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on the Volatility of Indian Stock Prices**  
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BANIBRATA GOSWAMI AND DHRUBAJYOTI CHATTOPADHYA



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# The Dynamics of FIIs' Presence on the Volatility of Indian Stock Prices

*Abhijit Kundu\**

**ABSTRACT :** Recognizing the dominating presence of foreign institutional investors (FIIs) in the equity ownership of listed Indian companies and considering their increased trading of securities, many have suggested an increased volatility in the prices of shares, whilst the others are interpreting the same as a form of the Efficient Market Hypothesis. Keeping this in the backdrop, the paper examines the extent of FIIs' ownership on the volatility of stock returns in the Indian equity market. For the same, the study has constructed two portfolios of ten stocks each having highest and lowest FII holdings out of top 100 Indian companies in terms of average market capitalization and studied their volatility behaviours over the recent period from January 2005 to December 2009. The Impact of Global financial crisis is also explored in the paper on the volatility of the high and low-FII portfolio returns. Using GARCH (1,1) and TAR (1,1) models, the results show the existence of volatility clustering in both the portfolio return series and confirm that volatility is an asymmetric function of past innovation in both the cases. Though the leverage effect is more pronounced in the case of high- FII portfolio returns, around and after the global financial crisis, this becomes a noticeable phenomenon in case of Low-FII portfolio returns too. The findings of the study are equally important for the regulators, academicians and practitioners as well.

**Keywords :** *FIIs, Persistence of Volatility Shocks, GARCH Models, Portfolio Return, Global Financial Crisis.*

## 1. INTRODUCTION

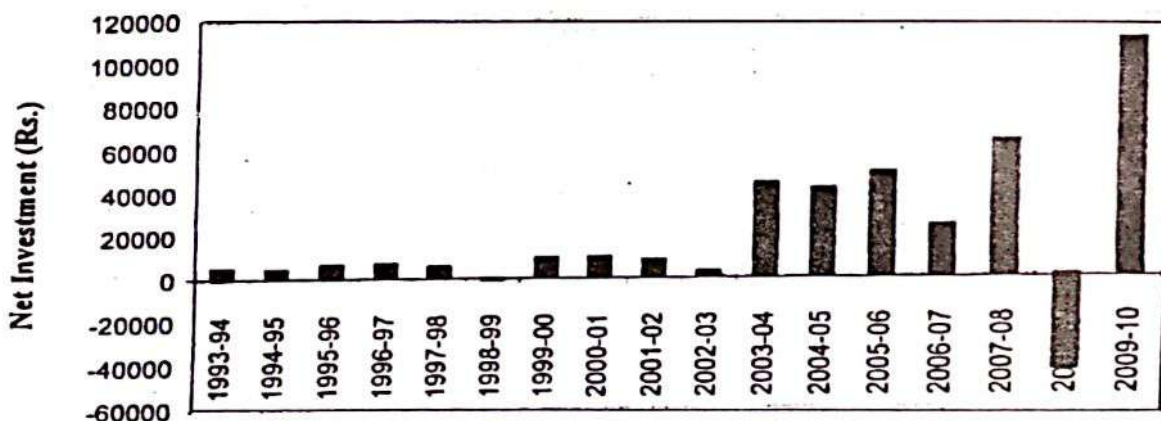
**I**n September 1992, the government of India announced the opening up of the country's stock markets to direct participation by FIIs. The process has gained a dramatic pace with the recent

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advent of computer and communication technology, lowering the cost of international information flows and cross-border financial transactions. As a result, Net FII inflows into India increased through the decade of 1990s from Rs.5,444.60 crore in 1993-94 to Rs.9765.13 crore in 1999-2000. In the new millennium, it increased astronomically to Rs.44,000.03 cr. in 2003-04 after the slump year of 2002-03 and ultimately rose to Rs. 62583.56 cr. in 2007-08. Though the flows slipped to the negative territory during 2008-09 in the wake of global financial upheavals, it then reached an annual peak of Rs. 1,09,303.09 cr. in 2009-10 (Figure 1). As at the end of March 2007, India was receiving 25 odd percent of the total FII investments in all developing nations. Furthermore, the number of FIIs registered with SEBI has also increased by leaps and bounds from only 10 in January 1993 to 528 by the end of March 2001 and by March 2010, the number increased to a whopping 1713.

At the micro level, nowadays, a significant portion of Indian corporate sector's securities is held by Foreign Institutional Investors. Pal (2004) estimated that at the end of June 2004, FIIs controlled on an average 21.57 per cent of shares in Sensex companies. It also shows that as an investor group, FIIs are the biggest non-promoter shareholders of the Sensex companies. Taking all the companies, FIIs share in the market capitalization comes out roughly to be 14 percent in India as on 31st March 2010 with a marked preference for investment in the financial sector, followed by materials and energy segments.

**Figure 1 : Net Investment by FIIs (Equities only)**



Source : Reserve Bank of India;  
2009-10 Estimate, from The Economic Times (31<sup>st</sup> March, 2010 issue)

Recognizing the dominating presence of foreign institutional investors (FIIs) in the equity ownership of listed Indian companies and considering their increased trading of securities, many have suggested an increased volatility in the prices of shares. Two specific fears about the FIIs hover around the problems of *herding*, where many FIIs may trade in similar ways, and *positive feedback trading*, where FIIs buy after positive returns and sell after negative returns, and thus exacerbating market volatility. On the contrary, many others are viewing FIIs as sophisticated investors as they are better informed and better equipped to process information than individual investors and are interpreting the price fluctuations as a form of the Efficient Market Hypothesis.

One view in favour of the positive linkage between the large FIIs' ownership and reduced

stock price volatility is that compared to their domestic counterparts, foreign investors face additional cross-border investment risks, and hence may seek to alleviate risk by specifically targeting firms with inherent characteristics associated with lower volatility (Li, 2010). It can also be true that FIIs demand greater transparency, higher accountability of management, and less risk taking, all of which can result in lower return volatility.

Nonetheless, the impact study of FIIs flows on domestic stock market is important from government as well as investor point of view, for example, do the FIIs increase speculation in the market and thus make the market more volatile (Li, 2002). Consequently, studies relating to impact of foreign portfolio inflows on the equity markets are well documented. However, empirical evidences on the economic influence of FIIs on equity market are still mixed and controversial.

In the international front, a good number of empirical studies have found weak linkage of qualified FIIs to increased market volatility. Lee and Ward (1980) have argued that foreign institutional investors' investment behaviour may have no or little influence on stock prices. Choe, Kho, and Stulz (1999) too find that opening a stock market to QFIIs does not drive up emerging market volatility. Wang and Shen (1999) have investigated the role of FIIs on the Taiwan's stock market and concluded that foreign investment has a mild influence on the volatility of the stock returns. Bekaert and Harvey (1998) rather reported a decreased amount of volatility in most countries that have experienced liberalization.

On the other hand, Bae *et al.* (2004) argue that when local firms are highly accessible to foreign investors, the local firms' stock trading is subject to international investment flows and therefore their stock returns are more vulnerable to world market risk. Lin and Chen (2006) investigated the extent of QFIIs' holdings on the share prices of the Taiwan stock market and found that QFIIs' high holdings stocks are better than that of the QFIIs' low holdings stocks.

In the Indian context as well, up to now, no exact answers have been given regarding whether institutional investors' investment behaviour affects stock prices or not. A number of studies in the past have observed that investments by FIIs and the movements of Sensex are quite closely correlated in India and FIIs wield significant influence on the stock market prices (Rangarajan 2000, Samal 1997, Pal 1998). NSE (2001) also observes that in the Indian stock market FIIs have a disproportionately high level of influence on the market sentiments and price trends. This is so because other market participants perceive the FIIs to be infallible in their assessment of the market and tend to follow the decisions taken by FIIs. Kohli (2003) observed that portfolio flows are making our financial markets more volatile through increased correlation between the domestic and foreign financial markets. Indian investors are indirectly affected by FII flows to the extent that it enhances or diminishes the security prices in the Indian market.

Bansal and Pasricha (2009) studied the impact of opening up of Indian economy in 1992 to FIIs on the returns and volatility of Indian stock returns over the period January 1991 through March 1994. The Study though found no significant changes in the Indian stock market average returns, but reported that volatility is significantly reduced after India unlocked its stock market to foreign investors.

Causal relationship between FIIs and Indian stock market has also been investigated many

times over different time horizons. Most of them reported that FIIs flows are more likely to be the effect than the cause of the stock returns (Mukherjee *et al.* 2002; Batra 2003; Dey and Mishra 2004). Ahmed *et al.* (2005) tested the causality at the firm level and showed the existence of bi-directional causality between stock returns and FII flows in 13 firms, and uni-directional causality in 21 firms. They found little evidence of destabilizing effect of FII flows on the individual equity returns of the firms during the period August 2002 to August 2004. Takeshi (2008) reported unidirectional causality from stock returns to FII flows irrelevant of the sample period in India whereas the reverse causality works only post 2003.

Survey of literature, thus, reveals no evidence of any empirical research on the impact of FIIs' ownership percentage in a company on its stock return volatility in India. In order to fill this gap, the same has been chosen to be the subject of the present study. For this, rest of the paper has been organized as follows. Specific objectives of the study have been set in section 2 followed by a description of data and methodology of the study in section 3. A discussion on the empirical research findings comes next in section 4 and finally, section 5 presents the summary and conclusion of the study.

## 2. OBJECTIVES OF THE STUDY

In the light of the above discussion, the study aims to examine the impact of FIIs' holding proportion on the volatility of the stock prices in India. More specifically, the study wants to capture the volatility behaviours of the returns of two portfolios with high and low FII holding companies. Moreover, realizing the need for investigating the volatility in the post-global financial meltdown, the study also proposes to explore the volatility performance of the two portfolio returns before as well as on and after the period of the financial upheaval.

## 3. DATA AND METHODOLOGY

### 3.1. Data

#### 3.1.1. Sample

The study first sorted all the listed Indian companies<sup>1</sup> on the basis of their yearly average rankings in market capitalization front over the period 2005-09. Year-end FIIs' holding percentage data are then collected for Top 100 market capitalized companies in India over the same period. Select companies are sorted again at every year-end (over 2005-2009) on the basis of FIIs' holding percentage therein. 10 companies<sup>2</sup> with highest average of annual rankings and 10 companies with lowest average of annual rankings in the context of FIIs' holding proportion have been chosen to construct two portfolios, i.e. High-FII holding portfolio and Low-FII holding portfolio respectively. Table 1 summarizes the average FIIs' ownership percentages of the two portfolios for each year from 2005 to 2009 as well as over the entire study period. The average FIIs' holding percentage over the study period is 35.30 % for the high-FII portfolio, whereas it is merely 2.11 % for the low-FII portfolio. The average market risk estimates i.e. beta coefficients<sup>3</sup> for these two portfolios are 0.936 and 1.115, respectively, with neither being significantly different from unity (i.e., the beta of a market index), meaning the portfolios are diversified.

<sup>1</sup> For which data are available in the PROWESS database

<sup>2</sup> Erstwhile Satyam Computer Services Ltd. being one of the top companies in this context, has been excluded from the portfolios over the period 2005-09 and 2008-09, but included in the portfolio for the period 2005-07.

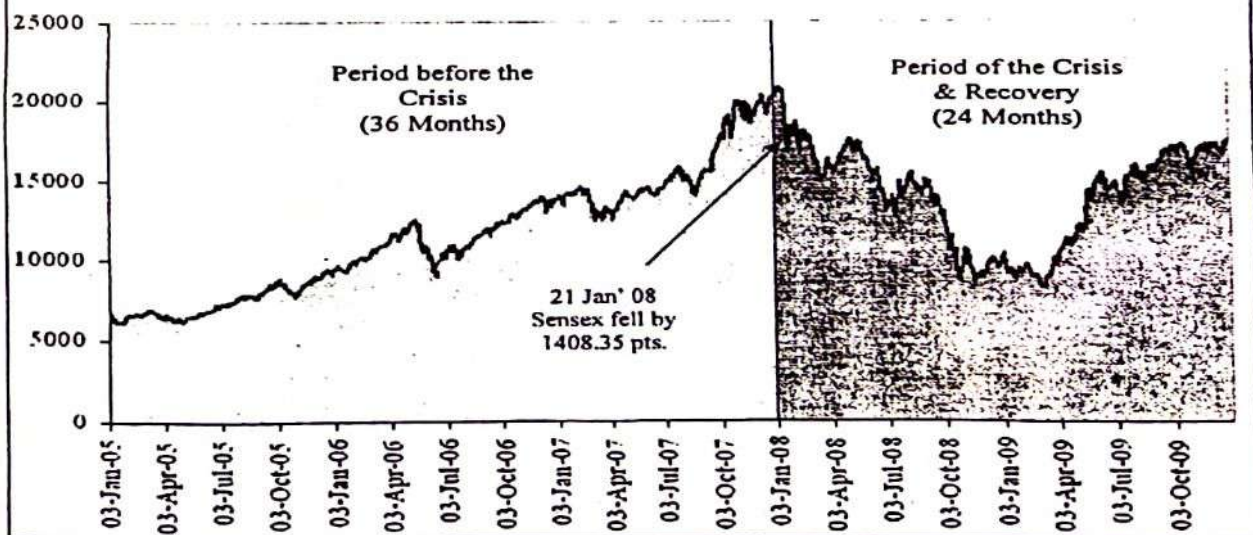
<sup>3</sup> The beta coefficients are computed against BSE 200, a broad based index of the Bombay Stock Exchange.

**Table 1 : Average FII holdings in the Portfolio companies**

	Year-end FII holding Averages of the 10 High-FII companies (%)	Year-end FII holding Averages of the 10 Low-FII companies (%)
2005	34.54	1.90
2006	36.20	1.47
2007	38.12	3.77
2008	31.65	2.29
2009	33.19	2.48
<b>Average over the years</b>	<b>35.30</b>	<b>2.11</b>

### 3.1.2. Study Period

The study covers the period from January 2005 to December 2009. Besides being the most recent one, the study period is quite exotic in the wake of US sub-prime crisis and global financial meltdown. Considering the turmoil in the financial world following this global financial upheaval in the latter part of the study period, the paper also attempts to compare the influence of FIIs' ownership on share price volatility in the Indian equity market before and after the event. For making the demarcation of the pre- and post-event periods, the study considers the beginning of the bear phase as triggered by the large amount of selling pressure in the Indian equity market since January 2008 (Figure 2). The month is also very iconic in the wake of the big fall in the global stock market prices as occurred on 21st January 2008. It was only next to the big fall of 1989 stock

**Figure 2: Sensex Daily Movements (2005-09)**



market crash in UK and USA and seems to be a precursor of the forthcoming financial meltdown. BSE Sensex too lost 1408.35 points on the very single day (around 7.30%). Hence, the sub-period January 2005 through December 2007 consisting of 750 observations (over 36 months) is considered as the period before the financial crisis, whereas the sub-period from January 2008 to December 2009 with 489 observations (over 24 months) is treated as the period of the crisis and recovery.

### 3.1.3. Data Sources

Company-wise year-end market capitalization data, year-end<sup>4</sup> FIIs' ownership data and the daily share price data on individual company along with the daily price data on sensex and BSE 200 index have been taken from PROWESS, the database maintained by the Centre for Monitoring of Indian Economy (CMIE). The share prices thus obtained have been adjusted for corporate actions, if any, over the sample period (e.g. bonus issue, split). Daily stock prices have been converted then to daily returns using the logarithmic difference of prices of two successive periods as follows :

$$R_t = \ln (P_t/P_{t-1}) \times 100$$

where,  $\ln (z)$  is the natural logarithm of 'z'

$P_t$  and  $P_{t-1}$  be the closing price on date  $t$  and  $t-1$  respectively.

## 3.2. METHODOLOGY

Volatility (variance) is the most basic statistical measure of risk. It can be used to measure the risk of a single instrument or an entire portfolio of instruments. Many econometric models assume that the variance is constant throughout the sample, meaning it does not change over time. This is known as the homoscedasticity model. If the variance is not constant through time, the model are said to be heteroscedastic. Many financial time series are heteroscedastic and exhibit the phenomenon of volatility clustering, that is, large changes, in these series tend to be followed by large changes and small changes by small changes. The technical term given to this behaviour is autoregressive conditional heteroscedasticity (ARCH). Robert Engle (1982) in his seminal work on inflation in the UK first introduced the idea of ARCH effect. Later on, Bollerslev (1986) generalized this type of model and introduced the concept of Generalized ARCH i.e. GARCH model. These models have been quite popular amongst the researchers and practitioners for modeling volatility of financial time series with high level of volatility clustering and outlier-prone i.e. heavily tailed probability distribution. Hence, these are chosen in the study to capture the volatility behaviour of the two portfolios.

The estimation of GARCH model involves the joint estimation of a mean and a conditional variance equation. Mean equation of the simple GARCH model can be stated as follows :

$$r_t = c + \varepsilon_t \quad [\varepsilon_t \sim N(0, h_t)]$$

where,  $r_t$  is the return series, constant return  $c$  is the average of returns over the data period, and  $\varepsilon_t$  is the unexpected return which is just the mean deviation return. A positive  $\varepsilon_t$  (an unexpected increase in price) suggests the arrival of good news at times  $t$ , while a negative  $\varepsilon_t$  (an unexpected decrease in price) suggests the arrival of bad news.

Second equation in a GARCH model is the conditional variance equation, which takes different forms for different GARCH models.

<sup>4</sup> Market capitalization data and FIIs' ownership data are as on the end of December every year.

### 3.2.1. Symmetric GARCH

The most simple but often useful GARCH model is GARCH (1,1). According to Bollerslev *et al.* (1992) the GARCH (1,1) model is found to be an excellent model for a wide range of financial data. GARCH (1,1) is a parsimonious alternative to an infinite ARCH( $q$ ) process. This model assumes symmetric volatility to good or bad news and is given by

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \beta h_{t-1}$$

$$\omega > 0, \alpha \geq 0, \beta \geq 0$$

where,  $h_t$  = Conditional variance at period  $t$ , which depends both on the past values of the shocks captured by the lagged squared residual terms ( $\varepsilon_{t-1}^2$ ), and on past values of itself captured by lagged  $h_t$  terms ( $h_{t-1}$ ).

$\alpha$  = ARCH coefficient;

$\beta$  = GARCH coefficient

The stationary condition for GARCH (1,1) is  $(\alpha + \beta) < 1$

If  $\alpha + \beta$  is close to unity, then a 'shock' at time  $t$  will persist for many future periods. A high value of  $\alpha + \beta$ , therefore, implies a 'long memory.' For  $\alpha + \beta = 1$ , any shock will lead to a permanent change in all future values of  $h_t$ .

### 3.2.2. Asymmetric GARCH

Asymmetric GARCH model captures the asymmetric volatility response to good or bad news. It assumes that an unexpected drop in price (bad news) increases volatility more than an unexpected increase in price (good news) of similar magnitude. The higher volatility to a large negative return caused by bad news may tentatively be explained with the help of leverage ratio. A drop in the market price (large negative return due to a bad news) of a stock increases the debt-equity ratio (i.e., financial leverage) of the firm as in the short term the debt remains constant. As the firm becomes more leveraged, it makes the stock riskier and increases its volatility.

In the present study, the leverage effect is examined by using Threshold ARCH (TARCH) model as developed by Zakoian (1994) and given by :

$$h_t = \omega + \alpha \varepsilon_{t-1}^2 + \gamma \varepsilon_{t-1}^2 \cdot d_{t-1} + \beta h_{t-1}$$

where,  $d_{t-1} = 1$  if  $\varepsilon_t < 0$  (for bad news), and  $d_{t-1} = 0$  otherwise (for good news).

In this model, good news ( $\varepsilon_t > 0$ ), and bad news ( $\varepsilon_t < 0$ ), have differential effects on the conditional variance. Good news has an impact of  $\alpha$ , while bad news has an impact of  $(\alpha + \gamma)$ . If  $\gamma > 0$ , we say that the leverage effect exists. If  $\gamma \neq 0$ , the news impact is asymmetric.

## 4. EMPIRICAL EVIDENCE

### 4.1. Preliminary Statistics

Preliminary statistics for the daily returns are shown in Table 2. The Mean return is positive for both the portfolios over the entire period and also over the two sub-periods excepting for the Low-FII holding portfolio during the period of financial crisis (2008-09). The unconditional volatility has increased very much during the period of crisis and is found to be larger in case of low-FII portfolio than the high-FII portfolio over all the time horizons. Looking at the skewness for daily returns (over all periods), it is found that for both the high and low-FII portfolios it is different from

zero indicating that the return distribution is not symmetric. Furthermore, the relatively large excess kurtosis suggests that the underlying data is leptokurtic or heavily tailed and sharply peaked about the mean. The Jarque-Bera statistic calculated to test the null hypothesis of normality rejects the normality assumption. The results confirm that daily stock returns are not normally distributed but are leptokurtic and skewed.

**Table 2 : Portfolio Return Statistics**

	High FII Portfolio			Low FII Portfolio		
	2005-09	2005-07	2008-09	2005-09	2005-07	2008-09
Observations	1239	750	489	1239	750	489
Mean	0.1257	0.1815	0.0835	0.1107	0.2141	-0.0445
Median	0.1768	0.2123	0.0292	0.2527	0.3176	0.1778
Maximum	13.9935	8.5687	13.9935	16.3018	6.4990	16.3018
Minimum	-11.3210	-5.6768	-11.3210	-17.8555	-7.7117	-17.8555
Std. Dev.	1.9637	1.4210	2.5848	2.4318	1.8442	3.1187
Skewness	-0.0409	0.0322	0.1374	-0.4598	-0.5145	-0.2927
Kurtosis	7.8114	6.4849	5.8662	10.5316	5.5434	8.7753
Jarque-Bera	1195.451	381.7553	168.9269	2972.160	235.254	688.004
Probability	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

By making a visual inspection of the plot of daily returns (from Jan 2005 to Dec 2009) on both the high and low-FII portfolios, shown in Figure 3 and 4, it can be seen that larger fluctuations in the returns tend to cluster together separated by tranquil periods of small returns. The Ljung-Box (LB) statistic for squared returns up to 24 lags has been computed to detect volatility clustering (results not shown). The value of  $Q^2$  [ $Q^2(24)$ ] (24) test statistics confirms that serial correlations of the squared returns for lag 1 through 24 are jointly significant. The results thus suggest the presence of volatility clustering in all the return series. The same along with the existence of a leptokurtic distribution lead us to express the volatility using a conditional volatility model (e.g. ARCH, GARCH).

**Figure 3 : High FII Portfolio Returns over 2005-09**

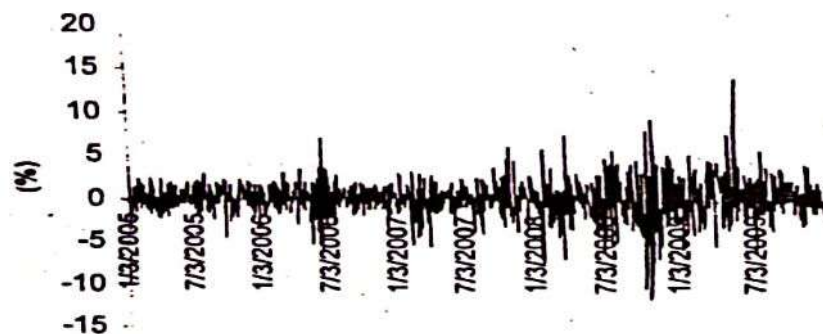
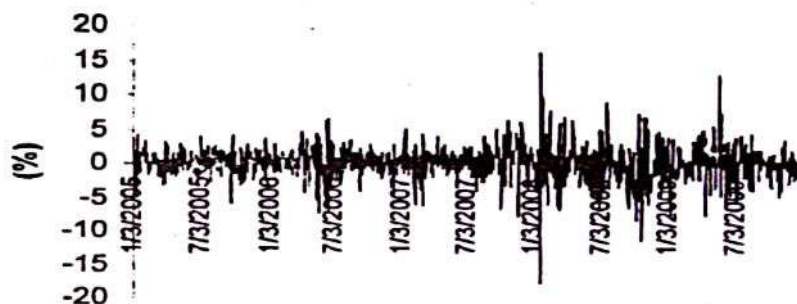


Figure 4 : Low FII Portfolio Returns over 2005-09



#### 4.2. Estimation of Volatility

In this section, conditional volatility using the GARCH (1,1) and TARCH (1,1) model is first computed over the entire sample period and then over the sub-periods: January 2005 to December 2007 and January 2008 to December 2009.

##### 4.2.1. Volatility Estimation over the sample period 2005-09

The results of GARCH (1,1) estimation are reported in Table 3 for full period 2005 to 2009. All the parameters are highly significant for both, high and low FII portfolios. It appears from the table that the sum of the  $\alpha$  estimate and  $\beta$  estimate is less than 1.

Large GARCH lag coefficients  $\beta$  indicate that shocks to conditional variance take a long time to die out, so volatility is 'persistent.' It means that if there is a new shock, it will have the implication on the price for a larger period. Large error coefficient  $\alpha$  means that volatility reacts quite intensely to market movements and so if  $\alpha$  is relatively high and  $\beta$  is relatively low, then volatilities tend to be more 'spiky.'

Table 3: GARCH (1,1) and TARCH (1,1) Parameter Estimators over the sample period January 2005 through December 2009

	High FII Portfolio		Low FII Portfolio	
	GARCH	TGARCH	GARCH	TGARCH
$\varepsilon$	0.077*	0.078*	0.151*	0.148*
	(4.570)	(4.876)	(5.142)	(5.498)
$\alpha$	0.131*	0.061*	0.188*	0.121*
	(8.302)	(4.720)	(11.544)	(5.397)
$\gamma$		0.117*		0.102*
		(5.953)		(4.009)
$\beta$	0.851*	0.860*	0.797*	0.809*
	(50.784)	(50.208)	(64.060)	(58.140)
$(\alpha + \beta)$	0.982		0.985	
$(\alpha + \gamma) / \alpha$		2.918		1.843
Log likelihood	-2398.46	-2388.24	-2628.33	-2623.00
$Q^2$ (24)	11.459	13.914	17.856	19.604
(P-Value)	(0.984)	(0.949)	(0.810)	(0.719)

Note : Figures in parentheses are z-statistics.

\* Significant at 1% level; \*\* Significant at 5% level

On the basis of the results reported on the Table 3, the volatility is less persistence and more reactive (spikier) for the low FII portfolio returns. It means the portfolio returns react immediately to price shocks rather than taking more time to fully digest it. But for the high FII portfolio returns volatility is more persistence and less spikier. The results for the high FII portfolio is similar to the findings of the previous studies on the volatility of Indian equity market ( Karmakar 2005; Karmakar 2006; Kaur 2002; Kaur 2004; Pandey 2005; Kumar and Singh 2008).

Table 4 shows the conditional variance for each portfolio using GARCH (1,1) and the difference and percentage change of coefficients between the two portfolios.

**Table 4 : Difference between the GARCH Model Estimates of the Two Portfolios**

	High-FII Portfolio	Low-FII Portfolio	Difference	% Difference
$\alpha$	0.131	0.188	0.057	43.51
$\beta$	0.851	0.797	-0.054	-6.35

From the Table 4, it can be observed that volatility in the low-FII portfolio is 43.51 % higher than the high-FII portfolio and at the same time the persistency in volatility is lower in the low-FII portfolio only by 6.35 % over the entire sample period.

The results of the leverage effect (Table 3) using TARCH (1,1) shows that leverage effect term,  $\gamma$ , is significantly positive for both the portfolios. The results thus suggest that negative news increase the volatility in both the portfolio returns more than the positive news. In other words, the leverage effect is present, though not of equal magnitude, in both the portfolios regardless of the extent of FIIs' holding proportion therein. In TARCH, positive return has an impact of  $\alpha$ , whereas negative return has an impact of  $(\alpha + \gamma)$ . Thus, a measure of asymmetry can be constructed by taking the ratio of  $(\alpha + \gamma) / \alpha$ . Looking at the Table 3, it can be said that for high- and low-FII portfolios volatility increases more than 2.9 and 1.8 times respectively in the wake of negative news than the positive news. Hence, leverage effect is reported to be higher in case of high-FII portfolio.

#### 4.2.2. Volatility Estimation over the sub-periods

With the increasing global economic and financial integration, it appears that the global financial crisis of 2008 could have affected volatility of the Indian equity market. The crisis, which was triggered by the sub-prime mortgage crisis in the United States, became prominently visible in September 2008 and dramatically affected the global stock markets. In this section, the study proposes to investigate the volatility behaviour patterns of the high- and low-FII portfolios in the wake of the global financial crisis.

Table 5 reports the results over the sub-periods. From the table, it can be observed that using GARCH (1,1), the sum of the  $\alpha$  estimate and  $\beta$  estimate is less than 1 over both the sub-periods and across the portfolios indicating no violation of the stability condition. Most of the parameters are significant at 1% level of significance. Large  $\beta$  coefficients of 0.813 and 0.824, before and during the period of financial crisis respectively (Table 5), for the high-FII portfolio returns show persistence in the conditional volatility remains unaltered in the context of the global financial upheavals.

But, looking at the value of error coefficient  $\alpha$ , it can be said that volatility of the high-FII portfolio returns becomes spikier i.e. more reactive during the crisis time. It appears to indicate that the portfolio returns now, in the crisis period, account for large market surprises (i.e. shocks) in variance. On the contrary, for the low-FII portfolio, volatility is less persistent but highly spiky, indicating instant shock revision in variance and difficulty in pricing time-varying risk. However, the sum of  $\alpha$  and  $\beta$  seems to be very high and close to unity indicating, on an average, a long persistence of shocks in volatility in both the return series after the crisis.

Table 6 shows some very interesting results. Looking at this, it can be observed that for the high-FII portfolio the volatility has increased by 20.61%, whereas, the persistency in volatility has registered a decrease of 1.84% following the financial crisis. But conversely, for the low-FII portfolio the volatility has decreased by 9.04% whereas, the persistency in volatility has increased by 12.16% in the wake of the crisis.

Table 5 shows that the leverage effects as captured by the coefficient  $\gamma$  using TARCH(1,1) over the sub-periods across the portfolios are quite significant. Looking at the  $(\alpha + \gamma)/\alpha$ , it is observed that leverage effect become greater for low-FII portfolio during 2008-09 period, though not much change has been reported for the high-FII portfolio returns. It implies that following the global crisis, stocks with low FIIs' ownership become more volatile due to large drop in prices (bad news) than the big rise thereof (good news).

**Table 5: GARCH(1,1) and TARCH(1,1) Parameter Estimators over the Sub-periods**

	High FII			
	Before the Crisis (2005-07)		During and after the Crisis (2008-09)	
	GARCH	TGARCH	GARCH	TGARCH
$\omega$	0.110* (3.396)	0.123* (3.704)	0.204* (2.610)	0.124* (1.832)
$\alpha$	0.131* (4.935)	0.065* (3.368)	0.158* (4.855)	0.059* (2.928)
$\gamma$		0.146* (3.469)		0.139* (4.142)
$\beta$	0.813* (21.928)	0.798* (20.096)	0.824* (27.016)	0.867* (31.392)
$(\alpha + \beta)$	0.944		0.982	
$(\alpha + \gamma)/\alpha$		3.246		3.356
Log likelihood	-1263.329	-1257.874	-1115.333	-1109.578
$Q^2(24)$	14.335	15.015	14.198	13.770
(P-Value)	(0.939)	(0.919)	(0.942)	(0.952)

	Low FII			
	Before the Crisis (2005-07)		During and after the Crisis (2008-09)	
	GARCH	TGARCH	GARCH	TGARCH
$\omega$	0.280* (4.801)	0.297* (4.966)	0.345** (2.462)	0.280** (2.314)
$\alpha$	0.221* (6.603)	0.168* (4.126)	0.201* (8.454)	0.107* (3.085)
$\gamma$		0.108** (2.178)		0.130* (3.339)
$\beta$	0.699* (20.121)	0.691* (18.826)	0.784* (36.409)	0.812* (33.525)
$(\alpha + \beta)$	0.920		0.985	
$(\alpha + \gamma) / \alpha$		1.643		2.215
<b>Log likelihood</b>	-1433.017	-1431.269	-1188.022	-1184.257
<b>Q<sup>2</sup>(24) (P-Value)</b>	23.747 (0.476)	27.439 (0.284)	12.635 (0.972)	17.289 (0.836)

Note : Figures in parentheses are z-statistics. \* Significant at 1% level; \*\* Significant at 5% level

**Table 6 : Difference between the GARCH Model Estimates of the Two Portfolios Before and After the Crisis**

	High-FII Portfolio			
	Before Crisis	During & After Crisis	Difference	% Difference
$\alpha$	0.131	0.158	0.027	20.61
$\beta$	0.813	0.798	-0.015	-1.84
	Low-FII Portfolio			
	Before Crisis	During & After Crisis	Difference	% Difference
$\alpha$	0.221	0.201	-0.02	-9.04
$\beta$	0.699	0.784	0.085	12.16

#### 4.2.3. Diagnostics for GARCH (1,1) and TARCH (1,1)

The estimates of the Ljung-Box (LB) statistics for squared returns upto 24 lags [Q<sup>2</sup>(24)] are calculated. All the statistics suggest the existence of no autocorrelation in the squared standardized residuals at 1 % level of significance. Thus, GARCH (1,1) and TARCH (1,1) models seem to be

adequate description of the symmetric and asymmetric volatility process respectively for the entire as well for the sub-periods. Looking at the higher log-likelihood value, it can be said that TARCH (1,1) is the better model to capture the volatility response for both portfolio returns over all sample time horizons.

## 5. SUMMARY AND CONCLUSION

The paper investigates the dynamic volatility pattern of Indian stocks with high and low proportion of foreign institutional ownerships during the recent 5-year period from January 2005 to December 2009 using symmetric GARCH (1,1) and asymmetric TARCH (1,1) models. For this, the paper constructs two distinct portfolios of shares with high and low-FIIs' ownership and finds equity returns in India generally heavily tailed, skewed and show the existence of volatility clustering. It is also observed that in India, the conditional variance is an asymmetric function of the past innovations for both the return series, i.e. increasing more at the arrival of bad news than the good news. Though the degree of asymmetry is higher in case of high-FII portfolio across all the time periods, post crisis, the effect has increased for the low-FII stocks too.

The study reports, on the whole, less volatility in High-FII stock returns, but high persistence in their conditional volatility as against low-FII stock returns. Low volatility in the high-FII companies may be the outcome of the monitoring role played by the FIIs in a high-FII company to have good corporate governance (Stulz, 1999, 2005), which in turn reduces variance in the security returns. It may also be the outcome of the fact that the FIIs are in general long-term investors. On the other hand, the persistence of volatility in the high-FII stock returns is not very surprising; rather it has two interesting implications. First, volatility, as a measure of investment risk, if remains persistent, becomes important in explaining the time-varying risk premium. If shocks to the variance are only transitory in nature, investors will not make any changes in their discounting factor to value the stocks (Poterba and Summers 1986). Second, the persistence in volatility can be used to predict future course of volatility and other economic variables. So, it can be concluded that high amount of FIIs' ownership makes the volatility of the stock returns less spiky, more persistent and predictable in India.

It is also noted that in the wake of the financial crisis, volatility of the high-FII stock returns has greatly increased, but the persistency in their volatility has decreased, whereas, an opposite picture has been found in the case of the low-FII stocks, which show a decrease in volatility and an increase in the volatility persistency during the period of crisis and thereafter. It implies that though the FIIs, in general, provide more stability in the stock prices, but in the wake of the global crisis, their large presence seem to be more vulnerable to the stock prices. It is so because during the time of the crisis and thereafter the high-FII companies faced huge pull out and pull in of the FIIs investments; but not the low-FII companies. As a result, the volatility of the high-FII stocks, post-crisis, has started to account for the sudden revision in the variance due to shocks.

Estimation of volatility of asset returns is important in various applications related to financial markets such as valuation of derivatives, risk management, etc. Hence, exploring the influence of large FIIs' holding on the volatility of shares requires substantial attention. In the backdrop, the findings of the study are equally important for the regulators, academicians and practitioners as well.



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## The Impact of Sub-Prime Crisis on India – An Exploratory Study

*Anupam Karmakar\**

**ABSTRACT:** The current global financial crisis is the cause of defaults on sub-prime mortgages in US. Sub-prime can be defined as lending to people with poor credit worthiness or unstable incomes which involves high credit risk. Major Banks in US have landed in trouble after people could not repay the loans. Many banks have turned to be defaulter. After the case of Lehman Brothers, Merrill Lynch and other American banks, the banks of other countries are also facing the default risk. Because of the sub-prime mortgage, the housing market soared. The realty sector boomed but could not sustain for long and it collapsed because of the loan defaults. This situation spreaded like wild fire and put the US economy in danger. This coupled with rising oil prices which slowed down the growth of the economy. The US financial crisis has affected many countries of the world and India is not an exception to it. Because of these financial crises, Indian economy has lost around 2% GDP growth. Almost all sectors of the Indian economy are affected by this crisis. The impacts of global crisis on Indian economy have been studied in Pharmaceutical industry, Textile Industry, Steel Industry, Cement Industry, FMCG, Realty Sector, Banking Sector, Mutual Funds and also its impact on Indian capital market. But the impact was not going to be widespread due to the presence of safety nets in the economy. The Indian stock markets are volatile but they have not crashed as predicted and gradually, they are now stabilizing. This paper is divided into two parts. The first part deals with impact on selected industries and part two deals with impact on capital market.

**Key words :** *Recession, Financial prices, Economy, India, GFM (Global Financial Meltdown)*

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## 1. INTRODUCTION

The recent economic slump, termed as Global Financial Meltdown or financial tsunami, from which countries across the globe are slowly recovering, has been the worst since the Great Depression of the 1930s. Recession, depression, inflation, unemployment, financial crisis, these are the words that everyone had heard during the global recession. America the number one economy of the world is in the trap of the recession, once again after 1929. This recession has scattered many other economies of the world. The most famous and strongest American Bank, Insurance companies, financial companies have declared themselves defunct. People have lost their confidence in the financial system. Hit by US crisis; global economies have plunged in to severe problems. India is also not an exception to this global fall down. The unprecedented tumble of the sensex during (2008-2009) is the mark of the effect of recession on Indian economy. The financial sector continues to be tense, marked by tight liquidity and high interest rates. Exports have registered a major slump for the first time (2008-2009) in last five years, reflecting the decline in the demand in the international markets. Job oriented industries such as pharmaceuticals, textiles, leather, handicrafts, diamond and jewellery are worst affected.

## 2. OBJECTIVES OF THE STUDY

- The primary objective of this article is to highlight the impact of sub-prime crisis on selected industries of our economy including the capital market.
- This study also attempts to have a closer look at the measures that were taken to reduce its impact.

## 3. METHODOLOGY

The present article is exploratory in nature. The exploration is based on various books, articles, research papers published in various journals, newspaper dailies and internet on the said topic. To analyze the repercussion of the crisis of the impact, secondary data has been collected from SEBI, BSE, RBI, BS & BT survey, CIIT, Pharma Express etc. After the collection of data, it has been analyzed through statistical tool like percentage method. For a better visual understanding and better presentation, charts and tables have been used.

## 4. IMPACT ON SELECTED INDUSTRIES

### 4.1. Impact of Global recession on Indian Economy

The main impact of the global financial turmoil in India has emanated from the significant change experienced in the capital account in 2008-09 so far, relative to the previous year (*Table 1*). Total net capital flows fell from US \$ 17.3 Billion in April-June 2007 to US \$ 13.2 Billion in April-June 2008.

While Foreign Direct Investment (FDI) inflows have continued to exhibit accelerated growth (US \$ 16.7 Billion during April-August 2008 as compared with US \$ 8.5 Billion in the corresponding period of 2007), portfolio investments by Foreign Institutional Investors (FIIs) witnessed a net outflow of about US\$6.4 Billion in April-September 2008 as compared with a net inflow of US \$15.5 Billion in the corresponding year. Similarly, external commercial borrowings of the corporate

sector declined from US \$ 7.0 Billion in April-June 2007 to US \$ 1.6 Billion in April-June 2008, partially in response to policy measures in the face of excess flows in 2007-08, but also due to the current turmoil in advanced economies. With the existence of a merchandise trade deficit of 7.7 per cent of GDP in 2007-08, and a current account deficit of 1.5 per cent, and change in perceptions with respect to capital flows, there has been significant pressure on the Indian exchange rate in recent months. Whereas the real exchange rate appreciated from an index of 104.9 (Base 1993-94=100) (US \$ 1 - Rs. 46.12) in September 2006 to 115.0 (US \$ 1 = Rs. 40.34) in September 2007, it has now depreciated to a level of 101.5 (US \$ 1 = Rs. 48.74) as on October 8, 2008.

**Table 1 : Trends in Capital Flows**

Component	Period	US \$ Million	
		2007-08	2008-09
Foreign Direct Investment to India	April - August	8,536	16,733
FIIs (Net) *	April - September 26	15,508	-6,421
External Commercial Borrowings (Net)	April - June	6,990	1,559
Short-Term Trade Credits (Net)	April - June	1,804	2,173
Memo			
ECB Approvals	April - August	13,375	8,127
Foreign Exchange Reserves (Variation)	April - September 26	48,583	-17,904
Foreign Exchange Reserves (End-Period)	September 26, 2008	247,762	291,819

Source: [www.finance.yahoo.com](http://www.finance.yahoo.com)

\* Data on FIIS presented in this table represent inflows into the country and, thus, may differ from data relating to net investment in stock exchanges by FIIs.

Falling sales, rising inflation, increasing costs and drying cash flows are some of the effects that India has derived from US economic crisis. Indian companies have major outsourcing deals from the US. There are large scale exports contracts with the US. There was a large scale direct and indirect investment in Indian companies. This entire thing fell down when the US economy fall. The Indian economy lost 2% of GDP growth during 2008-09. Pharmaceuticals, IT, IT enabled services, textiles, jewellery, handicrafts and leather suffered heavy losses because of their links with the US. The worst effects of US recession was in the service industry which includes BPO, KPO, IT etc that contributed about 52% to India's GDP growth. Studies on Pharmaceutical industries, textile Industry, Steel Industry, Cement Industry, FMCG, Realty Sector and Banking Sector have been undertaken in Part I.

#### 4.2. Impact on Pharmaceutical Industry

The current global economic crisis has left it's footprint on the Indian economy as well. Every business during recession was affected due to the unbalanced status of economy. Due to rising consumer prices, more US consumers are unable to pay their debts, leading to a 'financial tsunami' to such an extent that it has also affected the Indian pharmaceutical industry in Q2

FY 2008-09. During the same quarter of last fiscal the market capitalization was at its peak and everyone was expecting a better outcome.

The analysis of the Q2 of FY '08-'09 of Indian pharma companies shows that the main culprits for this dip in net profit are sudden increase in raw material costs and interest burden. As per an Express Pharma analysis of the Q2 results of 25 pharma companies, the net profit of the top 10 listed companies has declined. As per industry projections, it will take some more time before things return to normalcy. Companies like Dr Reddy's Limited (DRL), Cipla, Jubilant, Novartis India, Ajanta Pharma, Wockhardt, Orchid Chemicals, Dishman Pharma, Piramal Healthcare, Aurobindo Pharma and Indoco Remedies have suffered from heavy set-backs. However, other players like Sun Pharma, Lupin, Torrent Pharma, Cadila Healthcare, FDC, Natco Pharma and Vimta Labs have achieved impressive performances.

The weakening of the rupee to unprecedented levels has led to higher import costs of critical raw materials, which in turn is bound to have an inflationary impact on pricing of products during the period of recession. During Q2 '08-'09, Indoco Remedies (Table 2) was most probably the biggest loser, as its net profit declined by 80 percent to Rs 2.17 crore from Rs 10.85 crore in the corresponding period of last fiscal(2007-08). Its net sales also declined by 6.9 per cent to Rs 78.62 crore from Rs 84.43 crore. Most pharma companies, in anticipation of a big surge in outsourcing opportunities, were in the middle of massive expansion plans. Most were to have been funded by debt and/or equity also. With banks shying away from fresh lending and even current exposures being questioned, there was a spate of abandoned projects. Most pharma industry heads have huddled up to tackle this unprecedented situation given absolute opacity on banking and equity markets.

**Table 2: Second quarter ended 2008-09(A11 figures in Rs crore)**

Company	Net Profit		Net Sales	
	2007-08	2008-09	2007-08	2008-09
Ajanta Pharma	2.81	4.32	70.16	86.85
Alembic	45.59	15.04	307	348.09
Astra Zeneca Pharma India	14.58	21.31	78.22	88.22
Aurobindo Pharma	62.06	38.42	628	701
Cadila Healthcare	80.11	94.88	596.78	737.85
Cipla	190.62	151.43	1037	1302
Dishman Pharma	21.49	27.65	167.95	235.87
Dr Reddy's	252.7	121.2	12.451	16.151
FDC	18.18	26.25	136.54	155.86
Glenmark	75.13	117.36	374.9	559.71
Hikal	14.6	17.2	78	107.5
Indoco Remedies	10.85	2.17	84.43	78.62
Jubilant Organosys	110	62.72	618.3	940.5
Lupin	75.64	115.62	658.97	908.37
Natco Pharma	10.57	11.87	84.9	107
Novartis India	30.39	29.19	147.88	154.49
Orchid Chemicals	63.27	40.66	285.57	339.14

Company	Net Profit		Net Sales	
	2007-08	2008-09	2007-08	2008-09
Piramal Healthcare	84.77	73.39	755.76	884.25
Sun Pharma	218.55	512.77	66.79	117.78
Torrent Pharma	26.2	48.28	334.25	391.2
Wockhardt	108.32	62.19	732.12	923.48
Vimta Labs	1.61	1.21	19.96	23.82

Source: Pharma Express

### 4.3. Impact on Textile Industry

Major textile companies faced heavy losses. The collective losses of the 50 major textile companies listed on BSE have touched Rs 206 crores in the second quarter of the fiscal year (2008-09). In the previous fiscal year (2007-08), they have posted a net profit of Rs 223 crores in same quarter. Arvind Mills, Bannari Amman Spinning Mills, Century Textiles, S Kumar Nation Wide and Bombay Deying have seen sharp declines in the profitability in the second quarter. Their profitability fell by a whopping 11.598%, 7.25%, and 3.98%, 9.25% and 8.25% respectively for the period.

**Table 3 : Turnover and Net Profit of Textile Sector**

Turnover of Top 50 Companies (RS in crores) Quarter-II		Net Profit of Top 50 Companies (RS in crores) Quarter-II	
2008-09	2007-08	2008-09	2007-08
8,414	6,828	-206	223

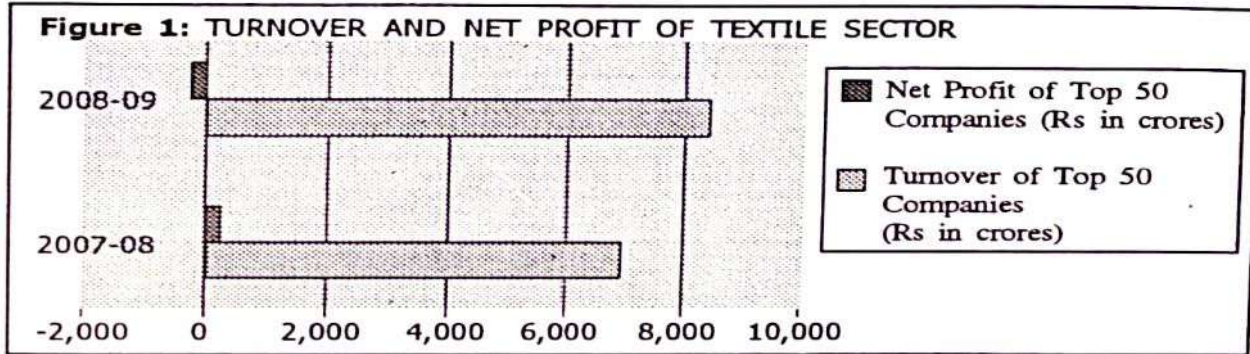
Production grew only 0.3% during the first six months of the year (2008-09) against 5.2% in the same period last year (2007-08). The Table 3 shows turnover and net profit and Table 4 shows performance of textile sector.

**Table 4: Performance of Textile Sector**

Name of the Company	%change Quarter-I 2008-09 over 2007-08	%change Quarter-II 2008-09 over 2007-08
Arvind Mills	-34	-84
Bannari Amman Spinning Mills	-19	40
Bombay Deying	-370	-828
S Kumar Nation Wide	-29	34
Century Textiles	-42	-60
Welspun India	-92	-97
Raymond	-875	-21

Source: Confederation of Indian Textile Industries-CIIT

The turnover and net profit of the textile industry is shown in figure 1.



#### 4.4. Impact on Steel Industry

There was a major impact of global financial crisis on steel industry also. 25% fall in the prices of steel products has been recorded in the month of May 2008 compare to April 2008. And in comparison with June 2008, the prices in October 2008 have fallen by 40%, as the prices of its raw materials i.e., iron and coal has fallen by 61% and 33% respectively. From the Table 5, it can be seen that ISPAT and JST show net loss where as TATA steel and JSW Industries are having moderate performance. The overall performance of the steel industry remained hopeless.

**Table 5 : Position of Sales, Consumption & Net Profit of Major Steel Companies in October -2008 (Figures in percentages)**

Name of the Company	Sales	Consumption of raw material	Net Profit
SAIL	33.56	52.76	18.20
TATA Steel	43.14	72.75	50.13
JSW Steel	58.46	116.01	-40.57
ISPAT Industries	57.97	79.13	Net Loss
J.S.L.	-3.16	-5.52	Net Loss
Total	41.91	51.75	17.65

Source: ET Bureau

#### 4.5. Impact on Cement Industry

Cement Industry shows 15% rise in sales but its net profit declined by 25% in the year 2008-09. Heavy burden of Interest and high prices of raw material are responsible for this decline. A mix trend was observed when the figures of cement industry were analyzed. In terms of sales, the companies of southern region have performed well, whereas the companies of western region show the growth in single digit. In terms of net profit all the companies have declined. However, the rise in total production cost is responsible for it. In addition, the slow growth in construction and real estate sector is also responsible for it. The top five cement companies as shown in Table 6 do not show good performance during 2008-09.



**Table 6 : Position of Sales, Consumption of Raw material and Net Profit of Major Cement Companies**

Name of the Company	Sales	Consumption of raw material	Net Profit
ACC	8.96	9.68	-0.05
Ultra tech	19.58	31.63	-11.66
Ambuja	7.78	32.25	-7.40
India cement	25.21	18.53	-39.69
Madras cement	33.48	45.31	-6.02
Total	15.08	23.66	-25.81

Source: BS Survey

#### 4.6. Impact on FMCG Companies

FMCG companies include companies producing food items, cigarette, soap, washing powder etc. Their situation is somewhat better as compared to other sectors. The increase in rural demand is responsible for such condition. Satisfactory monsoon season, debt waiver by the government and employment generating schemes applied in the rural areas has caused increase in rural demand for FMCG. 50% of the total demand of FMCG belongs to rural area. According to the analyst of Motilal Oswal group, the demand for toilet soap, detergent and paints has declined sharply.

**Table 7: Position of Sales, Consumption of Raw Materials and Net Profit of Major FMCG Companies**

Name of the Company	Sales	Consumption of raw material	Net Profit
Hindustan Uni Lever	19.71	37.11	33.95
ITC	15.08	30.79	4.13
Nestle India	22.15	31.01	13.53
Britannia Ind.	27.29	35.52	9.96
Nirma	40.40	65.24	-37.88
Total	20.86	36.45	10.55

Source: BT Survey 2008

#### 4.7. Impact on Realty Sector

This sector is most affected by financial crisis and decline in demand. Because of the probable decline in GDP, many companies have postponed their project. The survey undertaken by center for monitoring industrial project shows the following situation during September 2005 to September 2008.

**Table 8: Position of Realty Sector during September 2005 to September 2008**

Month	New Project		Discontinued project	
	No of Projects	Rs in Crores	No of Projects	Rs in Crores
September'05	594	177920	3	405
December'05	535	285912	10	6011
March'06	582	135010	5	12960
June'06	740	232036	6	14357
September'06	1121	574113	16	9928
December'06	1366	304441	12	2306
March'07	503	216964	16	10695
June'07	526	25737	21	22529
September'07	1213			
March'08	656	487246	40	18196
June'08	507	531644	52	42740
September'08	570	528285	45	33789

Source: ET Bureau

Some of the above projects have also been discontinued.

#### 4.8. Impact on Banking Sector

Banking sector has also felt the impact of global financial crisis. During July to September 2008, 25 Indian banks have shown increase in weak solvency margin and bad loan. Capital adequacy ratio has declined by 2%. Table 9 shows trend of total NRI deposits in Indian banks. The NRI's have invested in Indian Banks to remain safe but the picture was not satisfactory.

**Table 9: Trends of NRI Deposits in Indian Banks**

Months	2007-08	2008-09
April	-257	-7
May	-302	459
June	113	361
July	294	-111
August	-428	-16
September	90	513

Source: ET Bureau ]

From Table 10, it can be seen that total NPAs of PSBs, Private Banks and All Scheduled I Commercial Banks had fluctuations from the year 2007 to 2008, i.e., during global recession, j Though trend values of total NPAs showed a decreasing trend in all the three groups of banks individually, as well as collectively. It was a positive indication for banks, as well as the economy

during the period of recession. NPA to total advance ratio also decreased during the period of study i.e., 2.66 to 2.39. The study reflects that the three categories of banks were moderately affected during the period of recession.

**Table 10: Calculation of NPAs of Schedule Commercial Banks (Rs. Cr.)**

Categories of NPAs	Years	Public Sector Banks			Indian Private Banks			All Scheduled Commercial Banks			Total Advances	NPA to Advances ratio
		Amt	%	Trend	Amt	%	Trend	Amt	%	Trend		
Total NPAs	2007	38,602	77	40,366	9,242	18	10,136	50,296	100	5,917	18,93,514	2.66
	2008	39,749	71	37,059	12,976	23	9,964	55,843	100	5,241	23,31,679	2.39

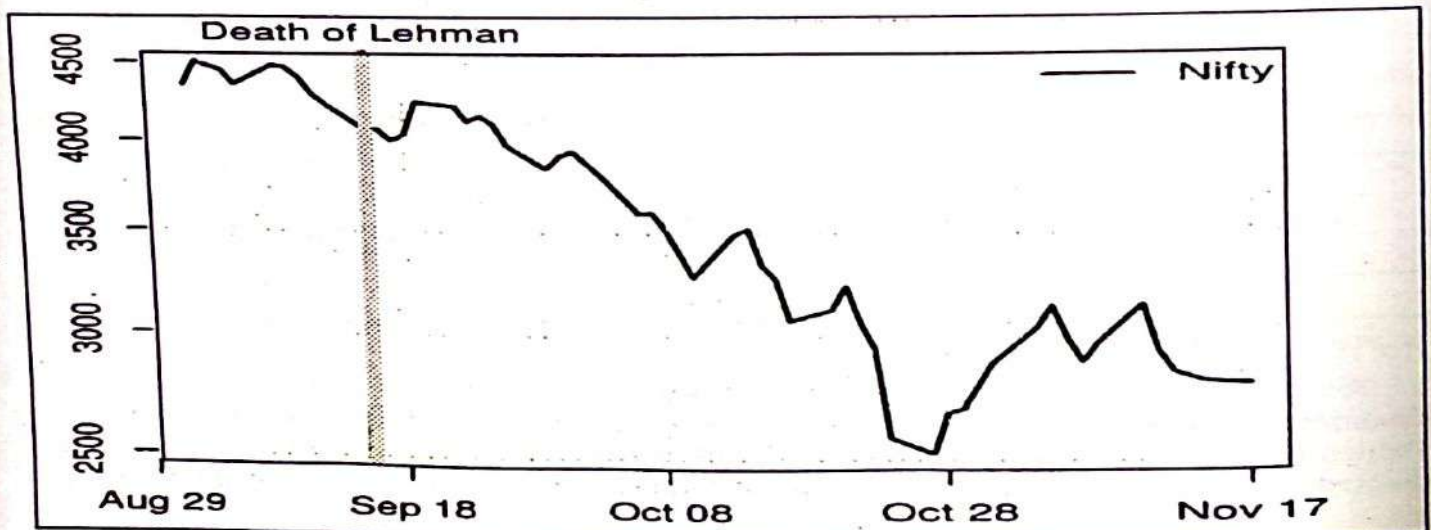
Source: offsite (domestic & provisional) of banks, Department of Banking Supervision, RBI

## 5. IMPACT ON CAPITAL MARKETS

### 5.1. FIIs triggered Sensex crash

In 2008 after the death of Lehman Brothers, FIIs have sold shares in India every week. One factor influencing this is redemptions of equity funds and hedge funds worldwide were paucity of funds which has forced them to sell assets. But the popular picture was that all FIIs selling shares in panic. Throughout the period after September 15, 2008. FIIs have continued to buy also. Some FIIs are buying, and some FIIs are selling. Both buy and sell numbers are very large, and the difference between them (the net buy) is quite small. Figure 2 shows the declining movement of Nifty during the period August 29, 2008 to November 7, 2008 which was caused by FII selling.

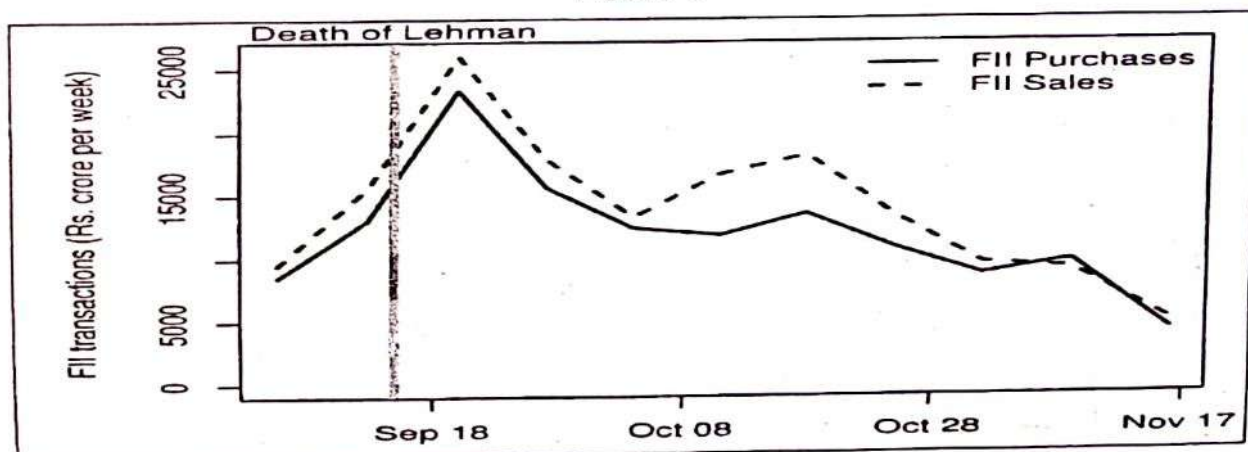
**Figure 2**



FII's thus do not behave like a single homogenous investor, contrary to popular perception in India. This is not unexpected as there are a large number of different kinds of institutional investors such as pension funds and hedge funds who have different time horizons, different mandates. Thousands of FII's are registered with SEBI; there is a diverse array of views about the future amidst them. In terms of policy implications this suggests that allowing retail investors to invest in India may be useful. Further liberalization to access India will further increase the diversity of views and compulsions of foreigners operating in India. This will help to increase the stability of capital flows in India. Figure 2 shows the stock market index, Nifty. The graph starts from 1 September 2008. The grey line in the figure marks 15th September 2008, the day Lehman Brothers filed for bankruptcy following which there was a sharp worsening of the global financial crisis. Stock prices in India fell sharply after this. The interesting question is: How does this link up to the activities of FII's?

Figure 3 shows FII activity. The solid line represents weekly FII purchases, while the dashed line represents weekly FII sales. The difference between the two lines indicates net purchases/sales of FIIs every week.

Figure 3



Source : [www.finance.yahoo.com](http://www.finance.yahoo.com)

Table II: Trading Activities of Foreign Institutional Investors						
Month	Equity (Rs. Crore)			Debt (Rs. Crore)		
	Gross Purchase	Gross Sales	Net Purchase /Sales	Gross Purchase	Gross Sales	Net Purchase /Sales
November 2008	28,273.80	31,094.10	-2,820.30	10,098.10	4,693.50	5,404.60
October 2008	49,339.30	63,587.90	-14,248.60	2,674.90	4,722.40	-2,047.50
September 2008	68,029.60	75,966.60	-7,937.00	7,185.10	4,094.70	3,090.40
August-2008	46,401.90	48,467.70	-2,065.80	2,512.60	1,323.90	1,188.70
July-2008	64,526.30	65,539.20	-1,012.90	6,066.00	2,471.20	3,594.80

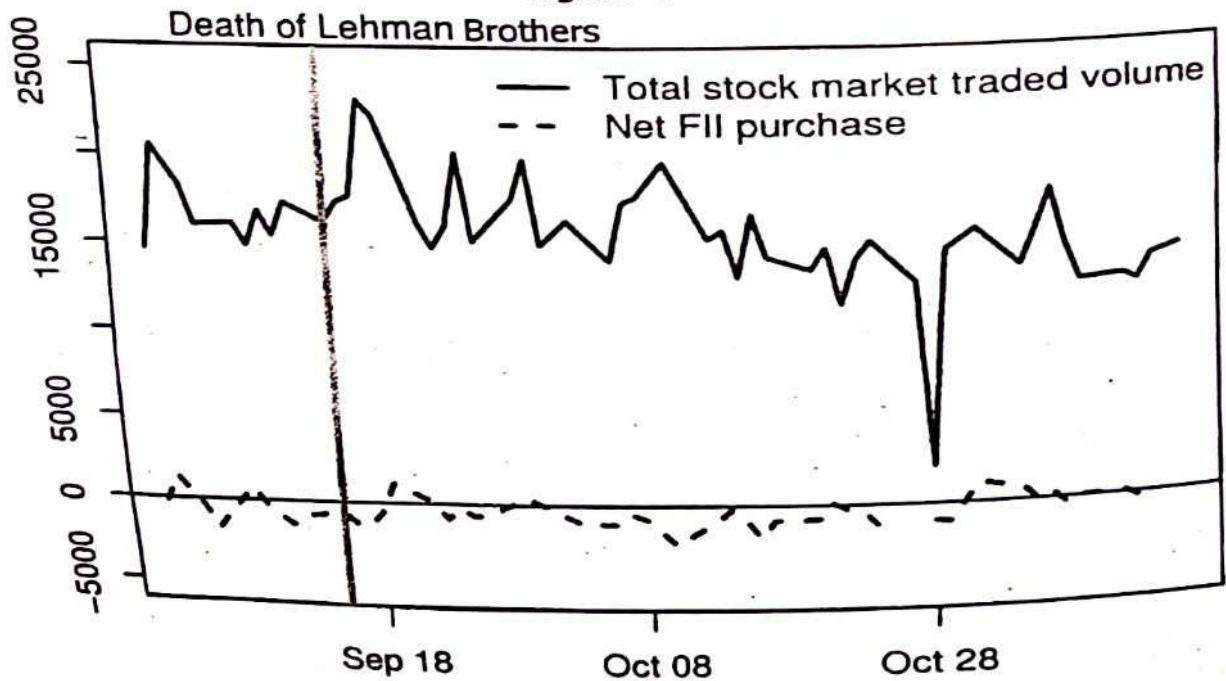
June-2008	61,490.60	72,068.30	-10,577.70	484.40	1,311.30	-826.90
May-2008	60,640.30	65,557.60	-4,917.30	152.40	315.30	-162.90
April-2008	62,969.60	61,990.60	979.00	-186.90	1,514.80	-1,701.70
March-2008	70,322.70	70,198.30	124.40	0.00	879.70	-879.70
February-2008	76,437.10	71,017.20	5,419.90	5,521.80	3,025.00	2,496.80
January-2008	105,960.80	123,187.70	-17,226.90	5,649.90	3,684.70	1,965.20

Source: [www.moneycontrol.com](http://www.moneycontrol.com)

From Table 11 shows extraction of money by FIIs during January to November (Equity plus Debt). Highest withdrawal took place in the month of January when the controversial issue of participatory notes created panic in the market. Figure 4 shows the FII transactions during the period September 18 to November 7, 2008. The figure 4 shows that just after Lehman Brothers death the volume of Net FII purchase are both high on September 18, but gradually it came down afterwards.

Lehman died; overall trading volume has held up, the Indian equity market has remained robustly liquid. This is unlike the experience in some other countries where the stock market has collapsed or been shut down by the government.

Figure 4



Source : [www.fmance.yahoo.com](http://www.fmance.yahoo.com)

The dashed line in the figure 4 is the net purchase by FIIs. We find that FIIs account for only about one to nine percent of the activity on the stock market. The values for FIIs are tiny when compared with the size of the overall market. It is, therefore, not surprising that they do not have a large influence on the market.

## 5.2. Mutual Funds

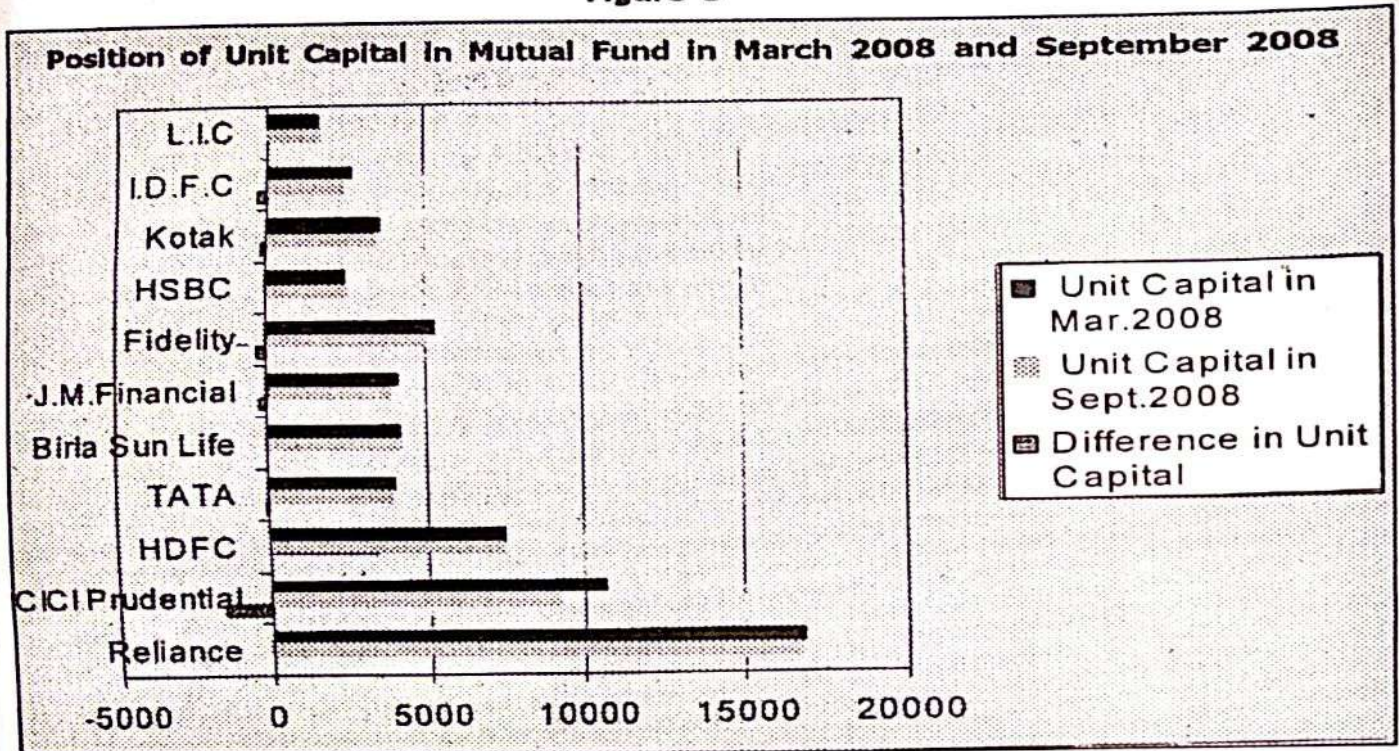
In the fiscal year (2008-09), all equity related mutual funds have shown the decline of Rs75, 966 crores in the first seven months. According to Association of Mutual Fund of India (AMFI), there was a rundown of whopping Rs 40,608 crores, during the single month October, 2008. In October 2007, when share market was blooming, the value of mutual funds had increased to Rs 80,984 crores. In the first seven months of 2008-2009, sensex has declined by 37.4%. Following trend is seen in some mutual funds.

**Table 12: Position of Mutual Funds**

Mutual Fund	Reserve & Surplus			Unit Capital		
	March2008	Sept2008	Difference	March2008	Sept2008	Difference
Reliance	14,696	10,338	-4,358	16,883	16,707	-176
ICICI Prudential	6,193	2,859	-3,335	10,680	9,202	-1,478
HDFC	10,606	9,060	-1,545	7,441	7,392	-48
TATA	2,586	1,218	-1,369	3,950	3,850	-94
Birla Sun Life	3,225	1,900	-1,325	4,222	4,180	-37
J.M Financial	512	-717	-1,229	4,088	3,802	-286
Fidelity	1,891	851	-1,040	5,309	4,993	-316
HSBC	1,465	785	-680	2,507	2,460	-37
Kotak	1,061	391	-670	3,614	3,459	-154
I.D.F.C.	876	423	-453	2,683	2,364	-319
L.I.C.	8	-272	-280	1,611	1,580	-23

Figure 5 is based on Table 12, which shows Unit capital in March 2008, September 2008 and Differences in Unit Capital.

Figure 5



### 5.3. BSE Sensex Performance

It can be seen from the Table 13, that Sensex crashed to the extent of 22% during the period from January, 2008 (21,206.77, High) to June, 2008 (16,632.72, High). The Sensex further fell to 10,188.54 (high) in December 2008 showing a fall of 39%. This clearly reflects the adverse spin-offs of the global financial meltdown.

Table 13: BSE-Sensex Performance

2008	Open	High	Low	Close	Adjusted Close
January	20,393.10	21,206.77	15,332.42	17,648.71	17,648.71
February	17,820.67	18,895.34	16,457.74	17,578.72	17,578.72
March	17,227.56	17,227.56	14,677.24	15,644.44	15,644.44
April	15,771.72	17,480.74	15,297.96	17,287.31	17,287.31
May	17,560.15	17,735.70	16,196.02	16,415.57	16,415.57
June	16,591.46	16,632.72	13,405.54	13,461.60	13,461.60
July	13,480.02	15,130.09	12,514.99	14,355.75	14,355.75
August	14,064.26	15,579.78	14,002.43	14,564.53	14,564.53

2008	Open	High	Low	Close	Adjusted Close
September	14,412.99	15,107.01	12,153.55	12,860.43	12,860.43
October	13,006.72	13,203.86	7,697.39	9,788.06	9,788.06
November	10,209.37	10,945.41	8,316.39	9,092.72	9,092.72
December	916.94	10,188.54	8,467.43	9,690.07	9,647.31

Source: www.bseindia.com

Moreover, it can be inferred from Table 14 that there was an erosion of market capitalization up to 50% by the end of the year 2008 (from Rs 5.30cr in January to Rs 2.65 cr by December, 2008). It can also be said that the average daily turnover slumped down drastically during the same period, which shows that investors lost confidence in the stock market and become more skeptical about losing money.

Table 15 shows the increased shift of investors towards the derivative market anticipating a downfall of the market in the coming months, which indicates the growing preference of investors towards profits by booking derivative, rather than bearing the risks through hedging. Table 16 shows the volatility of exchange rate, which was not good. During GFM importers felt the heat and exporters rejoiced. The rupee touched the peak of Rs 50.12 on November 20, 2008. This was the all time high. It can be inferred that the withdrawal of funds by FIIs from the Indian stock market resulted in the death of dollars. Due to paucity of funds, the rupee has become weaker.

**Table 14 : Daily Turnover and Market Capitalization of BSE Sensex**

Months, 2008	Average Daily Turnover (Rs cr)	Percentage Change	Market Capitalization	Percentage Change (Base-Jan)
January	19,441	—	5,295,387	—
February	13,342	-31.4	5,419,942	2.4
March	14,056	-27.7	4,858,122	-8.3
April	13,561	-30.2	5,442,780	2.8
May	13,896	-28.5	5,098,873	-3.7
June	12,592	-35.2	4,103,651	-22.5
July	12,862	-33.8	4,432,427	-16.3
August	11,713	-39.8	4,472,461	-15.5
September	12,489	-35.8	3,900,158	-26.3
October	10,810	-44.4	2,820,388	-46.7
November	9,618	-50.5	2,653,281	-49.9

Source: bseindia.com



Table 15 : Impacts on Derivative Market

Months,2008	Turnover(Rs cr)		Percentage Change(Base Month)	
	Index Option Future	Stock	Index Option Future	Stock
April 2008	2,80,100.25	3,36,900.90	—	—
May 2008	2,67,640.70	3,80,160.65	(4.4)	( 12.8)
June 2008	3,77,939.96	3,75,986.71	(34.9)	(11.6)
July 2008	3,95,379.96	3,82,600.80	(41.2)	( 13.6)
August 2008	3,00,448.85	3,24,010.86	(7.3)	(3.8)
September 2008	3,80,197.75	3,32,728.52	(35.7)	(1.2)
October 2008	3,24,961.66	2,39,263.85	(16)	(29)
November 2008	2,59,949.74	1,87,211.26	(8.3)	( 44.4)
December 2008	2,69,997.31	2,30,465.57	(3.6)	(31.6)

Source: www.bseindia.com

Table 16 : Exchange Rate Volatility

Date	Exchange Rate Per US Dollar	Percentage Change
August 08,2008	42.05	—
August 22,2008	43.32	(3.02)
September 05,2008	44.63	(3.02)
September 19,2008	45.71	(2.42)
October 03,2008	47.01	(2.84)
October, 17,2008	48.88	(3.98)
October 3 1,2008	49.68	(1.64)
November 14,2008	48.78	(1.81)
November 20,2008	50.12	(2.75)
November 28,2008	49.55	(1.14)
December 12,2008	48.2	(2.72)
December 26,2008	48.42	(0.46)

Source: www.bseindia.com

## 6. REASONS FOR THE GFM

The following are some of the reasons that led to global financial crisis. Higher default rate in the home loan markets due to the evil effects of the sub prime crisis and a lax securitization process. During August 2007, a host of entrepreneurs had defaulted in loan repayment, leading thereby to a fall in bond price, rather than their present market value. The following scenarios emerged

- ❖ Financial institutions show more assets than liabilities to avoid bankruptcies because the investment banks or financial institutions those who have purchased the bonds recorded them at their original purchase price, rather than their present market value.
- ❖ One of the reasons of global meltdown was the Dow Jones Crash.
- ❖ Poor quality debt was rated as promising by the credit rating agencies.
- ❖ Liquidity without adequate safeguards in the globalized era.
- ❖ Extensive use of securitization product and complex and structured derivatives.

Concisely, it can be inferred that the US real estate market crash, high default rates on sub prime loans and sub prime mortgage-backed securities are the primary contributors.

## 7. MEASURES TAKEN

- Various fiscal and monetary measures were taken for increasing the liquidity for pushing up demand, addressing the concerns of industries and for providing incentives to exporters that have been hit by the recessionary conditions.
- The cash reserve ratio has been slashed by 5% along with repo and reverse repo rates, bringing it down to 5.5% and 4% respectively, so that banks can have adequate liquidity to lend at lower rates of interest.
- The RBI has taken a slew of measures for insulating the country's economy against the depreciation of the rupee, which included the release of foreign exchange to purchase oil bonds to ensure exchange rate stability. This has resulted in contracting foreign reserve by Rs 2,25,000 cr.
- Accommodative monetary policy stance rolled out after the collapse of Lehman Brothers in September 2008 led to infusion of liquidity to the tune of around Rs.560000 cr.
- Duties on import of cement, Zinc and Ferro-alloys, TMT bars, etc, which was earlier removed have been restored, to fight inflation.

- Enhancing duty drawbacks, for fostering exports due to the fact that exporters claim against taxes paid on inputs needed to manufacture the items for exports.

## 8. LESSONS TO INDIA

Indian banks or financial institutions have definitely managed to protect themselves from any major damage due to sub prime crisis. The credit can be given to the RBI for the stringent Non-Performing Assets (NPA) norms. Besides, the RBI's initiative to increase risk weights on exposure to commercial real estate from 100% to 150% and an increase of risk weights to 75% from 50% for residential housing loans beyond Rs201akh has made the banks to focus more on low-risk lending categories. Although the RBI has adopted rigorous regulations; the rating agencies or authorities are not monitored from close quarters. As it was ignored, the securitized papers triggered an unfavorable situation to Indian investors.

The study conducted has shown a high correlation between FII investments and the movement of the Sensex. This was quite evident during the subprime crisis, clearly showing the extent to which our markets are dependent on foreign inflows. If the Indian markets have to insulate themselves from such shocks, then Indian regulatory authorities in a joint effort with others like the major brokerage firms, academic institutions etc., need to create awareness among the retail investors. The retail participation by indigenous investors in capital markets will help the economy to insulate itself to a certain extent from the highly unpredictable FII moves.

## 9. CONCLUSION

It can be said that "A ton of talk cannot solve an ounce of the problem". So, instead of talking about problems; we need to talk about its solutions. Financial intermediaries and experts should exercise an immense amount of care while dispensing financial products as it draws risks not just inherent to the security but from the environment generated due to repeated securitization. Risk assessment departments which were almost defunct for the past few years or took a backseat in the euphoria of growth and incomes should function as watch dogs and at be the forefront of the financial structuring of securities. These departments need to be present at the financial institution and also at the credit rating agencies. Though India is a strong economy and Indian government is boasting of its strength, the global crisis has laid some serious impacts on the important sectors of Indian economy. Though Indian government has declared many consolation packages, they are not enough to rejuvenate the economy. Some more helping hands are required to get the growth train on the right track.

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# Quality of Life Indicator (QLI) : To Measure Current Well-Being

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**Abstract :** In this article the focus is on the components of quality of life and also on an appropriate method to quantify the quality of life of an economy. Hence here objective is to identify and illustrate the most important dimensions of human development and to critically judge different attempts that have been made to measure them through different indicators. Thus the present exercise may be described as an attempt to derive a representation of quality of life in a better way than what it is made available through some frequently used indices. And an observation is made on how the situation changes when political and civil rights are included as two major components with other socio-economic components in respect of East Asian and South Asian countries for the year 2001.

**Keywords:** *Quality of life, Current well-being, Human rights, Political and civil rights.*

## 1. INTRODUCTION :

**I**n a broad sense quality of life of an economy is determined by the way of management of all types of assets (natural, physical and human) where natural assets consist of natural resources, physical assets consist of the produced means of production and human assets consist of knowledge, skills, experience, energy and innovativeness of people. At micro-level the quality

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of life of an individual is represented by the attainment of basic needs, i.e., food, clothing and shelter. And to maintain these basic requirements he/she must have some earnings. Hence the increment in income or output per head leads to increase in the capabilities of people. Now for an economy as a whole GNP per head expresses only a part of the quality of life. In fact there is no one to one correspondence between material enrichment, say, GNP per head and human development. In human development approach national product is not considered as the primary indicator of development. Rather it shows the other important dimensions of the quality of life, say, lead a long life, good health, education, participation in the decisions that directly affect their lives and community etc. Improvement of quality of life requires not the production of more and more goods and services but the increment of the capabilities of people. The socio-economic and political situations of an economy, freedom of people are important aspects of quality of life.

So for an economy it is essential to know the relative position in respect of quality of life compared to other economies. Locating the components of quality of life and proper indices to quantify them would help us identify an economy's achievements and failures in different dimensions of quality of life which in turn will be helpful to take proper policy plans for future development of the economy.

## **2. HUMAN DEVELOPMENT INDEX - A MINIMAL MEASURE OF QUALITY OF LIFE**

In this context the United Nations Development Programme's (UNDP's) well-known Human Development Index (HDI) can be discussed briefly which is basically a measure of the quality of life of human being. HDI is a composite index measuring average achievement in three basic dimensions of human development - longevity, i.e., a long and healthy life, knowledge and a decent standard of living. For 3 basic components of HDI there are corresponding indicators and for each indicator an index can be constructed. Firstly, longevity is measured by life expectancy at birth. Secondly, knowledge is measured by the adult literacy rate and mean years of schooling and finally, decent standard of living is captured by GDP per capita.

It is true that providing health attainments, educational attainments and improved GDP per capita are necessary to enjoy a decent standard of living for an individual but also the socio-political environment of the economy where these facilities are being provided is crucial to the question of quality of life of an economy. The most important drawback of HDI is that it does not consider human rights as the component of human development. It is true that human rights are luxury that a poor country can not afford - the poorer section in poor countries give minor importance to these components as these are not their basic necessities. Hence priority is primarily attached to fulfilling the elementary needs. But after achieving at least subsistence standard of living, human rights contribute a significant role in the process of economic development.

Human potential can never be properly realized without ensuring the people their freedom. Human rights and human development together try to secure them their freedom, well-being and dignity. In fact, human development is essential for realizing human rights and human rights are necessary for overall human development. According to HDR 2000, "human rights are the rights possessed by all persons by virtue of their common humanity, to live a life of freedom and dignity". But HDI does not take into account this hugely important factor of the quality of life due to some difficulties like volatile nature of political environment, inadequacy of data etc. to construct an index representing the situation of human freedom of an economy. So it is

necessary to construct a new index which captures human rights and with the help of this index combining with other components of human development it is possible to represent the quality of life of an economy for a point of time which will be closer to reality.

In the subsequent parts of this article an attempt has been made to explain the concepts of human rights with respect to human well-being and construct appropriate index to measure it.

### **3. QUALITY OF LIFE INDICATOR (QLI) -TO MEASURE CURRENT WELL-BEING**

#### **3.1. Concept of Human Rights and Some International Laws and Declarations**

Pluralistic concept of "personal well-being" states that well-being is derived from various objects like material sources, health, happiness, rights and freedoms etc. In this concept problem is regarding aggregation of different constituents through proper weightage. Then comes the concept of "social well-being" deriving from individual well-being using aggregation through interpersonal distributional weights. Here the problem is regarding the choice of appropriate measure of social well-being. HDI captures only the three basic components to measure the level of human development. But for an economy to measure its social well-being at a point of time quality of life indicator should include not only the levels of private consumption, education and health but also the indices of human rights enjoyed by the people. Because to live lives with freedom and dignity is one of the basic requirements of human development.

The claims of Inborn equality in rights and dignity of all human beings are expressed and formulated in human rights, which are translated into legal rights according to both national and international laws. General assembly adopted the Universal Declaration of Human Rights, on 10<sup>th</sup> December 1948, as "a common standard of achievement for all people and nations" and also stated that "it is the duty of states, regardless of their political, economic and cultural system, to promote and protect all human rights and fundamental freedoms".<sup>1</sup>

These rights are divided into two types:

1. Civil & Political Rights Including
  - i) right to life, liberty and security of person;
  - ii) freedom from slavery and torture;
  - iii) equality before law;
  - iv) protection against arbitrary arrest, detention and exile;
  - v) right to a fair trial;
  - vi) right to own property;
  - vii) political participation;
  - viii) right to marriage;
  - ix) fundamental freedoms of thought, religion, opinion & expression;
  - x) freedom of peaceful assembly and association;

<sup>1</sup> This Universal Declaration was further reaffirmed by 171 states at the World Conference on Human Rights at Vienna on 14-25 June, 1993.

- xi) right to take part in the government of the country directly or through freely chosen representatives.

2. Economic, Social & Cultural Rights including

- i) right to work;
- ii) equal pay for equal work;
- iii) right to form and join trade unions;
- iv) right to an adequate standard of living;
- v) right to education;
- vi) right to participate freely in cultural life.

The UN's General Assembly adopted two covenants on 16 December, 1966: (i) International Covenant on Economic, Social and Cultural Rights (ICESCR) and, (ii) International Covenant on Civil and Political Rights (ICCPR). These two Covenants approved that "the enjoyment of civil and political rights and economic, social and cultural rights are interconnected and interdependent." Beside the six rights specified in Economic, Social & Cultural Rights ICESCR also includes rights to: favourable conditions of work, social security, protection of the family and the highest attainable standard of physical & mental health. ICCPR elaborates the civil and political rights identified in the Universal Declaration.

Some of the rights can be suspended in times of "public emergency". But the derogation will not involve any discrimination on the basis of race, colour, sex, language, religion or social origin.

Derogation is not permitted for the following fundamental rights :

- i) rights to life;
- ii) recognition before the law;
- iii) freedom from slavery and torture ;
- iv) freedom of thought and religion;
- v) right not to be imprisoned solely for inability to fulfill a contractual obligation;
- vi) right not to be held guilty for committing a crime which did not constitute a criminal offence at the time it was committed.

The main difference between the International Covenants and the Universal Declaration is that unlike the Universal Declaration, the covenants are legally binding treaties for the concerned states.

### 3.2. Two Alternative Measures of Human rights and Quality of Life Indicator (QLI) at Current Period

The immediate objective is to construct a QLI which measures the social well-being of an economy at current period of time. Therefore first of all it is necessary to find out a reliable measure of human rights. There are two alternative measures of human rights - one is cardinal measure developed by R.J. Barro (1997) and other is ordinal measure constructed by Parma Dasgupta (2001). Now let me discuss these two alternative measures successively in brief and try to find out logically which one is more acceptable.



### 3.2.1. Cardinal Approach - Barro's Analysis

#### 3.2.1.1. Political Rights & Civil Rights

Barro tries to capture human rights cardinally. His empirical study is explained briefly as follows. In Lipset's research (1959) Lipset hypothesis described: "increase in various measures of the standard of living tend to generate a gradual rise in democracy". In his study Barro shows that Lipset hypothesis is strongly supported by the empirical evidence. Here the principal measure of democracy is either indicator of political rights or that of civil liberties which are compiled by Gastil and his associates.

Basic definition of political rights given by Gastil is: "Political rights are rights to participate meaningfully in the political process. In a democracy this means the right of all adults to vote and compete for public office and for elected representatives to have a decisive vote on public policies." In addition to this definition it is also taken that a country is less democratic if minority parties have little influence on policy.

Gastil classifies the countries into 7 categories according to their level of political rights, where 1 is the highest level and 7 is the lowest level. Barro converts this original ranking from 1 to 7 to a scale from 0 to 1, where 0 corresponds to Gastil's rank 7, i.e. lowest level of political rights and 1 corresponds to Gastil's rank 1, i.e. highest level of political rights.

And basic definition of civil rights given by Gastil: "Civil rights are rights to free expression, to organize or demonstrate, as well as rights to a degree of autonomy such as is provided by freedom of religion, education, travel and other personal rights".

The original indexation of civil liberties from 1 to 7 given by Gastil again is converted to 0 to 1, where 0 represents rank 7, i.e., lowest civil liberties and 1 represents rank 1, i.e., highest civil liberties.

#### 3.2.1.2. Interrelationship Between Economic and Political Development - An Empirical Study

##### 3.2.1.2.1. The Model

Different cross-country data suggest that countries with low levels of economic development enjoy low levels of democracy, e.g., many African countries. Non-democratic countries but experiencing substantial economic development tend to become more democratic, e.g., Chile, South Korea, Taiwan, Spain etc. Economically advanced countries for a long period specially in terms of education also become more democratic, e.g., central and eastern European countries. Lipset hypothesis is supported by these observed facts.

So to assess this hypothesis formally Barro specifies a model where he takes democracy in a given period as dependent variable (say, DEMOC) and a vector of variables  $Z$  of 5 years back, e.g., per capita GDP, education etc. and democracy of 5 years back as independent variables.

##### 3.2.1.2.2. Specification

$$DEMOC_{i,t} = \alpha_0 + \alpha_1 Z_{i,t-5} + \alpha_2 DEMOC_{i,t-5} + U_{i,t}$$

- where,
- I : The country
  - T : The time period
  - T : Time lag
  - $\alpha_0$  : Intercept term
  - Z : Vector of variables where variables are log (GDP), log (life expectancy), male primary schooling, female primary schooling, urbanization rate, log(population), and oil country dummy.
  - U : Error terms

DEMOC<sub>j,t</sub> is observed for the years 1972, 1975, 1980, 1985, 1990 & 1994. And the values for the independent variables for period t-T refer to approximately 5 years prior to these dates, for 1965, 1972, 1975 and so on.

### 3.2.1.2.3. Results

The regression results found as follows :

Independent Variables	Dependent Variable	
	DEMOC (indicator political rights)	DEMOC (indicator civil rights)
Constant	-0.91	-0.48
DEMOC <sub>j</sub>	0.672	0.68
log (GDP)	0.045	0.037
log (life expectancy)	0.187	0.096
Male primary schooling	-0.056	-0.037
Female primary schooling	0.060	0.047
Urbanization rate	-0.102	-0.032
log (population)	0.006	-0.002
Oil country dummy <sup>2</sup>	-0.107	-0.101

### 3.2.1.2.4. Observations

- i) Estimated coefficient on lagged democracy is 0.67 when indicator is political right and 0.68 when indicator is civil right.  
 ⇒ democracy is highly persistent overtime.
- ii) Estimated coefficients on log GDP & log (life expectancy) are significantly positive in both cases.

<sup>2</sup> Oil country dummy equals 1 for countries designated as oil exporting countries by the IMF and 0 otherwise.

⇒ democracy is positively related with these indicators of standard of living.

- iii) In case of indicators of educational attainment results are surprising. In both cases I find that estimated coefficients for female primary schooling are significantly positive whereas they are significantly negative for male primary schooling.

One possible explanation may be that the gap between male & female educational attainment is more appropriate proxy for the quality of schooling. As this gap reduces

⇒ educational opportunity for women expands

⇒ social structure becomes more equitable

⇒ more receptive to democracy

- iv) Urbanization rate is negatively related with the level of democracy

⇒ it is not true that country with more rural areas are less democratic.

- v) Estimated coefficient on log population is positive but not significant when political right is the indicator of democracy and it is negative and also insignificant when civil right is the indicator.

⇒ no clear indication about the relation between population size of a country and the level of democracy prevails in country.

- vi) The oil country dummy is significantly negatively correlated with democracy

⇒ high levels of GDP per capita of these oil exporting countries do not have usual positive effect on democratization.

### 3.2.1.3. Application of Barro's Analysis - In Present World

In Barro's empirical analysis I find that democracy of an economy (indicated by either political rights or civil rights) which is an important indicator of current social well-being, depends on some other indicators of standard of living like, per capita GDP, life expectancy, male & female primary schooling etc. And one thing should be noted that all the independent variables are taken for 5 years back period. Now in this present discussion with reference to my analysis some important factors of quality of life at current period of time are specified and then I try to look at whether these factors play an important role in determining the level of political rights or civil rights in reality with reference to different countries at very recent time.

To illustrate this, first of all, I specify the variables, both dependent and independent. Time has an important role in this analysis. So I take 2001 as reference period. Keeping in mind the fact that democracy may be indicated either by political rights or by civil rights I take two models. Let me explain these models briefly as follows:

#### 3.2.1.3.1. Model : 1

Here I take political rights as dependent variable (say  $R_{i,t}$ ) for t-th period and for i-th

country and log of GNI per head (PPP \$) (say,  $\log y_{i, t-T}$ ), log of per capita household final consumption expenditure (\$) (say,  $\log C_{i, t-T}$ ), log of life expectancy at birth (year) (say,  $\log E_{i, t-T}$ ), literacy rate of aged 15-24 (say,  $L_{i, t-T}$ )<sup>3</sup>, political and civil rights (say,  $R_{1i, t-T}$  and  $R_{2i, t-T}$  respectively). It should be noted that all independent variables are taken for T years back period.

### 3.2.1.3.1.1. Specification

$$R_{1i, t} = a + b. \log y_{i, t-T} + c. \log C_{i, t-T} + d. \log E_{i, t-T} + e. L_{i, t-T} + f. R_{1i, t-T} + g. R_{2i, t-T}$$

A : Intercept term

T : 2001

T : 4

i.e., t-T : 1997<sup>4</sup>

Ultimately I get 48 countries (among which 40 are low income (LIC) or low middle income countries (LMC) and 8 are high income countries (HIC) according to World Development Report (2003) for which data are available for all components.

**Table 1 : Data on dependent and independent variables**

Country	$R_{1i, t}$	$\log y_{i, t-T}$	$\log C_{i, t-T}$	$\log E_{i, t-T}$	$L_{i, t-T}$	$R_{1i, t-T}$	$R_{2i, t-T}$
<b>LIC/LMC</b>							
Cambodia	0.167	3.11	2.422	1.732	0.605	0	0.167
China	0	3.487	2.55	1.845	0.975	0	0
Indonesia	0.5	3.53	2.824	1.813	0.97	0	0.333
Philippines	0.833	3.565	2.907	1.832	0.98	0.833	0.667
Thailand	0.833	3.812	3.141	1.839	0.985	0.667	0.667
Vietnam	0	3.201	2.354	1.799	0.97	0	0
Bangladesh	0.667	3.037	2.441	1.763	0.475	0.833	0.5
India	0.833	3.22	-0.553	1.799	0.665	0.833	0.5
Nepal	0.667	3.037	2.258	1.756	0.555	0.667	0.5
Pakistan	0	3.199	2.56	1.792	0.54	0.5	0.333
Srilanka	0.667	3.391	2.759	1.863	0.965	0.667	0.5
Moldova	0.833	3.161	2.537	1.826	1	0.667	0.5
Tajikistan	0.167	3.041	2.298	1.832	1	0.167	0.167
Haiti	0.333	3.1	-2.593	1.732	0.595	0.5	0.333

<sup>3</sup> Due to data inadequacy I take  $L_{i, t-T}$  as proxy of adult literacy rate of 15 years and above.

<sup>4</sup> Only for R1 and R2 t: 2001-02 and t-T: 1997-98.

Country	$R_{1t, t-T}$	$\log Y_{t, t-T}$	$\log C_{t, t-T}$	$\log E_{t, t-T}$	$L_{t, t-T}$	$R_{2t, t-T}$	$R_{2t, t-T}$
Nicaragua	0.667	3.26	2.521	1.832	0.675	0.667	0.667
Yemen Rep	0.333	2.857	2.384	1.732	0.6	0.333	0.167
Benin	0.833	3.1	2.449	1.724	0.5	0.833	0.833
Burkina Faso	0.5	3	2.274	1.643	0.305	0.333	0.5
Burundi	0.167	2.792	2.121	1.623	0.605	0	0
Cameroon	0	3.248	2.666	1.756	0.915	0	0.333
Central African Rep	0.667	3.117	2.455	1.653	0.625	0.667	0.333
Congo Rep	0	3.11	2.547	1.681	0.96	0	0.333
Coted' Ivoire	0.167	3.228	2.68	1.672	0.605	0.167	0.5
Ethiopia	0.333	1.699	1.929	1.633	0.51	0.5	0.333
Gambia	0	3.158	2.539	1.724	0.53	0	0.167
Ghana	0.667	3.207	2.485	1.778	0.87	0.667	0.667
Kenya	0.167	3.548	2.403	1.716	0.935	0.167	0.167
Malawi	0.667	2.845	2.332	1.633	0.69	0.833	0.667
Mali	0.667	2.857	2.275	1.699	0.585	0.667	0.667
Mauritania	0.167	3.217	2.638	1.724	0.47	0.167	0.167
Mozambique	0.667	2.839	2.09	1.653	0.565	0.667	0.5
Niger	0.333	2.919	2.188	1.672	0.205	0	0.333
Nigeria	0.5	2.934	2.371	1.732	0.835	0	0.167
Rwanda	0	2.813	2.361	1.602	0.815	0	0.167
Senegal	0.5	3.228	2.587	1.716	0.475	0.5	0.5
Tanzania	0.5	2.792	2.197	1.681	0.885	0.333	0.333
Togo	0.333	3.164	2.469	1.69	0.87	0.167	0.333
Uganda	0.333	3.064	2.436	1.623	0.765	0.5	0.5
Zambia	0.333	2.959	2.526	1.633	0.86	0.333	0.5
Zimbabwe	0.167	3.35	2.765	1.716	0.99	0.333	0.333
<b>HIC</b>							
Greece	1	4.098	3.922	1.892	1	1	0.667
Italy	1	4.303	4.109	1.892	1	1	0.833
Korea Rep (S)	0.833	4.128	3.713	1.857	1	0.833	0.833
Portugal	1	4.152	3.849	1.875	1	1	1

Country	$R_{1t, t-T}$	$\log Y_{i, t-T}$	$\log C_{i, t-T}$	$\log E_{i, t-T}$	$L_{i, t-T}$	$R_{1t, t-T}$	$R_{2t, t-T}$
Spain	1	4.196	3.966	1.892	1	1	0.833
Israel	1	4.247	4.005	1.886	0.995	1	0.667
Singapore	0.333	4.466	4.115	1.881	0.995	0.333	0.333
Slovenia	1	4.075	3.711	1.875	1	1	0.833

Source : World Development Report (2003).

### 3.2.1.3.1.2. Results

Let me briefly state the results obtained by OLS estimation procedure :

$$R^2 = 0.8302 ; \text{Adjusted } R^2 = 0.8054; F = 33.421$$

**Table 2 : Estimated coefficients of independent variables and corresponding P values**

	Coefficients	P value
Intercept	-0.6816	0.2687
$\log Y_{i, t-T}$	0.0215	0.8097
$\log C_{i, t-T}$	-0.0375	0.3884
$\log E_{i, t-T}$	0.4184	0.3532
$L_{i, t-T}$	0.0239	0.8516
$R_{1t, t-T}$	0.5362	0.0002
$R_{2t, t-T}$	0.4375	0.0238

### 3.2.1.3.1.3. Observations

- i) The value of  $R^2$  and adjusted  $R^2$  both are high and F value is also significant.  
 $\Rightarrow$  regressors as a whole can explain the model jointly,
- ii)  $\hat{a} = -0.6816$ , i.e., intercept takes negative value and since P value of  $\hat{a} > 0.05$   
 $\Rightarrow$  Intercept is insignificant.<sup>5</sup>
- iii)  $\hat{b}$ ,  $\hat{d}$  and  $\hat{e}$  take positive value and c takes negative value  
 $\Rightarrow$  political right is positively related with GNI per head, life expectancy at birth and literacy rate (ages between 15-24 yrs). But it is inversely related with per capita household consumption.

<sup>5</sup> Null hypothesis :  $H_0$  : estimated intercept (or coefficient) = 0, i.e., variable is insignificant. At 95% confidence interval P value of tabulated t is equal to 0.05. Therefore for estimated intercept (or for any estimated coefficient) if P value is greater than 0.05 then  $H_0$  is accepted, i.e., corresponding variable is insignificant and vice versa.

But interestingly P value for all these estimated coefficients are greater than 0.05

⇒ these independent variables are individually insignificant in the model.

iv)  $\hat{f} = 0.5362$  and  $\hat{g} = 0.4375$  and P value for both  $\hat{f}$  and  $\hat{g} < 0.05$

⇒ political rights and civil rights of few back years (here before 4 years) are significant indicators and they have positive effect on current situation of political rights.

Therefore the high value of the measure of multiple correlation coefficients ( $R^2$ ) implies that the combined effect of all the regressors on  $R_{11,t}$  is very strong. As it seems, this high value of R is largely due to the presence of  $R_{11,t-T}$  and  $R_{21,t-T}$ . But the other four regressors individually have little effect on  $R_{11,t}$  which is clearly shown by the relevant statistic. This weak effect of  $\log y_{i,t-T}$ ,  $\log C_{i,t-T}$ ,  $\log E_{i,t-T}$  and  $L_{i,t-T}$  on  $R_{11,t-T}$  on the basis of the available data may be due to high residuals corresponding to some countries. Here both the positive and negative high residuals have been considered. The top most countries producing high residuals are Nigeria, Indonesia, Cameroon, Zimbabwe, Niger, Moldova, Burundi, Central African Republic and Congo Republic (in descending order).

### 3.2.1.3.2. Model : 2

In this model regressors remain unchanged but instead of political rights, civil rights (say  $R_{21,t-T}$ ) becomes the dependent variable. So now I try to look at the effect of the previously stated regressors on the civil rights.

#### 3.2.1.3.2.1. Specification

$$R_{21,t} = a + b. \log y_{i,t-T} + c. \log C_{i,t-T} + d. \log E_{i,t-T} + e. L_{i,t-T} + f. R_{11,t-T} + g. R_{21,t-T}$$

A : Intercept term

T : 2001

T : 4

i.e., t-T : 1997 (for  $R_1$  &  $R_2$  t: 2001-02, t-T: 1997-98)

I collect data on those 48 countries as in model 1.

**Table 3 : Data on dependent and independent variables**

Country	$R_{21,t}$	$\log y_{i,t-T}$	$\log C_{i,t-T}$	$\log E_{i,t-T}$	$L_{i,t-T}$	$R_{11,t-T}$	$R_{21,t-T}$
<b>LIC/LMC</b>							
Cambodia	0.167	3.11	2.422	1.732	0.605	0	0.167
China	0.167	3.487	2.55	1.845	0.975	0	0
Indonesia	0.5	3.53	2.824	1.813	0.97	0	0.333
Philippines	0.667	3.565	2.907	1.832	0.98	0.833	0.667
Thailand	0.667	3.812	3.141	1.839	0.985	0.667	0.667
Vietnam	0	3.201	2.354	1.799	0.97	0	0

Country	$R_{2L, t}$	$\log Y_{L, t-T}$	$\log C_{L, t-T}$	$\log E_{L, t-T}$	$L_{L, t-T}$	$R_{2L, t-T}$	$R_{2L, t-T}$
Bangladesh	0.5	3.037	2.441	1.763	0.475	0.833	0.5
India	0.667	3.22	-0.553	1.799	0.665	0.833	0.5
Nepal	0.5	3.037	2.258	1.756	0.555	0.667	0.5
Pakistan	0.333	3.199	2.56	1.792	0.54	0.5	0.333
Srilanka	0.5	3.391	2.759	1.863	0.965	0.667	0.5
Moldova	0.5	3.161	2.537	1.826	1	0.667	0.5
Tajikistan	0.167	3.041	2.298	1.832	1	0.167	0.167
Haiti	0.333	3.1	2.593	1.732	0.595	0.5	0.333
Nicaragua	0.667	3.26	2.521	1.832	0.675	0.667	0.667
Yemen Rep	0.167	2.857	2.384	1.732	0.6	0.333	0.167
Benin	0.667	3.1	2.449	1.724	0.5	0.833	0.833
Burkina Faso	0.5	3	2.274	1.643	0.305	0.333	0.5
Burundi	0.167	2.792	2.121	1.623	0.605	0	0
Cameroon	0.167	3.248	2.666	1.756	0.915	0	0.333
Central African Rep	0.5	3.117	2.455	1.653	0.625	0.667	0.333
Congo Rep	0.167	3.11	2.547	1.681	0.96	0	0.333
Coted'Ivoire	0.5	3.228	2.68	1.672	0.605	0.167	0.5
Ethiopia	0.333	1.699	1.929	1.633	0.51	0.5	0.333
Gambia	0.333	3.158	2.539	1.724	0.53	0	0.167
Ghana	0.667	3.207	2.485	1.778	0.87	0.667	0.667
Kenya	0.333	3.548	2.403	1.716	0.935	0.167	0.167
Malawi	0.667	2.845	2.332	1.633	0.69	0.833	0.667
Mali	0.667	2.857	2.275	1.699	0.585	0.667	0.667
Mauritania	0.333	3.217	2.638	1.724	0.47	0.167	0.167
Mozambique	0.5	2.839	2.09	1.653	0.565	0.667	0.5
Niger	0.333	2.919	2.188	1.672	0.205	0	0.333
Nigeria	0.667	2.934	2.371	1.732	0.835	0	0.167
Rwanda	0.167	2.813	2.361	1.602	0.815	0	0.167
Senegal	0.5	3.228	2.587	1.716	0.475	0.5	0.5
Tanzania	0.5	2.792	2.197	1.681	0.885	0.333	0.333
Togo	0.333	3.164	2.469	1.69	0.87	0.167	0.333



Country	$R_{1,t}$	$\log y_{i,t-T}$	$\log C_{i,t-T}$	$\log E_{i,t-T}$	$L_{i,t-T}$	$R_{1i,t-T}$	$R_{2i,t-T}$
Uganda	0.333	3.064	2.436	1.623	0.765	0.5	0.5
Zambia	0.5	2.959	2.526	1.633	0.86	0.333	0.5
Zimbabwe	0.333	3".35	2.765	1.716	0.99	0.333	0.333
<b>HTC</b>							
Greece	0.667	4.098	3.922	1.892	1	1	0.667
Italy	0.833	4.303	4.109	1.892	1	1	0.833
Korea Rep (S)	0.833	4.128	3.713	1.857	1	0.833	0.833
Portugal	1	4.152	3.849	1.875	1	1	1
Spain	0.833	4.196	3.966	1.892	1	1	0.833
Israel	0.833	4.247	4.005	1.886	0.995	1	0.667
Singapore	0.333	4.466	4.115	1.881	0.995	0.333	0.333
Slovenia	0.833	4.075	3.711	1.875	1	1	0.833

Source : World Development Report (2003).

### 3.2.1.3.2.2. Results

Results obtained by OLS estimation procedure are as follows :

$$R^2 = 0.8162 ; \text{Adjusted } R^2 = 0.7893 ; F = 30.346$$

**Table 4: Estimated coefficients of independent variables and corresponding P values**

	Coefficients	P value
Intercept	-0.0902	0.8388
$\log y_{s,t}$	0.0735	0.2591
$\log C_{j,t-T}$	-0.0299	0.3431
$\log E_{j,t-T}$	0.0394	0.9033
$L_{i,t-T}$	-0.0147	0.8741
$R_{1i,t-T}$	0.1058	0.2665
$R_{2i,t-T}$	0.6660	0.00001

### 3.2.1.3.2.3. Observations

- i) Here also the value of  $R^2$  and adjusted  $R^2$  are high and F value is also high  
 $\Rightarrow$  All the regressors explain the model very well jointly,

- ii)  $\hat{a} = -0.0902$ , i.e., intercept takes negative value and as P value of  $a > 0.05$   
 $\Rightarrow$  Intercept is insignificant.
- iii)  $\hat{b}$ ,  $\hat{d}$  and  $\hat{f}$  take positive value and  $\hat{c}$  &  $\hat{e}$  take negative value but they all can be treated as insignificant variables individually as their P values are greater than 0.05. Only  $R_{2i, t-T}$  i.e., 4 years back civil rights is a significant indicator since its P value is  $< 0.05$  and it has positive effect on current period political rights.

Here also the weak relationship as witnessed from the relevant statistic may be due to the presence of some countries producing high residuals, like, Nigeria, Cameroon, Congo Republic, Uganda, Tanzania, Indonesia, Vietnam, Israel and Benin (in descending order).

In both the model I observe that taken collectively  $\log y_{i, t-T}$ ,  $\log C_{i, t-T}$ ,  $\log E_{i, t-T}$ ,  $L_{i, t-T}$ ,  $R_{1i, t-T}$  &  $R_{2i, t-T}$  can explain a significant part of  $R_{1i, t}$  in model 1 and  $R_{2i, t}$  in model 2 but taken individually almost none of the regressors (except  $R_{1i, t-T}$ ,  $R_{2i, t-T}$  in model 1 and only  $R_{2i, t-T}$  in model 2) is significantly important.

Therefore I can infer that the regressors are interdependent. Let me look at the correlation matrix of coefficient in these two models.

**Table 5 : CORRELATION MATRIX OF COEFFICIENTS**

	$\log y_{i, t-T}$	$\log C_{i, t-T}$	$\log E_{i, t-T}$	$L_{i, t-T}$	$R_{1i, t-T}$	$R_{2i, t-T}$	constant
$\log y_{i, t-T}$	1.0000						
$\log C_{i, t-T}$	-0.50074	1.0000					
$\log E_{i, t-T}$	-0.59431	0.82700E-01	1.0000				
$L_{i, t-T}$	-0.16855	-0.12396	-0.27586	1.00000			
$R_{1i, t-T}$	0.12336	0.11599	-0.35395	0.92869E-01	1.00000		
$R_{2i, t-T}$	-0.20660	-0.17604	0.24605	0.21591E-01	-0.83981	1.0000	
constant	0.42106	-0.21083E-01	-0.97006	0.28584	0.37438	-0.24055	1.0000

From this matrix it is clear that there is the presence of interdependence among the independent variables. Therefore the problem of multi co-linearity exists. That is why I have the previously stated observations.

### 3.2.2. Ordinal Approach - Partha Dasgupta's Analysis

At first I explain P. Dasgupta's ordinal approach. In his famous book "An Inquiry Into Well-Being and Destitution" P. Dasgupta states that rights of a citizen can be divided in three constituent spheres - the civil, the political and the socio-economic. Civil rights are essential for basic liberties. It consists of the right to justice. Citizen must be protected by law in which both men and women may conduct their business freely and independently. Political right is the right to participate in the exercise of political power. And, finally, the socio-economic right is the right to a certain share of resources, right to share the social heritage and right to live the life with the standards prevailing in the society in question.

Political rights and civil rights are measured by the Freedom House Index in Freedom House's annual surveys. The degree of political rights as measured by Freedom House team includes :

- (1) fair elections of legislative leaders and president;
- (2) competing political parties with access to the press and without intimidation;
- (3) limitations to authoritarian rule including civilian control of military, freedom of opposition parties; and
- (4) decentralization of political power to freely elected local governments.

And the degree of civil rights include :

- (1) freedom of the press;
- (2) freedom of assembly;
- (3) independent judiciary;
- (4) free trade unions and religious institutions;
- (5) gender equity;
- (6) limited government corruption; and
- (7) equal educational opportunity.

### 3.2.2.1. Taylor - Jodice Ranking for Political Rights & Civil Rights :

On the basis of scores for human rights published regularly by Freedom House Taylor and Jodice give ranking to countries. They provide an account of their scoring system for political and civil rights.

Scoring system for political rights :

Political System	Given Score
(I) Great majority of persons have both the right and the opportunity to participate in the electoral process, political parties may be formed freely for the purpose of making the right to compete for public office fairly general.	1
(II) Enjoying political systems with an open access but not always, because of extreme poverty, a feudal social structure, violence or other limitations.	2
(III) People may elect their representatives but large-scale interference with election results and non-democratic procedures are at work.	3
(IV) Full democratic elections are blocked constitutionally or have little significance in determining power distribution.	4
(V) Elections are either closely controlled or limited or in which the results have little significance.	5
(VI) Without elections or with elections involving only a single list of candidates for getting demonstrating support for the system.	6
(VII) Systems that are tyrannies.	7

Scoring system for civil rights:

Political System	Given Score
(I) Rule of law is unshaken, freedom of expression is possible and also evident in a variety of news media.	1
(II) Desires to achieve the above level but fails due to violence, ignorance or unavailability of media, restrictive laws etc.	2
(III) Courts may be threatened or may have unresolved political deadlocks or may have to rely often upon martial law, imprisonment or sedition or suppression of publication.	3
(IV) Broad areas of illegality.	4
(V) Civil rights are often denied without any doctrine, media are often weak, controlled by the government and censored.	5
(VI) No civil rights are thought to take priority over the rights of the state, although limited criticisms are allowed.	6
(VII) No criticisms are allowed except by the state, citizens have no rights in relation to the state.	7

### 3.2.2.2. An Advanced Ranking

Partha Dasgupta tries to rank the countries incorporating political rights and civil rights. I try to explain this advanced ranking in a simple way with the sample data given by Partha Dasgupta. And then I try to observe whether there is any relation between the ranking of the countries according to GNP per head and the ranking incorporating political rights and civil rights or not.

#### 3.2.2.2.1. The Data

Here those countries are considered whose GNP per head in 1970 was less than \$1500 at 1980 international dollars. The year in question is 1979-80. There are 55 countries in the list but for only 46 countries out of those 55 countries data are available on all 5 components of current well-being. In table 1,

Column 1 represents (GNP per head)

Column 2 represents private consumption per head

Column 3 represents life-expectancy at birth

Column 4 represents literacy rate

Column 5 represents political rights }<sup>6</sup>

Column 6 represents civil rights }

<sup>6</sup> Taken from the compendium of Taylor and Jod'ce (1983) - ranging from 1 (highest degree) to 7 (lowest degree).

Table 6:<sup>7</sup> Current Well-being Indicators, 1980

Country	Socio economic components of quality of life					
	(y)	C	E	L	RI	R2
Bangladesh	(540)	491	48	26	4	4
:	:	:	:	:	:	:
Botswana	(1477)	827	55	35	3	2
:	:	:	:	:	:	:
China	(1619)	955	67	69	6	6
:	:	:	:	:	:	:
India	(614)	423	54	36	3	2
:	:	:	:	:	:	:
Mali	(356)	288	44	10	7	7
:	:	:	:	:	:	:
Mauritius	(1484)	1042	65	85	2	4
:	:	:	:	:	:	:
Pakistan	(990)	821	49	24	5	6
:	:	:	:	:	:	:
Srilanka	(1200)	509	68	85	3	2
:	:	:	:	:	:	:
Zimbabwe	(930)	586	55	69	5	5

Source : Dasgupta Partha (1992): "An Enquiry into Well-being and Destitution", Clarendon Press, Oxford.

### 3.2.2.2.2. Observations

(1) 32 countries out of 46 score  $\geq 5$  for political rights.

39 countries out of 46 score  $\leq 5$  for civil rights.

Implications :

<sup>7</sup> In this table (and also in other tables which will be used in later discussions) only some selected countries and the corresponding data are taken into consideration, which are essential for this present discussion. For detail understanding one may refer to "Human Well-Being and the Natural Environment" by Partha Dasgupta, pages-58-62,64-66,71-73.

- (a) Civil rights and political rights can be curtailed in countries where elections are held.
- (b) Beside some exceptions like Botswana, India, Mauritius and Srilanka there are severe deprivations of basic liberties.

(2) When political rights and civil rights are combined with the columns of socio-economic components the situation changes.

Now these changes are captured by constructing Borda Ranking.<sup>6</sup>

**Table 7: Rankings of countries, 1980**

Country	Borda	C	E	L	R1	R2	(y)
Mali	1	6	5	1	1	1	7
.	.	.	.	.	.	.	.
China	30	36	44	36	7	11	40
.	.	.	.	.	.	.	.
India	36	16	29	21	38	44	19
.	.	.	.	.	.	.	.
Mauritius	46	38	42	43	46	40	37

Here ranking is from the worst to the best.

### 3.2.2.2.3. Observations

China beats India in each of the 3 socio-economic indices while India beats china in political and civil liberties. Hence China takes 17th position in Borda Ranking from the top and India comes 6 places ahead at 11. Whereas china has a far better position than India in respect of GNP per head - then china takes 7<sup>th</sup> position and India takes 28<sup>th</sup> position from the top. Hence there is a vast change in situation when I incorporate political rights and civil rights with other socio-economic components.

### 3.2.2.3. Relationship between the Borda Ranking and the ranking of 5 components of social well-being :

**Table 8 : Spearman correlation matrix of rankings of current well-being**

C	0.84						
E	0.88	0.75					
L	0.72	0.54	0.79				
R1	0.76	0.51	0.48	0.28			
R2	0.75	0.47	0.50	0.25	0.76		
Y	0.87	0.91	0.83	0.61	0.55	0.52	
	Borda	C	E	L	R1	R2	

<sup>6</sup> Borda Ranking : Suppose a country has the ranks i, j, k, l and m respectively for the 5 criteria. Then Borda score is i+j+k+l+m. now if ranks are given to some selected countries according to their Borda score then this type of ranking is termed as Borda Ranking.

## Observations :

- (1) Strong correlation (0.87) between Borda Ranking and ranking based on GNP per head (y).<sup>9</sup>
- (2) GNP is replaced by private consumption (C) - here correlation coefficient between y and C takes a high value 0.91.
- (3) Richer countries enjoy greater political and civil liberties though the correlation is not very high [correlation between C & R<sub>1</sub> is 0.51 and correlation between C & R<sub>2</sub> is 0.47].

I get these weak correlations because there are countries in the sample that are very poor in terms of private consumption but enjoy relatively extensive civil and political liberties.

#### 4. A COMPARATIVE STUDY OF QUALITY OF LIFE INDICATOR (QLI) AT CURRENT PERIOD OF SOUTH AND EAST ASIAN COUNTRIES

In this section I shall try to give a comparative study of current quality of life indicator (QLI) at very recent time period following Partha Dasgupta's ordinal approach as discussed in the previous section. I specifically try to observe how the situation changes when political and civil rights are included as two major components with other socio-economic components illustrated in HDI. Here I concentrate on East Asian and South Asian countries for the year 2001.

There are 30 countries in East Asia & the Pacific and South Asia.<sup>10</sup> I collect data on 6 components:

- (1) y : GNI per head (PPP \$), 2001
- (2) C : Per capita household final consumption expenditure (\$), 2001
- (3) E : Life expectancy at birth (years), 2001
- (4) L : Adult literacy rate (%), 15 years and above, 2001
- (5) R<sub>1</sub> : Political rights, 2001-02
- (6) R<sub>2</sub> : Civil rights, 2001-02

Finally I find 14 countries for which data on all components are available. Among these 14 countries except Malaysia all other countries are either low income country (LIC) or lower middle income country (LMC). Only Malaysia is upper middle income country (UMC).<sup>11</sup> Economies are divided into different income groups according to GNI per capita, 2001. LIC, LMC and UMC are those for which per capita GNI, 2001 is less than \$745, in between \$746 & \$2975 and in between \$2976 & \$9205 respectively. For these 14 countries data for above stated six components are given in the following table.

<sup>9</sup> But Partha Dasgupta shows that y is not strongly correlated with Borda index by taking data for the year 1995-96.

**Table 9 : Current QLI for the year 2001 for South & East Asian Countries**

Country	(y)	C	E	L	R <sub>1</sub>	R <sub>2</sub>
<b>East Asia</b>						
Cambodia	1790	234	54	69	6	6
China	3950	436	70	86	7	6
Indonesia	2830	466	66	88	4	4
Malaysia	7910	1488	73	88	5	5
Mongolia	1710	349	65	99	2	3
Papua New Guinea	2450	446	57	65	2	3
Philippines	4070	644	70	95	2	3
Thailand	6230	1070	69	96	2	3
Vietnam	2070	266	69	93	7	7
<b>South Asia</b>						
Bangladesh	1600	274	62	41	3	4
India	2820	306	63	58	2	3
Nepal	1360	175	59	43	3	4
Pakistan	1860	313	63	44	7	5
Sri Lanka	3260	624	73	92	3	4

Source : (y) : World Development Indicator 2003; World Development Report 2003.

C; E; L : World Development Indicator 2003.

R<sub>1</sub>; R<sub>2</sub> : Freedom House, Web Page.

#### 4.1. Observations

- 1) 5 countries out of 14 countries score > 5 for both R<sub>1</sub> and R<sub>2</sub>.  
 ⇒ In Cambodia, China, Vietnam, Malaysia and Nepal people can not enjoy the basic liberties.
- 2) The country which scores ≥ 5 for R<sub>1</sub> also experiences ≥ 5 for R<sub>2</sub> and the country which scores <5 for R<sub>1</sub> also experiences <5 for R<sub>2</sub>.  
 ⇒ In a country where political rights are curtailed, civil rights are also curtailed.

Now with the help of table 9 let me rank these 14 countries for all components separately

<sup>10</sup> According to World Development Indicator 2003, published by World Bank.

<sup>11</sup> As classified by World Development Indicator 2003.



and calculate "Borda Score" for C, E, L, R<sub>1</sub> and R<sub>2</sub>.<sup>12</sup> And also take the corresponding HDI values for 2001 for those countries. This is given in table 10. One thing should be noted that ranking is from worst to the best, i.e. rank 1 means the country is lowest scoring country - the situation is worst and rank 14 means the highest scoring country, i.e. the situation is best.

**Table 10: Borda Score and HDI values for South & East Asian Countries, 2001**

Country	(y)	C	E	L	R <sub>1</sub>	R <sub>2</sub>	Borda Score <sup>13</sup>	HDI Value (2001)
<b>East Asia</b>								
Cambodia	4	2	1	6	4	2	15	0.556
China	11	8	11	7	1	2	29	0.721
Indonesia	9	10	8	8	6	6	38	0.682
Malaysia	14	14	13	8	5	4	44	0.790
Mongolia	3	7	7	14	10	10	48	0.661
Papua New Guinea	7	9	2	5	10	10	36	0.548
Philippines	12	12	11	12	10	10	55	0.751
Thailand	13	13	9	13	10	10	55	0.768
Vietnam	6	3	9	11	1	1	25	0.688
<b>South Asia</b>								
Bangladesh	2	4	4	1	7	6	22	0.502
India	8	5	5	4	10	10	34	0.590
Nepal	1	1	3	2	7	6	19	0.499
Pakistan	5	6	5	3	1	4	19	0.499
Sri Lanka	10	11	13	10	7	6	47	0.730

Source : HDI Value, 2001: Human Development Report 2003

Now I rank 14 countries according to Borda Score. And then find their relative positions in ranking according to GNI per head (y) and according to HDI value. And then I try to compare the situations getting from these three different ranking systems: Borda ranking, (y) ranking and HDI ranking. Again ranking is from worst to the best.

**Table 11 : Borda ranking, (y) ranking & HDI ranking of South & East Asian Countries, 2001**

Country	Borda ranking	(y) ranking	HDI ranking
Cambodia (LIC)	1	4	5
Nepal (LIC)	2	1	1

<sup>12</sup> Procedure for calculating "Borda Score" is already discussed.

<sup>13</sup> Summing up the ranking according to components C, E, L, R<sub>1</sub> and R<sub>2</sub>.

Country	Borda ranking	(y) ranking	HDI ranking
Pakistan (LIC)	2	5	1
Bangladesh (LIC)	4	2	3
Vietnam (LIC)	5	6	9
China (LMC)	6	11	10
India (LIC)	7	8	6
Papua New Guinea (LIC)	8	7	4
Indonesia (LIC)	9	9	8
Malaysia (UMC)	10	14	14
Sri Lanka (LMC)	11	10	11
Mongolia (LIC)	12	3	7
Philippines (LMC)	13	12	12
Thailand (LMC)	13	13	13

## 4.2. Observations

1) Remarkable differences exist between Borda ranking and HDI ranking in case of Mongolia, Malaysia, Papua New Guinea, China, Vietnam and Cambodia. Similarly relative positions differ widely between Borda ranking and (y) ranking for the countries Mongolia, Malaysia and China. GNI per capita in Mongolia is very low but the country performs very well in other components of human well-being, specially in literacy rate it is top scorer among other countries in the table. Therefore it improves its relative position in ranking according to HDI where E and L are the major components. Again it also shows a very good environment in respect of political & civil rights. Here also it is one of the top scorer countries. Hence when  $R_j$  and  $R_2$  are taken as another two important indicators of quality of life and Borda ranking is constructed including  $R_1$  and  $R_2$ , then Mongolia becomes second highest scoring countries. For this reason I find wide variations in the relative positions of Mongolia in three different ranking systems.

Relative positions of Malaysia, Vietnam and Cambodia remain either same or improving from (y) ranking to HDI ranking mainly due to E and L in Malaysia and Vietnam and L in Cambodia. But interestingly for all these three countries relative positions deteriorate when I include  $R_1$  and  $R_2$  as two indicators in Borda ranking. Vietnam shows worst situation for both  $R_1$  and  $R_2$ . Also Cambodia and Malaysia are poor performing countries in respect of human freedom and rights.

Similarly the situations in Papua New Guinea and China can be explained. China loses its position marginally from (y) ranking to HDI ranking. But as Papua New Guinea shows very poor performance in E and L, so its ranking order goes down largely in HDI ranking. But it is a better performer country in respect of political and civil rights. In fact in both  $R_1$  and  $R_2$  Papua New Guinea is one of the highest-ranking countries among these 14 countries. Therefore in Borda ranking its relative position improves than that in HDI ranking. But the experience of China is somewhat different. It performs worst in respect of political rights and scores second lowest in respect of civil rights. Therefore in Borda ranking its relative place goes down further.

2) To capture current social well-being of a country if I take into account political and civil rights as two important socio-economic components of quality of life then it can be observed a vast change in situation, e.g., though China is a LMC still it is relatively in worse position than some LICs like India, Papua New Guinea, Indonesia, Mongolia. On the other hand, Mongolia is a LIC but according to Borda ranking its current social well-being is higher than some LMCs like Sri Lanka, China and also higher than Malaysia which is an UMC.

3) If I look at the relative positions of India I find that it is almost consistent in three different ranking systems. India is a middle graded country. It performs very well in respect of human rights and is one of the highest scoring countries among these 14 countries in respect of  $R_1$  and

## 5. CONCLUSIONS

### Cardinal Approach vs. Ordinal Approach

Barro interprets the measures as cardinal. And it can be treated as a viable alternative of Partha Dasgupta's ordinal approach to measure the current well-being. One thing should be noted that the relation between political rights, civil rights and other socio-economic components can be explained on empirical basis in different approaches in different studies but there is no theoretical model to capture this relationship.

Two major drawbacks of cardinal approach can be identified:

- (1) Due to presence of multi co-linearity almost all explanatory variables become insignificant.
- (2) It is not possible to compare relative positions of different countries according to their current level of social well-being by this cardinal approach.

On the other hand since P. Dasgupta's approach is an ordinal one so it is free from statistical problems like multi co-linearity. Ordinal approach is also easily computable and readily comprehensible. It is also an effective measure when I want to look at the relative positions or want to compare different countries according to their social well-being at current period of time.

Therefore comparing these two approaches of measures of human rights it can be concluded that in present purpose ordinal approach is more useful than cardinal approach. Ram Prasad Sengupta in his "Review Article of Human Well-Being & Natural Environment" identifies one important problem in this ordinal measurement. He states that these results can not clearly explain the role of rights or liberty in change in the level of social well-being (through change in the different indicators) in different countries. Since in the cross-section country data includes large countries like India with all its pluralism and also some small countries which are homogenous in nature like Korea or Singapore and comparison is made with the basis of this data, therefore one can not explain the role of factors like rights or liberty in the process of change in such countries.

Although deeper analysis is required to understand the interplay of complex socio-economic, political, institutional, cultural, geographical and ecological factors, P. Dasgupta's ordinal approach scores over the cardinal approach on the count of its merits.

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# Shakespeare's Merchant of Venice and the Venetian World of Commerce

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**Abstract :** In the late 16<sup>th</sup> and early 17<sup>th</sup> century, Venice had been the centre of all commercial and mercantile enterprises of Europe. Venice had acquired sound financial health and stability, trade and commerce being its steady source of resources as the characteristics of capitalist economy. As an integral part of it, double entry system also was introduced that finally enhanced the pro-capitalist economy of Venice. The paper attempts to explain the implications of emerging capitalist system and commercial enterprises and in that light strives to show how that system determines the politics of cultural marginalization in Shakespeare's *Merchant of Venice*.

**Keywords:** *Commerce, Capitalist, Consumerism, Dehumanization, Culture.*

## 1. INTRODUCTION

Venice, the glittering centre of 16<sup>th</sup> and early 17<sup>th</sup> century European business and Commerce, has often been considered to usher in early a capitalist economy that unmistakably began

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to governments culture and social settings. An attempt is made in the following lines to reexamine representative literature in the light off contemporary economic and historical documents to note the impact of that economic change in the socio-cultural resettlement.

## 2. BACK GROUND RESOURCE

Thomas Coryat in his travelogue, *Crudities* has made an elaborate description of the late sixteenth and early seventeenth century Venice, which with its various aspects, provide a unique socio-economic background behind the making of Shakespeare's play, *The Merchant of Venice*. The analysis of that background, not only reveals the mechanism of the economic context, that gives birth to the dynamics of basic cultural difference between the Christian Merchant and the Jewish Usurer, the central theme of the play, but also suggests the inevitability of its overwhelming influence upon the playwright, who could but fashion his dramatic superstructure only as per the dictate of the base.

## 3. GAME OF POWER : CAPITALISM MARGINALISES 'THE OTHER'

Coryat's description offers a grand image of stately Venice, which had been the centre of all commercial and mercantile enterprises of the then Europe. First comes the city in its full glory:

The City is divided in the midst by a goodly fair channel, which they call *Canal il grande* [the Grand Canal]....The six parts of the city whereof Venice consisteth are situate on ... both sides of this chanel [which] are adomed with many sumptuous and magnificent palaces that stand very near to the water and make a very glorious and beautiful show. For many of them are a great height- three or four stories high- most being built with brick and some with fair freestone. Besides they are adomed with a great multitude of stately pillars made partly of white stone and partly of Istrian marble.

Venice is affluent. Its palaces are sumptuous, magnificent and glorious. They have great height and are adomed with a 'multitude of stately pillars', built with white stone and marble. It is evident that Venice has already acquired a sound financial health and stability, trade and commerce being its steady source of resource. Coryat provides its immediate evidence:

There is 'only one bridge to go over the great channel... This bridge is commonly called Ponte de Rialto, and is the fairest bridge by many degrees for one arch that ever I saw, read or heard of. For it is reported that it cost about fourscore thousand crowns, which do make four and twenty thousand pound sterling.

Only Venice can venture it, four and twenty thousand pounds sterling for a little bridge that jumps over a small canal of forty paces in breadth, on one arch. The jump of the b ridge, indeed, symbolizes the jump of Venice into Capitalist economy. Again Coryat's description substantiates this view:

The Rialto, which is at the farther side of the bridge as you come from St. Mark's, is a most stately building, being the Exchange of Venice, where the Venetian gentlemen and the merchants do meet twice a day, betwixt eleven and twelve of the clock in the morning and betwixt five and six of the clock in the afternoon.... In one of the higher rooms which belongeth only to the state, there is kept wondrous abundance of treasure.

This 'wondrous abundance of treasure' then, is the capital and guiding force in Venice, that has already fixed its operational system, and no one, not even the gentlemen and merchants

are allowed to disobey it. Like a true metropolitan city, Venice has its cultural variance, diverse people of diverse fashion do meet here, and it is noteworthy that, as Coryat marks, the meeting point is the market place:

The fairest place of all the city... is the *Piazza*, that is the market place of St. Mark.... Here you may both see all manner of fashions of attire, and hear all the languages of Christendom, besides those that are spoken by the barbarous ethnics, the frequency of people being so great twice a day, betwixt six of the clock in the morning and eleven and again betwixt five in the afternoon and eight that (as an elegant writer saith of it) a man may very properly call it rather *orbis* than *urbis forum*-that is, a market place of the world, not of the city.

Venice is then the meeting point where money, flowing in from four corners, gets accumulated to make the 'wondrous abundance of treasure' which then turns into finance capital and voyages to the horizon in order to rule the world. Of course it does not mean that, capital is less interested to control the home country. Home it rules no doubt, and captures and ravages in divergent ways and processes. It has its own inbuilt operational strategy and sets up the luring traps of consumerism that leads to corruption and Man, in the long run, having been gradually dehumanized, turns into mere slave, yielding under ever increasing grind and pressure more profit and more capital for capitalism. He knows he is getting ruthlessly exploited. But he loses fast his ability to resist, and gradually makes it his habit to endure all. Then he runs by the force of the habit. He gets systematized, as, we shall see later, had been the case of Jessica in the play. Coryat does offer this dark picture of Venice, in his description, when he refers to the boatmen, ferrying in the canal:

There are in Venice thirteen ferries or passage, which they commonly call *tmghetti*, where passengers may be transported in a gondola to what place of the city they will.... But the boatmen that attend at this ferry are the most vicious and licentious varlets about all the city. For if a stranger entereth into one of their gondolas and doth not presently tell them whither he will go, they will incontinently carry him of their own accord to a religious house [like *Hamlet's* nunnery, evidently a brothel] forsooth, where his plumes shall be well pulled before he cometh forth again.

The boatmen belong to the common working class multitude and his sinful venture after money testifies the deep root of snaring capital in Venetian society. But Coryat has more to describe :

Amongst many other things that moved great admiration in me in Venice, this was not the least to consider the marvelous affluence and exuberancy of all things tending to the sustentation [sustaining] of man's life. For albeit they have neither meadows nor pastures nor arable grounds near their city (which is a matter impossible because it is seated in the sea and distinguished with such a multitude of channels) to yield them corn and victuals, yet they have as great abundance (a thing very strange to be considered) of victuals, corn and fruits of all sorts whatsoever, as many city, I think of Italy.

The Republic of Venice was a very important center of commerce especially silk, grain and spice trade. This made Venice a wealthy city throughout most of its history. The Republic of Venice seized a number of places on the eastern shores of the Adriatic before 1200, mostly for commercial reasons, because pirates based there were a menace to trade. The Doge already carried the titles of Duke of Dalmatia and Duke of Istria. Later mainland possessions, which extended across Lake Garda as far west as the Adda River, were known as the "Terraferma", and were acquired partly as a buffer against belligerent neighbours, partly to guarantee Alpine

trade routes, and partly to ensure the supply of mainland wheat, on which the city depended. In building its maritime commercial empire, the Republic dominated the trade in salt, acquired control of most of the islands in the Aegean, including Cyprus and Crete, and became a major power-broker in the Near East. By the standards of the time, Venice's stewardship of its mainland territories was relatively enlightened and the citizens of such towns as Bergamo, Brescia and Verona rallied to the defence of Venetian sovereignty when it was threatened by invaders.<sup>2</sup> However, this abundance is not only for business, but for consumption as well. Venice consumes, Venice lusts, Venice cheats, -Venice runs in a steady and gradual pace to dehumanization. Coryat completes the conversion:

I observed one thing in Venice that I utterly condemned: that if two men should fight together as sharp openly in the streets, whereas a great company will suddenly flock together about them, all of them will give them leave to fight till their hearts ache, or till they welter in their own blood, but not one of them hath the honesty to part them, and keep them asunder from spilling each other's blood. Also if one of the two should be slain, they will not offer to apprehend him that slew the other, except the person slain be a gentleman of the city, but suffer him to go at random whither he list, without inflicting any punishment upon him.

This is quite normal, for this is the inevitable offshoot of the dynamics of Commerce and emerging capitalism. It is interesting to note here that by the end of the 15<sup>th</sup> century, the merchant venturers of Venice used venice rule widely. Luca Pacioli, a monk and collaborator of Leonardo da Vinci, first confined the double entry system in 1494 and the system added an additional momentum to development and spread of capitalism. The capitalist Venice was cruel. This Venice has no law to prevent such bloodshed for capital is its law and its judge as well, to determine who will suffer and who will not ('except the person slain be a gentleman of the city...')- It is the nature of capital that on one hand, it constantly instigates man to consume more and more, thus to be enslaved under one's own insatiable, ever expanding demand and lust, without any power to resist. On the other, captivating him in this way into the prison house of his own greed, it makes him the selfish dwarf, detached and careless of the external world and its living, flowing humanism. Man, to capitalism, is important not as man but as a consumer, a purchaser, who in order to enhance his purchasing capacity, continually runs after money and grabs and extracts whatever can be extracted, the surplus,- by hook or crook. The state legislature, administration and Judiciary all get attuned to support this venture of capital, to ensure the domination of the powerful over the weak and powerless. In Merchant of Venice, Antonio is the powerful, extending his dominance over Shylock, the less powerful.

Distinguishing between imperialism and colonialism in spatial terms, Ania Loomba comments :

...imperialism or neo-imperialism [is] the phenomenon that originates in the metropolis, the process which leads to domination and control. Its result, or what happens in the colonies as a consequence of imperial domination is colonialism or neo-colonialism. Thus the imperial country is the 'metro pole' from which power flows....<sup>3</sup>

Shakespeare touches the point when Antonio's ships, all full of diverse merchandise, are reported to break the waves in the sea in their venture to make business and whatever else they like, in the outer world. Further development of that issue will be traced in later plays, in Tempest for example. In *Merchant of Venice*, the focal point is what happens at home, that is, in the metropolis itself, which is interested in, as Loomba suggests, 'domination and control'.



And Antonio, the representative merchant of Venice, the metropolis, begins the play with the acquired advantage of his capital. He is already the Merchant.

Whatever attempt some critics may make<sup>4</sup>, Antonio cannot be seen as the representative of declining aristocracy, striving desperately to carry on its last battle against Shylock's capitalistic enterprise. His three ships may be in the sea, but by virtue of those which have already returned home, before the beginning of the play, he is a Merchant, and his power and capital continue to rise. At the end of the play, even those three ships return with full wealth. "Shylock, by contrast", as Walter Cohen explains, "is a figure from the past: marginal, diabolical, irrational, archaic, medieval. Shakespeare's Jacobean tragic villains-Iago, Edmund, Macbeth and Augustus-are all younger men bent on destroying their elders. Shylock is almost the reverse, an old man with obsolete values, trying to arrest the course of history"<sup>5</sup>. His conflict with Antonio should be seen as a special instance of the struggle, widespread in Europe 'between Jewish quasifeudal fiscalism and native bourgeois mercantilism, in which the indigenous forces usually, prevailed"<sup>6</sup>.

That 'native bourgeois mercantilism' does prevail upon opposition culture, and under its guise Capital itself ensures its monopoly, is again substantiated by Coryat in his description of Venice. Power indeed flows from Venice, the Metropolis, to dominate and control the economy of Ghetto, an island, inclosed round about with water, "where the whole fraternity of the Jews dwelleth together":

...few of them [the Jews] in Italy are converted to the Christian religion. For this I understand is the main impediment to their conversion: all their goods are confiscated as soon as they embrace Christianity, and this I heard is the reason-because whereas many of them do raise their fortunes by usury, insomuch as they do sometimes not only shear but also flay many a poor Christian's estate by their gripping extortion, it is therefore decreed by the Pope and other free princes in whose territories they liv? that they shall make a restitution of all their ill-gotten goods, and so disclog their souls and consciences when they are admitted by holy baptism into the bosom of Christ's Church. Seeing, then, when their goods are taken from them at their conversion they are left even naked and destitute of their means of maintenance, there are fewer Jews converted to Christianity in Italy than in any other country of Christendom.

The Christian world obviously is at daggers drawn against the Jewish usury and Shylock its banner career is emphatically marked as the embodiment of Capitalism, for his ugly lending business. But it is interesting to note that so long Shylock's usury did not disturb Antonio, the Venetian Merchant, directly, nothing was specifically said against his business policy, though he, as usual, was spitted and called a dog for being a Jew. Shylock did his business under Venetian law and did trap his defaulters by existing Venetian law. Venice never called this illegal, because it derived huge interest from the Jews. Walter Cohen points out the historical reality behind:

Not only did the Government bar Jewish usurers from the city, it also forced the Jews community to staff and finance low-interest, non-profit lending institutions that served the Christian poor. Funding was primarily derived from the involuntary donations of Jewish merchants active in the Levantine trade. The Jews of Venice, thus contributed to the early development of Capitalism not as usurers but as merchants involved in an international, trans European economic net-work... the public Christian banks on which the Jewish loan houses of Venice were modeled drew most of their assets from interest bearing deposits by the late sixteenth Century .<sup>7</sup>

What is more, when Shylock in *Merchant of Venice* has been challenged, the charge against

him is not of practicing usury, but his detachment from it. Usury is generally abhorred as "it computes a charge above the principal from the moment of the loan", whereas even the Christians do not hate interest which "is never due but from the appointed day of payment forward". Even Antonio immediately recognizes that Shylock's condition for loan, as far as finance rule is concerned, has nothing objectionable and he willingly welcomes it:

Shylock :        This kindness will I show :  
                   Go with me to a notary : seal me there  
                   Your single bond, and in a merry sport,  
                   If you repay me not on such a day  
                   In such a place, such sum or sums as are  
                   Expressed in the condition, let the forfeit  
                   Be nominated for an equal pound  
                   Of your fair flesh, to be cut off and taken  
                   In what part of your body pleaseth me.

Antonio :        Content in faith: I'll seal to such a bond  
                   And say there is much kindness in the Jew. (1,3, 42-52) <sup>9</sup>

Yet when it happens so that Shylock's design, assisted by fate, entraps Antonio legally in his bond and threatens to take revenge against Venice and its Merchant and his accumulated Capital and its vicious and monopolist power play, opposing, uprooting every possible resistance, Venice itself, empowered by that Capital, comes forward in rescue operation for Antonio and somehow manages to put down Shylock and his resistance. For, Portia's rule of no drop of blood, may suffice to appease quarreling children, much in the same way as myth and fairy/folk tale work, but it is so unconvincing and devoid of legal points that it bounces back in simple deconstructive analysis, to expose the hidden noose of Capitalism, its manifold schemes and cunning to mute and muffle resistance. To add insult to the cut, Antonio is asked by the Court to show mercy to Shylock, and he readily grabs the opportunity to reward first the man who stole his [Shylock's] daughter. Then in addition to that he offers two conditions in lieu of the death sentence, passed against Shylock :

Antonio :        Two things provided more: that for this favor  
                   He presently become a Christian;  
                   The other that he do record a gift  
                   Here in the court of all he dies possessed  
                   Unto his son Lorenzo and his daughter.

Duke :            He shall do this or else I do recant  
                   The pardon that I late pronounced here. (4, 1, 397-403) <sup>10</sup>

Quite a number of interesting things occur in these lines. First, the duke's ready agreement to Antonio's proposal shows the real power of Capital over state power. ( It is Antonio or his Capital, that determines what is to be done with Shylock. Even Portia, the Savior, is not allowed to decide. Her duty was to save Antonio, to release Capital from the grip of law. Now Capital will make law, and the ruler, along with the lawyers will simply applause.) Then, Jessica, along with her husband Lorenzo, has been lured to the hope that after her father's death, they will be allowed to consume Shylock's property . And finally, it is most interesting that Shylock has not been given

the death sentence. No Christ but Capitalism itself showed that pity, for; Capitalism does not consider it wise to kill Shylock. It is more interested to kill his resistance, that is, to convert him forcefully, so that as Coryat's report showed earlier, it will be possible to rob him of everything, to leave him "even naked and destitute of [all]... means of maintenance". Death may be welcome to him, but if he is compelled to offer his everything as 'gift' to the man who particularly, stole his daughter and thus dishonoured not only him but also his fore fathers and his entire race, if he lives but lives helpless, unable to re open his usury business and trouble the Merchant's authority, then only can he get his lesson. No other Shylock then, will ever venture to disturb any other Antonio and his gentlemanliness, his commerce and Capital, dedicated to the *service* of mankind, in general!

#### 4. CONCLUSION

Only one thing remains left to point out in conclusion that, the mechanism of the plot of *Merchant of Venice* thus, arises not from any fiction but out of the very character and historical reality of 16<sup>th</sup> century Venice itself, out of its emerging capitalist economy and commercial enterprises. It is embedded in and between the lines of Coryat's "*Description of Venice*".

#### Notes :

1. The excerpt, "*Description of Venice*" has been taken from this book (London, 1611), and published as an essay in the Norton Critical Edition of *The Merchant of Venice, 2006*, New York: pp. 114-121. All subsequent textual quotations of the play are also taken from this edition.
2. Venice, Wikipedia, <http://en.wikipedia.org/wk/venice>.
3. *Colonialism/Postcolonialism*, Routledge, New York: First Indian Reprint.2007, p.12.
4. See Cohen. Walter, *The Merchant of Venice and the Possibilities of Historical Criticism*, *English Literary History*, 49 (1982), 765-89, reprinted in *New Casebooks, The Merchant of Venice*, ed.by. Martin Coyle, London: 1998, pp45-
5. See Cohen, p.51, Barber, p. 191, Frye, p.98
6. For fiscalism versus mercantilism see Cohen, p.51, Wallerstein, pp. 137-38 and 149. "Both the characterization and the outcome of *The Merchant of Venice* mark Antonio as the harbinger of modern capitalism. By guaranteeing an honourable reputation as well as a secure and absolute title to private property, the exemption of the Italian merchant-fancier from the stigma of usury provided a necessary spur to the expansion of the new system." See for details, Nelson, "The usurer and the Merchant Prince", qtd. in Cohen, p. 51.
7. See Cohen, p.50.
8. Mosse, F2r. Tawney, *Religion*, pp.43-44 elaborates on this point. Consult also W.H.Auden, *The Dyer's Hand and Other Essays*, New York: Vintage, 1968, pp.227-28. Auden demands that Shylock does not demand usury.
9. *The Merchant of Venice*, Norton, p. 16. It is true that, when after all these, Shylock still goes for his demand of a pound of flesh; he seems to behave like a devil. But it is better to see this as Shakespeare's indebtedness to the folk lore sources of the play (see Barber, p. 169). For, when in spite of becoming a money lender, Shylock refuses

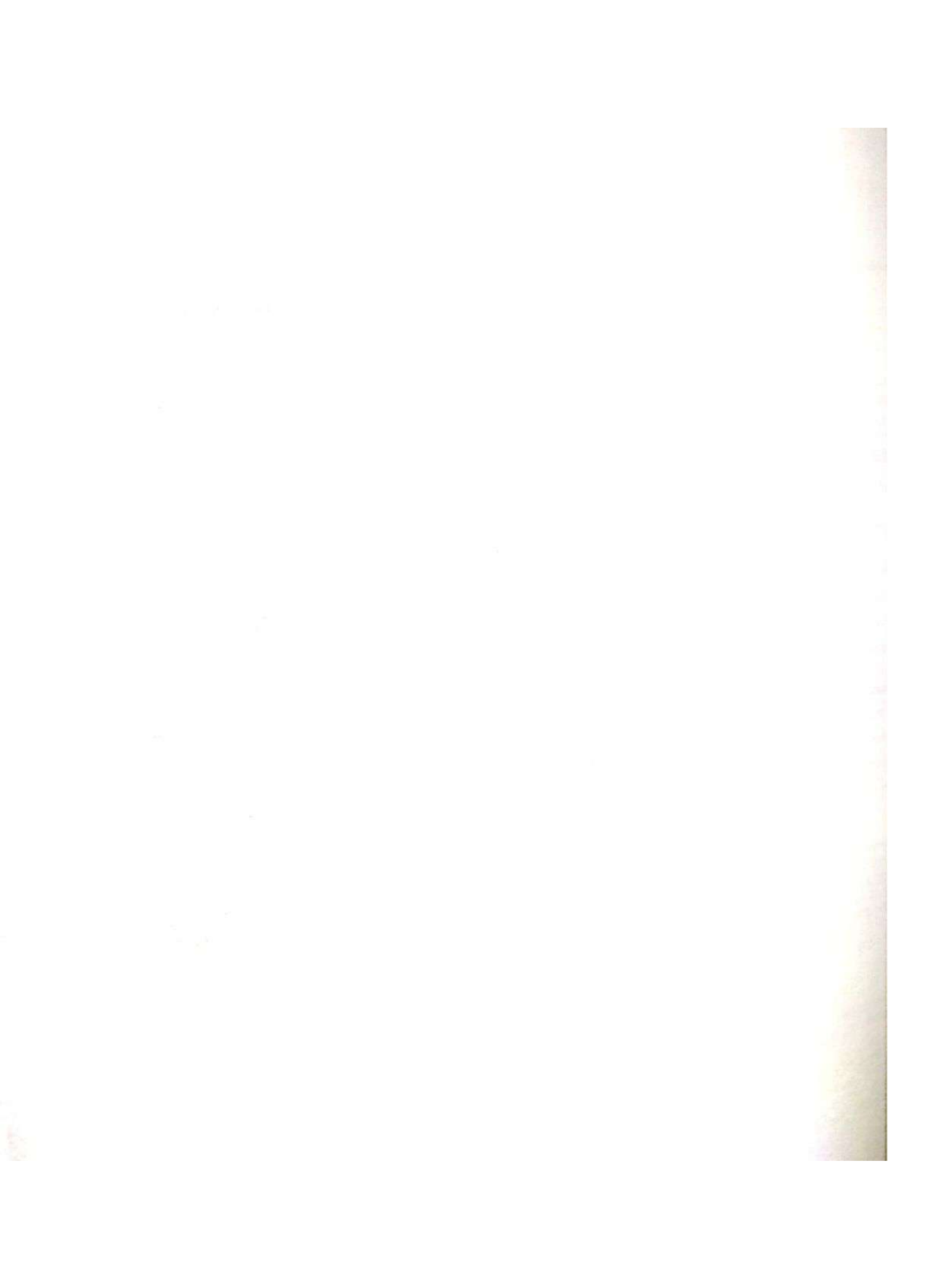
to free Antonio from his bond in return for any repayment, "No not for Venice", he behaves irrationally and not like the Shylock of this play but like a folk lore Shylock, preferring myth to business.

10. *ibid*, p.63-64

11. So that, imprisoned as she will be in her consumption, the seed of revenge or further resistance will never germinate in her bosom

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