

Question Paper

Security Analysis - II (MSF2D2): April 2008

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*

1. Perform SWOT analysis of Indian Pharmaceutical Industry. [<Answer>](#)
(10 marks)

2. Mr. Chetan Vernal a regular investor in the stock market, selected Global Pharmalabs Ltd. stock for investment, but he wants the proportion of unsystematic risk in his investment not to exceed 40%. Based on the data provided in Annexure 1, advice Mr. Vernal regarding his investment. [<Answer>](#)
(11 marks)

3. Calculate the intrinsic value of the share of GPL as per the formula given below: [<Answer>](#)

$$P_0 = 0.25 \times P_{DDM} + 0.75 \times P_{Regression}$$

$$P_{Regression} = 38.72 + 11.45 \times DP + 26.05 \times GR - 0.72 \beta + 43.2 ROE$$

Where,

$$DP = \text{Average dividend Payout Ratio, (\%)}$$

$$GR = \text{Average growth rate in earnings, (\%)}$$

$$ROE = \text{Average Return on Equity, (\%)}$$

$$P_{DDM} = \text{Price as per the DDM.}$$

$$P_{Regression} = \text{Price as per regression equation}$$

$$\beta = \text{Beta of GPL stock}$$

The average return on equity is 23.5%. The growth rate in earnings is 15% for the next 5 years and 12% thereafter. The risk free rate and market risk premium is 5.5% and 11% respectively. (12 marks)

4. The Indian Pharmaceutical Industry is quickly moving towards global competitiveness. In this regard, discuss the key trends and strategies being adopted by the pharmaceutical industry. [<Answer>](#)
(8 marks)

5. The Pharmaceutical Industry is mainly product focused. Discuss the key performance indicators of the Pharmaceutical Industry in this regard. [<Answer>](#)
(9 marks)

Global Pharmalabs Ltd.

Industry Scenario

The Indian pharmaceutical industry came into existence in 1901, when Bengal Chemical & Pharmaceutical company started its maiden operation in Calcutta. The next few decades saw the pharma industry moving through several phases, largely in accordance with government policies. Commencing with repackaging and preparation of formulations from imported bulk drugs, the Indian pharma industry has moved on, and has been able to underline its presence in the global pharmaceutical arena.

The pharmaceutical industry is a life line industry, which plays a very crucial role in building a strong human capital of a country, and is very essential for economic growth and development.

The industry is mounting up the value chain. From being a pure reverse engineering industry focused on the domestic market, the industry is moving towards basic research-driven, export-oriented global presence, providing wide range of value added quality products and services.

Currently, the pharma industry in India is a \$ 5.7 billion industry, growing at a rate of 8-9% annually. The output of Indian pharmaceutical industry ranks 4th in terms of volume and 13th in terms of value and around 8% of the world's drugs are manufactured in India. The Indian pharma market, which consistently grew at 9.5 percent CAGR in the last five years, is poised to accelerate at 13.6 percent between 2006–2010 to touch the market size of \$9.8 billion by 2010 from present level.

As the global market is becoming techno savvy the development of pharmaceutical industry in India has also begun to take advantage of Radio Frequency Identification (RFID) technology. In addition, some multinational pharmaceutical firms are using electronic Case Report Forms (CRFs) for clinical trials being conducted in India. However, these are primarily aimed at supporting clinical trial

studies originating from their global Research and Development (R&D) centers. Domestic pharmaceutical companies have also started taking tentative steps towards experimenting with Information Technology (IT) solutions in this area. The key to the success of Indian pharmaceutical companies is their ability to retain their cost advantage while matching the quality standards of the west. But lower costs alone cannot be enough. Availability of skilled manpower and a favorable regulatory environment that assures compliance with global norms are the other two legs underpinning success.

Global consultant Ernst & Young says: "India is becoming an integral part of the pharmaceutical value chain, as large global pharmaceutical companies continue to increase their sourcing of APIs (Application Programming Interfaces), off-shoring of clinical development, and partnering with domestic companies for new product development and marketing in India."

Structure

The pharmaceutical industry is essentially a process driven industry. The industry is highly fragmented. Some of the diseases for which new drugs are continuously researched globally include aids, Alzheimer's disease, arthritis (rheumatism), cancer, depression, diabetes, heart disease, osteoporosis and stroke. India is presently one of the top 15 drug producers worldwide. Currently, there are more than 2,400 registered pharmaceutical producers in India. Indian pharmaceutical companies have progressed by leaps and bounds in recent times. This is evident from the fact that while the MNCs market share in the Indian pharmaceutical market has gone down from 75% in 1971 to approximately 35% at present, the market share of the Indian companies has increased to 65%.

Steps to strengthen the industry

Indian companies need to attain the right product-mix for sustained future growth. Core competencies will play an important role in determining the future of many Indian pharmaceutical companies in the post product-patent regime after 2005. Indian companies, in an effort to consolidate their position, will have to increasingly look at merger and acquisition options of either companies or products. This would help them to offset loss of new product options, improve their R&D efforts and improve distribution to penetrate markets. In order to stay competitive in the future, Indian companies will have to refocus and invest heavily in R&D. The Indian pharmaceutical industry also in need to take advantage of the recent advances in biotechnology and information technology. The future of the industry will be determined by how well it markets its products to several regions and distributes risks, its forward and backward integration capabilities, its R&D, its consolidation through mergers and acquisitions, co-marketing and licensing agreements.

Future prospects

The Indian pharmaceutical industry is also getting increasingly U.S. FDA compliant to harness the growth opportunities in areas of contract manufacturing and research. Indian companies such as Ranbaxy, Sun Pharma, and Dr. Reddy's are increasingly focusing on tapping the U.S. generic market, projected to be around \$18 billion by 2007.

As per WTO, India will grant product patent recognition to all New Chemical Entities (NCEs) i.e., bulk drugs development. The Indian Government's decision to allow 100 percent foreign direct investment into the drugs and pharmaceutical industry is expected to aid the growth of contract research in the country. Technology transfer to 100 percent Indian subsidiaries of MNCs is expected.

Exports driven growth

Indian pharmaceutical companies are on a global beat. Currently, exports contribute more than half the total revenues for most of the Indian pharmaceutical majors. Exports have increased in recent years as Indian pharmaceutical companies have made deep inroads into the regulated generic markets of the US and Europe, in addition to unregulated markets.

Pharma Export Promotion Council (Pharmexcil) has been constituted with the objectives of

- Facilitation of exports of Drugs, Pharmaceuticals, Biotechnology products, Herbal Medicines, Diagnostics.
- Export thrust to various products through workshops, conferences and seminars and delegate visits.

Foreign Direct Investment (FDI) in Drugs and Pharmaceuticals

- FDI upto 74% in the case of bulk drugs, their intermediate Pharmaceuticals and formulations (except those produced by the use of recombinant DNA technology) would be covered under automatic route.
- FDI above 74% for manufacture of bulk drugs will be considered by the Government on case to case basis for manufacture of bulk drugs from basic stages and their intermediates and bulk drugs produced by the use of recombinant DNA technology as well as the specific cell/tissue targeted formulations provided it involves manufacturing from basic stage.

Manufacturing process

The general production sequence for solid dosage has many stages like dispensing, sifting, dry mixing, granulation, drying, sifting and milling, blending, compression, coating, inspection and blister packing. In all the above stages, capacity needs to get balanced for a steady output across different product mixes. It is observed that in the modular production system employed in pharmaceutical industry, capacity utilization is very low because the line cannot be used until the entire product across the manufacturing process is taken out.

The drugs are prepared by suitable chemical reactions of natural/synthetic intermediates under controlled conditions. Assuming that circles represent a stage of manufacturing such as blending etc., this becomes a three-stage manufacturing process for a final product obtained at the end of the third stage. Smart allocation of products in modular production system helps to improve asset utilization to a great extent. Formulations manufacture is a batch mixing process. Right dosage of the bulk drug (active ingredient) is compounded with compatible substances, to make the formulation edible. Packed as per the physical form - bottles (for liquids), blister strips (for tablets/ capsules) or ampoules (for powders), each formulation pack has the expiry date and storage instructions printed on it. Stringent quality control is exercised at all stages.

Research and Development

Research & Development is the key to the future of pharmaceutical industry. The pharmaceutical advances for considerable improvement in life expectancy and health all over the world are the result of a steadily increasing investment in research. There is considerable scope for collaborative R & D in India. India offers several strengths to the international R & D community. These strengths relate to availability of excellent scientific talents who can develop combinatorial chemistry, new synthetic molecules and plant derived candidate drugs.

Indian Pharmaceutical companies are in a favourable position to develop drugs at a fraction of the international costs due to the low manpower cost, infrastructure, quality scientists and the capability to conduct path-breaking research.

- The Government has taken various policy initiatives in order to strengthen Research and Development in the pharma sector.
- Fiscal incentives are awarded to Research and Development units in the pharma sectors towards the development of new drug molecules, clinical research, new drug delivery systems, new Research and Development set ups and infrastructure provision.
- Certain leading Research and Development companies have increased their Research and Development spending to over 5 percent of their turnover in comparison to an average spending of 2 per cent.

A Pharmaceutical Research and Development Promotion Fund to the tune of Rs 150 crore has been established for promoting Research and Development in the pharma sector.

Industrial R & D groups can carry out limited primary screening to identify lead molecules or even candidate drugs for further in vivo screening, pre-clinical pharmacology, toxicology, animal and human pharmacokinetics and metabolic studies before taking them up for human trials. In such collaborations, harmonized standards of screening can be assured following established good laboratory practices. The R & D expenditure by the Indian pharmaceutical industry is around 1.9% of the industry's turnover. This obviously, is very low when compared to the investment on R & D by foreign research-based pharma companies. They spend 10% - 16% of the turnover on R & D. However, now that India is entering into the Patent protection area, many companies are spending relatively more on R & D.

When it comes to clinical evaluation at the time of multi-center trials, India would provide a strong base considering the real availability of clinical materials in diverse therapeutic areas. Such active collaboration will be mutually beneficial to both partners. According to a survey by the Pharmaceutical Outsourcing Management Association and Bio/Pharmaceutical Outsourcing Report, pharmaceutical companies are utilizing substantially the services of Contract Research Organizations (CROs). Indian Pharmaceutical Industry, with its rich scientific talents, provides cost-effective clinical trial research. It has an excellent record of development of improved, cost-beneficial chemical syntheses for various drug molecules. Some MNCs are already sourcing these services from their Indian affiliates. A promotional research and development fund of Rs.150 crores is set up by the Government to promote research and development in the pharmaceuticals sector.

Global Pharma Labs Ltd. (GPL)

One of India's most reputed, Research based, Tech savvy pharmaceutical companies focusing on areas such as New Drug Discovery, Active Pharmaceutical Ingredients, Analytical Research, Phytochemistry and Biotechnology. Today, GPL is all set to create new records, scale greater heights. It has created new world-class production and R&D facilities, focusing on research, new process innovations leading to patents, and meeting global standards. The Company always places the common man at its core – who should be able to access and afford their medicines anywhere in the world. For the company, this is the only true benchmark of excellence, and the only thing that really matters. GPL has also commissioned a modern, sophisticated manufacturing facility for Soft Gelatin Capsules. Designed to meet the most stringent international standards, all operations in this plant from encapsulation to packaging, are carried out. All systems are validated to meet International FDA standards, and the present capacity of one million capsules per day can be doubled with marginal investments.

Today, GPL is proud of its achievements state-of-the-art formulations manufacturing facility, built to the exacting specifications of USFDA, TGA, MCA & MCC. One of the best R & D set-ups in the country, manned by a 150-strong scientists' pool. Strong Formulations Development base. A host of 'Biotech' products launched, including many 'Firsts in India'. USFDA approvals for Fluoxetine & Ethambutol manufacturing facilities. ISO 9002 approved Bulk Actives (APIs) manufacturing facility, offering facilities for contract research. The company has significant global presence. Leadership in Domestic Marketing and Distribution Management made the company a leader in Indian Generics Market.

Business

Human Branded Formulations

GPL, with its 400 multi-dimensional product formulations, spanning all major therapeutic groups in Human and 15 in Animal Health is a leader amongst the Indian Pharma Companies.

Continuous improvement of process efficiency is carried out, resulting in:

- Being the first to market several new and difficult formulations
- Percentage of rework being close to zero
- Process innovation to reduce the number of steps, while increasing yield
- Ongoing effort to improve raw material utilization
- Standardization of base used in all creams & suspensions
- Tremendous cost benefit to customers

Chemicals

The Bulk Actives division has the technology to manufacture 40 products. With facilities that consist of four plants capable of producing a range of bulk actives (APIs), plans are afoot for major expansion over the next five years. The bulk actives division which operates as a Strategic Business Unit - the Chemicals SBU - is headquartered at Nellore, A.P. is among the fastest growing manufacturing units with ambitious plans for the future.

The state-of-the-art plant, spread over an area of 30,000 sq. ft. area is equipped to manufacture four different products simultaneously on a campaign basis, under class 100, 000 "Clean room" condition. Besides being a 'closed' plant with forced ventilation system, it also deploys scrubbing system for Acidic and Alkaline vapors, ensuring clean environment. The APIs manufacturing facility of GPL encompasses one of the highest capacities in India to produce Loratadine (Anti-Histaminic), Glibenclamide (Anti-diabetic) and Chloro Hexidine Base (Dis-infectant).

Global Pharmalabs Ltd. has an agreement with Mallinckrodt Inc USA, for supplying 8 APIs, including Ethambutol and Fluoxetine to them. Mallinckrodt Inc, in turn, can convert these bulks into formulations.

Fluoxetine is an anti-depressant and GPL has a capacity to produce 1000 kgs/month at its unit. The USFDA approval to GPL has come without any 483 comments, which shows the competency of the group in its facilities, documentations etc.

Research and Development

Global Pharmalabs Ltd, over the last few years has established a strong R&D base in biotechnology and developed working relations with key R&D Institutes in the country for outsourcing of Research & Development. Presently, 30 scientists, many of them with Doctorates in their respective disciplines, comprise the Biotech R&D team. The R&D team has been further expanded keeping in view the expansion plans.

The R&D team has a demonstrated track record of biotechnology absorption through collaborative research. Currently about 20 products including conventional and recombinant vaccines, Anti cancer bio-therapeutics, diagnostics using recombinant antigens and natural thrombolites with high market potential are in GPL Biotechnology basket.

GPL is planning to launch Streptokinase, which is a thrombolytic agent of bacterial origin and is a drug of choice for blood clots in the vessels which supply blood to the Heart i.e. Coronary heart disease, brain stroke and pulmonary embolism. Streptokinase activates plasminogen to plasmin, which in turn dissolves the clots.

Streptokinase brand is a purified preparation of Streptokinase produced through bacterial fermentation. The product thus produced, is purified using the most sophisticated protein purification techniques.

About half a dozen technologies including diagnostics for HIV, thrombolites for Myocardial infarction and a pro-biotic are planned for launch this year. An equal number of products are in the pipeline for immuno-prophylaxis, diagnosis of hepatitis C, therapeutics for Cancer, Viral hepatitis, diabetes mellitus and anemia. HIV diagnostics include the mandatory ELISA format and highly advanced rapid autologous red blood cells agglutination test referred to as Naked-Eye Visible Agglutination Assay (NEVA) based on a technology developed for the first time. NEVA can be used on the bedside or in the office of the doctor. Results are available in 3-5 minutes as against the mandatory ELISA, which takes significant time.

Specifically in the area of Biotechnology at GPL, collaborative research and development is being carried out in half a dozen National and International Research Laboratories like IMTECH, Chandigarh, NII and CBT, New Delhi, ICGEB, New Delhi & Trieste, Italy.

Profit and loss account of GPL as on

(Rs in crores)

	0703-(12)	0603-(12)	0503-(12)	0403-(12)	0303-(12)
Income :					
Operating Income	1,450.30	1,276.60	1,090.00	1,091.20	935.10
Expenses					
Material Consumed	545.50	525.70	443.30	491.00	441.50
Manufacturing Expenses	59.40	44.10	34.10	31.50	32.10
Personnel Expenses	165.10	145.80	134.10	124.80	106.90
Selling Expenses	180.70	152.40	128.20	113.70	97.80
Administrative Expenses	239.80	170.90	162.50	153.30	81.50
Expenses Capitalised	0.00	0.00	0.00	0.00	0.00
Cost Of Sales	1,190.50	1,038.90	902.20	914.30	759.80
Operating Profit	259.80	237.70	187.80	176.90	175.30
Other Recurring Income	74.80	49.10	53.50	70.00	33.00
PBDIT	334.60	286.80	241.30	246.90	208.30
Financial Expenses	29.90	21.50	21.90	28.60	44.20
Depreciation	66.70	61.60	56.50	53.10	38.20

PBT	238.00	203.70	162.90	165.20	125.90
Tax Charges	27.20	23.00	19.00	22.20	27.80
PAT	210.80	180.70	143.90	143.00	98.10
Equity Dividend	50.20	37.70	37.70	37.70	22.00

Balance Sheet of GPL

as on

(Rs in crores)

	0703-(12)	0603-(12)	0503-(12)	0403-(12)	0303-(12)
SOURCES OF FUNDS					
Owner's Fund					
Equity Share Capital (share of Rs.10 each)	62.80	31.40	31.40	31.40	29.80
Share Application Money	0.00	0.00	0.00	0.00	1.60
Preference Share Capital	0.00	0.00	0.00	0.00	0.00
Reserves & Surplus	819.50	704.90	583.00	508.10	429.80
Loan Funds					
Secured Loans	362.70	312.50	287.40	343.70	329.30
Unsecured Loans	85.00	120.70	84.10	62.00	113.60
Total	1,330.00	1,169.50	985.90	945.20	904.10
USES OF FUNDS					
Fixed Assets					
Gross Block	1,129.20	1,015.10	950.50	846.00	792.10
Less : Revaluation Reserve	0.00	0.00	0.00	0.00	0.00
Less : Accumulated Depreciation	387.70	329.10	272.10	198.40	138.20
Net Block	741.50	686.00	678.40	647.60	653.90
Capital Work-in-progress	52.10	58.90	40.00	41.60	29.00
Investments	280.80	185.10	136.80	138.10	84.00
Net Current Assets					
Current Assets, Loans & Advances	841.40	628.40	483.00	443.30	408.80
Less : Current Liabilities & Provisions	585.80	388.90	359.80	340.20	293.80
Total Net Current Assets	255.60	239.50	123.20	103.10	115.00
Miscellaneous expenses not written	0.00	0.00	7.50	14.80	22.20
Total	1,330.00	1,169.50	985.90	945.20	904.10

Annexure I**Closing value of the S & P CNX NIFTY and Global Pharmalabs Ltd.**

Month	S&P CNX Nifty	Share price (Rs.)
February 2007	3541.61	322.00
March 2007	3628.71	351.10
April 2007	3640.17	376.85
May 2007	3571.00	334.60
June 2007	3631.40	323.35
July 2007	3572.62	340.00
August 2007	3171.21	248.00
September 2007	3452.16	246.90
October 2007	4370.55	315.00
November 2007	4323.52	287.30
December 2007	4117.63	317.00

January 2008	4003.15	310.00
February 2008	4241.61	306.00

END OF SECTION D

Section E : Caselets (50 Marks)

This section consists of questions with serial number 6 - 12.

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. Foreign Institutional Investors (FIIs) have grown predominantly because of the growth potential available in the Indian economy with private equity. Discuss the various growth factors leading to private equity in India. [<Answer>](#)
7. What are the factors a PE fund manager should look into before investing the requisite funds in various companies? [<Answer>](#)
8. PE not only provides diversification but also have other advantages. Discuss the various advantages and disadvantages associated with private equity funding. [<Answer>](#)

(8 marks)

(6 marks)

(6 marks)

Private Equity (PE) investment has become an important asset class in the investment world. And India has become a hot destination for private equity investments. The real estate and buyout funds dominate the Indian private equity market currently. India has been witnessing dramatic shift in the size and composition of foreign investment inflows over the couple of years.

Generally private equity firms or funds are most often limited partnerships, which pool together funds garnered from a variety of investors, including high-net-worth individuals, banks, financial institutions and pension funds. India is slowly turning out to be an important destination for global private equity market. However, in terms of numbers, India's investment share is only 6-7% of the global pie. But the growth in India in the context of global PE environment is substantial. According to the Business World's Venture Intelligence Private Equity Survey, 2007, at present there are nearly 150 private equity and venture capital firms active in the Indian market. The Indian private equity market is very much linked to the dynamics of global markets as 90% of funds comes from abroad, notably the US. India was the sixth biggest country in terms of aggregate commitments to private equity in 2006, with 17 firms achieving an aggregate \$7.3 bn in commitments, 1.6% of the global market. Even though IT and ITES sectors account for major share in PE investments, the other sectors like manufacturing and heavy engineering and banking and finance are buzzed with intense private funding activity. This indicates that PE investors are looking beyond export-oriented businesses to park their money. Thus on the positive side of funding 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 while on the negative side it is an expensive source.

It is a challenge for the investors to select an appropriate PE fund and monitor its performance, it is even more challenging for the PE fund manager to invest and earn the expected returns. The fund manager has to consider certain characteristics like good cash flow, proper asset liability management, etc for generating expected returns. Companies going for private equity investments should have good amount of cash flow. He has to constantly ask himself questions like how to plan liquidity for portfolio while at the same time keeping commitments of several funds. He should value the unrealized investments. He also has the challenge of measuring the performance of the portfolio and how to project the future returns. The managers' tasks include gathering information, constantly watching the market, monitoring the portfolio, modeling the cash flow and forecasting the portfolio. It is also important for the PE fund manager to identify as well as reduce the risks. Various factors such as strength in the regulatory framework, capital markets etc are leading the private equity market in India. PE not only provides diversification but also has other advantages. When compared to the public markets, the PE funds have a long-term historical outperformance record.

Given the opportunity, there is no doubt that Indian private equity industry will gradually assume the role of traditional investors in mature markets that is transforming businesses. More transparency in the sector would indeed be welcome. 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.

END OF CASELET 1

Caselet 2

Read the caselet carefully and answer the following questions:

9. As a result of globalization and competition between international markets, the stock markets all over the world started the process of demutualization of their operations to achieve the desired objectives to maintain competitive position in the present fast changing economic scenario. What is demutualization? Discuss the various advantages of demutualization. [<Answer>](#)
- (8 marks)
10. The demutualization of an exchange has different stages associated and can also lead to different forms. Discuss the various objectives for implementation of demutualization in stock exchanges. (8 marks) [<Answer>](#)

The securities market world over introduced large-scale reforms for constitution and operation of stock exchanges. Most of the stock exchanges so far have been formed as "mutual organizations". It means the trading members besides providing broking services were having a control over the management of the stock exchanges for their mutual benefits. The profits from the stock exchanges were also not distributed amongst the members, these being "not-for-profit organizations". These stock exchanges were operating for the benefit of its members without bothering much about the interest of the owners. In some cases, there used to be conflict of interests between ownership and management. To avoid any situation of conflict, a need was felt to segregate the management functions from ownership and trading rights through demutualization. As a result of globalization and competition between international markets, all over the world started the process of demutualization of their operations to achieve the desired objectives to maintain competitive position in the present fast changing economic scenario. It is in this context that SEBI initiated a process of corporatization and demutualization with the aim of bringing transparency in the functioning of the stock exchanges in India. By separating ownership and trading rights and creating a good corporate governance structure demutualization of stock exchanges would help them to enter the capital market, to meet their requirements of finance.

The SEBI issued guidelines for adopting the process of demutualization by the stock exchanges. The stock exchanges submitted their reports from time to time to SEBI. The reason was that the process of demutualization was to take place in stages. In the first stage, the members of the exchange were to be allotted shares in proportion to their membership rights, making them legal owners of the organization. This extends the trading and ownership rights into the members hands. For doing this, the stock exchanges were required to comply with the requirements of respective laws, including approval of their members, in its general meeting. After the allotment of shares and filing a return with the Registrar of Companies, the stages of demutualization started. Among the major stock exchanges that have demutualized, the London Stock Exchange (LSE) provides a classic model of a successful demutualized entity.

It can be said that demutualization always leaves a positive impact on the exchanges. It is also true that as an industry continues to consolidate to achieve economies of scale, the eventual winners in the process are the exchanges that provide liquidity to the investors. Thus, it may be commented that demutualization is likely to have its multi-level impact on stock exchanges and economy as a whole at the macro level.

END OF CASELET 2

Caselet 3

Read the caselet carefully and answer the following questions:

11. What is EVA and how it is a superior measure compared to conventional measures like EPS or ROE? (7 marks) [<Answer>](#)
12. There are certain weaknesses and limitation of EVA which spills over to the portfolio selection process. Discuss. [<Answer>](#)
(7 marks)

Over the years, the concept of Economic Value Added (EVA) has gained considerable popularity. With the growth of the economy and increase in savings, investors require new channels of investment. Further, they require professional managers for their funds and this has led to the expansion of funds management business. Funds management involves several activities like portfolio construction, constant performance monitoring, portfolio churning etc.

Portfolio construction and management for the security is an art as well as a science. Several mathematical models have been developed, however, all these models feed on a set of securities, out of which optimized output is provided. Designing a set of security or portfolio is done in the industry based on various parameters like PE multiple, EPS growth rate, discounted cash flow, market capitalization, book value to market value ratio, return on equity, etc. It is hereby suggested to use the concept of Economic Value Added (EVA) for the selection of the security set. EVA is one of the fundamental approaches to security selection whereby only those companies should be considered for portfolio which generate positive returns over and above the minimum required.

The concept of EVA sounds fundamentally very strong and should be used as performance measure. By applying a capital charge, it corrects the key deficiency of earnings and Earnings Per Share (EPS), not incorporated in the balance sheet previously. Economic profit explicitly recognizes by way of the capital charge that capital is not free and, if growth is purchased with capital, economic profit recognizes that the growth is not free. As an operational metric, it helps managers clarify how they create value. Only companies which have long standing values, competitive advantages and efficiency can generate positive EVA continuously. However, there are certain weaknesses and limitations of EVA which spills over to the portfolio selection process. Unless fully loaded and all cash adjustments are made, economic profit can be subject to accrual distortions. Moreover, EVA is a short-term measure. Short-term performance can be easily manipulated to the detriment of the long-term performance.

Despite such limitations, economic and financial theory supports viability of EVA. The portfolio built on EVA incorporates companies with sound fundamentals and hence portfolio selection based on this parameter is expected to deliver supernormal returns. Informational transparency would support robust EVA calculation and investors should invest in such portfolios for long-term performance.

END OF CASELET 3

END OF SECTION E

END OF QUESTION PAPER

Suggested Answers

Security Analysis - II (MSF2D2): April 2008

Section D : Case Study

1.SWOT analysis of Indian Pharma Industry

[<TOP>](#)

STRENGTHS

- The growth of middle class in the country has resulted in fast changing lifestyles in urban and to some extent rural centers. This opens a huge market for lifestyle drugs, which has a very low contribution in the Indian markets.
- Indian manufacturers are one of the lowest cost producers of drugs in the world.
- Indian pharmaceutical industry possesses excellent chemistry and process reengineering skills. This adds to the competitive advantage of the Indian companies.
- Well developed industry with strong manufacturing base and Well established network of laboratories and R&D infrastructure
- Access to a large pool of highly trained scientists, both in India and abroad.
- Strong marketing and distribution network
- Competencies in chemistry and process development.

WEAKNESS

- The Indian pharma companies are affected by the price regulation. Over a period of time, this regulation has reduced the pricing ability of companies. The companies, which are lowest cost producers, are at advantage while those who cannot produce have either to stop production or bear losses.
- Indian pharma market is one of the least penetrated in the world. As a result, Indian majors are relying on exports for growth. To put things in to perspective, India accounts for almost 16 per cent of the world population while the total size of industry is just 1 per cent of the global pharma industry.

OPPORTUNITIES

- The migration into a product patent based regime is likely to transform industry fortunes in the long term. The new patent product regime will bring with it new innovative drugs. This will increase the profitability of MNCs pharma companies and will force domestic pharma companies to focus more on R&D. This migration could result in consolidation as well.
- Large number of drugs going off-patent in Europe and in the US between 2005 - 2007 offers a big opportunity for the Indian companies to capture this market. Since generic drugs are commodities by nature, Indian producers have the competitive advantage, as they are the lowest cost producers of drugs in the world.
- Opening up of health insurance sector and the expected growth in per capita income are key growth drivers from a long-term perspective. This leads to the expansion of healthcare industry of which pharma industry is an integral part.
- Being the lowest cost producer combined with FDA approved plants; Indian companies can become a global outsourcing hub for pharmaceutical products.

THREATS

- Threats from other low cost countries like china and Israel exist.
- Indian pharma sector has been affected by lack of product patent, which prevents global pharma companies to introduce new drugs in the country and discourages innovation and drug discovery.

2.

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Month	Return on the stock (%)	Return on the market	$(R_i - R_m)$	$(R_i - R_m)^2$	$(R_i - R_m) \times (R_i - R_m)$	$(R_i - R_m)^2$	$(R_i - R_m)^2$
(1)	(2) (R_i)	(3) (R_m)	(4)	(5)	(4) x (5)	(4) x (5)	(4) x (5)
March 2007							
April 2007	9.04	2.46	8.62	0.58	5.00	74.30	0.34
May 2007	7.33	0.32	6.91	-1.56	-10.78	47.75	2.43
June 2007	-11.21	-1.90	-11.63	-3.78	43.96	135.26	14.29
July 2007	-3.36	1.69	-3.78	-0.19	0.72	14.29	0.04
August 2007	5.15	-1.62	4.73	-3.5	-16.56	22.37	12.25
September 2007	-27.06	-11.24	-27.48	-13.12	360.54	755.15	172.13
October 2007	-0.44	8.86	-0.86	6.98	-6.00	0.74	48.72
November 2007	27.58	26.60	27.16	24.72	671.40	737.67	611.08
December 2007	-8.79	-1.08	-9.21	-2.96	27.26	84.82	8.76
January 2008	10.34	-4.76	9.92	-6.64	-65.87	98.41	44.09
February 2008	-2.21	-2.78	-2.63	-4.66	12.26	6.92	21.72
March 2008	-1.29	5.96	-1.71	4.08	-6.98	2.92	16.65
Total	5.08	22.51			1014.95	1980.60	952.51
Average	0.42	1.88					

Standard deviation of return on the stock = 13.42 (%)

Variance of the market returns = 86.59 (%)²

Beta = Covariance / Variance on the market = 1.07

Systematic risk = $\beta^2 \times \text{Variance}_m = (1.07)^2 \times 86.59$	99.14 (%) ²
Variance of the stock = $(13.42)^2$	180.10 (%) ²
Unsystematic risk = 180.10 – 99.14	80.96 (%) ²
Unsystematic risk as a % of total risk	44.95%

As the unsystematic risk is more than 40%, the given investor should not make the investment.

3. Price using regression equation

Beta = 1.07

Dividend Payout Ratio (%)

Year	Dividend Payout Ratio (%)
2007	8.0/33.57 = 0.238
2006	12.01/57.55 = 0.209
2005	12.01/45.83 = 0.262
2004	12.01/45.54 = 0.264
2003	7.38/32.92 = 0.224

Average Dividend Payout Ratio =
= 23.94%.

Growth Rate in Earnings

Year	Earnings Growth %
2007	16.66
2006	25.57
2005	0.63
2004	45.77
2003	-

Average Growth Rate =
= 22.16%.

Average ROE = 23.5%

$$\begin{aligned}
 P_{\text{Regression}} &= 38.72 + (11.45 \times 0.2394) + (26.05 \times 0.2216) - (0.72 \times 1.07) + (43.2 \times 0.2350) \\
 &= 38.72 + 2.74 + 5.77 - 0.77 + 10.15 \\
 &= 56.61
 \end{aligned}$$

II. Price as per DDM

DPS for the year 2007 is: 8.0

It is given that the earnings will grow by 15% for the next 5 years and 12% thereafter.

The required rate of return

$$\begin{aligned}
 R_e &= R_f + (R_m - R_f) \beta_i \\
 &= 5.5 + (11) 1.07 \\
 &= 17.27\%.
 \end{aligned}$$

Year	DPS	PVIF@ 17.27%	PV (DPS)
2008	8.0 (1.15) = 9.2	0.8527	7.84
2009	9.2 (1.15) = 10.58	0.7272	7.69
2010	10.58 (1.15) = 12.17	0.6201	7.55
2011	12.17 (1.15) = 14.00	0.5288	7.40
2012	14.00 (1.15) = 16.10	0.4509	7.26
			37.74

$$P_5 = 342.16$$

$$\begin{aligned}
 \text{Value at the end of year 5} &= 342.16 \times \text{PVIF} (17.27\%, 5) \\
 &= 154.28
 \end{aligned}$$

$$\text{Price as per DDM} = 154.28 + 37.74 = 192.02$$

$$P_0 = 0.45 \times 192.02 + 0.55 \times 56.61$$

$$= \text{Rs.117.54}$$

4.The key trends and strategies being adopted by the pharmaceutical industry are

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Increased R&D Focus

Driven by the imminent change to a product patent regime at domestic level the leading pharmaceutical companies in India have been increasing their R&D budgets over the years. Indian pharmaceutical companies are likely to double their expenditure on R&D over the next 2 years.

Exports driven growth

Indian pharmaceutical companies are on a global beat. Currently, exports contribute more than half the total revenues for most of the Indian pharmaceutical majors. Exports have increased in recent years as Indian pharmaceutical companies have made deep inroads into the regulated generic markets of the US and Europe, in addition to unregulated markets.

MNCs showing growing interest in India

The share of MNCs in the Indian pharmaceuticals market is expected to increase with the recognition of product patents in the country, as they will be able to freely introduce top of the line, patented products in the domestic market. Moreover, with the new price control order expected to be passed soon and margins of most MNCs with strong brands will drastically improve. The Indian Government's decision to allow 100 per cent Foreign Direct Investment into the drugs and pharmaceutical industry is expected to aid increased investment in R&D infrastructure by MNCs in India.

5.As the pharma industry is mainly product focused, the key performance indicators are:

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New Products in the pipeline

Pharmaceutical development can take five to 10 years; hence they require a full pipeline because the company must have products to sell while other products are still in development. Another point to consider with long pipeline lives is that some products may lose promise before being fully developed. Other products in the pipeline will need to be able to absorb those losses. Indian pharmaceutical companies are likely to double their expenditure on R&D over the next 2 years.

R&D Budget

Pharmaceutical companies spend more on R&D than many other industries compared to other industries, the global pharmaceutical industry spends around 9-10% of their sales on R&D, though in Indian average is just about 2%.

Time to market

This is critical in the pharmaceutical industry; as companies receive patents for new drugs or treatments. Similar research is often being simultaneously conducted across competitors and the first one to receive the patent wins. Reducing cycle time is the primary focus of most companies. A measure of cross-functional cooperation can lead to interesting results and have a large impact on improving the overall time to market.

Quality & Standard conformance

Apart from investment in original research, the need to upgrade manufacturing facilities is becoming critical, Good Manufacturing Practices (GMP) compliances and approvals from international bodies such as the US FDA, the UK MCA, the South African MCC and the like are becoming necessary.

Section E: Caselets

Caselet 1

6.Growth factors Leading to Private Equity in India

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Strength in the Regulatory Framework

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. Some of the changes made by SEBI with respect to the private equity players are:

- It has removed the one year lock-in period for the subscription in IPOs.
- It has increased the limit of funds that can be invested in the listed companies.

Strength in the Capital Markets

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

Japan is the strongest economy in Asia. After Japan, China is the second largest economy and India comes in the third place. India has achieved the 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.

Exit route

When one is aware of the fact, that the playfield he is going to enter has no exit, why should he enter it at all? Same is with the investment also. 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.

Government also has its own role to play. The Government of India has deregulated several sectors like aviation, insurance and telecom. And these sectors have attracted ample of foreign investment. A good example is that of Bharti Televentures. 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.

7.A PE fund manager should look into the following factors

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- High growth prospects.
- Unique product or service with a competitive edge.
- Relevant industry sector experience of the management.
- Good cash flow.
- Proper asset and liability management.
- Ready to sell the part of the business to private equity investor.

The company should also consider the cost associated with it. Private equity investors typically require an internal rate of return of around 30% or sometimes even greater. Companies must carefully evaluate whether they should, or not, pursue this capital alternative. Other capital alternatives include bank financing, private mezzanine funding, and accessing the public debt and equity markets. For the companies which are profitable but do not have a proven track record or historical background and are in need of a capital for further growth aspects, private equity is a means of finance. And these companies also, do not have alternate cheaper source of financing. As we all know that, going to equity market is not a cheap option available because, it eats up almost 20% of the total proceeds as the expenses of the issue.

8.The advantages and disadvantages associated with the private equity funding:

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Advantages

- 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 relatively stable.
- It also increases the borrowing capacity of the company, which can be utilized for further growth.

Disadvantages

- It is an expensive source.
- 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.

Caselet 2**9. Demutualization**

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The demutualization is a process of converting a stock exchange from a "non-profit" member-owned organization to a "for-profit" shareholders' organization. Thus, demutualization means the segregation of ownership and management rights from trading rights of the members of a recognized stock exchange in accordance with a scheme approved by the Sebi.

Advantages of Demutualization

Following are some of the major advantages:

- It will have more opportunities for growth and to remain a viable corporate entity.
- It can have improved valuations as a "Going Concern."
- Securities firms/members can gain access as trading participants without the need for capital contribution.
- Existing members will be able to sell off their shares, while still retaining their trading rights.
- To raise funds through multiple sources as a corporate entity.
- Participate in Mergers and Acquisitions to obtain economies of scale and scope for further development and growth.

10.Traditionally, there was limited competition among the exchanges and this resulted in localized and focused approach with homogeneous interest. The emergence of greater competition has led to divergent interests among the exchanges. In order to address them, a new phenomenon came into the picture known as demutualization. This structure helped the exchanges to be more transparent in its functions and the interests of owners were assigned to that of the exchanges. Thus, the demutualized exchange became accountable to its shareholders, which became a primary motive for the exchange to be demutualized.

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Demutualization makes the exchange to be profit-oriented in nature due to its accountability to shareholders. Today's competitive environment demands the exchanges to be responsive in their operations because of their liability to outside parties such as stakeholders, participating organizations, listing companies, institutional and retail investor, etc. Separating ownership will results in more profits and reduces conflict of interest for the exchanges.

The objectives of demutualization are:

- To segregate the ownership, trading rights and management. The reason was that the stock exchanges owned by members tend to work towards the interest of the members alone which could be detrimental to the rights of other stakeholders.
- To cope with competitive environment, the stock exchanges required funds. The publicly-owned stock exchanges can only access the capital markets for their finances.
- To manage the stock exchanges more professionally and for creating greater transparency in dealings, accountability and market discipline.
- To enhance the flexibility of management.
- To implement good corporate governance practices in the exchanges.
- To change the "not-for-profit" character of the company into a "for-profit" entity.
- To make the stock exchanges as viable corporate entities.

Caselet 3

11.Economic Value Added. EVA is a measure of surplus value created on an investment. It indicates the performance metric at the business and management performance which is used by companies and their consultants. EVA measures performance in terms of change in value. Simply put EVA is nothing but accounting for the cost of capital. The main argument behind EVA is that the shareholders must earn sufficient returns for the risk they have taken in investing their money. In other words the, return generated by the company for the shareholder has to be more than the cost of capital.

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Conventional measures like EPS and ROE do not take into account a firm's risk adjusted cost of capital. Thus when these tools are employed to measure corporate investment performance, it is impossible to say whether any given level of EPS or ROE is acceptable to investors.

Profit is the amount it earns in excess of the cost of capital. Moreover conventional measures rely on accounting figures which are prone to manipulation. The concept of EVA has gained importance over a period of time. Essentially a residual income concept is one approach to performance management. However, unlike in other countries, use of EVA as a performance measure can be helpful. Investing in unprofitable businesses reduces the EVA making EVA the performance measure, could stop managers for investing in unprofitable businesses, who often do so in order to lose control over the entities.

12.The weaknesses and limitation of EVA which spills over to the portfolio selection process.

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- Unless fully loaded and all cash adjustments are made, economic profit can be subject to accrual distortions. For example, because NOPAT is after depreciation and amortization, a company that does not reinvest capital to maintain its plant and equipment can improve its accrual bottom line simply by virtue of the declining depreciation. This sort of attempt to boost economic profit is known as harvesting the assets.
- For the purpose of translating operating leases to capital leases, contractual details of the leases are required to be analyzed.
- It has the limitations of any single-period, historical metric, Last year's economic profit will not necessarily give you an insight into future performance. This can be especially true if a company is in a turnaround situation or makes a large lump-sum investment, in which case, economic profit will immediately suffer (due to the higher invested capital base) but the expected future period payoff will not show up as a benefit in the calculation.
- Because it relies on invested capital, it is more suitable for analyzing asset-intensive firms that exhibit somewhat predictable growth trends. The best use of economic profit tends to be in traditional and mature industries. It therefore has less relevance for firms that are valuable largely because of intangible, off-balance-sheet assets; economic profit has shown limited success in high-tech and service-oriented companies.
- Moreover, EVA is a short-term measure. Short-term performance can be easily manipulated to the detriment of the long-term performance.

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