

# **Dissertation Report**

on

## **VALUE VS GROWTH STOCKS**

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## **Dissertation Project Certificate**

This is to certify that Mr. Prateek Sharma, Roll No. 10/MBA/35, a student of MBA Batch 2010-12 Delhi School of Management, DTU has worked on dissertation project titled “**Value vs growth stocks.**” as a partial fulfilment of the requirement for the programme. This is his original work to the best of my knowledge.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Dr. Shikha N. Khera**

# **DELHI SCHOOL OF MANAGEMENT**

## **DECLARATION**

I, Prateek Sharma, student of Masters of Business Administration from Delhi School of Management, Delhi Technical University, Delhi, hereby declare that I have completed Dissertation on " **Value Vs Growth Stocks.**" as part of the course requirement.

I further declare that the information presented in this project is true and original to the best of my knowledge.

## ACKNOWLEDGEMENT

My sincere acknowledgements are due to all those people who have helped me in the successful completion of my project. No task is a single man's effort. Cooperation and coordination of various people at various places go into its successful implementation.

It would be prudent to commence this report with a sincere acknowledgement to **Dr. Shikha N Khera**, my Project Mentor for providing me with the opportunity of working on this project. She provided me regular guidance, full cooperation, relentless support and encouragement throughout the project. Above all, I would like to express my deep gratitude to my family and friends for providing me moral support and help. Last but not the least; I extend a vote of thanks to all those who gave me their invaluable encouragement, support and guidance at various phases of the project.

## LIST OF ABBREVIATIONS

CAPM	Capital Asset Pricing Model
MOS	Margin of Safety
APT	Arbitrage Pricing Theory
ROIC	Return on Invested Capital
P/E	Price to Earnings Ratio
P/BV	Price to Book Value
EAFE	Europe, Australia and Far East
NYSE	New York Stock Exchange
NASDAQ	National Association of Software Depositories and Automated Quotations
BSE SENSEX	Bombay Stock Exchange Sensitive Index
HB/MV	High Book / Market Value
LB/MV	Low Book/ Market Value

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## EXECUTIVE SUMMARY

This paper investigates a relation between investor sentiment and performance of value stocks over growth stocks by comparing monthly returns of value and growth stocks during the period of 2007 through 2011. Do value stocks earn higher returns than growth stocks in emerging market around the world? The purpose of this study is to discuss this question regarding the stocks of the Nifty-National stock exchange (NSE). We examine the average returns on portfolios to see whether investors in an emerging market relying on the information extracted from the developed capital market based on the B/M ratio would earn a high return.

Previous studies have generally found that returns on growth stocks, or stocks with high price-to-earnings (P/E) ratios, often lag behind those of value stocks, or stocks with low-P/E ratios. This study examines the long-term (up to 5 years) performance of growth stocks versus value stocks when a buy-and-hold strategy is adhered to. The study examines the performance of growth versus value stocks of portfolios created during the period 2007-11. The findings of this study indicate that the long-term performance (5 years) of growth stocks is higher than the long-term performance of value stocks for portfolios created during the years included in this study. Statistical tools like Correlation, t-test and Regression have been used to determine which category of stocks perform better.

I found that outperformance of value stocks over growth stocks are particularly salient around recession periods. This observation leads us to conjecture that investor sentiment may be an important determinant of relative performance of value stocks over growth stocks.

The study uses panel data of CNX Nifty 50 firms for the period of 2007-2011 that consists of 22 sectors of the economy.

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## **INTRODUCTION**

Value investors tend to go against the trends of the market and pick stocks which they believe are undervalued by the market or are trading below their intrinsic value. They intend to seek advantages on market overreactions and misperceptions – stock price movements that may not correspond with the company's long-term fundamentals which result in an opportunity to profit by buying when the price is not inflated

Growth investors pick out stocks that they consider to have a good growth potential – organizations whose earnings are expected to grow at above-average rates vis-a-vis the industry or the overall stock market. These companies concentrate on achieving long-term earnings through new product innovations or technologies and increasing market share.

There is no hard and fast rule for determining if a stock should be classified as value or growth stock. Certain industries may be considered value or growth depending upon the growth curve, and a stock of a specific company within that industry may or may not fall into the value or growth category. For example, Intel may at times be considered a value stock, even though the microprocessor sector is considered a growth industry.

“Style” labels can also make it complicated to differentiate a company as stocks can vacillate between value and growth based on certain fundamentals. For example, a relatively new company has developed a new technological innovation and the company's stock may be undervalued for a period of time because investors are skeptical of the company's relatively short track record, or they simply haven't yet recognized the growth potential of the new technological innovation. Therefore the bottom line is that the current stock price may give far less information than its relationship to the measurable value of the company..

**Value investing** and **Growth Investing** are often presented as two competing styles of investing. The differences are as follows:

<b>VALUE STOCKS</b>	<b>GROWTH STOCKS</b>
Low P/E Ratio	High earnings growth rate
Low price/sales ratio	High sales growth rate
Low price/cash flow	High return on equity
Low price/book ratio	High profit margin
High dividend yield	Low or no dividend yield

**Table 1:** Differences between Value and Growth Investing

**RISKS:**

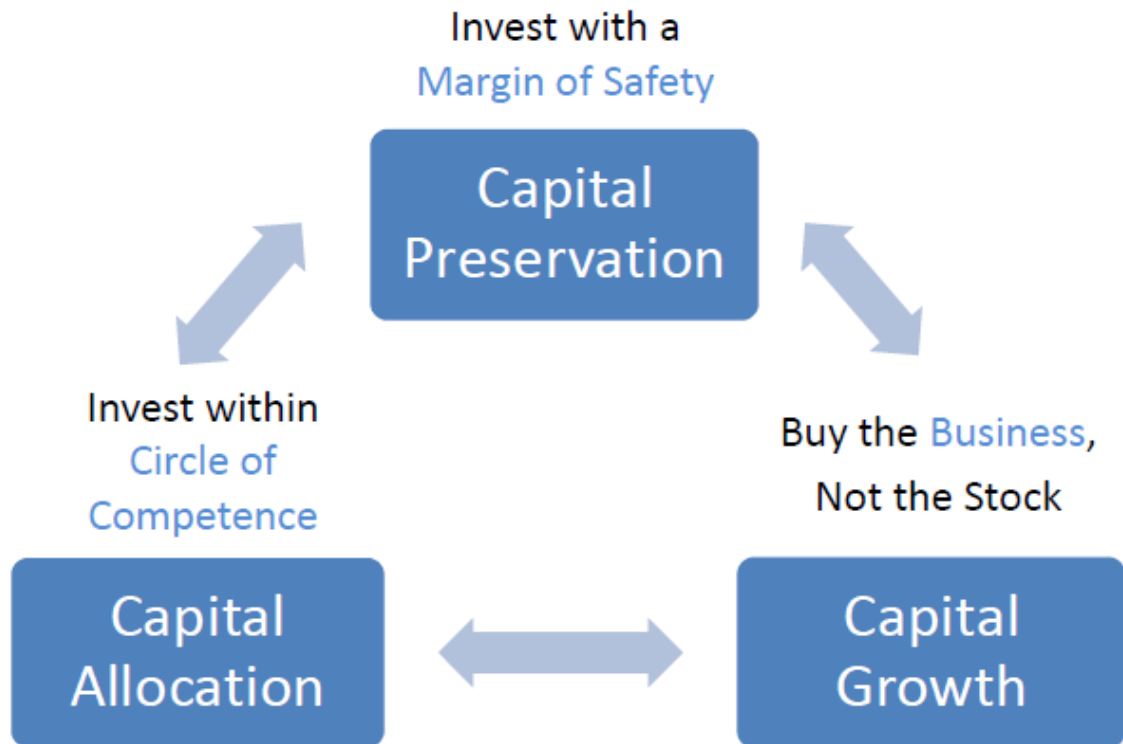
<b>VALUE STOCKS</b>	<b>GROWTH STOCKS</b>
Estimating true intrinsic value	Estimating growth rates and overall profitability in the future
Determining “margin of error” – buying at a big enough discount to allow room for error in estimating value	Assessing a company’s ability to continue to exceed investor expectations with its future financial performance
Holdings or securities may never reach their full market value	Certain sectors or growth stocks may shift characteristics over a long market cycle and may not perform in line with stated benchmarks
Value style investing may fall out of favor and underperform growth or other style investing during given periods	Growth style investing may fall out of favor and underperform other equity investments during given periods

**Table 2** Differences in Risks of Value and Growth stocks

## **Standard Definitions**

**Value Investing** is recognized as the purchase of “cheap stocks.” The idea, is to purchase stocks below their “intrinsic value” and wait for that value to be recognized by other investors in the stock market, thereby making profits. Value investors speak of a “margin of safety” when making investments, or the gap between the price of the investment and its underlying value. The value investors intend to buy stocks with the belief that the low expectations of the market are only temporarily low and the factors which cause the price to be undervalued are only ephemeral. To achieve the investment objective, value investors require the market price of the company to be “well below” the company’s intrinsic value; ideally the discount will be no less than 33% of the intrinsic value. With this investment approach, the challenge is the difficulty in determining true intrinsic value with precision. To be successful, the value investor must factor in a margin of safety large enough to offset the inherent uncertainty in the calculation of the stock’s true worth.

In addition, the value investor must ask what will cause other investors to finally recognize the “intrinsic value” of the stock, particularly when they passed on the investment opportunity originally.



**Figure 1.1** Value Investing Process

## FEATURES OF VALUE INVESTING

### MARGIN OF SAFETY

Margin of Safety is the central thesis of Value Investing.

$MOS = \text{Intrinsic Value} - \text{Price}$ .

The emphasis of value investing is on capital preservation. It protects the investor from poor decision making and downturns in the market. However, intrinsic value is difficult to find out, therefore Margin of safety gives the investor some room for error.

*"If you understood a business perfectly and the future of the business, you would need very little in the way of a margin of safety. So, the more vulnerable the business is, assuming you still want to invest in it, the larger margin of safety you'd need. If you're driving a truck across a bridge that says it holds 10,000 pounds and you've got a 9,800 pound vehicle, if the bridge is 6 inches above the crevice it covers, you may feel okay, but if it's over the Grand Canyon, you may feel you want a little larger margin of safety..."*

*"It's far better to buy a wonderful company at a fair price than a fair company at a wonderful price" Warren Buffet.*

*"In the short run, the market is a voting machine, but in the long run it is a weighing machine."*

*– Benjamin Graham, The Intelligent Investor*

## **RISK**

In simple terms, risk = Amount of loss X Probability of losing.

Higher risk does not mean higher returns. Risk damages the quantum of returns because of losses. The best investors do not target return; they focus first on risk, and only then decide whether the projected return justifies taking each particular risk. Warren Buffet has these golden rules when it comes to judging risk.

*"Rule No.1: Never lose money. Rule No.2: Never forget rule No.1"*

*"Risk comes from not knowing what you're doing"*

## **KEEP IT SIMPLE**

"The business schools reward difficult complex behavior more than simple behavior, but simple behavior is more effective". "There seems to be some perverse human characteristic that likes to make easy things difficult.

"I don't look to jump over 7-foot bars. I look around for 1-foot bars that I can step over" "Most of the time common stocks are subject to irrational and excessive price fluctuations in both directions as the consequence of the ingrained tendency of most people to speculate or gamble... to give way to hope, fear and greed. Buffet with his pearls of wisdom.

## **PORTFOLIO DIVERSIFICATION**

"Wide diversification is only required when investors do not understand what they are doing".

"We are able and willing to concentrate our capital into our best ideas. These days, other investors' idea of "risk control" is to own literally hundreds of small positions while making no size able bets, a strategy that might also be labeled "return control". It is clearly an advantage, but by no means without risk, to be able to concentrate our exposures. We work exceptionally hard to ensure that our

largest positions are indeed our most worthwhile opportunities on a risk-adjusted basis."

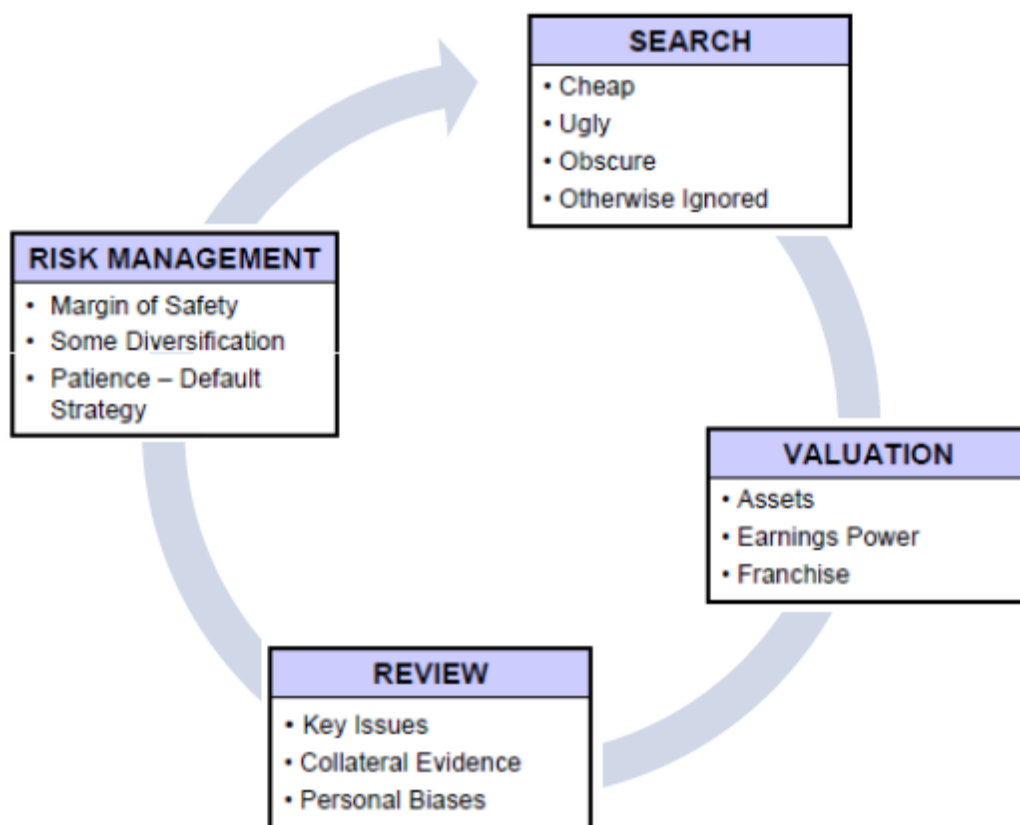
### **IGNORE GROWTH FORECASTS**

*"Even the intelligent investor is likely to need considerable willpower to keep from following the crowd."*

### **BUY AND HOLD STRATEGY**

*"Much success can be attributed to inactivity. Most investors cannot resist the temptation to constantly buy and sell. "We don't get paid for activity, just for being right. As to how long we'll wait, we'll wait indefinitely"*

### **PROCESS OF VALUE INVESTING**



**Growth Investing** is thought to be the purchase of fast and/or consistently growing companies, almost independent of the industry in which they compete. The idea is to buy the stocks of companies with sustainable growth and then let the company's value (stock price) increase as the company grows in the future. A challenge with this investment approach is that it assumes that the stock price and company's growth are directly linked, which is true only under specific circumstances and certainly not in all cases. To be successful, the growth stock investor must make accurate estimates of growth rates and overall profitability well into the future. In addition, the growth stock investor must assess whether the company can continue to exceed investor expectations with its future financial performance.

**“Value”** stocks tend to have expectations of depressed cash flows or short CAPs; the investment payoff comes from the acceleration in cash flows (versus expectations) and/or a lengthening of its CAP. Value oriented stocks may also suffer from neglect (a potentially good thing) which may lead to an inefficiently priced security. Interestingly, neglect may be a consequence as well as a cause of low expectations. Value investors tend to focus on asset values when calculating intrinsic value. The implied hope/belief of the investor is that some catalyst will come along and allow the “market” to realize this hidden value. As such, traditional value investors are unwilling to forecast future earnings/cash flow growth in order to justify their measure of intrinsic value and do not want to rely on these growth forecasts when making investment decisions. Value investing usually requires two investment decisions: when to buy and when to sell; selling comes once the stock reflects “realistic expectations.”

**“Growth”** stocks tend to have expectations for fast growing cash flows and long CAPs, and most times the underlying company operates with a high ROIC. Growth investors want a high unit growth rate to drive revenue growth and, ultimately, cash flows. Growth investors are betting that the company will create more value in the future than is implied by market expectations. The investment payoff comes from higher than expected cash flow growth, static to lengthening CAPs, or a higher return on invested capital (again, versus expectations). Growth

oriented stocks may suffer from group-think or mania (a potentially bad thing) which may lead to a security being over-priced. One of the key paradoxes of growth investing is that investor expectations should adjust to upside surprises in the company's financial performance.

### **Growth stocks**

Growth stocks are those that represent rapid growth. They generally offer higher returns on the stock investments made. However, with those higher returns also come higher risks. A stock's value with growth stocks is usually determined on potential. Growth for small companies is general a yearly return of at least 10%, and for larger companies, it should be around 7%. Some stocks have even higher returns in sectors that have higher potential. When incorporating growth stocks in your portfolio, it might be a good idea to set a reasonable level at which you will sell. This can help you earn a profit and get out before a bear market destroys the value of the stock.

### **Value stocks**

Despite what the name may lead you to believe, value stocks are not usually cheap. They are, however, considered to be good deals. They are solid, steady companies. Their growth is slower, but their strong fundamentals make them more likely to survive a bear market. While losses occur, they are usually less dramatic than price drops of growth stocks. However, by the same token, you won't experience as dramatic profits. A good strategy for value stocks is to look for the 52-week low and try to buy stock at that level. That way you are more likely to make a profit down the road.

In general, growth stocks are compatible with a more short-term investment plan (and an investment strategy based on technical analysis), and value stocks are compatible with a long-term plan (and an investment strategy based on fundamental analysis). It is important to evaluate your stock investments every few months to make sure that properly diversified in your stock holdings. Too many growth stocks can pose great risk to your investment portfolio. And too many value stocks may prevent your portfolio from reaching its potential.



People generally point to previous research when trying to determine which group of stocks, value or growth, is more profitable as a general rule.

- Fama and French in 1996 analyzed the markets between 1975 - 95 and found that value stocks with deep intrinsic value outperform growth stocks on average by 7.6% per year. Value outperformed growth in 12 out of 13 markets.
- In 2000, Joseph Piotroski released a paper testing stocks from 1976 – 96 using his specific factors to analyze strong and increasing fundamentals. His average return was over 23% total, or 7.5% better than the average stock return for the period.
- Another study looked at 1963 – 2001 and confirmed that value stocks outperformed growth.

Are high-growth stocks washed up then? Should we abandon them for the higher average return of value investing? Hardly. It all depends on the market cycle as to which is a better buy.

An interesting study began in 2003 and is still in progress. The goal was to compare the cyclical nature of growth and value stocks. Some preliminary findings are that while value stocks outperform overall, growth stocks have their time to shine also.

- Recessions are better for growth stocks
- Immediately after recessions growth stocks usually outperform

**Warren Buffett was quoted in the 2000 Berkshire Hathaway Annual Report on the subject as follows:**

Common yardsticks such as dividend yield, the ratio of price to earnings or to book value, and even growth rates have nothing to do with valuation except to the extent they provide clues to the amount and timing of cash flows into and from the business. Indeed, growth can destroy value if it requires cash inputs in the early years of a project or enterprise that exceed the discounted value of the cash that those assets will generate in later years. Market commentators and investment managers who glibly refer to “growth” and “value” styles as contrasting approaches to investment are displaying their ignorance, not their sophistication. Growth is simply a component—usually a plus, sometimes a minus—in the value equation.

**And once before in the 1992 Berkshire Hathaway Annual Report:**

In answering this question, most analysts feel they must choose between two approaches customarily thought to be in opposition: “value” and “growth.” Indeed, many investment professionals see any mixing of the two terms as a form of intellectual cross-dressing. We view this as fuzzy thinking (in which, it must be confessed, I myself engaged some years ago). In our opinion, the two approaches are joined at the hip: Growth is always a component in the calculation of value, constituting a variable whose importance can range from negligible to enormous and whose impact can be negative as well as positive. In addition, we think that the very term “value investing” is redundant. What is “investing” if it is not the act of seeking value at least sufficient to justify the amount paid?

Whether appropriate or not, the term “value investing” is widely used. Typically, it connotes the purchase of stocks having attributes such as a low ratio of price to book, a low price-earnings ratio, or a high dividend yield. Unfortunately, such characteristics, even if they appear in combination, are far from determinative as to whether an investor is indeed buying something for what it is worth and is

therefore truly operating on the principle of obtaining value in his investment. Correspondingly, opposite characteristics -- a high ratio of price to book value, a high price-earnings ratio, and a low dividend yield -- are in no way inconsistent with a "value" purchase. Similarly, business growth, per se, tells us little about value. It's true that growth often has a positive impact on value, sometimes one of spectacular proportions. But such an effect is far from certain.

When the business in point can invest at incremental returns that are enticing -- in other words, only when each dollar used to finance the growth creates over a dollar of long-term market value. In the case of a low-return business requiring incremental funds, growth hurts investors.

**John Burr Williams set forth in his seminal work, *The Theory of Investment Value*, published in 1938, the following equation for value:**

The value of any stock, bond or business today is determined by the cash inflows and outflows -- discounted at an appropriate interest rate -- that can be expected to occur during the remaining life of the asset. As Mr. Williams comments, "growth" is merely a component of the value equation, while "value" is not a determinant of value. Despite the brilliance of these two seminal thinkers on investing, we answer the value versus growth question as follows: Value investors tend to buy stocks with low expectations with the belief that these expectations are "too low" and the factors causing the stock to be "undervalued" are only temporary in nature. Value investors believe expectations will increase in time because the current, but temporary, "conditions" will pass. Low expectations tend to correlate with "value" indicators such as low price-to-book ratios, low price-earnings ratios and high dividend yields. These metrics are merely coincidental indicators, however; the key to the investment opportunity is the low expectations for the stock. Growth investors tend to buy stocks with high expectations, but with the bet that the expectations are also "too low" and will increase in time. Although expectations may already be high, growth investors believe expectations will

increase as the company continues to produce better than expected financial results. Keep in mind that for most growth stocks, expectations already assume a high degree of future growth and high expectations tend to correlate with high price-to-book ratios, high price-earnings ratios and low dividend yields. These metrics are merely coincidental indicators and not a measure of investment fitness. Once again, the key to the investment opportunity is the “low” expectations for the stock. In both cases the investor is betting that expectations are “too low” and will increase with the passage of time. Therefore, investing in either low expectations stocks (value) or high expectations (growth) is essentially the same bet. As such, we conclude that “value investing” and “growth investing” are exactly the same exercise, just bets on different sets of expectations.

### **Further thoughts:**

“Value” stocks tend to have expectations of depressed cash flows or short CAPs; the investment payoff comes from the acceleration in cash flows (versus expectations) and/or a lengthening of its CAP. Value oriented stocks may also suffer from neglect (a potentially good thing) which may lead to an inefficiently priced security. Interestingly, neglect may be a consequence as well as a cause of low expectations. Value investors tend to focus on asset values when calculating intrinsic value. The implied hope/belief of the investor is that some catalyst will come along and allow the “market” to realize this hidden value. As such, traditional value investors are unwilling to forecast future earnings/cash flow growth in order to justify their measure of intrinsic value and do not want to rely on these growth forecasts when making investment decisions. Value investing usually requires two investment decisions: when to buy and when to sell; selling comes once the stock reflects “realistic expectations.”

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CAPs, or a higher return on invested capital (again, versus expectations). Growth oriented stocks may suffer from group-think or mania (a potentially bad thing) which may lead to a security being over-priced. One of the key paradoxes of growth investing is that investor expectations should adjust to upside surprises in the company's financial performance. Therefore, for a growth stock to continue to increase, the underlying fundamentals must constantly, and continuously, exceed expectations. This is not a trivial accomplishment to maintain.

### **What about Risk?**

Although both value and growth investing are fundamentally a bet on low expectations, value investors tend to be more sensitive to risk than growth investors. Furthermore, value investors tend to be very sensitive to capital preservation and, as a consequence, many value investors aim to deliver absolute returns. As such, value investors are reluctant to bet on the future as they believe it is challenging to forecast accurately and, in general, are unwilling to pay much for future promises. On the other hand, growth investors tend to be very sensitive to changes in growth rates and aim to deliver superior relative performance. As such, growth investors constantly bet on their "superior" estimates of future growth rates and profitability of individual companies and are relatively quick to abandon companies that fail to deliver consistent financial performance.

### **Higher Returns with Less Risk?**

Several of the studies considered risk as measured by beta and standard deviation. Beta is a measure of systematic risk - the tendency of the price of a security to respond to price changes in the broad market. Standard deviation is a measure of dispersion from the mean return of the security. There was little, if any, evidence to support the view that value strategies involve more risk. In fact, Fama & French found evidence to the contrary - stocks with low price/book value ratios actually had lower betas.

## What Empirical Studies Show

There have been numerous studies on the subject of value versus growth investment strategies. The most common variables which were tested were price/book value (P/BV), price/earnings (P/E), and price/cash flow (P/CF). Other variables that were tested included price/sales (P/S), price/depreciation, earnings growth rates, sales growth rates, and dividend yield. Stocks with a low price relative to book value, earnings, cash flow, or sales were considered to be value stocks while those with high ratios were considered to be growth stocks. Stocks with high dividend yields were also considered to be value stocks.

The studies utilized similar methodologies with regard to the testing of variables. Table 1 shows the types of companies included in the studies, how they were grouped, the frequency of rebalancing and the variables tested. Stocks in the selected universe for the studies were ranked on the basis of the independent variables to be tested. Portfolios were then formed by grouping stocks on the basis of the rankings. After a certain period of time, stocks were then ranked again and the portfolios were rebalanced accordingly. The returns on the various portfolios were then compared.

The results of all ten studies were consistent. When value portfolios (stocks with the lowest P/E, P/BV, etc.) were compared to growth portfolios (stocks with the highest P/E, P/BV, etc.), the value portfolios outperformed the growth portfolios in all ten studies. The value portfolios were also compared to a benchmark index in eight of the ten studies and outperformed the benchmark in all of the eight studies. This held true for all of the variables in the various studies that were used to identify value stocks. Several studies compared investment returns after different time periods. For purposes of comparison in Table 1, all differences in investment returns shown are after one year.

There was no one variable that appeared to be better than the others in identifying value stocks that outperformed the market. For the Nicholson study, price/earnings was a better indicator of value than price/sales. In the Lakonishok,

Schleifer, and Vishny study, price/cash flow was a better indicator of value than price/earnings or price/book value. In the Calderwood study, value stocks selected on the basis of high dividend yield outperformed those selected on the basis of price/book or price/earnings by a small margin. In the Bauman, Conover & Miller study, price/book value was a better indicator of value than price/earnings, price/cash flow, or dividend yield.

The Calderwood study also tested a combination of the three variables. Some stocks were ranked in the top 30% for all three criteria: high dividend yield, low price/book value, and low price/earnings. The portfolio of stocks which satisfied all three screening criteria outperformed the portfolios which were ranked on the basis of only one variable. It appears as though a screening process for identifying value stocks should include more than one variable.

### **Past Research**

A number of studies report that value strategies have higher average returns than growth strategies: Basu (1983), Rosenberg Reid and Lanstein (1985), DeBond and Thaler (1985, 1987), Jaffe Keim and Westerfield (1989), Fama and French (1992, 1996), Lakonishok, Shleifer, and Vishny (1994). In this sense, investing in stocks of firms that have high book-to-market equity (B/M), which also have low earnings is classified as a value strategy, whereas investing in stocks of firms that have low B/M with high earnings is classified as a growth strategy.

Four possible explanations for the higher returns of value stocks over growth stocks, which is defined as the value premium, have been documented. Black (1993) and MacKinday (1995) show that the positive relation between B/M and average returns is a chance result unlikely to be observed out of sample. However, Chan, Hamao and Lakonishok (1991), and Capaul, Rowley, and Sharpe (1993), obtain results against the sample-specific explanation for the value premium.

The second explanation of value premium depends on compensation for risk of

securities. Fama and French (1992, 1996) show that value strategies are fundamentally riskier, so the higher average returns on value stocks reflect compensation for bearing this risk. They also argue that the three-factor model explains the expected returns of a portfolio through returns on market portfolio, the difference between the returns on portfolios of small stocks and large stocks, and the difference between the returns on portfolios of high B/M (value stocks) and low B/M (growth stocks).

Another explanation of value premium is raised by Daniel and Titman (1997), DeBondt and Thaler (1987), Lakonishok, Shleifer, and Vishny (1994), and Haugen (1995) by using the overreaction hypothesis. They show that investors overreact to performance and assign irrationally low values to weak firms that have high B/M and irrationally high values to strong firms that have low B/M. When the overreaction is corrected, weak firms have high stock returns and strong firms have low returns. The final explanation of value premium depends upon a behavioural overreaction. Daniel and Titman (1997) suggest that the model covers anything that produces a premium for the value characteristic relative to the growth characteristic and is not the result of risk. However, Davis, Fama and French (1999) show that the three-factor risk model explains the value premium better than the characteristic model of Daniel and Titman (1997). They indicated that the Daniel and Titman evidence is specific to their rather short sample period. The value premium in markets around the world has also been examined.

Arshanapalli, Coggin, and Doukas (1998) examine the performance of value and growth investing strategies for North America, Europe, the Pacific Rim, and International. They find that, regardless of geographic region, value stocks show superior performance over growth stocks in the period of 1975-1995. This superior performance is positively and significantly associated with the firm size variable (small – big) in most countries. Market movement has little or no explanation of the value-growth spread. Fama and French (1998) report evidence of a consistent value premium in international returns. The Capital Asset Pricing Model (CAPM) does not explain why high book to market ratios of common stocks have higher average returns than firms with low book-to-market ratios. The two-factor model,



in which market risk premium and the difference between returns of HB/M and LB/M are two explanatory returns, largely covers the average returns on portfolios in the U.S. and thirteen major markets outside of the U.S. They also show that value versus growth portfolio returns in emerging markets confirm the superior performance of value stocks in developed markets.

In another study, Chen and Zhang (1998) document that value stocks offer reliably higher returns in the U.S., Japan, Hong Kong, and Malaysia, corresponding to the higher risk. However, their results do not confirm the value premium in the high growth markets of Taiwan and Thailand because the spread of risk between small, high book-to-market stocks and big, low book-to-market stocks is small.

## RESEARCH OBJECTIVES

The problem statement to be analysed in this study is:

“Do value stocks outperform growth stocks in the long run?”

In order to analyse this problem specific study objectives have been developed to examine value vs. growth, and in particular to:

- To assess and draw conclusions about the impact of beta on individual stock returns.
- To study the combine effect of size and book-to-market in explaining equity returns.
- To study and draw conclusions on the relationship between B/MV and the stock prices and weather high (low) B/MVs is associated with to underpriced (overpriced) stocks.
- In this study, we extended the investigation of the underlying economics of B/MV ratios by focusing on the empirical links between B/MV, Size, and growth.

## RESEARCH METHODOLOGY

This section will discuss the firms and variables included in the study, data characteristics and applied statistical techniques in investigating which category of stocks are better: value or growth.

All the relevant data has been taken from the Capitaline Plus Databases. Editing, classification and tabulation of the financial data collection from the secondary sources have been done as per the requirements of the study. For analysing data simple mathematical tools like ratios, percentage and various statistical tools have been used. All statistical computations have been done in Microsoft Excel.

All the researches referred to in the literature review section make use of Beta, book-to-market value, growth, equity size, as control variables. Pearson's regression analysis has been used to analyse the problem at hand. Empirical studies show that Value stocks earn higher returns than growth stocks in emerging market around the world.

The company attributes, used in the study are as follows:

1. **Growth-** The amount of increase that a specific variable has gained within a specific period and context. For investors, this typically represents the compounded annualized rate of growth of a company's revenues, earnings, dividends and even macro concepts - such as the economy as a whole.

2. **Size-** Company Size is the total value of the tradable shares of a publicly traded company. It is equal to the share price times the number of shares outstanding. The natural logarithm of market-cap is used for size in the regression model as this log transformation reduces the variance-differences and influences of outliers in the regression model.

**3. Book-to-Market Ratio-** The book-to-market ratio attempts to identify undervalued or overvalued securities by taking the book value and dividing it by market value. If the ratio is above 1 then the stock is undervalued; if it is less than 1, the stock is overvalued. Price used to calculate the ratio was the average of the high and low price in the respective months.

## **SCOPE OF WORK**

The study is to determine which category of stocks perform better; value or growth. The study is limited to only 3 variables book-to-market value, growth and beta. The study covers the period on 5 years from January 2007 to December 2011 using monthly data in order to iron out the effects of short run imbalances. Nifty has been used as the representative of the Indian stock market. Data regarding beta, B/MV, growth was taken from the Capitaline database and data relating to NIFTY was taken from NSE India website. A total number of 39 companies satisfied the criteria of at least 75% data points, as compared to Nifty 50 index, with not more than 2 months of continuous gaps. The Nifty 50 index , a broad based index comprising of 50 shares was used as the market proxy and return on the 91 day treasury bill was used as the proxy for the risk free rate.

The study however, was exposed to the following limitations:

1. The study covers only 3 variables. There are other variables which have not been taken under the study.
2. The data provided by all the sources might not be hundred per cent accurate.

## LITERATURE REVIEW

Many researchers have studied value vs. growth stocks. The following articles were very interesting and useful for my research. Value stocks have higher returns than growth stocks in markets around the world. For the period 1975 through 1995, the difference between the average returns on global portfolios of high and low book-to-market stocks is 7.68 percent per year, and value stocks outperform growth stocks in twelve of thirteen major markets. Returns on market, value, and growth portfolios for the United States and twelve major EAFE ~Europe, Australia, and the Far East! Countries were studied. It was found that value stocks tend to have higher returns than growth stocks in markets around the world. Sorting on book-to-market equity, value stocks outperform growth stocks in twelve of thirteen major markets during the 1975–1995 period. The difference between average returns on global portfolios of high and low BOM stocks is 7.68 percent per year ~t 5 3.45!. There are similar value premiums when we sort on earnings0price, cash flow price, and dividend price. There is also a value premium in emerging markets. Once growth is controlled for, beta has a significant positive link with book-to-market-value ratios, supporting an important role for beta as share prices are penalized for beta risk. Moreover, growth plays a more significant role in explaining book-to-market-value ratios than does beta, which suggests that investigations to understand book-to-market effect on share returns should incorporate measures of future growth prospects. Once growth is controlled for, beta has a significant positive link with B/MV: Higher betas lead to higher B/MVs as share prices are penalized for beta risk. Such a link supports a significant role for beta in market pricing and suggests that we should not be hasty in discarding beta as a means to understand equity prices. 2. This important role for beta emerges only after controlling for the firm's growth prospects. Failure to control for expected growth leads to erroneous conclusions about beta's role in market pricing.

Previous studies have generally found that returns on growth stocks, or stocks with high price-to-earnings (P/E) ratios, often lag behind those of value stocks, or stocks with low-P/E ratios.

The findings indicate that the long-term performance (14+ years) of growth stocks is higher than the long-term performance of value stocks for portfolio created during the years included in this study. After only five years, however, the growth stocks lagged behind the value stocks. These results tend to support the efficient market hypothesis.

Analysis has also been done on the comparison of returns between value and growth, and between small and big portfolios for an emerging market, Istanbul Stock Exchange. The comparison of returns between value and growth, and between small and big portfolios for an emerging market, the Istanbul Stock Exchange (ISE) in Turkey. It is shown that growth portfolios have superior performance over value portfolios. Thus, results do not confirm the evidence from most developed and emerging markets. Moreover, inconsistent with the evidence from the developed market, monthly and annually small-big portfolio spreads are in favour of big stocks. These results reflect that the structure of the market and the fundamental of stocks traded in the ISE differ from markets around the world. Time series regression results show that the average returns on value and growth portfolios are not sensitive to market movements. Size and B/M risk factors along with market risk premium produce better descriptions of the returns on value and growth portfolios.

Using the Markov switching framework of Perez-Quiros and Timmermann (2000), we show that the expected value-minus-growth returns display strong countercyclical variations. The time-variation in the expected value premium highlights the importance of conditioning information in understanding the cross section of average returns. The data for the decile returns and Treasury bill rates are from Kenneth French's Web site. The sample period is from January 1954 to December 2007 with a total of 648 monthly observations. Following Perez-Quiros and Timmermann (2000), we start the sample period from January 1954 to conform with the period after the Treasury-Federal Reserve Accord that allows the Treasury bill rates to vary freely. Using the two-state Markov switching framework of Perez-Quiros and Timmermann (2000), document new evidence that the expected value-minus-growth returns display strong countercyclical variations. In recessions the expected excess returns of value stocks are most strongly affected, and the expected excess returns of growth

stocks are least affected, by worsening economic conditions as measured by higher one-month Treasury bill rates and higher default spreads.

The results of Fama delivered a stunning blow to the explanatory power of the Capital Asset Pricing Model, and sparked debates about the “death of beta.” In the wake of this study, academics shifted their attention to the ratio of book-to-market value of equity, and firm size as the leading explanatory variables for the cross-section of average stock returns. The academic community has generally come to agree that value strategies on average outperform growth investment strategies. On the one hand, Fama and French take the position of the efficient markets hypothesis, and attribute the higher returns of value strategies to their increased risk. On the other hand, Lakonishok, suggest that cognitive biases underlying investor behavior, and the agency costs of professional investment management are at the root of the rewards to value investing. Yet another explanation for the returns to value investing rests on methodological issues of data selection bias.

Table 1 summarizes the results from three key, early studies of the returns from value-growth investment strategies. Panel A of the Table draws from Fama and French (1992), which sorts stocks on the New York, American and Nasdaq markets into ten portfolios based on stocks’ book-to-market (panel A1) or earnings to- price (panel A2) ratios. The top and bottom decile portfolios are each further divided into equal halves. In the sort by book-to-market, the highest-ranked (value) portfolio generates an average return of 1.83 percent. Compared to the average return on the lowest-ranked (glamour) portfolio of 0.30 percent, value stocks come out ahead by 1.53 percent per month. At the same time, the market betas of the portfolios are very close to each other so systematic risk is not an obvious suspect for explaining the differences in returns. Value stocks with high book-to-market on average tend to be smaller than growth stocks. While the book-to-market ratio has garnered the lion’s share of attention as an indicator of value-growth orientation, it is by no means an ideal measure. To take an example from market conditions as of mid-2002, a stock such as AOL-Time Warner would generally be classified as a “cheap” stock in terms of book-to market.



By many other yardsticks such as earnings or dividends relative to price, however, the stock would look less attractive from the value standpoint. This suggests that other measures might also serve as the bases for investment strategies. Another valuation indicator that has been relatively overlooked in academic research is the ratio of cash flow to price. In its simplest form, cash flow is measured as earnings plus depreciation. Portfolios formed from this investment strategy generate relatively larger return spreads.

Results in part A are from Fama and French (1992). The sample is all NYSE, Amex and Nasdaq stocks with data on returns and accounting information. Monthly returns on equally-weighted portfolios are measured from July 1963 to December 1990.

A. Fama and French (1992)												
Variable	1A	1B	2	3	4	5	6	7	8	9	10A	10B
<i>(1): Sorted by book-to-market</i>												
Monthly return	0.30	0.67	0.87	0.97	1.04	1.17	1.30	1.44	1.50	1.59	1.92	1.83
Beta	1.36	1.34	1.32	1.30	1.28	1.27	1.27	1.27	1.27	1.29	1.33	1.35
Log Size	4.53	4.67	4.69	4.56	4.47	4.38	4.23	4.06	3.85	3.51	3.06	2.65
<i>(2) Sorted by earnings-to-price</i>												
Monthly return	1.04	0.93	0.94	1.03	1.18	1.22	1.33	1.42	1.46	1.57	1.74	1.72
Beta	1.40	1.35	1.31	1.28	1.26	1.25	1.26	1.24	1.23	1.24	1.28	1.31
Log Size	3.64	4.33	4.61	4.64	4.63	4.58	4.49	4.37	4.28	4.07	3.82	3.52

Table 3

Results in part B are from Lakonishok, Shleifer and Vishny (1994), using all NYSE and Amex stocks with data on returns and accounting information. Buy-and-hold returns on equally-weighted portfolios are measured annually from April each year, starting from 1968 to 1989.

B. Lakonishok, Shleifer and Vishny (1994)										
Variable	1	2	3	4	5	6	7	8	9	10
<i>(1): Sorted by book-to-market</i>										
Annual return	11.0	11.7	13.5	12.3	13.1	15.4	15.4	17.0	18.3	17.3
Average annual return over 5 years	9.3	12.5	14.6	15.4	15.8	16.6	18.4	18.9	19.6	19.8
Size-adjusted average annual return	-4.3	-2.0	-0.30	0.4	0.6	1.2	2.4	2.8	3.3	3.5
<i>(2) Sorted by earnings-to-price</i>										
Annual return	12.3	12.5	14.0	13.0	13.5	15.6	17.0	18.0	19.3	16.2
Average annual return over 5 years	11.4	12.6	14.3	15.2	16.0	16.7	18.8	19.1	19.6	19.0
Size-adjusted average annual return	-3.5	-2.4	-0.9	-0.1	0.5	1.3	2.6	2.6	2.9	1.9
<i>(3) Sorted by cash flow-to-price</i>										
Annual return	8.4	12.4	14.0	14.0	15.3	14.8	15.7	17.8	18.3	18.3
Average annual return over 5 years	9.1	12.2	14.5	15.7	16.6	17.1	18.0	19.2	19.9	20.1
Size-adjusted average annual return	-4.9	-2.5	-0.6	0.5	1.3	1.9	2.5	3.4	3.7	3.9

Table 4

Part C is from Chan, Hamao and Lakonishok (1991), based on all stocks in the first and second sections of the Tokyo Stock Exchange. Monthly equally-weighted portfolio returns are measured from June 1971 to December 1988. In the sorts by earnings-to-price and cash flow-to-price ratios, results are provided only for stocks with positive earnings or positive cash flow at the portfolio formation date.

<b>C. Chan, Hamao and Lakonishok (1991)</b>				
Variable	1	2	3	4
<i>(1): Sorted by book-to-market</i>				
Monthly return	1.3	1.7	1.9	2.4
Monthly standard deviation	4.3	4.3	4.3	4.6
<i>(2) Sorted by earnings-to-price</i>				
Monthly return	1.5	1.7	1.8	1.9
Monthly standard deviation	4.3	4.1	4.1	4.3
<i>(3) Sorted by cash flow-to-price</i>				
Monthly return	1.4	1.7	1.9	2.2
Monthly standard deviation	4.1	4.1	4.3	4.6

Table 5.

## 2 Explaining the performance of value strategies

While the evidence on returns is relatively uncontroversial, the situation is far less settled when it comes to providing an explanation for the differences between the performance of value and growth portfolios. Fama and French (1996) argue that stocks with high ratios of book equity to market value are more prone to financial distress and hence riskier. They employ a version of the Merton (1973) multi-factor asset pricing model to account for value stocks' higher risk exposures to a financial distress factor, and hence their higher returns. This argument, however, stretches credulity. On the basis of the risk argument, it would follow that Internet stocks which had virtually no book value but stellar market values were much less risky than traditional utility stocks which typically have high book values of equity relative to market. It is also noteworthy that the idea that value stocks have higher risk surfaced only after their higher returns became apparent. Instead they follow a more conventional approach and argue that risk does not explain the differences in returns. using two signals helps to lower the chance of misclassifying stocks into value and growth categories. A stock with high cash flow per dollar of share price, as well low past growth in sales, is more likely to be

a value stock with low expected future growth. Due to the limits of arbitrage, the mispricing patterns can be for long periods of time. Typically, then, stocks fetching high valuation ratios of book-to-market or price-to earnings wind up falling short of investors' hopes.

To the extent that investors became aware of the benefits to value strategies and adjusted their portfolios, the rewards to value investing may have been arbitrated away. In a similar vein, such a response may have been responsible for the demise of the "small firm effect" after the 1980s. More notably, the late 1990s witnessed the stunning boom in growth stocks and "dot-com" mania. Investors' ardor for technology, media, and tele-communications issues reached feverish heights, and propelled prices of such stocks to stellar levels. Growth stocks in general earned returns far outstripping those on value stocks

	Market	Sorted by:							
		Book-to-market		Earnings-price		Cash flow-price		Dividend-price	
		Value	Glamour	Value	Glamour	Value	Glamour	Value	Glamour
U.S.	9.57 (14.64)	14.55 (16.92)	7.75 (15.79)	14.09 (18.10)	7.38 (15.23)	13.74 (16.73)	7.08 (15.99)	11.75 (13.89)	8.01 (17.04)
Japan	11.88 (28.67)	16.91 (27.74)	7.06 (30.49)	14.14 (26.10)	6.67 (27.62)	14.95 (31.59)	5.66 (29.22)	16.81 (35.01)	7.27 (27.51)
U.K.	15.33 (28.62)	17.87 (30.03)	13.25 (27.94)	17.46 (32.32)	14.81 (27.00)	18.41 (35.11)	14.51 (26.55)	15.89 (32.18)	12.99 (26.32)
France	11.26 (32.35)	17.10 (36.60)	9.46 (30.88)	15.68 (37.05)	8.70 (32.35)	16.17 (36.92)	9.30 (31.26)	15.12 (30.06)	6.25 (33.16)
Germany	9.88 (31.36)	12.77 (30.35)	10.01 (32.75)	11.13 (24.62)	10.58 (34.82)	13.28 (29.05)	5.14 (26.94)	9.99 (24.88)	10.42 (34.42)
Italy	8.11 (43.77)	5.45 (35.53)	11.44 (50.65)	7.62 (42.36)	12.99 (54.68)	11.05 (43.52)	0.37 (38.42)	10.07 (38.28)	12.68 (56.66)
Netherlands	13.30 (18.81)	15.77 (33.07)	13.47 (21.01)	14.37 (21.07)	9.26 (20.48)	11.66 (33.02)	11.84 (23.26)	13.47 (21.38)	13.05 (30.81)
Belgium	12.62 (25.88)	14.90 (28.62)	10.51 (27.63)	15.12 (30.47)	12.90 (27.88)	16.46 (28.84)	12.03 (25.57)	15.16 (26.47)	12.26 (29.26)
Switzerland	11.07 (27.21)	13.84 (30.00)	10.34 (28.57)	12.59 (31.44)	11.04 (28.81)	12.32 (36.58)	9.78 (27.82)	12.62 (31.00)	10.44 (27.83)
Sweden	12.44 (24.91)	20.61 (38.31)	12.59 (26.26)	20.61 (42.43)	12.42 (24.76)	17.08 (30.56)	12.50 (23.58)	16.15 (29.55)	11.32 (25.13)
Australia	8.92 (26.31)	17.62 (21.03)	5.30 (27.32)	15.64 (28.19)	5.97 (28.89)	18.32 (29.08)	4.03 (27.46)	14.62 (28.43)	6.83 (28.57)
Hong Kong	22.52 (41.96)	26.51 (48.68)	19.35 (40.21)	27.04 (44.83)	22.05 (40.81)	29.33 (46.24)	20.24 (42.72)	23.66 (38.76)	23.30 (42.05)
Singapore	13.31 (27.29)	21.63 (36.89)	11.96 (27.71)	15.21 (29.55)	13.12 (34.68)	13.42 (26.24)	8.03 (28.92)	10.64 (22.01)	13.10 (33.92)

Table 4

A large body of empirical research indicates that value stocks on average earn higher returns than growth stocks. The reward to value investing is more pronounced for small stocks but it is also present in the larger stocks. The value premium also exists in equity markets outside the U.S. The sharp rise and decline in recent years of technology and other growth-oriented stocks calls into question the argument that growth stocks are less risky investments. Rather, the evidence suggests that value stocks are not more risky than growth stocks, based on a variety of indicators including beta and return volatility. In particular, a logically coherent account exists that can explain the returns to value stocks, and there is empirical support for the extrapolation hypothesis. These features distinguish the value premium from many other anomalous patterns that have been documented on stock returns. Many apparent violations of the efficient markets hypothesis, such as day-of-the-week patterns in stock returns, lack a convincing logical basis. In the absence of a plausible rationale, there is a legitimate concern that the anomalous pattern is merely a statistical fluke that has been uncovered through data-mining. Instead, the value premium reflects ingrained patterns of investor behavior or the incentives of professional investment managers. As in the case of numerous past episodes in financial history, investors will continue to extrapolate from the past and get excessively excited about promising new technologies. They will overbid the prices of growth stocks, and conversely, beat down value stocks too low. As a result, patient investing in value stocks will continue to be a rewarding long-term investment strategy.

Another important facet of research is the behavior of human mind in response to these situations. Humans have emotions and behavioral finance plays an extremely important role in this. Peter Bernstein in *Against the Gods* states that the evidence “reveals repeated patterns of irrationality, inconsistency, and incompetence in the ways human beings arrive at decisions and choices when faced with uncertainty.

Behavioral finance attempts to explain how and why emotions and cognitive errors influence investors and create stock market anomalies such as bubbles and crashes. “Investing is not a game where the guy with the 160 IQ beats the guy with the 130 IQ. Once you have ordinary

intelligence, what you need is the temperament to control the urges that get other people into trouble in investing.”--Warren Buffett. The mistakes that we ordinary humans make are encapsulated as follows:

- Overconfidence
- Projecting the immediate past into the distant future
- Herd-like behavior (social proof), driven by a desire to be part of the crowd or an assumption that the crowd is omniscient
- Misunderstanding randomness; seeing patterns that don't exist
- Commitment and consistency bias Fear of change, resulting in a strong bias for the status quo
- “Anchoring” on irrelevant data
- Excessive aversion to loss
- Allowing emotional connections to over-ride reason
- Fear of uncertainty
- Overestimating the likelihood of certain events based on very memorable data or experiences (vividness bias)
- Becoming paralyzed by information overload
- Failing to act due to an abundance of attractive options
- Fear of making an incorrect decision and feeling stupid (regret aversion)
- Ignoring important data points and focusing excessively on less important ones; drawing conclusions from a limited sample size
- Reluctance to admit mistakes
- Failing to accurately assess one's investment time horizon
- A tendency to seek only information that confirms one's opinions or decisions
- Failing to recognize the large cumulative impact of small amounts over time
- Forgetting the powerful tendency of regression to the mean
- Confusing familiarity with knowledge

We fail to buy because of Status quo bias, Regret aversion, Choice paralysis, Information overload, Hoping that stock will go down further (extrapolating recent past into the future or return to previous cheaper price (anchoring), Regret at not buying earlier. We fail to sell because of status quo bias, Regret aversion, Information overload, Endowment effect, Vivid recent evidence, Don't want to sell at a loss (if stock has been falling)• Applying behavioral finance is very important as one needs to have a high emotional IQ for getting better returns from the market.

## ANALYSIS AND OBSERVATIONS

### EMPIRICAL RESULTS

**TABLE 5: Mean, St. Dev and Correlation coefficients of B/MV, Beta and Growth**

Item	B/MV	Beta	Growth
<b>Mean</b>	0.382644406	1.043835897	<b>0.217971093</b>
<b>Standard Deviation</b>	0.226029485	0.480458712	<b>0.125668742</b>
<b>Correlation Matrix</b>			
<b>B/MV</b>	1		
<b>Beta</b>	0.347765656	1	
<b>Growth</b>	-0.036924315	-0.002163354	1

The correlation (.347) between B/MV and beta for the sample period is significantly positive, as shown in Table 1. Such a positive correlation fits well with the notion that beta risk leads to lower market prices and, hence, higher B/MVs. Growth has a negative correlation (-0.369) with B/MV as the market rewards growth prospects with higher share prices, which drive down B/MV. Negative correlation (-0.002) between beta and growth means lower growth is accompanied by higher market risk.

## REGRESSION ANALYSIS

**Table 6: Mean Values of B/MV regression estimates**

			<b>Adjusted R</b>
<b>Intercept</b>	<b>Beta</b>	<b>Growth</b>	<b>Square</b>
0.211867972	0.163604676		0.097182599
0.397120426		-0.066412569	-0.025626773
0.226087534	0.163567862	-0.065059704	0.073485446

The first two rows of Table 2 show single-variable regression coefficients. These results mirror the correlation structure discussed earlier. Considered alone, beta is significantly positively linked to B/MV. The second row shows that the association between growth and B/MV is strongly negative. The last row of Table 2 provides simultaneous effects of beta and growth. Now, the coefficients on beta are positive and the mean coefficient for beta (0.163) is significantly positive. The coefficients on growth remain negative in every month, and the mean (-0.065) is smaller in absolute value than in the single-variable regression. Thus, beta and growth both play significant roles in determining B/MVs. Furthermore, detection of beta's role depends critically on simultaneously controlling for the effects of growth.



## PORTFOLIO RETURNS

**Table 7: Percentage Excess Returns, Risks, and Sharpe Ratios for Selected Portfolio Strategies**

<b>Portfolio</b>	<b>Average Monthly Excess Return</b>	<b>Monthly Standard Deviation</b>	<b>Monthly Sharpe Ratio</b>
<b>Value Strategies</b>			
<b>HB/MV</b>	-4.670921735	10.27676026	-0.454513058
<b>BS</b>	-5.24549531	10.01614813	-0.523703847
<b>Growth Strategies</b>			
<b>LB/MV</b>	0.82952349	8.802555026	0.094236672
<b>SS</b>	-7.861013096	9.877980141	-0.795811794
<b>Market</b>	-5.4904495	8.62935599	-0.636252521

**SS=small size, BS=big size, HB/MV=high book to market value, LB/MV=low book to market value**

The results on portfolio returns have two limitations. First, our procedures did not incorporate transaction costs and hence do not provide conclusive evidence on whether realistic trading strategies could have been profitable. These results can only suggest market opportunities; actual strategies to tap an opportunity involve costs and also may use more sophisticated ways to capitalize on a perceived return advantage. Second, given the relatively short time period of this study, the inherent noise in stock returns means that many of our results are not statistically significant even if the economic opportunities appear large. Table 3 presents return results from our four portfolio strategies, as well as from owning the market portfolio. The two strategies to pick high-growth stocks (LB/MV and SS) both yield different results for excess returns and risks (as measured by standard deviation of returns). Although the growth-strategy risks are higher than those on a market portfolio, excess returns are not. As a result, Sharpe ratios (excess return per unit of risk) for the growth strategies are lower than on the market portfolio. The

excess return on the BS portfolio and the market are essentially the same. Apparently, the B/MV ratio identifies important information other than just picking up low-growth stocks. Both value strategies have higher risks and lower Sharpe ratios than the market portfolio.

In sum, these results are inconsistent with earlier findings of superior performance for value-based strategies. For our study period, the HB/MV strategy provides higher lower and higher risks than holding the market portfolio.

**Table 8: Value-Growth Spread Statistics**

<b>Portfolio</b>	<b>Average Monthly Percentage Spreads</b>	<b>Monthly Standard Deviation</b>	<b>Beta</b>
B/MV	-0.82952349	7.55679644	0.07618
Size	-2.615517786	8.366992187	0.19989

The last two columns of Table 4 show that betas for both value-size spreads are positive, meaning that the return advantage of value stocks is largest when the market rises. This result comes from the fact that value stocks have lower betas than growth stocks. Comparison of the beta values in Table 4 provides further insights on how strategies based on B/MV differ from those based on size. The B/MV spread's beta of 0.076 is lower than the size spread's beta of 0.199. The lower beta for the B/MV spread indicates less exposure to market risk. In addition, the patterns show superior returns may be available from growth-based investment strategies implemented using size.

## CONCLUSIONS

1. Growth stocks show superior performance over value stocks in emerging markets.
2. There is also a possible size effect on returns in emerging markets.
3. Moreover, neither value nor growth investment strategy shows superior performance over national market index.
4. Monthly and annually small-big portfolio spreads are in favour of big stocks.
5. Size and B/M risk factors along with market risk premium produce better descriptions of the returns on value and growth portfolios.
6. Average returns on value and growth portfolios are not sensitive to market movements.
7. Big and fundamentally strong firms have been preferred by institutional and foreign investors.
8. There is significant stochastic dominance relation between value and growth stocks during recession (bad) periods, which is inconsistent with the risk-based predictions but is better explained by behavioral models.

Much of the recent work on patterns in equity pricing has focused on the apparently important role of B/MV. A higher B/MV seems to be linked to higher subsequent returns on stock. At the same time, this recent work often shows that the role of beta in explaining such returns seems to be insignificant.

The study done here demonstrates several important points:

1. Once growth is controlled for, beta has a significant positive link with B/MV: Higher betas lead to higher B/MVs as share prices are penalized for beta risk. Such a link supports a significant role for beta in market pricing and suggests that we should discard beta as a means to understand equity prices.
2. This important role for beta emerges only after controlling for the firm's growth prospects. Failure to control for expected growth leads to false conclusions about beta's role in market pricing.
3. Growth plays a more significant role in explaining B/MVs than does beta.
4. Portfolio returns show that the B/MV effect is not easily explained by the hypothesis that growth prospects are mispriced. Thus, our findings indicate that growth and beta are part, but not all, of the book-to-market puzzle.

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