

AN EMPIRICAL INVESTIGATION OF RETAIL INVESTORS' SENTIMENTS: ROLE OF DEMOGRAPHICS

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 03 August 2023</p> <p>Accepted 06 November 2023</p>	<p>Purpose: This paper is an explicit effort to explore the various tenets of Investors' sentiments in Indian context. The purpose of this paper is to examine the Investors' Sentiments and to know how investors sentiments affects the choices made by retail investors and to know how demographic characteristics drive investment decisions of individuals.</p> <p>Methodology: In carrying out this research study a descriptive design is used. A sample of 683 respondents (retail investors) were selected as part of a sample utilizing the snowball (chain referral) method of sampling. The instrument used for collecting primary data is a well-structured questionnaire and it consists of demographic profiles of respondents.</p> <p>Findings: The attitude of investors' towards investment decision is influenced by perceived returns, price sensitive information, perceived economic indicators, investors' confidence and herd behavior. These results emphasize the significance of individual propensities in determining a person's level of sentiments.</p> <p>Implications: This study will help financial advisors to better understand the attitudes and behaviors of their clients and also be significant for financial institutions, given to positive economic effects of development of financial sector.</p>
<p>Keywords:</p> <p>Investors' Sentiment; Perceived Returns; Price Sensitive Information; Investor Confidence; Herd Behavior.</p> <div data-bbox="172 981 480 1227" style="text-align: center;">  </div>	<p>Doi: https://doi.org/10.26668/businessreview/2023.v8i11.3748</p>

UMA INVESTIGAÇÃO EMPÍRICA DOS SENTIMENTOS DOS INVESTIDORES DE RETALHO: PAPEL DA DEMOGRÁFICA

RESUMO

Objetivo: Este artigo é um esforço explícito para explorar os vários princípios dos sentimentos dos investidores no contexto indiano. O objetivo deste artigo é examinar os Sentimentos dos Investidores e saber como os sentimentos dos investidores afetam as escolhas feitas pelos investidores de retalho e saber como as características demográficas orientam as decisões de investimento dos indivíduos.

Metodologia: Na realização desta pesquisa é utilizado um desenho descritivo. Uma amostra de 683 entrevistados (investidores de varejo) foi selecionada como parte de uma amostra utilizando o método de amostragem bola de neve (referência em cadeia). O instrumento utilizado para a coleta de dados primários é um questionário bem estruturado e consiste em perfis demográficos dos entrevistados.

Constatações: A atitude dos investidores em relação à decisão de investimento é influenciada pelos retornos percebidos, informações sensíveis aos preços, indicadores económicos percebidos, confiança dos investidores e comportamento de rebanho. Estes resultados enfatizam a importância das propensões individuais na determinação do nível de sentimentos de uma pessoa.

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Implicações: Este estudo ajudará os consultores financeiros a compreender melhor as atitudes e comportamentos dos seus clientes e também será significativo para as instituições financeiras, dados os efeitos económicos positivos do desenvolvimento do sector financeiro.

Palavras-chave: Sentimento dos Investidores, Retornos Percebidos, Informações Sensíveis a Preços, Confiança do Investidor, Comportamento de Manada.

UNA INVESTIGACIÓN EMPÍRICA DE LOS SENTIMIENTOS DE LOS INVERSORES MINORISTAS: EL PAPEL DE LA DEMOGRAFÍA

RESUMEN

Propósito: Este documento es un esfuerzo explícito por explorar los diversos principios de los sentimientos de los inversores en el contexto indio. El propósito de este documento es examinar los sentimientos de los inversores y saber cómo los sentimientos de los inversores afectan las decisiones tomadas por los inversores minoristas y saber cómo las características demográficas impulsan las decisiones de inversión de los individuos.

Metodología: Para la realización de este estudio de investigación se utiliza un diseño descriptivo. Se seleccionó una muestra de 683 encuestados (inversores minoristas) como parte de una muestra que utilizó el método de muestreo de bola de nieve (referencia en cadena). El instrumento utilizado para recopilar datos primarios es un cuestionario bien estructurado y consta de perfiles demográficos de los encuestados.

Hallazgos: La actitud de los inversores hacia las decisiones de inversión está influenciada por los rendimientos percibidos, la información sensible a los precios, los indicadores económicos percibidos, la confianza de los inversores y el comportamiento gregario. Estos resultados enfatizan la importancia de las propensiones individuales a la hora de determinar el nivel de sentimientos de una persona.

Implicaciones: Este estudio ayudará a los asesores financieros a comprender mejor las actitudes y comportamientos de sus clientes y también será importante para las instituciones financieras, dados los efectos económicos positivos del desarrollo del sector financiero.

Palabras clave: Sentimiento de los Inversores, Rentabilidad Percibida, Información Sensible a los Precios, Confianza de los Inversores, Comportamiento Gregario.

INTRODUCTION

Due to the stock market's inherent ability to earn more money more quickly than other investment channels, it has become the centre of attention and the world's all-time favourite investing outlet. However, making financial selections is a difficult and cerebral activity. The majority of theories are predicated on the idea that investors are rational, and that when making an investment decision, they should use all the information at their disposal to build any "rational expectations" and base their choice on fundamental and technical analysis. Here, Rationality can be defined in two ways- Firstly, when individual received new information and they updated their set of beliefs, information accordingly as per Bayes law. Second, agents make decisions that are normally acceptable on the basis of given beliefs (Thaler, 2003). Individual investors typically take their goals, needs, objectives, and investment constraints into account when making decisions, but it is almost never possible to make the right choice because, in the real world, investment choices are not made using tools like technical analysis and fundamental analysis, but rather using subjective criteria like psychological bias (cognitive and emotional bias) (Kahneman and Tversky, 1979).

Cognitive Bias Factors Primarily Consists of Followings Biases

Confirmation Bias: This bias refers to those individuals who wish to collect that information which support their existing set of belief' and put more importance to the opinion of those who agree with them (Montier, 2002) (Kahneman D. D., 2011). Individual investors' ignore that information that contradicts with their beliefs. (Montier, 2006).

Status-Quo bias: Investors doesn't prefer anything new and stick to their current or previous investment decision (Zeckhauser, 1988; Kahneman D. J., 1991; Thaler, 1992). Individual hesitate in changing their plan of investment very often as a course of contemporary market movements. (Dr. Russell James III 2009). It is very difficult to change investors' belief as changing them take more time and efforts, they hold them very strongly (Wason, 1960; Koriat, Lichtenstein, & Fischhoff, 1980; Nickerson, 1998).

Representative Bias: (Pompian, 2012) claims that it is a belief firmness in which individual has a propensity to categorize new thoughts based on their previous experiences .They also believe that their categorization place excessive power on them and it is also observed that fresh information does not essentially fit. Investors feel better when others are also investing along with them in the same investment avenue (Qawi, 2010; Agrawal, 2012; Pompian, 2012).

Hindsight Bias: Investors feel that historical price pattern has a tendency to repeat (Qawi, 2010), (Pompian, 2012). According to Pompian (2012), this bias arises when individual starts expecting or predicts that actual events were coming before they happened and they assume their future predictions are accurate as they are persuaded by the information of what actually occurred. Thus, this gives them a fake sense of confidence.

Emotional Bias Primarily Consists of Followings Biases

Self attribution bias: This refers to the tendency for people to attribute their triumphs to innate traits like talent, competence, or foresight while attributing their failures to outside factors like unfavourable circumstances (Qawi, 2010; Singh, 2012; Pompian, 2012).

Regret-aversion bias: (Pompian, 2012) States that this bias is a kind of emotional bias in which an investor used to avoid in making decisions that will leads to an action which is out of fear that resulted very poorly. Investors feel losses more deeply than gains of the same value (Thaler, 2005; Razek, 2011; Pompian, 2012).

Overconfidence bias: "Overconfidence can be summarized as unwarranted faith in one's intuitive reasoning, thinking." (Razek, 2011) states that overconfidence is an over

estimation of the chance of happening for a particular set of actions. It is noted that over confidence causes investors to over-estimate their skills, knowledge, over-estimate their ability to control events and undervalue risks (Sewel, 2005; Razek, 2011; Agrawal, 2012).

Over-optimism bias: Optimism is about expecting a favorable result irrespective of skills or the actual effort which is devoted by the investors to bring about the results. (Subrahmanyam, 2007; Ramnath, 2008; Agrawal, 2012)

Empirically, in the previous studies it has been proved that people do have their own set of beliefs which are not fundamentally correct. Number of researches including have acknowledged numerous example of irrational investors (Kahneman, 1979; Malkiel, 1995; Leinweber, 1997; Carhart, 1997; Hirshleifer, 2003). (Allais, 1959) defines not only the investors but market also does not behave accordingly with the tenets of (EUT) expected utility theory. Some models are credited with coining the phrase and elaborating on the idea that investors are susceptible to moods. They also claimed that investors reacted to "irrelevant information" and that the unanticipated boom and bust in the financial market were simply noise trading's noise-like reflections of fundamentals (Shleifer, DeLong, Summers and Waldmann, 1990; Baker & Wurgler, 2007).

The "propensity to speculate" can be used to describe investor emotion (Wurgler, 2006). It refers to a group of investors' attitudes, thoughts, and feelings about the market in general. For instance, rising trends or prices would signal bullish investor sentiment, whereas declining trends or prices would signal pessimistic investor sentiment. Investor sentiment can be defined as opinions about future cash flows or discount rates that are not supported by current fundamentals (Baker and Wurgler, 2006; Lemmon and Portniaguina, 2006).

A study of investor's sentiment is important because of two reasons. Firstly, they instruct individuals about different biases prevailing in the stock market which help them to forecast the behavior of investors'. Secondly, they instruct individuals about the opportunities prevailing in the market to earn extra returns by exploiting those biases (Kenneth, 2000). The foremost important question is whether sentiment has any impact on prices of stock because it can lead to market bubbles (Brown and Cliff, 2004). Various financial crises on the market have also created interest of researcher in the study to explore the importance of investors' sentiments in the stock market (Rêgo, A. B., & de Godoi, E. L., 2022T).

This paper explores various tenets of Investor sentiment in Indian context. The aim of this paper is to explore the market-driven factors of investor's sentiments by extensive literature

review and know how investors sentiments affects the choices made by retail investors and to know how demographic characteristics drive investment decisions of individuals.

THEORETICAL FRAMEWORK

Impact of Price Sensitive Information Content on Investors' Sentiments

Now a day's mass media plays an important role in reaching a mass population of investors. Media can alleviate informational frictions and affect security pricing.

(Royster 1986) suggests that there is a connection between the daily activity of the stock market and the substance of media reports, and that the contents of news can be related with investor sociology and psychology. This paper also finds evidence that movement of stock market can be predicted by the content news media. (Cutler et. al. 1989) also explores the link between stock prices and media coverage. (Fisher and Statman, 2000) shows that the sentiments of strategists of Wall Street is not related to the sentiment of newsletter writer or individual investors but the sentiments of other two groups. They also found a negative relationship between the future stocks returns and each of the three groups that are Wall Street Strategists, Newsletter writers and individual investors.

(Antweiler and Frank, 2004) also find support of relationship between activity of message & volatility & message activity & trading volume. (TETLOCK, 2007) Find that When media pessimism is high, market prices are likely to experience downward pressure before returning to fundamentals. It implies that investors respond more strongly when experts or the media say something unpleasant. Additionally, he discovers data that suggests that when media pessimism forecast market trading volume is low or high, it is likely having an effect on trade volumes. He also suggests when returns of market are low then it leads to high media pessimism. (Tetlock) applied a very well known quantitative content analysis program GI (General Inquirer) to examine the day to day variation in the Wall Street Journal "Abreast of the Market" column from 1984-1999. It was also observed when there is a change in pessimism factor then there is also a significant and meaningful change in daily stock market returns and volume even after a significant time gaps the results remains the same. He also observed low or high levels of pessimism would be connected with increase in trade volume if media pessimism either reflects past or anticipates future sentiments.

Various theoretical models of investor's sentiments and stock market based on the assumptions that there are two kinds of trader, one is rational arbitrageurs and another are noise traders. DeLong et. al. (1990) predicts that downward movement in price is due to lower

sentiments of investors' like when noise traders experienced some negative belief then he/she like to sell their stocks and high volume will be generated when sentiments of investors' are of high values..

(Tetlock, 2008) Furthermore discovers that the use of derogatory language in news reports will lead to predictions of earnings and stock return. (Fang and Peress, 2009) look into the relationship between expected stock returns and media coverage. This is the first papers that do have evidence that documents cross-sectional returns between security returns and media coverage. Equities with media publicity have lower returns, while equities without media coverage have higher returns.

The optimistic and pessimism sentiments of investors can be understand as the herd behavior of investors (it means individuals learn from others through the imitation process), who follows political, economic and social factors with respect to future price returns of stocks (Tarde, 1903). Public business news can be act as a primary source of information for both rational and irrational investors. (Graham, 1999) investigated that there is an impact of private and public news on the herd behavior among investment analysts.

(Remorov, 2014) used computational semantic analysis for the measurements of pessimistic sentiments of investors from business news. They also used semantic tree method for the analysis of bearish & bullish market signals by estimating the pessimistic and optimistic business news and it was also found, when market conditions are at that extreme, there is a sharp change of the market indices because of various pessimistic and optimistic macro-economic news. (Ormos and Vazsonyi, 2011) also looked into whether there was a positive or negative relationship between nouns and aims in business news sentences. According to (Xie et al., 2012), he created a semantic technique for business news analysis in relation to corporate performance of stock price movement that considerably improves forecasting of price fluctuations. (Lott, 2011) investigated that news about unemployment and GDP related to business does effects the stock returns.

Impact of Perceived Returns on Investors' Sentiments

'Investor's sentiment will be present in the price determination of the stock as there are two cases of understanding the information. First, when investor understand the information according to fundamentals with its actual meaning that linked to actual price or when group of investors understands the information without its actual meaning. When they understands without its actual meaning then two type of situation can be aroused. First, overpriced and

second underpriced. Now the question arises does stock prices are driven by sentiments and do these sentiments play any important role in determining the prices of stock market? Majority of the studies explore that investment sentiment does influence asset prices (Lee, Shleifer, and Thaler, 1991; Lee et al., 2002; Brown and Cliff, 2005; Baker and Wurgler, 2007; Baker, Wurgler, and Yuan, 2009; Ho and Hung 2009). Some studies explored a positive contemporaneous relationship between market return and sentiments of investors. The question whether prices of stock market get affected by sentiments of investors' is of main concerned because this can state to market bubbles also (Brown and Cliff, 2004).

For the following such arguments, the presented support in literature support negative /positive connection among investors sentiments & expected returns of stock market due to the under and overvalued of prices of stock (Baker et. al., 2011; Finer et. al., 2011; Stambaugh et. al. , 2011). Those stocks which are very difficult to arbitrage and whose valuations are more subjective found to be most vulnerable to sentiment mispricing (D'avolio, 2002; Baker and Wurgler, 2006, 2007). He also observe companies such as highly volatile, younger, growth companies, financially depressed and non-paying dividend firms with low level of profitability and capitalization are disproportionately sensitive to investor sentiments. Barberies, Shleifer, and Vishny (1998) examined that there is a linkage between investors' sentiment and stock prices. Interestingly, sentiments of investors' under-reacted more to the fact related information such as repurchases of share, dividend initiations, earnings announcements, and overreacted more to a prolonged record of extreme performances. Periods of positive or high investment sentiments followed by lower returns for the summative market

(Fisher and Statman, 2000; Brown and Cliff, 2004, 2005; Verma and Soydemir 2009) also suggest that there is a significant effect of investor sentiments on the summated stock market and the market price determination. (Lee et al., 1991; Neal and Wheatley, 1998; Lemmon and Portniaguina, 2006; Ling, Naranjo and Scheick, 2014; Kaplanski, Veld-Merkoulova, 2015; Zheng 2015) find some measure of investment sentiment to predict stock return. Various literature on investor's sentiments suggest different method or approaches to measure sentiment like survey method of investors response for the anticipation of prices of stock & the whole economy movement. (Fisher and Statman, 2000; Schmeling, 2009).

Another method is MRISPs (Market related implicit sentiment proxies) derived from the selected market statistics (Brown and Cliff, 2004; Baker and Wurgler, 2006, 2007; Baker et. al., 2011). Another approach is the combination of both implicit and explicit sentiment proxies (Ho and hung, 2009). Dash and Mahakud (2012) follows (Baker & Wurgler, 2006,

2007) top down approach and constructs (AISI) aggregate investor sentiment index to measure sentiments of investors. "Investor Sentiment and Stock market: Evidence from India" paper shows that there is a relationship or linkage between the investors sentiments and stock returns. Dash and Mahakud (2012) constructed ASIS from the various MRISPs to observe the causal relationship among sentiment of investors & aggregate stock market indices such as NSE Nifty and BSE Sensex indices and the result from the causality test advised that a unidirectional causal relationship exist between the sentiment index and market indices.

Sehgal, Sood and Rajpoot (2009) most of the respondents believe that market returns and sentiments of investors are bilaterally correlated. Glaser et al. (2009) also tested with the help of vector auto regressive model and Granger causality test that whether sentiments of investors was related to daily stock movements and his paper shows that there exist a mutual influence between stock returns and sentiments but only in short run like one or two days trading.

(Zheng, 2015) predict a negative relation among investors' sentiment & returns of metal futures'. Kaplanski et al. (2015) assert that sentiments that are positively associated with expectation of more returns leads to higher intentions of individuals to buy stocks. Ling et. al. (2014) find a positive relationship among subsequent returns of private market and investors' sentiments. Chang, Hsieh, and Wang (2015) also stated that investors' had stronger mis-reaction to information during periods of high investor sentiment in the Taiwan options market. Lastly, Babu and Kumar (2015) concluded that there were a greater bearing on the NSE index return due to negative sentiments than positive sentiments. Suresh, Srinivasa, and Saji George (2016) shows that the pessimistic sentiment shows indications of higher fluctuations in returns and calm and moderate level of fluctuations with moderate positive market sentiment.

Impact of Perceived Economic Conditions on Investors' Sentiments

There are various macroeconomic variables in India that could influence any investor's attitude, opinion towards investment. Variables like Unemployment rate, rate of inflation, value of other major currencies, and strength of Indian economy etc. Stock market acts as a leading indicator of economic activity (Bosworth et al., 1975). According to this, as a leading indicator stock market helps the investors to forecast the economic trends. As change in macro factors that simultaneously affect cash flows of many firms and may also influence the risk adjusted discount rate. Chen, *et. al.* (1986) have tried to show there is an association between macro-economic variables and stock market returns.

(Bodie 1976; Geske and Roll 1983; Pearce and Roley 1983, 1985; Fama 1991) have documented that aggregate stock market returns are negatively correlated with economy growth as well as with inflation. But later on, it was found in various studies like (Mark and Protopapadakis 2002) the returns of market is significantly correlated with economy growth & inflation too. Boyd, *et al.* (2005) shows that on the basis economy unemployment news, stock market reacted.

(Flannery and Protopapadakis 2002) used GARCH model for day to day returns of equity, where their conditional volatility and realized returns depends upon on seventeen macro series announcements. Later on, for priced factors they found six candidates: out of which, three were real (Employment report, Balance of trade and Housing starts) and three nominal (PPI, CPI & a Monetary Aggregate).

(Kurov 2009) also revealed that there is a linkage between investor's sentiments and monetary policy as monetary policies decisions have impact on the returns of the stock market. The monetary policy news effect on investor's sentiments depends upon bull and bear market conditions. Alexander also finds that in bear market actions of monetary policy have more effect on stocks because that stock are more sensitive to changes in sentiments. This paper documented that sentiments of investors plays very significant role in the effect of various monetary policies on stock. The government's policy of boosting fuel prices had an impact on the securities and the sentiments of investor's since it caused a decline in the frequency of conversations in rupees. (Nianty, D. A., Mus, A. R., Sinring, B., & Dewi, R., 2023)

Investors' Confidence & Investor's Sentiments

(Shiller, 2000) Investor confidence is the sense of feeling of investors' that nothing can happened wrong with their investment, and they can rest well because there is nothing to worry about. Consumer confidence level also goes upward and downward with respect to the individual investors' sentiments ; the rise in consumer confidence are accompanied by statistically significant increases in bullishness of investors (Kenneth L. Fisher, 2002).

There is statistically significant and positive relationship among consumer confidence changes & changes in the sentiment of individual investors (Kenneth L. Fisher, 2002).

Impact of Herding Behaviour on Investors' Sentiments

*"Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one."
(Charles, 1841).*

Herding behavior of human usually outcome of a tendency to duplicate the actions of other individuals. The meaning was given by (Christie and Huang, 1995) is “individuals who suppress their own beliefs and base their investment decisions solely on the collective actions of the market, even when they disagree with its predictions”.

Research Gap

The number of research has been done on the issue of investor sentiments. What are the various factors which affect the investor's sentiments in the market but this study is to explore what are the possible ways to quantify and measure the investors' sentiments. Most of the studies are working on impact of investors' sentiments and stock returns. However, there is less work on primary data and there is no such relationship between Price sensitive information content (media), Investors' confidence and Herding and investors' sentiments, in Indian context.

RESEARCH METHODOLOGY

Objectives of the Study

Behavioural finance helps the practitioners in observing their own flaws along with others and identifying/ knowing the reasons behind these mistakes and try to avoid them. With this perspective, following objectives were selected for this study.

- To make an extensive review of major factors of investors' sentiments that leads to decision in investment.
- To make a Comparative Assessment of Determinants of Retail Investor Sentiment clustered via demographics.

Sampling Design

Sample size

A total of 800 people have been questioned for the purpose of filling up the questionnaire but 683 respondents revert it back properly.

Sampling method

The method used for collecting the observations from the target population is snowball sampling (chain referral sampling). The sampling frame used for this study is based on

demographic characteristics of the retail investor such as age, gender, birth order, homeownership, marital status, education, etc.

Sample locale

The research was carried out in U.P. (West), Delhi NCR, Punjab, and Haryana.

Statistical Design

Primary data is a source that is used to collect data and in analyzing the research study.

The tool or instrument used for collecting primary data is a **questionnaire**.

The questionnaire consists of demographic data of the respondents like age, income, gender, education, marital status, birth order, homeownership, etc., and it also consists of questions that are related to factors of investor sentiments.

And for recording the responses, the **Likert scale** is used to measure the impact of various factors affecting the financial risk tolerance of retail investor and their sentiments. Ratings are given on a 1-5 Likert type response scale

Where:

1= "Highly Disagree", 3= "Neutral", 5= "Highly Agree".

Questionnaires were distributed to the investors (contacted via stockbrokers, and relatives) through the mail, Facebook, Whatsapp, and in hard copy as well in the region of UP (west), Delhi NCR, and Punjab and Haryana.

Questionnaire Developemnt

From an extensive literature review, several research instruments in the context of these variables under study were found to be relevant for collecting data and to meet out the various research objectives. A modified questionnaire was developed based on the findings of the preliminary research and available research instruments to fulfill the research objectives under study.

Table 1: Description of research instruments of Investor Sentiments

S.No.	Developer (Year)	Title	Research Instruments	Findings
1.	Vermont Royster , 1986; Cutler, Poterba, and Summers, 1989; Antweiler and Frank ,2004; Tetlock, 2007,2008; Rodion Remorov, 2014	Giving Content to Investor Sentiment: The Role of media in the stock Market	Perceived Price sensitive information content	He finds that high media pessimism predicts downward pressure on market prices followed by a reversion to fundamentals, and unusually high or low pessimism predicts high market trading volume.
2.	Robert J. Shiller,2000; Lee, Shleifer, and Thaler, 1991; Lee et al., 2002; Brown and Cliff, 2005; Baker and Wurgler, 2007; ho and Hung 2009; Baker, Wurgler, and Yuan, 2009; Chau, F., Deesomsak, R., & Koutmos, D., 2016	Investor Sentiment in the Stock Market Investor Sentiment and Asset Valuation	Perceived Return	The majority of the studies explore that investment sentiment does influence asset prices and explored a positive contemporaneous relationship between market return and sentiments of investors.
3.	Chen, Roll and Ross, 1986; Mark and Protopapadakis, 2002; Alexander Kurov, 2009; Neha and Arya, 2020	Macroeconomic variables and Market expectations: Indian Stock market	Perceived Economic condition	Various studies explored the relationship between macroeconomic variables and the stock market and the results indicate the presence of co-integration among variables. Major factors like monetary policy news affect on investors' sentiments depending on bull and bear market conditions. In the bear market actions of monetary policy have more effect on stocks because those stocks are more sensitive to changes in sentiments.
4.	Shiller 2000; Kenneth L. Fisher, 2002	Consumer confidence and Stock returns	Investor Confidence	Consumer confidence also goes up and down with the sentiment of individual investors; Increases in consumer confidence are accompanied by Statistically significant increases in bullishness of individual investors. Researcher's explored a statistically significant and positive relationship between measures of

				investor sentiments and measures of investor confidence.
5.	Charles, 1841; Christie and Huang, 1995; Matthias Burghardt, 2010	Following the Pied Piper? Do individuals' returns herd around the market?	Herding behavior	<p>Various studies observed individuals would be more likely to go with the market consensus and ignore their private information.</p> <p>Retail investors are more prone to herding when they are optimistic than when they are pessimistic.</p>

Operational Design

The tools which are used for the data analysis and data interpretation objective wise are as follows:

H0a: There is no significant difference in investor sentiments of Male and Female Retail Investors.

H0b: There is no significant difference in Investor Sentiments of Retail Investors clustered via Age

H0c: There is no significant difference in investor sentiments of Retail Investors clustered via Birth order

H0d: There is no significant difference in investor sentiments of Retail Investors clustered via Marital Status.

H0e: There is no significant difference in investor sentiments of Retail Investors clustered via Annual Income.

H0f: There is no significant difference in investor sentiments of Retail Investors clustered via Home Ownership.

H0g: There is no significant difference in investor sentiments of Retail Investors clustered via Education.

RESULTS AND DISCUSSION

Comparative Assessment of Investor Sentiments of retail investors clustered via demographic

This section of analysis attempts to make a comparative assessment of responses given by retail investors towards various attributes of investor sentiments viz. Price sensitive

information, Perceived returns, Perceived Economic Conditions, Herding Behavior, and Investor confidence. The perception of retail investors is supposed to vary with a change in demographic as an investment is a very important decision for any individual and sentiments are a subjective behavioral-based issue. Hence, it is important to assess the significance of differences that may exist in sentiments among investors belonging to different demographic.

Comparative assessment of investor sentiments of retail investors clustered via gender

Gender is the range of characteristics pertaining to, and differentiating between femininity and masculinity. Depending on the context, these characteristics may include biological sex, sex-based social structures, or gender identity. Gender in India has been a big differentiating demographic variable as females are considered as risk-averse as compared to males (Jianakoplos and Barnesek, 1998; Hallahan, Faff and McKenzie, 2004; Watson and Mcnaughton, 2007). In a country setup where females had a very low saying in financial and investment decision making and with the recent upsurge in females' participation in livelihood activities, the Indian social system has witnessed a change. But still, as gender brings a different level of emotionality quotient and investment being an emotion-driven decision, it becomes imperative to explore the difference in opinion of male and female investors towards investor sentiments and assess its significance.

Hypothesis:

H0h: There is no significant difference in investor sentiments of Male and Female Retail Investors.

H1h: There is significant difference in Investor Sentiments of Male and Female Retail Investors.

Table 2: Comparative assessment of investor sentiments segmented via Gender

Independent Sample Test						
Gender		N	Mean	Std. Deviation	t-test for equality of means	
					t	Sig. (2 tailed)
Investor Sentiments	Male	361	4.25	0.651	6.337	0.000
	Female	322	3.95	0.588		
Price Sensitive Information	Male	361	3.52	0.813	4.360	0.000
	Female	322	3.27	0.636		
Perceived Returns	Male	361	4.14	0.633	4.827	0.000
	Female	322	3.91	0.643		
Perceived Economic Conditions	Male	361	3.72	0.658	-2.275	.023
	Female	322	3.84	0.676		
Herding Behaviour	Male	361	3.50	0.841	-4.079	.000
	Female	322	3.73	0.585		

Investor Confidence	Male	361	3.87	0.607	1.668	.096
	Female	322	3.78	0.766		

Table 2 summarizes the Comparative assessment of investor sentiments Attributes segmented via Gender. At a Level of Significance (α) of 0.05, the t-test reveals that there is a significant difference between male and female retail investors regarding their sentiments. In this case, the majority of investor sentiments attributes viz. Price sensitive information, perceived returns, perceived economic conditions, herding behavior, and overall investor sentiments because the p-value is less than 0.05 which is less than the level of significance (0.05), Hence Null Hypothesis is rejected in case of these attributes.

But in the case of Investor Confidence attribute of investor sentiments, there is not enough evidence to reject the null hypothesis (as p-value > 0.05) which implies that male and female investors scores similar towards investor confidence.

Comparative assessment of investor sentiments of retail investors clustered via age

Age can be defined as the length of time an individual has lived or a thing has existed. It is one of the most important demographic variables influencing decisions of investor investments. It is a known fact that the investment habit of an individual depends on his/ her age. Young investors are ready to invest in some sort of risky investment due to the time and risk ability they have (Haurin, Hendershott & Wachter, 1996; Ameriks & Zeldes, 2000) but old age investors were very cautious to take risks in investment and financial decisions. But still, age brings a different level of emotionality quotient, and investment being an emotion-driven decision, it becomes imperative to explore the difference in opinion of retail investors because of age towards financial risk tolerance and assess its significance.

Hypothesis:

H0i: There is no significant difference in Investor Sentiments of Retail Investors clustered via Age

H1i: There is significant difference in Investor Sentiments of Retail Investors clustered via Age

Table 3: Comparative assessment of investor sentiments Attributes segmented via Age

ANOVA						
		N	Mean	Std. Deviation	F	Sig.
Investor Sentiments	Less than 30 Years	278	4.20	.587	25.965	.000
	30-40 Years	98	4.45	.567		
	40-50 Years	144	4.10	.441		
	50-60 Years	62	3.62	.533		
	60 Years and Above	101	3.82	.839		
	Total	683	4.11	.640		
Price Sensitive Information	Less than 30 Years	278	3.32	.729	16.707	.000
	30-40 Years	98	3.81	.423		
	40-50 Years	144	3.53	.943		
	50-60 Years	62	2.95	.504		
	60 Years and Above	101	3.32	.606		
	Total	683	3.40	.744		
Perceived Returns	Less than 30 Years	278	4.10	.544	24.700	.000
	30-40 Years	98	4.35	.680		
	40-50 Years	144	3.78	.679		
	50-60 Years	62	3.56	.381		
	60 Years and Above	101	4.20	.698		
	Total	683	4.03	.648		
Perceived Economic Conditions	Less than 30 Years	278	3.93	.702	19.447	.000
	30-40 Years	98	3.62	.546		
	40-50 Years	144	3.52	.529		
	50-60 Years	62	3.48	.394		
	60 Years and Above	101	4.04	.767		
	Total	683	3.78	.669		
Herding Behaviour	Less than 30 Years	278	3.59	.733	7.677	.000
	30-40 Years	98	3.83	.546		
	40-50 Years	144	3.44	.569		
	50-60 Years	62	3.92	1.090		
	60 Years and Above	101	3.52	.779		
	Total	683	3.61	.740		
Investor Confidence	Less than 30 Years	278	3.85	.741	32.203	.000
	30-40 Years	98	4.34	.537		
	40-50 Years	144	3.73	.598		
	50-60 Years	62	3.21	.215		
	60 Years and Above	101	3.79	.610		
	Total	683	3.83	.688		

Table 3 summarizes the Comparative assessment of investor Sentiments Attributes segmented via Age at a Level of Significance (α) of 0.05, ANOVA reveals that there is a significant difference between retail investors based on age towards investor sentiments. In this case, all investor sentiments attribute viz. Price sensitive information, Perceived returns, perceived economic conditions, herding behavior, investor confidence, and overall investor sentiments because the p-value is less than 0.05 which is less than the level of significance (0.05), Hence Null Hypothesis is rejected in case of these attributes.

Comparative assessment of investor sentiments of retail investors clustered via birth order

Birth order means an order of childbirth in a family such as firstborn child, second-born child, etc. Birth Order, in India, has been a big differentiating demographic variable and a predictor of investor sentiments. In a country setup where the firstborn child had a very low saying in financial and investment decision making (Gilliam, J., & Chatterjee, S., 2011) and with the recent upsurge in their participation in investing activities, the Indian social system has witnessed a change. But stillbirth order brings a different level of emotionality quotient and investment being an emotion-driven decision, it becomes imperative to explore the difference in opinion of firstborn, second born investors towards financial risk tolerance and assess its significance.

Hypothesis:

H0j: There is no significant difference in investor sentiments of Retail Investors clustered via Birth order

H1j: There is significant difference in investor sentiments of Retail Investors clustered via Birth Order.

Table 4: Comparative assessment of Investor investor sentiments Attributes segmented via Birth Order

ANOVA						
		N	Mean	Std. Deviation	F	Sig.
Investor Sentiments	First Child	342	4.08	.658	1.256	.286
	Youngest	207	4.09	.588		
	Others	134	4.18	.667		
	Total	683	4.11	.640		
Price Sensitive Information	First Child	342	3.35	.802	3.741	.024
	Youngest	207	3.52	.658		
	Others	134	3.35	.699		
	Total	683	3.40	.744		
Perceived Returns	First Child	342	4.12	.627	24.888	.000
	Youngest	207	4.11	.695		
	Others	134	3.69	.502		
	Total	683	4.03	.648		
Perceived Economic Conditions	First Child	342	3.82	.696	3.942	.020
	Youngest	207	3.67	.748		
	Others	134	3.83	.398		
	Total	683	3.78	.669		
Herding Behaviour	First Child	342	3.58	.709	3.651	.026
	Youngest	207	3.57	.703		
	Others	134	3.77	.851		
	Total	683	3.61	.740		
Investor Confidence	First Child	342	3.74	.686	31.176	.000
	Youngest	207	4.12	.650		
	Others	134	3.61	.600		
	Total	683	3.83	.688		

Table 4 summarizes the Comparative assessment of investor Sentiments Attributes segmented via Birth Order. At a Level of Significance (α) of 0.05, ANOVA reveals that there is a significant difference between retail investors towards their sentiments based on birth order. In this case, the majority of Investor sentiments attributes viz. price sensitive information, perceived returns, perceived economic conditions, herding behavior, and investor confidence because the p-value is less than 0.05 which is less than the level of significance (0.05), Hence Null Hypothesis is rejected in case of these attributes.

But in the case of overall investor sentiments, there is not enough evidence to reject the null hypothesis (as p-value > 0.05) which implies that firstborn, second born investor scores are similar to overall investor sentiments.

Comparative assessment of investor sentiments of retail investors clustered via marital status

Marital Status is the distinct option that defines one's relationship with significant others like unmarried, married, divorced, etc. It was also observed that marital status also affected the sentiments of investors. It was believed that a married couple's investment level was low as they have more responsibilities than a single person, more commitments, and a large number of dependent on them. But some researchers believe that married couples invest more because they have more risk-tolerant capacity due to more earnings and double human capital.

Hypothesis:

H0k: There is no significant difference in investor sentiments of Retail Investors clustered via Marital Status.

H1k: There is significant difference in investor sentiments of Retail Investors clustered via Marital Status.

Table 5: Comparative assessment of investor sentiments Attributes segmented via Marital Status

		ANOVA				
		N	Mean	Std. Deviation	F	Sig.
Investor Sentiments	Married	286	4.04	.638	4.798	.009
	Unmarried	257	4.11	.643		
	Divorced	140	4.24	.620		
	Total	683	4.11	.640		
Price Sensitive Information	Married	286	3.17	.702	29.997	.000
	Unmarried	257	3.64	.769		
	Divorced	140	3.46	.630		
	Total	683	3.40	.744		
Perceived Returns	Married	286	4.00	.656	0.931	.394
	Unmarried	257	4.04	.713		
	Divorced	140	4.09	.489		
	Total	683	4.03	.648		

Perceived Economic Conditions	Married	286	3.86	.627	4.197	.015
	Unmarried	257	3.70	.789		
	Divorced	140	3.73	.462		
	Total	683	3.78	.669		
Herding Behaviour	Married	286	3.53	.808	17.965	.000
	Unmarried	257	3.52	.626		
	Divorced	140	3.94	.701		
	Total	683	3.61	.740		
Investor Confidence	Married	286	3.75	.683	8.704	.000
	Unmarried	257	3.81	.697		
	Divorced	140	4.04	.640		
	Total	683	3.83	.688		

Table 5 summarizes the Comparative assessment of investor Sentiment attributes segmented via Marital Status. At a Level of Significance (α) of 0.05, ANOVA reveals that there is a significant difference between retail investors based on their marital status towards investor sentiments, in this case of the majority of investor sentiments attributes viz. Price sensitive information, perceived economic conditions, herding behavior, investor confidence, and overall investor sentiments because the p-value is less than 0.05 which is less than the level of significance (0.05), Hence Null Hypothesis is rejected in case of these attributes.

But in the case of perceived returns, and attributes of investor sentiments there is not enough evidence to reject the null hypothesis (as p-value > 0.05) which implies that married, unmarried, and divorced investors score similar toward perceived returns.

Comparative assessment of investor sentiments of retail investors clustered via Annual Income

Individuals try to allocate their some portion of income on investment and it was assumed that any individuals whose earnings are high he or she definitely like to invest more as compared to those who have less income. Individuals generally use some portion of their total earnings for investment for their future increase in their wealth. Sentiments of individuals are also based on the individual level of earning and income, this brings a different level of emotionality quotient and investment being an emotion-driven decision, it becomes imperative to explore the difference in opinion of retail investors based on income towards investor sentiments and assess its significance.

Hypothesis:

H0: There is no significant difference in investor sentiments of Retail Investors clustered via Annual Income.

H1: There is significant difference in investor sentiments of Retail Investors clustered via Annual Income.

Table 6: Comparative assessment of investor Investor Sentiments Attributes segmented via Annual Income

ANOVA						
		N	Mean	Std. Deviation	F	Sig.
Investor Sentiments	Less than Rs. 2,50,000	173	4.05	.570	.900	.441
	Rs. 2,50,000 - Rs. 5,00,000	158	4.08	.719		
	Rs. 5,00,000 - Rs. 10,00,000	159	4.13	.533		
	Rs. 10,00,000 and Above	193	4.15	.707		
	Total	683	4.11	.640		
Price Sensitive Information	Less than Rs. 2,50,000	173	3.70	1.011	20.404	.000
	Rs. 2,50,000 - Rs. 5,00,000	158	3.47	.569		
	Rs. 5,00,000 - Rs. 10,00,000	159	3.11	.636		
	Rs. 10,00,000 and Above	193	3.32	.541		
	Total	683	3.40	.744		
Perceived Returns	Less than Rs. 2,50,000	173	3.99	.753	6.479	.000
	Rs. 2,50,000 - Rs. 5,00,000	158	3.87	.599		
	Rs. 5,00,000 - Rs. 10,00,000	159	4.08	.561		
	Rs. 10,00,000 and Above	193	4.16	.625		
	Total	683	4.03	.648		
Perceived Economic Conditions	Less than Rs. 2,50,000	173	3.81	.779	8.144	.000
	Rs. 2,50,000 - Rs. 5,00,000	158	3.75	.702		
	Rs. 5,00,000 - Rs. 10,00,000	159	3.96	.517		
	Rs. 10,00,000 and Above	193	3.61	.606		
	Total	683	3.78	.669		
Herding Behaviour	Less than Rs. 2,50,000	173	3.66	.639	11.809	.000
	Rs. 2,50,000 - Rs. 5,00,000	158	3.76	.672		
	Rs. 5,00,000 - Rs. 10,00,000	159	3.32	.949		
	Rs. 10,00,000 and Above	193	3.69	.610		
	Total	683	3.61	.740		
Investor Confidence	Less than Rs. 2,50,000	173	3.70	.773	4.123	.007
	Rs. 2,50,000 - Rs. 5,00,000	158	3.96	.657		
	Rs. 5,00,000 - Rs. 10,00,000	159	3.82	.611		
	Rs. 10,00,000 and Above	193	3.85	.674		
	Total	683	3.83	.688		

Table 6 summarizes the Comparative assessment of investor Sentiment attributes segmented via annual Income. At a Level of Significance (α) of 0.05, ANOVA reveals that there is a significant difference between retail investors based on annual income towards investor sentiments. As, all investor sentiments attributes viz. Price sensitive information, perceived returns, perceived economic conditions, herding behavior, and investor confidence because the p-value is less than 0.05 which is less than the level of significance (0.05), Hence Null Hypothesis is rejected in case of these attributes.

But in the case of overall investor sentiments, there is not enough evidence to reject the null hypothesis (as p-value > 0.05).

CONCLUSION

One of the strongest motivations for investor is to earn more and more from their investment so, the predictability of such market returns are one of the biggest motivators for investors. This is evident most of the investors positively influenced by higher returns and to earn more, investors take their decisions of investment on the basis of 'noise' rather than 'fundamentals'.

From the extensive literature review it is observed that due to extreme volatility and higher level of certainty, correlation between stock returns increases in market downturns, i.e., bear markets and this make investors more cautious and circumspect. But, on another side, when confidence and prosperity are considered as an indicator of sentiment then bull markets is the real evidence. Thus, it was found that investors' sentiment is also an indicator of foreseeability of up & down market movement. So, it is obvious that returns of markets are also an observed phenomenon arising out of such sentiment.

From the above literature, it's also found that contents of news can be linked with investor sociology and psychology and there is a relationship among daily activity of stock market & content of media report and the content of news media can predict stock market movements. There is also a relationship between message coverage & Stock prices, message activity & volatility and message activity and trading volume. Level of media pessimism is high then it's strongly predicts downward pressure on market prices followed by a reversion to fundamentals, low or high value of media pessimism forecast high market trading volume and low market return leads to high media pessimism. Thus, it is quite evident that Media is also an indicator of Investor's Sentiments.

REFERENCES

- Almustafa, E., Assaf, A., & Allahham, M. (2023). Implementation of Artificial Intelligence for Financial Process Innovation of Commercial Banks. *Revista de Gestão Social e Ambiental*, 17(9), e04119-e04119.
- Antweiler, W., & Frank, M. Z. (2004). Is all that talk just noise? The information content of internet stock message boards. *The Journal of Finance*, 59(3), 1259-1294.
- Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. *The Journal of Finance*, 61(4), 1645-1680.
- Baker, M., Wurgler, J. (2007): Investor Sentiment and the Stock Market. *The Journal of Economic Perspectives*, 21(2), 129-151.

- Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. *Handbook of the Economics of Finance*, 1, 1053-1128.
- Barberis, N., Shleifer, A., & Vishny, R. (1998). A model of investor sentiment. *Journal of financial economics*, 49(3), 307-343.
- Bennet, E., Selvam, M., Vivek, N., & Shalin, E. E. (2012). The impact of investors' sentiment on the equity market: Evidence from Indian stock market. *African Journal of Business Management*, 6(32), 9317.
- Bodie, Z. (1976). Common stocks as a hedge against inflation. *The journal of finance*, 31(2), 459-470.
- Bosworth, B., Hymans, S., & Modigliani, F. (1975). The stock market and the economy. *Brookings Papers on Economic Activity*, 1975(2), 257-300.
- Brown, G. W., & Cliff, M. T. (2004). Investor sentiment and the near-term stock market. *Journal of Empirical Finance*, 11(1), 1-27.
- Chau, F., Deesomsak, R., & Koutmos, D. (2016). Does investor sentiment really matter?. *International Review of Financial Analysis*, 48, 221-232.
- Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of business*, 383-403
- Cutler, D. M., Poterba, J. M., & Summers, L. H. (1989). What moves stock prices?. *The Journal of Portfolio Management*, 15(3), 4-12.
- Dash, S. R., & Mahakud, J. (2012). Investor sentiment and stock price: evidence from India.
- De Tarde, G. (1903). *The laws of imitation*. H. Holt.
- DeLong, J. Bradford, Andrei Shleifer, Lawrence H. Summers, and Robert J. Waldmann, 1990a, Noise trader risk in financial markets, *Journal of Political Economy* 98, 703–738.
- Dow Jones Newswires. January 2, 1984 to September 17, 1999, *Abreast of the market* (Dow Jones Newswires, Jersey City, NJ).
- Dreman, D., Johnson, S., MacGregor, D., & Slovic, P. (2001). A report on the March 2001 investor sentiment survey. *The Journal of Psychology and Financial Markets*, 2(3), 126-134.
- Elton, Edwin J., Martin J. Gruber, and Jeffrey A. Busse. 1998. "Do Investors Care about Sentiment?" *Journal of Business*. vol. 71, no. 4 (October):477-500.
- Fama, E. F. (1991). Efficient capital markets: II. *The journal of finance*, 46(5), 1575-1617.
- Fang, L., & Peress, J. (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64(5), 2023-2052.
- Fisher, K. L., & Statman, M. (2000). Investor sentiment and stock returns. *Financial Analysts Journal*, 16-23.

- Flannery, M. J., & Protopapadakis, A. A. (2002). Macroeconomic factors do influence aggregate stock returns. *The review of financial studies*, 15(3), 751-782.
- Geske, R., & Roll, R. (1983). The fiscal and monetary linkage between stock returns and inflation. *The journal of Finance*, 38(1), 1-33.
- Graham, J. R. (1999). Herding among investment newsletters: Theory and evidence. *The Journal of Finance*, 54(1), 237-268.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the econometric society*, 263-291.
- Kaplanski, G., Levy, H., Veld, C., & Veld-Merkoulova, Y. (2015). Do happy people make optimistic investors?. *Journal of Financial and Quantitative Analysis*, 50(1-2), 145-168.
- Kumar, Alok, and Charles M. C. Lee, 2006, Retail investor sentiment and return comovements, *Journal of Finance* 61, 2451–2486
- Kurov, A. (2010). Investor sentiment and the stock market's reaction to monetary policy. *Journal of Banking & Finance*, 34(1), 139-149.
- Labroo, H. (2013). Are Indian stock markets driven more by sentiment or fundamentals? a case study based on relationship between investor sentiment and stock market volatility in Indian markets (Doctoral dissertation, Dublin Business School).
- Montier, J. (2002). *Behavioural finance: insights into irrational minds and markets*.
- Nianty, D. A., Mus, A. R., Sinring, B., & Dewi, R. (2023). The Effect of Investment Decisions, Capital Structure, and Dividend Policy on Financial Performance and Company Value in Banking Companies Listed on the Indonesia Stock Exchange for the 2019-2021 Period. *Revista De Gestão Social E Ambiental*, 17(6), e03599-e03599.
- Ormos, M., & Vázsonyi, M. (2011). Impact of Public News on Stock Market Prices: Evidence from S&P 500. *Interdisciplinary Journal of Research in Business*, 1(2), 1-17.
- Pompian, M. (2012). Behavioral finance and investor types. *Private Wealth Management Feature Articles*, 2012(1), 1-3.
- Qawi, R. B. (2010). Behavioral Finance: Is Investor Psyche Driving Market Performance? *IUP Journal of Behavioral Finance*, 7(4), Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in
- Qiu, L. X., Welch, I. (2006): Investor Sentiment Measures. Working Paper, Brown University.
- Ranjan Dash, S., & Mahakud, J. (2012). Investor sentiment, risk factors and stock return: evidence from Indian non-financial companies. *Journal of Indian Business Research*, 4(3), 194-218.
- Rêgo, A. B., & de Godoi, E. L. (2022). The Behavior of the Price of Brazilian Rural Land Under the Light of Land Rental Theories. *Revista De Gestão Social E Ambiental*, 16(3), 1-13.

- Royster, V. January 15, 1986, Thinking Things Over Aaft of the Market. The Wall Street Journal.
- Schmeling, M. (2009). Investor sentiment and stock returns: Some international evidence. *Journal of empirical finance*, 16(3), 394-408.
- Sehgal, S., Sood, G. S., & Rajput, N. (2009). Investor sentiment in India: A survey. *Vision*, 13(2), 13-23.
- Shefrin, H., & Statman, M., (1985). The disposition to sell winners too early and ride losers too long – Theory and Evidence, *Journal of Finance*, 40, 3, 777 - 790. 25. Thaler, R., (1984). Using Mental Accounting in a Theory of Consumer Behaviour. Working Paper, Cornell University.
- So, S., & Lei, V. U. (2011). Investor Sentiment and Trading Volume.
- Tetlock, P. C. (2007). Giving content to investor sentiment: The role of media in the stock market. *The Journal of Finance*, 62(3), 1139-1168.
- Thaler, R. H. (Ed.). (2005). *Advances in behavioral finance (Vol. 2)*. Princeton University Press
- Verma, R., & Soydemir, G. (2009). The impact of individual and institutional investor sentiment on the market price of risk. *The Quarterly Review of Economics and Finance*, 49(3), 1129-1145.
- Wall Street Journal, January 2, 1984 to September 17, 1999, Abreast of the market, Section C. (Dow Jones Company, New York, NY).
- Wurgler, J., Baker, M., & Yuan, Y. (2009). Global, local, and contagious investor sentiment.
- Yang, Y., & Copeland, L. (2014). The effects of sentiment on market return and volatility and the cross-sectional risk premium of sentiment-affected volatility.