business and accelerated competition. The development of venture financing forced companies to innovate and no market leader is safe today. Market-leading companies are complex entities dependent on management talent and retaining talent is becoming more and more difficult. The implication for long-term investors is harrowing. History does not repeat itself; the experts and professionals discarded long-term investing ages ago. Today the average portfolio turnover rate for an actively managed fund has increased to 90 percent and a buy and hold strategy doesn't work, if the rate exceeds 20 percent. We live in a culture of impatience and long-term hold strategy tests the patience of the investors. Big companies grow slowly and all companies are dependent on foreign economies, so buy and hold doesn't work.

A study by CPSB notes that the average life of a company in the S & P 500 is less than 15 years and on an average businesses die before their shareholders. The investors need to devise new sets of analytics to find where a company stands in its life cycle. They also need to diversify portfolios and drop the weaker ones.

END OF PART E

END OF QUESTION PAPER

Suggested Answers

Portfolio Management and Mutual Funds – II : April 2002

Part D : Case Study

1. **Objectives:**

Returns Required:

- Presently, Mr. Singh does not need any regular income from his investments. He has surplus earnings and is in a position to invest money from his earnings. Investments in debt securities are required only from the point of view of safety of investment and not for regular income.
- High returns are not required from the equity investment of Rs.20 lakhs if it should increase to Rs.37.5 lakhs as required. In fact, the return required over a 10 year period for an investment of Rs.20 lakhs to increase to Rs.37.5 lakhs in just 6.5%. Considering this, if Mr. Singh wants to be content with just 50% of the total amount, even debt investment can provide it. Investing in equity, for the risk involved, should provide the entire Rs.75 lakhs, at a rate of return of about 14%.
- However, Mr. Singh also needs to generate an additional Rs.25 lakhs as an endowment for providing free services. For generating this as well, the return required from equities goes upto around 17.5%.
- As there is a substantial surplus from the business and no additional yearly investments are being planned, it is not necessary to plan for the old age requirements of Mr. Singh and Mrs. Singh from these funds. The same applies to the money required for the marriage of Mr. Singh's daughter.

Risk Tolerance:

- The risk tolerance is very low as far as the funds required for the education of the children is concerned.
- The risk tolerance may be moderate for the funds required for the hospital and the endowment, as they are not as crucial as the education of his children. And, a moderate to high level of risk tolerance will be required to generate a return of 17.5%.
- If the risk level should be reduced, additional investments will be called for from Mr. Singh.

Constraints

- **Liquidity:** There are no liquidity requirements.
- **Time period of investment:** The time period is quite long for suitable investments to be made. A period of 10-12 years is long term.
- **Taxes:** Mr. Singh falls into a high tax bracket due to his high income. Tax savings should also be considered while making investments.

Other circumstances: Mr. Singh's desire for the endowment of Rs.25 lakhs pushes up the return required and also the risk tolerance required along with it.

2. **Outlook for equity investments:**

- The possibility of the industry not performing well reduces the attractiveness of equity investments.
- This is supported by the poor credit offtake of the corporate sector and falling index of industrial production.
- The continued fall of PE multiplies increases the risk of the equities.
- Positive investment by FIIs is a good sign.

Thus, the overall outlook for equities is not attractive.

Outlook for debt investments:

- The continuous fall in interest rates may give rise to capital gains.
- Continuous and heavy issues by the government may crowd out private issuers and push up interest rates.
- With the performance of the corporate sector likely to be moderate to dull, the credit quality of issues may deteriorate.

On the whole, the outlook for debt investments is moderate.

3.

Year	Liabilities (Rs. in lakhs)	Current purchase (Rs. in lakhs)	Maturity value (Rs. in lakhs)	Yield locked by zero coupons (%)
1	2.00	1.85	2.00	8.25
2	3.00	2.51	3.00	9.30
3	3.00	2.25	3.00	10.00
4	5.00	3.35	5.00	10.50
5	3.00	1.80	3.00	10.75
6	4.00	2.11	4.00	11.25
7	12.00	5.38	12.00	12.15

The duration at the beginning can be calculated as follows:

Maturity (and Duration)	Amount (Rs.)	Proportion	Weighted duration
1	1.85	0.096	0.096
2	2.51	0.130	0.260
3	2.25	0.117	0.351
4	3.35	0.174	0.696
5	1.80	0.093	0.465
6	2.11	0.110	0.660
7	5.38	0.280	1.960
	19.25		4.488

The duration of the portfolio at the beginning is 4.49 years.

4. i. The beta of the stock portfolio if investment is made equally in all the given stocks is

$$\beta = (1.50 + 1.25 + 1.35 + 0.75 + 0.95) \div 5 = 1.16.$$

If the beta should be brought down, futures contracts should be bought. The number can be calculated as follows:

Portfolio value = Rs.20 lakhs

With the purchase or sale of futures the total value of the investment does not change. Only reallocation changes. Therefore,

$$20 \times 1.16 + x \times 1.0 = 1.05 \times 20$$

$$\Rightarrow x = 2.2 \text{ lakhs}$$

$$\text{Number of futures contract bought} = \frac{2.2 \times 100000}{3635 \times 50} = 1.21 \text{ contracts.}$$

ii. Value of total portfolio = Rs.40 lakhs

Beta of debt = 0

Beta of equity portfolio = 1.16

Beta of total portfolio = 0.58

Again, to get target beta futures contracts should be bought

$$20 \times 0 + 20 \times 1.16 + x \times 1.00 = 0.75 \times 40$$

$$\Rightarrow x = 0.75 \times 40 - 20 \times 1.16$$

$$= 6.8 \text{ lakhs}$$

$$\text{Therefore, number of futures contracts bought} = \frac{6.8 \times 1,00,000}{3,635 \times 50} = 3.74 \text{ contracts.}$$

5. The returns from the stocks should be as follows, according to the single factor model developed by the portfolio manager:

Stock	Beta	Return as per model (%)	Actual Return (%)
Contech Soft	1.50	13.53	13.53
* Adventis Pharma	1.25	12.94	15.00
Prism Cement	1.35	13.17	13.17
KLG Steel	0.75	11.76	11.76
* Lyca Products	0.95	12.23	10.50

As can be seen from the table, the returns from Adventis and Lyca are deviating from those determined based on the model. The expected return from Adventis is higher than that predicted by the model while that of Lyca is lower.

- i. A portfolio that has a beta of 1.25 (same as Adventis) can be built by combining Contech and KLG. The proportions can be calculated as follows:

$$x + y = 1.00$$

$$1.50x + 0.75y = 1.25$$

$$x = 67\%, y = 33\%$$

Now, arbitrage gain can be obtained by going short on a portfolio of 67% of Contech and 33% of KLG and investing in Adventis.

$$\text{Return of the short portfolio} = 0.67 \times 13.53 + 0.33 \times 10.50 = 12.94\%$$

$$\text{For an amount of Rs.10,000, the risk-less gains will be} = \frac{10,000(15 - 12.94)}{100} = \text{Rs.206.}$$

- ii. Similarly, arbitrage gain can be obtained by going short on Lyca and at the same time going long on the portfolio consisting of KLG and Adventis stocks in the proportions as under:

$$\therefore x + y = 1.00$$

$$1.50x + 0.75y = 0.95$$

$$x = 27\%$$

$$y = 73\%$$

$$\text{Return from the new portfolio} = 0.27 \times 13.53 + 0.73 \times 11.76 = 12.24\%$$

$$\text{Beta of the portfolio} = 0.27 \times 1.50 + 0.73 \times 0.75 = 0.95$$

The strategy for arbitrage is to go long on a portfolio containing 27% of Contech and 73% of KLG and short Lyca.

$$\text{From an amount of Rs.10,000 the risk-less gain will be} = \frac{10,000(12.24 - 10.50)}{100} = \text{Rs.174.}$$

6. A bond swap occurs whenever an investor sells a bond and exchanges it with another. Bond swaps may be initiated for many reasons, and there are numerous types of bond swaps. For example, investors may decide to swap bonds in order to increase the current yield quality or liquidity of their portfolio. Alternatively, they may believe that the existing yields to maturity for two securities are out of line and may thus engage in a yield-spread swap in anticipation of realignment between the two bonds yields. Still other reasons for swapping bonds are tax considerations and expectations regarding future interest rate levels. Because the motives for swaps vary, the potential return and risks from swaps will also differ.

There are two general types of swaps widely used for the purpose of increasing the total return of a portfolio: (i) risk-neutral swaps and (ii) risk-altering swaps. A risk-neutral swap is one in which the bond exchange is expected to increase the total return, as measured by the promised yield to maturity, but one that should not be affected by a general move in interest rates or one that does not significantly affect the price risk, credit risk, or call risk of the portfolio. Examples of risk-neutral swaps are substitution and sector swaps. On the other hand, a risk-altering swap alters the market risk of portfolio and/or the credit or call risk. Examples of risk-altering bond swaps are the pure yield pick-up and the interest rate anticipation. How the substitution and pure yield pick-up swaps work is given as under:

SUBSTITUTION SWAP

A substitution swap is a swap in which securities are similar in all respects except that the bond purchased has a higher promised yield to maturity than the existing bond. In the strictest sense, the two bond's

coupon, default risk, and maturity are the same. If the two bonds are perfect substitutes, then market forces should bring the two yields back together at some point in the future. Thus the investor, by selling the lower-yield bond and purchasing the higher-yield bond, has the opportunity to increase the overall return. If the market is fairly efficient, the gain should be realized in a short period of time.

There are risks associated with substitutions swaps. First, the workout period may take longer than anticipated. When this happens, the gain is spread out over a longer period of time and it lessens the value of the swap, particularly for the investor seeking to engage in this type of switching every year. Second, interest rates may go up during the 12-month period and eliminate the price appreciation component. Thus, even with a swap of perfect substitutes, things may not workout.

PURE YIELD PICK-UP SWAP

With a pure yield pick-up swap, the investor seeks to increase the portfolio's yield to maturity by swapping out of a lower-yield bond into a higher-yield bond. Because this swap usually involves switching from a lower-coupon bond into a higher-coupon bond, the current yield is also increased. However, because higher-coupon bonds typically have call features, the swap may increase the call risk of the portfolio. In addition for yield swap across different rating classification the default risk of the portfolio may also be altered.

There are a couple of attractive features in this pure yield pick-up swap. First, the swap required no yield spread inefficiencies or forecasts of interest rates. The investor simply switched into a higher-yielding security. Second, because this swap takes a long run view of the potential gain, no assumed short-term workout period is required in order to derive the benefits from the increase in yield.

The pure yield pick-up swap, however is not without its risks. First, in order to effect such a swap, the investor may have to accept callable bonds as well as securities with lower credit ratings. Second, because the workout period is usually for the life of the bond, achieving a target reinvestment rate will be more difficult than for a swap based on a shorter time horizon. Thus the gain in yield will be sensitive to the long term reinvestment rate.

Part E: Caselets

Caselet 1

7. The risk of a bond is of two basic types: credit risk and interest rate risk. As far as the credit risk is concerned, holding many securities will reduce the possibility of loss due to default on the principal or interest. This is because the likelihood of all the issuers defaulting on the payments is lesser. In this context, it should also be remembered that it is necessary to choose the bonds from different industries so that the possibility of all the bonds defaulting at once is further reduced. In other words, the correlation between the possibilities of default of various bonds invested in should also be considered.

All other factors remaining constant, interest rate risk is increased by the following factors:

- Increase in the maturity of the bond
- Decrease in the coupon rate
- Decrease in the frequency of the coupon payments

When a bond fund is held instead of a single bond, it will be like holding, say, a mix of bonds with different maturities. The higher interest rate risk of the bonds with longer maturities will be balanced by the bonds with shorter maturities. Similarly, a mix of bonds will help in balancing the other factors.

8. When the economy is entering a recession, the probability of default of bonds of low quality increases. So people tend to switch over to safe bonds. Thus, the yields on the safe bonds may fall and the required yields on the low quality bonds increase. Thus, the yield spread increases. Similarly, the yield spread between the two kinds of bonds falls in a boom, as the investors become more positive about the ability of even low rated corporate issuers to service the bonds.
9. **Individualists:** These are the confident and careful types. They generally do not go to a consultant to manage their investments but do it themselves, if they can find enough time for it. But the world of investments is now changing so fast, that they may also be eventually compelled to seek help from investment counsels.

Adventurers: Adventurers generally go for only big bets. They have the resources to do so and are willing to take risks. The investments made by this type of investors are generally focused and are not diversified. Since they are confident of what they do, they too do not generally go to investment counsels for help.

Celebrities: Celebrities are those that are swayed too much by the trend and do not have any expertise or opinion about investments. They are, most of the time, worried about being left out when everyone is making profits. They, therefore, insist that the portfolio manager should put their investment into what is popular now. They refuse to understand that what is now popular has already realized its potential and does not offer scope for substantial profits in future. Therefore, it can be very difficult for the investment counsel to convince them about the potential of good investments that are now not popular. But, not having the expertise and the confidence required to manage the portfolio on their own, they approach investment managers frequently.

Straight Arrows: These are halfway between complete confidence and anxiety, and extreme carefulness and impetuosity. They can be aptly described as the average investors. While those exactly in the middle are potential clients for portfolio managers, those who are significantly towards impetuosity or confidence are not.

Caselet 2

10. The major measures suggested by the Tarapore Committee for improving the functioning of the UTI are:
 - Installing proper checks and balances to ensure proper corporate governance
 - The financial powers assigned to the executive directors and chief general managers should be within well defined governing rules.
 - The investment/divestment decisions should be subjected to audit to ensure that they are bonafide and are within the governing rules
 - Situations of potential conflict of interest should be avoided like that arises when directors of institutions which invest heavily in UTI also sit on UTI's board. A revamp of the structure of UTI is hence required.
 - Three separate asset management companies (AMCs) should be set up to handle different types of schemes. There should not be any common officials among the AMCs or between the Board of Trustees and the AMCs.
 - Inter scheme transfers should be done only with the prior approval of the Boards of the two schemes and in accordance with the SEBI guidelines.
 - A ban should be imposed on investment in unrated paper and an internal concurrent audit should be instituted.
11. The statement that the repurchase is unjust towards the other unitholders is based on the impression that again, UTI may be funding the repurchases out of the unit subscriptions or reserves rather than profits. Given the past record of the UTI, this impression is hard to refute. If this happens, again, there may not be any money left for redemption of units later. In addition, the amount of money left for investment from which those who hold may benefit, will also be lesser. On the contrary, if the UTI succeeds in investing well and the NAV turns out to be higher than the price at which it is now repurchasing the units, the unitholders who choose to hold these units (or forced to hold due to the cap on repurchases) will actually benefit from the current repurchases.
12. Guaranteeing repurchase prices (which is the same as guaranteeing returns) always adds to the problems of managing a mutual funds. The major problems are:
 - Possibility of having to pay from capital if returns are not sufficient
 - Difficulty in asset-liability management as returns to be provided are independent of the sources of inflow.
 - Temptation on the part of the managers to assume higher than appropriate levels of risk to ensure that the minimum required return is somehow generated. This can result in the capital being lost if the investments fail.
 - Complacency in fund managers once the minimum assured return is exceeded – they may not have any incentive to maximize the returns.

Caselet 3

- 13.** The Income Tax Act in India stipulates that any security held by the investor for a period longer than one year is considered as a capital asset. The rate of tax applicable to long term capital gains is also substantially lower than the rate applicable to short term capital gains. Similarly, most of the exemptions from tax mentioned in the Income Tax Act relevant to capital gains are applicable only to long term capital gains. Thus, investors have an incentive to follow the buy and hold strategy rather than the active management strategies.
- 14.** With increasing globalization of the Indian economy and technological advancement, most of the reasons appear to be valid. With the impact of globalization being felt more and more, Indian companies too are adapting new strategies and changing them fast. The development of technology in India is also picking momentum, though limited to some sectors at the moment. With the economy more closely linked to the global economy than ever before, it is increasingly difficult to predict the future of the Indian economy. Leading companies in India are highly diversified and are entering into new ventures. Recently, however, there has been a tendency to focus on the core areas and divest the non-core businesses. The Indian stock markets generally follow a similar trend as the Nasdaq and thus the volatility tends to be similarly high. Most of the reasons mentioned in the caselet against long term investment hold good in India as well.