Chapter-1
Introduction to Behavioral Finance
What is Behavioral Finance?

Behavioral Finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets. Behavioral Finance is of interest because it helps explain why and how markets might be in efficient.

Behavioral finance is a framework that augments some parts of standard finance and replaces other parts. It describes the behavior of investors and managers; it describes the outcomes of interactions between investors and managers in financial and capital markets; and it prescribes more effective behavior for investors and managers.

Behavioral finance is a new paradigm of finance, which seeks to supplement the standard theories of finance by introducing behavioral aspects to the decision-making process. Contrary to the Markowitz and Sharp approach, behavioral finance deals with individuals and ways of gathering and using information. Behavioral finance seeks to understand and predict systematic financial market implications of psychological decision processes. In addition, it focuses on the application of psychological and economic principles for the improvement of financial decision-making (Olsen, 1998).

Market efficiency, in the sense that market prices reflect fundamental market characteristics and that excess returns on the average are leveled out in the long run, has been challenged by behavioral finance. There have been a number of studies pointing to market anomalies that cannot be explained with the help of standard financial theory, such as abnormal price movements in connection with IPOs, mergers, stock splits and spin-offs. Throughout the 1980s and 1990s statistical anomalies have continued to appear which suggests that the existing standard finance models are, if not wrong, probably incomplete. Investors have been shown not to react “logically” to new information but to be overconfident and to alter their choices when given superficial changes in the presentation of investment information (Olsen, 1998). During the past few years there has, for example, been a media interest in technology stocks. Most of the time, as we know in retrospect, there was a positive bias in media assessments, which might have lead investors in making incorrect investment decisions.

These anomalies suggest that that the underlying principles of rational behavior underlying the efficient market hypothesis are not entirely correct and that we need to look, as
well, at other models of human behavior, as have been studied in other social sciences (Shiller, 1998).

Standard finance, also known as modern portfolio theory, has four foundation blocks: (1) investors are rational; (2) markets are efficient; (3) investors should design their portfolios according to the rules of mean-variance portfolio theory and, in reality, do so; and (4) expected returns are a function of risk and risk alone.

Behavioral finance offers an alternative block for each of the foundation blocks of standard finance. According to behavioral finance, investors are “normal,” not rational. Markets are not efficient, even if they are difficult to beat. Investors design portfolios according to the rules of behavioral portfolio theory, not mean-variance portfolio theory. And expected returns follow behavioral asset pricing theory, in which risk is not measured by beta and expected returns are determined by more than risk. In this chapter, we describe each of these building blocks of behavioral finance.

“Normal” Investors and Rational Ones

The reluctance to realize losses is one of many examples of the differences between rational investors and normal investors. That reluctance is puzzling to rational investors since, as Miller and Modigliani (1961) wrote, rational investors care only about the substance of their wealth, not its form. In the absence of transaction costs and taxes, paper losses are different from realized losses only in form, not in substance. Moreover, tax considerations give an edge to realized losses over paper losses because realized losses reduce taxes while paper losses do not.

Normal investors are you and me, and even wealthy and famous people such as Martha Stewart. We are not stupid, but neither are we rational by Miller and Modigliani’s definition. Evidence presented at Martha Stewart’s trial highlights her reluctance to realize losses. “Just took lots of huge losses to offset sonic gains,” Ms. Stewart wrote in an e-mail to Mark Goldstein, a friend, on December 22, 2001, “made my stomach turn.” If Ms. Stewart were rational, she would have felt her stomach turn when the prices of her stocks declined and she incurred her “paper” losses, but not when she realized her losses, since transaction costs associated with the realization of losses were likely small relative to its tax benefits.

Shefrin and Statman (1985) presented the reluctance to realize losses in a behavioral framework. They argue that the reluctance stems from a combination of two cognitive biases and
an emotion. One cognitive bias is faulty framing, where normal investors fail to mark their stocks to market prices. Investors open mental accounts when they buy stocks and continue to mark their value to purchase prices even after market prices have changed. They mark stocks to market only when they sell their stocks and close their mental accounts. Normal investors do not acknowledge paper losses because open accounts keep alive the hope that stock prices would rise and losses would turn into gains. But hope dies when stocks are sold and losses are realized.

The second cognitive bias that plays a role in the reluctance to realize losses is hindsight bias, which misleads investors into thinking that what is clear in hindsight was equally clear in foresight. Hindsight bias misleads investors into thinking that they could have seen losing stocks in foresight, not only in hindsight, and avoided them. The cognitive bias of hindsight is linked to the emotion of regret. Realization of losses brings the pain of regret when investors find, in hindsight, that they would have had happier outcomes if only they had avoided buying the losing stocks.

Postponing the realization of losses until December is one defense against regret. Normal investors tend to realize losses in December, and Ms. Stewart followed that practice when she realized her losses in December 2001. There is nothing rational in the role that December plays in the realization of losses. Investors get no more tax benefits from the realization of losses in December than in November or any other month. Indeed, Shefrin and Statman (1985) showed that it makes rational sense to realize losses when they occur rather than wait until December. The real advantage of December is the behavioral advantage. What is framed as an investment loss in November is framed as a tax deduction in December.

**Behavioral Portfolio Theory**

Behavioral portfolio theory, introduced by Shefrin and Statman (2000), is a goal-based theory. In that theory, investors divide their money into many mental account layers of a portfolio pyramid corresponding to goals such as secure retirement, college education, or being rich enough to hop on a cruise ship whenever they please.

The road to behavioral portfolio theory started more than 60 years ago when Friedman and Savage (1948) noted that hope for riches and protection from poverty share roles in our behavior; people who buy lottery tickets often buy insurance policies as well. So people are risk seeking enough to buy lottery tickets while they are risk-averse enough to buy insurance. Four
years later, Markowitz wrote two papers that reflect two very different views of behavior. In one, Markowitz (1952a), he created mean-variance theory, based on expected utility theory; in the other, Markowitz (1952b), he extended Friedman and Savage’s insurance-lottery framework. People in mean-variance theory, unlike people in the insurance-lottery framework, never buy lottery tickets; they are always risk averse, never risk seeking.

Friedman and Savage (1948) observed that people buy lottery tickets because they aspire to reach higher social classes, whereas they buy insurance as protection against falling into lower social classes. Markowitz (1952b) clarified the observation of Friedman and Savage by noting that people aspire to move up from their current social class or “customary wealth.” So, people with $10,000 might accept lottery-like odds in the hope of winning $1 million, and people with $1 million might accept lottery-like odds in the hope of winning $100 million. Kahneman and Tversky (1979) extended the work of Markowitz (1952b) into prospect theory. Prospect theory describes the behavior of people who accept lottery-like odds when they are below their levels of aspiration but reject such odds when they are above their levels of aspiration.

A central feature in behavioral portfolio theory is the observation that investors view their portfolios not as a whole, as prescribed by mean-variance portfolio theory, but as distinct mental account layers in a pyramid of assets, where mental account layers are associated with particular goals and where attitudes toward risk vary across layers. One mental account layer might be a “downside protection” layer, designed to protect investors from being poor. Another might be an “upside potential” layer, designed to give investors a chance at being rich. Investors might behave as if they hate risk in the downside protection layer, while they behave as if they love risk in the upside potential layer. These are normal, familiar investors, investors who are animated by aspirations, not attitudes toward risk.

In 2002, New York Times’ writer Mylene Mangalindan told the story of David Callisch, a man who bet on one stock. When Callisch joined Altheon WebSystems, Inc. in 1997, he asked his wife “to give him four years and they would score big,” and his “bet seemed to pay off when Altheon went public.” By 2000, Callisch’s Altheon shares were worth $10 million. “He remembers making plans to retire, to go back to school, to spend more time with his three sons. His relatives, his colleagues, and his broker all told him to diversify his holdings. He didn’t.” Unfortunately, Callisch’s lottery ticket turned out to be a loser.
Callisch’s aspirations are common, shared by the many who gamble on individual stocks and lottery tickets. Most lose, but some win. One lottery winner, a clerk in the New York subway system, said “I was able to retire from my job after 31 years. My wife was able to quit her job and stay home to raise our daughter. We are able to travel whenever we want to. We were able to buy a co-op, which before we could not afford.” Investors such as Mr. Callisch and lottery buyers such as the New York subway clerk aspire to retire, buy houses, travel, and spend time with their children. They buy bonds in the hope of protection from poverty, stock mutual funds in the hope of moderate riches, and individual stocks and lottery tickets in the hope of great riches.

Mean-variance portfolio theory and behavioral portfolio theory were combined recently as mental accounting portfolio theory by Das, Markowitz, Scheid and Statman (2010). Investors begin by allocating their wealth across goals into mental account layers, say 70 percent to retirement income, 20 percent to college funds, and 10 percent to being rich enough to hop on a cruise ship whenever they please. Next, investors specify the desired probability of reaching the threshold of each goal, say 99 percent for retirement income, 60 percent for college funds, and 20 percent for getting rich. Each mental account is now optimized as a sub-portfolio by the rules of mean variance theory, and each feasible goal is achieved with a combination of assets. For example, the retirement goal is likely to be achieved in a sub portfolio with a combination weighted toward bonds, the college goal is likely to be achieved in a sub-portfolio with a balanced combination of stocks and bonds, and the getting rich goal is likely to be achieved in a sub-portfolio with a combination weighted toward stocks, perhaps with some options and lottery tickets thrown in. The overall portfolio is the sum of the mental account sub portfolios and it, like the mental account sub-portfolios, lies on the mean variance efficient frontier.

**Behavioral Asset Pricing Model**

Stripped to their basics, all asset-pricing models are versions of the old reliable supply-and-demand model of introductory economics. The benefits that determine demand vary from product to product, but they can be classified into three groups, utilitarian, expressive, and emotional. The utilitarian benefits of a car include good gas mileage and reliability. Expressive benefits are those that enable us to signal to ourselves or others our values, social class, and tastes. Expressive characteristics include style (e.g. the style of a Jaguar automobile), and social
responsibility (e.g. the environmental responsibility of a Prius). Emotional benefits include pride (e.g. "having arrived" by a Rolls Royce) and exhilaration (e.g. BMW as the "Ultimate Driving Machine").

In the investment context, utilitarian features are often labeled “intrinsic,” while expressive and emotional features are often labeled “sentiment.” High expected returns and low risk are utilitarian benefits of a stock, and those who restrict the demand function to it are considered rational. The rubric of rationality is not so easily extended to expressive and emotional benefits, such as the benefit the display of social responsibility in a socially responsible mutual fund, the display of wealth in a hedge fund, or the excitement of an initial public offering.

What characteristics do stock buyers like? Investors like stocks with low volatility in prices and earnings. They also like stocks with large capitalization, high price-to-book ratios, high price-to-earnings ratios, low leverage, and more. Stocks with desirable characteristics fetch higher prices, and higher prices correspond to lower expected returns. Stocks with low book-to-market ratios (growth stocks) and large-cap stocks have low expected returns. In the behavioral asset pricing model (BAPM) (Shefrin and Statman (1994), Statman (1999), stocks with desirable characteristics have low expected returns.

The asset pricing model of standard finance is moving away from the capital asset pricing model (CAPM)—in which beta is the only characteristic that determines expected stock returns—toward a model that is similar to the BAPM. For instance, the three-factor model formulated by Fama and French (1992), popular in standard finance, adds market capitalization and book-to-market ratio to beta as characteristics that affect expected returns. One difference between this three-factor model of standard finance and the BAPM is in the interpretation of these characteristics. In standard finance, market capitalization and book-to-market ratios are interpreted as measures of risk; small-cap stocks and stocks with high book-to-market ratios (value stocks) are considered high-risk stocks, and the high risk justifies high expected returns.

In contrast, in behavioral asset pricing theory, the same characteristics are interpreted as reflections of affect, an emotion, and representativeness, a cognitive bias. Both lead investors to identify good stocks as stocks of good companies. Small-cap stocks and stocks with high book-to-market ratios (value stocks) are stocks of “bad” companies, (e.g., Bank stocks in 2008). These companies have negative effect, so investors shun them, depressing their prices and pushing up
their expected returns. Statman, Fisher and Anginer (2008) find that respondents in the *Fortune* surveys of admired companies consider stocks of small-cap, high book-to-market companies as unattractive investments, yet stocks of admired companies yielded lower returns, on average, than stocks of spurned companies.

Still, the road from the preferences of normal investors to security returns is not straightforward, as explained by Shefrin and Statman (1994) and more recently by Pontiff (2006). Suppose that most investors are indeed normal investors who believe, erroneously, that good stocks are stocks of good companies. But surely not all investors commit that error. Some investors are rational, investors aware of the biases of normal investors and seeking to capitalize on them favoring stocks of “bad” companies. Would rational investors not nullify any effect of normal investors on security prices through arbitrage? If the effects of normal investors on stock returns are nullified, risk-adjusted expected returns to stocks of good companies will be no different from risk adjusted expected returns to stocks of bad companies. However, if arbitrage is incomplete, risk-adjusted expected returns to stocks of bad companies will exceed risk-adjusted expected returns to stocks of good companies.

As we consider arbitrage and the likelihood that it would nullify the effects of the preferences of normal investors on stock price, we should note that no perfect (risk-free) arbitrage is possible here. To see the implications of imperfect arbitrage, imagine rational investors who receive reliable, but not perfect, information about the expected return of a particular stock. Imagine also that the nature of the information is such that the expected return of the stock as assessed by rational investors is higher than the expected return as reflected in the current price of the stock. It is optimal for rational investors to increase their holdings of the particular stock, but as the amount devoted to the stock increases, their portfolios become less diversified as they take on more idiosyncratic risk. The increase in risk leads rational investors to limit the amount allocated to the stock, and with it, limit their effect on its price.

**Market Efficiency**

Fama (1991) noted long ago that market efficiency per se is not testable. Market efficiency must be tested jointly with an asset pricing model, such as the CAPM or the three-factor model. For example, the excess returns relative to the CAPM of small-cap stocks and
stocks with high book-to-market ratios might indicate that the market is not efficient or that the CAPM is a bad model of expected returns.

The definition of “market efficiency” says that a market for a stock is efficient if the price of a stock is always equal to its intrinsic value. A stock’s intrinsic value is the present value of cash flows the stock can reasonably be expected to generate, such as dividends. Over the years, the definition of “market efficiency” became confused with the notion that a market is efficient when you cannot beat it by earning excess returns (or positive “alpha”). To earn excess returns, you must identify deviations of price from intrinsic value and then buy undervalued securities and sell overvalued ones. Logically, a market that is efficient in terms of the price-equals-intrinsic-value definition is also a market that cannot be beaten, but a market that cannot be beaten is not necessarily efficient. For example, think of a market in which price deviates greatly from intrinsic value, such as during a bubble. Still, you cannot beat the market unless you have a way to take advantage of differences between price and value, and that’s not always possible. Plenty of investors believed that the stock market was experiencing a bubble in 1998, yet plenty of them lost much money by shorting stocks in 1999.

We have much evidence that stock prices regularly deviate from intrinsic value, so we know that markets for stocks are not always efficient. Richard Roll (1988) found that only 20 percent of changes in stock prices can be attributed to changes in intrinsic value, and Ray Fair (2002) found that many changes in the S&P 500 Index occur with no change in intrinsic value. The stock market crash of 1987 stands out as an example of deviation from market efficiency. The U.S. stock market dropped more than 20 percent in one day, October 19, 1987 (popularly referred to as “Black Monday”). No one has been able to identify any change in the intrinsic value of U.S. stocks that day that might come close to 20 percent. The problem of joint testing makes much of the debate on market efficiency futile. Proponents of standard finance regard market efficiency as fact and challenge anomalies that are inconsistent with it. For their part, investment professionals who claim that they can beat the market regard market efficiency as false and delight in anomalies that are inconsistent with it. Standard finance proponents were happy with the CAPM as its asset pricing model as long as it served to show that markets are efficient, but they abandoned the CAPM in favor of the three-factor model when the CAPM produced anomalies inconsistent with market efficiency. The problem of jointly testing market efficiency and asset pricing models dooms us to attempt to determine two variables with only
one equation. Instead, we can assume market efficiency and explore the characteristics that make an asset pricing model or we can assume an asset pricing model and test market efficiency. I'm inclined toward the former. When we see a Toyota automobile in a showroom with one price tag side by side with a Lexus with a higher price tag we are inclined to look to the automobile asset pricing model for reasons for the price difference rather than conclude that the automobile market is inefficient. Does the Lexus have leather seats while the Toyota's seats are upholstered in cloth? Does the Lexus nameplate convey higher status than the Toyota nameplate? The same is true when we see stock A with an expected return of 8% and stock B with an expected return of 6 percent.

**Elegant Theories and Testable Hypotheses**

The statement that behavioral finance is an interesting collection of stories but does not offer the equivalent of the comprehensive theory and rigorous tests of standard finance is as common as it is wrong. When people think about standard finance, they usually think about the CAPM and mean variance portfolio theory. These two models are elegant, but no one uses them. The elegant CAPM has been replaced as standard finance’s asset pricing model by the messy three-factor model, which claims that expected return is not really a function of beta but of equity market capitalization and the ratio of book value to market value. In turn, the three-factor model has become the four-factor model with the addition of momentum and the five-factor model with the addition of liquidity. The list is likely to grow. Similarly, no one applies mean-variance theory or its optimizer in their elegant forms. Instead, it is constraints on the optimizer that determine mean-variance optimal portfolios, and these constraints are often rooted in behavioral consideration. A constraint on the proportion allocated to foreign stocks is one example, driven by “home bias.” But we don’t need elegant models; we need models that describe real people in real markets. These are the models of behavioral finance.

Behavioral finance offers behavioral asset pricing theory and behavioral portfolio theory, which are no less elegant than the models of standard finance and are much closer to reality. Moreover, behavioral finance offers testable hypotheses and empirical assessments that can reject these hypotheses if they deserve to be rejected. For example, Shefrin and Statman (1985) offered the testable "disposition" hypothesis that investors are disposed to hold on to losing
stocks. This hypothesis can be rejected by empirical evidence that in are quick to realize losses. But the evidence among many types of investors in many countries supports the hypothesis.

Types of Investors

Because the market's behavior is impacted and determined by how individuals perceive that behavior, investor psychology and sentiment are fundamental to whether the market will rise or fall.

Stock market performance and investor psychology are mutually dependent.

- Bull Investor
- Bear Investor
- Savers
- Speculators
- Specialists

**Bull Investor:** An investor who expects prices to rise and so buys now for resale later. It is a prolonged period where the investment prices rise faster than their historical average.

**Bear Investor:** An investor who expects prices to fall and so sells now in order to buy later at a lower price. The chances of losses are greater here as prices are continuously falling and the end is not in sight.

**Savers:** Savers are those people who spend the majority of their life slowly growing their “nest egg” in order to ensure a comfortable retirement. Their primary investing strategy is to hedge each of their investments with other “non-correlated” investments, and ultimately generate a consistent annual return in the range of 3-8%.

**Speculators:** Unlike Savers, Speculators choose to take control of their investments, and not rely solely on “time”. Speculators are happy to forgo the relatively low returns of a diversified portfolio in order to try to achieve the much higher returns of targeted investments.

**Specialists:** Specialists believes that the key to successful investing isn’t luck but it’s education and experience. The Specialist generally picks a single investing area, and becomes an expert in that area. Some Specialists deal in paper assets, some deal in real estate, and some start businesses.
Understanding Investor Behavior

When it comes to money and investing, we're not always as rational as we think we are—which is why there's a whole field of study that explains our sometimes-strange behavior. Where do you, as an investor, fit in? Insight into the theory and findings of behavioral finance may help you answer this question.

Behavioral Finance: Questioning the Rationality Assumption.

Much economic theory is based on the belief that individuals behave in a rational manner and that all existing information is embedded in the investment process. This assumption is the crux of the efficient market hypothesis.

But, researchers questioning this assumption have uncovered evidence that rational behavior is not always as prevalent as we might believe. Behavioral finance attempts to understand and explain how human emotions influence investors in their decision-making process. You'll be surprised at what they have found.

Psychological factors can actually explain why different investors behave in different ways which affect their investment decisions. Investors might actually overreact towards some information that they gained and under react towards others. One of the most common investor behaviors is overconfidence in their judgment towards the market. This actually happens when they actually underestimate the risk of the investment. The major mistake of all is when they are overconfidence towards the market; they tend to trade too much which will lead them to high transaction costs. The transaction costs might even exceed the returns that they gained.

The second behavior is the investor tends to have biased self- attribution which means that they will take all the credit for the returns that they received and they will blame others for their losses that they encountered. This kind of investors will usually support the information that favor their beliefs and they will underestimate or not considering the information that are against them. They usually see the failure to get the returns as the result of the factors that are beyond their control.

The third behavior is known as loss aversion. This behavior often happens to the investors that dislikes the losses much more than the gains. For example, when a person loss
$200, the loss that he experience will have a bigger impact on him compare with when he is gaining $200. The investor will usually hang on to the losing stock hoping the price of the stock will bounce back. They will sell the gaining stock rather than the losing stock.

The fourth behavior will be representativeness. The investor will usually make strong conclusions from a very small sample. This means that they actually ignore or underestimate the effects of random chance. One of the examples is when a stock broker helps the investors to gain from the market for consecutive three months, the investor will assume that the stock broker will maintain his performance and continue to help him to earn the returns. But actually the investor overlooks a few matters in this case. Firstly, the investment period is only three months which is a very short time period. Secondly, the results of the stock broker might just be driven by random chance. The investor should analyze the investment results for a longer time period before making the judgment that they choose the right stock broker and they are investing at the right investment.

Another behavior that most investor might have is the belief perseverance. This actually means that the investor will just simply ignore the information that is against their existing belief. They will even avoiding themselves from finding any new information because they afraid that the new information is against their initial opinion. Once the investor has decided that they make the right choice, they will believe it even though there is evidence proving that their choice is wrong.

Basically, these are the few of the investor behaviors that explain their actions when dealing with the investment. Some investors might posses one of the behaviors but some of them might posses few of these behaviors at one time. Understand these behaviors will help the investors to react in the market efficiently.
Chapter-2
Theories of Behavioral Finance
Theories of Behavioural Finance

- Prospect Theory
- Regret Theory
- Anchoring
- Over-And-Under Reaction

Prospect Theory:

Meaning:

- Tversky and Kahneman (1979) developed the theory showing how people manage risk.
- Explaining the apparent regularity in human behaviors when assessing risk under uncertainty.
- People respond differently to equivalent situations depending on whether it is presented in the context of a loss or a gain.
- Investors are risk hesitant when chasing gains but become risk lovers when trying to avoid a loss.
- Prospect theory is a mathematically formulated alternative to the theory of expected utility maximization. The utility theory offers a representation of truly rational behavior under certainty. According to the expected utility theory investors are risk averse. Risk aversion is equivalent to the concavity of the utility function, i.e. the marginal utility of wealth decreases.
- Every additional unit of wealth is valued less than the previous equivalent increase in wealth. Despite the obvious attractiveness of this expected utility theory, it has long been known that the theory has systematically failed to predict human behavior, at least in certain circumstances. Kahneman and Tversky present in Prospect Theory (1979), the following.
- Experimental evidence to illustrate how investors systematically violate the utility theory.
Example of the Prospect Theory

Let us say one has to choose between

- **SITUATION-2 (i):**
  a) A sure gain of Rs.2000
  b) 25% chance to gain Rs.1000 and 75% chance to gain nothing

Now choose between

**SITUATION-2 (ii):**

a) A sure loss of Rs.7,500

b) 75% chance to loss Rs.10,000 and 25% chance to lose nothing

- A large majority of people Choose A in situation 2(i) and b in situation 2(ii).
- In first situation the sure GAIN OF 2000 seems most attractive whereas in second situation the sure loss is repellent and the chance to lose nothing induces a preference for taking risk.
Regret Theory

Meaning

• Emotional reaction to having made an error of judgment.
• Investors avoid selling stocks that have gone down in order to avoid the regret of having made a bad investment and the embarrassment of reporting the loss.
• They find it easier to follow the crowd and buy a popular stock: if it subsequently goes down, it can be rationalized as everyone else owned it.
• Investors defer selling stock that have gone down in value and accelerate the selling of stock that has gone up.

There is a human tendency to feel the pain of regret for having made errors, even small errors. It’s a feeling of ex post remorse about a decision that led to a bad outcome. If one wishes to avoid the pain of regret, one may alter one’s behavior in ways that would in some cases be irrational. Regret theory may help explain the fact that investors, as explained in the section covering loss aversion, defer selling stocks that have gone down in value and accelerate the selling of stocks that have gone up in value (Shefrin and Statman, 1985). The theory may be interpreted as implying that investors avoid selling stocks that have gone down in order not to finalize the error they make and in that way avoid feeling regret. They sell stocks that have gone up in order not to feel the regret of failing to do so before the stock later fell. This behavior has been documented using volume of trade data by Ferris, Haugen and Makhija (1988) and Odean (1996).

Example of the Regret Theory

Sales professionals typically attempt to capitalize on this behavior by offering an inferior option simply to make the primary option appear more attract.

Anchoring Theory

Meaning

• Anchoring is a phenomenon in which in the absence of better information, investors assume current prices are about right.
• Anchoring describes how individuals tend to focus on recent behavior and give less weight to longer time trends.
• People tend to give too much weight to recent experience, extrapolating recent trends that are often at odds with long run average and probabilities.
• In the absence of any better information, past prices are likely to be important determinants of prices today. Therefore, the anchor is the most recently remembered price.

    Anchoring refers to the decision-making process where quantitative assessments are required and where these assessments may be influenced by suggestions. People have in their mind some reference points (anchors), for example of previous stock prices. When they get new information they adjust this past reference insufficiently (under reaction) to the new information acquired. Anchoring describes how individuals tend to focus on recent behavior and give less weight to longer time trends.

    **Example of the Anchoring Theory**

    • XYZ stock had very strong revenue in the last year, causing its share price to shoot up from $25 to $80.

    • One of the company's major customers, who contributed to 50% of XYZ's revenue.

    • Decides not to renew its purchasing agreement with XYZ causes a drop in XYZ's share price from $80 to $40.

    • By anchoring to the previous high of $80 and the current price of $40, the investor erroneously believes that XYZ is undervalued.

    • Keep in mind that XYZ is not being sold at a discount, instead the drop in share value is attributed to a change to XYZ's fundamentals.

    • In this example, the investor has fallen prey to the dangers of anchoring.

    **Over-And-Under Reaction**

    • The most robust finding in the psychology of judgment needed to understand market anomalies is overconfidence.
• People tend to exaggerate their talents and underestimate the likelihood of bad outcomes over which they have no control.
• The greater confidence a person has in himself, the more risk there is of overconfidence.
• Managers overestimate the probability of success in particular when they think of themselves as experts.
• People tend to become more optimistic when the market goes up and more pessimistic when the market goes down.

The key behavioral factor and perhaps the most robust finding in the psychology of judgment needed to understand market anomalies is overconfidence. People tend to exaggerate their talents and underestimate the likelihood of bad outcomes over which they have no control. The combination of overconfidence and optimism causes people to overestimate the reliability of their knowledge, underestimate risks and exaggerate their ability to control events, which leads to excessive trading volume and speculative bubbles. The greater confidence a person has in himself, the more risk there is of overconfidence. This applies, in particular, to areas where people are not well-informed – self-confidence usually bears no relation to their actual knowledge (Goldberg, von Nitsch, 2001). A surprising aspect is the relationship between overconfidence and competence. March and Shapira (1987) showed that managers overestimate the probability of success in particular when they think of themselves as experts.

**Example of the Over-And-Under Reaction Theory**

• In the month of May, 2008 when Sensex was touching 22000 still investors were predicting that it will touch 25000 or 30000 without realizing it was the extreme situation.
• Investors were putting too much weight on current situation and became optimistic.

**Speculative Bubbles**

A speculative bubble can be described as a situation in which temporarily high prices are sustained largely by investors’ enthusiasm rather than by consistent estimations of real value. The essence of a speculative bubble is a sort of feedback, from price increases to increased investor enthusiasm, to increased demand, and hence further price increases. According to the
adaptive expectations version of the feedback theory, feedback takes place because past price increases generate expectations of further price increases. According to an alternative version, feedback occurs as a consequence of increased investor confidence in response to past price increases. A speculative bubble is not indefinitely sustainable. Prices cannot go up forever and when price increases end, the increased demand that the price increases generated ends. A downward feedback may replace the upward feedback.

Financial speculative bubbles are prime examples of markets that do not always work perfectly. Despite strong evidence that the stock market is highly efficient, which means that one cannot earn abnormal profits by trading on publicly available information, there have been a number of studies documenting long-term historical anomalies in the stock market that seem to contradict the efficient market hypothesis.
Factors Underlying the Speculative Bubble

There are several factors that can help explain speculative bubbles. Structural factors, such as technology and demography, lie outside the stock market itself, but nevertheless shape the market behavior. Cultural factors are factors that further reinforce the structure of speculative bubbles, such as the new economy phenomenon. Finally, psychological factors contribute in defining and explaining the speculative bubble. These three categories and the factors therein are illustrated below.

Speculative Bubble - Factors

- Structural Factors
  - Cultural Changes Favoring Business Success or the Appearance Thereof.
  - The Baby Boom and Its Perceived Effects on the Market.
  - Analyst’s Increasingly Optimistic Forecasts.
  - The Growth of Mutual Funds & the Introduction of the Premiepensionsvalet.
  - The Decline of Inflation and the Effects of Money Illusion.
  - Expansion of the Volume of Trade: Brokers, Day Traders, and Twenty-Four Hour Trading.
  - The Rise of Gambling Opportunities.

- Cultural Factors

- Psychological Factors
Cultural Factors

**THE MEDIA**
- Propagators of speculative price movements
- Integrated part of the market events
- Do stock prices change on days with big headlines?

**The New Economy**
- Low Inflation and Economic stability
- Boom year 1960s Vs Boom year 1990s
- New Economic Era

**Public attention to the market**
- Quality of the story
- Statman and Steven Thorley statistical

Psychological Factors

**Expectations & Emotions**
- Market could repeat the performance
- Emotional state of investors

**Personal Experience**
- First trade experience
- Successful market participants
Structural Factors

In the following, we will concentrate on nine factors that have had an effect on the market that is not warranted by rational analysis of economic fundamentals. We will however omit a number of factors that should rationally have an effect on the variation of the market, e.g. growth in earnings and the change in real interest rates.

The Arrival of New Technology at a Time of Solid Earnings Growth

Few people had ever used a cellular phone and even fewer had heard of the Internet and the World Wide Web in the mid 1990s. In the matter of just a few years these technologies have become common ubiquitous things to use, making us intimately conscious of the pace of technological change. Although the Internet businesses were not making any profits, people had a strong faith in that the young and inexperienced entrepreneurs would compete with the traditional businesses on equal terms. Earnings increased in the mid 1990s and they were attributed to the birth of the new era but in fact had little to do with the Internet. Instead the earnings growth was attributable by analysts to a continuation of the recovery from the economic turmoil and recession of the early 1990s, coupled with a weak the Swedish krona as well as cost cutting and dismissal of employees. It could not have been the Internet that caused the growth in profits; the booming IT companies were not making much of a profit yet.

The simultaneous occurrence of profit growth with the appearance of the new technologies led the minds of people to believe there was a connection between the two events. The lineage was especially strong with the advent of the new millennium – a time of much optimism and hopefulness of the future.

Cultural Changes Favoring Business Success or the Appearance Thereof

The bull market has been followed by a rise in materialistic values. A survey in both 1975 and 1994 asked people what they valued in life (Bowman, 1996). In 1975, 38% picked “a lot of money”, whereas in 1994 63% picked this alternative.

Materialistic values do not by themselves have any logical bearing on the level of the stock market but it is reasonable to expect that people save for the future and an upcoming retirement. Stocks have long held out at least the possibility of amassing substantial and easily
gained wealth. The notion that investing in stocks is a road to quick riches has a certain appeal to many people.

The release of many workers in the early 1990s probably led people to change how they view their lives. The experience of being discharged, or at least hearing about others being fired, have probably had an impact on how people look upon the dependence of the employer and a will to take the economic control of their lives. By investing in stocks, bonds and other financial assets people have been able to build up a buffer in case of being dismissed. Firms have tilted their compensation packages to management away from fixed salaries toward participation and result-based compensations such as stock options. With such options management has an incentive to do everything possible to boost share prices. They have an incentive to maintain an appearance of corporate success and a corporation working its way toward an impressive future with increasing profits. It seemed as a strategy to boost the stock value in the late 1990s and to refine the company’s objectives and announcing that it was a part of the e-business society.

The Baby Boom and Its Perceived Effects on the Market

In the years following World War II, there was a substantial increase in the birth rate, not only in Sweden but in many countries throughout Western Europe and the United States. Peacetime growth encouraged, those who had postponed families because of the depression and the war, to have children. Then, in the mid 1960s, the birth rate eventually declined and returned to a more normal level. The unusual decline was not unique and it did not occur because of starvation or war, but because of an endogenous decline in the birth rate (Cohen, 1998). Some factors contributing to the decline were advances in birth control and social changes that accepted the legality of contraception and abortion. The baby boomers had by the end of last century reached the ages when they began saving for their retirements. Two theories suggest that the presence of a large number of middle-aged people ought to boost today’s stock market. The first theory justifies the high price-earnings ratios we see today. This could be seen as a result of those baby boomer’s competing against each other to buy stocks in order to save for their eventual retirement and bidding share prices up relative to the earnings they generate. The second theory indicates that it is spending on current goods and services that forces the share
prices up through a generalized positive effect on the economy: high expenditures mean high profits for companies.

**Analyst’s Increasingly Optimistic Forecasts**

According to a study in Sweden, analysts at the big business banks gave strong buy recommendations in two out of three cases to companies, which the banks have underwritten (Huldschiner, 2001). Not in a single case did the investment banks give sell-recommendations. Banks that have not been involved in the IPOs are less optimistic about the future of the companies. In one out of three cases the independent bank gave strong sell-recommendations. A study performed in the United States gave similar results; analysts’ recommendations on 6,000 companies showed no more than 1% of the recommendations were sell recommendations in late 1999 while 69.5 % were “buys” and 29.9 % were “holds”. This is a stunning result compared with a study ten years earlier in which 9.1% of the recommendations were sell-recommendations (Shiller, 2000). The lack of objectivity can be explained in many ways, a bank may overrate its analyses in order to get more corporate finance orders since the bank may act as advisor in potentially profitable emissions by the companies in the future. Another reason may be that a sell-recommendation might incur the wrath of the company involved. Companies can retaliate by refusing to talk with analysts, whom they view as submitting negative reports, excluding them from information sessions and not offering them access to key executives as they prepare earnings forecasts. Another reason may be that firms underwriting securities employ a large number of the analysts, and these firms do not want their analysts to do anything that might jeopardize this lucrative side of business. Analysts affiliated with investment banks give significantly more favorable recommendations on firms for which their employer is the co- or lead underwriter than do unaffiliated analysts, even though their earnings forecasts are not usually stronger.

**The Growth of Mutual Funds & the Introduction of the Premiepensionsvalet**

The stock market boom coincided with a peculiar growth spurt in the mutual fund industry and a proliferation of advertising for mutual funds. The first mutual fund investing in stocks in Sweden was introduced in the 1950s by *Handelsbanken*. It was difficult to encourage people to invest money in the fund and by the early 1970s there was no more than 300 MSEK in
those ten mutual funds that were offered by the market. The first large upswing in fund saving came in 1984 when the *allemanssparr* was introduced. There were two options in the allemanssparr, an interest-savings account (allemanssparrkonto) or an equity-savings account in a mutual fund (allemanssfond). There was an incentive to use this kind of saving since the yield was tax exempt until 1991. Dividends from allemanssfonds were taxable by 20% tax until January 1, 1997; this should be compared with a 30% tax on capital income. The popularity of the allemanssfonds grew quickly and by 1986-87 8,400 MSEK had been invested in the funds; this amount had grown to 75,000 MSEK in 2000. The allemanssfonds were the first big breakthrough for mutual funds in Sweden and people have since then learned to appreciate the advantages of diversifying the risks by investing in more than one security. In 1989, the opportunity to invest in foreign stocks became a reality. There were initially ten funds with a total capital of around 880 MSEK, five years later 6,600 MSEK had been invested in funds investing in foreign stocks. Today there are around 350 funds with roughly 50,000 MSEK invested (Fondex).

The level of knowledge and education among people and investors may also play an important role in the valuation of stocks. Thanks to mutual funds and media, investors have learned to hold for the long term and to see price declines as transitory — and as buying opportunities. Therefore investors may have learned that diversified portfolios of stocks are not risky, and that stocks are much more valuable as investments than they had formerly thought. As a result they are now willing to pay much more for stocks. Because of this increased demand for stocks, the stock market will perpetually remain at a higher level in the future.

**The Decline of Inflation and the Effects of Money Illusion**

Money illusion is the failure to recognize the difference between nominal and real values, or the tendency to continue to attach some importance to nominal values even though real ones are recognized. This is common among most decision-makers, and remains persistent, even after substantial learning it is not entirely eliminated (Schwartz, 2000). The Swedish economic outlook and inflation, as measured by the percentage change in the Consumer Price Index, has improved with the bull market during the 1990s. Why is inflation so bad? There are many reasons for this and one of them is that the public pays attention to high levels of inflation. Studies in the United States have shown that people widely believe that the inflation rate is a good measurement of the economic and social health of the nation (Shiller, 1997). High inflation
is regarded as a sign of economic disarray, of a loss of basic values, and a disgrace to the nation. Low inflation is viewed as a sign of economic prosperity, social justice, and good government. Thus, it is not surprising that a lower inflation rate boosts public confidence and hence stock market valuation.

The Expansion of the Volume of Trade

The turnover, number of shares times the value, for the Stockholm Stock Exchange has increased from 130,000 MSEK in 1991 to roughly 4,550,000 MSEK in 2000 (Stockholm Stock Exchange). This is a 3400% increase in no more than 10 years or an annual average equivalent of 42.3%. The higher turnover rate may be due to an increased interest in the market as a result of other factors mentioned here but another important factor is the declining cost of making a trade. This may be a result of fiercer competition and the increase of discount brokers on the Internet but also technological changes play a part in the lowering of transaction costs. The advent of online discount brokers may have spawned a growing number of amateur investors who can “day trade”, that is, try to make profits by rapidly trading stocks using the same order execution systems used by professionals. The growth of the online trading, as well as the associated Internet-based information and communication services, may well encourage minute-by-minute attention to the market. After-hours trading on the stock exchange also has the potential to increase the level of attention paid to the market, as investors can track price changes in their living rooms during their spare time.

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<td>Average Size of a</td>
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<td>Closed Contract</td>
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<td>Average Daily Turnover</td>
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<td>2,648</td>
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<td>Stock Turnover (BN SEK)</td>
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<td>171</td>
<td>339</td>
<td>659</td>
<td>665</td>
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<td>Share Turnover (Millions)</td>
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<td>5,981</td>
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<td>9,021</td>
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<td>Market Value (BN SEK)</td>
<td>558</td>
<td>552</td>
<td>892</td>
<td>976</td>
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<td>1,688</td>
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<td>2,413</td>
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<td>Number of Closed Contracts (Thousands)</td>
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<td>4,836</td>
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<td>Turnover Velocity (%)</td>
<td>21</td>
<td>32</td>
<td>45</td>
<td>71</td>
<td>61</td>
<td>66</td>
<td>66</td>
<td>76</td>
<td>94</td>
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Source: Stockholm Stock Exchange

Table 1. Key Numbers from the Stockholm Stock Exchange 1991 - 2000
The Rise of Gambling Opportunities

The number of available gambling institutions has increased during the last decade. Today, people can participate in gambling via television, the Internet, and different kinds of machines in restaurants and cafés - even in casinos run by the state. The increased frequency of actual gambling can have potentially important effects on our culture and on changed attitudes toward risk taking in other areas, such as investing in the stock market. Gambling suppresses natural inhibitions against taking risks and some of the gambling games, in particular the lotteries, superficially resemble financial markets. One deals with a computer, one receives a certificate, the lottery ticket, and after having established a habit of participating in such gambling, it would be a natural thing to move on to a more upscale form, speculation in securities.

A spillover from gambling to financial volatility may originate from gambling, and the institutions that promote it yield an inflated estimate of one’s ultimate potential for good luck, a heightened interest in how one performs compared with others, and a new way to stimulate oneself out of a feeling of boredom or monotony (Shiller, 2000). Today we are constantly subjected to highly professional advertisements that try to foster such attitudes. In radio, television and on public billboards people are encouraged to choose mutual funds for their future retirement. These marketing efforts, and the experience of gambling or seeing others gamble, may well have the effect of also encouraging frivolous risk-taking behavior in the stock market.

Cultural Factors

This section will describe cultural factors, which further reinforce the structure of speculative bubbles, such as

- The Media
  1) Do Stock Prices Change on Days with Big Headlines?
  2) Major Stock Price Changes on Days with No News
- The New Economy
- Public Attention to the Market
The Media

The news media has during all times had a close relation to the expansion and consequences of speculative bubbles. Probably the most famous of all bubbles was the Dutch tulip mania in the 1630s in which newspapers played an important role for the propagation of the hysteria (Garber, 2000). Although the news media present themselves as unbiased observers they are an integrated part of the market events because they are interested in getting as many viewers and readers as possible. Significant market events generally occur only if there is similar thinking among large groups of people, and the news media are essential vehicles for the spreading of ideas. The media actually plays two roles; they set the stage for market moves but they also instigate the moves themselves. The news media are in constant competition to capture the public attention they need in order to survive. Survival for them requires finding and defining interesting news, focusing attention on the news that has potential and whenever possible, defining an ongoing story that encourages their audience to remain regular customers. The media actively shape public attention and categories of thought, and they create the environment within which the stock market events we see are played out. The news media are fundamental propagators of speculative price movements through their efforts to make news interesting to their audience. They sometimes strive to enhance such interest by attaching news stories to stock price movements that the public has already observed, thereby enhancing the salience of these movements and focusing greater attention to them. They may also remind the public of past market episodes, or of the likely trading strategies of others. Thus the media can sometimes foster stronger feedback from past price changes to further price changes. As a consequence the media can also foster another sequence of events.

Do Stock Prices Change on Days with Big Headlines?

What about real news then, what is the reaction to real unquestionable events? Is significant news followed by stock price changes? A study carried out by Victor Niederhoffer in the United States in 1971 sought to establish whether days with news of significant world events corresponds to days with big stock price movements. The study comprised of 432 headlines in the *New York Times* between 1950 and 1966. Some of these events were the Korean War, Russian troops threatening Hungary and Poland in 1956, the Suez crisis of 1956, the Cuban tensions in 1960 and 1962, and the assassination of President John F Kennedy in 1963. The study
concluded that the S&P Composite Index over this period demonstrated substantial one day increases (of more than 0.78%) on only 10% of the trading days and substantial one-day decreases (of more than 0.71%) on only 10% of the trading days. Of the 432 significant world-event days, 78 (18%) showed big increases and 56 (13%) showed big decreases. Thus such days were only slightly more likely to show large price movements than other days (Niederhoffer, 1971). Niederhoffer claimed that the stories belonging to the headlines did not seem likely to have much impact on the fundamental value represented by the stock market.

The media might have thought that what seemed to be big national news was not what was really important to the stock market. He speculated that news events that represent crises were more likely to influence the stock market. Niederhoffer found that during crises, defined as a time when five or more large headlines occurred within a seven day-period, 42% of the daily changes were “big”, as compared with 20% for other, “normal” time periods. Thus the crisis periods were somewhat, but not dramatically, more likely to be accompanied by big changes in stock prices. Niederhoffer found eleven such crises, i.e. weeks, during the sixteen-year-time-period. Very few of the aggregate price movements in the stock market show any meaningful association with headlines.

**Major Stock Price Changes on Days with No News**

What about big price changes on days with no major breaking news? A study in 1989 compiled a list of the fifty largest American stock market movements, as measured by the S&P Index since World War II. Most of the so-called explanations do not correspond to any unusual news, and some of them could not even be considered serious news (Cutler et al., 1989). According to the Efficient Market Hypothesis, see section 3.1.1, stock prices respond to news as soon as they occur, not when the media reports about them. This could then be an argument against the idea of finding breaking news on days of large stock price movements. Another reason may be that the confluence of many small events may cause a major change, although the events separately are too small to make any difference. News stories occurring on days of big price swings that are cited as the causes for changes often cannot possibly account for the changes, or at least not for the full magnitude. Often the news stories concern a single firm, and when one considers how much of the total market value the stock of the firm represents, one can easily conclude that it is improbable that a single company should have such an impact on the
total market. One can easily claim however; that the event is viewed by the market as a watershed event, indicating that many similar events may occur, which will affect firms in the same industry.

**Investing and Herd Mentality: Are You a Lemming?**

Many investors react to market conditions like lemmings:
Stampeding up the high mountain when markets are rising and down into the cold deep sea when markets are falling!
This "herd" mentality can be extremely dangerous to your pocketbook.

**Why?**

Because investors often get into the market too late and get out too early!

You should never let emotions cloud your trading judgment. But you can turn the crowd's fear and greed to your advantage!

To exploit market psychology, you must act in a contrarian fashion, taking the contrary course when the crowd falls prey to its emotions.

Extreme optimism can coincide with market tops. People think the sky's the limit and send stock prices flying. Savvier investors sell into this frenzy and run to cash. The market tanks soon afterward!
Extreme pessimism can be bullish. Toward the end of a big decline, the last bulls throw in the towel and sell with a vengeance. Cooler heads smell a fire sale. They dive into the market and buy equities with both hands to launch the next rally!

Studies by economists and psychologists have found that investors are most influenced by recent events — market news, political events, earnings, and so on — and ignore long-term investment and economic fundamentals.

Furthermore, if a movement starts in one direction, it tends to pick up more and more investors with time and momentum.

The impact of this lemming-like behavior has been made worse in recent years because financial, economic, and other news affecting investor psychology travel faster than ever before.

Capital can also flow now between nations with surprising ease, so that international markets respond more quickly to sudden changes with a domino effect in the direction of investor buying and selling.

**Counterviews: Is Irrational Behavior an Anomaly?**

As we seen earlier, behavioral finance theories directly conflict with traditional finance academics. Each camp attempts to explain the behavior of investors and the implications of that behavior. So, who's right?

The theory that most overtly opposes behavioral finance is the efficient market hypothesis (EMH), associated with Eugene Fama (Univ. Chicago) & Ken French (MIT). Their theory that market prices efficiently incorporate all available information depends on the premise that investors are rational. EMH proponents argue that events like those dealt with in behavioral finance are just short-term anomalies, or chance results, and that over the long term these anomalies disappear with a return to market efficiency.

Thus, there may not be enough evidence to suggest that market efficiency should be abandoned since empirical evidence shows that markets tend to correct themselves over the long
term. In his book "Against the Gods: The Remarkable Story of Risk" (1996), Peter Bernstein makes a good point about what's at stake in the debate:

"While it is important to understand that the market doesn't work the way classical models think - there is a lot of evidence of herding, the behavioral finance concept of investors irrationally following the same course of action - but I don't know what you can do with that information to manage money. I remain unconvinced anyone is consistently making money out of it."
Chapter-3
Behavioral Finance Related to Stock Market
Behavioral Finance Related to Stock Market

A stock market or equity market is a public entity (a loose network of economic transactions, not a physical facility or discrete entity) for the trading of company stock (shares) and derivatives at an agreed price; these are securities listed on a stock exchange as well as those only traded privately.

The size of the world stock market was estimated at about $36.6 trillion at the beginning of October 2008. The total world derivatives market has been estimated at about $791 trillion face or nominal value, 11 times the size of the entire world economy. The value of the derivatives market, because it is stated in terms of notional values, cannot be directly compared to a stock or a fixed income security, which traditionally refers to an actual value. Moreover, the vast majority of derivatives 'cancel' each other out (i.e., a derivative 'bet' on an event occurring is offset by a comparable derivative 'bet' on the event not occurring). Many such relatively illiquid securities are valued as marked to model, rather than an actual market price.

Function and purpose

The stock market is one of the most important sources for companies to raise money. This allows businesses to be publicly traded, or raise additional financial capital for expansion by selling shares of ownership of the company in a public market. The liquidity that an exchange provides affords investors the ability to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as real estate. Some companies actively increase liquidity by trading in their own shares.

History has shown that the price of shares and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. An economy where the stock market is on the rise is considered to be an up-and-coming economy. In fact, the stock market is often considered the primary indicator of a country's economic strength and development.

Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and,
in general, on the smooth operation of financial system functions. Financial stability is the raison d'être of central banks.

Exchanges also act as the clearinghouse for each transaction, meaning that they collect and deliver the shares, and guarantee payment to the seller of a security. This eliminates the risk to an individual buyer or seller that the counterparty could default on the transaction.

The smooth functioning of all these activities facilitates economic growth in that lower costs and enterprise risks promote the production of goods and services as well as possibly employment. In this way the financial system is assumed to contribute to increased prosperity.

**Stock Exchanges in India**

Stock exchanges provide an organized market for transactions in shares and other securities. As of 2003, there are 23 stock exchanges in the country, 20 of them regional ones with allocated areas of operation. Of the 9855 or so public companies that have listed their shares in stock exchanges, around 500 account for 99.6 per cent of the trading turnover, nearly all of which is on the primary exchanges i.e. Bombay stock exchange and National stock exchange. The Bombay stock exchange and National stock exchange together account for nearly 72 per cent of all capital market activity in India. The other major exchanges are the Calcutta, Delhi, and Ahmadabad. The remaining exchanges account for only 4 per cent of the Indian capital market activity.

**Details of Stock Market in India**

1) **National Stock Exchange**

2) **Bombay Stock Exchange**
The National Stock Exchange (NSE) (राष्ट्रीय शेअर बाज़ार) is a stock exchange located at Mumbai, Maharashtra, India. It is the 9th largest stock exchange in the world by market capitalization and largest in India by daily turnover and number of trades, for both equities and derivative trading. NSE has a market capitalization of around US$1.59 trillion and over 1,552 listings as of December 2010. Though a number of other exchanges exist, NSE and the Bombay Stock Exchange are the two most significant stock exchanges in India, and between them are responsible for the vast majority of share transactions. The NSE’s key index is the S&P CNX Nifty, known as the NSE NIFTY (National Stock Exchange Fifty), an index of fifty major stocks weighted by market capitalisation.

NSE is mutually-owned by a set of leading financial institutions, banks, insurance companies and other financial intermediaries in India but its ownership and management operate as separate entities. There are at least 2 foreign investors NYSE Euronext and Goldman Sachs who have taken a stake in the NSE. As of 2006, the NSE VSAT terminals, 2799 in total, cover more than 1500 cities across India. NSE is the third largest Stock Exchange in the world in terms of the number of trades in equities. It is the second fastest growing stock exchange in the world with a recorded growth of 16.6%.
Origins

The National Stock Exchange of India was promoted by leading financial institutions at the behest of the Government of India, and was incorporated in November 1992 as a tax-paying company. In April 1993, it was recognized as a stock exchange under the Securities Contracts (Regulation) Act, 1956. NSE commenced operations in the Wholesale Debt Market (WDM) segment in June 1994. The Capital market (Equities) segment of the NSE commenced operations in November 1994, while operations in the Derivatives segment commenced in June 2000.

Innovations

NSE pioneering efforts include:

- Being the first national, anonymous, electronic limit order book (LOB) exchange to trade securities in India. Since the success of the NSE, existent market and new market structures have followed the "NSE" model.
- Setting up the first clearing corporation "National Securities Clearing Corporation Ltd." in India. NSCCL was a landmark in providing innovation on all spot equity market (and later, derivatives market) trades in India.
- Co-promoting and setting up of National Securities Depository Limited, first depository in India
- Setting up of S&P CNX Nifty.
- NSE pioneered commencement of Internet Trading in February 2000, which led to the wide popularization of the NSE in the broker community.
- Being the first exchange that, in 1996, proposed exchange traded derivatives, particularly on an equity index, in India. After four years of policy and regulatory debate and formulation, the NSE was permitted to start trading equity derivatives
- Being the first and the only exchange to trade GOLD ETFs (exchange traded funds) in India.
- NSE has also launched the NSE-CNBC-TV18 media centre in association with CNBC-TV18.
NSE.IT Limited, setup in 1999, is a 100% subsidiary of the National Stock Exchange of India. A Vertical Specialist Enterprise, NSE.IT offers end-to-end Information Technology (IT) products, solutions and services.

NSE (National Stock Exchange) was the first exchange in the world to use satellite communication technology for trading, using a client server based system called National Exchange for Automated Trading (NEAT). For all trades entered into NEAT system, there is uniform response time of less than one second.

**Markets**

Currently, NSE has the following major segments of the capital market:

- **Equity**
- **Futures and options**
- **Retail debt market**
- **Wholesale debt market**
- **Currency futures**
- **Mutual fund**
- **Stocks lending and borrowing**

In August 2008 currency derivatives were introduced in India with the launch of Currency Futures in USD INR by NSE. Currently it has also launched currency futures in euros, pounds and yen. Interest Rate Futures were introduced for the first time in India by NSE on 31 August 2009, exactly one year after the launch of Currency Futures.

NSE became the first stock exchange to get approval for interest rate futures. As recommended by SEBI-RBI committee, on 31 August 2009, a futures contract based on 7% 10 Year Government of India (Notional) was launched with quarterly maturities.

**Hours**

NSE’s normal trading sessions are conducted from 9:15 am India Time to 3:30 pm India Time on all days of the week except Saturdays, Sundays and Official Holidays declared by the Exchange.
(or by the Government of India) in advance. This timings is not valid for currency segment of National Stock Exchange. The exchange, in association with BSE (Bombay Stock Exchange Ltd.), is thinking of revising its timings from 9.00 am India Time to 5.00 pm India Time.

There were System Testing going on and opinions, suggestions or feedback on the New Proposed Timings are being invited from the brokers across India. And finally on 18 November 2009 regulator decided to drop their ambitious goal of longest Asia Trading Hours due to strong opposition from its members.

On 16 December 2009, NSE announced that it would advance the market opening to 9:00 am from 18 December 2009. So NSE trading hours will be from 9.00 am till 3:30 pm India Time.

However, on 17 December 2009, after strong protests from brokers, the Exchange decided to postpone the change in trading hours till 4 Jan 2010.

NSE new market timing from 4 Jan 2010 is 9:00 am till 3:30 pm India Time.

**Graph of S&P CNX Nifty from January 1997 to March 2011**
Bombay Stock Exchange

The Bombay Stock Exchange (BSE) (मुंबई शेअर बाजार ) (formerly, The Stock Exchange, Bombay) is a stock exchange located on Dalal Street, Mumbai and is the oldest stock exchange in Asia. The equity market capitalization of the companies listed on the BSE was US$1.63 trillion as of December 2010, making it the 4th largest stock exchange in Asia and the 8th largest in the world. The BSE has the largest number of listed companies in the world.

As of June 2011, there are over 5,085 listed Indian companies and over 8,196 scrips on the stock exchange, the Bombay Stock Exchange has a significant trading volume. The BSE SENSEX, also called "BSE 30", is a widely used market index in India and Asia. Though many other exchanges exist, BSE and the National Stock Exchange of India account for the majority of the equity trading in India. While both have similar total market capitalization (about USD 1.6 trillion), share volume in NSE is typically two times that of BSE.

History

The Stock Exchange, Mumbai, popularly known as "BSE" was established in 1875 as "The Native Share and Stock Brokers Association". It is the oldest one in Asia, even older than the Tokyo Stock Exchange, which was established in 1878. It is a voluntary non-profit making Association of Persons (AOP) and is currently engaged in the process of converting itself into demutualised and corporate entity. It has evolved over the years into its present status as the premier Stock Exchange in the country. It is the first Stock Exchange in the Country to have obtained permanent recognition in 1956 from the Govt. of India under the Securities Contracts
The Bombay Stock Exchange is the oldest exchange in Asia. It traces its history to the 1850s, when four Gujarati and one Parsi stockbroker would gather under banyan trees in front of Mumbai's Town Hall. The location of these meetings changed many times, as the number of brokers constantly increased. The group eventually moved to Dalal Street in 1874 and in 1875 became an official organization known as 'The Native Share & Stock Brokers Association'. In 1956, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act. The Bombay Stock Exchange developed the BSE SENSEX in 1986, giving the BSE a means to measure overall performance of the exchange. In 2000 the BSE used this index to open its derivatives market, trading SENSEX futures contracts. The development of SENSEX options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform. Historically an open outcry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system in 1995. It took the exchange only fifty days to make this transition. This automated, screen-based trading platform called BSE On-line trading (BOLT) currently has a capacity of 8 million orders per day. The BSE has also introduced the world's first centralized exchange-based internet trading system, BSEWEBx.co.in to enable investors anywhere in the world to trade on the BSE platform. The BSE is currently housed in Phiroze Jeejeebhoy Towers at Dalal Street, Fort area.

**The Graph of SENSEX from July 1997 to March 2011**
Trends in Stock Market (SENSEX)

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Scam in Stock Market

Harshad Mehta Scam


Harshad Mehta was an Indian stockbroker caught in a scandal beginning in 1992. He died of a massive heart attack in 2001, while the legal issues were still being litigated. Early life Harshad Shantilal Mehta was born in a Gujarati Jain family of modest means. His father was a small businessman. His mother’s name was Rasilaben Mehta. His early childhood was spent in the industrial city of Bombay. Due to indifferent health of Harshad’s father in the humid environs of Bombay, the family shifted their residence in the mid-1960s to Raipur, then in Madhya Pradesh and currently the capital of Chattisgarh state. An Amul advertisement of 1999 during the controversy over MUL saying it as "The Big Bhool" (Bhool in Hindi means Blunder) He studied at the Holy Cross High School, located at Byron Bazaar. After completing his secondary education Harshad left for Bombay. While doing odd jobs he joined Lala Lajpat Rai College for a Bachelor’s degree in Commerce.

After completing his graduation, Harshad Mehta started his working life as an employee of the New India Assurance Company. During this period his family relocated to Bombay and his brother Ashwin Mehta started to pursue graduation course in law at Lala Lajpat Rai College. His youngest brother Hitesh is a practising surgeon at the B.Y.L.Nair Hospital in Bombay. After his graduation Ashwin joined (ICICI) Industrial Credit and Investment Corporation of India. They had rented a small flat in Ghatkopar for living. In the late seventies every evening Harshad and Ashwin started to analyze tips generated from respective offices and from cyclostyled investment letters, which had made their appearance during that time.

In the early eighties he quit his job and sought a job with stock broker P. Ambalal affiliated to Bombay Stock Exchange (BSE) before becoming a jobber on BSE for stock broker P.D. Shukla.

In 1981 he became a sub-broker for stock brokers J.L. Shah and Nandalal Sheth. After a while he was unable to sustain his overbought positions and decided to pay his dues by
selling his house with consent of his mother Rasilaben and brother Ashwin. The next day Harshad went to his brokers and offered the papers of the house as guarantee. The brokers Shah and Sheth were moved by his gesture and gave him sufficient time to overcome his position. After he came out of this big struggle for survival he became stronger and his brother quit his job to team with Harshad to start their venture GrowMore Research and Asset Management Company Limited. While a brokers card at BSE was being auctioned, the company made a bid for the same with financial assistance from Shah and Sheth, who were Harshad's previous broker mentors.

He rose and survived the bear runs, this earned him the nickname of the Big Bull of the trading floor, and his actions, actual or perceived, decided the course of the movement of the Sensex as well as scrip-specific activities. By the end of eighties the media started projecting him as "Stock Market Success", "Story of Rags to Riches" and he too started to fuel his own publicity. He felt proud of this accomplishments and showed off his success to journalists through his mansion "Madhuli", which included a billiards room, mini theatre and nine hole golf course. His brand new Toyota Lexus and a fleet of cars gave credibility to his show off. This in no time made him the nondescript broker to super star of financial world.

During his heyday, in the early 1990s, Harshad Mehta commanded a large resource of funds and finances as well as personal wealth.

The fall In April 1992, the Indian stock market crashed, and Harshad Mehta, the person who was all along considered as the architect of the Bull Run was blamed for the crash. It transpired that he had manipulated the Indian banking systems to siphon off the funds from the banking system, and used the liquidity to build large positions in a select group of stocks. When the scam broke out, he was called upon by the banks and the financial institutions to return the funds, which in turn set into motion a chain reaction, necessitating liquidating and exiting from the positions which he had built in various stocks. The panic reaction ensued, and the stock market reacted and crashed within days. He was arrested on June 5, 1992 for his role in the scam.

His favorite stocks included

- ACC
• Apollo Tyres
• Reliance
• Tata Iron and Steel Co. (TISCO)
• BPL
• Sterlite
• Videocon.

The shares which attracted most attention were those of Associated Cement Company (ACC),”. The price of ACC was bid up to Rs 10,000. For those who asked, Mehta had the replacement cost theory as an explanation. The theory basically argues that old companies should be valued on the basis of the amount of money which would be required to create another such company. Through the second half of 1991, Mehta was the darling of the business media and earned the sobriquet of the ‘Big Bull’, who was said to have started the bull run. But, where was Mehta getting his endless supply of money from? Nobody had a clue.

On April 23, 1992, journalist Sucheta Dalal in a column in The Times of India, exposed the dubious ways of Harshad Metha. The broker was dipping illegally into the banking system to finance his buying. “In 1992, when I broke the story about the Rs 600 crore that he had swiped from the State Bank of India, it was his visits to the bank’s headquarters in a flashy Toyota Lexus that was the tip-off. Those days, the Lexus had just been launched in the international market and importing it cost a neat package,” Dalal wrote in one of her columns later. The crucial mechanism through which the scam was effected was the ready forward (RF) deal. The RF was in essence a secured short-term (typically 15-day) loan from one bank to another. Crudely put, the used to bank lend against government securities just as a pawnbroker lends against jewellery….The borrowing bank actually used to sell the securities to the lending bank and buys them back at the end of the period of the loan, typically at a slightly higher price.

It was this ready forward deal that Harshad Mehta and his cronies used with great success to channel money from the banking system. A typical ready forward deal involved two banks
brought together by a broker in lieu of a commission. The broker handles neither the cash nor the securities, though that wasn’t the case in the lead-up to the scam. In this settlement process, deliveries of securities and payments were made through the broker. That is, the seller handed over the securities to the broker, who passed them to the buyer, while the buyer gave the cheque to the broker, who then made the payment to the seller. To keep up a semblance of legality, they pretended to be undertaking the transactions on behalf of a bank. Another instrument used in a big way was the bank receipt (BR). In a ready forward deal, securities were not moved back and forth in actuality. Instead, the borrower, i.e. the seller of securities, gave the buyer of the securities a BR. A BR confirmed the sale of securities. It used to act as a receipt for the money received by the selling bank. Hence the name - Bank Receipt. It promised to deliver the securities to the buyer. Having figured this out, Metha needed banks, which could issue fake BRs, or BRs not backed by any government securities? “Two small and little known banks - the Bank of Karad (BOK) and the Metropolisian Co-operative Bank (MCB) - came in handy for this purpose. These banks were willing to issue BRs as and when required, for a fee. Once these fake BRs were issued, they were passed on to other banks and the banks in turn gave money to Mehta, obviously assuming that they were lending against government securities when this was not really the case. This money was used to drive up the prices of stocks in the stock market. When time came to return the money, the shares were sold for a profit and the BR was retired. The money due to the bank was returned.

The game went on as long as the stock prices kept going up, and no one had a clue about Mehta’s modus operandi. Once the scam was exposed, though, a lot of banks were left holding BRs which did not have any value - the banking system had been swindled of a whopping Rs 4,000 crore. Mehta made a brief comeback as a stock market guru, giving tips on his own website as well as a weekly newspaper column. This time around, he was in cahoots with owners of a few companies and recommended only those shares. This game, too, did not last long. Interestingly, however, by the time he died, Mehta had been convicted in only one of the many cases filed against him.

The extent The Harshad Mehta induced security scam, as the media sometimes termed it, adversely affected at least 10 major commercial banks of India, a number of foreign banks
operating in India, and the National Housing Bank, a subsidiary of the Reserve Bank of India, which is the central bank of India.

As an aftermath of the shockwaves which engulfed the Indian financial sector, a number of people holding key positions in the India's financial sector were adversely affected, which included arrest and sacking of K.M. Margabandhu, then CMD of the UCO Bank; removal from office of V. Mahadevan, one of the Managing Directors of India’s largest bank, the State Bank of India. The end The Central Bureau of Investigation which is India’s premier investigative agency, was entrusted with the task of deciphering the modus operandi and the ramifications of the scam. Harshad Mehta was arrested and investigations continued for a decade.

During his judicial custody, while he was in Thane Prison, Mumbai, he complained of chest pain, and was moved to a hospital, where he died on 31st December 2001. His death remains a mystery. Some believe that he was murdered ruthlessly by an underworld nexus (spanning several South Asian countries including Pakistan). Rumour has it that they suspected that part of the huge wealth that Harshad Mehta commanded at the height of the 1992 scam was still in safe hiding and thought that the only way to extract their share of the 'loot' was to pressurise Harshad's family by threatening his very existence. In this context, it might be noteworthy that a certain criminal allegedly connected with this nexus had inexplicably surrendered just days after Harshad was moved to Thane Jail and landed up in imprisonment in the same jail, in the cell next to Harshad Mehta's.

Ketan Parekh Scam

The Crash that Shook the Nation

The 176-point Sensex crash on March 1, 2001 came as a major shock for the Government of India, the stock markets and the investors alike. More so, as the Union budget tabled a day earlier had been acclaimed for its growth initiatives and had prompted a 177-point increase in the Sensex. This sudden crash in the stock markets prompted the Securities Exchange Board of India (SEBI) to launch immediate investigations into the volatility of stock markets. SEBI also decided to inspect the books of several brokers who were suspected of triggering the crash.
Meanwhile, the Reserve Bank of India (RBI) ordered some banks to furnish data related to their capital market exposure. This was after media reports appeared regarding a private sector bank having exceeded its prudential norms of capital exposure, thereby contributing to the stock market volatility. The panic run on the bourses continued and the Bombay Stock Exchange (BSE) President Anand Rathi's (Rathi) resignation added to the downfall. Rathi had to resign following allegations that he had used some privileged information, which contributed to the crash. The scam shook the investor's confidence in the overall functioning of the stock markets. By the end of March 2001, at least eight people were reported to have committed suicide and hundreds of investors were driven to the brink of bankruptcy.

The scam opened up the debate over banks funding capital market operations and lending funds against collateral security. It also raised questions about the validity of dual control of cooperative banks. (Analysts pointed out that RBI was inspecting the accounts once in two years, which created ample scope for violation of rules.)

The first arrest in the scam was of the noted bull, Ketan Parekh (KP), on March 30, 2001, by the Central Bureau of Investigation (CBI). Soon, reports abounded as to how KP had single handedly caused one of the biggest scams in the history of Indian financial markets. He was charged with defrauding Bank of India (BoI) of about $30 million among other charges. KP's arrest was followed by yet another panic run on the bourses and the Sensex fell by 147 points. By this time, the scam had become the 'talk of the nation,' with intensive media coverage and unprecedented public outcry.

The Man Who Triggered the Crash

KP was a chartered accountant by profession and used to manage a family business, NH Securities started by his father. Known for maintaining a low profile, KP's only dubious claim to fame was in 1992, when he was accused in the stock exchange scam. He was known as the 'Bombay Bull' and had connections with movie stars, politicians and even leading international entrepreneurs like Australian media tycoon Kerry Packer, who partnered KP in KP Ventures, a $250 million venture capital fund that invested mainly in new economy companies. Over the years, KP built a network of companies, mainly in Mumbai, involved in stock market operations.
The rise of ICE (Information, Communications, and Entertainment) stocks all over the world in early 1999 led to a rise of the Indian stock markets as well. The dotcom boom contributed to the Bull Run led by an upward trend in the NASDAQ.

The companies in which KP held stakes included Amitabh Bachchan Corporation Limited (ABCL), Mukta Arts, Tips and Pritish Nandy Communications. He also had stakes in HFCL, Global Telesystems (Global), Zee Telefilms, Crest Communications, and PentaMedia Graphics KP selected these companies for investment with help from his research team, which listed high growth companies with a small capital base.

According to media reports, KP took advantage of low liquidity in these stocks, which eventually came to be known as the ‘K-10’ stocks. The shares were held through KP's company, Triumph International. In July 1999, he held around 1.2 million shares in Global. KP controlled around 16% of Global's floating stock, 25% of Aftek Infosys, and 15% each in Zee and HFCL. The buoyant stock markets from January to July 1999 helped the K-10 stocks increase in value substantially (Refer Exhibit I for BSE Index movements). HFCL soared by 57% while Global increased by 200%. As a result, brokers and fund managers started investing heavily in K-10 stocks.

Mutual funds like Alliance Capital, ICICI Prudential Fund and UTI also invested in K-10 stocks, and saw their net asset value soaring. By January 2000, K-10 stocks regularly featured in the top five traded stocks in the exchanges (Refer Exhibit II for the price movements of K-10 stocks). HFCL’s traded volumes shot up from 80,000 to 1,047,000 shares. Global's total traded value in the Sensex was Rs 51.8 billion. As such huge amounts of money were being pumped into the markets; it became tough for KP to control the movements of the scrips. Also, it was reported that the volumes got too big for him to handle. Analysts and regulators wondered how KP had managed to buy such large stakes.

**The Factors that Helped the Man**

According to market sources, though KP was a successful broker, he did not have the money to buy large stakes. According to a report, 12 lakh shares of Global in July 1999 would have cost KP around Rs 200 million. The stake in Aftek Infosys would have cost him Rs 50
million, while the Zee and HFCL stakes would have cost Rs 250 million each. Analysts claimed that KP borrowed from various companies and banks for this purpose. His financing methods were fairly simple. He bought shares when they were trading at low prices and saw the prices go up in the bull market while continuously trading. When the price was high enough, he pledged the shares with banks as collateral for funds. He also borrowed from companies like HFCL.

This could not have been possible out without the involvement of banks. A small Ahmedabad-based bank, Madhavapura Mercantile Cooperative Bank (MMCB) was KP's main ally in the scam. KP and his associates started tapping the MMCB for funds in early 2000. In December 2000, when KP faced liquidity problems in settlements he used MMCB in two different ways. First was the pay order route, wherein KP issued cheques drawn on BoI to MMCB, against which MMCB issued pay orders. The pay orders were discounted at BoI. It was alleged that MMCB issued funds to KP without proper collateral security and even crossed its capital market exposure limits. As per a RBI inspection report, MMCB's loans to stock markets were around Rs 10 billion of which over Rs 8 billion were lent to KP and his firms.

The second route was borrowing from a MMCB branch at Mandvi (Mumbai), where different companies owned by KP and his associates had accounts. KP used around 16 such accounts, either directly or through other broker firms, to obtain funds. Apart from direct borrowings by KP-owned finance companies, a few brokers were also believed to have taken loans on his behalf. It was alleged that Madhur Capital, a company run by Vinit Parikh, the son of MMCB Chairman Ramesh Parikh, had acted on behalf of KP to borrow funds. KP reportedly used his BoI accounts to discount 248 pay orders worth about Rs 24 billion between January and March 2001. BoI's losses eventually amounted to well above Rs 1.2 billion.

The MMCB pay order issue hit several public sector banks very hard. These included big names such as the State Bank of India, Bank of India and the Punjab National Bank, all of whom lost huge amounts in the scam. It was also alleged that Global Trust Bank (GTB) issued loans to KP and its exposure to the capital markets was above the prescribed limits. According to media reports, KP and his associates held around 4-10% stake in the bank. There were also allegations that KP, with the support of GTB's former CMD Ramesh Gelli, rigged the prices of the GTB scrip for a favorable swap ratio before its proposed merger with UTI Bank.

KP's modus operandi of raising funds by offering shares as collateral security to the banks worked well as long as the share prices were rising, but it reversed when the markets
started crashing in March 2000. The crash, which was led by a fall in the NASDAQ, saw the K-10 stocks also declining. KP was asked to either pledge more shares as collateral or return some of the borrowed money. In either case, it put pressure on his financials. By April 2000, mutual funds substantially reduced their exposure in the K-10 stocks. In the next two months, while the Sensex declined by 23% and the NASDAQ by 35.9%, the K-10 stocks declined by an alarming 67%. However, with improvements in the global technology stock markets, the K-10 stocks began picking up again in May 2000. HFCL nearly doubled from Rs 790 to Rs 1,353 by July 2000, while Global shot up to Rs 1,153. Aftek Infosys was also trading at above Rs 1000.

In December 2000, the NASDAQ crashed again and technology stocks took the hardest beating ever in the US. Led by doubts regarding the future of technology stocks, prices started falling across the globe and mutual funds and brokers began selling them. KP began to have liquidity problems and lost a lot of money during that period.

It was alleged that 'bear hammering' of KP's stocks eventually led to payment problems in the markets. The Calcutta Stock Exchange's (CSE) payment crisis was one of the biggest setbacks for KP. The CSE was critical for KP's operation due to three reasons. One, the lack of regulations and surveillance on the bourse allowed a highly illegal and volatile badla business (Refer Exhibit III). Two, the exchange had the third-highest volumes in the country after NSE and BSE. Three, CSE helped KP to cover his operations from his rivals in Mumbai. Brokers at CSE used to buy shares at KP's behest.

Though officially the scrips were in the brokers' names, unofficially KP held them. KP used to cover any losses that occurred due to price shortfall of the scrips and paid a 2.5% weekly interest to the brokers. By February 2001, the scrips held by KP's brokers at CSE were reduced to estimated Rs 6-7 billion from their initial worth of Rs 12 billion. The situation worsened as KP's badla payments of Rs 5-6 billion were not honored on time for the settlement and about 70 CSE brokers, including the top three brokers of the CSE (Dinesh Singhania, Sanjay Khemani and Ashok Podar) defaulted on their payments.

By mid-March, the value of stocks held by CSE brokers went down further to around Rs 2.5-3 billion. The CSE brokers started pressurizing KP for payments. KP again turned to MMCB to get loans. The outflow of funds from MMCB had increased considerably from January 2001. Also, while the earlier loans to KP were against proper collateral and with adequate documentation, it was alleged that this time KP was allowed to borrow without any security.
By now, SEBI was implementing several measures to control the damage. An additional 10% deposit margin was imposed on outstanding net sales in the stock markets. Also, the limit for application of the additional volatility margins was lowered from 80% to 60%. To revive the markets, SEBI imposed restriction on short sales and ordered that the sale of shares had to be followed by deliveries. It suspended all the broker member directors of BSE's governing board. SEBI also banned trading by all stock exchange presidents, vice-presidents and treasurers. A historical decision to ban the badla system in the country was taken, effective from July 2001, and a rolling settlement system for 200 Group A shares was introduced on the BSE.

The System that Bred these Factors

The small investors who lost their life's savings felt that all parties in the functioning of the market were responsible for the scams. They opined that the broker-banker-promoter nexus, which was deemed to have the acceptance of the SEBI itself, was the main reason for the scams in the Indian stock markets.

SEBI's measures were widely criticized as being reactive rather than proactive. The market regulator was blamed for being lax in handling the issue of unusual price movement and tremendous volatility in certain shares over an 18-month period prior to February 2001. Analysts also opined that SEBI's market intelligence was very poor. Media reports commented that KP's arrest was also not due to the SEBI's timely action but the result of complaints by BoI.

A market watcher said, "When prices moved up, SEBI watched these as 'normal' market movements. It ignored the large positions built up by some operators. Worse, it asked no questions at all. It had to investigate these things, not as a regulatory body, but as deep-probing agency that could coordinate with other agencies. Who will bear the loss its inefficiency has caused?" An equally crucial question was raised by media regarding SEBI's ignorance of the existence of an unofficial market at the CSE.

Interestingly enough, there were reports that the arrest was motivated by the government's efforts to diffuse the Tehelka controversy.

Many exchanges were not happy with the decision of banning the badla system as they felt it would rig the liquidity in the market. Analysts who opposed the ban argued that the ban on badla without a suitable alternative for all the scrips, which were being moved to rolling settlement, would rig the volatility in the markets. They argued that the lack of finances for all
players in the market would enable the few persons who were able to get funds from the banking system - including co-operative banks or promoters - to have an undue influence on the markets.

The People that the System Duped

KP was released on bail in May 2001. The duped investors could do nothing knowing that the legal proceedings would drag on, perhaps for years. Observers opined that in spite of the corrective measures that were implemented, the KP scam had set back the Indian economy by at least a year. Reacting to the scam, all KP had to say was, "I made mistakes." It was widely believed that more than a fraud, KP was an example of the rot that was within the Indian financial and regulatory systems. Analysts commented that if the regulatory authorities had been alert, the huge erosion in values could have been avoided or at least controlled. After all, Rs 2000 billion is definitely not a small amount – even for a whole nation.

Herd Mentality of Indian Retail Investors in the Indian Stock Market

The above discussed trends and the stock market scams clearly exhibit the herd mentality of Indian retail investors in the stock market. The retail investors in India generally start investing when the stock market or returns on the stock markets go up & various stocks exhibit an upward rally. While the retail investors they exit the market when the markets crash. These results in generation of heavy losses for the retail investors in India & this may also be the reason on account of which the retail investors perceive the stock market to be very risky. Above behavior of Indian retail investors exhibits their irrational approach towards investment and their herd mentality. Appropriately an investors should enter into stock market when the market is down as such a market creates good buying opportunities for various stocks & the investors should exit the market when the market goes up.
Chapter-4
Is Retail Investment in India Really Broad Based
Retail Investors Participation

Will retail investors return? - Business Standard / New Delhi April 21, 2010, 0:25 IST


Unless greater efforts are made to increase financial literacy, raise the retail portion of IPOs and convince investors that stock markets are not scam-ridden, it is difficult to see this happening.

Why was this question not raised when the Sensex was at the 8,000 level last year? Why does everyone, including the retail investor, ask this only when the market is in a bull, or a near-bull, phase? Is it possible that the big guys remember the small investors only at such times to create takers for their offloading or to sell new shares? It is a hard truth that most want to make money of the retail investor and not for him. It is, of course, little surprise that retail investors too catch the bait, and often miss the gains of a rising market.

Will retail investors come back in large numbers now to the equity market? My sense is otherwise.

The biggest issue continues to be lack of confidence. In the last two decades, too many scamsters, most of whom are yet to be prosecuted, have left the investor very nervous. In India, to unearth a fraud by itself is rare and tedious. To punish the scamsters, and punish them adequately and swiftly, is even rarer. But to the investor, what is even more important than the punishment is the compensation to him. The recent disgorgement of undue profits from the IPO scam, and compensation to the wronged investors, is a watershed event in the history of the Indian capital market. Only more and speedy indictments and several such disgorgement/compensation cases could see more confidence returning to the small investor.

The second constraint is with regard to the policies. Though most reforms are done in the name of the small investor, he has rarely been the true beneficiary. Many policies, in fact, have worked against him. As an example, the allocation to the retail in most IPOs has been reduced to only 3.5 per cent of the company’s capital. Or for that matter, while the government keeps
harping on enlarging the investor base, its pricing of PSU offerings works totally against this objective.

The processes too are cumbersome and daunting. The number of documentation, and detailed ones at that, which an investor has to navigate through would put even the most savvy to discomfort. As an example, an investor has to sign around 80 times on a KYC form! Finally, lack of financial education has worked as the main reason why most citizens continue to be comfortable in parking their savings in low-earning fixed deposits than in the equity market.

Courtesy the above factors, the retail investing population in the country just refuses to grow and, in fact, their number has actually been falling. Less than 1 per cent of our population invests directly in the equity market. Worse, less than 3 per cent of the household savings gets invested in the capital market.

Though a series of laudable measures have emerged from the regulator in the recent past, including the revolutionary ASBA (application supported by blocked amount) process, a lot of ground still has to be covered. There is, for example, a need to re-look at the offer document which has become too voluminous and unreadable, and Sebi’s disclaimer “accuracy and adequacy of contents is not guaranteed by Sebi” does not help either. There is also a need to review some instruments like risk factors, IPO grading and independent directors which are only giving a false sense of security to the small investor.

If the bull run continues, it is likely that some retail investors would start committing more money to equities. Regrettably, most such investors typically, but unfortunately, chase price and not value, and hence get into penny stocks. “Value” of a stock is something even the most savvy of institutional investors are unable to accurately arrive at. For a man on the street without the skills, time and resources to do so is thus unimaginable. Hence, retail investors should be encouraged to invest through the mutual fund (MF) route. For this to happen, the MF industry itself needs to be regulated and incentivized to work for the retail investor.

Regrettably, one may also see more “gamblers”. Though equity is the best asset class over the long term, technology and market structure have reduced the horizon to days, and, in fact, to hours. Nearly 80 per cent of the turnover on the exchanges comes from day-trading,
almost akin to gambling. If the stock market has indeed been reduced to a casino, retail should realise that the casino never loses. Nine out of 10 small investors that I have met in my lifetime, and I have met thousands of them, have lost money in the equity market.

‘Retail investors should participate in growth story’


Banking and financial services sector — which currently is under some stress — will be the key drivers of growth in the long-term. In a freewheeling discussion with Business Line, Mr Peeyoosh Chadda, Executive Vice-President, Edelweiss Asset Management, shared his views on the sectors that are likely to drive growth, the strategies to be adopted by retail investors and way forward for the country's mutual fund business.

Are retail investors in the country still shy of investing in the markets? What should be their strategy?

Retail investors are beginning to understand ways of tackling volatility in the market. They are in fact entering the market in a big way through the SIP (Systematic Investment Plan) route. This is reflected in the steady rise in SIPs. I feel that investors should come in through SIPs and stay for longer duration to get better returns.

Retail participation

India has a great growth story and our view is that every retail investor should participate in that growth. It is crucial that investors keep the faith in the India story. Discipline is the key to any investment. It is better not to react to short-term volatility as that can result in tremendous long-term damage to the investment health.

Investors should also look at equity in a big way as that will earn good returns in the long run. Fixed income is basically a painless lack of gain, in equities there is a slight risk but if you are invested for long-term then you are assured to get good returns.

Which are the sectors that are likely to drive growth?
A number of sectors are set to create considerable economic value. In particular, I will like to mention banking and financial services. This does seem a little depressed at the moment, but the sector is set to log tremendous growth in the years ahead.

What is your take on the infrastructure sector?

Infrastructure sector is facing some pressure. The demand for infrastructure in the country is high, but the quality of infrastructure is what needs to be looked into. Achieving a profitable growth is a little difficult for any company. Increasing top-line may not necessarily help make money for an investor. So we are bit cautious about the sector.

What according to you is the ideal distribution model to be adopted by an asset management company?

The existing distribution network — which is a combination of banking network, independent financial advisors and national distributor channel — is a very good model. The online channel will also pick up gradually in the days to come.


Securities and Exchange Board of India is lagging far behind in its aim to get more retail investors into the stock market, its new chairman UK Sinha said on Thursday. The market regulator has now embarked on a strategy to simplify market investments in its bid to increase retail participation.

"India has 8% retail participation in market investments as against 20-33% in South Korea and China. We have huge work to do to increase retail participation," Sinha said.

The SEBI chief is also for increased penetration of capital market investments in smaller towns.

Presently only 2.6% of India’s total savings come to capital market, and 85% of total trading is from only 5 cities.
Removing bottlenecks for investing in capital markets is a key to getting more retail participation, Sinha said. For instance, the market regulator is working to simplify disclosures in initial public offers, which currently are too voluminous and unstructured, he said.

**Declined participation of Retail Investors in Indian stock markets** - July 07, 2011

The share of retail investors in the market cap of 2486 actively traded stocks on BSE has declined to a 5-year low. This figure was around 19% in March-2006, which is now 15.86% in March 2011.

Not surprisingly, this share started falling after the Indian Stock market crash of 2008. Which even surprisingly not increased during and after the two year rise of Indian Stocks Markets, when Sensex risen to 21000 levels from 8000 level lows. This is surprising as generally retail investors un-missing fully ride the when it is rising.

Vetting this fact, according to a report the cash segment turn over on BSE and NSE has also declined to more than 2 year low.

On the mutual fund side, the number of folios (investor accounts) has gone down to 3 crore 80 lacs in March 2011, from above 4 crore in March 2009. However, the sorry situation with mutual fund investment scenario has been blamed (rightly) by the industry to SEBI’s rules which cut hard on entry and exit loads, invariably reducing the distributors/agents interest in recommending and selling mf product/schemes. In our view, this is good for small investors. But isn’t it at the risk of retail investors only? In our view, if the Sebi and government seriously want to increase the participation of retail investors and that too through mutual fund route, then it must reinstate the entry and exit load which will in turn give mutual fund companies to offer their agents more incentive to sell mutual fund schemes. Perhaps the govt can put cap on artificially higher commissions on NFOs and put rules that allow mutual funds to give similar or same commissions on existing schemes. Looking at the Indian Set up, the exponential growth of mutual fund industries (a dominance in fact) is necessary to bring in maximum possible participation of small investors into equities, as well as the best and only possible way of reducing the dominance and influence 'FII hot money' in Indian Stock Markets. We also recommend the exchanges, namely BSE and NSE to do investors awareness
programmes on war foot basis rather than just sitting on their investors’ protection funds, if they want to raise the volumes.
Chapter-5

Results of Survey
Analyzing Investment Behavior of Retail Investors in India
A small survey was conducted to find out about the retail investor behavior in the market. The survey was a random survey and a convenience sample was taken. The sample size was 30. The respondents were in the age group starting from 20 till age of 55. The number of female respondents was 12 and the remaining respondents were males. Following are the survey results:

**Survey Analysis**

1. **Gender of the respondents**
   
   According to the survey related to the investment, the profile of respondents who are investing (as per the sample taken): 60% are males and 40% are females.

   ![Survey Analysis](image)

2. **The age of people who is investing money?**

   - 20-25
   - 26-30
   - 31-35
   - 36-40
   - 41-45
   - 46-50
   - Above 50 11 6.66%
According to this diagram we can see that most of the people 30% of the respondents were between the age group of 46-50 followed by the age group 36-40 where the % of respondents was 27%. Investors between the age group 26-30 were 17% followed by age group 41-45 and 51 and above where % of such respondents was 7%. 6% of the respondents were in the age group 31-35 and 20-25.

3. What investment options people invest their money in?

Following options were offered to respondents to know where they invest their money. The options offered were:

- Gold
- Saving Bank
- Government Bond
- Corporate Bond
- Mutual Fund
- SIP (Systematic Investment Plan)
- Insurance
- ETF (Exchange Traded Fund)
- Equity /stock market
- Real Estate
First preference given by the Investors in terms of ranks is as follows:

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<thead>
<tr>
<th>Gold</th>
<th>Saving bank</th>
<th>Government Bonds</th>
<th>Corporate Bonds</th>
<th>Mutual Funds</th>
<th>SIP(Systematic investment plan)</th>
<th>Insurance</th>
<th>ETF</th>
<th>Stock market</th>
<th>Real Estate</th>
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From the above rank order it is clear that maximum no. of people prefer to save in government bond. This may be because they feel safe while investing in government bonds.

The second most used & preferred investment option is saving bank deposits. The reason for using this option might be that,

(a) It offers security of funds.
(b) It gives the advantage of withdrawing and depositing money as the need may be.

The third most preferred and used investment option is gold. Where maximum no. of people are investing. This may be in account of rise in gold prices recently.

Fourth most preferred investment option is insurance. This may be on account of security. It offers pertaining to unseen & uncertain future risks.

Next most used & preferred option is investment in mutual funds. This may be because mutual funds offer to do what otherwise retail investors while investing individually can’t do & this factor is risk diversification. Through mutual fund investors can participate in capital market & at the same time can bring down the risk associated with individual investment in capital market.

Sixth most preferred option in terms of rank is stock market. This lower rank given to direct stock market investment may be on account of risk perception associated with stock market. Out of the total 30 respondent only 1 respondent has given rank 1 to the stock market investment.

Seventh rank goes to real estate. Eighth rank goes to corporate bond. Ninth rank goes to the SIP & none of the respondents are investing in ETF. This indicates following:

(a) Real estate is still not being looked upon as investment option in India & most of the people are doing it may be an account of personal consumption requirements.
(b) Corporation Bond, SIP & ETF are still not popular among the Indian investors.

Specifically ETF as an investment option is not been considered at all by many of the Indians currently.
4. Those who are investing in stock market are doing so on the basis of following:

<table>
<thead>
<tr>
<th>On the basis of</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest on the basis of friends/family advice</td>
<td>2</td>
</tr>
<tr>
<td>Invest on the basis of newspaper reports</td>
<td>5</td>
</tr>
<tr>
<td>Invest on the basis of advice of broker</td>
<td>6</td>
</tr>
<tr>
<td>Invest on the basis of fundamental analysis of stock</td>
<td>2</td>
</tr>
</tbody>
</table>

Maximum number of stock market investors (40%) is doing it on the advice of brokers and this may be the reason of generation of herd mentality while the markets show upward rally in India. At the same time the percentage of respondents investing on the basis of newspaper reports is 33%. This again indicates that how sometimes herd mentality gets created. Newspaper reports cannot be considered as good source of information to decide on investing in a specific stock. Only 13% of the respondents said that they decide to invest in stock on the basis of fundamental analysis.

5. Those who don’t invest money in stock market are not doing so because of following reasons:

Out of total respondents who said that they do not invest in Stock Market at all, do not do so because of:

<table>
<thead>
<tr>
<th>Reason</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too Risky</td>
<td>12</td>
</tr>
<tr>
<td>Not Aware/Lack of knowledge regarding stock market</td>
<td>5</td>
</tr>
<tr>
<td>Lost money in stock market earlier</td>
<td>0</td>
</tr>
</tbody>
</table>

Total: 17

After conducting the survey I found that most of the people invest their money in saving bank accounts, gold, government bonds, mutual funds & insurance. Only few people are there
who invest their money in stock market and real estate. Most of them give first preference to the
government bond and after that to the saving bank.
Conclusion

• Behavioral finance is a new paradigm of finance, which seeks to supplement the standard theories of finance by introducing behavioral aspects to the decision-making process. It focuses on the application of psychological and economic principles for the improvement of financial decision-making. Behavioral finance offers an alternative block for each of the foundation blocks of standard finance.

• Behavioral portfolio theory developed more than 60 years ago when Friedman and Savage (1948) noted that hope for riches and protection from poverty share roles in our behavior; people who buy lottery tickets often buy insurance policies as well.

• A central feature in behavioral portfolio theory is the observation that investors view their portfolios not as a whole, as prescribed by mean-variance portfolio theory, but as distinct mental account layers in a pyramid of assets, where mental account layers are associated with particular goals and where attitudes toward risk vary across layers. In contrast, in behavioral asset pricing theory, the same characteristics are interpreted as reflections of affect, an emotion, and representativeness, a cognitive bias.

• The statement that behavioral finance is an interesting collection of stories but does not offer the equivalent of the comprehensive theory and rigorous tests of standard finance is as common as it is wrong.

• Stock market performance and investor psychology are mutually dependent. Bull Investor, Bear Investor, Savers, Speculators, Specialists.

• A speculative bubble can be described as a situation in which temporarily high prices are sustained largely by investors’ enthusiasm rather than by consistent estimations of real value. Financial speculative bubbles are prime examples of markets that do not always work perfectly. This shows that when the price rises people buy more and when the price goes down people start selling.

• India has 8% retail participation in stock market investments as against 20-33% in South Korea and China. This is on account of perception that stock markets are too risky to invest hard
earned money. This perception itself is outcome of the earlier herd mentality exhibited by the retail investors in India in the past and the losses suffered by them on the Indian bourses.

- **Herd mentality:** Many investors react to market conditions like lemmings: Stampeding up the high mountain when markets are rising and down into the cold deep sea when markets are falling! This "herd" mentality can be extremely dangerous. Because investors often get into the market too late and get out too early.

- The discussed Indian stock market trends (in this report) and the stock market scams in India clearly exhibit the herd mentality of Indian retail investors in the stock market. The retail investors in India generally start investing when the stock market or returns on the stock markets go up & various stocks exhibit an upward rally. While the retail investors they exit the market when the markets crash. These results in generation of heavy losses for the retail investors in India & this may also be the reason on account of which the retail investors perceive the stock market to be very risky. Above behavior of Indian retail investors exhibits their irrational approach towards investment and their herd mentality. Appropriately investors should enter into stock market when the market is down as such a market creates good buying opportunities for various stocks & the investors should exit the market when the market goes up.

- From the survey conducted while completing this report it emerges that:
  
  1. Maximum no. of people prefers to save in government bond. This may be because they feel safe while investing in government bonds. The second most used & preferred investment option is saving bank deposits. The reason for using this option might be that (a) It offers security of funds (b) It gives the advantage of withdrawing and depositing money as the need may be. The third most preferred and used investment option is gold. Where maximum no. of people are investing. This may be in account of rise in gold prices recently. Fourth most preferred investment option is insurance. This may be on account of security. It offers pertaining to unseen & uncertain future risks. Next most used & preferred option is investment in mutual funds. This may be because mutual funds offer to do what otherwise retail investors while investing individually can’t do & this factor is risk diversification. Through mutual fund investors can participate in capital market & at the same time can bring down the risk associated with individual investment in capital market. Sixth most preferred option in terms of rank is stock market. This lower
rank given to direct stock market investment may be on account of risk perception associated with stock market. Out of the total 30 respondent only 1 respondent has given rank 1 to the stock market investment. Seventh rank goes to real estate. Eighth rank goes to corporate bond. Ninth rank goes to the SIP & none of the respondents are investing in ETF. This indicates following: Real estate is still not being looked upon as investment option in India & most of the people are doing it may be an account of personal consumption requirements. Corporation Bond, SIP & ETF are still not popular among the Indian investors. Specifically ETF as an investment option is not been considered at all by many of the Indians currently.

2. From the survey it again emerges that among the few investors who are actually investing in stock market it emerges that maximum number of stock market investors (40%) is doing it on the advice of brokers and this may be the reason of generation of herd mentality while the markets show upward rally in India. At the same time the percentage of respondents investing on the basis of newspaper reports is 33%. This again indicates that how sometimes herd mentality gets created. Newspaper reports cannot be considered as good source of information to decide on investing in a specific stock. Only 13% of the respondents said that they decide to invest in stock on the basis of fundamental analysis.

3. From the survey it also emerges that most of the retail investors stay away from investing in stock market because as per their perception it is too risky to invest in stock market.

Retail Investment in Stock Markets in India can improve provided the investors are educated about the correct methodology that should be adopted by them for investing in the stock market and are taught that they need to ensure that they do not become part of the herd of investors who are investing in the stock market merely on the basis of advice of family, friends and brokers.
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Annexure

Survey Regarding Investment

Name :-
Age :-
Sex :-

1) Do you invest money ?
☐ Yes
☐ No

2) In what investment option do you invest money fund? Rank them in order of your preference.
☐ Gold
☐ Saving with bank
☐ Government Bond / Scheme like NSC (National Saving Certificate)
☐ Corporate Bond
☐ Mutual Fund
☐ SIP (Systematic Investment Plan)
☐ Insurance
☐ ETF (Exchange Traded Fund)
☐ Equity / Shares in stock market
☐ Real Estate
  Any other (Please Specify it)

3) If you are investing in stock market, then please state the basis of selection of Share/Stock in the market for same. (Please tick and rank whatever is appropriate.)
☐ Invest on basis of advice of friends/family.
☐ Invest on basis of advice of newspaper report.
☐ Invest on basis of advice of brokers.
☐ Invest on basis of fundamental analysis of shares/stock.

4) If your number 1 preference is investment in stock market then pls specify reason for the same.
5) If you do not invest in stock market then please select reasons for same in order of your preference.
- Too Risky.
- Not Aware / Lack of knowledge regarding Stock Market.
- Lost money in stock market earlier