

Question Paper

Portfolio Management and Mutual Funds - II (252) : April 2007

Section D : Case Study (50 Marks)

- This section consists of questions with serial number 1 - 5.
- Answer all questions.
- Marks are indicated against each question.
- Do not spend more than 80 - 90 minutes on Section D.

Case Study

Read the case carefully and answer the following questions:

1. ETFs are just what their name implies: baskets of securities that are traded, like individual stocks, on an [Answer >](#) exchange. Explain how ETFs are different from open ended and close ended mutual funds.

(8 marks)
2. Using 'Buying the index approach', observe whether Mr. Subhash has added value, as quoted by Mr. Sen, to his portfolio during the period under consideration. Assume that all the cash flows and investment income are reinvested at the end of the month in which they arise.

(8 marks)
3. a. Calculate the information ratio for UTI Nifty Index Fund, UTI SUNDER and Benchmark Nifty BeES. [Answer >](#)
b. Interpret the results obtained in (a) above.

(15 + 3 = 18 marks)
4. Calculate the downside semi-deviation of the returns of UTI Nifty Index Fund, UTI SUNDER and Benchmark Nifty BeES.

(9 marks)
5. Indexing strategy is one form of passive management strategy. Under this strategy a portfolio is formed with the objective of replicating the performance of a selected index. The portfolio should be constructed in such a way as to minimize the tracking error. Explain the popular methods of constructing a portfolio to replicate an index.

(7 marks)

Mr. Gupta is a middle level employee in a private organization. His risk taking ability is moderate as his income level is moderate. He approached a famous investment advisor, Mr. Sen for taking advices for his investment plan. Keeping the risk taking ability of Mr. Gupta in mind, Mr. Sen suggested him to invest in index based ETFs introduced by UTI mutual fund and Benchmark mutual fund, as index based ETFs are performing better than index based funds in terms of excess return per unit of tracking error (information ratio).

Mr. Sen further suggested Mr. Gupta to consider an index fund constructed by Mr. Subhash, a fund manager of Nifty based Dolly index fund, by claiming that Mr. Subhash added good value to the fund during the year 2006.

Exchange Traded Funds:

ETFs are just what their name implies: baskets of securities that are traded, like individual stocks, on an exchange. As with stocks, one must pay a brokerage to buy and sell ETF units, which can be a significant drawback for those who trade frequently or invest regular sums of money.

They first came into existence in the USA in 1993. It took several years for them to attract public interest. But once they did, the volumes took off with a vengeance. About 60% of trading volumes on the American Stock Exchange are from ETFs. The most popular ETFs are QQQs (Cubes) based on the Nasdaq-100 Index, SPDRs (Spiders) based on the S&P 500 Index, iSHARES based on MSCI Indices and TRAHK (Tracks) based on the Hang Seng Index. The average daily trading volume in QQQs is around 89 million shares.

ETFs provide exposure to an index or a basket of securities that trade on the exchange like a single stock. The number of

outstanding ETF units is not limited, as with traditional mutual funds. It may increase if investors deposit shares to create ETF units; or it may reduce on a day if some ETF holders redeem their ETF units for the underlying shares. These transactions are conducted by sending creation/redemption instructions to the Fund. The Portfolio Deposit closely approximates the proportion of the stocks in the index together with a specified amount of cash component. This “in-kind” creation/redemption facility ensures that ETFs trade close to their fair value at any given time.

ETF units are continuously created and redeemed based on investor demand. Investors may use ETFs for investment, trading or arbitrage. The price of the ETF tracks the value of the underlying index. This provides an opportunity to investors to compare the value of underlying index against the price of the ETF units prevailing on the Exchange. If the value of the underlying index is higher than the price of the ETF, the investors may redeem the units to the Sponsor in exchange for the higher priced securities. Conversely, if the price of the underlying securities is lower than the ETF, the investors may create ETF units by depositing the lower-priced securities. This arbitrage mechanism eliminates the problem associated with closed-end mutual funds viz. the premium or discount to the NAV.

Even though ETFs and Futures allow investors exposure to an index, they are different in many regards. While Futures is a derivative product and trades in the F&O segment of NSE, ETFs are cash market products and trade in the Capital Market segment of NSE. The maximum tenure available for futures is 3 months while ETFs can be held for as long as the investor wants.

ETFs in India

The first ETF, Nifty BeEs (Nifty Benchmark Exchange Traded Scheme) based on S&P CNX Nifty, was launched in January 2002 by Benchmark Mutual Fund. The other ETFs launched by Benchmark Mutual Fund are Junior BeES, Bank BeES and Liquid BeES. All these funds are listed and traded on the NSE -Capital Market Segment and are settled in the Rolling Segment. Nifty BeES can be settled only in electronic (demat) form.

Nifty Benchmark Exchange Traded Fund (Nifty BeES)

The investment objective of Nifty BeES is to provide returns that, before expenses, closely correspond to the returns of securities as represented by the CNX Nifty Index.

Inception Date	December 28, 2001
Related Index	S&P CNX Nifty
Exchange Listed	NSE
Pricing (Per unit)	1/10th of Index
Minimum Lot	One unit/share
Net Assets	Rs.29.41 crore

Junior Nifty Benchmark Exchange Traded Fund (Junior Nifty BeES)

The investment objective of Junior BeES is to provide returns that, before expenses, closely correspond to the returns of securities as represented by the CNX Nifty Junior Index.

Inception Date	February 21, 2003
Related Index	CNX Nifty Junior
Face Value (Per unit)	Rs.1.25
Pricing (Per unit)	1/100th of Index
Minimum Lot - NSE	One unit/share
Minimum Lot – Direct	16,000 Units

Bank Benchmark Exchange Traded Scheme (Bank BeES)

The investment objective of Bank BeES is to provide returns that, before expenses, closely correspond to the total returns of securities as represented by CNX Bank Index.

Inception Date	May 27, 2004
Related Index	CNX Bank
Pricing (Per unit)	1/10th of Index
Minimum Lot-NSE	One unit/share
Minimum Lot-Direct	Rs.10,000
Face Value (Per Unit)	Rs.10

Liquid Benchmark Exchange Traded Scheme (Liquid BeES)

Liquid BeES (Liquid Benchmark Exchange Traded Scheme) is the first money market ETF (Exchange Traded Fund) in the world. The investment objective of the Scheme is to provide money market returns. Liquid BeES will invest in a basket of call money, short-term government securities and money market instruments of short and medium maturities.

The Fund will endeavor to provide daily returns to the investors, which will accrue in the form of daily dividend, which will be compulsorily reinvested in the Fund daily. The units arising out of dividend reinvestment will be allotted and credited to the Demat account of the investors at the end of every month. Such units of Liquid BeES will be allotted and credited daily, up to 3 decimal places.

UTI SUNDER ETF

The investment objective of UTI SUNDER ETF is to provide investment returns that, before expenses, closely correspond to the performance and yield of the basket of securities underlying the S&P CNX Nifty Index.

Inception Date	July 7, 2003
Related Index	S&P CNX Nifty
Exchange Listed	NSE
Fund Size	Rs.12.38 crore
Minimum Investment Amount :	
Authorized Participant	10,000 units plus in multiples of 2,000 units
Other Investors	5,00,000 units plus in multiples of 20,000 units
NAV (Per Unit) as on November 30, 2006	Rs.401.79

UTI Nifty Index Fund

Objective of the fund is to invest in securities of companies comprising the S&P CNX Nifty in the same weightage as that of S&P CNX Nifty with the intention of minimising the performance difference between the S&P Nifty and the fund and keep tracking error to the minimum.

Inception Date	14/02/2000
Related Index	S&P CNX Nifty
Minimum Investment	Rs.5000
Asset Allocation	100% Equity
Entry Load	Sale at NAV
Exit Load	1%, for amount <10 lakh and if redeemed within 6 months (for invst made from 17.07.04 till 10.10.04), 1%, for amount 10 lakh & holding period 7 days (for investments made from 11.10.2004), 0.5%, for repurchase within 6 months (investment made prior to 17/07/2004), 0.5%, for amt 10 lakh if redeemed within 6 months (for investment made from 17.7.04 till 10.10.04), Nil, for repurchase after 6 months and investment made before 11.10.2004, Nil, for amount 10 lakh & holding period >7 days (for investments made from 11.10.2004), Nil, for amount < 10 lakh & holding period >180 days (for investments made from 11.10.2004)
Face Value (Per Unit)	Rs.10

The cash flows and the investment income of index fund of Mr. Subhash from January 2006 to December 2006 are as follows:

APPENDIX - I

Month	Cash Flow (Rs. crore)	Investment Income (Rs. crore)
Jan 2006	200	40
Feb 2006	100	20
Mar 2006	150	30
Apr 2006	450	90
May 2006	180	30
Jun 2006	380	50
Jul 2006	380	40
Aug 2006	640	70
Sep 2006	500	80
Oct 2006	380	40
Nov 2006	200	30
Dec 2006	300	60

Expense ratio for transacting in the fund is 1.25%.

The value of Mr. Subhash's index fund portfolio as on 31st December 2005 was Rs.25,000 crore which was increased to Rs.45,575 crore by 31st December 2006.

APPENDIX - II

Date	UTI Nifty Index Fund NAV (Rs.)	UTI SUNDER ETF NAV (Rs.)	Benchmark Nifty BeEs NAV (Rs.)	NSE Nifty
29/12/2006	25.3162	404.4341	406.0671	3966.40
30/11/2006	25.1760	401.7935	403.3849	3954.50
31/10/2006	23.8540	380.5266	381.9744	3744.10
29/09/2006	22.8824	364.9279	366.0942	3588.40
31/08/2006	21.7431	346.9543	347.7996	3413.90
31/07/2006	20.0123	319.4543	319.9193	3143.20
30/06/2006	19.9110	317.5090	317.9266	3128.20
31/05/2006	19.4956	311.0402	311.1927	3071.05
28/04/2006	22.2808	355.2464	354.9368	3557.60
31/03/2006	21.6071	344.5135	344.2228	3402.55
28/02/2006	19.5315	311.3556	311.1233	3074.70
31/01/2006	19.0616	303.7893	303.5537	3001.10
30/12/2005	17.9826	286.4741	286.9935	2836.55

END OF SECTION
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Section E : Caselets (50 Marks)

- This section consists of questions with serial number 6 - 11.
- Answer **all** questions.
- Marks are indicated against each question.
- Do not spend more than 80 - 90 minutes on Section E.

Caselet 1

Read the caselet carefully and answer the following questions:

6. As per the caselet, explain the factors contributing to the growth of Private Equity in India.

[< Answer >](#)

(8 marks)

7. Explain the advantages and the disadvantages associated with Private Equity investment.

[< Answer >](#)

(8 marks)

With the FII's making money from the Indian stock markets, the private equity player entities are not lagging behind. But, what are these private equities and how do they operate in India?

We can understand the term private equity, as entities which invest in the companies that are not listed in the stock exchange and have the growth potential to outperform. Generally, this investment is made by the way of leveraged buyout, venture capital, mezzanine financing and angel investment. Now a days, it is observed that the investment by the way of private equity is grabbing popularity. This is because of the obvious reason that the probability of getting the target return is higher in the case of private equity.

India has a strong regulatory framework and governing bodies. The Indian stock markets are one amongst the most regulated stock markets. SEBI has liberalized the norms for the private equity investments in India, which has further opened the opportunities for the private equity investors. SEBI has removed the one year lock-in period for the subscription in IPOs. SEBI has increased the limit of funds that can be invested in the listed companies. Previously it was 25%, which has now been increased to 33%.

All this attracts the inflow of foreign funds to grow with the growth potential of India. And private equity is one of the convincing factors for the investment. In the financial year 2000, India had the private equity investment of around \$500 mn,

which shot up to \$1.8 bn in the financial year 2004, whereas in the financial year 2005 the same had crossed the \$2 bn mark.

Generally, private equity funds are organized as limited partnerships, which are controlled by private equity firms, who act as the general partners. The fund obtains commitments from certain qualified investors such as pension funds, financial institutions and wealthy individuals to invest a specified amount. These investors become passive limited partners in the fund partnership and at an appropriate time, the general partner identifies an investment opportunity portion of its commitment. All investment decisions are made by the general partner, who also manages the fund's investments. Over the life of a fund, which often extends up to ten years, the fund will typically make between 15 and 25 separate investments with usually no single investment exceeding 10% of the total commitments.

Private equities provide a promising investment opportunity in terms of attractive returns and they are an effective tool for portfolio diversification. PEF is, buying equity (or deeply subordinated debt securities) in the privately held companies and the real estate assets, while working with the management and operating partners to enhance the value of the purchased assets over time. Ultimately, private equity investors seek to harvest investments in order to generate substantial returns. ICICI Bank had offered India's largest Private Equity Fund (PEF), with a corpus of US\$250 mn, India Advantage Fund (IAF) I&II, which is managed by ICICI Venture to its international clients. The Funds are currently investing in the expansion capital and buy out transactions.

For the private equity investment, the company must have the strength and solid growth potential. This apparently shows that the private equity is not the source of finance for each and every company, since the investors are investing with the motive of making gains. And they will obviously invest in the companies, which have higher probability of meeting the targets. The strength of the company can be observed more, by its participation in various foreign funds. And the last but not the least are, the valuations attached with the deal.

PEFs and VCFs are investing in India for their own profits because, India has the potential to grow and they have the higher probability of generating these profits. But we should not forget that these entities are providing their share and playing a vital role in the development of the Indian economy, which is hungry for investments. The rise of institutional investors in India, and the growth of these entities, will lead to a sound corporate base in India. And ultimately, India will emerge as a developed economy.

Caselet 2

Read the caselet carefully and answer the following questions:

8. As per the caselet, there are certain challenges facing the Indian mutual fund industry which it needs to [< Answer >](#) surpass to prove that the industry continues to do wonders, like it has done in the past. Explain the challenges before Indian Mutual Fund Industry.

(10 marks)
9. Mutual funds differ from each other on the basis of various factors like their term, their investment [< Answer >](#) objectives, the type of investors and the load. Explain how mutual funds can be classified based on investment objectives.

(8 marks)

The MF industry in India started in 1963 with the formation of Unit Trust of India (UTI) initiated by the Government of India and the Reserve Bank. In 1978, UTI was de-linked from the RBI and the Industrial Development Bank of India took over the regulatory and administrative control instead of RBI. The first scheme launched by UTI was Unit Scheme 1964. At the end of 1998, UTI had Assets under Management of Rs.6,700 cr. The year 1987 marked the entry of non-UTI, public sector mutual funds set up by public sector banks, Life Insurance Company (LIC) and General Insurance Company of India (GIC).

SBI Mutual Fund was the first non-UTI Mutual Fund established in June 1987 followed by Canbank Mutual Fund (December 1987), Punjab National Bank Mutual Fund (August 1989), Indian Bank Mutual Fund (November 1989), Bank of India Mutual Fund (June 1990), and Bank of Baroda Mutual Fund (October 1992). LIC established its mutual fund in June 1989 while GIC set up its mutual fund in December 1990.

At the end of 1993, the mutual fund industry had Assets Under Management of Rs.47,004 cr. With the entry of private sector funds in 1993, a new era started in the Indian MF Industry, providing Indian investors with a wider choice of fund families. The number of mutual fund houses went on increasing with many foreign mutual fund companies setting up their offices in India and the industry witnessed several mergers and acquisitions. At the end of January 2003, there were 33 mutual funds with total assets of Rs.1,21,805 cr. under management. The UTI with Rs.44,541 cr. of Assets Under Management was way

ahead of other mutual funds.

In February 2003, following the repeal of Unit Trust of India Act 1963, UTI was bifurcated into two separate entities. One is specified undertaking of the Unit Trust of India Management of Rs.29,835 cr. as at the end of January 2003, representing broadly the assets of US-64 Scheme, assured return and certain other schemes. It does not come under the purview of the Mutual Fund Regulations. The second is UTI Mutual Fund sponsored by SBI, PNB, BOB and LIC. It is registered with SEBI and works under the Mutual Fund Regulations.

At the end of March, 2006 the Assets Under Management were Rs.2,31,513 cr. The MF industry in India has been on roll as Assets Under Management continues to see strong spurt in the growth. The Assets Under Management swelled to Rs.2,00,000 cr. by April 2006 from Rs.1,01,565 cr. in January 2000. This apart, the industry has also seen a spurt in the number of schemes, which amount to around 500 at present, catering to varied needs of the investors. Though India enjoys a good saving rate, the mutual fund industry gets very little out of this. If this money gets channelized into the mutual funds it will help India match other well-developed markets like the US, Canada, as per one of the studies conducted by a leading financial daily. As high as 66.5% of sample households (from a total 5,908) were likely to make a net addition to their equity holdings. But only 40.9% were interested to increase their mutual fund portfolio. This clearly suggests that people still are not showing confidence in the concept of mutual funds. Even though Assets Under Management have swollen to new heights, but still its growth was not up to the mark, according to the industry experts.

The bull run in the economy has led the mutual funds to give stupendous returns to the investors. The Indian economy has shown a sizeable and consistent growth in the recent past. Individual sectors like FMCG, Technology, Auto, IT and Pharma have shown considerable growth along with other sectors leading the overall economy to grow. 'This bull market is getting long in the tooth', says Sheldon Jacobs, editor of the No-Load Fund Investor newsletter. Pointing out that the bull is well into its fourth year, he adds, "It's the longest period in history that the market has been up without a 10% correction. The Sensex is touching new heights almost everyday amidst many speculations. The flavor of retail investors has also started to change slowly and gradually.

The MF industry in India has seen theatrical improvements in quantity as well as quality of product and service offerings over the past decade. Industry experts still believe that the growth witnessed in the last 10 years was considerably below potential. In the US, as high as 22% of the household financial assets are invested in MF, which is only slightly less than the share of assets invested in bank deposits. Compared to this, the Assets Under Management of the whole mutual fund industry in India is less than half of the deposits held by one bank, SBI, and constitutes less than 11% of the Rs.14,042 bn total deposits held by the Indian banking industry.

But after everything is said and done, one must agree that mutual funds have shown tremendous growth in their Assets Under Management. To contribute to the growth story of the mutual funds in India, there have been several reasons that helped the mutual fund industry to grow faster. However, there are certain challenges facing the Indian mutual fund industry which it needs to surpass to prove that this industry is here to stay and continue to do wonders like it has done in the past and also winning the vote of confidence of the investors who invested in mutual funds.

Caselet 3

Read the caselet carefully and answer the following questions:

10. According to the caselet, for an investor, who accords greater importance to capital preservation over capital appreciation, CPOs is the place to be. However, it is essential for investors to be aware of the nuances of investment in such schemes. Explain the nuances associated with such schemes. [< Answer >](#)

(8 marks)

11. As per the caselet, structurally CPOs are similar to another existing mutual fund category called Fixed Maturity Plans (FMPs), which has been around for a while and they both have certain dissimilarities as well. Explain the dissimilarities between FMPs and CPOs. [< Answer >](#)

(8 marks)

Recently, a new category named Capital Protection Oriented Schemes (CPOs) made its debut in the mutual fund industry. As the name suggests, the mainstay of such schemes is to provide capital protection. The risk that market-linked investment avenues (like mutual funds) pose to investors is erosion of capital. Any movement in the stock market is clearly reflected in the performance of an equity fund; the extent to which the fund responds to the movement however depends on various factors like the investment style and underlying investments made.

Adverse market conditions can make investors feel insecure about their investments, leading to distress redemptions (mostly at

losses) or even worse it deters them from investing in such avenues. In such a scenario, anything that guarantees the protection of at least the initial invested capital appears to be a good deal.

Recently, SEBI has given the go-ahead to mutual funds for the launch of Capital Protection Schemes (CPS). Investments in such schemes come with a guarantee, albeit implicit, that the investor's capital will be safeguarded. Hence, irrespective of the direction in which the market moves or even if the scheme underperforms, the protection of the investor's capital is guaranteed by the AMC.

Capital protection mutual fund scheme is exactly what you wanted -- a mutual fund scheme that promises to protect your initial investment and gives better returns than a bank fixed deposit and other guaranteed products on offer. They target the need for safety of initial investment that has so far kept conservative investors out of the MF ambit and to provide returns attractive enough to lure them away from guaranteed return products.

The performance of existing monthly income plans and hybrid debt oriented schemes show that funds are capable of generating superior returns with a high degree of safety. However, investors need to read the fine print on the protection of capital, liquidity, expected returns and risks before committing to these schemes.

In August, market regulator SEBI issued guidelines permitting fund houses to launch "capital protection-oriented" schemes. SEBI says capital protection should arise from the way in which the portfolio is constructed and not from any guarantee by the asset management company or sponsor.

It also requires that the scheme be rated by a credit rating agency on the ability of the fund to protect the initial investment and to be periodically reviewed on its continued ability to do so. Also, these schemes have to be closed-end, so investors can invest only at the time of the new fund offer and can redeem only on the completion of its term.

Structurally they are similar to another existing mutual fund category called Fixed Maturity Plans (FMPs), which has been around for a while. For investors, the presence of these categories which are structurally similar, yet distinct in terms of positioning can be confusing. FMPs are close-ended debt funds (investments can be made only during the new fund offer period) with a fixed maturity horizon. They can also invest a smaller portion of their corpus in equities. FMPs target a given yield (return), lock-in the same at the time of investment and stay invested till maturity. In turn, investors who stay invested in the fund till its maturity are virtually assured of clocking the designated returns. It should be understood, that being a market-linked investment avenue, the returns aren't assured or fixed. Hence, deviations in the designated returns on account of market fluctuations cannot be ruled out.

Conversely, CPOSs are close-ended debt funds, oriented towards the protection of capital invested. Again, the capital protection is not guaranteed. The portfolio is constructed in a manner to provide the investor with at least the amount invested on maturity.

Both the schemes attempt to combine the stability of debt along with the power of equities. Normally, these funds invest a majority of the corpus (say at least 80%) in debt instruments and the balance (around 20%) in equities. The portfolio is so designed, that the amount of money invested in the debt component is equivalent to the initial investment on maturity. For example, out of Rs.100 invested, the fund invests Rs.80 in debt instruments, which will amount to Rs.100 on maturity. Thus, the debt portfolio attempts to preserve the initial investments made by investors, while the equity portfolio (Rs.20 in this case) is utilised to generate capital appreciation.

Investors would do well to understand that both CPOSs and FMPs cater to the needs of different types of investors. For an investor, who accords greater importance to capital preservation over capital appreciation, CPOSs is the place to be. On the other hand, investors who are looking at clocking a "somewhat" assured income, FMPs should be the chosen investment avenue. It is essential for investors to be aware of the nuances of both the categories, so that they can make more informed investment decisions.

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Suggested Answers

Portfolio Management and Mutual Funds - II (252) : April 2007

Section D : Case Study

1. **ETFs Vs. Open Ended Funds Vs. Close Ended Funds**

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

2. The number of units held in the notional fund as on Dec 31 2005 = Rs.25,000 crore/2836.55 = 8.8135 cr units

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Month	Total Invested (Rs. crore)	Index Value + 1.25%	Additional Units Purchased (crore)
Jan 2006	240	3038.61	0.0790
Feb 2006	120	3113.13	0.0385
Mar 2006	180	3445.08	0.0522
Apr 2006	540	3602.07	0.1499
May 2006	210	3109.44	0.0675
Jun 2006	430	3167.30	0.1358
Jul 2006	420	3182.49	0.1320
Aug 2006	710	3455.87	0.2054
Sep 2006	580	3633.26	0.1596
Oct 2006	420	3790.90	0.1108
Nov 2006	230	4003.93	0.0574
Dec 2006	360	4015.98	0.0896
Total Units			1.2777

The total number of units held as on December 31, 2006 = 8.8135 + 1.2777 = 10.0912 cr units

Value of notional fund = 10.0912 × 3966.4 = Rs. 40,025.74 cr

Value of the actual fund as on December 31, 2006= Rs.45,575 cr

Difference in capital appreciation = Value of index fund – Value of notional fund
= Rs.45,575 cr – Rs. 40,025.74 cr = Rs.5,549.26 cr.

From this, we can say that Mr.Subhash has added value to his portfolio, as the value of his index fund is more than the value of notional fund by Rs.5,549.26 cr.

3. a.

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Month	NAV of UTI Index Fund (Rs.)	NSE Nifty	R _{IF} (%)	R _{Nifty} (%)	(R _{IF} - R _{Nifty})	(R _{IF} - R _{Nifty}) -	[(R _{IF} - R _{Nifty}) -] J ²
Dec 2005	17.9826	2836.55					
Jan 2006	19.0616	3001.1	6.00	5.80	0.20	0.16	0.0256
Feb 2006	19.5315	3074.7	2.47	2.45	0.02	-0.02	0.0004
Mar 2006	21.6071	3402.55	10.63	10.66	-0.03	-0.07	0.0049
Apr 2006	22.2808	3557.6	3.12	4.56	-1.44	-1.48	2.1904
May 2006	19.4956	3071.05	-12.50	-13.68	1.18	1.14	1.2996
Jun 2006	19.9110	3128.2	2.13	1.86	0.27	0.23	0.0529
Jul 2006	20.0123	3143.2	0.51	0.48	0.03	-0.01	0.0001
Aug 2006	21.7431	3413.9	8.65	8.61	0.04	0.00	0.0000
Sep 2006	22.8824	3588.4	5.24	5.11	0.13	0.09	0.0081
Oct 2006	23.8540	3744.1	4.25	4.34	-0.09	-0.13	0.0169
Nov 2006	25.1760	3954.5	5.54	5.62	-0.08	-0.12	0.0144
Dec 2006	25.3162	3966.4	0.56	0.30	0.26	0.22	0.0484
Total			36.60	36.11	0.49		3.6617
Average			3.05	3.01	0.04		

Variance = $3.6617/11 = 0.3329$ (%)²

SD = $(0.3329)^{1/2} = 0.58\%$.

Annualized tracking error = $0.58 \times \quad = 2.01\%$.

Information Ratio = (Return on fund – Market return)/Tracking error = $(3.05-3.01)/0.58 = 0.069$.

Month	NAV of SUNDER (Rs.)	R _S (%)	R _{Nifty} (%)	(R _S - R _{Nifty})	(R _S - R _{Nifty}) -	[(R _S - R _{Nifty}) -] J ²
Dec 2005	286.4741					
Jan 2006	303.7893	6.04	5.80	0.24	0.18	0.0324
Feb 2006	311.3556	2.49	2.45	0.04	-0.02	0.0004
Mar 2006	344.5135	10.65	10.66	-0.01	-0.07	0.0049
Apr 2006	355.2464	3.12	4.56	-1.44	-1.50	2.2500
May 2006	311.0402	-12.44	-13.68	1.24	1.18	1.3924
Jun 2006	317.509	2.08	1.86	0.22	0.16	0.0256
Jul 2006	319.4543	0.61	0.48	0.13	0.07	0.0049
Aug 2006	346.9543	8.61	8.61	0.00	-0.06	0.0036
Sep 2006	364.9279	5.18	5.11	0.07	0.01	0.0001
Oct 2006	380.5266	4.27	4.34	-0.07	-0.13	0.0169
Nov 2006	401.7935	5.59	5.62	-0.03	-0.09	0.0081
Dec 2006	404.4341	0.66	0.30	0.36	0.30	0.0900
Total		36.86	36.11	0.75		3.8293
Average		3.07	3.01	0.06		

Variance = $3.8293/11 = 0.3481$ (%)²

SD = $(0.3481)^{1/2} = 0.59\%$

Annualized tracking error = $0.59 \times \quad = 2.0438\%$

Information Ratio = (Return on fund – Market return)/Tracking error = $(3.07-3.01)/0.59 = 0.1017$.

Month	NAV of Nifty	R _{BeES} (%)	R _{Nifty} (%)	(R _{BeES} - R _{Nifty})	[(R _{BeES} - R _{Nifty}) -	[(R _{BeES} - R _{Nifty}) -
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	BeEs (Rs.)			(%)	]	]²
Dec 2005	286.9935					
Jan 2006	303.5537	5.77	5.8	-0.03	-0.11	0.0121
Feb 2006	311.1233	2.49	2.45	0.04	-0.04	0.0016
Mar 2006	344.2228	10.64	10.66	-0.02	-0.10	0.0100
Apr 2006	354.9368	3.11	4.56	-1.45	-1.53	2.3409
May 2006	311.1927	-12.32	-13.68	1.36	1.28	1.6384
Jun 2006	317.9266	2.16	1.86	0.30	0.22	0.0484
Jul 2006	319.9193	0.63	0.48	0.15	0.07	0.0049
Aug 2006	347.7996	8.71	8.61	0.10	0.02	0.0004
Sep 2006	366.0942	5.26	5.11	0.15	0.07	0.0049
Oct 2006	381.9744	4.34	4.34	0.00	-0.08	0.0064
Nov 2006	403.3849	5.61	5.62	-0.01	-0.09	0.0081
Dec 2006	406.0671	0.67	0.3	0.37	0.29	0.0841
Total		37.07	36.11	0.96		4.1602
Average		3.09	3.01	0.08		

Variance = $4.1602/11 = 0.3782 (\%)^2$

SD = $(0.3782)^{0.5} = 0.615\%$

Annualized tracking error = $0.615 \times \quad = 2.13\%$

Information Ratio = (Return on fund – Market return)/Tracking error = $(3.09-3.01)/0.615 = 0.13008 \sim 0.13$

- b. Information ratio (the ratio of excess return to tracking error) is 0.069 for UTI Index fund, 0.1017 for UTI SUNDER and 0.13 for Nifty BeES. From this, it can be said that the performance of ETFs is better than that of index fund as stated by Mr.Sen. Furthermore, the performance of Nifty BeES is comparatively better than that of UTI SUNDER.

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Month	R _{IF} (%)			R _S (%)	
Jan 2006	6.00	2.95		6.04	2.97
Feb 2006	2.47	-0.58	0.3364	2.49	-0.58
Mar 2006	10.63	7.58		10.65	7.58
Apr 2006	3.12	0.07		3.12	0.05
May 2006	-12.50	-15.55	241.8025	-12.44	-15.51
Jun 2006	2.13	-0.92	0.8464	2.08	-0.99
Jul 2006	0.51	-2.54	6.4516	0.61	-2.46
Aug 2006	8.65	5.60		8.61	5.54
Sep 2006	5.24	2.19		5.18	2.11
Oct 2006	4.25	1.20		4.27	1.20
Nov 2006	5.54	2.49		5.59	2.52
Dec 2006	0.56	-2.49	6.2000	0.66	-2.41
Total	36.60		255.6369	36.86	
Average	3.05			3.07	

Month		R _{BeES} (%)		
Jan 2006		5.77	2.68	
Feb 2006	0.3364	2.49	-0.60	0.3600

Apr 2006		3.11	0.02	
May 2006	240.5601	-12.32	-15.41	237.4681
Jun 2006	0.9801	2.16	-0.93	0.8649
Jul 2006	6.0516	0.63	-2.46	6.0516
Aug 2006		8.71	5.62	
Sep 2006		5.26	2.17	
Oct 2006		4.34	1.25	
Nov 2006		5.61	2.52	
Dec 2006	5.8081	0.67	-2.42	5.8564
Total	253.7363	37.07		250.601
Average		3.09		

Semi variance of Index fund = $255.6369/11 = 23.2397 (\%)^2$

Semi deviation of index fund = $(23.2397)^{0.5} = 4.82 \%$

Semi variance of UTI SUNDER = $253.7363/11 = 23.0669 (\%)^2$

Semi deviation of UTI SUNDER = $(23.0669)^{0.5} = 4.8 \%$

Semi variance of Nifty BeES = $250.601/11 = 22.7819 (\%)^2$

Semi deviation of Nifty BeES = $(22.7819)^{0.5} = 4.77 \%$

5. The popular methods of constructing a portfolio to replicate an index are (i) stratified sampling or cellular [< TOP >](#) approach (ii) optimization approach (iii) variance minimization approach.

Stratified Sampling or Cellular Approach: This is the most simple and flexible approach of constructing a portfolio. Under this approach, the index is divided into subsectors or cells. This division can be based on various characteristics such as sector, term to maturity, duration, coupon, credit rating, call features, etc. After stratifying the index into cells, securities are selected so as to represent each of these cells. Securities are selected from each of these cells in such a way that the selection is representative of the particular cell. The proportion of investment in each cell depends on the percentage of the cell's market value in the index. For example, if 25% of the market value of the index is made up of triple A issues, 25% of the indexed portfolio should be composed of triple A issues.

Optimization Approach: A more discipline and quantitative extension of cellular approach to construction of a portfolio is optimization approach. Under this approach, the money manager seeks to construct an indexed portfolio that will match the requirements as under the cellular approach and satisfy a few other constraints and also optimize a specific objective function. Objective function can be maximization of yield, maximization of convexity or minimization of expected total return. This approach requires mathematical programming. If the objective function is linear, linear program is used and if the objective function is a quadratic function, quadratic programming is used.

Variance Minimization Approach: This is a complex approach to portfolio construction. The objective of this approach is to maximize the expected return of the indexed portfolio while minimizing the variance of tracking error in the construction of the portfolio. A quadratic program consisting of three components, an objective function, a set of constraints and a universe of securities, is solved to construct the indexed portfolio.

Section E: Caselets

Caselet 1

6. **Strength in the Capital Markets** [< TOP >](#)

Indian companies are becoming very attractive among the investors because of the efficiency of the stock markets, strong growth potential and the relative valuation available for the companies. The Indian stock markets are transparent and companies are required to follow the strict disclosure norms. All these things provide comfort to the investors with respect to the markets. And this is one of the major reasons for the inflow of foreign funds in India.

Strong and Growing Economy

After Japan and China, India is the largest economy in Asia, with annual growth rate of 7% to 8% and has taken the lead on so many developing countries. This is one of the major attractions among the foreign investors and the reason behind their coming to India. Indian manufacturing sector is doing well in

contributing to the Gross Domestic Product (GDP) of the country, but service sector is also not behind. For the good shape of the economy, the development of the service sector is also very important and India has achieved that with the sector improving as well as growing. Currently, the contribution of service sector to the GDP of India is more than 50% level. The personal disposable income is also a good indicator, which is now improving because of the better growth across the various sectors. Banking sector also has its role to play for the development of the corporate and retail segment. Indian banking system is also growing. So, these are some of the factors, which create attraction for the investors.

Important Exits

One country can attract large amount of investments only when it provides enough scope of exit. In the case of private equity, the popular exit routes are the IPOs and the mergers and the acquisitions. These options are very well available in the Indian scenario, which again is one of the important reasons for attracting the investors to India and making it as an investment hub.

Deregulation by the Government

The Government of India has deregulated several sectors -like aviation, insurance and telecom. And these sectors have attracted ample of foreign investment. India has a large number of venture capital funds who are involved in venture capital financing. But most of them are not true venture funds because they do not fund start-ups. In such cases private equity is another option.

7. Advantages:

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- If a company goes for debt financing, it creates the fixed commitment for that company, which is not there in the case of private equity.
- Private equity investors have the experience in the same or in the similar industry, which can be used for the operational efficiency as well as for the future growth. It also helps in adding synergy to the company by the way of mergers and acquisitions.
- It has a limited market risk associated with it because; the cost of the private equity has remained relative stable.
- It also increases the borrowing capacity of the company, which can be utilized for further growth.

Disadvantages:

- It is an expensive source.
- It leads to significant dilution of the existing shareholders.
- Governance investor will typically want a board seat.
- Transaction timings are long. It generally takes four to six months to close a transaction.
- Investors will desire a three to five year strategy, which is too long.

Caselet 2

8. Poor Reach

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Though India enjoys a good saving rate, the mutual fund industry gets a very little share out of those savings. To match the international markets like the US and Australia etc., these savings need to be channelized through mutual funds. One of the major reasons that Indian mutual fund industry is not matching the likes of the markets of these developed countries is lack of deeper distribution networks and channels in India. This has been a major concern for the mutual funds industry in India, which has not been able to penetrate deeper into the rural parts of the country and major focus has been on the metro cities and 'A' class cities. The rural markets and 'B' and 'C' class cities, which also holds a lot of potential should be addressed properly by the players in the industry.

Domination of Banks

The biggest impediment in the growth of the industry has been the failure on its part to attract majority of the savings that people keep with the banks. A large part of the savings in India is still lying with the state run and private banks. The industry players need to concentrate on the people who are putting their savings in banks at very low rate of interest by highlighting the benefits of investing in mutual funds. People still have more faith in putting their money in banks even if they get lesser returns.

Operational Hassles

Operational inefficiencies are also hampering the growth prospects of the mutual funds industry. Lengthy

transaction cycles and traditional distribution models like cheques based returns are acting as hindrances for the industry to grow at a good pace. Technology wave will make the transactions hassle-free which will help the industry grow at a desirable pace.

Lack of Professionals

The lack of investment advisors, chiefly to give personalized investment advice to the investors is creating road blocks for the growth of mutual funds. Further, the level of awareness in India about the mutual fund industry is largely restricted to the high income investors and 'A' class cities. Due to the less number of the advisors, the 'B' and 'C' class cities are left untouched.

A common man takes his investment decision on his own or by the advice of some financial advisor.

Tapping the Segment of the Retail Investors

The retail segment in the Indian financial market has a huge potential and is investing huge sums of money in the market. So, the industry needs to allure them to invest through the mutual fund route.

Curbing Unethical Practices

The industry faces the challenge to control certain undesirable practices that are creating problems for the industry as a whole. The advisors are paid good amount of brokerage for the investment that they bring with an AMC. So, there are chances that they tend to make false projections about the funds' future just to get the money out of the investor and sell an undesirable product.

Redefining Distribution

The distribution network in the industry is one of the most important sources for an AMC to gather piles of funds. The retail investors form just a miniscule part of the mutual funds at 1.3%. The distribution network has to play an active role in tapping this retail segment to give a boost to the asset base of the industry. Giving ample product knowledge and support, like providing the distributor with material and documents etc. so that they are able to sell the schemes of the mutual funds is the prime onus of the AMCs. Relationships play an important role in selling of mutual funds. So, an agent is a necessary link between the investor and an AMC. It's difficult for AMCs to maintain huge agent force so they take shelter of distributors like Karvy, Bajaj Capital, etc. In addition, AMCs should also take a look at the Non-Banking Financial Corporations (NBFCs) in this regard.

Finding and Retaining Efficient Fund Managers

Fund Manager is one of the most important persons who plays a key role in the success of any mutual fund scheme. A fund manager with his expertise invests the pooled money in various stocks from where the returns are generated. So, having an efficient fund manager in a team is very important and AMCs must make it a point that it needs to retain the talented fund manager with it. Retaining the talented group of people in future will be a challenge for the AMCs in an environment where all the AMCs will be trying to allure the managers to join their group.

9. Based on investment objectives mutual funds can be classified as follows:

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Growth fund: These aim to provide capital appreciation over the medium-to-long-term. These schemes normally invest a major portion of their funds in equities and are willing to bear short-term decline in value for possible future appreciation in the net asset value of the scheme. These schemes are not for investors seeking regular income or needing their money back in the short-term and are suitable for investors in their prime earning years or investors seeking growth over the long-term.

Income fund: The aim of such funds is to provide regular and steady income to investors. These funds or schemes generally invest in fixed incomes such as bonds and corporate debentures. Capital appreciation in such schemes may be limited. These are suitable for retired people and others with a need for capital stability and regular income.

Balanced fund: They aim to provide both growth and income by periodically distributing a part of the income and capital appreciation to the investors or reinvesting (in case of reinvestment scheme) such income and capital appreciation to enhance the net asset value of the fund. They invest in both shares and fixed income securities in the proportion indicated in their offer document. Such funds are suitable for those investors, who are willing to take some risk and seeks both income and capital appreciation.

Specialized fund: These funds invest in particular industries, instruments, sectors or markets. For example, there are funds which invest in specific industries like Alliance Basic Industries fund, Kothari Pioneer (KP)

Interest Opportunities fund, Prudential-ICICI Technology fund etc. Funds that invest solely in foreign markets are referred to as international funds (also called offshore funds).

Tax Saving fund: These funds offer tax rebates to the investors under tax laws as prescribed from time to time. The objective of these funds is to help the tax paying investors in minimizing their tax liability.

Caselet 3

10. **No Guarantees:** Sebi's guidelines do not require the fund house to give any guarantees. In other words, the AMC isn't required to make up the difference in case of capital erosion. They only need to ensure that, as far as possible, the investor's initial investment is safe, by structuring the portfolio in such a way that ensures protection. [< TOP >](#)

Low liquidity: Capital protection funds are essentially closed-end funds, wherein an investor can't exit during the life of the scheme for any reason, be it need for liquidity or poor performance by the scheme. The experience of closed-end funds listing on stock exchanges has not been happy with the units quoting on the exchanges at heavy discounts to NAV. This makes it essential for the investor to be able to spare the funds for three or five years, as the case may be, for which funds would be locked up.

Moderate returns: If you invest in the belief that returns from funds will match that of diversified equity funds when markets go up and reflect a fixed deposit in a bear market, you would be disappointed. A capital protection fund's focus is protecting the capital. Only a portion of the funds will be invested in equity and related instruments and returns to investors are going to be muted to that extent.

Return and risk: The risk for an investor in a capital protected fund will not be of losing capital invested. The risk for the investor would be of not getting expected returns. The challenge for fund managers would be to be able to allocate sufficient resources to risky assets to generate returns.

For example, in a phase when interest rates are going down, greater allocation will have to be made to the debt component in order to offset the reinvestment risk and to ensure that the redemption value of the bonds at the time of maturity equals or is greater than the amount invested.

This would mean less exposure to equity products and that would greatly reduce the potential gains that a fund can achieve from subsequent gains in the stock markets. To put things in perspective, a look at the returns from MIPs show that funds that have at least 15 per cent in equity have fared better in all periods.

11. **FMPs and CPOs have certain dissimilarities as well:** [< TOP >](#)

- CPOs are oriented towards capital protection; hence the defining feature of schemes from the segment is providing safety of capital. Generating capital appreciation is relegated to second position. Conversely, FMPs are return-oriented investment avenues and not inclined towards protection of invested amount. The primary aim of such funds is to generate returns.
- As per SEBI (Securities and Exchange Board of India) guidelines, it is mandatory for all the AMCs (Asset Management Companies) to get the proposed portfolios of their CPOs rated by a SEBI registered credit rating agency. Also, the rating has to be reviewed on a quarterly basis and AMCs must ensure that the debt component of the portfolio has the highest investment grade rating (AAA or P1+). FMPs tend to primarily invest in debt instruments with a high credit rating as well, but they have a free hand in terms of the instruments they can invest in. Similarly, it is not mandatory to get the portfolio rated by any credit rating agency.
- CPOs are close-ended in nature and don't offer any option to investors for premature withdrawals. Hence investors are advised to park only that portion of their investible surplus, which can be put aside for a longer time frame.

Investors in FMPs have the option of prematurely exiting their investments; however, the same would attract an exit load as specified by the fund house.

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