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The Influence of Stock-Specific Factors on Investors' Sentiment

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The investors' sentiment can be defined as investors' attitude and opinion towards investing in the Stocks. The aim of this research is to analyse find out the influence of stock specific factors on investors' sentiment. The investor's attitude towards investing is influenced by rumours, intuition, herd behaviour among investors and media coverage of the stock. 375 retail Investors in Tamil Nadu were chosen for the study. These investors were administered a structured schedule containing pre-validated scales to measure the investor sentiment. Once the constructs were found to be both reliable and valid, the impact of expected events surrounding the stock and the book value, recommendation of the financial community and price cut off rules were tested using bootstrapping method. The stock specific factors had a significant impact on the investors' sentiment.

Key Words: Investors' Sentiment, Boot Strapping, PLS Path Modeling, Stock specific factors

1. Introduction

Investors' sentiment has been a subject of interest in the finance literature for a number of years. The debate as to the effects and relevance continue unabated. One could broadly define investors' sentiment as the beliefs about future cash flows or discount rates that are not supported by the prevailing fundamentals (Lemmon & Portniaguina 2006) and (Baker & Wurgler 2006).

The study of market or investors' sentiment has its basis in the theories of noise trader models. (Kyle 1985) and (Black 1986). Both experts suggested that, if some trader's trade on 'noisy' signals, unrelated to fundamental data, then the market prices can deviate from intrinsic value. The noise trader sentiment can persist in financial markets. They argue that *changes* in noise trader sentiment must be difficult to predict to avoid arbitrage. The assets that are disproportionally exposed to noise trader risk are both riskier and have to offer an extra return premium. (DeLong, Shleifer, Summers & Waldmann, 1990).

The research in behavioural finance is comparatively less in India, when compared to other foreign countries. Behavioural finance is defined by (Shleifer, A 1999), "a rapidly growing area that deals with the influence of psychology on the behavior of

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financial practitioners". Within behavioural finance it is assumed that information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes. The behavioural finance mainly focuses on how investors interpret and act on micro and macro information to make investment decisions. The globalization of financial markets has been increasing the retail investors' community over the past two decades by providing a wide variety of market and investment options. However, it makes in their investment decisions process complex.

The retail investors generally consider their investment needs, goals, objectives and constraints in making investment decisions, but it is not possible to make a successful investment decision at all times. Their attitude is influenced by variety of factors such as dividend, get rich quickly strategy, stories of successful investors, online trading, investor awareness programme, experience of other successful investors etc. A better understanding of behavioural processes and outcomes is important for financial planners because an understanding of how investors generally respond to market movements should help investment advisors in devising appropriate asset allocation strategies for clients. (Hussein et al 2006). The findings of our study did not match with the earlier studies and it was different from the earlier studies.

2. Literature Review and Hypothesis Development

The following are the select earlier research studies conducted in the area of Behavioural Finance. The literature on investor's sentiment is still in its infancy, and much remains to be discovered and learnt about the roles of investor sentiment in financial markets. The first few papers develop proxies of sentiment and show that stocks become overpriced (underpriced) during periods of high (low) sentiment, which leads to predictable subsequent returns (Baker & Wurgler 2007), (Lemmon & Portniaguina 2006) and (Qiu & Welch 2006).

(Peter Roger Eiving 1970) carried out a study to identify those factors which motivate (or) guide the investment decisions of the common stock investors. The study identified the factors (i) Income from dividends (ii) rapid growth (iii) purposeful investment as a protective outlet of savings (iv) Professional investment management. (Warren et al. 1996) attempted to develop lifestyle and demographic profiles of investors based on the value and types of investment holding. (Krishnan & Booker 2002) analyzed the factors influencing the decisions of investors' who basically used analysts' recommendations to arrive at a short-term decision to hold or to sell a stock. (Merikas et al. 2003) analyzed the factors influencing Greek investor behaviour on the Athens Stock Exchange. The results indicated that individuals base their stock purchase decision on economic criteria combined with diverse other variables. (Glaser et al. 2009) tested whether individual investor sentiment was related to daily stock returns by using vector auto regressive models and Granger causality tests. According to this study, there exists a mutual influence between sentiment and stock market returns, but only in the very short-run (one and two trading days). The returns have a negative influence on sentiment, while the influence of sentiment on returns is positive for the next trading day. The influence of stock market returns on sentiment is stronger than vice versa. (Iihara, Kato & Tokunaga 2001) document herding behaviour in various investors' classes on the Tokyo Stock Exchange. The money-flow instruments allow the separation of the

measurement of sentiment from measurement of asset returns**.** (Barberis & Shleifer 2001) argued that herding may take place in subsectors of the equity universe, not simply with respect to the stock market as a whole. It is found that flows into and out of foreign mutual funds is negatively correlated with flows to domestic equity funds. (Elton et al.1998) indicates that investor sentiment does not exist even in a market whose environment was expected to be more prone to investors' sentiment than in other developed markets. (Sachithanantham et al.2007) studied the relationship between capital market reforms and amount of money invested by the investors. It was found that the educative reforms and attractive reforms were statistically significant but they had negative influence over money invested by the investors at the Indian Capital Market.

2.1 Are the Investors' Rational?

According to the traditional market theories, not only the markets do not behave neatly, but also the individual decision makers do not behave in accordance with the tenets of expected utility theory. (Allais Paradoxes 1959) undertook the earliest works that neither the markets nor the individual decisional makers behave neatly. (Kahneman & Tversky 1979), (Machina 1982) and others have looked at how people make choices under uncertainty. They studied human behaviour traits that violate the axions of the expected utility maximizing model of financial economics.

It is to be noted that the investors also show sensitivity to reference points. When a certain purchased stock's price falls because of disappointing news, many investors are averse to selling it at a loss. Here the reference point is the original cost of purchase. The investors have a tendency to hold on to their losses. But some investors wait in anticipation of the stock price would return to their purchase price before they decide to sell it without rationally evaluating the situation. The investors generally 'hate to lose'.

Various studies have been conducted in other countries but there is no comprehensive study covering Investors' sentiment on equity in India. Further the study of this nature should be conducted at periodical interval as investors attitude do change from time to time. Hence this study attempts to find out the Impact of Investors' sentiment on the equity market.

The primary objective of this paper is to collect and analyze data on individual equity investor and identify the Stock specific factors that influence investors' sentiment.

According to Bennet & Selvam, 2010 SPERTEL Risks had influence on the Value of Equity Shares. The Market Factors had influence over the Stock Selection Decision of Retail Investors (Bennet, Selvam & Indhumathi, 2010). The Market Factors had influence over the Attitude of Retail Investors towards investing in the Equity Stocks (Bennet & Selvam et al 2010).

Most of the Investors expect the stock prices to go up to a degree greater than most of their investments. If the market has gone down, they think it will rebound. If the market is up, they think it will go further. In either case they make investment decision on account of the assumption that the stock market will give better returns. Hence the following hypothesis is formulated.

2.2 Expected events surrounding the stock and the book value: This factor comprises of the various events and stock characteristics that investors believe would influence the stock price of the investment decision.

2.3 Recommendation of the financial community: Before investing in any stock the individual investors' crave for more information and recommendation from the financial community. This factor includes professional advice from various sources.

- Recommended by analyst, research reports
- Recommended by broker
- Recommended by stock market 'gurus'

2.4 Price cut-off rules: Many investors feel 'Price cut-off rules' plays a vital role in stock selection though it is an irrational rule. For example, avoid buying shares more than rupees hundred.

> **H_0:** The Investor's expectation of stock prices rising for the next 12 months is not influenced by expected events surrounding the stock and the book value, Recommendation of the financial community, Price cut-off rules.

3. Methodology of the Study

The following section provides the methodology of the study:

3.1 Data Collection and Instrument Administered

The instrument used for this study consists of four constructs namely expected events surrounding the stock and the book value, Recommendation of the financial community, Price cut-off rules and Stock Prices rising for the next twelve months. These four constructs are measured using an already validated instrument developed by (Shiller's 1999) and (Vandana Singhvi 2001).

3.2 Sources of Data

The research design for the study is descriptive in nature. The researcher depended heavily on primary data. The required data were collected from the retail investors living in Tamil Nadu through a structured Interview Schedule. The study was conducted during the period between May and September, 2010. This period was chosen as it was post global financial crisis period and as the researcher was doing Ph.D programme, it was the data collection period.

3.3 Sampling Size and Procedure

In order to collect information from the retail investors, the sampling design has been carefully decided and properly chosen for the study. The sample size covered 400 retail investors who were spread through ten different investment centres in Tamil Nadu. The important places where large investors are available are identified as Investment Centres for this study using purposive sampling method. The ten

important places in Tamil Nadu include Chennai, Coimbatore, Trichy, Madurai, Karaikudi, Kumbakonam, Hosur, Tirunelveli, Erode and Tiruppur. From each identified investment centre, five approved stock brokers were chosen and eight investors were contacted with the help of brokers. However, on a detailed scrutiny of the filled in Schedules, it was found that 25 of them had given incomplete information and hence the responses could not be used for further analysis. Thus, this study is based on 375 selected respondents of the retail investors.

3.4 Variables

a. This study consists of the following dependent variables
   i. Stock prices in India will rise in the next 12 months.
   ii. I will stay invested in the Indian Stock Market even during Crisis.
   iii. I plan to increase my investment in the Indian Stock market in the next 12 months.

b. Independent Variables: Identifying the Stock specific factors influencing Investor Sentiment

   The in-depth interviews and secondary research identified three multi-item stock specific factors that possibly influence on investor's attitude towards investing. In the survey, the sample respondents were asked to rate each item on a one (not important) to seven (very important) point scale indicating the extent to which they thought each of the item is likely to influence the individual investor's attitude towards investing. The idea was to get the relative importance of market factors likely to influence investors' sentiment. This rating was used to list the independent market variables that could impact investors' sentiment. The three multi-item stock specific factors are Expected events surrounding the stock and the book value, recommendation of the financial community and price cut off rules.

   The alpha value for the Expected events surrounding the stock and the book value is .831, Recommendation of the financial community .769, Price cut off rules .821 and the reliability seems to be good as it is more than 0.6.

   It is to be noted that after data collection, the scales are analyzed to test purification of scales, reliability of scales, unidimensionality of scales and validity of the scales. The purification is done using Corrected Item Total Correlation (CITC), reliability is tested using Cronbach's alpha while validity and unidimensionality are tested using PLS path modeling.

   Before any type of factor analysis is done (Exploratory Factor Analysis, EFA or Confirmatory Factor Analysis, CFA), it is essential to purify the measuring instruments of variables that do not correlate to the constructs (Churchill, 1979). The purification is carried out by inspecting the CITC values of each variable with respect to the construct to which it belongs. CITC indicates whether the variable actually belongs to the construct or not. Variables showing scores lower than 0.5 are deleted, unless there is a compelling reason to keep them in the construct. Some items with CITC values over 0.5 can also be removed if the overall reliability of the construct in question improves as a result of the deletion

(obtained by checking the 'alpha if deleted' scores). Reliability of constructs refers to the accuracy with which the constructs repeatedly measure the same phenomenon without much variation. This study has used the most common method of reliability test namely Cronbach's alpha coefficient for assessing reliability of the scale. It is to be noted that Cronbach's alpha (α) level of 0.60 or above is considered as acceptable for a construct (Nunnally 1978). The items of the constructs need to be purified as a prerequisite for reliability analysis (Churchill 1979).

Unidimensionality is a common trait exhibited by all the indicator variables of any given construct (McDonald 1981 & Hattie1985). Unidimensionality is best measured by CFA. A combination of CFA and path analysis is structural equation modeling. This is the best method of measuring the unidimensionality of any construct. In this research we use structural equation modeling to test the unidimensionality of the constructs. There are two approaches to structural equation modelling — covariance methods and PLS path modeling. Covariance methods make rigid assumptions about the distribution of variables (multivariate normality) and the sample size (at least 200). Another criterion is the degrees of freedom, which means that each construct should have at least three indicators for it to be identified. This makes them unsuitable for use in this research. The PLS methods, on the other hand, are nonparametric in nature. They do not make any assumptions about the distribution of the data, and the sample size needed for model validation and testing (5-10 times the largest number of indicators/construct in the model) is much smaller. The convergent validity of each construct is checked by examining the Average Variance Extracted' (AVE) values. Constructs which have AVE values greater than 0.5 are said to have convergent validity or unidimensionality. In some cases, values up to 0.4 are also considered if they are central to the model (Chin 1995 & 1998; Chin & Newsted, 1999; and Chin *et al.,* 2003). Discriminant validity of constructs is ascertained by comparing the AVE scores of the two constructs with the square of the correlation between the two constructs. If both the AVE values are larger than the square of the correlation, the constructs can be considered to show discriminant validity (Fornell & Larcker, 1981). The large-scale validation results on each of the constructs— Expected events surrounding the stock and the book value, recommendation of the financial community & price cut off rules and Stock Prices rising for the next twelve months have been applied.

4. Limitations of the Study

The study suffered with the following limitations.

1. This study was restricted only to ten investment centres in Tamil Nadu for want of time and money.
2. This study was restricted only to the Retail Equity Investors, who had a minimum of one year trading experience.
3. The required primary data were obtained from 400 sample retail equity investors and accuracy of primary data depends upon respondents' attitude and memory.

The study did not take into consideration tax rebate offered for Investing in Equity.

5. Analysis of Investor's Sentiment

The Dependent Variable construct is purified using the CITC Values which is shown in **Table 1**. All the indicators have CITC values are larger than 0.5. So, no indicators are removed from the analysis. The reliability score of 0.732 indicates good reliability of the construct. The Unidimensionality of the construct is measured using Visual PLS Software. The AVE Value of 0.545 (shown in **Table - 3**) indicates good convergent validity and hence Unidimensionality.

Table 1 - Dependent Variables	**Corrected Item-Total Correlation 1**
Stock prices in India will rise in the next 12 months	0.832
I will stay invested in the Indian Stock Market even during Crisis.	0.716
I plan to increase my investment in the Indian Stock market in the next 12 months.	0.762
Cronbach's alpha	**0.732**

5.1 Expected events surrounding the stock and the book value construct is also purified using the CITC Values (shown in **Table - 2**). All the indicators have CITC values larger than 0.5. So, no indicators are removed from the analysis. The reliability score of 0.831 indicates good reliability of the construct.

Table 2- Expected events surrounding the stock and the book value	**Corrected Item-Total Correlation 1**
Expected stock split	0.714
The company is a potential takeover target	0.724
Book Value	0.769
Cronbach's alpha	**0.831**

The Unidimensionality of the construct is measured using Visual PLS Software. The AVE Value of 0.643237 (shown in **Table - 3**) indicates good convergent validity and hence Unidimensionality.

Table - 3 Validity of Constructs (AVE Scores)	
Dependent Variable	**0.545061**
Expected events surrounding the stock and the book value	**0.643237**
Recommendation of the Financial Community	**0.726525**
Price cut off rules	**0.640461**

5.2 Recommendation of the financial community construct is purified using the CITC Values (**shown in Table 4**). All the indicators have CITC values are larger than 0.5, so no indicators are removed from the analysis. The reliability score of 0.769 indicates good reliability of the construct. The Unidimensionality of the construct is measured using Visual PLS Software. The AVE Value of 0.726525 (**shown in Table 3**) indicates good convergent validity and hence Unidimensionality.

Table - 4 Recommendation of the Financial Community	**Corrected Item-Total Correlation**
Recommended by analyst, research reports	.789
Recommended by brokers	.869
Recommended by stock market 'gurus'	.760
Cronbach's alpha	**0.769**

5.3 Price cut off rules construct is purified using the CITC Values (**shown in Table 5**). All the indicators have CITC values larger than 0.5, so no indicators are removed from the analysis. The reliability score of 0.891 indicates good reliability of the construct. The Unidimensionality of the construct is measured using Visual PLS Software. The AVE Value of 0.640461 (shown in Table 5) indicates good convergent validity and hence Unidimensionality.

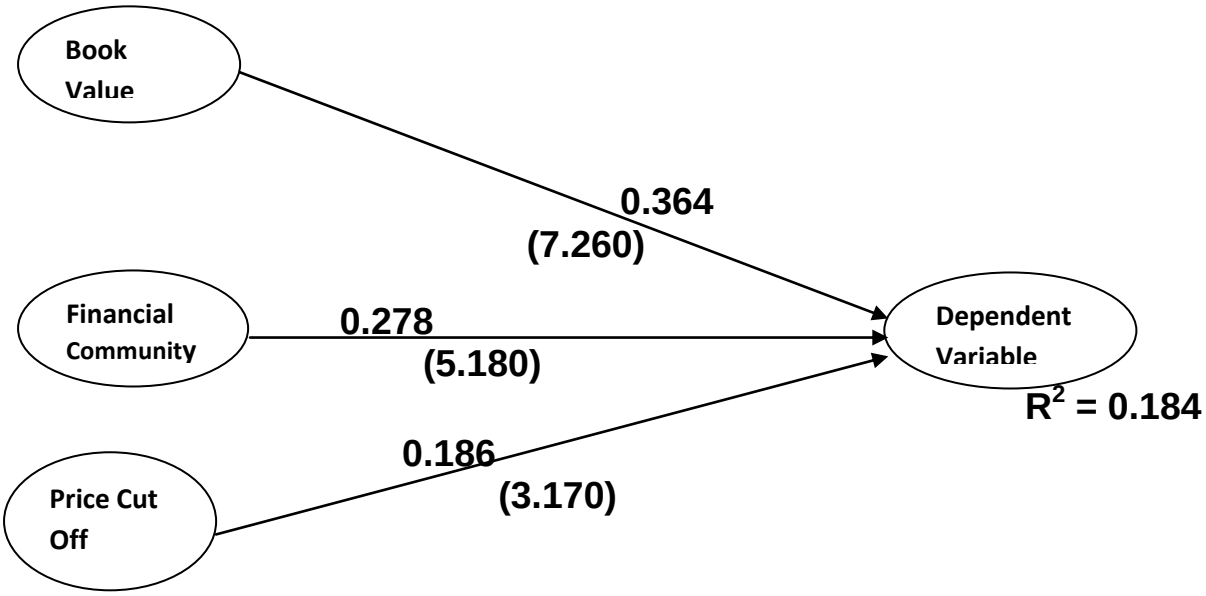
Table - 5 Price cut off rules	**Corrected Item-Total Correlation**
Price cut off rules	.891
Cronbach's alpha	**0.891**

5.4 Causal Model and Hypothesis Testing

The causal effect of Expected events surrounding the stock and the book value, recommendation of the financial community and price cut off rules on Stock Prices rising for the next twelve months is tested using Visual PLS path modeling software. A rigorous test of the significance of various proposed relations can be tested using the bootstrap function in Visual PLS. PLS path modeling is a nonparametric method, and as such cannot be used for performing a *t*-test. But it is possible to use resampling methods (bootstrap and jack knife) to obtain the significance of the various paths in the model. Bootstrap is more reliable in estimating the significance of paths (Chin 1995). So, this research has considered and used bootstrap for the purpose of determining causal relations proposed in the model. In the bootstrap used in this research, random samples comprising 375 respondents were taken, and 500 such samples were taken into consideration (to get the best estimates, a resample number of 500 is recommended although in theory an infinite resample is needed for the purpose). The results were examined for significance. At 5% level of significance, the value of cutoff *t*-statistic is 1.96. In general, we assume that if the *t*-statistic is more than two, the path is significant.

H_0: *The Investor's expectation of stock prices rising for the next 12 months is not influenced by expected events surrounding the stock and the book value, Recommendation of the financial community, Price cut-off rules.*

Figure 1:



From the analysis of results, it is found that the above hypothesis was not significant for Expected events surrounding the stock and the book value (beta = 0.364, *t* = 7.260), recommendation of the financial community (beta = 0.278, *t* = 5.180) and price cut off rules (beta = 0.186, *t* = 3.170). This proves that Investor's expectation of stock prices rising for the next 12 months is influenced by Expected events surrounding the stock, the book value and recommendation of the financial community and price cut off rules

6. Conclusion

This research paper tested the reliability and validity of four constructs. The constructs were found to be both reliable and valid. It was found that the Investor's expectation of stock prices rising for the next 12 months in Tamil Nadu is influenced by Expected events surrounding the stock and the book value, financial community and Price Cut off rules.

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