INVESTOR STRATEGY UNDER VOLATILITY OF EQUITY MARKETS IN INDIA

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Abstract: *Irrational exuberance is a not only a term used to describe a phenomenon after collecting the remains in the melancholy days of the stock markets but a pattern to describe the behaviour of the investors in the stock markets. A momentous effect of global financial crisis has forced every investor to think rationally beyond the psyche of market. It appeared to have forced everyone to go back to basics and strategize once again to recuperate the money which had dried off. This paper attempts to:*

1) Assess the effects of volatility,

2) Formulate model strategies which would give 'safety lead period' for an investor in making strategic investments and

3) Estimate the likely losses / gains in the future.

The scaffold of the study would be between January 2004 and September 2009. The daily stock data on equity would form the database. The likely pattern would be window for manifestation of aggregate strategic behaviour of investments. The 'safety lead time' would be determined by categorizing the companies and investors. The estimation of likely losses / gains would be attempted by harmonic harvesting. The study would attempt to find a synergy between the investors' decisions, investors' time frame and investors' confidence in the markets.

Keywords :

Safety lead period, volatility

"Riding a bicycle blindfolded on a moving Volvo automotive at 100 km/hr" may definitely be the expression to describe the agony of people after the global financial crisis. Though questions regarding the sustainability of the subprime businesses were long raised, risks associated with it were overlooked both in US and in other parts of the world. A few academic institutions had definitely prophesied another bubble burst based on obviously unsustainable household savings rates and debt levels, but the remains of the disaster were never expected to spread across the largest democratic nation of the world or beyond the largest oceans and seas in the world.

Risk is a term associated with any product from which we desire to get a nominal return in the future. Inspite of the coherent risks involved in various products, investors over theperiod from 2000 onwards have blindly ignored or overlooked this fact. There may be several reasons for this collective trend behaviour of ignorance. First and foremost is the growing technology usage in everything which has happened to miniature the tasks(w.r.t time consumed) by bringing in innovations specially in the field of finance coined as financial engineering of the products and thus making it simple for companies to come up with customized products with the slogan

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"whatever you want, we deliver". So, technological revolution played a key role in fitting the wrong notion in the minds of theinvestors that, "everything was alright and there was no need for worry".

With heavy reliance on the technology, every industry in the world focused on creating brand value by enforcing huge pressure on the managers. The slogan "Think about the company before you can think about yourself" put huge pressure on the managers to rationalize everything in terms of shareholder value. This pressure led to unhealthy growth in the company's performance which is clearly evident from the fact that the P/E multiples were above normal of the fundamental analysis. The rationalization of ethics overrides everything, which in fact, could have been avoided.

To the sheer surprise of the research analysts, the one trend that has been seen since 2004 is that the number of loss making companies, has declined drastically after the economy started to pick up pace. According to Table 1, the Indian companies have shown remarkable improvement in terms of their performance. Around 1082 loss making companies were there in 2004. This number came down by 30 percent to 755 companies in 2005 and further fell by 38 percent to 469 companies in 2006. In 2007, when the economic growth was at its peak, the loss-making companies fell to 249 companies. But it was in 2008 that economies across the world, including India, felt the jitters of the global financial crisis. Due to the crisis, the number of loss-making companies increased to 349. But this number can rise in the coming years. This trend needs to be examined closely in the future which would clearly pinpoint the fact that pressure on rationalizing shareholder value as the primary goal did have tremendous influence on companies and its employees during the period 2004 to 2008 and even onwards. Figure 1 clearly indicates the fact that the overburden and pressure put on companies in increasing the shareholder value did have an impact on the performance of the companies.

The slogan "Think about the company before you can think about yourself" puts huge pressure on the managers to rationalize everything in terms of shareholder value.

Year	Number of loss making companies
2004	1082
2005	755
2006	469
2007	249
2008	349
2009	173

Table 1 Number of loss making companies
Source: Dalal street Investment journal, August 31-September 13, 2009

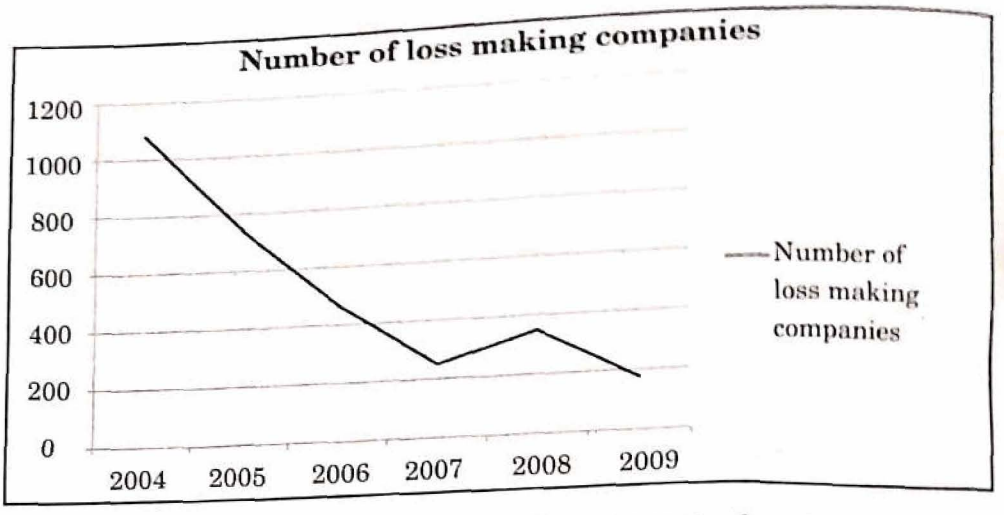


Figure 1. Graph showing number of loss making companies from 2004 to 2009
Source : Dalal Street Investment Journal, August 31-September 13, 2009

Of the several stocks, "A" "B1" "B2" "C" "Z" are from the equities and "F" is from the debt market.

The figure 1 if dissected further reveals important facts based on which several conclusions may be drawn. The group-wise breakup of loss making companies as shown in the table 2 reveals astonishing facts.

The grouping of the companies in stock markets is usually done considering two basic criteria, which are as follows:

a) Compliance to the SEBI parameters and

b) Trading and settlement cycles.

Of the several stocks, "A" "B1" "B2" "C" "Z" are from the equities and "F" is from the debt market.

The 'A' group is a category of those companies with fairly good growth record in terms of dividend and capital appreciation, number of years of listing on the exchange, public share holding, floating stock, trading volume etc.

The 'B1' 'B2' group is a subset of the other listed shares that enjoy higher market capitalization and liquidity than the rest.

The 'C' group covers the odd lot securities in 'A', 'B1' & 'B2' groups.

The 'T' also termed as the trade to trade group, comprises shares which have to be settled in delivery for all buys and sells and square off of bought and sold positions during the day is not permitted. This is a part of the surveillance from the BSE to counter any awkward unwarranted movements in such scrips.

The 'Z' Group category comprises shares of the companies which do not comply with the rules and regulations of the Stock Exchange and are at times suspended from trading due to the above said reasons.

The 'F' Group represents the debt market segment.

From the Table 2, it is clearly evident of the trend changes in each group. The group 'A' doesn't show much variation but it is astonishing how the loss making

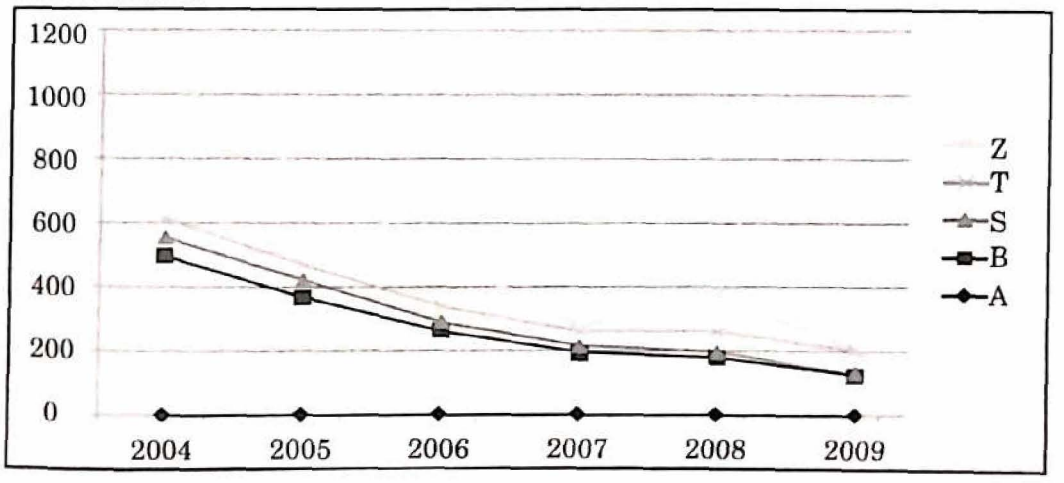
companies in the group 'B' companies have decreased from being 467 companies in 2004 to 69 companies in FY 2009. Group B companies performed very well to cope with the pressure that was felt throughout the world. As evident from table 3, the percentage decrease in the number of loss making companies in Group B was around 33 percentage on average from 2004 to 2007(pre-recession) and around 46 percentage during the 2008-09(recession period). Group C also showed tremendous decrease in the number of companies from 59 percentage decrease to around 61.1 percentage decrease during the pre recession and recession periods respectively. Group Z was the front runner in the race to have maximum performance oriented growth among all the groups. The number of companies decreased from a total 477 to a mere 5 in number.

Break-Up of loss Making Companies(Group-wise)											
	2009	%change	2008	%change	2007	%change	2006	%change	2005	%change	2004
A	5	25%	4	0%	4	100%	2	-33%	3	-50%	6
B	69	-46 %	128	-11%	144	-35%	22	-33%	331	-29%	467
C	7	-61%	18	-28%	25	-14%	29	-49%	57	-7%	61
T	77	10%	70	43%	49	-4%	51	-6%	54	-11	61
Z	5	-96%	124	553%	19	-88%	161	-46%	300	-37%	477

Table 2 Break-up of Number of loss making companies
Source: Dalal street Investment journal, August 31-September 13, 2009

Group/Years	After Ressission (2008-2009)	Before Recession (2004-07)
A	25.0	-0.33
B	-46.1	-0.69
C	-61.1	-0.59
T	10.0	-0.20
Z	-96.0	-0.96

Table 3 Before and after break-up of Number of loss making companies
Source: Author



Group B companies performed very well to cope with the pressure that was felt throughout the world.

Figure 2 Graph showing number of loss making companies from 2004 to 2009

Source: Dalal Street Investment Journal, August 31-September 13, 2009

As evident from the figure 2, Group Z and Group B showed tremendous improvement which can be attributed to several factors.

1) Better cost management initiatives and amendments to the AS11 could be the reason for this drastic drop in loss making companies in 2009.

2) Out of the box thinking in the turnaround companies could also be a decisive factor.

So, existence of a trend is empirically obvious from the figures 1 and figure 2. If variable TIME is constructed artificially and is called a time trend or time dummy, then $Time_t = t$, where Time $=(1,2,3,.....T-1,T)$. β_0 is the regression intercept; β_1 is the regression slope;

The simple linear function of time is shown by the following equation

$$T_t = \beta_0 + \beta_1 TIMEt, \varepsilon_t$$

Where $\varepsilon_t \approx WN(0, \sigma^2)$

Better cost management initiatives and amendments to the AS11 could be the reason for this drastic drop in loss making companies in 2009.

In Table 4, we show the results of fitting a linear trend model by regressing statistics of number of loss making companies on constant and linear time trend. The trend appears highly significant as judged by the p-value of the t-statistic on the time trend, and the R2 of the regression equation is high. Moreover, the Durbon-Watson statistic indicates that the disturbances are positively serially correlated, so that the disturbance at any time t is positively correlated with the disturbance at time t-1.

The residual plot in figure 3 strengthens the theory and makes it clear on what has happened and is happening at present. The trend seen clearly pinpoints the declining trend but fails to capture since the actual trend is more nonlinear in nature (the residuals are too highly serially correlated). A plot of ±1 standard error of the regression is considered for visual reference. Therefore, when the number of loss making companies series together with the fitted linear trend seems inadequate because of the fact that still obvious persistent dynamic patterns exist in the residuals.

The trend appears to be nonlinear i.e., it decreases at an increasing or decreasing rate. Therefore, the quadratic models can potentially capture nonlinearities as opposed to linear functions of time.

Dependent Variable: Number of loss making companies

Method: Least Squares
Date: 11/13/09 Time: 23:24
Sample: 2004 2009
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	940.1905	105.5513	8.907429	0.0009
T				
T	-170.9429	34.86244	-4.903353	0.0080
R-squared	0.857361	Mean dependent var		512.8333
Adjusted R-squared	0.821702	S.D. dependent var		345.3847
S.E. of regression	145.8400	Akaike info criterion		13.06410
Sum squared resid	85077.28	Schwarz criterion		12.99469
Log likelihood	-37.19230	F-statistic		24.04287
Durbin-Watson stat	1.333308	**Prob(F-statistic)**		**0.008025**

Table 4 : Linear trend regression of companies making losses
Source : Authors

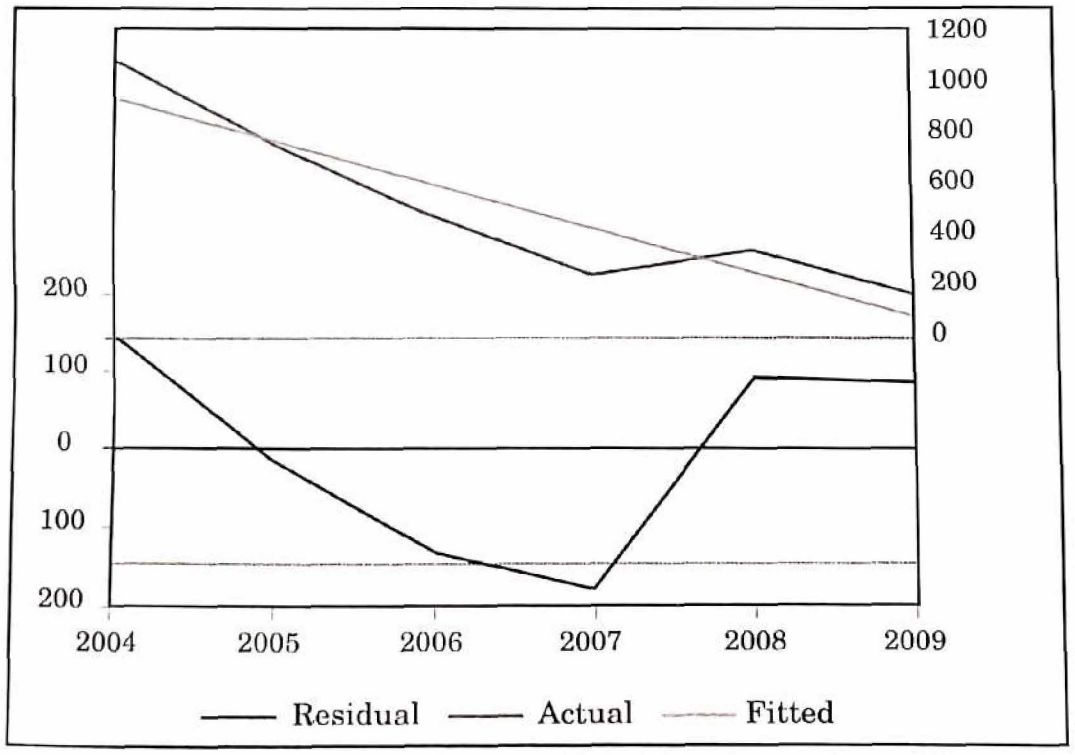


Figure 3 Linear trend residual plot of number of loss making companies
Source: Authors

Figure 3 Linear trend residual plot of number of loss making companies Source: AuthorsThe Table 5, presents the result of fitting a quadratic trend model and the trend appears to be highly significant as judged by the p-value of the first coefficient and regression R2of 0.96 when compared with R2of 0.85 in linear fitted trend model. The residual plot in figure 4 clearly fits the trend and the presence of autocorrelation shifts to the upper side of the time series. A close observation of tables 4 and 5 explains better the variation in time trend.

Dependent Variable: Number of Loss making companies
Method: Least Squares
Date: 11/13/09 Time: 23:48
Sample: 2004 2009
Included observations: 6

Variable	Coefficient Std.	St.Error	t-Statistic	Prob.
C	1077.036	77.88760	13.82808	0.0008
T	**-376.2107**	73.26333	**-5.135048**	0.0143
T2	41.05357	14.06485	2.918878	0.0616
R-squared	**0.962854**	Mean dependent var		**512.8333**
Adjusted R-squared	0.938090	S.D. dependent var		345.3847
S.E. of regression	**85.93764**	Akaike info criterion		**12.05197**
Sum squared resid	22155.84	Schwarz criterion		11.94785
Log likelihood	**-33.15592**	F-statistic		**38.88120**
Durbin-Watson stat	3.063328	Prob(F-statistic)		0.007159

Table 5: Quadratic trend regression on Number of loss making companies
Source: Authors

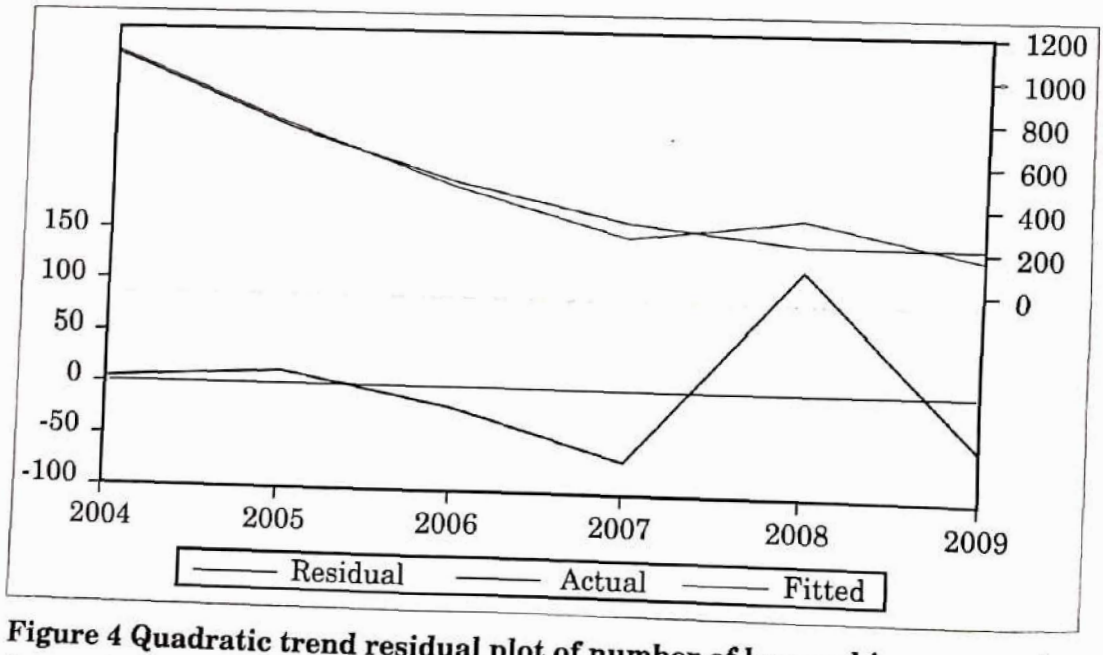


Figure 4 Quadratic trend residual plot of number of loss making companies
Source: Authors

The nature of an investor is known by his risk profile. According to finance textbook, risk is always taken when one perceives equitable returns in return. There are always chances of an investor not being aware of all the risks associated with his decision.

This mistake has been committed previously and now also by all the investors. The forecasting models or the risk adjusted models cannot be relied upon until and unless one knows what assumptions are made in the course of analyzing data. High relevance on several models of risk could also have led to the ignorance of not only the investors. If based on the quadratic trend fitted to the trend of loss-making companies, a forecast is done, the figure 5 clearly reveals the turnaround of the declining trend.

Year	Time Trend	Forecast
2004	0	1082
2005	1	755
2006	2	469
2007	3	249
2008	4	349
2009	5	173
2010	6	297.7003
2011	7	455.7789
2012	8	694.7789
2013	9	1016.479
2014	10	1420.286

Table 6: Forecast of number of loss making companies

Source: Authors

The forecasting models or the risk adjusted models cannot be relied upon until and unless one knows what assumptions are made in the course of analyzing data.

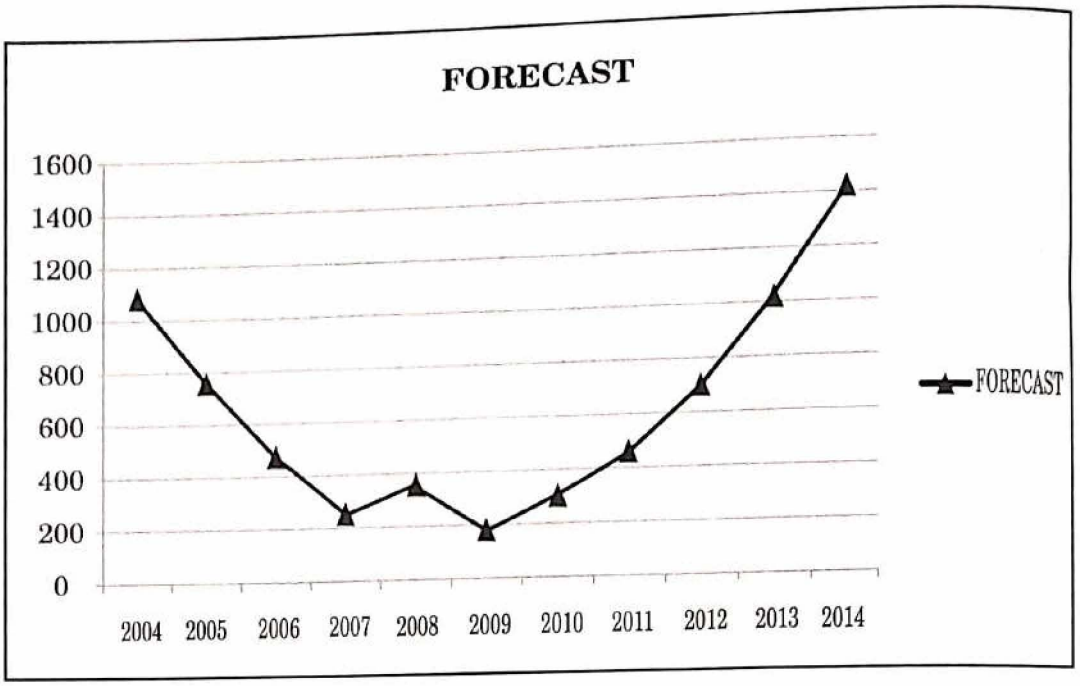
The **W-shaped** trend can be attributed to several factors as follows;

1) The effects of recession can have adverse impact in putting pressure on the companies.

2) The recession effect can put some restriction on companies to think out of the box.

3) The Retail investors may change their risk appetite and may switch to what they perceive as safer investments like Group A companies or Fixed deposits.

4) The risk appetite of the institutional investors and FDIs may also change towards other avenues for safe investing.



Strategic thinking process should be streamlined for better understanding of investor behaviour.

Limitations of the study:

The paper needs improvement in two areas.

First, the model should be reset for better predictability. Secondly, strategic investment thought-process of investors-small, medium and big-needs a search for aggregate psychological variable which can be incorporated in the model.

Conclusion:

From the study it is clearly evident that an investor should not anticipate the future merely on a few facts and figures but should make decision atleast of few key decisions based on risk management methods. Getting advice in personal finances should be done with utmost care. Strategic thinking process should be streamlined for better understanding of investor behaviour. The ripples may not reflect a Tsunami observed amongst performing companies.

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