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Indira Management Review

Bi -annual Research and Academic Journal

Research/Academic Papers

- Volatility in Pharma Stocks
- Karnataka Human Development
- Cross Section Study of Working Capital Demand in Auto Industry
- Solow Model and India's Progress post Liberalisation
- Trade Unions in Leather industryin Kolkata

Posers

- Knowledge Management and EHRM

Book Review

- Talent Management: Strategies for Success

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INDIRA GROUP OF INSTITUTES, PUNE

Shree Chanakya Education Society (SCES), Pune, was established in 1994, with the explicit vision to provide sustainable impetus to the corporate and entrepreneurial abilities in the youth.

The realization that a robust framework of education is indispensable for the growth of global leaders, the visionary, Ms. Tarita Wakalkar Mehendale, Chairperson, Indira Group, integrated her pursuit of excellence and articulated educational institutions, known as Indira Group of Institutes (IGI), which imbibe human excellence and demonstrate strong social values, with a single minded pursuit of developing the youth to become business leaders.

Unrelenting initiatives by the management team at Indira led to adding of multi-disciplines such as Management, Information Technology, Pharmacy, Commerce, Science, Engineering and Mass Communication to the group. And growth has been as deep as it has been wide. With 12 institutions, IGI now offers education right from Kindergarten to Doctorate level studies .

IGI believes in the economic independence of individuals. In this endeavor we aim to inspire our post graduate students to create a niche for themselves in the Indian Economic order first, and then compete globally. We owe our gratitude to the Indian Industry for consistently collaborating with us in this endeavor. Renowned industrialists have visited us and tremendously enhanced the morale of our students by sharing their vast knowledge and experience about entrepreneurial opportunities and foster a spirit of entrepreneurship amongst students.

Having traversed the journey of thirteen years we have ourselves made certain significant achievements which we are aware, are but the building blocks for achieving further heights.

- Indira is ranked amongst the top 2 B-schools in Pune, by the prestigious AIMA - IMJ.\
- The same journal gave us a top 30, all India ranking on the parameters of Industry interface.
- Our students have shown good academic results at the level of university ranking.
- The achievements of our students have enabled them to attract some of the best corporate recruiters.
- Indira Group of Institutes and our goodwill has enabled us to establish campus agreement with Microsoft for using different software.
- Our goodwill with Microsoft was further accentuated with Microsoft conducting workshops at Indira, for train the trainer modules.
- Business India has also ranked us amongst the top 3 in Pune for last 2 yrs.
- Our Institutes have received accreditation from various certifying bodies.
- Indira Institute of Management was the first management institute in Maharashtra to receive the accreditation from the NBA, New Delhi.
- We also have our audiovisual centers supported by Harvard Business School, Stanford, Pyramid Media and Tom Peters Company and we have a vast collection of titles.

Editorial

P. G. Vijairaghavan

As public administration tries to become more professional in delivering value in the social sector to the citizens, it is appropriate that periodic studies be undertaken to assess the efficacy of such efforts, if only to identify the areas in which the services have been able to do justice to the expectations of the common man and areas in which they have lagged behind. One such study undertaken by Drs. Gopalakrishnan and Rao, tries to analyse the quality of public spending in Karnataka State between 1999 and 2005 and to determine the state of Human Development in the State It certainly shows pointers towards what could be done to better the performance of the State in inching towards achieving public expectations.

The pace of expansion of the Indian economy post the 1991 liberalization exercise has been a subject of considerable interest to students of development economics. Dr Bhattarai and Dr. Kulkarni examine this phenomenon with special reference to the role played by International Trade in fast tracking India's development in the post-1991 era and conclude that imports and exports were a prime player in putting India on the world map, based on empirical data and the Solow model featuring our international trade. Jatin Gambhir and Harjit Singh have contended that pharma industry's performance on the Stock Exchange may not have an exact correlation with the market sentiment.

Knowledge Management has come to be associated with greater productivity and sharing of information and knowledge assets is recognized as prime requirement to enhance performance at the workplace. Dr Chandra Mohan and his colleagues try to expose the value of KM in Human Resource Management in a corporate environment.

This issue also features an academic paper on participation of the leather industry workers in Kolkata in Trade Unions. The working class directly involved in the Leather industry exceeds 2.5 million and indirectly it can support upto 6 mn employees. The authors trace the labour movement in this sector which can give direction to the Trade Union movement of the country. Also included is an exercise to examine the desirability of carrying working capital not just on the basis of sales, but the need to examine holding costs of such working capital balances. Shiva K Srinivasan reviews Larry Israelite's anthology of essays on Talent Management which selected six Companies in disparate sectors, to examine the strategies they adopted to manage the available talent pool and the results obtained therefrom and arrives at the conclusion that customizing TM solutions is

Empirical Analysis of Volatility in Indian Pharma Stocks

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Abstract
Long term investors in equity markets continuously seek to invest in the undervalued stocks which have the potential of growth over the period of time. Due to the recent fall in stock prices pharma stocks have become attractive investment opportunities for investors. This study deals in identifying whether the pharma stocks have actually been better performers than the sensex stocks or whether the pharma stocks are riskier than sensex pre recession. The risk and returns were compared based on different parameters.

This study reveals that pharma stocks outperformed the sensex in terms of monthly returns while the total risk associated with pharma stocks is lesser than the sensex stocks as well. The returns from Pharmaceutical stocks are independent of market conditions while in case of sensex stocks significantly depend upon the market conditions. In case of sensex stocks, the perception of investor about expected return from stock in these sectors at the given level of risk are highly correlated, that is investors' expectation of returns from these stocks is higher for the higher level of risk. Also dependence expected return of Pharmaceutical stocks on changes in market returns is very less as compared to sensex stocks.

Key Words: Pharma Stocks, Volatility, Sensex, Defensive, Bombay Stock Exchange.

1. INTRODUCTION

Pharma is a very narrow sector and there is not much money in terms of asset under management in these funds. Hence, an upward movement in a few select stocks can turn these funds into best-performing fund during difficult market and economic times. We often hear market experts advise that investors should seek out "defensive stocks" '[1].

Defensive stocks are essentially those which are less volatile; do not get affected too much by short-term mood shifts, and thus fall less than the market in the event of a downturn Hindustan Unilever, Colgate Palmolive, Nestle India, GlaxoSmithKline Pharma and Lupin have actually managed positive returns or remained flat in 2008 and have been among the top performers in the recent fall. These stocks were underperformers in the 2007 rally. However, the theory that exposure to defensive sectors helps your portfolio has played out, with the overall performance of these sectors being better than the market. It

may be fair to add pharmaceuticals stocks to the defensive category because society will invest in medical advancement regardless of the economic environment (Hansen 2003). The stock of Sun Pharma Advanced Research, Bilcare and Biocon that rose over 50 per cent during past years lost all their gains in corrections this year. Divis Laboratories that rose over 200 per cent last year, has lost 38 per cent of the peak value so far. The stock of Cadila Healthcare, Cipla and Lupin, whose returns ranged between a negative 16 per cent to positive 2 per cent in 2007, have all seen moderate correction in prices in 2008.

Lupin Pharma, however, recorded 8 per cent increase in prices. GlaxoSmithKline Pharma was the only stock in BSE healthcare space that recorded negative return (11 per cent) in 2007 rally and reversed to post an increase of 5 per cent this year. The stocks that generated exceptional returns in 2007 and still held their ground this year were Sun Pharma, Piramal Healthcare and Glenmark Pharma. The BSE healthcare index has fallen 26 per cent since January this year.

All this suggests that investors have taken opportunities to book profits even in defensive stocks, which delivered high returns in 2007. This can be seen from the following Table-1:

Table-1: Performance of Pharma Stocks

INDICES	**Actualized return Mar-31-Jun30 2008**
BSE SENSEX	-14%
BSE MIDCAP	-16%
BSE SMALLCAP	-15%
BSE 100	-15%
S&P CNX NIFTY	-15%
CNX NIFTY JUNIOR	-22%
BSE AUTO	-21%
BSE BANKEX	-23%
BSE CAPITAL GOODS	-28%
BSE FMCG	-9%
BSE HEALTHCARE	**8%**
BSE IT	13%
BSE METAL	-6%
BSE METAL	-6%
BSE OIL & GAS	-10%
BSE POWER	-29%
BSE PSU	-24%
BSE REALTY	-40%
BSE TECH	1%

This study investigates the value creating opportunities offered by pharmaceutical stocks. In the present paper we tried to determine the performance of pharmaceutical stocks with respect sensex stocks in Indian market to determine if pharmaceutical stocks in India have been value creators for investors. This research will help the investors to choose the pharmaceutical stocks in their portfolios depending on their risk perception and required returns for that type of risk. This study will also help to determine if really investing in pharmaceutical stocks create value.

This study analyses the share price returns involved in the investment. It involves the analysis of securities from point of view of their price, returns and risks. The analysis of risk and return related to securities will help in understanding the behavior of security prices, market and decision making for investment.

The empirical study reveals that pharma stocks outperformed the sensex in terms of monthly returns while the total risk associated with pharma stocks is lesser than the sensex stocks as well. The returns from Pharmaceutical stocks are independent of market conditions while in case of sensex stocks significantly depend upon the market conditions. In case of sensex stocks, the perception of investor about expected return from stock in these sectors at the given level of risk are highly correlated, that is investors expectation of returns from these stocks is higher for the higher level of risk. Also dependence expected return of Pharmaceutical stocks on changes in market returns is very less as compared to sensex stocks.

Financial analysts play a key role in distinguishing which news are relevant for the valuation of a particular asset, and the changes in their recommendations are signals of new information in the market. Recent finance literature highlights the role of technological change in increasing firm specific and aggregate stock price volatility (Campbell et al. 2001, Shiller 2000, Pastor and Veronesi 2006). Gonzalez and Gimeno (2008) studied the impact of buy or sell recommendations on returns and also volatility of the pharmaceutical companies listed in the New York Stock Exchange The pharma sector now commands attention as one of the key building blocks of the Indian outsourcing story. Mazzucato and Tancioni (2002) investigated more closely the relationship between stock price volatility and innovation using firm level patent citation data focus the analysis on firms in the pharmaceutical and biotechnology industries between 1974 and 1999. Results suggest that there is a positive and significant relationship between idiosyncratic risk, R&D intensity and the various patent related measures.

The whole idea of an investment is to secure your future (Grabowaki 1990). In this case, it is imperative to make a wise decision before one pump his hard earned money into any type of investment. This holds true whether his resources are limited or not. Investors are aware of the fact that the last couple of years have been lackluster in terms of the economy and investing (Jovanovic 1994). At a time like this, one needs to think, not twice, but ten times before investing. Nevertheless, a few

industries like the pharmaceutical industry, has managed to survive the economic meltdown (Knight 1921 & Manderbrot 1963)). This obviously makes them a safe option to put your money. Pharmaceuticals companies have survived the crisis predominantly because of it being a need-based industry (Berndth 2002).

Medicines are essential to the survival of every being. This need does not change, irrespective of the fact where people live. With millions of dollars spent on ongoing research and development, the pharmaceutical industry is poised to reach new heights in terms of profits, thereby making it a safe investment. Past evidence indicates that several of those who invested in the industry have now gone on to make considerable profits, with many millionaires included in the list (Clark 1973).

2.1 OBJECTIVES OF THE STUDY

1. To evaluate the defensive nature of healthcare sector vis-à-vis the industry benchmark.
2. To analysis the performance of pharmaceuticals stocks vis a vis the whole market
3. To highlight the defensive nature of healthcare stocks on basis of their alpha, beta, standard deviation.
4. To create an ideal portfolio with the feature of healthcare stocks.

2.2 Rationale of the Study

A great volatility prevailing in the capital market has led the investors especially the moderate and conservative risk averse investors to invest in stocks that are less volatile in nature and provide a steady return with a limited amount of risk involved. These kind of stocks which give a reasonable return and has less risk involved in them are called defence stocks and are considered safe for investment by the investors. It is a belief among the investors and capital market guru's that healthcare sector is safe for investment and it being a utility sector is less prone to risk and can provide a steady return (Deny 2005). Whether healthcare sector is a safer bet for the investment is a matter of consideration.

In order to understand this, there was a need to undertake an empirical study that will enable us to actually believe that investment in healthcare is safe or not and how much can it prove itself to be better than the market movement for the moderate and conservative risk investors.

3. METHODOLOGY

This is an empirical study which assesses volatility in Indian Pharma Stock market. To analyze the performance of pharmaceuticals stocks vis-a-vis the whole market, the required data for study was collected from the PROWESS software provided by Centre for Monitoring Indian Economy (CMIE) database. The stocks in BSE SENSEX and BSE Healthcare index were also taken from PROWESS (CMIE database). The data was taken on monthly basis. The study period entails data from April 2004 to December 2010. The stock prices have been taken as such that involves the period of gradual increase in the stock market, debacle of the stock market and eventually the rising back of the stock market. The overall collected data comprises BSE healthcare index (21stocks) with BSE sensex (30 stocks). The

hypothesis is tested through z-test and t-test. The popular software SPSS 13.0 was used for the whole analysis along with Microsoft excel. As per the requirements of the study, the data was also collected from the website of Mumbai Stock Exchange.

4. FORMULATION OF HYPOTHESIS

The following hypotheses have been framed to test the entire study.

(1)

H0: Healthcare stocks give good return in volatile markets.

H1: Healthcare stocks underperforms in volatile markets

(2)

H0: There is no significant difference in return from Healthcare Index and sensex.

H1: There is difference in return from Healthcare Index and sensex.

(3)

H0: There is no significance difference between the risk of Healthcare Index and sensex.

H1: There is significance difference between the risk of Healthcare and sensex**.**

The sample has been taken for a monthly data of a period April 2004 – December 2010, 79 numbers of observations. The reason for considering the monthly data is to eliminate the element of daily noise in the share prices and do a fair study of the movement the share prices. The data is secondary in nature collected from the reliable source of Bombay Stock Exchange. The data obtained is in the form of Time Series data depicting the prices of stocks and Index and various time periods.

This research study measures the difference in risk and return among Healthcare and BSE SENSEX 30 stocks over the period of April 2004 and December 2010. BSE SENSEX has been taken as a benchmark portfolio. The data is collected from the BSE website. The monthly returns for different companies (in percentage) are determined as:

$$R_i = \frac{P_1 \quad P_0}{P_0} \quad 100$$

Where: R_i is monthly return of a company,

P_1 is closing price of company for the month,

P_0 is opening price of company for the month.

Tools used for analysis

Descriptive statistics

- Mean
- standard deviation

Alpha

Beta

Correlation

Regression

Paired student t test to find the difference of the return and then to test the hypothesis.

Beta ( ) is the measure of a fund's or stock's risk in relation to the market. It can be estimated by regressing the monthly security return to the return of the benchmark portfolio. It is calculated as:

$$_i \quad \frac{n \quad R \qquad R}{n \quad {}^2 \qquad {}^2}$$

To measure the statically reliability of these hypothesis t-test has been applied and the calculated value is tested for 95% level of significance. if the value of t lies in the critical

region ($-t_{0.025}$ to $+ t_{0.025}$) we reject the null hypothesis and accept that the statically significant while in other case the null hypothesis can be accepted and it can be admitted that estimates are statistically not significant.

Alpha (α) is a constant intercept indicating a minimum level of return that is expected from security, if market remains flat (neither going up nor coming down). A positive alpha is the extra return awarded to the investor for taking a risk, instead of accepting the market return. ALPHA is calculated in this way:

$$\alpha = \bar{R} - \beta \bar{\chi}$$

Where:

R is mean return of security,

$\bar{\chi}$ is mean return of benchmark portfolio.

To measure the statically reliability of these hypothesis t-test has been applied and the calculated value is tested for 95% level of significance. if the value of t lies in the critical region ($-t_{0.025}$ to $+ t_{0.025}$) we reject the null hypothesis and accept that the statically significant while in other case the null hypothesis can be accepted and it can be admitted that estimates are statistically not

$\mathbf{R^2}$ is a statistical measure that represents the percentage of a fund or security's movements that can be explained by movements in a benchmark index. It explains the risk adjusted returns of security.

2. ANALYSIS

Information on the mean monthly return and the standard deviation of return are calculated for a random sample of companies over the period of 2004 to 2010and is given in the Table-2.

5.1 Stock comparison

After the analysis of the index, the stocks are also needed to be compared with the market benchmark and on the basis of their return so that we can select the best stocks for a defence characteristic oriented portfolio.

Table.2: Return on Healthcare Stocks

Month	Return on Sensex	Return on Biocon	Return on Cadilla HC	Return on Cipla HC	Return on Divi's Lab	Return on Dr. Reddy Lab.	Return on Glaxosmithkline	Return on Glenmark	Return on IPCA Lab.
Apr-04									
May-04	-15.83	-19.13	-6.64	-14.43	-6.93	-8.42	-9.47	-5.22	-4.31
Jun-04	0.75	3.25	-9.13	-9.29	-19.42	-7.64	-1.65	-4.09	-9.00
Jul-04	7.82	7.87	10.30	17.23	-0.89	3.32	0.93	16.74	6.34
Aug-04	0.42	0.46	5.69	-4.40	5.16	-7.25	-0.79	15.32	4.89
Sep-04	7.54	0.42	8.08	24.36	16.33	4.56	13.22	74.53	1.15
Oct-04	1.59	-5.67	-4.08	-5.59	-20.18	1.99	-0.05	-5.17	12.15
Nov-04	9.91	0.23	0.04	-0.73	6.37	5.64	9.41	13.72	4.57
Dec-04	5.91	-1.39	15.03	14.34	17.27	8.99	4.41	40.67	18.77
Jan-05	-0.71	-6.33	-6.98	-9.61	-17.54	-14.92	-8.42	4.14	-11.30
Feb-05	2.41	-3.30	-7.87	-9.26	-6.32	-2.25	4.58	5.54	-7.95
Mar-05	-3.29	-11.36	-8.21	-2.08	-5.25	2.70	-2.33	6.03	-18.23
Apr-05	-5.21	-2.17	-6.24	3.49	-6.67	-13.79	-0.93	-7.42	6.63
May-05	9.11	7.61	12.01	9.76	16.84	13.77	6.46	-5.28	5.17
Jun-05	7.13	-1.30	-2.44	8.34	-4.02	3.90	5.95	8.63	6.72
Jul-05	6.14	5.56	10.39	7.24	23.01	10.93	9.94	14.79	25.16
Aug-05	2.23	5.15	-1.92	1.64	18.09	-4.27	-0.66	10.13	0.64
Sep-05	10.62	-2.84	3.18	11.19	0.65	6.59	0.89	14.66	-1.91
Oct-05	-8.60	7.01	-15.05	-5.30	-11.79	-5.31	2.24	12.44	-9.84
Nov-05	11.36	-1.08	11.80	10.49	8.62	13.18	18.20	8.51	3.70
Dec-05	6.93	1.97	-2.08	11.51	4.47	7.09	4.61	4.02	-1.51
Jan-06	5.55	-6.37	3.46	-0.47	10.20	14.42	14.35	-3.17	-17.72
Feb-06	4.54	4.67	5.58	25.06	1.79	16.37	2.62	1.97	0.00
Mar-06	8.77	-7.81	25.43	19.94	9.40	9.01	10.35	1.26	3.51
Apr-06	6.76	10.70	15.74	18.20	1.02	0.81	-2.80	3.61	-5.44
May-06	-13.65	-19.48	-25.90	-12.00	-26.20	-5.20	-19.86	-0.26	-3.74
Jun-06	2.03	-10.79	-1.88	-5.97	-6.58	-6.14	-8.24	-7.36	-18.01
Jul-06	1.27	-6.86	-1.49	9.36	17.72	9.65	-3.60	1.45	25.10
Aug-06	8.89	15.07	20.41	5.91	16.82	3.15	21.15	13.11	19.02
Sep-06	6.46	-1.30	-4.43	4.92	22.91	1.50	1.84	-9.07	-5.05
Oct-06	4.07	-2.77	6.89	-0.08	22.18	2.29	-6.80	32.53	17.74
Nov-06	5.67	1.89	-5.97	-3.13	11.56	0.37	2.14	35.53	11.46
Dec-06	0.66	0.04	8.54	-1.24	1.76	8.04	-0.81	6.32	22.83
Jan-07	2.21	8.16	-4.21	-1.95	5.84	-8.43	-0.18	2.93	6.75

Feb-07	-8.18	13.82	-4.93	-5.09	-10.20	-8.83	-0.31	13.23	-2.04
Mar-07	1.04	6.03	4.83	1.03	5.98	7.43	-3.61	13.91	-2.84
Apr-07	6.12	-1.33	-3.80	-10.54	18.56	-2.46	4.45	9.01	10.17
May-07	4.84	-3.28	4.04	3.23	36.13	-8.48	9.26	5.69	-5.15
Jun-07	0.73	-4.72	12.06	-4.23	17.36	1.00	-0.52	-6.24	16.14
Jul-07	6.15	6.82	-6.62	-8.52	14.86	-3.41	-8.98	4.30	-4.04
Aug-07	-1.49	-3.53	-12.96	-12.24	-12.35	1.14	1.33	0.27	-2.26
Sep-07	12.88	4.07	1.67	8.99	3.65	1.28	-4.92	-38.87	-4.11
Oct-07	14.73	9.99	1.88	-2.00	41.58	-4.32	-2.76	16.23	-2.69
Nov-07	-2.39	9.74	-9.33	2.63	-6.12	1.80	-12.35	-6.82	-6.41
Dec-07	4.77	1.40	9.56	15.89	15.56	16.33	8.66	30.19	13.05
Jan-08	-13.00	-34.34	-21.42	-11.36	-24.38	-28.17	-20.61	-17.62	-7.02
Feb-08	-0.40	17.31	5.46	9.98	-2.08	10.31	35.67	-0.78	-0.78
Mar-08	-11.00	-3.51	-2.36	6.03	-8.31	1.42	-5.77	1.09	-2.67
Apr-08	10.50	13.85	13.35	-3.05	18.12	5.33	4.28	36.21	3.71
May-08	-5.04	-5.44	2.37	-0.47	-1.16	14.80	4.48	-1.71	-5.15
Jun-08	-17.99	-14.90	0.63	-0.45	-9.96	-6.16	-2.49	-2.79	-6.18
Jul-08	6.64	-3.48	5.08	3.60	5.65	-15.11	-0.95	1.25	-2.22
Aug-08	1.45	3.03	3.09	9.83	8.20	1.77	6.84	-2.37	5.77
Sep-08	-11.70	-9.26	-3.73	-4.85	-12.47	-12.14	0.41	-22.05	-3.62
Oct-08	-23.89	-46.01	-16.78	-22.36	-17.83	-15.86	-9.30	14.65	-31.51
Nov-08	-7.10	-5.93	-12.58	13.02	10.70	-0.02	8.97	14.83	-12.57
Dec-08	6.10	28.93	18.62	-6.81	10.33	9.72	-1.66	-8.97	9.30
Jan-09	-2.31	-12.91	-6.80	2.73	-34.04	-3.96	1.64	-53.50	-5.35
Feb-09	-5.65	0.00	2.00	-0.47	-1.77	-13.27	2.93	5.25	-4.89
Mar-09	9.19	42.36	6.96	14.99	9.89	24.88	-9.33	9.32	-0.32
Apr-09	17.46	-1.80	12.86	9.53	-10.52	11.40	7.89	13.94	22.22
May-09	28.26	27.91	8.37	-7.37	35.24	18.46	-0.91	26.31	35.98
Jun-09	-0.90	20.66	13.82	13.61	-3.27	20.62	2.66	-4.18	-4.71
Jul-09	8.12	-0.34	22.32	8.84	-3.91	5.10	14.01	14.80	17.95
Aug-09	-0.02	9.12	-1.80	-1.52	-1.57	-2.80	5.27	-13.07	12.94
Sep-09	9.32	8.69	13.99	3.04	7.38	24.34	8.62	9.37	15.22
Oct-09	-7.18	-4.71	8.99	2.86	-6.21	2.13	1.38	-5.62	13.33
Nov-09	6.48	5.45	5.77	11.26	13.96	11.92	5.86	3.21	3.88
Dec-09	3.18	6.23	8.46	4.83	11.58	1.27	-3.63	18.87	11.28
Jan-10	-6.34	-2.55	9.89	-5.45	-9.76	-1.62	-5.58	11.95	7.31
Feb-10	0.44	-2.36	6.88	-0.63	2.20	1.55	12.85	3.90	-2.66
Mar-10	6.68	8.16	8.32	6.91	8.92	11.74	3.63	5.82	23.30
Apr-10	0.18	6.12	2.64	1.62	-0.80	-1.14	7.15	1.35	-2.39
May-10	-3.50	-2.30	8.07	-6.89	10.57	11.16	10.55	0.56	4.16
Jun-10	4.46	10.38	7.84	5.89	3.67	3.50	4.03	-0.06	6.47
Jul-10	0.95	-4.93	-3.66	-3.30	-2.95	-6.86	-7.99	-0.61	-4.14
Aug-10	0.58	9.57	-4.82	-7.12	-0.89	0.73	-7.67	5.99	1.64
Sep-10	11.67	5.78	8.76	6.03	-6.74	5.71	18.72	4.48	9.23
Oct-10	-0.18	14.85	6.69	9.51	-0.12	15.11	0.65	13.84	4.62
Nov-10	-2.55	-5.16	9.74	-2.43	-10.56	7.68	-4.07	3.81	-2.91
Dec-10	5.06	7.99	1.32	7.62	4.35	-6.88	9.79	2.82	9.31

Return on Healthcare Stocks

Month	Return on Lupin Ltd.	Return on OPTO Circuits	Return on Orchid Chem. and Pharma	Return on Piramal healthcare	Return on Ranbaxy	Return on Sun Pharma
Apr-04						
May-04	-13.27	-21.08	-9.41	-13.39	-6.98	2.76
Jun-04	-9.35	32.28	-7.61	4.13	-7.98	-5.09
Jul-04	-2.27	18.09	-1.57	2.15	3.49	-3.21
Aug-04	8.33	-0.49	24.30	-0.94	1.79	9.01
Sep-04	8.69	65.15	4.03	18.95	13.84	10.51
Oct-04	-14.99	68.65	-10.19	8.48	0.72	3.40
Nov-04	2.05	12.43	18.39	16.28	2.34	12.23
Dec-04	8.17	-0.85	18.39	35.63	11.30	11.90
Jan-05	-12.39	1.88	14.61	-17.03	-13.30	-10.56
Feb-05	-7.34	14.19	-3.97	-3.73	-6.00	-3.56
Mar-05	-0.61	-12.87	-6.19	-12.97	-1.56	-1.43
Apr-05	1.74	-1.24	-6.47	-2.25	-9.07	6.14
May-05	10.28	14.95	12.41	14.09	20.61	5.01
Jun-05	12.01	6.13	0.95	3.03	-3.94	9.83
Jul-05	-0.56	40.62	7.79	-1.27	-11.01	6.53
Aug-05	11.00	20.76	5.52	4.82	11.62	1.85
Sep-05	-1.54	7.67	5.36	7.08	-6.48	6.24
Oct-05	-8.19	-10.03	-24.89	-15.43	-28.58	-9.61
Nov-05	9.21	13.49	12.39	17.92	9.78	10.17
Dec-05	1.24	15.61	10.34	-2.84	-5.92	2.97

Jan-06	10.11	13.78	9.43	-12.52	10.14	1.99
Feb-06	10.84	-7.15	21.88	-0.96	7.59	11.60
Mar-06	8.84	3.51	15.65	9.44	0.51	11.59
Apr-06	15.53	88.86	-7.58	-8.24	9.49	-0.31
May-06	-12.39	-5.92	-34.23	-19.78	-12.93	-6.75
Jun-06	-13.18	-28.37	-18.06	-0.16	-13.38	-1.82
Jul-06	0.34	8.25	-3.89	5.11	4.90	3.38
Aug-06	11.83	4.73	13.73	12.71	8.81	10.80
Sep-06	-8.14	10.34	2.94	4.69	8.12	2.68
Oct-06	11.12	26.04	-0.31	-4.86	-9.13	-2.66
Nov-06	3.19	16.25	0.14	4.28	-6.86	12.09
Dec-06	15.72	-13.05	-5.86	12.75	5.25	-3.54
Jan-07	-1.87	7.16	28.94	-3.45	4.27	4.98
Feb-07	0.48	-5.19	-10.01	-11.67	-17.38	-9.75
Mar-07	0.36	2.46	15.17	8.74	4.44	13.63
Apr-07	16.38	12.62	-1.34	4.86	5.32	-2.57
May-07	0.89	1.43	0.74	-2.17	4.40	7.92
Jun-07	3.01	13.08	-3.82	18.95	-8.45	-7.78
Jul-07	-12.12	24.07	-10.15	-10.11	9.85	-8.96
Aug-07	-8.87	-4.74	-9.65	0.20	0.36	0.06
Sep-07	-0.09	24.01	11.07	4.15	11.01	3.70
Oct-07	0.09	14.66	1.04	6.67	-1.69	9.19
Nov-07	-10.42	4.12	12.87	1.70	-9.34	4.58
Dec-07	20.58	13.46	10.92	17.11	10.02	10.84
Jan-08	-9.96	-11.23	-15.97	-15.05	-17.55	-6.84
Feb-08	-2.63	-8.37	4.98	-9.67	26.92	7.68
Mar-08	-11.11	-19.89	-35.93	10.60	-1.57	0.45
Apr-08	14.66	8.45	48.47	14.45	9.41	17.69
May-08	25.54	-6.40	0.46	3.86	10.12	-3.19
Jun-08	-6.20	-13.11	-6.48	-16.54	-1.06	-0.74
Jul-08	10.58	2.94	11.64	6.45	-4.58	1.26
Aug-08	-1.02	5.88	-2.01	5.73	3.89	4.66
Sep-08	-1.37	-24.23	-13.63	-2.30	-52.22	-0.53
Oct-08	-8.06	-37.46	-51.99	-31.99	-31.60	-23.50
Nov-08	-11.57	-15.00	-17.92	-6.42	23.22	-3.80
Dec-08	5.55	18.01	9.79	13.33	20.88	-1.41
Jan-09	-7.76	-1.68	-21.47	-10.69	-14.54	0.80
Feb-09	14.10	-4.91	-9.62	-2.35	-24.99	-5.50
Mar-09	5.99	20.95	18.15	-6.63	2.35	9.65
Apr-09	4.04	9.28	24.37	19.67	0.21	14.64
May-09	16.29	52.50	32.93	11.44	68.00	-5.14
Jun-09	-2.01	-3.22	-24.58	20.34	-12.11	-9.82
Jul-09	15.76	6.98	0.73	0.37	14.30	7.42
Aug-09	7.32	8.94	23.68	5.59	16.96	1.54
Sep-09	11.99	6.26	51.40	15.81	23.03	17.59
Oct-09	7.86	-0.97	-15.40	0.04	-3.11	-1.26
Nov-09	12.09	3.06	25.54	3.44	16.63	5.45
Dec-09	8.43	10.47	-4.49	-5.95	13.61	3.44
Jan-10	-4.69	-5.62	-13.66	-1.97	-12.43	-2.50
Feb-10	5.43	-1.14	0.79	8.88	3.07	4.86
Mar-10	8.47	2.46	-3.68	6.64	1.68	16.14
Apr-10	5.12	3.48	2.33	26.05	-6.70	-12.45
May-10	8.97	-2.03	-11.40	-3.67	-2.99	6.01
Jun-10	5.65	9.07	18.63	-6.83	7.15	7.42
Jul-10	-4.45	14.24	12.36	0.76	-2.45	-0.75
Aug-10	-5.24	2.17	0.43	3.01	9.11	-0.60
Sep-10	9.13	6.13	25.08	0.37	13.65	14.71
Oct-10	12.78	-3.84	22.36	-4.46	4.06	4.38
Nov-10	16.35	-1.33	3.18	-7.65	-1.43	6.48
Dec-10	-5.77	-4.66	2.81	6.35	4.76	8.00

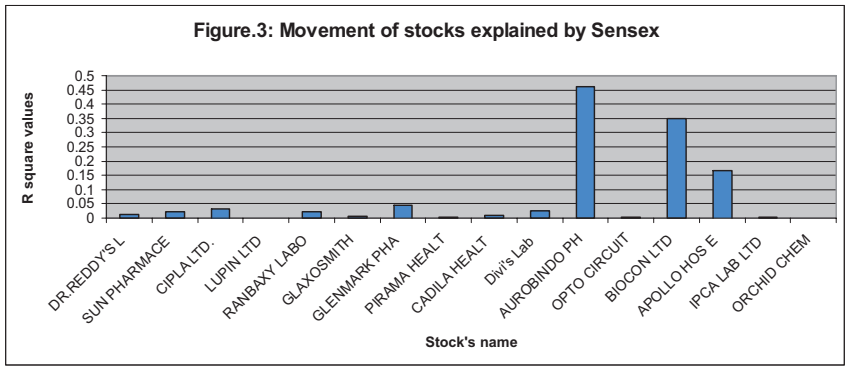
Explanation

The Table.2 shows the monthly returns of the 16 selected companies in the healthcare sector and the benchmark index Sensex. The reason for computing the return was to bring out the absolute values to bring a level platform to enable the comparison with the benchmark index. This analysis will depict how differently the healthcare stocks behave from the market movement. A further study will help to identify the stocks that can prove to be safer for investment even while the movement of the market is volatile. Since, the healthcare sector and its stocks form the part of the entire capital market. The movement of the market should also signify the same extent of movement for the stocks. But, a lesser volatility will bring out the indifferent nature of the healthcare stocks.

Extract from the above return on the stocks

Table.3: Statistical Results of Scrips with comparison with Sensex

Company	R2	alpha	Beta	F values
DR.REDDY'S L	0.012	2.318	-0.132	0.9
SUN PHARMACE	0.022	2.817	-0.144	1.67
CIPLA LTD.	0.033	2.51	-0.208	2.521
LUPIN LTD	0	2.436	0.023	0.029
RANBAXY LABO	0.023	1.868	-0.29	1.791
GLAXOSMITH	0.005	2.092	-0.074	0.348
GLENMARK PHA	0.044	5.047	-0.439	3.477
PIRAMA HEALT	0.004	2.239	-0.094	0.331
CADILA HEALT	0.01	2.528	-0.12	0.733
Divi's Lab	0.026	3.579	-0.284	2.023
AUROBINDO PH	0.461	0.172	1.424	66.779
OPTO CIRCUIT	0.004	6.745	0.161	0.319
BIOCON LTD	0.348	0.512	0.872	41.7
APOLLO HOSE	0.166	1.343	0.436	15.484
IPCA LAB LTD	0.002	2.817	-0.069	0.176
ORCHID CHEM	0	2.244	-0.033	0.018



5.2 Interpretation

R square is the value or the degree of movement in stocks explained by the movement in Sensex. The R square value of these healthcare stocks ranges 0 to 0.166 barring Aurobindo Pharma and Biocon Ltd. which is very high compared to the other healthcare stocks. It shows that the movement of healthcare stocks is explained by market benchmark Sensex to a very minute extent. The graphical representation of the R square values in the Figure.3 depicts the true picture of the co-relation of the Healthcare Stocks with the Sensex.

Looking at the beta values of the stocks in the table 3 it can be seen that all the stocks have either a negative Beta of it in positive it is almost close to 0 and the maximum being .436 for Apollo Hospitals. And, for Aurobindo and Biocon the degree of beta is very high. For Biocon Ltd. it is .872 while for the Aurobindo Pharma it is more than 1 being 1.424. Beta values show the slope of movement in the stock prices for the stock in relation to the movement in the market benchmark.

The lower alpha reflects that in case the market remains flat the healthcare stocks will provide a minimal return. While, looking at the alpha value of Biocon it can be interpreted that it may even deteriorate your wealth if the investment is made in this scrip when the market is flat.

The F-value which is around 1 shows that there is more inclination to accept that the samples do not differ significantly from each other in terms of their variances. So, a value near 1 means that the variance among them largely doesn't differ. And, in terms of risk they are similar in nature. We can see that the F-ratio of Aurobindo and Biocon is very high.

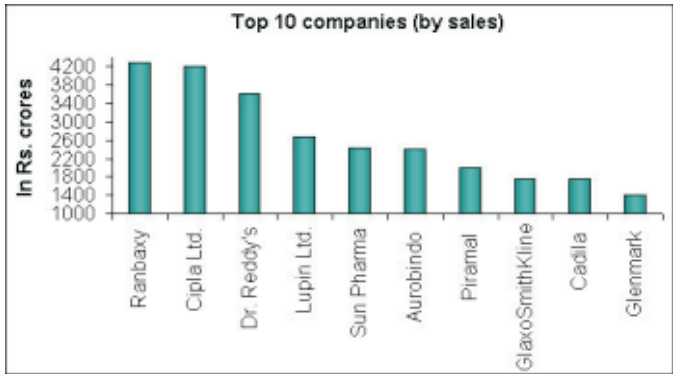


Figure.4: Top 10 companies in Sales

Even looking at the Figure.4 we can apprehend that the sales by these companies have been very high in terms. The figures are just representative of the pharmaceutical sales of these companies for the period 2009-10 and reflect the fundamental robustness of these companies stating that they can best represent the stock prices, as price reflects it all for the Company and its behaviour and status.

5.3 Effect in 2008

The year 2008 had been a shackling year for all the stocks in the market because of the sub-prime crisis hampering the growth of the world economy. In order to evaluate the performance of all the healthcare stocks we study their performance in the year 2008.

Table.4: Effect in 2008

Scrip	Average Monthly Return in 2008	Change Dec. 2007 to Dec. 2008
Sensex	-7.03	-110.29
Apollo	-1.52	-16.30
Aurobindo Pharma	-16.27	-223.48
Biocon	-11.02	-148.56
Cadilla HC	-2.06	-17.60
Cipla	1.61	-13.75
Divi's Lab	-3.69	-39.56
Dr. Reddy Lab.	-4.75	-56.54
Glaxo smithkline	0.18	10.20
Glenmark Pharma	-1.06	-0.66
IPCA lab	-6.00	-84.94
Lupin Ltd.	-0.76	-2.57
OPTO circuits	-12.22	-235.81
Orchid Chem. And Pharma	-14.40	-210.33
Piramal healthcare	-4.61	-49.76
Ranbaxy	-8.78	-68.76
Sun Pharma	-1.64	-14.75

INTREPRATATION

The year 2008 was the most traumatizing for the capital market as due to the recession in the world's giant economy The United States collapsed because of a huge recession and the entire world's economy was impacted. The Indian economy was also the one impacted. But, the extent of impact was not on a large scale as impacted in other countries. Our Indian economy was robust enough to handle the situation. There was nothing more than a slowdown. The economies around the world being co-related do effect the other economies. But, Indian economy was still growing but at a slower rate.

The slowdown effect must have affected the stock prices too considering our assumption of semi-strong EMH. The evaluation of healthcare stocks in this period can really help in choosing the best stocks that can even survive the traumatizing debacle in the capital market (Pastor 2004, 2005).

The reason for considering the year 2008 for examination is to ascertain the market movement and the impact in the stock market influenced by the global downturn.

The average return in the year 2008 for sensex was a negative 7.03% and stocks like OPTO Circuits, Orchid Chemicals and Pharma, Aurobindo Pharma, Ranbaxy and Biocon are negative too impacted by the economic downturn and the extent of negative return is even higher than the market benchmark.

However, there are certain healthcare stocks that have played true to the nature of defense stocks as their classification. Apollo Hospitals gave a negative return of 1.52%, Glenmark Pharma gave a negative return of 1.06% and Lupin Ltd. gave a negative return of just 0.76 %. While looking at other stocks like Cipla Ltd. and Glaxo-smithkline have been on a positive note. Though the return is not very significantly high these stocks have been able to enable themselves on the positive side despite the world economy facing a debacle in the same year.

5.4 Present Situation

Before considering the right stocks to invest, it will be wise to consider the present performance of different sectors to identify whether the healthcare sector is worth investing at the present scenario. Therefore, we analyse their performace in the present situation.

Table.5: Present Scenario

Sector	Return in 2010	Return in 2011 as on January 14,2011
BSE SENSEX	14.84	-8.74
BSE MIDCAP	13.90	-8.01
BSE SMALLCAP	13.57	-7.52
BSE 100	13.54	-8.38
BSE 200	13.96	-8.32
BSE 500	14.05	-8.17
BSE AUTO	27.35	-10.55
BSE BANKEX	25.03	-12.90
BSE CAPITAL GOODS	8.42	-11.56
BSE FMCG	24.23	-2.74
BSE HEALTH CARE	25.48	3.87
BSE IT	24.01	-5.99
BSE METAL	1.12	-7.48
BSE OIL & GAS	1.23	-6.25
BSE POWER	-6.69	-6.31
BSE PSU	-0.75	-8.30
BSE REALTY	-35.00	-13.15

Interpretation

Looking at the present condition of healthcare sector, the Healthcare sector looks very booming but considering our focus as the defence stock, it doesn't live up to the definition. The definition of the defence stocks asserts that the stocks should limit themselves in both the direction i.e. even the return on the stocks cannot be very high nor there can be a drastic downfall in the stocks.

Looking at the table no.5 and bar Figure no.5 on the next page, it can be seen that in the current fiscal the return in the healthcare sector has been 25.48% which is way higher than the market benchmark index i.e. Sensex which could gain as much as 14.84% for the fiscal ending 31Dec, 2010. The only sector to surpass the return on healthcare sector is the Auto Sector which gave a return of 27.35%. While other market sectoral indices baring FMCG and IT, have just been able to fetch a return of around 14% to 15% which is much below the return of these booming sector.

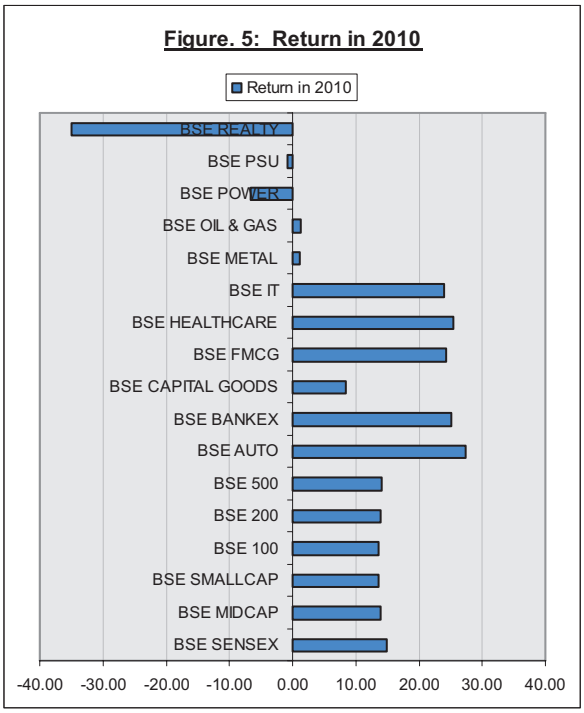


Figure. 5: Return in 2010

5.5 Test of Data (w.r.t. objectives) (Test 1)

H0: Healthcare Index gives good return in volatile markets

H1: Healthcare Index underperforms in volatile markets

In volatile markets the stock market gives either very high return in terms of positive risk prevailing and negative return in terms of negative risk. So it is expected that in order to prove the hypothesis the healthcare index needs to be in significant match with the market benchmark sensex.

To test this the period is considered from January 2008 onwards. Since January 20008, the market has been highly volatile. To test the hypothesis the paired t-test is conducted for the period. It is believed that HC is not as volatile as the market benchmark. The test is done at the 5% significance level (95% confidence level).

$H_0: \beta_1 \beta_2 = 0$
$H_0: \beta_1 \beta_2 \neq 0$

Where, $\beta 1$, β_2 are returns of the Healthcare and Sensex stocks in volatile period

T - TEST FOR April2008 onwards till December, 2010

	Healthcare	SENSEX
Mean	1.4922	.4303
St. Dev.	8.19626	9.76068
t Stat	-1.082	
Lower confidence level	-3.05482	
Upper confidence level	.93093	

From the above test it can be said that there is no evidence to reject the null hypothesis. As the confidence interval is -3.05482 to .93093 and the value for t-statistics is -1.082.
Since, the Healthcare Index has no significant difference with Sensex during the period of volatility in the stock market. Therefore, we can affirm that the Healthcare Sector gives good return in the volatile markets.

(Test 2)

H0: There is no significant difference in return from Healthcare Index and sensex.

H1: There is difference in return from Healthcare Index and sensex.

$H_0: \beta_1 \beta_2 = 0$

$H_0: \beta_1 \beta_2 \neq 0$

Where, $\beta 1$, β_2 are returns of the Healthcare and Sensex stocks.

T - TEST FOR
April2004 Dec.2010

	Healthcare	SENSEX
Mean	1.5276	1.9269
St. Dev.	7.44057	8.15621
t Stat	.658	
Lower confidence level	-.80761	
Upper confidence level	1.60611	

Since, the t-value of the test lies between the confidence interval (-.80761,1.60611) it can be said that the return in Healthcare Sector on the basis of Healthcare Index is not significantly different from the return in Sensex.

From the above test, it can be said that there is no evidence to reject the null hypothesis.

5.6 Findings

It has been found that the Healthcare Sector is changing its behaviour. Previously, it was a thumb rule to consider the investment in healthcare sector to be the safest one. But, considering the student t-test on the healthcare index and market benchmark during the volatile period of the market and also during the entire period of study it has been found that there is no much significant difference between the behaviour of healthcare sector in reference to the market benchmark i.e. Sensex.

Even, while comparing both the indices it was found that the standard deviation in the return of Sensex is 8.16% while the standard deviation of Healthcare Index is just 7.44%. There is no major difference between both of them. And, both are prone to almost similar level of risk. So, considering the healthcare sector to be safer for investment without proper analysis will be very imprudent behaviour on the part of the investor (Knight 1921).

In the fallout of stocks in the year 2008, it was noticed that Sensex fell by 110.29% while stocks like Aurobindo, Biocon, OPTO circuits and Orchid Pharma fell by 223.48%, 148.56%, 235.81% and 210.33% respectively indicating that they were negatively impacted even more than the market benchmark.
Considering the stocks it has been found that except Biocon and Aurobindo the other stocks are comparatively safer as compared to them. So, an investor on the basis of his risk potential can decide on the stocks.

And, considering the volatile period even it was found that healthcare is the hot sector for the purpose of investment and comparing it with other sectoral indices it has been found it is one of the most high return giving sector of around 25% in the 2010 fiscal year and when looked at the sudden down surge of market in the first 15 days of the January month in the year 2011 it was found that the healthcare sector just dipped around 3.5% which is much below the other sectors (Harris 2002).

So, it can be asserted that the healthcare sector is changing its nature and it will be wise on the part of the investor to evaluate the scrip before investing. A wise decision can help to gain windfall returns while a wrong decision will vanish the entire invested money.

CONCLUSION

The Pharmaceutical stocks have offered the prospects of high returns as compared to SENSEX stocks. Thus by investing in Pharmaceutical group companies investors can get a good bargain which lead to higher value creation for investors over a period of time (Shiller 1981 and Schwert 1989).

Stable returns from Pharmaceutical stocks are accompanied by lesser level of total risk (Gort & Klepper 1982). The returns from Pharmaceutical stocks are independent of market conditions while in case of sensex stocks significantly depend upon the market conditions. In case of sensex stocks, the perception of investor about expected return from stock in these sectors at the given level of risk are highly correlated, that is investors expectation of returns from these stocks is higher for the higher level of risk. Also dependence expected return of Pharmaceutical stocks on changes in market returns is very less as compared to sensex stocks (Klepper 1996).

Pharmaceutical stocks give higher return to investors over a long period of time but also have lower volatility level (Ederington 1993). In case of different economic and market conditions the investors expectations of return from Pharmaceutical stocks does not change, while the expectation of return for the sensex firms depend upon the market return (Womack 1986).

So it will be advisable for an investor to have a proper mix of defensive stocks like pharmaceuticals, FMCG and other highly growth shares in his portfolio depending on his risk appetite, return desired and the time horizon.

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End Notes

1. The term must not be confused with "defense stock", which refers to stock in companies which manufacture things like ammunition, weapons, and fighter jets. A 'defensive stock' in capital market is one whose price remains stable under difficult economic conditions. Defensive stocks is synonymous to non-cyclical stocks, or companies whose business performance and sales are not highly correlated with the larger economic cycle. These companies are seen as good investments when the economy sours.

Public Expenditure on Human Development: An Empirical Study of Karnataka State

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Introduction

Human development is broadly defined as a process of enlarging people's choices, as well as raising the level of wellbeing. Theoretically, these choices can be infinite and vary over time and space. From among these, the choice to lead a long and healthy life, the choice to acquire knowledge and be educated and to have access to resources needed for a decent level of living are identified as three most critical and socially valuable requirements. A range of social outcomes can reflect these choices in the wellbeing of people, most important being the life expectancy, literacy and Per Capita Income. Life expectancy and educational attainments are valued ends in themselves and Per Capita Income is to incorporate other aspects of well being not captured by indicators on the social attainments on education, health and longevity of people.

Furthermore, growth of per capita income has been considered as a measure of improving human development. However, empirical literature revealed that per capita income cannot be a sole determinant of achieving human development. Public expenditure is an important component of any strategy to achieve higher levels of human development. Its nature and extent is determined by the size and composition of public expenditure, particularly the expenditure on social sector. The proportion of a state's public expenditure allocated to social sectors indicates the importance of the social sector in the state or the state's commitment to these sectors. This commitment is very important, especially during times when the state governments are spending an increasing proportion of their income on debt servicing.

This paper examines the trends and pattern of public expenditure on human development in Karnataka and also attempts to explain these trends in view of overall changes in the fiscal situation of the State. The paper further examines in detail, the composition of public expenditure in social sectors that are important for human development.

Objectives of the Study

1.To examine the status of human development index of Karnataka in comparison to other neighboring states.
2. To examine the trends and pattern of public expenditure on human development in Karnataka State
3. To conduct a detail study of composition of public expenditure in social sectors.

Methodology and Data Sources

The information for the study has been collected mainly from secondary sources. The study is descriptive and analytical in nature. Data was collected from various published sources such as Karnataka Human Development Report 1999 and 2005, Finance Accounts of Karnataka, UNDP, Human Development Reports, various issues of Economic Survey and National Human

Development Report 2001. The data are also analyzed with the help of simple statistical tools such as percentage method.

Status of Human Development in Karnataka

Human development in Karnataka State was guided by the Millennium Development Goals (UNDP, HDR 2001). The progress of human development of Karnataka state was quite good, since the last two decades of human development experiences in terms of literacy rate, life expectancy at birth, infant mortality rate and other human development indicators in comparison to all India average. For example, the improvement in the literacy rate in the state during 1991-2001 was 66.64 per cent as against an increase of 56.64 per cent during 1981-91.

Similarly, life expectancy has also improved marginally during 1991-92 to 2001-02 from 62.1 to 67.0 years The Infant Mortality Rate was declined from 82 per 1000 population in 1991-92 to 55 in 2002-03. However, it is 50 in 2005-06, which is higher than its neighbouring states of Kerala (14) and Tamil Nadu (37) but lower than Andhra Pradesh (57) and all-India rate (58) per 1000 population. The Mortality Rate in Karnataka for the year 2001-03 was 228 per lakh births which are highest among the southern states of Kerala (110) Tamil Nadu (134) and Andhra Pradesh 195.

Karnataka State has medium human development rank which has increased from 0.541 to 0.650 between 1991 to 2001, with Seventh rank among Fifteen states in India, which are well above the national average of 0.423 and 0.621 respectively, during same period. The human development of Karnataka state is more or less equal to Egypt and considerably higher than South Asian countries such as Pakistan, Nepal, Bhutan and Bangladesh in 2001. At the international level, State has 120th rank while the Country has 127th rank (UNDP, HDR 2003). The human development indicators such as Per Capita NSDP, life expectancy at birth, literacy rate and infant mortality rate are also improved over the period of time. The State's Per Capita Gross

Table: 1 Selected Indicators of HD of Karnataka and other neighboring States

Sl. No.	Name of the States	Per Capita NSDP (Rs.)	Life Expectancy at Birth (LEB)	Literacy Rate 2001	Infant Mortality Rate (IMR)	HDI
1.	Andhra Pradesh	10,590	63.9	61.11	59	0.609
2.	**Karnataka**	**10,709**	**65.8**	**66.64**	**52**	**0.650**
3.	Maharashtra	14,892	68.3	77.27	42	0.706
4.	Kerala	10,832	73.4	90.92	11	0.746
5.	Tamil Nadu	12,717	68.4	73.47	43	0.687
	India	**10,774**	**64.8**	**65.49**	**57.4**	**0.627**

Source: *Government of Karnataka (2006) Karnataka Human Development Report 2005, Planning Commission, Bangalore.*

The Table 1 presents selected indicators of human development of Karnataka with other neighboring states. It also infers relative human development position of Karnataka State with other neighbouring states such as Maharashtra, Tamil Nadu, Kerala and Andhra Pradesh. Karnataka has accounted for per capita NSDP of Rs. 10,709, life expectancy at birth 65.8 years, infant mortality rate has 52 per 1000 birth, and literacy rate was 66.64 percent and HDI value of 0.650. While most of the neighboring states except Andhra Pradesh were above Karnataka's relative position in all respects.

According to National Human Development Report (NHDR) published by the Planning Commission, Karnataka state has improved HDI values from 0.346, 0.412 and 0.478 during 1981, 1991 and 2001 respectively among the fifteen major states of India and it ranked at sixth in 1981 and seventh position in 1991 and 2001. (Planning Commission, GOK 2001). The data on each of the indicators such as life expectancy, literacy and income suggests, however, Karnataka is placed above the all India level but it still lags behind the neighbouring states. Kerala is well ahead of Karnataka and toped among other states followed by Tamil Nadu and Maharashtra, in literacy and life expectancy at birth, while Maharashtra is ahead in LEB and income.

The GDI values of Karnataka State have improved from 0.525 to 0.637 during 1991 to 2001 which was above the national average with the value of 0.621 in 2001. Karnataka is the sixth among fifteen major states in gender development. At the international level, Karnataka's rank in terms of the GDI was 99, as against 103 among the 177 countries. When compared with other neighbouring states except Andhra Pradesh with 0.621, the State like Kerala, Tamil Nadu and Maharashtra were above the state average with value of 0.746, 0.706 and 0.687 respectively. Therefore, Karnataka State has a long way to reach the high human development states.

Role and Pattern of Public Expenditure on Human Development

Public expenditure is likely to influence the status of human development in several ways. In the areas of health, nutrition, education, public distribution system, social welfare and other social services, public expenditure can directly contribute to human development, if appropriate public policies and programmes are designed and adequate funds allocated. Indirectly, public expenditure, influences the pace and course of economic growth that determines to a considerable extent, the sustainability of development on the one hand and funds available for spending on social sectors on the other. (Streeten, 1979, Isenman 1980, Sen 1981, Bhalla & Glewwe 1986, Kanbur 1991, Anand and Ravallion 1993, Chakraborthy 2007).

The extent of public expenditure on human development has been measured in UNDP's Human Development Report 1991 and studies have used four ratios to indicate the priority assigned by states to expenditure on human development. These Four ratio are:

1. The Public Expenditure Ratio (PER) - Percentage of national income that goes into public expenditure. For the states in India, it is the percentage of NSDP that goes into public expenditure.

2. The Social Allocation Ratio (SAR) – Percentage of the total expenditure earmarked for social service sectors, such as health, education, social security, water supply and sanitation, is strongly and positively correlated with progress in human development. However, the social allocation ratios do not guarantee a good human development performance, but it makes an important contribution to human development.

3. The Social Priority Ratio (SPR) - Percentage of national income devoted to human priority concerns, such as elementary education, public health, maternal and child health and nutrition and rural water supply and sanitation.

4. The Human Expenditure Ratio (HER) – Percentage of the state income devoted to human priority concerns. Hence by definition, human expenditure ratio is the product of the other three ratios. It is a powerful operational tool that allows policy makers who want to restructure their budgets based on the existing imbalances and available options.

Based on the experiences of a number of countries that were associated with better human development outcomes, UNDP, HDR 1991 suggested certain expenditure norms to ensure human development. As for the suggestions, HER of 5 percent is essential, if a country has to do well on the human development front. This may be achieved in an efficient manner by keeping the PER moderate (around Twenty-five percent), allocating much of this to social sector (more than Forty percent), and focusing on social priority areas (giving them more than Fifty percent). HER is a powerful operational tool and it allows the policy makers to restructure their budget, address any existing imbalances and avail of the most appropriate options. States with HER over Five percent are supposed to indicate a good political commitment from the Government to human priority or social priority concerns. Those states for which HER lies between three to five percent have moderate human priority concerns. The HER below 2 percent suggests that lack of political commitment for human priorities. In the post reforms periods, these ratios do not show any radical improvement.

The Social Sector comprises expenditure on broad budgetary heads called Social Services and Rural Development Social Services include subheads such as, (i) Education, Sports, Art and Culture (ii) Medical and Public Health (iii) Family Welfare (iv) Water Supply and sanitation (v) Housing (vi) Urban Development (vii) Welfare of Scheduled Castes, Scheduled Tribes and other Backward Castes (viii) Labour and Labour Welfare (ix) Social Security and Welfare (x) Nutrition (xi) Relief on Account of Natural Calamities (xii) other Social Services. Further, within the social sector, social priority areas are defined which comprise elementary education, health and family welfare (excluding medical education, training and research), nutrition,

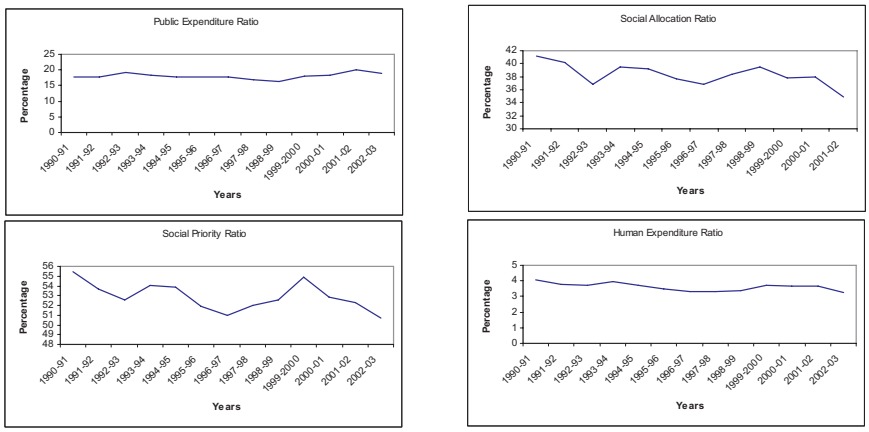
water supply, sanitation and rural development. These sectors are particularly important for human development.

Public Expenditure in Karnataka State Prabhu and Chatterjee (1993) have computed these four ratios for the fifteen major states in India for four years viz., 1974-75, 1980-81, 1985-86 and 1990-91. The different indicators of spending on human development and their trends in Karnataka for the years 1990-91 to 2002-03 are estimated from the financial accounts of the State Government are presented in the Table 2 and figure 1 which illustrate the level of spending on various public expenditure in Karnataka. In the post-reforms period, these ratios do not show any radical improvement. PER increased from 17.78 in 1990-91 to 19.2 percent in 1998-99. Thereafter mainly due to pay and pension revision, the PER increased to constitute more than 18 percent of GSDP in 1999-2000. SAR also shows wide fluctuations with declined long term trend. The ratio declined from 41.22 in 1990-91 to 34.36 in 2002-03. SPR also shows wide fluctuations with a declining long-term trend. The ratio declined.

Table: 2 Trends in Human Development Expenditure in Karnataka

Years	Public Expenditure Ratio (PER)	Social Allocation Ratio (SAR)	Social Priority Ratio (SPR)	Human Expenditure Ratio (HER)
1990-91	17.78	41.22	55.45	4.06
1991-92	17.61	40.20	53.72	3.80
1992-93	19.18	36.77	52.54	3.71
1993-94	18.45	39.50	54.03	3.94
1994-95	17.70	39.19	53.83	3.73
1995-96	17.79	37.62	51.94	3.48
1996-97	17.75	36.90	51.02	3.34
1997-98	16.73	38.40	51.99	3.34
1998-99	16.33	39.49	52.55	3.39
1999-2000	18.09	37.75	54.86	3.75
2000-01	18.22	37.89	52.84	3.65
2001-02	20.06	34.91	52.29	3.67
2002-03	18.83	34.36	50.69	3.28

Figure: 1 Trends in Human Development Expenditure in Karnataka



from 55.45 in 1990-91 to 50.69 in 2002-03. HER has remained almost constant with figures going slightly above or below 2.70 against the norm of 5.00 till 2002-03.

Table: 3 Per Capita Real Expenditure on Human Development in Karnataka *(in Rs.)*

Years	Per Capita Public Expenditure	Per Capita Social Expenditure	Per Capita Social Priority Expenditure
1990-91	1,313	541	300
1991-92	1,435	577	310
1992-93	1,580	581	305
1993-94	1,606	634	343
1994-95	1,598	626	337
1995-96	1,677	631	328
1996-97	1,794	662	338
1997-98	1,783	685	356
1998-99	1,936	764	402
1999-2000	2,229	842	462
2000-01	2,437	923	488
2001-02	2,613	914	478
2002-03	2,520	866	439

Source: *Karnataka Human Development Report 2005*

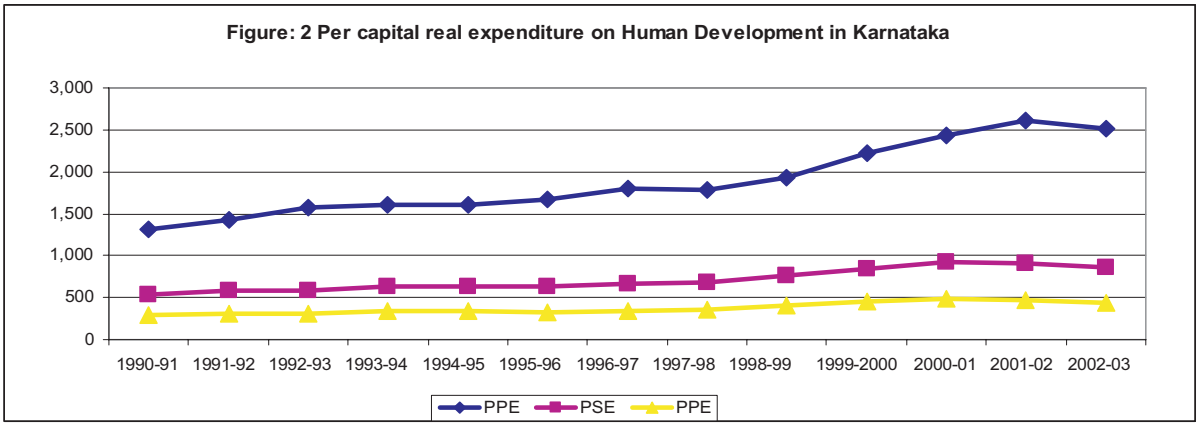


Table 3 and Figure 2 shows the trends in Real Per Capita Public Expenditure on social sector and social priority areas in Karnataka between 1990-91 and 2002-03. The table shows that there was significant increase in Real Per Capita Expenditure on social and social priority sectors over this period. The per capita public expenditure increased from Rs. 1,313 in 1990-91 to Rs. 2,613 in 2001-02 before decline to Rs. 2,520 in 2002-03. The Per Capita Social Expenditure increased from Rs. 541 Per Capita in 1990-91 to Rs. 866 in 2002-03. The Per Capita Social Priority Expenditure increased from Rs. 300 in 1990-91 to Rs. 488 in 2000-01. It may be noted that although the public expenditure as a share of GSDP declined between 1990-91 to 2002-03, there was a reallocation of public expenditure towards the social sector over this period. As a result, the Social Allocation Ratio of the State increased over this period, indicating a greater emphasis in public spending on social sector.

Table: 4 Human Development Expenditure in Major States in India during 2002-03

States	Public Expenditure Ratio	Social Allocation Ratio	Social Priority Ratio	Human Expenditure Ratio
Andhra Pradesh	18.86	36.43	54.14	3.72
Bihar	24.47	35.47	69.12	6.00
Gujarat	17.69	39.80	35.46	2.50
Haryana	17.17	29.55	49.38	3.51
Karnataka	20.06	34.96	52.29	3.67
Kerala	16.18	39.33	50.88	3.24
Madhya Pradesh	17.66	39.49	55.76	3.89
Maharashtra	15.43	36.46	54.42	3.06
Orissa	25.45	34.96	55.59	4.94
Punjab	19.63	23.25	38.27	1.75
Rajasthan	19.95	42.73	61.58	5.25
Tamil Nadu	15.85	38.19	52.14	3.16
Uttar Pradesh	18.97	31.97	65.09	3.95
West Bengal	16.83	35.72	44.24	2.66

Source: Government of Karnataka (2006) Karnataka Human Development Report 2005, pp. 43

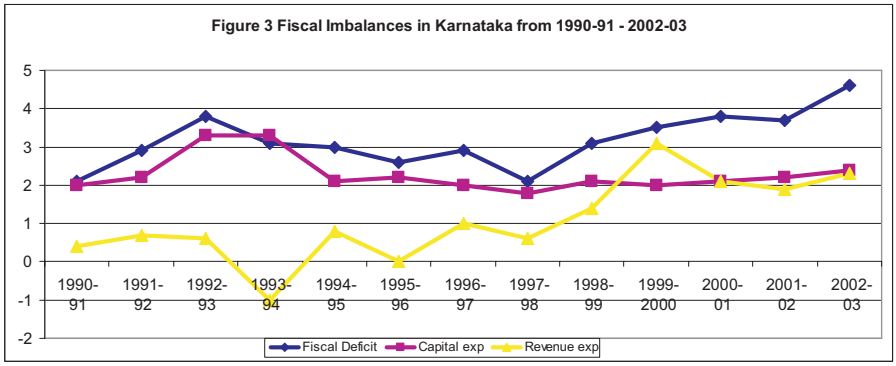
Infact, Karnataka has had one of the highest growth rates of Per Capita Public Expenditure in the 1990's. Between 1990-91 and 2001-02, Karnataka registered the highest percentage increase in Per Capita Public Expenditure among the major states in India. The Table 4 presents a bird's eye view of human development expenditure in major Indian states during 2002-03. A comparison of the PER, SAR and SPR for different states shows that while the relative ranking of Karnataka in terms of PER has improved in the 1990s, there has been a fall in its rank in terms of SAR. Orissa recorded the highest Public Expenditure ratio of 24.46 and 25.45 percent between 1990-91 to 2001-02. On the other hand West Bengal and Maharashtra made lowest 15.30 and 15.43 percentage respectively during the same period. Karnataka State got 7th and 3rd place of 17.78 and 20.06 percent respectively in the same year.

States	Public Expenditure Ratio	Social Allocation Ratio	Social Priority Ratio	Human Expenditure Ratio
Andhra Pradesh	18.86	36.43	54.14	3.72
Bihar	24.47	35.47	69.12	6.00
Gujarat	17.69	39.80	35.46	2.50
Haryana	17.17	29.55	49.38	3.51
Karnataka	20.06	34.96	52.29	3.67
Kerala	16.18	39.33	50.88	3.24
Madhya Pradesh	17.66	39.49	55.76	3.89
Maharashtra	15.43	36.46	54.42	3.06
Orissa	25.45	34.96	55.59	4.94
Punjab	19.63	23.25	38.27	1.75
Rajasthan	19.95	42.73	61.58	5.25
Tamil Nadu	15.85	38.19	52.14	3.16
Uttar Pradesh	18.97	31.97	65.09	3.95
West Bengal	16.83	35.72	44.24	2.66

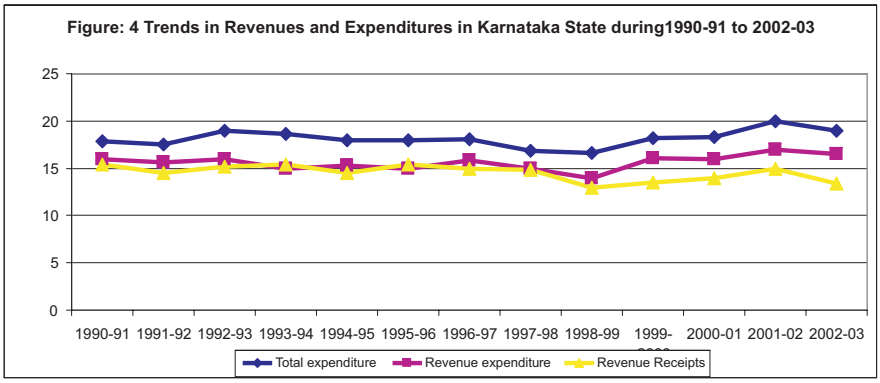
Source: Government of Karnataka (2006) Karnataka Human Development Report 2005, pp. 43

Human Development Expenditure and Fiscal Situation in Karnataka

The decline in human expenditure ratio of Karnataka has been analysed in the light of changes in the fiscal situation in the State. The white paper on State finances presented to the State Legislature in 2000 noted the sharp deterioration in the State finances during the 1990s. In the revenue side, the problem was attributed to deceleration in the growth rates of own revenues of the State. On the expenditure front, the single most important issue causing significant deterioration was due to revision of salaries and pension. Expenditures on debt servicing and implicit and explicit subsidies also contributed to a worsening fiscal outcome.



The Figure 3 presents a General view of Fiscal Imbalance in Karnataka during 1990-91 to 2002-03. Both revenue and fiscal deficits deteriorate in the State even as the State's revenues as a percentage of GSDP increased from 12.8 percent to 14.20 percent between 1998-99 to 2002-03. The ratio of revenue deficit to GSDP increased from 1.4 percent in 1998-99 to 3.1 percent in 2001-02, but declined thereafter to 2.3 percent in 2002-03. Similarly, during the period, the fiscal deficit in the State increased from 3.5 percent to 5-6 percent before improving to 4-6 percent in 2002-03 and the ratio of Capital Expenditure to GSDP remained just above 2 percent.



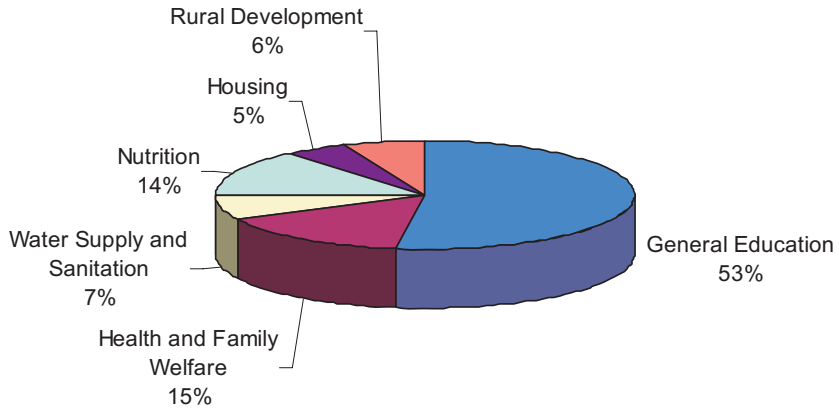
While the revenue receipts between 1990-91 and 2002-03 increased at the rate of 11.9 percent per annum, the growth of revenue expenditure was much faster at 13.4 percent. The gap between the growth of expenditures and revenues has continued, even after the programme of fiscal adjustment. While the revenue receipts at a ratio of GSDP increased by 1.4 percentage points between 1998-99 and 2002-03, the ratio of revenue expenditure to GSDP increased by 2.3 percentage points, thus increasing the revenue deficit. Thus, the share of revenue deficit in fiscal deficit increases from about 39 percent in 1998-99 to 50.1 percent in 2002-03 (see figure: 4)

Composition of Social Sector Spending

Education

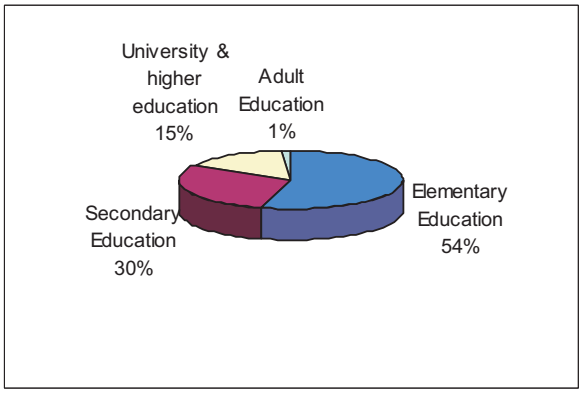
Education expenditure on general education is the largest component of social sector expenditure in Karnataka. In 2002-03, expenditure on general education accounted for nearly half the total expenditure on the social sector (49.75 percent). This was higher than the target of 6 percent on education set by the National Policy on Education.

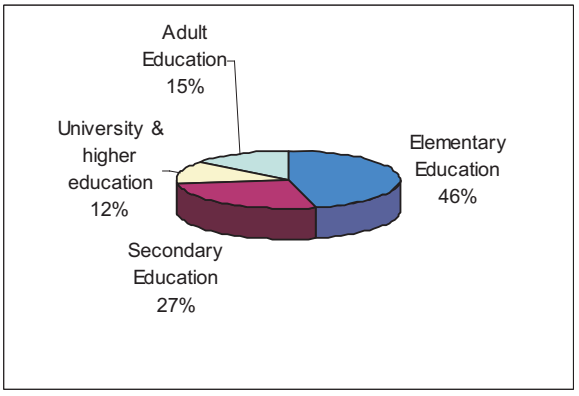
Figure: 5 Composition of Expenditure on Social Sector in Karnataka during 2002-03



Expenditure on elementary and secondary education constitutes the bulk of expenditure in Karnataka. In 2002-03, elementary education accounted for about 53 percent of total expenditure on education. The share of expenditure on secondary education was about 31 percent of the total expenditure on education (See in figure 5).

Figure: 6 Composition of Expenditure on General Education in Karnataka during 1990-91 and 2002-03





It is note worthy that between 1990-91 and 2002-03, the share of elementary education in total expenditure went up marginally from 52.42 percent to 53.02. In comparison, the share of secondary education increased from about 17.30 in 1990-91 to about 31.20 percent in 2002-03.

An examination of the trends of real expenditure in elementary and secondary education in the state suggests that between 1990-91 and 2002-03 there was an increase in expenditure on elementary education, while the expenditure on secondary education was marginally declined. There was acceleration in the growing expenditure on both elementary and secondary education after 2002-03. This rise can be attributed to the increase in salaries and wages following the recommendations of the fifth pay commission.

Table: 5 Total Expenditure on Social Sector and its Components as a percentage of GSDP in Karnataka during 1990-91 – 2002-03

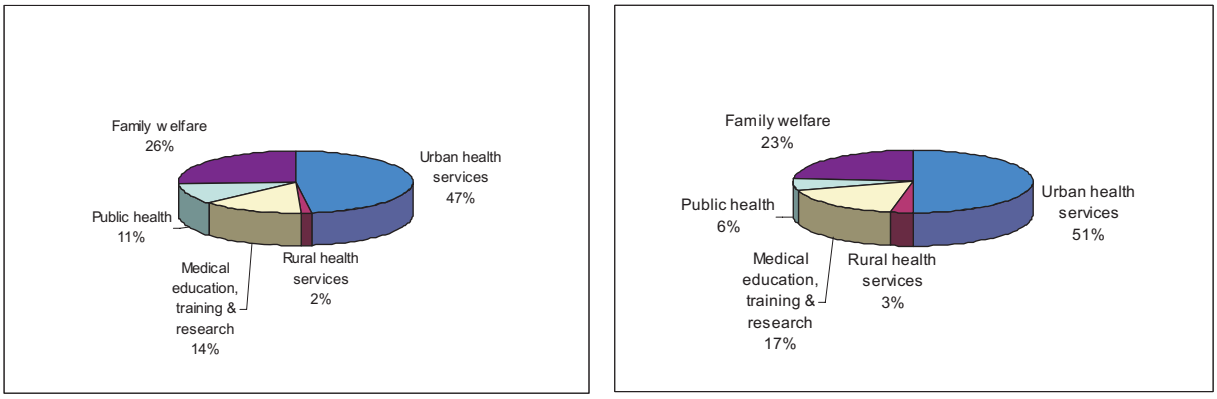
Sl No.	Social Sector	1990 91	1998 99	2002 03
1.	Social Services	6.32	6.00	6.01
2.	General Education	3.03	2.78	2.99
3.	Health and Family Welfare	1.00	0.93	0.88
4.	Water Supply and Sanitation	0.17	0.13	0.15
5.	Nutrition	0.31	0.58	0.42
6.	Housing	0.15	0.21	0.28
7.	Rural Development	1.01	0.45	0.46
	Total of	**5.78**	**3.08**	**4.78**
	2 + 3 + 4 + 5 + 6 + 7	**91.4**	**51.3**	**79.5**

Health and Family Welfare

In contrast with the levels of expenditure on education, the level of public expenditure on health is low in Karnataka. In 2002-03, expenditure on health and family welfare was about 0.32 percent of GSDP. This accounted for about Fifteen percent of total expenditure on social sector. It is also noteworthy that the expenditure on health and family welfare remains almost same between 1990-91 to 2002-03 it is also same. (See in Table 5).

An examination of the composition of expenditure on health and family welfare shows that the major share of expenditure in health and family welfare is towards urban health services (See in figure 7). It is noteworthy that the budgetary head "urban health services" refers to expenditure on medical facilities provided in urban areas. These medical facilities typically include secondary and tertiary health care facilities which also cater to rural population around each urban centre. Expenditure on facilities situated in urban areas accounted for more than one-third the total expenditure in 1990-91. This share increased slightly in 2002-03. Likewise, the share of urban health services increased during the period and the share of rural health services and family welfare increases significantly. It is important to note that almost the entire expenditure on family welfare in the State is borne by the Centre through Centrally Sponsored Scheme Viz., National Family Welfare Programme. The State's contribution to family welfare expenditure is negligible. Expenditure towards public health was only about 4.5 percent of total expenditure in health and family welfare in 2002-03. The share of expenditure towards public health has however, been declining over the period 1990-91 to 2002-03.

Figure: 7 Composition of Expenditure on Health and Family Welfare in Karnataka during 1990-91 and 2002-03

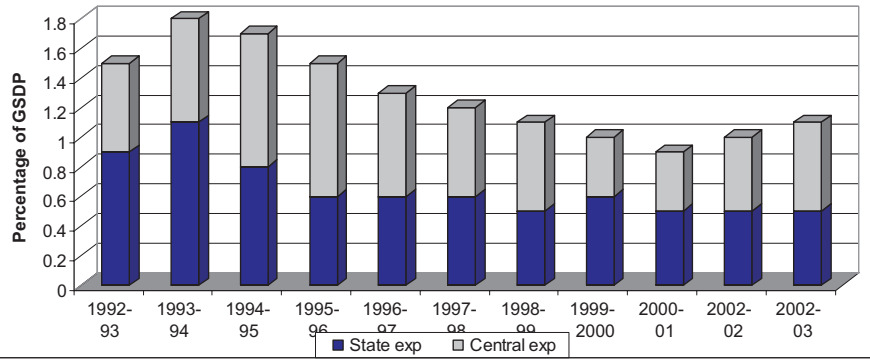


It is note worthy that there has been a significant change in the composition of expenditure in 1990-91 to 2002-03, the share of expenditure towards rural health services has increased by Fifty percent from 1990-91 to 2002-03 while, the share of urban health services remains almost unchanged. Similarly, the share of total expenditure on public health as proportion of total GSDP decline drastically from 0.07 percent in 1990-91 to 0.04 in 2002-03. The share of expenditure on family welfare services has declined from 0.17 in 1990-91 to 0.15 percent of total GSDP.

Expenditure on other Human Development related areas

It is important to note that a substantial part of the expenditure on rural development is not routed through the State Budget by the Centre on Centrally Sponsored and Central Sector Schemes. To account for this, expenditure by the Centre on rural development schemes has been added to the actual expenditure incurred by the state on rural development. Even after making an adjustment to include central transfers, the rural development expenditure as a ratio of GSDP has declined from almost 1.8 percent in 1993-94 to about 1.0 percent in 2002-03. (See in figure 8)

Figure: 8 Rural Development expenditure including central transfers in Karnataka



Expenditure on water supply, sanitation, nutrition and housing together in the State has been marginally increased form 0.74 percent of GSDP in 1990-91 to 0.78 percent of GSDP in 2002-03.

Conclusion

Human development is the most strategic and crucial determinant of growth. In this regard, the purpose of development is to improve human lives by not only enhancing income but also by expanding the range of things that a person can do. A link between growth and human development has to be created consciously, through deliberate public policy such as public spending in social sector and fiscal policy to re-distribute income and assets. Financing human development is a very critical aspect of ensuring that public policies concrete realities and that the poor and other vulnerable populations are supported by the State to empower. Human Development Report 1991 rightly suggested that, the best strategy for human development is to ensure through strong public expenditure on human development and better distribution of income. The slow growth in expenditure on human development relative to GSDP is closely related to the fiscal deterioration in the State in particular, because of rise in debt services and pension revision.

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A Cross Section Study Of Demand For Working Capital In The Automobile Industry

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ABSTRACT

The aim of the study is to determine empirically whether transactions of working capital balances including cash and inventories vary proportionately or less than proportionately to changes in the volume of sales. The study also describes the effect of capital costs on working capital holdings of the selected companies in the Indian automobile industry. The results of the study showed that Indian automobile industry and its three sectors need to hold working capital balances depends not only on sales but on holding costs also.

KEYWORDS : Indian Automobile Industry, Demand for Working Capital, Receivables, Inventory and Cash Management.

INTRODUCTION

Fixed capital and working capital are the dominant contributors to the total capital of a developing country. Fixed capital investments generate production capacity whereas working capital makes the utilisation of that capacity possible. Especially in small firms, working capital management may be the factor that decides success or failure; in larger firms, efficient working capital management can significantly affect the firms' risk, return and share price. A firm can exist and survive without fixed capital, but cannot survive without working capital. Management of working capital has acquired a great significance and sound position for the twin objects of profitability and liquidity. In a period of rising capital costs and scarce funds, the working capital is one of the most important areas requiring management review. It consumes a great deal of time to increase profitability as well as to maintain proper liquidity at minimum risk. Viewed in this perspective, the study devoted to working capital management may be very rewarding one.

Review of Literature

Interest in the study of the demand for working by Indian Automobile Industry has been stimulated by the empirical works on the demand for cash and inventories. A review of the empirical works on the demand for cash showed that the Post - Keynesian revival of interest in the demand function for cash has followed two distinct paths. Frazer, Nadiri and Coates observed economics of scale thereby supporting Baumol and Tobin, while Meltzer, Whalen, De Allessi and Vogel and Maddala observed diseconomies of scale thereby supporting Friedman as far as the transactions demand for cash is concerned. Similarly, there are no unanimous findings as regards the effect of capital costs on the demand for cash. Among others, Selden De Allessi, Nadiri and Coates showed the statistically significant effect of capital costs on the demand for cash.

Like studies on the demand for cash the earlier studies on the demand for inventories also did

not present unanimous findings. Albert et al, Liu Kuznets, Lieberman, Irvine and Akhtar observed significant effects of capital costs on the demand for inventories, while Terleckyj, Robinson, McGouldrick, Lovell, Joyee, Burrows and Maccini and Rossana did not observe the same. Similarly, some reported economies of scale with respect to holding inventories, while others did not report the same. Controversy also exists with respect to coefficients of adjustment. Among others, Lovell and Grossman noticed the slow speed of adjustment between actual inventories and target inventories, while Goodwin, Burrows, and Maccini and Rossana did not find the same.

STATEMENT OF THE PROBLEM

It has therefore become difficult to support one view or another in the context of Indian Automobile Industry. However, investigation in this study is not limited to the study of the demand for cash and inventories only. It has been extended to test whether models similar to those explaining the demand for cash and inventories also explain the demand for receivables, and gross and net working capital. The purpose of this study is that to determine empirically whether transactions working capital balances including cash and inventories vary proportionately or less than in proportion to changes in the volume of sales. It also describes the effect of capital costs on working capital holdings of the enterprises. Further, the study also takes in to account a Partial Adjustment Model of working capital behavior. The partial adjustment or flexible accelerator models that explain the speed with which the actual level of working capital balance is adjusted to the desired level.

METHODOLOGY

Econometric Model

In this study, econometric models are used to describe the demand for working capital and its various components by Indian automobile companies. The decisions about the aggregate amount of working capital and its various components to be held may be regard as subject to wealth constraint and opportunity cost of working capital. As a first approximation to the theory, the functions may be written as

$$y_1 = f(s, i) \quad \text{(i)}$$
$$y_2 = f(s, i) \quad \text{(ii)}$$
$$y_3 = f(s, i) \quad \text{(iii)}$$
$$y_4 = f(s, i) \quad \text{(iv)}$$
$$y_5 = f(s, i) \quad \text{(v)}$$

Where

y_1 = Real Cash

y_2 = Real Inventories

y_3 = Real Receivables

y_4 = Real Gross working capital

y_5 = Real Net working capital

S = Real Sales in terms of $S_t - 1$

C = Opportunity cost of working capital measured by short – term interest rates of Indian commercial banks.

In an empirical investigation, it takes the form.

$$Y^* = KS^{b_1} i^{b_{21}} e^u \text{.....(vi)}$$

where u is assumed to be independently and normally distributed. Taking the natural logarithm

$$\text{Ln } Y^* = K + b_1 \text{Ln } S + b_2 \text{Ln } i_2 + u \text{ .....(vii)}$$

Where b1 and b2 are elasticity's of y* with respect to the explanatory variables of the model. The above models assume reasonable a priori hypothesis of

$$\partial y / \partial x > 0 \text{ and } > \partial y / \partial_2 < 0$$

Partial - Adjustment model

In estimating the above equations, the study also takes in to account a partial adjustment or flexible accelerator model of working capital behaviour. This model hypothesizes that each enterprise has a desired target level of working capital and that of each enterprise, finding its actual working capital not equal to its optimum, attempts only a partial adjustment towards the optimum level within any one period. The models indicate the speed with which firms adjust their actual working capital balances to the desired working capital balances.

The simplest assumption to make about the adjustment process on working capital balances is that

$$\frac{\bar{y}_t}{\bar{y}_{t-1}} = \left|\frac{y_t^*}{y_{t-1}}\right|^{\varphi} e^{ut} \text{.....(viii)}$$

Where φ - rate of adjustment or adjustment coefficient

$$0 < \varphi < 1$$

Substituting expression (viii) for desired level of working capital balances into equation (vii) gives

$$\frac{\bar{y}_t}{\bar{y}_{t-1}} = \left|\frac{KS_t^{b_1} i_2^{b_2}}{\bar{y}_{t-1}}\right|^{\varphi} e^{u} \text{.....(ix)}$$

Taking logs of this equation gives

$$Ln\bar{y}_t - Ln\bar{y}_{t-1} = \varphi Lnb_0 + \varphi b_1 Ln\, S_t + \varphi b_2 Ln\, i_2 - \varphi Ln\, y_{t-1} + U_t \text{.....(x)}$$

(or)

$$Ln\bar{y}_t = C_0 + C_1 Ln\, S_t - C_2 Ln\, i_2 + (1-\varphi) Ln\, \bar{y}_{t-1} + U_t \text{.....(X)}$$

where C1 and C2 are the short - term elasticity's of working capital or its components with respect to sales and their opportunity cost, respectively. The long run elasticity's with respect to sales and cost are b1 and b2

Since $C_1 = \varphi b_1$ and $C_2 = \varphi b_2$

$$b_1 = \frac{C_1}{\varphi} \text{ and } b_2 = \frac{C_2}{\varphi}$$

φ - the rate of adjustment coefficient

The long - run elasticity's of cash with respect to sales and the opportunity cost of cash should be approximately equal to 0.5 and - 0.5, respectively if the Baumol model is correct.

SAMPLE DESIGN

Keeping in view the scope of the study, it is decided to include all the companies under automobile industry working before or from the year 1996-97 to 2008-09. There are 26 companies operating in the Indian automobile industry. But, owing to several constraints such as non-availability of financial statements or non-working of a company in a particular year etc., it is compelled to restrict the number of sample companies to 20. The companies under automobile industry are classified into three sectors namely; Commercial vehicles, Passenger Cars and Multiutility vehicles and Two and Three wheelers. For the purpose of the study all the three sectors have been selected. It accounts for 73.23 per cent of the total companies available in the Indian automobile industry. The selected 20 companies include 5 under commercial vehicles, 6 under Passenger cars and Multiutility vehicles and 9 under two and three wheeler sectors. It is inferred that sample company represents 98.74 percentage of market share in commercial vehicles, 89.76 percentage of market share in Passenger Cars and Multiutility vehicles and 99.81 percentage

of market share in two and three wheelers. Thus, the findings based on the occurrence of such representative sample may be presumed to be true representative of automobile industry in the country.

DATA

The study is mainly based on secondary data. The major source of data analysed and interpreted in this study related to all those companies selected is collected from "PROWESS" database, which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy (CMIE). Besides prowess database, relevant secondary data have also been collected from BSE Stock Exchange Official Directory, CIME Publications, Annual Survey of Industry, Business newspapers, Reports on Currency and Finance, Libraries of various Research Institutions, through Internet etc.

RESULTS AND DISCUSSION

Scale and capital cost effects on demand functions of working capital

The pooled regression results of the model showing the scale and capital cost effects on demand functions of working capital and its components of Indian Automobile Industry are presented in Table 1. The overall results presented in the table are encouraging. The signs of the entire co-efficient are as expected and the goodness of fit of the model is also satisfactory.

Table 1
Estimating Demand for Working Capital – Indian Automobile Industry
($LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i$)

Dependent Variables	Regression Co efficient		R^2	Adj R^2	F Value	DW
	S_{t-1}	*i*				
Cash	0.34 (6.75) *	-0.78 (2.03)***	0.92	0.90	54.17	1.94
Inventory	0.70 (5.85) *	-0.29 (4.25)*	0.81	0.78	21.71	1.52
Receivables	0.65 (8.86) *	-0.17 (5.23)*	0.92	0.90	54.05	1.48
Gross Working Capital	0.91 (7.42)*	-0.04 (3.17)*	0.90	0.88	43.44	1.86
Net Working Capital	0.64 (2.85)**	-0.30 (4.45)*	0.82	0.79	20.16	1.63

*** Significant at 0.01 level; ** Significant at 0.05 level**
***** Significant at 0.10 level; DW Durban Watson Statistics;**
Figures in Parenthesis denotes 't' value.
Source : Computed

It is evident from the Table 1 that the co-efficient of sales are highly significant and indicated that higher sales increases working capital and its components. The sales elasticity varies from 0.34 for cash to 0.91 for gross working capital. Thus, the sales elasticity is smallest for cash, followed by net working capital, receivables, inventory and gross working capital. This elasticity's are consistently less than unity in all cases, suggesting economies of scale. This finding seems to support the theoretical propositions of Baumol, Tobin, Frazer, Nadiri and Coates and contradict the propositions of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala, as far as the demand for cash by the Indian Automobile Industry is concerned. Similarly, the results, seem to support the findings of Akhtar and Irvine, among others, and contradict unitary or more than unitary sales elasticity noticed in some of the equations of Liberman showing the demand for inventories is concerned.

Table 1 also showed that fluctuations in cash and inventory levels depend in a statistically significant manner on fluctuations in their financial carrying costs. This finding is consistent with the results of Seldom, De Allessi, Nadiri, and Coates and contradicts Friedman's so far as the effect of capital costs on cash holding is concerned. Similarly, the finding supports the conclusion of Albert et al., Liu, Kuznets, Lieberman, Irvine and Akhtar and contradicts the results of Terlekyj, Robinson, Lovell, Jon Joyce and Maccini and Rossana as far as the effect of interest cost on inventory demand is concerned.

The estimated elasticity's of the target levels of working capital and its components with respect to capital costs measure indicate that the target level of cash is much more sensitive to capital cost fluctuations as compared to the target level of inventory, receivables and gross and net working capital. Among, these, the target level of gross working capital is least sensitive to fluctuations in capital costs. It all be seen from the interest rate elasticity of 0.78 for cash, 0.30 for net working capital, 0.29 for inventory, 0.17 for receivables and 0.04 for gross working capital.

Holding the sales constant, Table 1 indicates that a one percentage point increase interest rate leads on an average to about 0.78 per cent decline in the cash balances. Similarly, this kind of decline is noticed to be about 0.29 per cent for inventory, 0.17 per cent for receivables, 0.04 per cent for gross working capital and 0.30 per cent for net working capital balances when there is a one percentage point increase in interest rate. In the same way, holding the interest rate constant, a one percentage point increase in sales leads on an average to about 0.34 per cent increase in cash balances. This kind of increase is noticed to be about 0.70 per cent for inventory, 0.65 per cent for receivables, 0.91 per cent for gross working capital and 0.64 per cent for net working capital. The increase in target cash, receivables, inventories and gross and net working capital as a whole due to the increase in the capital cost may mean higher production and higher employment.

The estimated regression results of Partial Adjustment Model of Indian Automobile Industry are presented in Table 2. The regression results indicated that co-efficient of Y_{t-1} are significant in all the cases. The coefficient of the lagged dependent variable has been observed to be 0.27 for cash, 0.46 for inventory, 0.51 for receivables, 0.34 for gross working capital and 0.28 for net working capital. Since the coefficient of lag I_{t-1} is equal to 1 minus the adjustment coefficients $(1-\phi)$, the adjustment coefficient is equal to 0.73 for cash, 0.54 for inventory, 0.49 for receivables,

0.66 for gross working capital and 0.72 for net working capital. It seems that 73 per cent of the adjustment of actual to desired real cash balances is completed within one year. Similarly, the adjustment speed of actual to desired balances is 54 per cent for inventory, 49 per cent for receivables, 66 per cent for gross working capital and 72 per cent for net working capital. The speed of adjustment is however highest for cash followed by net working capital, gross working capital, Inventory and receivables.

Table 2
Partial Adjustment Model – Indian Automobile Industry

$(LnY^* = \beta_0 + \beta_1 L_n S_{t-1} + \beta_2 L_n\, i + (1 - \varphi) L_n\, Y_{t-1} + u)$

Dependent Variables	Regression Co efficient			R^2	Adj R^2	F Value	DW
	S_{t-1}	i	Y_{t1}				
Cash	0.36 (4.77)*	-0.59 (3.16)*	0.27 (6.81)*	0.94	0.92	44.89	1.52
Inventory	0.34 (2.89)**	-0.43 (3.61)*	0.46 (4.86)*	0.82	0.76	13.60	1.96
Receivables	0.61 (4.46)*	-0.11 (2.80)**	0.51 (6.04)*	0.91	0.88	30.82	1.64
Gross Working Capital	0.58 (3.82)*	-0.09 (4.16)*	0.34 (3.86)*	0.90	0.87	27.50	1.89
Net Working Capital	0.23 (2.84)*	-0.37 (4.07)*	0.28 (4.26)*	0.81	0.79	12.96	1.19

*** Significant at 0.01 level; ** Significant at 0.05 level**
***** Significant at 0.10 level; DW Durban Watson Statistics;**
Figures in Parenthesis denotes 't' value.

Source : Computed.

In the partial adjustment models, the estimated coefficients of the independent variables are equal to the elasticity's of these variables times the adjustment coefficient. These long-run elasticizes are 0.49 for sales and 0.81 for short-term interest rates with respect to cash; 0.63 and 0.80 with respect to inventory; 1.24 and 0.22 with respect to receivables; 0.88 and 0.13 with respect to gross working capital; and 0.32 and 0.51 with respect to net working capital.

Conclusion

The pooled regression results of this analysis contradict unitary or more than unitary sales elasticity hypothesis of Friedman, Meltzer, Whalen, De Allessi and Vogel and Maddala with respect to demand for cash by all the three sectors and the whole Indian automobile industry. The presence of economies of scale in cash holdings is consistent with the conclusion of Baumol, Tobin, Frazer, Nadiri and Coates. The demand for inventory equations showed economies of scale in inventory thereby supporting the findings of Akhtar and Irvine and contradicts the findings of Lieberman. The presence of economies of scale has also been observed for receivables, gross working capital and net working capital. The regression results also show that the levels of working capital and its components of Indian automobile industry desires to hold depend not only on sales but on holding costs also. The capital cost coefficients are all statistically significant with the theoretically correct signs. This finding is consistent with the findings of Selden, De Allessi, Nadiri, and Coates and contradicts Friedman's so far the effect of capital costs on cash holdings is concerned. Further, the results supports the conclusion of Albert et al., Liu, Kuznets, Lieberman, Irvine and Akhtar and contradicts the results of Robinson, Lovell and Maccini and Rossana as far as the effect of capital cost on inventory demand is concerned. Besides, the effect of capital costs has also been observed in the case of receivables, and gross and net working capital. The adjustment speed of actual to desired balances has been observed as highest for cash followed by networking capital, gross working capital, inventory and receivables in the Indian Automobile Industry during the study period.

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A Case Study: Impact of International Liberalization on the Indian Economy

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Abstract

This paper, using the Solow growth model looks at the impact of liberalization on India's economic growth. Additionally, using empirical data, it analyzes the patterns, processes, and characteristics of India's economic growth. The Solow model explains the long run economic growth via the change in the Solow residuals. This paper defines the Solow residual as International trade. This paper will show that International trade and fewer regulations on exports and imports have ignited high economic growth in India. After the late 1980s, India saw an immense increase in international trade. Led by low tariff rates, India saw a hike in exports and imports and more importantly, foreign investments. With the backing of facts and figures, this paper will show that India has actually benefited in terms of economic growth from international trade. With liberalization, India has not only had success in the macro level, but it has also impacted people in terms of per capita income in the micro level. This paper is broken down into 4 sections. The first section gives an introduction to India and its relevance to the Solow model. The second section explores the theoretical framework of the Solow model. The third section uses the empirical data to examine the impact of liberalization on India (pre and post reformation). Finally, the fourth section is the analysis and conclusion section which compares India to other South Asian counties and gives policy recommendation.

Key Terms: International Trade, Foreign Direct Investment, Exports, Imports.

A Case Study: Impact of International Liberalization on the Indian Economy

Introduction:

India is the largest country in the Sub-Continent bounded by the Indian Ocean in the south, the Arabian Sea on the northwest and the Bay of Bengal in the southeast. It also borders with Pakistan to the west, Nepal, Bhutan and the Republic of China to the northeast and Bangladesh and Burma to the east. A country mainly known for its rich culture, India is also known for its highly diverse and rich geography, different languages and religion. Hinduism is practiced by the majority of the people (80.5 percent), with Muslim (13.4 percent) being the largest minority (CIA, 2011) . Despite being considered an underdeveloped country after gaining independence from Great Britain in 1947, India has transformed its economy to become the 5th largest economy in the world with a gross national product (GDP) of 1.31 trillion USD in 2011(CIA, 2011). Thanks to economic liberalization, including industrial

deregulation, privatization of state-owned enterprises and reduced controls on foreign trade and investment, India has accelerated its economic growth tremendously over the last two decades.

Historically, India was predominantly an agricultural society. In other words, the agricultural sector had been the core of the Indian economy for several decades, accounting for 57 percent of the GDP in 1950-1951and 49 percent from 1964-1965 (Panagariya, 2008, p. 12). However, after the 1970's, India started to see a steady decline in the share of agriculture in the GDP, falling from 57 percent in 1950-1951 to 21 percent in 2004-2005(Panagariya, 2008, p. 12). The decline in the agriculture sector was absorbed by the industrial and the service sector. Contrasted to other emerging countries, where economies transitioned from the agricultural to the industrial sector, India experienced bulk of its growth in GDP through the service sector. Between 1950-2005, the share of the industry sector in India grew only from 15 percent to 27 percent (Panagariya, 2008, p. 13). On the other hand, the share of services grew from 28 percent to 52 percent in the same period (Panagariya, 2008, p. 13). The reason for this unorthodox transition is attributed to continuing restrictions implanted on labor-intensive products. Until the 1990's, reservation of the vast majority of the labor-intensive products for small-scale enterprises kept large firms from entering their production despite removal of licensing. Also, labor market inflexibilities, including the lack of rights to hire and fire employees, played a major disincentive for big firms to enter the local market. Service sector on the other hand was free of these regulations, which allowed the firms to operate more freely and grow quickly. Moreover, the lack of regulations in the service sector played a vital role in the economic growth of India.

This paper aims to evaluate the policies and trends in the liberalization process in India. In order to accomplish this research, the basic economic theories that address this issue must be understood. The most important economic theory that applies to the liberalization transformation is the Solow Growth Model. This model builds on the production function, which describes how any amounts of capital and labor can be combined to generate total output. The Solow model adds the theory of capital accumulation to the production function. According to the model, increase in investment rate or total factor productivity can increase a country's steady-state position and therefore can increase short term growth. However, to enjoy long term growth, a country needs to focus on the Solow residuals. Solow residuals are exogenous factors that help in raising the overall output of the economy. This paper argues that international trade and openness of the economy (Solow residuals) have accelerated India's overall output leading to a faster economic growth. In order for an underdeveloped country to prosper, it needs to liberalize its economy to generate higher output. This paper will test the impact of liberalization in India's economy before 1990 and compare it to post 1990. Also, this paper will try to analyze the patterns, processes, and characteristics of liberaralization and its importance toward transforming one's economy. Additionally, it will try to examine the impact of economic liberalization in the

development process of India. Finally, it will compare India to other South Asian countries and give policy recommendation.

An Examination of the Solow Model

The general characteristics of less developed countries (LDC) include low income, inadequate infrastructure, a poor health care system, a poor educational system as well as unstable economic and political systems. It has been a global challenge, especially for developed countries, to try to tackle these complex issues. Since World War II, it has been a big interest in the economics field to determine the best economic policies that can provide higher standards of living in less developed countries (Hendricks & K. Kulkarni, 2008, p. 6). Over the years, various economists and scholars have proposed different theories as vital to achieving economic development. American economic historian Walt W. Rostow proposed The Stages of Economic Growth. According to Rostow, for any economy to grow, it must go through sequential stages. However, he was not explicit as to how economic growth would occur. This model was followed by the Harrod-Domar Growth Model, which concluded that economic development is a direct result of increase in savings rate. However, in order to increase the savings rate, the model proposed increasing savings by external borrowing from international lending institutions such as the Asian Development Bank, the World Bank and the International Monetary Fund. The biggest problem of this approach was that it could cause repayment problems later, which has been the case in many developing countries (Todaro & Smith, 2009, p. 115).

In the mid 1950s, Nobel Prize winner Robert Solow described a mechanism that drives economic development. Since its establishment, the model has been extended in a number of important directions and is now probably the most widely used in the field of macroeconomics. The model is based on the ideology of neoclassical economics. Neoclassical economists argue that economic development is possible when markets are allowed to work efficiently and private enterprises are supported by the domestic government. This is achieved by liberalization of the economy with fewer taxes, lower administration controls and free international trade. They also argue that too much government control has led to no economic growth, citing corruption, bureaucracy and administration delays as impediments to growth.

The Solow model is an extended version of the production function. It is comprised of one more element known as the theory of capital accumulation. Instead of the capital stock being given at some exogenous level, agents in the economy can accumulate tools, machines, computers, and buildings over time (Jones, 2011, p. 99). This accumulation of capital is converted from an exogenous variable into an endogenous variable in the Solow model. According to the model, the accumulation of capital is the main engine that drives economic growth. Solow expands this theory by saying that investing in more capital becomes the difference between a rich and a poor country. A country that uses its resources to invest in capital accumulation prospers compared to a country that does not.

The model is best understood by looking at a hypothetical example. Let us assume that an economy is comprised of a large family that owns a farm. The family produces various vegetables. Each year, the family starts by planting some seeds in the spring, tending the crop over the summer, and then harvesting near the start of the autumn. Let us assume that the first year the family uses cattle to plow the land before planting the seeds. They end up with X amount of vegetables. Out of the amount they produce, let us assume that they consume half and save the other half to sell in the market. By selling one half of the vegetables, the family generates some income. They use that income to purchase a tractor (capital) to help plow the lands. This increases the efficiency of the production process and results in higher yields of vegetables the next year. Therefore, as the years pass, the size of the harvest grows larger and larger, as does the quantity of vegetables that the family can sell to make profit. This shows the accumulation of capital overtime, which is the core of the Solow model. This can also be interpreted mathematically using the production function and adding the capital accumulation to it. The production model can be mathematically described as follows:

$$Y_t = F(K_t L_t) = AK_t^{1/3} L_t^{2/3} \quad \text{.....(1)}$$

where Y is the total output produced by the firm, K and L are the capital and labor used in the production of the output. We assume that this production function is a Cobb-Douglas and exhibits constant returns to scale in K and L . In other words, if capital increases by 1 unit, holding everything else constant, Y will increase by 1 unit. In the example economy above, the output can be used for two purposes- consumption and investment. Mathematically, $C_t + l_t = Y_t$ C_t is the amount of output that is consumed by the family, while I_t is the amount invested for the future. This function is called a resource constraint, which describes a fundamental constraint on how the economy can use its resources. Also, it is assumed that the farm is a closed economy, meaning that there are no imports or exports in the equation.

The portion of the vegetables invested for the future (I_t) determines the accumulation of capital and can be shown by the capital accumulation equation-

$$K_{t+1} = K_t + l_t - dK_t \quad \text{.....(2)}$$

Equation 2 says that the capital stock next year, K_{t+1}, is equal to the sum of three terms- K_t, I_t, dK_t, Kt is this year's starting capital. I_t is the amount of investment undertaken using this year's production and dK_t subtracts depreciation from the capital. The capital is assumed to depreciate every year by the amount of d . In the above example, is thought of as the fraction of vegetables that cannot be produced due to the tractor's malfunction. According to the capital accumulation equation, the amount of vegetables in storage next spring will be equal to the amount in storage this year, plus the new additions from this year's harvest, minus the amount that is lost due to the tractor's malfunction (depreciation).

The capital accumulation equation can also be expressed in a different form.
Let $K_{t+1} = K_{t+1} - K_t$ represent the change in the capital stock between today, t, and next year, $t+1$. Then, $K_{t+1} = 1t - dK_t$. The change in the capital stock is equal to new investment I minus the amount of capital that depreciates in production. It can be seen that today's capital stock is the result of investments

undertaken in the past. This works fine for all periods except the first. To get the model started, it is assumed that the economy is endowed with some initial capital K0 and the model begins at t = 0. It is assumed that the amount of labor working on the family farm is given exogenously at the constant level L.

In the economy described above, it is critical to know the rule for allocating resources. In other words, out of the total vegetables produced, how much is allocated to consumption and how much is allocated toward investment. For simplicity, let us assume that the family farmers eat a constant fraction of the output each period and invest the remainder. Let *S* denote the fraction invested, so that $I_t = sY_t$. If *S* signifies investment then consumption$(C_t) = (1- s)\ Y_t$ because the total output is used for either consumption or investment.

Solving the Solow Model

The first step is to combine the investment allocation equation with the capital accumulation equation. From that we get,

$K_t + 1 = sY_t - dK_t$ .....(3)

Change in Capital	Net investment

Equation 3 can be interpreted as the change in the capital stock is equal to . Therefore, quantity $I_t - dK_t$ is often called net investment. It is the investment minus the depreciation. In order to obtain the single dynamic equation describing the evolution of the capital stock, we can simply plug in the production function for output into Equation 3. The Solow diagram helps understand the different dynamics of the capital stock.

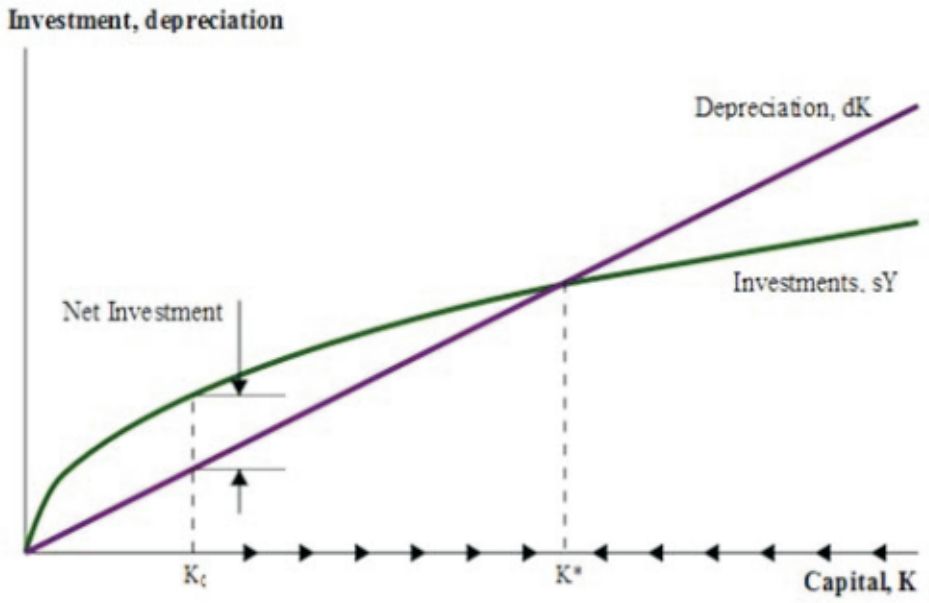


Figure 1 : Source (Jones, 2011, p. 105)

In Figure1, two terms (sY and dK) are plotted that govern the change in the capital stock, according to the capital accumulation equation. The curved line, which is the new investment line depends on production and can be written as = $sY = sAK^{1/3}L^{2/3}$.

Let us suppose that the economy begins with a starting capital K 0, as shown on the graph. At the level K0, the amount of investment, sY exceeds the amount of depreciation, *dK0*. In other words, the amount of vegetables we add to the storage exceeds the amount that is not produced due to tractor's malfunction, so the total amount of vegetable in the storage rises. In mathematical terms, t+1= sY_dk - is greater than zero, so the capital stock increases. This signifies that k1 will be greater than k 0 and is right of k0 on the graph. Therefore in period one, the sY curve lies above the dK curve as shown in Figure1. Investment exceeds depreciation leading to a positive net investment. If Net investment is positive, it leads to an increase in the capital stock. This process continues as the economy moves in the direction of the arrows in Figure 1 until the economy reaches a capital level K^*. At this point, the two curves in the Solow diagram intersect so that $sY = dK$. This shows that the amount of investment being undertaken is exactly equal to the amount of capital that wears out through depreciation. Since investment equals depreciation, the change in the capital stock is equal to zero (Kt+1 = Kt) and the capital stock remains constant. In the absence of any exogenous shock, the capital stock remains at point K *. This point is called the steady state of the Solow model. In Figure 1, indifferent of the initial level of capital, *K0*, after a certain time, the economy will converge to the steady state K^*. The steady state can be explained mathematically.

According to the Solow diagram, the steady-state level of capital is such that $sY^* = dK^*$. Substituting from the production function, Equation 1, we see that

$$sAK^{*1/3}L^{2/3} = dK^*$$

Solving this equation for K^* by collecting the K^* terms on the right-hand side and raising both sides of the equation to the 3/2 power, we get

$$K^* = \left(\frac{sA}{d}\right)^{\frac{3}{2}}L \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Equation 4 points out the steady-state level of capital K^*. According to the equation, a higher investment rates leads to a higher steady-state capital accumulation. For example: - If 20 percent of the harvest is invested instead of 10 percent, more vegetables will accumulate in the storage. The steady state level of capital also increases if the level of productivity is higher. This happens because if the farm is more productive, the harvest will be larger, and the larger harvest will translate into more vegetable in the storage. The steady state capital stock also depends on the depreciation rate and the size of the workforce. A higher rate of depreciation reduces the capital stock as more of the vegetable is affected by the tractor's malfunction. A larger workforce produces more output, leading to more investment and hence more capital in the steady state. Associated with the steady state level of capital K^* is a steady state level of production Y^*, given by the production function:

$$Y^* = AK^{*1/3}L^{2/3}$$

Substituting the equation of K^* into the equation above yields the expression for steady state production:

$$Y^* = \left(\frac{s}{d}\right)^{1/2} A^{3/2} L \qquad (5)$$

In equation 5, a higher investment (s) and a higher productivity (A) lead to a higher steady state level of production, but faster depreciation (d) lowers it. The constant returns to scale of the function above shows that doubling labor leads to a doubling of steady state production . Finally, by dividing both sides of equation 5 by labor, we get solution for output per person (y) in the steady state.

$$Y^* = \left(\frac{Y^*}{L^*}\right) = A^{3} \left(\frac{s}{d}\right)^{1/2} \qquad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

A is the Solow residual, which consist of exogenous factors such as human capital, international trade, less trade restrictions, technology change, etc.

Economic growth in the Solow Model

The most important implication of the steady-state is that there is no long-run growth in the Solow model. In the long run, the economy is stagnant at a constant level of production Y* and a constant level of capital K*. As we see from Figure 1, the Solow model will lead to economic growth for a while, but eventually growth stops as the capital stock and production converge to constant levels (Jones, 2011, p. 112). Therefore, it can be said that the capital accumulation cannot be counted to serve long term growth. The investment on factories, machines, computers, and other tools does lead to higher output in the short run. However, in the long run the diminishing returns to capital accumulation cause a decline in the return from these investments. Eventually, new investment of capital and depreciation offset each other, and the economy settles down to a constant level of output per person.

Therefore, a country cannot enjoy long term growth through capital accumulation, but it can through the Solow residuals. Solow residuals are exogenous factors that will help an economy to grow at a faster rate. Figure 2 explains this phenomenon.

In Figure 2, K* is the steady state is at Investment sY. Raising the capital (K) will lead to higher investment sY but only for a short period of time due to the diminishing return on the extra capital. The Solow residual causes an increase in output. Output increases from its initial steady-state level Y* to the new steady state Y**. This example shows that the increase in Solow residual causes the economy to grow over time.

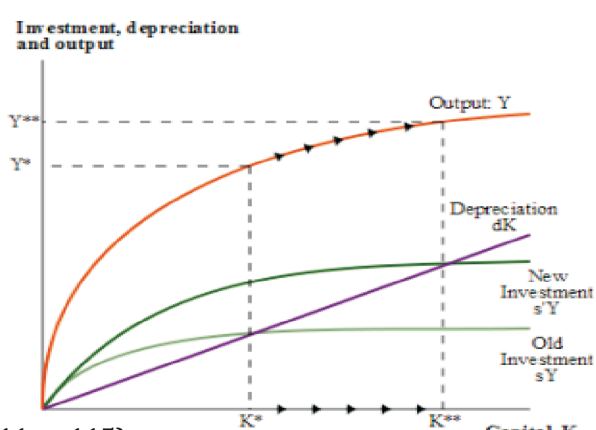


Figure 2: Source (Jones, 2011, p. 115)

In the long run- both steady-state capital and steady-state production are higher. Since we are assuming labor as constant, the level of output per person also increases permanently.

This paper defines International trade as the Solow residual. The reason for India's high economic growth over the last two decades has been a direct result of International trade. Due to International trade and fewer regulations on trade and foreign investment, another Solow residual, India has increased its output massively.

Pre-Reform -Protectionism Dominance

India gained its independence from Great Britain in 1947. After being ruled by the British for more than a century, a sense of nationalism had taken over the country. Foreigners were seen in a negative way and India was looking forward to being isolated from the rest of the world. In what was famously known as the Swadeshi movement, there was a strong belief that India could produce everything at home and become self-dependent (Kishore Kulkarni, 2010, p. 368). Jawaharlal Nehru, the prime minister of India (1947-1964) led this nationalist movement. Nehru envisioned India to become a socialistic society with a particular emphasis on development of heavy industries such as railways, airplanes, and guns. In a speech delivered at the Federation of Indian Chamber of Commerce and Industry in 1953, he emphasized the importance of developing heavy industries internally. He said if India did not develop heavy industries internally, it would have to import them from abroad. For Nehru, importing from abroad was to be the slaves of foreign countries (Panagariya, 2008, p. 25).

Nehru also emphasized that economic independence was critical to maintaining political independence at home. The main objective was to promote a production structure through planning and industrialization, which would eliminate the needs for imports, and free the country from the threat of closure of the world markets. This nationalistic vision had overshadowed the benefits of foreign direct investment. Multinational corporations were seen as exploitative entities that operated only for their economic benefit. They were also seen as companies that benefited from cheap labor but did not invest back their profits in the developing country. Therefore, foreign investment in India during this period was negligible. Higher tariffs were implemented to discourage foreign imports as India pushed for isolation.

Table1- India's Trade: 1965-1985

	Merchandise Exports	Services Exports	Merchandise Imports	Services Imports	Trade Balance
1965	129.4	62.1	125.3	57.5	4.9
1966	139.3	69.1	146.5	66.2	-8.6
1967	98.9	74.8	152.1	73.2	-57.3
1968	82.5	67.0	130.6	63.0	-51.2
1969	107.1	69.3	107.0	56.8	.9
1970	146.2	85.1	143.5	71.3	2.1
1971	150.8	97.2	200.6	85.0	-49.0
1972	191.7	99.8	215.5	84.0	-25.8
1973	291.0	118.9	326.0	93.2	-16.2
1974	329.4	140.7	476.7	125.3	-160.4
1975	306.5	182.5	441.9	118.3	-102.7
1976	402.0	172.5	427.9	117.2	-22.8
1977	512.6	212.1	564.7	149.8	-48.3
1978	640.3	262.0	618.4	192.1	18.9
1979	779.6	2 92.8	754.1	253.5	-21.2
1980	919.8	279.8	899.9	262.8	-79.1
1981	896.4	302.8	925.5	282.0	-147.9
1982	685.5	340.6	837.6	308.5	-263.2
1983	742.0	342.5	721.6	280.7	-56.9
1984	743.2	347.1	756.6	310.9	-131.3
1985	814.0	394.3	814.3	362.9	-115.1

Source: (Kishore Kulkarni, 2010, p. 369)

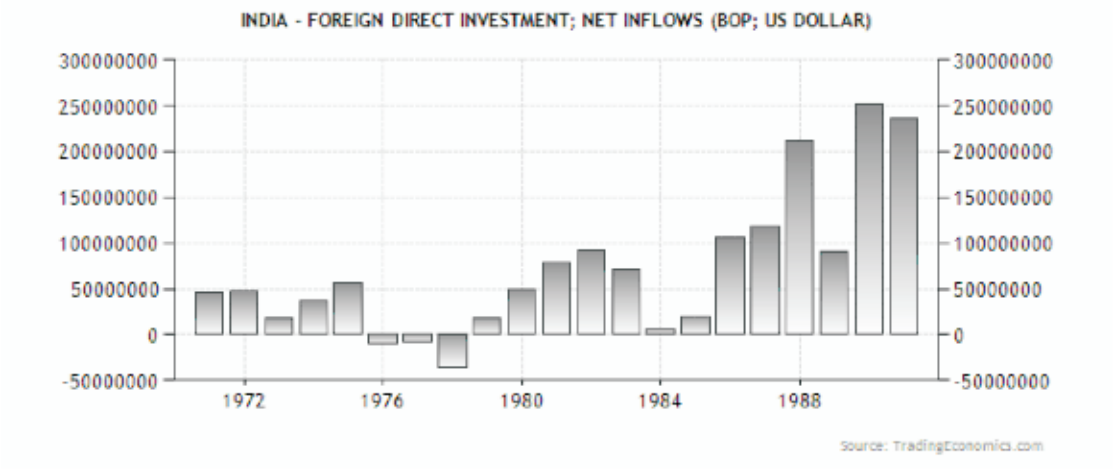
Table 1 describes India's trade market from 1965 to 1985. In these two decades, the exports and imports were so low that it formed less than one percent of the total world trade (Kulkarni, 2010, p. 368). As can be seen in table 1, Merchandise exports were only 82.5 million dollars in 1968. During this period, India achieved its peak in 1980 (919.8 millions) but the next two years saw a rapid decline. Between 1975-1985, the merchandise exports averaged only 675 million USD. The service sector shared similar pattern. Even though service exports were gradually increasing in this period, the figures were relatively low. The highest service export was experienced in 1985 at 394.3 million USD. This was the time when the agriculture sector was still dominant and the service sector was still decades away.

Merchandise imports gradually increased in the latter part of the 1970s into the early 1980s.

1974 saw a hike in merchandise imports, which was caused by the first oil price increase by OPEC (Kulkarni, 2010, p. 368). India was primarily dependent on OPEC countries for oil. Service imports also saw a gradual increase during the early 1980s but were kept at a relatively lower rate. As can be seen on the table, India saw its trade deficit spike from 16.2 million USD in 1973 to 160.4 million USD in 1974. This change within one year was astronomical and was blamed on the rise in the oil prices in the OPEC countries. Between 1965-1980, the share of exports and imports on India's GDP was considerably low. In 1970, only 3.4 percent of India's GDP was accounted by exports with only 3.7 percent by imports (Pangariya, 66). These low numbers in trade industry can be explained by economic policies that favored higher tariffs rate, strict quotas and different licensing on imports.

Due to many restrictions, India did not take advantage of the foreign direct investment (FDI). Compared to most industrializing economies in South East Asia, India followed a restrictive approach on foreign private investment until the late 1980s. The country primarily relied on bilateral and multilateral loans with long term maturities. FDI was perceived as a means of acquiring industrial technology that was unavailable through licensing agreements and capital goods import (Nagaraj, 2003, p. 1701). The few FDI India allowed were permitted to designate industries in a condition that they would set up joint ventures with domestic industries. The condition also required export obligations, and promotion of local research and development. The Foreign Exchange and Regulation ACT (FERA) of 1974 allowed foreign firms to have equity holding only up to 40 percent (Nagaraj, 2003, p. 1701). Foreign firms were not allowed to use their brands but hybrid brands like Hero-Honda were promoted.

Graph 1 shows the Net inflows of FDI in India from 1967 to 1990. Between 1972 and 1985, FDI was very low with negative between 1976 and 1978. More foreign investment started to pick up in the late 80's with net inflows of $220 million in 1988(Trading Economics, 2011). Even in the peak year of 1988, the FDI only accounted for 0.08 percent of the nation's GDP. This shows how negligible the impact of FDI was on the economy of India on the eve of globalization.



India finally started seeing some change in the 1980s. While the agriculture sector still accounted for the majority of the GDP, industrial and service sectors started to boom rapidly. The economy started to prosper slowly but more steadily than the earlier decades. The importance of liberalization of the economy was realized by the government of Rajiv Gandhi which led to reduction in tariff rates in the early 1980s and more progress was made in the sector of international trade in the late 1980s.

Trade Reforms in India

The decade of 1980 saw a few signs of policy changes when Rajiv Gandhi was the prime minister of India. Unlike his predecessors, Gandhi came to power with aspirations to change India's economic approach. He implemented programs of economic liberalization and introduced reforms in the first two years in office. However, India had a long way to go because of earlier macroeconomic setbacks. The fiscal deficit of Centre and State governments had reached an astonishing 10 percent of GDP (Aggarwal, 2003, p. 47). The current account balance hovered around 3.3 percent of GDP, with inflation of 9.9 percent (Aggarwal, 2003, p. 47). Also, India had started having balance of payments problems .Therefore, despite experiencing rapid economic growth which averaged 5 percent annually in the 1980s, India could not sustain its growth due to the balance of payment deficits. These deficits resulted from heavy external borrowing from the World Bank and the International Monetary Fund (IMF). The government of India was going through a major macroeconomic crisis and was close to default. Therefore, something drastic had to be done to bring the Indian economy back to normal.

With Narashinha Rao at the helm (1991-1996), India witnessed its first significant shock of liberalization in 1991. The first step toward liberalization was done via the devaluation of the Indian currency (Rupee). Rupee was devalued by 21 percent in 1991 in order to reduce the current account deficit (Joshi et al., 1997, p. 11). Other policy changes included a major reduction in tariff rates and quotas. FDI was encouraged by elimination of heavy licensing. Also, India needed short term stabilization of its balance of trade. This was done through reduction in expenditure and contractionary fiscal and monetary policies. Due to the internal demand as well as the IMF dictated condition, India had to deregulate and liberalize all markets and exercise laissez-faire economic policies (Menezes, 1999, p. 2). These reforms not only helped India get out of the biggest economic crisis in its history, but lay the foundation to become one of the dominant economic powers in the world today.

Post Reform-The impact of liberal reforms

The post reform India saw a tremendous economic growth that ended the balance of payment crisis. The quick recovery was attributed to major liberalization policies on the domestic as well as the international fronts. During the 1988-91 fiscal years, India's GDP at factor costs grew at rates of 10.5, 6.7, and 5.6 percent, respectively (Panagariya, 2008, p. 100). Inflation rate of 13.6 percent in 1991 was reduced to 1.3 percent in 2001-2002 (Kishore Kulkarni, 2010, p. 372). This was a tremendous achievement considering the macro instability the country went through just a few years back. The economic growth is also attributed to lower tariff rates and increase in import and export quotas. Prime

Minister Narasimha Rao also regulating the Ministry of Industry by himself undertook some major reforms. He announced the industrial policy of 1991 which put an end to licensing except in 18 sectors and opened the door to foreign investment (Panagariya, 2008, p. 96). The finance minister, Dr. Manmohan Singh ended the import licensing on capital goods and corrected the overvaluation of the exchange rate, which was a key element in the liberalization process. He also cut the tariff rates considerably, with the top rate falling from 355 percent to 110 percent in 1991-1992 and to 65 percent in 1994-95(Panagariya, 2008, p. 96). The elimination of licensing and the reduction of tariffs incentivized trade immensely.

Even though the country saw great economic success starting the late 1980s, the early 90's brought a few economic hiccups due to external factors. The rise in oil prices had created a slight recessionary trend in the country. Also, internal political instability combined with lack of technological advancement and poor monsoon season had brought economic hardship in the country. Fortunately for India, the recession lasted only for a short period of time. The country started seeing tremendous growth in information technology after 1994, which boosted the service sector of the economy. Liberalization also helped increase the foreign investment in services in India. Before 1991, service sectors were dominated by government intervention. However, post 1991, considerable efforts were made toward opening the door to private sector participation including foreign investors. Pangariya in 2006 pointed out that as a whole "India now has a foreign investment policy that is approximately as open as that of China" (Panagariya, 2008).

Graph 2 shows the Net inflows of FDI in India from 1992 to 2009. FDI was relatively low in India up till 1994. However, it started to pick up in the mid-1990s and has gradually increased ever since. The net inflow of FDI in 1998 was 2,634,651,658 USD, the highest in that decade (Trading Economics, 2011). As can be seen in Graph 2, the FDI in 2009 accounted for approximately 3.5 percent of Indian GDP. It is critical to note that India did not only see reforms in trade and foreign investment. After 1991, India made remarkable progress in areas such as taxation, telecommunications, electricity, airline industry, and the national highway construction. These reforms have helped India maintain a stable macroeconomic environment. .

Table2- Macroeconomic Performance in Post 1991 Years

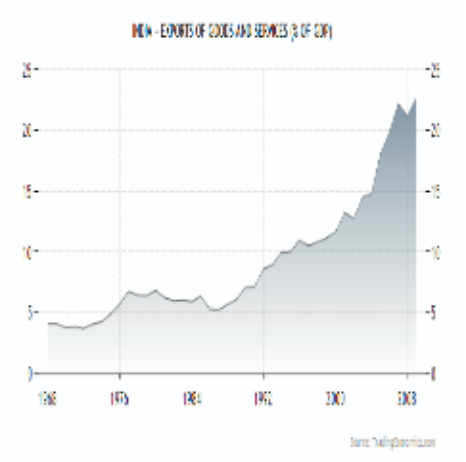
Year	Real GDP Growth	Inflation Rate	Interest Rate	Unemployment No. in Millions	Money Supply Billions of Rs
1991	.96	8.9	17.88	36.3	1046.1
1992	2.3	13.7	18.92	36.75	1120.9
1993	1.5	10.1	16.25	36.27	1330.2
1994	5.9	8.4	14.75	36.69	1695.0
1995	7.3	10.9	15.46	36.74	1883.5
1996	7.3	7.7	15.96	37.43	2148.9
1997	7.8	6.4	13.83	39.14	2419.3
1998	6.5	4.8	13.54	40.01	2703.5
1999	6.5	6.9	12.54	40.37	3161.2
2000	6.1	3.3	12.29	40.34	3495.9
2001	4.0	7.1	12.08	41.99	3846.0
2002	6.2	4.7	11.92	42.36	4318.6
2003	5.5	5.1	11.50	43.10	4822.3
2004	8.0	4.5	10.60	42.50	5402.3

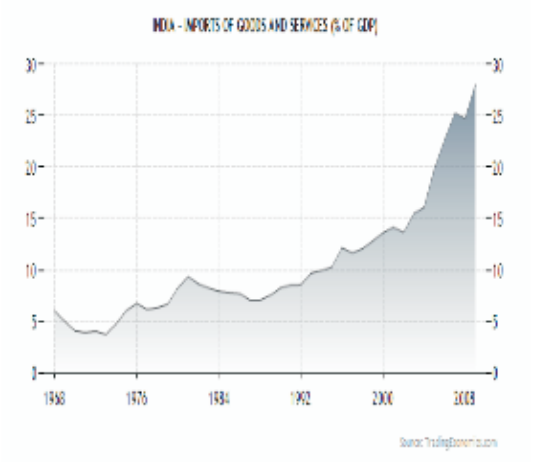
Source: (Kulkarni, 2010, p. 373)

The post 1991 India saw tremendous economic growth. In 1994, as can be seen in Table 2, India enjoyed a 5.9 percent GDP growth, while the inflation declined from 13.7 percent in 1992 to 8.4 in 1994. The drop in inflation rate can be explained by higher interest rates. The unemployment numbers were alarming due to numerous factors. First, it is common to have high unemployment when a country is in the first stages of transitioning from an agricultural sector economy to a modern sector economy. Also, India consists of underemployment problems due to extreme poverty due to illiteracy (Kulkarni, 2010, p. 372) . There are other problems such as imperfect labor markets and data collection problems that may impact the high unemployment numbers. Other than these problems, India enjoyed very high economic growth in the 1990s.

By the mid-1990s, the policy makers were convinced that for India to economically grow, it had to be through liberalization of markets and trade. This prompted for more policies that favored fewer tariffs on trade and foreign direct investment. With more liberal policies, India kept growing throughout the late 1990s and onto the early 2000s. In 2004, India had the second fastest growing economy in the world, second to the Chinese economy (Kishore Kulkarni, 2010, p. 373). Also, in this period India saw a wave of technological change just like other developed countries. Information technology played a vital part in the rise of the service sector. This growth was initially seen in bigger cities of Bangalore, Pune, and Hyderabad but by mid-2000s, it had spread all across the country. It is evident that this drastic turnaround of the Indian economy in the 1990s was due to liberalization.

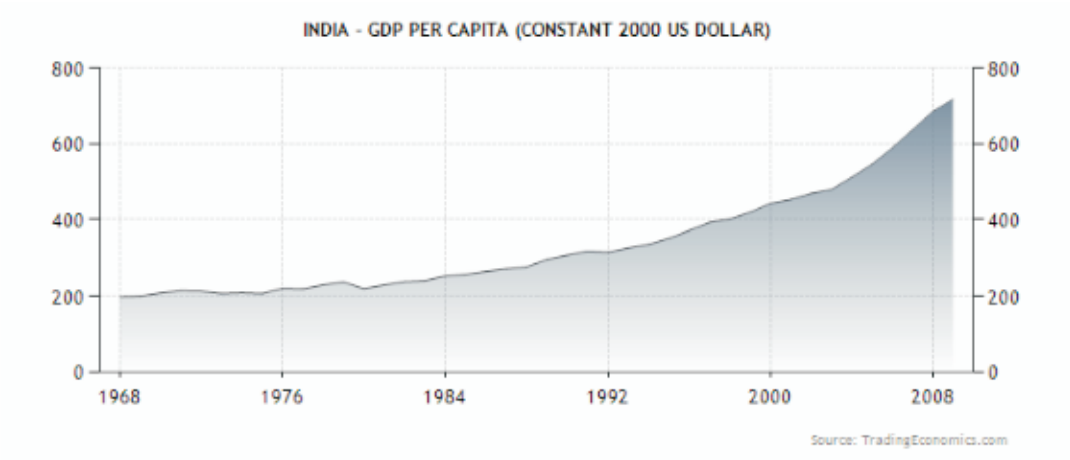
This can be further analyzed by comparing the pre and post-reform International trade patterns.





Graphs 3 and 4 above show the exports and imports contribution to Indian GDP from 1968-2009. Before the reformation, the exports and imports did not account for much of India's GDP. In 1986, the eve of major reformations, only 5 percent of exports of goods and services accounted for India's GDP. The same can be said about imports. In 1986, imports of goods and services accounted for a negligible 7 percent of India's GDP (Trading Economics, 2011). However, this turned around starting in the early 1990s. Due to the opening of borders and reduction in tariff rates, imports and exports increased drastically after 1990. Exports and imports were rising in different sectors. While the service sector is credited for a rise in exports, important raw materials helped the imports grow significantly.

Liberalization of the Indian economy not only helped ignite the economic growth of India in a macro level but it also helped increase the welfare of the people in a micro level. As can be seen from Graph 5, the per-capita income in India has risen after 1992. It may seem like a small increase, but in a country like India where incomes have been historically low, it is a significant achievement.



Opponents of liberalization have complained about low wage rates among unskilled workers. Although, it is a valid argument, it is critical to note that liberalization has provided jobs to people that would not have had otherwise. Critics also point out how liberalization has destroyed the local culture and has dominated India with western values. These are all good arguments, but it is to be noted that for a country to have economic success, it has to make some hard sacrifices. As Dr. Bhagwati points out in "In Defense of Globalization," that trade liberalization has more benefits than costs and therefore needs to be supported to the fullest extent. The post-reform success clearly shows the importance of trade liberalization in India.

Analysis and Conclusion

More so than other developing countries, India has experienced the fastest economic growth. Despite being considered a poor country after its independence in 1947, India has bounced back to become one of the most powerful emerging economies in the entire world. How has India been able to achieve this incredible goal? What are the lessons that other South Asian countries can take from India's success? Various policies were implemented after 1991 that were key to India's economic success.

First, India followed the Solow growth model theory on its way to success. According to the Solow model, long term growth is a direct result of the Solow residuals. This paper argues that international trade and openness of the economy increased the overall level of output leading to a faster economic growth. The initial hypothesis proved to be correct as International trade was the difference between a poor India and an emerging India.

Between 1950s -1980's, protectionism swept the shores of India. Politicians favored policies that restricted movement of goods and services from other countries. India was destined to become independent of the world markets. However, India could not sustain this phenomenon forever. It realized that restriction of trade had a negative effect on the economic growth of India. Also, policy makers realized that in order for India to prosper like other South East Asian countries like Singapore, Taiwan and South Korea, it had to open its borders. This notion proved to be true as India's growth rate between 1988-2006 was 6 percent annually compared with 4.8 percent annually during 1981-1988, right before reformation (Pangariya, 108). The economy grew even faster during the period from 2003-2004 to 2005-2007, when India's GDP at factor cost grew at an impressive rate of 8.6 percent annually (Panagariya, 2008, p. 108). Opening the economy to the world market has been the reason for India's impressive success. This openness increased the rate of investment at home, which in turn led to a high economic growth just like Solow had predicted.

There are multiple lessons that other South Asian countries can learn from the case of India. One of the keys to economic success depends on the country's political structure. In other words, the more interest there is politically to economically advance, the higher the chances of achieving that particular goal. In the case of other South Asian countries, that has been the main problem. Political incentives have overlooked the potential economic growth. These countries need to realize that India, by changing its political ideologies helped itself to grow tremendously. Other countries also need to learn that India had to sacrifice deep cultural beliefs that

prevented effective policies to be put into effect before the 1980s. These sacrifices may be hard to make but in the end, the benefits of liberalization outweigh these sacrifices as has been seen in the case of India.

Overall, the experience of liberalization in India has been better compared to other developing countries. For India, the future is very bright if it continues to follow the same path since the late 1980s. India needs to carry the liberalization forward. India has the possibility to achieve long-term growth just like the East Asian tigers in the 1960s and 1970s, if policies are passed that favor more integration with the world markets. India already has a booming informational technology sector that has played a vital role in its economic growth. Now, India needs to focus on opening its borders even more to encourage further foreign investment. This will provide further investment opportunities internally and help the country to achieve an unprecedented economic success.

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Trade Unionism in Leather Units in Kolkata: An exploratory observation on the selected leather units

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Abstract

The study of trade unionism became a crucial matter in the industrial relations as the relationship between labour and management is greatly influenced by them. Even , after liberalization , contrary to the prediction of many observers , the significance of the trade unions have not been reduced . The role of the trade unions have been modified rather and have become a key decider of fate of large number of workers specially in the labour intensive industries across the globe. Leather industry is one of the highest employment generating industry in India and as per the estimate the sector can generate about 6 million direct and indirect employment by the end of 2015 , if the 10% growth trend continues . Currently about 2.5 million people are earning their livelihood from this sector across India in different major concentrations like. Though there are thousands of small and medium units are functioning as the unorganized units , yet some large and very large organizations have also come into fray over the years . Trade unionism is a common practice in many of these organizations and the nature of trade union formation experiences a greater variation from small , medium to large organizations. In the small and medium leather organizations trade unions are functioning under the industrial union banner , whereas in large organizations unions are mostly organization specific. The paper attempts to study the extent of workers participation in union activities according to different variables like age, length of service , education , origin etc.

Key words : workers participation , union activities , trade union activities and different variables, sample organizations , organized leather industry , selected organizations .

Introduction :

Soft as skin, not soft as silk... that's how it is in the Indian leather story that tells a tale of a $6 billion industry employing about 2.5 million people crafting shoes, saddles and bags for the world and hoping to triple its exports by 2015 , if the current growth rate of 10% continues .The sector can also accommodate about 6 million work force directly or indirectly . Helping the success story are the low costs, widely available raw material and world class quality that make India one of the world's fastest growing leather hubs. With about 10 percent of the world's raw material, India's leather exports make up around two percent of world trade and rose by 12 percent during 2008-2011 to about $2 billion. The leather and leather products industry is one of India's oldest manufacturing industries that catered to the international market right from the middle of the nineteenth century, the demand for its products being both domestic as well as international right from the beginning. About 46 per cent of the production in the sector is

exported and it ranks eighth in the list of India's top export earning industries and contributes roughly Rs. 10,000 crores per annum, i.e., about 4 per cent to export earnings. The sector accounts for 2.5 per cent of the global leather-related trade of Rs. 387,200 crores. An estimated 15 per cent of total purchase of leading global brands in footwear, garments, leather goods & accessories, in Europe, and 10 percent of global supply is outsourced from India . Therefore, the dynamics of the industry has been shaped to a large extent by export orientation from colonial times. The sector is dominated by small-scale firms although there also exist a significant number of medium and large sized firms in all segments of the industry. The industry is concentrated in several leather clusters in four or five distinct locations in the country, with each cluster containing a wide variety of enterprise forms and organizational structure. To be more specific, the major production centers of leather and leather products are located at Chennai, Ambur, Ranipet, Vaniyambadi, Trichy, Dindigul in Tamil Nadu, Kolkata in West Bengal, Kanpur and Agra in U.P., Calendar in Punjab, Delhi, Hyderabad in Andhra Pradesh, Bangalore in Karnataka and Mumbai in Maharashtra. Tamil Nadu is the biggest leather exporter (40%) of the country and its share in India's output on leather products is 70%.

The labour scenario in Indian leather industry:

The Leather Industry is Labour intensive and is concentrated in the small and cottage industry sectors. While leather shoes and uppers are concentrated in large scale units, the sandals and chappals are produced in the household and cottage sector. The leather industry employs about 2.5 million people . The industry is also one with strong links with the social structure through caste and community. Thus a large number of people engaged in the industry (entrepreneurs as well as workers) are even today from traditional leatherworking castes (belonging to the lower castes in the caste hierarchy) and the Muslim community. Due to the age of the industry and its links with the social structure, the organizational structure that has emerged is a very complex one that contains within it elements of continuity with traditional structures as well as those that represent a break with them. The processes in the footwear making include last making, pattern cutting, clicking, sewing Assembling and finishing. There is no gender selectivity in child labor. Adults earn wages that are only marginally higher than what the children earn. Irrespective of the experience, skill and family size and requirements the wage payment system remains insensitive and relatively inelastic. Children contribute 20 to 40 per cent of the family income. The labor in the leather industry is defined by the caste location . While market forces predominantly govern all other aspects of the industry, the labor is drawn exclusively from the most downtrodden section. As heads of 60 per cent of the households are engaged in leather work, the leather sector study establishes the incidence of child labor in leather flaying as an intergenerational phenomenon.

Women are also employed in large numbers in Indian leather industry and are making important contribution to the national economy as well as to exports. Women are involved in large numbers, especially in footwear production in Athani (Karnataka), Rajasthan, Agra (UP) and Chennai, Ambur, Ranipet and Vaniambadi (Tamil Nadu) . Their entry into productive work has helped considerably in improving their household situation. With the `take off' of the footwear industry, especially in the last 20 years and the rapid rise of exports, women's employment

has increased. The leather industry has been designated as a hazardous industry under the Factory Act 1948, and has a mandatory requirement of formal approvals for expansion. It has been observed that formal units expand and set up illegal units, where the bulk of women workers, especially dalit women are found. Women are not documented as 'workers' on any official records. Therefore, they are not legally entitled to any compensations or benefits. These women are recruited through contractors and are engaged in all stages of the tanning process. Their tasks are time consuming, backbreaking and the most hazardous.

Leather industry in West Bengal :

With its large livestock population, West Bengal produces 8 percent of India's cowhides and 11 percent of its goatskins. Large quantities of skins from Bihar (India's second largest producer of hides) and U.P. are also tanned here. Bata India Ltd. (BIL) has India's largest tannery (annual capacity 335,000 cow and buffalo hides) in a Calcutta suburb. Apart from BIL, leather is tanned by 600 small-scale, family-owned units concentrated in the Tanagra, Tiljala and Topsia areas. The largest of these is the USD 7 million Taj Leather Works (TLW) .

West Bengal accounts for 65 percent of India's leather goods exports. But its share of total Indian leather and leather goods exports is 15 percent. The European Union and North America are the leading importers of West Bengal's leather and leather goods (79 percent and 12 percent respectively) . Unfortunately, West Bengal is generally considered a source of low-priced, poor quality leather goods. Improving the quality of both leather and leather goods is a problem as most tanneries and manufacturers are small and cannot afford the investments required to upgrade production facilities. Only a few manufacturers have modern equipment. But most of them are handicapped by low overall production capacity, which prevents them executing large export orders. However, West Bengal is till considered India's largest manufacturer of leather goods. In addition to BIL (annual capacity over 20 million pairs of shoes/uppers) there are approximately 20,000 small units making footwear/uppers (12 million pairs per year); industrial gloves (50 million pairs per year); garments (800,000 pieces per year); and accessories and luggage 35 million pieces per year).

Kolkata is the single largest concentration of leather industry in West Bengal. Traditionally , Kolkata offers the leather industry several advantages like easy availability of a wide variety of leather (cow, calf, buffalo, sheep, goat, kid); low production costs; a large pool of unskilled, semi-skilled and skilled workers at competitive rates; and abundant water and power. An airport and two ports facilitate exports.

Labour scenario in West Bengal leather industry :

West Bengal's leather industry employs over 200,000 people. As far as working conditions of West Bengal leather industries are concerned, Bata India Ltd. (BIL), Taj Leather Works (TLW) and a few other units like Khadims etc. are the exception. In addition to salubrious working conditions, BIL's workers enjoy subsidized housing, medical facilities and numerous other benefits. TLW has modern machines with devices to prevent accidents and injuries to workers. In contrast, working conditions in the tanneries and the leather manufacturing units are generally appalling and there is scant regard for workers' safety or health. However, with the shifting of large number of leather industry organizations to newly built Calcutta Leather

Complex (CLC) near Bantala, which is spreaded over across 1100 acres of land with all modern infrastructure and technical amenities about 50000 directly employed workers and about 150000 indirectly dependent work-force are enjoying better working conditions than their counterparts working in traditional concentrations . Composition of work-force in both traditional and modern leather organizations are however divided into regular and casual workers under the company pay-roll and the very large number of workforce under the contractors.

Trends of trade unionism in Kolkata leather cluster:

Trends of trade unionism in Kolkata is nothing unique . As the industry witnesses moderate to large scale trade union participation in medium to large units . The industry witnesses maximum union participation in tanneries in terms of small and medium scale operations , whereas , very limited existence of trade union is the general feature of the most of the fabricating units and the export units . As the maximum intensity of trade union activities is observed in tanneries only the scholarly investigation has identified the existence of multi-union situation at the industry level covering most of such units in Kolkata leather cluster. These industry level unions are all affiliated to two or three major political parties and enjoy very high command over thousands of workers , both regular and casual , in Kolkata leather industry. However , few units engaged in fabrication jobs , employing more than 500 workers also witness the same trend . Large organizations like Bata , Taj Leather works , Khadims etc. have the workers' unions , but these are mostly organization specific or craft unions based on nature of occupational engagements . As per the recent estimate about 62% of the workforce employed in tanneries (mostly under small and unorganized types) in Kolkata leather cluster hold the membership of some other trade union , whereas in large organized leather business organizations about 79%-82% workers are the members of any of the unions .Both the industry level unions covering the small and medium size unit workers and the organization specific unions in large units have their agenda , which are surprisingly similar in many situations . Both types of unions are concerned with the issues like job security and protection from retrenchment/lay-off , minimum physical facility provisions for the workers , payment of minimum wages , bonus , incentives etc. However , on the leadership issue external involvement is higher in industry level union coverage on small and medium unit workers , whereas the power mostly lies with internal leadership in the large scale unit specific unions , though the external political control is very much there .

Review of literature:

The wide variety of literatures both of academic and non-academic nature are available on the different aspects of the topic discussed in the paper. However , only few major literatures have been covered here to provide a comprehensive idea about the research trends on the different dimensions of current research .

The review of literature has been classified into two major areas ;

- Literatures on the trade unionism in India
- Literatures on the leather industry of Kolkata
- Literatures on the workers' participation in the trade unions in leather industry of Kolkata

Trade Unions have become an integral and powerful factor in the contemporary system of production and distribution system .Modern industrialization has paved the way for trade unions . They are now exercising a strong influence on the methods of production of goods and services , their distribution , the allocation of economic resources , the volume of employment and unemployment , the character of of rights and privileges , policies of governments, the attitude and status of legal masses of population , and the very nature of economic and social organisations. However, under such conditions, their role has evoked deep and wide controversies. Therefore, the large pool of available literatures on trade unionism is clearly divided on their role in controlling the macro and micro aspects of economy, policy , employment and governance.

Sen, Ratna (2003) has explained the development of Indian trade Unionism based on the main emphasis of the trade union theories . She has further explained the back-ground of the different trade unions on evolution of political groups in India along with some unique characteristics of many others , specially the local unions under the patronage of different charismatic personalities . Prior to the research of Prof. Sen , Mathur and Mathur (1962) , Reveri (1972) , Soman (1957) , Karnik (1960) , Kennedy (1955) , Sharma (1963) , Fonseca (1964) , Ghosh (1960) and Malhotra (1963) have provided a lot of information both theoretical and empirical on trade union movement in India . Mathur and Mathur , Karnik , Ghosh have traced the history of trade union movement in India. The studies of Kennedy (1955) , Vaid (1962) ,Dufty (1964) , Fonseca (1964) , Sharma (1963) , Johri (1967) , Soman (1957) , Nigam (1984) , Agarwal (1984) and Bhangoo (1987) have raised the issues such as process of unionism , its role in economic development , role of the legislation and government in promoting unionism , new problems and challenges of trade unions and other related issues of trade unionism in India. The major limitations of these studies are their excessive dependence on secondary data without using behavioral data. The studies on unionism at the area , industry and enterprise level are very few in India . Kulkarni's (1946) research was the pace-setter in real sense in this regard. Kennedy (1955) , Sheth (1960) , Singh (1968) , Murphy (1981) , Gaur (1986) , and Asdhir (1987) have studied trade unionism in Bombay , Tamil Nadu , Ahmedabad , Rajasthan and Punjab by applying historical approach . Pandey and Vikram (1969) studied trade unions in Delhi's construction industry and Bograte (1968) have worked on the trade union movement among the Kolkata Dock workers . The important area , industry or plant level studies include those of Mast (1969) , Thakur (1968) , Punekar (1958) , Vaid (1965) , Ramaswamy (1977) , Sahoo (1977) , Monga (1973) , Arya (1980) , Sinha (1984) etc. The studies indicate that there has not been any significant difference in characteristics of trade unions at area , industry , state and national levels with regard to multiplicity of units , inter-union and intra-union rivalries and other important aspects of the trade unionism.

Pandey and Vikram (1969) have done the causal analysis on level of workers' participation in trade unions in industries . They have identified the attributes such as lack of enlightened leadership , illiteracy

among workers , managements' hostility , low interest of the etc. . The studies of Dayal and Sharma (1970) , Sinha and Paul (1963) , Ganguli (1954) , Sayles and Strauss (1953) , Monga and Mogga (1981) and Mukherjee (1985) have investigated the variables , attitude toward unions' functions and other perceptions regarding unions . These studies have mainly investigated the relationship between trade union participation and different variables like age , length of service , rural or urban background and educational level .

Significant researches have also been observed on the fundamental characteristics of trade union leadership in India. The researches in this regard can be witnessed in the streams like dependence of leadership efficiency on different demographic factors of the leader , level of political interference in trade union leaderships etc. Mathur and Raman (1962) , Dayal and Sharma (1976) , Singh (1980) and Rao (1984) have attempted to analyse the leadership efficiency with the help of factors like age, gender, caste, parental occupation , political affiliation etc. Reindrop (1971) , Ramaswamy (1977) and Acharji (1980) have observed that the outsiders, mainly the political leaders play the dominant role in the functions of trade unions in many industries . Pattabhi (1967) , Aziz (1974) , Ashraf (1974) , Baveskar (1974) in their research works have highlighted the political manipulations , dependence and weakness of the unions and the use of union funds for different political purposes . Nanda (1968) and Ramaswamy (1971) have contributed something very significant on the research of the out-side political intervention in trade union

Available literatures on leather industry in Kolkata mostly comprises of different reports , monographs and few research papers . Report of Council of Indian Leather exports (2005) has provided the information that West Bengal used to account for 65 percent of India's leather goods exports (1999-2000 exports were valued at USD 226 million) . But its share of total Indian leather and leather goods exports is 15 percent . The European Union and North America are the leading importers of West Bengal's leather and leather goods (79 percent and 12 percent respectively). Unfortunately, West Bengal is generally considered a source of low-priced, poor quality leather goods. Improving the quality of both leather and leather goods is a problem as most tanneries and manufacturers are small and cannot afford the investments required to upgrade production facilities. Only a few manufacturers have modern equipment. But most of them are handicapped by low overall production capacity, which prevents them executing large export orders. However, West Bengal is till considered India's largest manufacturer of leather goods. In addition to BIL (annual capacity over 20 million pairs of shoes/uppers) there are approximately 20,000 small units making footwear/uppers (12 million pairs per year); industrial gloves (50 million pairs per year); garments (800,000 pieces per year); and accessories and luggage 35 million pieces per year). Annual Report of the Indian leather producers Association (2009) has observed that Kolkata is the single largest concentration of leather industry in West Bengal and Kolkata offers the leather industry several advantages like easy availability of a wide variety of leather (cow, calf, buffalo, sheep, goat, kid); low production costs; a large pool of unskilled, semi-skilled and skilled workers at competitive rates; and

abundant water and power. An airport and two ports facilitate exports. West Bengal's leather industry directly and indirectly employs over 200,000 people . Roy , Satyaki (2009) has conducted an extensive research on the institutional failures and imperfections that prevail in the supply of indivisible inputs and collective action in a typical 'low-road' cluster in Kolkata and has argued that market failures due to existence of information imperfections , externalities and public good and the institutional failure to resolve those shortcomings only partially explain the depressed status of these clusters , including Kolkata leather cluster .He further added that , the explanation critically rests on the fact of asymmetric power relations and conflicts arising between the trader and the small producer reproducing a production relation that thwarts the high road growth path. The spawning of small enterprises in such clusters is a result of self-exploitative fragmentation that does not flow from entrepreneurship , but from the survival strategy of labour in the context of depressed wages , as the author added . In this working paper the author has highlighted all comprehensive issues like production organisation, labour process and other issues pertaining to the socio-economic analysis of the functioning of the leather cluster of Kolkata. The paper further observes that most of the units are owned by the male and about 87.5 % of the units surveyed by the author are either owned as proprietorship or as family owned house-hold work .The paper further classifies the units of Kolkata leather cluster into three categories-the units those produce more than 200 pairs per week, those producing in between 200-500 pairs per week and those producing more than 500 units per week. The paper has only included those units , which are producing shoes and finally observes that the success depends on the dynamic relationship between producer and the trader and the appropriate government intervention in streamlining the process of technology up-gradation, process improvement etc. Though , very few literatures have been identified on the work-force pattern and labour practices in the leather industry in Kolkata , but the research by Roy , Satyaki (2009) may be considered as the pioneering works on the issue. Report on leather industry including footwear and other art works in India , published by the Labour Bureau , Ministry of Labour and Employment , Government of India (2008) has given a comprehensive picture on the working conditions and social backgrounds of the workers , working in the leather industry across India , including the leather industry at Kolkata , which should be considered as another important source to depend on.

Surprisingly very less number of research materials are available on the trade union participation in Kolkata leather cluster, though adequate sources may be available on the same subject in many other industries . Mostly news paper reports published on workers agitations against different collective issues can be used here for the purpose. Therefore , an important research gap can be easily identified here paving the way of empirical investigation .

Research objectives:

The paper has three main research objectives:

i) To evaluate the extent of workers participation in trade unions activities in the sample organizations in general ,

ii) To evaluate the reasons for workers' joining trade unions

iii) The relationship between workers' participation in trade union activities and different variables like age, length of service , education , strike participation , aspirations for promotion, wage satisfaction etc.

Research methodology:

As the Kolkata leather cluster comprises of four different types of units like tanner, fabricator , tanner cum fabricator and manufacturer , the sample has been selected accordingly for the purpose of study. Four different units have been selected as the sample on the basis of criteria like their distinctive business orientation, the minimum number of workers employed during the last one year and a minimum percentage of workers subscribed to a specific union at their workplace. For the purpose, the units with minimum number of hundred workers and at least 40% union membership comprising both regular and contract workers have been included in the sample. The random stratified sampling technique has been adopted for the same. A structured questionnaire has been prepared and distributed among 250 workers across the units through the unit supervisors. The responses from 243 workers were received within 90 days. After initial screening, five response sheets were rejected as these had been found either incomplete or the responders have mistakenly opted for more than one options to the same question.

Following table shows the detailed unit-wise statement of sampling:

Table 1: Unit wise description of samples

Sample units	Total workers	Regular	Casual/contract/Irregular	Total regular workers surveyed	Total Irregular workers surveyed
Unit 1*	110	43	67	22	36
Unit 2**	106	23	83	12	43
Unit 3***	123	51	72	35	34
Unit 4****	102	29	73	18	38
Total	441	146	295	87	151

*Tannery (Kim Ling Tannery) , **Fabricator (Mukesh Agarwal and Associates) , *** Tanner cum fabricator (Ahmedia Brothers) , **** Manufacturer (Leather house)

After obtaining the data through structured questionnaire, the specific statistical techniques including multiple response analysis and activity frequency analysis have been adopted to explain different aspects of the research objectives . Ranking method has been used to evaluate the relative importance of different factors to facilitate the decisions of joining and non-joining to the trade unions in respective units. Relationship between union participation and different variables has been measured through concentration of different groups along with the observable parameters .

Research findings:

On the issue of the rate of workers' participation in trade unions in the sample organizations, it is also required to assess sample unit wise trade union memberships by the regular and irregular workforce .Following table shows sample unit-wise detailed status of trade union memberships and surveyed workers with union affiliations.

Table 2: Sample unit wise trade union membership

Sample units	Regular workers having trade union membership	Irregular workers having trade union membership	Surveyed trade union members from regular workers	Surveyed trade union members from irregular workers
Unit 1	30	47	16	30
Unit 2	23	53	07	32
Unit 3	48	56	29	24
Unit 4	29	60	10	29

From the above table it can be understood that in sample unit 1 and sample unit 4 , all the regular workers are the parts of respective unions , whereas in sample unit 3 , not all the regular workers , but nearly all (about 94.11%) have the union affiliations . In comparison with other three units unit 1 seems to be least unionized in terms of regular workforce. Only 69.76% are the members of the union there. When , we analyse the level of union participation from the irregular workforce perspectives in these sample units , unit 4 shows highest union participation , i.e. about 82.19% , followed by unit 3 (77%) , unit 1 (70.14%) and unit 2 (63.85%) . From this observation , the comparative analysis of rate of trade union participation by regular and irregular workers at the sample units can be presented as below :

Table 3: Comparative statement of trade union participation at the sample units level

Sample units	Percentage of trade union participation by regular workers	Percentage of trade union participation by irregular workers	Average percentage of trade union participation
Unit 1	69.76	70.14	70 (approx.)
Unit 2	100	63.85	82 (approx.)
Unit 3	94.11	77	86 (approx.)
Unit 4	100	82.19	91 (approx.)

The above statement shows that on an average unit 4 has the highest union membership rate among all . This is due to very high trade union membership rates both by the regular and irregular workers of the unit. Unit 2 has relatively lower average trade union membership rate as the trade union membership rate by the irregular workers is relatively lowest there.

From the questionnaire survey it was also attempted to evaluate the level of workers' participation in union activities at all sample units. Seven activities have been identified as the nature of union participation like attending meetings, taking part in strikes and dharnas, collective funds , canvassing for the union, voting for the union leaders , talking about the union with the colleagues , reading and distributing union notices-pamphlets and circulars . However, for the convenience of research analysis , only five major union activities have been included in the questionnaire. Here the surveyed members of the unions at the sample units show three major trends , i.e., canvassing for the respective unions , taking part in dharnas and collection of funds for the unions. Other activities have been found not so significant activity as revealed from the survey. Moreover , it has been observed that more than 60% of the surveyed union members from regular employment category and nearly 70% from irregular employment category are actively engaged in trade union activities. Out of which about 80% are involved in more than two activities as KLWU members , whereas about 90% WBCLU members regularly participate in more than two union activities in all the units. Following table shows the pattern of workers' participation in trade union activities in the sample units.

Table 4:Workers' participation in union activities in sample units

Trade union activities	Unit1		Unit 2		Unit 3		Unit 4		Total
	KLWU (16)	WBCLU (30)	KLWU (7)	WBCLU (32)	KLWU (24)	WBCLU (27)	KLWU (10)	WBCLU (29)	177
Only one activity	02	0	0	01	03	01	01	0	08
Two activities	15	26	05	28	16	16	07	24	137
More than two activities	01	04	02	03	05	10	02	05	32

Therefore, majority KLWU members (about 65%) across four sample units and about 79% of WBCLU members are involved in two union activities comprising of attending meetings , joining dharnas and canvassing for the unions.

Multiple response analysis technique has been applied to further explore the trade union activities by regular and irregular workers of the three sample units , following trend become more visible .Following table shows the types of trade union activities involved by the regular and irregular workers in sample unit 1.Act 1 denotes canvassing for the union, Act 2 denotes participating in dharnas , agitations , Act 3 denotes collecting fund for the unions and Act 4 speaks about distribution of leaflets, pamphlets etc. From the activity frequency analysis , it has been observed that in sample unit 1 , two most engaging union activities remain Act 2 and Act 3 , i.e.

canvassing for their unions and participation in dharnas etc. About 36.8 percentage of surveyed union members from both the regular and casual workers are involved in canvassing for their unions and about 31.6% have been involved in agitation activities organized by their respective unions in sample unit 1 .

At the sample unit 2 level , maximum number of union members (73.1%) have participated in canvassing for their unions followed by joining agitations (69.2%) and collecting funds for the union activities (50%) .

At the sample unit 3 level , most of the unionized workers are involved in joining agitations (66.7%) , followed by almost equal participation in canvassing for the union and fund raising . It has been observed that 26 workers , both regular and irregular type have participated in agitating activities called by their unions , whereas 24 workers have been the part of either canvassing or fundraising activities apart from any other activities .

The survey feedback on the union activity involvement pattern in sample unit 4 shows that though majority of the workers , i.e. 19 out of 21 is involved in two union activities , how eyer , further analysis shows that about 60.7% are engaged in fund raising for their unions. This is a surprising trend among all the four sample units indeed.

On the issue of finding out the reasons for workers' joining trade unions in the sample units , six alternatives were provided to the surveyed workers and they were asked to choose most important factor for joining to the union. The responses reveal that to get a rise in wages ranked first in all four units , specially among the regular workers . From the survey feedback , it has been observed that about 32% of the regular workers have joined the union with the key objective of wage hike possibilities. Job security remains the most important motivator to become the part of union among the irregular workers .About 55% of the irregular workers and trade union members have chosen the concern for job security as the key motivating factor for joining trade unions. The analysis further shows most important workers perception about for joining unions are almost similar in all four units. However , different other factors have also been identified by the surveyed workforce as better working facilities at sample unit 3 and sample unit 4 levels . Here , at sample unit 3 , very small percentage of irregular workers (9.37%) and at sample unit 4 , relatively smaller number of regular workers (13.79%) have identified the same as the most important facilitating factor for joining trade unions .

The reasons behind joining trade unions by the workers from these four units not only represents two distinct tendencies among regular and irregular workers, i.e. wage hike to the regular workers (members of KLWU) and Job-security to the irregular workers (WBCLU members), but also some other responses like very negligible importance attached to the factor of bonus factor by irregular workers (only at unit 4) etc. The study further explores that the demographic profile of the workers are somehow responsible for these different orientations towards trade unionism across four sample units covered in the study. As the issue of continuous job availability is a major concern to most of the casual workers , as revealed from the survey and the wage issue is the concern for the regular workers , but the minor deviations from these general tendencies can be mostly related to other factors like personal closeness to the union leadership at the unit level, duration of service with the same unit or in the same industry etc. Therefore. The study has been done on the basis of five causal factors of joining trade unions . However , the level of significance of the relevant factors as the cause behind joining trade unions can be explained only on the basis of advanced analysis as all these factors have been found to be relevant in the context of contemporary research observations .

Table 5 : Factoral analysis of joining trade unions

On the issue of workers' participation in trade union activities across different variables like age , length of service , rural or urban back ground ,educational level ,migrant -local origin, regular and irregular nature and married -unmarried a detailed study has been conducted .The study has categorized the level of workers' participation into three scales like low/negligible , average , high participation . The workers' participating in only one union activity has been grouped under low/negligible group , workers' participating in two activities have been classified under average group and involvement in more than two activities have the union members under high participation group.. The research attempts to distribute these groups across different demographic variables and then the correlations between these variables and union participation rate have been derived. Following table represents the variable specific level of involvement or participation in union activities by the surveyed workers in the same units .

Table 6 : Demographic variable wise distribution of level of union activity involvement

Variables	Low/negligible involvement	Average involvement	High involvement
Age			
20-30 years	0	64	15
31-40 years	16	62	11

Reasons	Unit 1		Unit 2		Unit 3		Unit 4	
	KLWU	WBCLU	KLWU	WBCLU	KLWU	WBCLU	KLWU	WBCLU
Wage hike	8 (50%)	7 (23%)	7 (100%)	4 (12.5%)	14 (48%)	4 (17%)	7 (70%)	6 (21%)
Bonus	3 (19%)	-	-	-	6 (21%)	-	3 (30%)	6 (21%)
Better welfare facilities	-	-	-	3 (9%)	4 (14%)	-	-	-
Strength of unity	-	5 (17%)	-	5 (16%)	3 (10%)	-	-	-
Stand against victimization	5 (31%)	8 (26%)	-	-	-	4 (17%)	-	-
Job security	-	10 (30%)	-	17 (62.5%)	2 (7%)	16 (67%)	-	20 (61%)

41 and above	2	6	1
Length of service			
Less than one year	2	43	6
1-3 years	4	65	11
More than 3 years	1	41	4
Education			
Illiterate	0	39	4
School drop out	5	71	2
Matric and above	2	52	2
Origin			
Local	4	87	2
Migrant	5	64	14
Nature of employment			
Regular	2	59	6
Irregular	4	102	4
Marital status			
Married	3	96	7
Unmarried	5	57	9

From the above findings , following observations can be made :

i. Nearly half of the total number of responding union members fall under 31-40 years , i.e. , about 51% .
ii. Maximum number of respondents are working in the unit for more than one year , but not more than three years , i.e., about 45% .
iii. Maximum union members are school drop outs , i.e., about 44%.
iv. Majority of the union members are migrant from other states , i.e., about 53%.
v. About 62% of the union members irregular workers.
vi. About 59% union members are married.

Therefore, some general conclusions can be derived on the basis of above findings :

- Approx. 75% of the union members across age group are involved in average activities like more than one but less than three activities.
- Approximately more than 84% of the union members across length of service group are involved in average activities like more than one but less than three activities.
- Educational qualification wise as well, more than 91% union members are involved in average activities like more than one but less than three activities.
- Same trend is observed across different origin , i.e., 85% union members are involved in average activities like more than one but less than three activities and about 86% union members irrespective of their marital status are involved in average activities like more than one but less than three activities.

Implications of the study :

The findings of the study are of good significance for may reasons . Firstly , the paper is a glimpse of contemporary demographic characteristics of an highly employment generating industry ,i.e. the leather industry .Secondly , the study is one of its kind on Kolkata leather industry as the detailed study on the issue has been found to be nearly absent in the knowledge domain. Thirdly, the study has further opened up the possibilities of large scale research on the impact of demographic trends in industrial relations scenario in Kolkata leather industry .Fourthly, the very fundamental observations of the paper have highlighted the needs of some immediate interventions by the appropriate authority at the required level to facilitate the process of decent work practices etc. as mentioned by ILO in its mission agenda for 2020. Finally , the paper can be further expanded on the certain grounds like cross sectional analysis in terms of impact multiple variables of trade union participation across the workforce in the industry.

Limitations of study :

The study has the limitations as all the data have been collected through single source self reported measures. Therefore , common method variance may be a major problem. Responses of individual survey items may not be truly independent as there has been a chance influence of group membership. From this perspective , it can be said that more research is needed to examine the generalization of this study.

Conclusions:

The study is a systematic effort to understand the contemporary trends of trade unionism in organized leather industry of Kolkata . This has not only highlighted the issues like the existence of politically influenced blanket unionism , but also indicated briefly about the different priorities of different segments of the trade union members across industry. The major concerns of different groups , the different levels of involvements etc. have been highlighted as the first hand observation , which can be selectively used or referred for further research .

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Knowledge Management & Electronic Human Resource Management

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Multi-faceted, Paradigm Shift, Expert systems, Artificial Intelligence, Knowledge Economy

Abstract

Knowledge management often encompasses identifying and mapping intellectual assets within the organization, generating new knowledge for competitive advantage within the organization, making vast amounts of corporate information accessible, sharing of best practices, and technology that enables all of the above - including groupware and intranets. Globally, knowledge has become the most important factor in economic development and knowledge assets are considered essential for economic growth, competitive advantage, human development and quality of human life. Knowledge management presents HRM with the opportunity to become pivotal to the strategic management of the organization and a catalyst for knowledge creation and building value. This involves more than just re-labeling Human Resources - it is a fundamental paradigmatic shift for HRM and senior management. Thus this paper is to promote the ideas of applying Knowledge Management to EHRM solutions. It is to provide business organizations with pragmatic understanding about integrating knowledge management strategy and technologies in Human Resource Management for successful performance.

Introduction

The importance of 'knowledge' for the economy and business has been discussed since at least 1945, if only sporadically, and received growing attention from the 1960s. The idea that knowledge could and should be managed, however, seems not to have been seriously considered until a decade or so later. Knowledge management is a business activity with two primary aspects[1 and 2]:

- Treating the knowledge component of business activities as an explicit concern of business reflected in strategy, policy, and practice at all levels of the organization.
- Making a direct connection between an organization's intellectual assets - both explicit [recorded] and tacit [personal know-how] - and positive business results.

In practice, knowledge management often encompasses identifying and mapping intellectual assets within the organization, generating new knowledge for competitive advantage within the organization, making vast amounts of corporate information accessible, sharing of best practices, and technology that enables all of the above - including groupware and intranets [3] which is shown in figure 1. Knowledge management shares with education and artificial intelligence the need

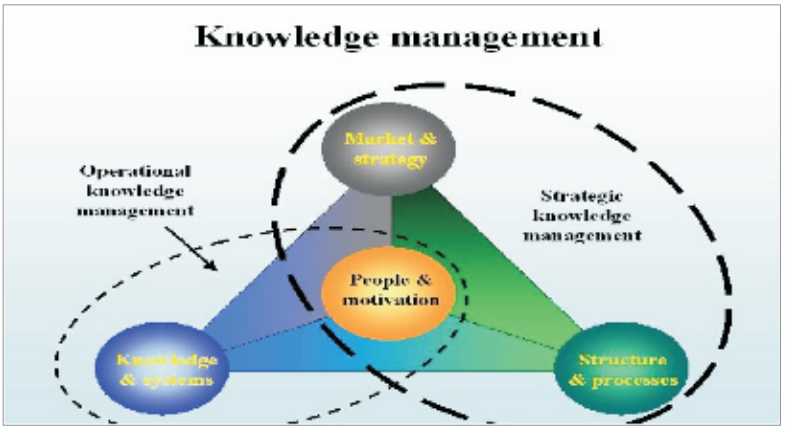

Figure 1

for a practical working definition or conceptualization of 'knowledge'.

Yet if managers are not clear about what they are trying to manage, we cannot evaluate knowledge management practices, understand the effects of actions taken in the name of knowledge management, assess the relationship of knowledge management to other management activities, or evaluate the claim that knowledge management is just another fad of consultants and academics. Equating knowledge with information does not get us very far. Nothing is said in these accounts about how 'processing' or 'combination' transforms 'information' into 'knowledge', or how information acquires 'meaning' or becomes 'constituted' as a belief.

Need for Knowledge Management:

Why do we need to manage knowledge? Ann Macintosh of the Artificial Intelligence Applications Institute has identified [4] some of the specific business factors, including:

- Marketplaces are increasingly competitive and the rate of innovation is rising.
- Reductions in staffing create a need to replace informal knowledge with formal methods.
- Competitive pressures reduce the size of the work force that holds valuable business knowledge.
- The amount of time available to experience and acquire knowledge has diminished.
- Early retirements and increasing mobility of the work force lead to loss of knowledge.
- There is a need to manage increasing complexity as small operating companies are trans-national sourcing operations.
- Changes in strategic direction may result in the loss of knowledge in a specific area.

In brief, knowledge and information have become the medium in which business problems occur[5]. As a result, managing knowledge represents the primary opportunity for achieving substantial savings, significant improvements in human performance, and competitive advantage. It's not just a Fortune 500 business problem. Small companies need formal approaches to knowledge management even more, because they don't have the market leverage, inertia, and resources that big companies do. They have to be much more flexible, more responsive, and more "right" (make better decisions) - because even small mistakes can be fatal to them[6].

Literature Review:
The key background study was done in the field of past research on knowledge management as well as features of e-HRM.

Approaches to Knowledge Management:
The term "knowledge management" is now in widespread use, having appeared in the titles of many new books about knowledge management as a business strategy, as well as in articles in many business publications, including The Wall Street Journal. There are, of course, many ways to slice up the multi-faceted world of knowledge management.

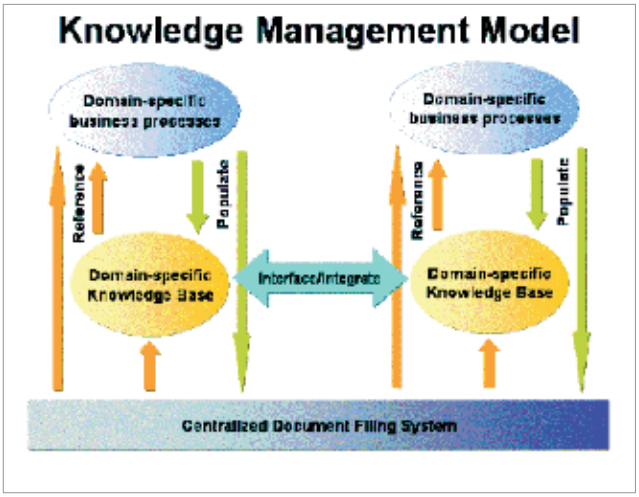

Figure – 2, Model of Knowledge Management

In this model, the KM system is intended to provide infrastructure support for knowledge intensive processes of the organization shown in figure -2. The emphasis here is on knowledge performance and getting results rather than the more traditional emphasis on contents management, knowledge sharing or information access.
Mechanistic approaches to knowledge management
Mechanistic approaches to knowledge management [6] are characterized by the application of technology and resources to do more of the same better. The main assumptions of the mechanistic approach include:

- Better accessibility to information is a key, including enhanced methods of access and reuse of documents (hypertext linking, databases, full-text search, etc.)
- Networking technology in general (especially intranets), and groupware in particular, will be key solutions.
- In general, technology and sheer volume of information will make it work.
  Cultural / behavioristic approaches to knowledge management [7]

Cultural/behavioristic approaches, with substantial roots in process re-engineering and change management, tend to view the "knowledge problem" as a management issue. Technology though ultimately essential for managing explicit knowledge resources - is not the solution. These approaches tend to focus more on innovation and creativity (the "learning organization") than on leveraging existing explicit resources or making working knowledge explicit[8]. Assumptions of cultural/behavioristic approaches often include:

- Organizational behaviors and culture need to be changed ... dramatically. In our information-intensive environments, organizations become dysfunctional relative to business objectives.
- Organizational behaviors and culture can be changed, but traditional technology and methods of attempting to solve the "knowledge problem" have reached their limits of effectiveness. A "holistic" view is required.[8] Theories of behavior of large-scale systems are often invoked.
- It's the processes that matter, not the technology.
- Nothing happens or changes unless a manager makes it happen.

Systematic approaches to knowledge management [9]

Systematic approaches to knowledge management retain the traditional faith in rational analysis of the knowledge problem: the problem can be solved, but new thinking of many kinds is required. Some basic assumptions:

- It's sustainable results that matter, not the processes or technology ... or your definition of "knowledge."
- A resource cannot be managed unless it is modeled, and many aspects of the organization's knowledge can be modeled as an explicit resource.
- Solutions can be found in a variety of disciplines and technologies, and traditional methods of analysis can be used to re-examine the nature of knowledge work and to solve the knowledge problem.
- Cultural issues are important, but they too must be evaluated systematically. Employees may or may not have to be "changed," but policies and work practices must certainly be changed, and technology can be applied successfully to business knowledge problems themselves.
- Knowledge management has an important management component, but it is not an activity or discipline that belongs exclusively to managers.

Business Activities related to Knowledge Management

- Management of Information Systems (MIS) or Information Technology and Information Management (IT/IM) - Knowledge management emerged in part out of IT management as it became clear that access to information and data was insufficient to provide enough insight to support decision-making. Recently, major software companies (e.g., Microsoft) have also decided to offer KM services to help integrate technology into the workplace.
- Human Resource Management - It is said that the 1980s fixation with "business process re-engineering" had emphasized cost-cutting without appreciating the value of people[10]. It became clear that people were not costs, they were in fact assets because of their knowledge and experience. Within human resource management circles, knowledge management grew as a way of demonstrating,

in a more systematic way, the value of people to business processes[11].

- Change Management - As regular or continuous change became a feature of organizational life, it was recognized that successful change needed to be managed. Since organizational change tends to involve the orchestration of people, technology and resources, knowledge management was considered a key method of tying these threads together[12].
- Project and Team Management - As organizations began to rely on short-term projects, serial short-term contracts, and use of teams, it became necessary to provide appropriate support - and capture the resulting knowledge.

Corporate Intelligence and Research & Development - In an organization there are also several areas specifically devoted to acquiring and creating useful knowledge, such as technology research centres, intelligence gathering operations, corporate research and training facilities, and libraries[13 and 14].

Knowledge Management in the Technological Era:

The traditional paradigm of information systems is based on seeking a consensual interpretation of information based on socially dictated norms or the mandate of the company bosses[15]. This has resulted in the confusion between 'knowledge' and 'information'. However, knowledge and information are distinct entities![16] While information generated by the computer systems is not a very rich carrier of human interpretation for potential action, 'knowledge' resides in the user's subjective context of action based on that information[17 and 18]. Hence, it may not be incorrect to state that knowledge resides in the user and not in the collection of information, a point made two decades ago by West Churchman, the leading thinker on information systems[19].

Karl Erik Sveiby, the author of The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets, contends that the confusion between `knowledge' and `information' has caused managers to sink billions of dollars in technology ventures that have yielded marginal results. He asserts that the business managers need to realize that unlike information, knowledge is embedded in people... and knowledge creation occurs in the process of social interaction[20]. On a similar note, Ikujiro Nonaka, the renowned Professor of Knowledge, has emphasized that only human beings can take the central role in knowledge creation. He argues that computers are merely tools, however great their information-processing capabilities may be[21]. A very recent Harvard Business Review special issue on Knowledge Management seems to lend credence to this point of view. This issue highlighted the need for constructive conflict in organizations that aspire to be leaders in innovation and creation of new knowledge.

The 'wicked environment' of the new world of business imposes the need for variety and complexity of interpretations of information outputs generated by computer systems. Such variety is necessary for deciphering the multiple world views of the uncertain and unpredictable future. As underscored by the strategy guru Gary Hamel at the recent Academy of Management meeting address, non-linear change imposes upon organizations the need for devising non-linear strategies. Such strategies cannot be 'predicted' based on a static picture of information residing in the company's databases. Rather, such strategies will depend

upon developing interpretive flexibility by understanding multiple views of the future. In this perspective, the objective of business strategy is not to indulge in long-term planning of the future. Rather, the emphasis is on understanding the various world views of future using techniques such as scenario-planning.

Knowledge management draws from a wide range of disciplines and technologies. Expert systems, artificial intelligence and knowledge base management systems (KBMS) related technologies have acquired an undeserved reputation of having failed to meet their own - and the marketplace's - high expectations. In fact, these technologies continue to be applied widely, and the lessons practitioners have learned are directly applicable to knowledge management. Computer-supported collaborative work (groupware) in Europe, knowledge management is almost synonymous with groupware ... and therefore with Lotus Notes. Sharing and collaboration are clearly vital to organizational knowledge management - with or without supporting technology.

HRM in the Knowledge Economy

The nature and characteristics of work in the knowledge economy herald new opportunities for HRM. To maximize benefit from knowledge assets, a fourfold contribution from HRM is proposed. In the knowledge economy, HRM must Provide expertise in understanding and defining firm-level strategic knowledge capabilities. And it develops and manages knowledge workers by leveraging the knowing-learning-doing nexus. Also build knowledge value as an organizational as well as an individual asset; and Minimize the organization's knowledge risk associated with loss of requisite capability and knowledge.

Knowledge creation, use, sharing and retention have always been important. What is new is the significant shift towards a systematic and strategic approach to managing the primary assets of the knowledge economy: people, knowledge processes, and knowledge products. Globally, knowledge has become the most important factor in economic development and knowledge assets are considered essential for economic growth, competitive advantage, human development and quality of human life. The idea that people and the knowledge they possess is the organization's most valuable asset is not new. The shift in the terminology from over 20 years ago from 'Personnel Management' to 'Human Resources Management' signaled what some claimed was a metamorphosis for the profession.

Today, the central role of individual and organizational capabilities is significantly amplified with the advent of the knowledge economy. Commanding a central role in realizing value from knowledge assets is proposed as the new strategic role for HRM. What is the nature of the transition proposed for HRM? How does this translate to the functional areas of HRM? Table 1 presents a summary of the traditional approaches to HRM and the shift required in the knowledge economy. The areas represent the elements of HRM that offer the greatest opportunity to acquire, build and retain organizational capability.

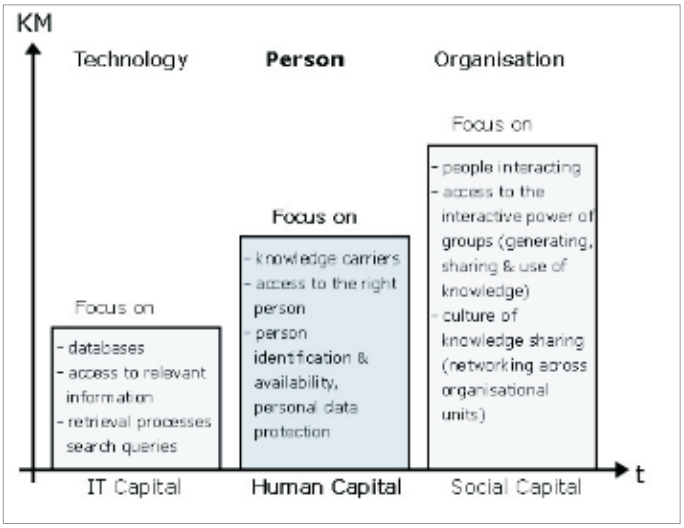

Figure 3

Knowledge management presents HRM with the opportunity to become pivotal to the strategic management of the organization and a catalyst for knowledge creation and building value. This involves more than just relabeling Human Resources - it is a fundamental paradigmatic shift for HRM and senior management. The transformation begins with viewing HRM through a 'knowledge lens' and repositioning the functions in relation to strategic knowledge capabilities. Managing knowledge workers, building value from knowledge, and assessing knowledge risk are also new requirements of HRM in the knowledge economy. We propose that HRM must respond to the key challenges presented by the knowledge economy and command a central position in realizing value from knowledge assets as a strategic role for HRM.

Knowledge Management & e-HRM:

In the course of prevailing trends like globalization, customer orientation and specialization, most of the companies place emphasis on recruitment, sustainment and evolution of qualified employees. The companies are aware of the fact that human resources have changed more and more from a cost factor to success factor.

Electronic Human Resource Management (eHRM) is a web based tool to automate and support HR process. The implementation of eHRM is n opportunity to delegate the data entry to the employees. eHRM facilitates the usage of HR marketplaces and offers more self service to the employees. eHRM is a collection of many different technologies. At first the growing attention of companies on the factor knowledge is mainly driven by the evolution of information technology. Information systems like eHRM solutions -that network information enable companies to get a consistent concept for their knowledge management. In this sense Knowledge Management is always a collection of different techniques. A variety of these techniques is used in companies to acquire knowledge, to organize knowledge and to make knowledge transparent. One of these mentioned techniques is knowledge Discovery in Databases (KDD) respective Data Mining as a step of the KDD-process.

eHRM offers the opportunity to automate administrative HR-work and to optimize value creating HR-activities. Three levels of development can be distinguished:

1. Web-presence HR,
2. Web-enabled HR, and
3. Web-energized HR.

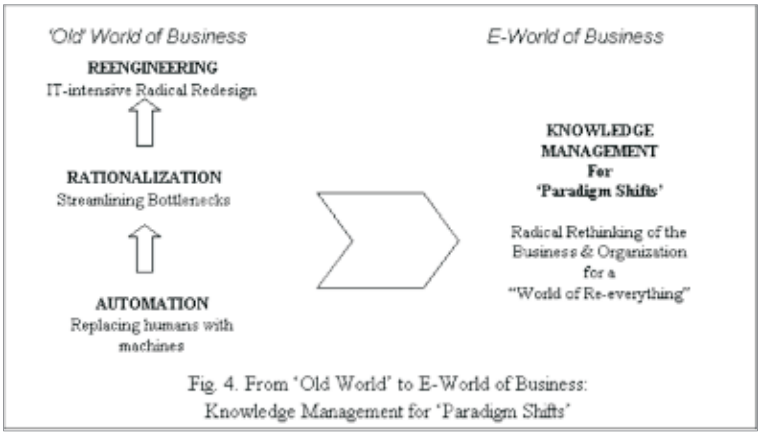

Fig. 4. From 'Old World' to E-World of Business: Knowledge Management for 'Paradigm Shifts'

The first level means that parts of the eHRM-solution are present. Web-enabled means that all parts of the eHRM-solution are present and can be accessed online. The third level describes the eHRM-solution that is fully implemented, can be accessed online and is used intensively by the employees. The desired level and the pace of implementation for HR-solutions are specific for each company. At DaimlerChrysler AG, Plant Worth the eHRM-solution is on level two at the moment and is to reach level three where it is intensively used by the HR-workers and the employees.

As weak definition eHRM shall be known in the following as an integrated optimization of HR-prices consequently using web-based technology for all facets of HR-work. Amongst other facets e-learning in the field of continuing education, employee-self-service (ESS) in the field of HR-administration and the utilization of the intra and extranet in the field of recruitment belong to the main fields of eHRM that are supported by the eHRM system.
The main benefits of eHRM are an increase of quality and pace, because the existing administrative processes were slow and inefficient conditional upon mainly paper based processes, e.g. the tendency of standing data and the payroll. The direct access of the network enabled employee avoids double entries for example at the tendency of standing data, travel expense accounting and applications for leave. With e-recruitment the company gets an additional possibility besides the normal application by paper to recruit people over the web in an online application process.

It is common for large companies to install eHRM. Not only can the processing time be shortened but also manpower can be saved. So far eHRM reaches the prime objective of cost effectiveness. Besides the positive aspects of eHRM there are different negative impacts. The traditional social

task of the HR department suffers under the increasing aril distance that eHRM causes with its virtual online processes. The partial loss of face to face communication is rated negative by the employees. Finally the HR worker is affected by the changes in the HR processes. The ongoing automation of formerly time consuming tasks leads to long term staff cuts in the HR department. Thus the HR worker is central component of the implementation of eHRM because he is the key factor to realize the newly installed processes. With a demotivated HR worker due to the anxiety to loose his own job an implementation of eHRM is futile. A main task must therefore be the reorientation of the HR workers to a new scope of duties, especially in the area of strategic Human Resource Management that is recruitment, personnel evolution and continuing education.

Conclusion:

Knowledge management has emerged as a growing field of practice and research in response to the recognition that knowledge is a potent force in the economy, and for competitive advantage. The concept of knowledge itself, however, remains vague and unsatisfactory, a situation that may well hinder the development of knowledge management theory and practice. Knowledge itself cannot be managed, only the conditions of its use-in-action, which necessarily centers on people. Knowledge management practice, if it is to remain distinct from information management, which also focused on knowledge representations, must give pride of place to the management of people.

Knowledge Management (KM) is typically defined to be the holistic combination of measures for managing people, processes, and technology, the explicit integration of Human Resource Management into KM initiatives is seldom examined. In the course of prevailing trends like globalization, customer orientation and specialization, most of the companies place emphasis on recruitment, sustainment and evolution of qualified employees. Electronic Human Resource Management (eHRM) is a web based tool to automate and support HR process. The implementation of eHRM is an opportunity to delegate the data entry to the employees. eHRM facilitates the usage of HR marketplaces and offers more self service to the employees.

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Book Review

Talent Management: Strategies for Success from Six Leading Companies
Larry Israelite (2010)
(Delhi: Cengage Learning), pp. 260, ISBN 978-81-315-1612-6.

What is talent management? What must firms do to leverage on the modalities of talent management in a competitive economy? What are the best practices in this area? If formalized, can these talent management practices be applied across a range of firms? These then are some of the important questions that will come to a reader's mind as he works his way through this anthology of essays. This book can be used as both a source of insights for constructing a theory of talent management, and as a casebook with specific instances of what works in this area. There are six cases included here comprising organizations such as Bersin & Associates, Cisco, McDonald's, Avon Products, Children's Healthcare (Atlanta), and Ciena. These organizations are not in the same sector and the goal is not to argue that all these organizations have the same set of challenges by any means. Instead, we have a collection of approaches that have worked in specific contexts, and it is for the reader to decide the extent to which any of these case studies is applicable to the organization in which he finds himself. Larry Israelite, the editor of this anthology, argues that while we will uncover insights that have universal value, more often than not, we must be prepared to understand that 'things are local'. What is at stake in this area then 'comprise a combination of philosophies, tools, processes, and systems' that proved to be useful in the case studies included here. While readers are welcome to try these elements in their respective firms, it is important not to take a deterministic approach to these applications. They are more like the 'implications' of approaches to talent management rather than direct 'applications' to managing talent in organizations.

There are eleven chapters and an appendix in this book including an introduction and conclusion by the editor who is the VP of HRD at the Liberty Mutual Group. Larry Israelite points out that talent management is an emerging area in management. It is therefore necessary to improvise the processes appropriate to doing so. There are no fixed rules for managing talent, and it is not the intention of the editor or any of the contributors to lead the reader into thinking that can indeed be the case. Instead, readers should approach this problem with an open mind and think-through the different aspects of talent management whether it be 'performance management, career development, management development', or even the role of an 'employee opinion survey'. Josh Bersin of Bersin Associates, for instance, argues that an integrated approach is what is needed now. He is interested in working out how a talent management approach that is aligned to the interests of a business can be worked out in a way that accommodates the roles played by the process of learning and development. He differentiates between performance-driven and talent-driven approaches to learning based on the time period that is at stake in manpower planning processes in a firm. The approach that he favors is related to identifying business

problems first rather than approach talent directly. The deployment of a specific instance of talent then is proffered as a solution. The governance and ownership of talent management should be a function of the business as a whole rather than an area within HR - especially if HR is perceived to be preoccupied with questions of functional autonomy. In the absence of effective alignment with the strategic function of a business enterprise, it becomes much more difficult to measure the tangible gains, if any, of talent management.

The contributors to this book are pushing for a 'local knowledge' approach to talent management that favors the need for conceiving practical approaches rather than inquire into what talent is as an end in itself since most of them are caught up with these challenges in the organizations in which they find themselves. Annmarie of Cisco worries aloud about the shortage of talent in a globalizing economy; hence Cisco's preoccupation with the need to identify and develop the human and leadership elements of talent management. An approach that works wonderfully well is the emphasis on 'unlearning' as a prelude to new learning. Cisco also had to learn how to 'mature' its talent management processes in order to 'meet the demands of a transforming global enterprise'. This means coming to terms with needless complexity within the organization especially when the number of variables is continually increasing in the external environment. How can talent be successfully deployed in such circumstances? Neal argues that 'when times are good, have a simple plan; when times are complex, have a very simple plan'. Likewise Neal Kulick of McDonald's argues that talent management is strongly related to performance management since in a sense 'all management is performance management'. But at the same time it is important to differentiate between 'potential' and 'performance' by working on related factors such as the rating system, aligning compensation to performance, and by ensuring that 'pay differentiation' is related to 'performance differentiation'. It was also important to come up with a talent management plan with clarity on the processes relevant to doing so along with periodic talent reviews. The implementation would proceed with the help of a talent management template that would be made available to all the major business units of the firm. The components listed in the template would ensure that all the main aspects would be covered while translating talent management imperatives into practice. While getting this template right would involve several iterations, it would ensure that talent management practices were aligned to the strategic goals of the firm. McDonald's sense of urgency in this matter was precipitated by the unexpected illness and death of two CEOs in quick succession.

Marc Effron of Avon Products explains in his turn how his firm managed to build 'a new talent management system' given that it was growing faster than the firm could support. It was therefore important to understand the situation in Avon in the context of corporate restructuring and its implications for the organizational hierarchy. Avon began by identifying its weaknesses in managing talent before proposing a new model that would work with a greater degree of transparency in matters pertaining to career development, development plans, and performance reviews. Here, again, the focus was on bringing a greater amount of simplicity to bear on the situation by repeatedly asking what the

business gains of talent deployment might be. Once the answers to these questions became clear, it became much easier to make a business case for managing talent especially in the context of performance management. In Effron's words, 'with limited funds to spend, we needed to make a decision about which talent bets would truly pay off'. Talent management practices basically provide a set of guidelines on how to make these bets pay-off consistently. This also means that the workforce should be differentiated more effectively and being egalitarian is not the most effective way going forward. And, finally, it is important to find a way of measuring the gains on organizational turnarounds that are propelled by talent management practices if the gains are to be sustainable. While there is not sufficient space to list all the insights available in the cases and reflections included in this book, the characteristic feature of the approaches included here is that they are not only specific forays in talent management, but haunted by the idea that there is no objective or even comprehensive approach that will be applicable across a range of contexts. What these cases however succeed in doing well is in giving talent mangers a chance to rehearse their options, practices, and techniques in opening up for discussion an exciting new area in the theory and practice of talent management. It is therefore important for such managers to differentiate between processes and outcomes, develop adequate measures, and work-out the forms of alignment that will make an effective business case possible while betting every now and then on specific instances of talent.

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