

**A COMPARISON OF VALUE AND GROWTH STRATEGIES AT
THE NAIROBI STOCK EXCHANGE.**

BY

NGIGI F.N

REG D61/7537/04

Date 29-11-06

**SUPERVISOR;
MR J.LISHENGA**

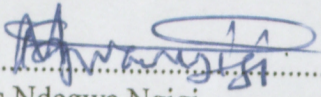
**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION UNIVERSITY OF NAIROBI, SCHOOL OF BUSINESS**

JUNE 2006

DECLARATION

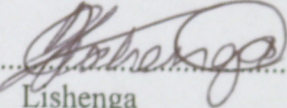
DEDICATION

THIS PROJECT IS MY ORIGINAL WORK AND HAS NOT BEEN PRESENTED FOR A DEGREE IN ANY OTHER UNIVERSITY.

Signed.....
Francis Ndegwa Ngigi.

Date.....29-11-06.....

THIS PROJECT HAS BEEN SUBMITTED FOR EXAMINATION WITH MY APPROVAL AS UNIVERSITY SUPERVISOR.

Signed.....
Josephat Lishenga
Lecture, Department of Accounting
University of Nairobi

Date.....29-11-06.....

DEDICATION

ACKNOWLEDGEMENTS

To the great love of my life-my family.

I would wish to register my appreciation for the guidance and support that I received from my supervisor Mr. Josephat Lishenga. his advice, comment and corrections were invaluable and without them I would not have been able to accomplish this work.

To my parents Lucy and Joseph Ngigi. I owe you my life and more. Thank you, for all that you have done to me. You have always been there for me you have instilled in me that desire to reach for the stars. I am eternally indebted to you. I love you.

To my siblings -Jane, Rose, Hilder, Hottie, Reginah, Winnie, Ezekiel, Amos Pattie, Fidelis, and Cate the late, thank you for your support and words of encouragement am blessed to have you.

To my friend Mwangi, for always being there for me.

Special mention to my friends Wanguike and Ngari for their special contributions.

ACKNOWLEDGEMENTS

I would wish to register my appreciation for the guidance and support that I received from my supervisor Mr. Josephat Lishenga. His advice, comment and corrections were invaluable and without them I would not have been able to accomplish this work.

To my parents Lucy and Joseph Ngigi. I owe you my life and more. Thank you, for all that you have done to me. You have always been there for me you have instilled in me that desire to reach for the stars. I am eternally indebted to you. I love you.

To my siblings –Jane, Rose, Hilder, Hottie, Reginah, Winnie, Ezekiel, Amos Pattie, Fidelis, and Cate the late, thank you for your support and words of encouragement am blessed to have you.

To my friend Mwangi, for always being there for me.

Special mention to my friends Wanyoike and Ngari for their special contributions.

ABSTRACT

When people invest in common stocks they give up current consumption in hope of attaining increased future consumption. They expect to collect dividends and eventually sell the stock at a profit. A common stock is a type of security, which represents a commitment on the part of a corporation to pay periodically whatever its board of directors deems appropriate as cash dividend. Although the amount of cash dividend to be paid during the next year is subject to some uncertainty, it is generally relatively easy to accurately predict. However, the amount for which a stock can be bought or sold varies considerably, making the annual return difficult to accurately predict. This means that investors buy stock because they expect an increase in their wealth; this increase in their wealth has two components –that is, the dividend received and the increase in the value of the stock (capital gain). The percentage change in the investor’s wealth from the beginning to the end of a period is known as the rate of return or simply the return.

In making investments decisions, investors will always wish to employ strategies that will realize superior performance. One of the most important developments in equity management in the last several years is the creation of portfolio strategies based on value-oriented and growth-oriented styles, where value stocks have been defined as stocks with a higher of either earnings yield, book to market value, dividend yield, or cash flow to price ratio, and growth stocks as those with a low of these ratios. In markets around the world, value stocks have to shown superior performance than growth stocks. This study sought to find out whether there exists a value premium at the NAIROBI STOCK EXCHANGE if stocks are sorted on the basis of book to market value. It’s indicative from the study that value stocks outperformed growth-stocks for the period under study, though the difference between the performance between the two portfolios was dismal. It therefore appears that the two styles of investment can still be appropriately applied at the Nairobi stock exchange.

1.1 SCOPE OF THE STUDY 28

1.2 POPULATION 28

1.3 DATA COLLECTION 28

1.4 DATA ANALYSIS 29

CHAPTER FOUR 31

4.1 PORTFOLIO FORMATION 31

4.2 RETURNS ON PORTFOLIOS 31

TABLE OF CONTENTS.

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1.1 Background	1
1.1.2 Value and Growth Oriented Investors.....	2
1.1.3 Momentum and Contrarian Strategies.....	3
1.1.4 Value and Growth Strategies.....	4
1.2 STATEMENT OF THE PROBLEM.....	7
1.3 OBJECTIVE OF THE STUDY	8
1.4 SIGNIFICANCE OF THE STUDY.....	8
CHAPTER TWO	9
LITERATURE REVIEW.....	9
2.1 RETURN ON INVESTMENTS.....	9
2.2 RETURNS ON VALUE AND GROWTH STOCKS.....	9
2.3 THEORIES EXPLAINING THE VALUE PREMIUM.....	11
2.4 THE VALUE PREMIUM IN EMERGING MARKETS	13
2.5 THE FF THREE –FACTOR MODEL.....	14
2.6 TOOLS USED TO SORT STOCKS INTO VALUE AND GROWTH.....	18
2.6.1 Price earnings ratio and earnings yield.....	18
2.6.2 Book value to market value ratio (B/P)	19
2.6.3 Dividend yield (D/P).....	20
2.6.4 Cash flow to price ratio (C/P).....	21
2.6.5 Price to sales ratio (P/S)	21
2.6.6 Growth at reasonable price (GARP).....	22
2.7 MAJOR INVESTMENT STYLES.....	23
2.7.1 Indexing	23
2.7.2 Value and Growth Investment styles.....	24
CHAPTER THREE	28
RESEARCH METHODOLOGY	28
3.1 SCOPE OF THE STUDY.....	28
3.2 POPULATION.....	28
3.3 DATA COLLECTION.....	28
3.4 DATA ANALYSIS.....	29
CHAPTER FOUR.....	31
4.1 PORTFOLIO FORMATION.....	31
4.2 RETURNS ON PORTFOLIOS.....	31

CHAPTER FIVE.....	35
SUMMARY AND RECOMMENDATIONS.....	35
5.1 Summary.....	35
5.2 Implications of study.....	35
5.3 Limitations of Study.....	36
5.4 Suggestion for Further Research.....	36
REFERERNCES.....	37
APPENDICES.....	40
Appendix I: Data collection Form.....	40
Appendix II: Value Portfolio 2000.....	41
Appendix III: Growth Portfolio 2000.....	42
Appendix IV: Value Portfolio 2001.....	43
Appendix V: Growth Portfolio 2001.....	44
Appendix VI: Value Portfolio 2002.....	45
Appendix VII: Growth Portfolio 2002.....	46
Appendix VIII: Value Portfolio 2003.....	47
Appendix IX: Growth Portfolio 2003.....	48
Appendix X: Value Portfolio 2004.....	49
Appendix XI: Growth Portfolio 2004.....	50
Appendix XII: Population Study.....	51

CHAPTER ONE

INTRODUCTION

1.1.1 Background

In making investment decisions, investors will always wish to employ strategies that will realize superior performance. One of the most important developments in equity management in the last several years is the creation of portfolio strategies based on value and growth oriented styles, where value stocks have been defined as stocks with a higher of earnings yield, book-to-market, dividend yield or cash flow to price ratio. Growth stocks are known for their lack of dividends and rapidly increasing market prices. Defined by their tendency to grow faster than the market, these companies generally reinvest all earnings into infrastructure in order to maintain rapid growth, rather than directly paying out their earnings to investors. Young technology companies are often considered to be high growth, but the main characteristic of growth companies is that they believe ploughing earnings back into the research and development of new products benefits shareholders more than a dividend offer.

“Indeed it is now common for money management firms to define themselves as value stock managers or growth stock managers when selling their services to their clients” (Reilly and Brown 2000 pg. 908).

Sharpe, Alexander, and Bailey (2003), state that there is no hard-and-fast rule on how stocks are divided into growth stocks (sometimes called glamour stocks) and value stocks (or income stocks) and disagreements exist among investment professionals on what category certain stocks belong to. However, it is important to note that value and growth are terms applied to stocks whose E/P, B/M, D/P, and C/P are extreme. That is, extremely high or extremely low. This is evidenced in the study done by Bernstein (1995 pg 53) as quoted by Lofthouse (2001 pg 205) and the one done by Fama and French (1998). While Bernstein worked with the top 50 and the bottom 50 stocks in the S & P 500, Fama and French worked with the top 30% and the bottom 30%.

on share price in anticipation of market correction and possibly improving company fundamentals.

1.1.2 Value and Growth Oriented Investors

Lofthouse (2001), explains that value managers are essentially managers who buy cheap stock with 'cheap' being defined as a lot of current year earnings, or assets, or immediate income (dividends) per shilling paid; and growth investors are those looking for rapid or sustained growth in the future of earnings, assets, dividends etc. He defines a value investor as one who invests in shares with one or more of the following attributes:

Low price earnings ratio P/E [for high earnings yield [E/P], high cash flow to price ratio [C/P], High dividend yield [D/P], high asset value per share, low growth at Reasonable Price ratio.

On their part, Reilly and Brown (2000) give the following distinction between value and growth investors: -

A growth-oriented investor will: focus on the EPS component of the P/E ratio and its economic determinant, look for companies that he or she expects to exhibit rapid EPS in the future; and often implicitly assume that the P/E ratio will remain constant over the near term, meaning that the stock price will rise as forecasted earnings growth is realized.

On the other hand, a value oriented investor will focus on the price component of the P/E ratio; he or she must be convinced that the price of the stock is low by some means of comparison; not care a great deal about current earnings or the fundamental driver of growth earnings and often implicitly assume that P/E ratio is below its natural level and that the market will soon "correct" this situation by increasing the stock price, with little or no change in earnings.

In summary, a growth investor focuses on the current and future economic prospects of a company with less regard to the share valuation. On the other hand, the value investor focuses

on share price in anticipation of market correction and possibly improving company fundamentals.

According to Brealey and Myers (2002) investors seem to buy growth stocks primarily for expectation of capital gains, and they are interested in the future growth of earning rather than in next year's dividend. On the other hand, they buy income stocks primarily for cash dividends. Income – These stocks aren't (usually) growth hungry, or they've already reached their maximum growth potential. Income stocks' prices do not tend to fluctuate a great deal. However, they do pay dividends that are higher than average. The value of an income stock depends on its reliability and track record in paying dividends. Generally, the longer a company has maintained dividend payments, the greater its value to investors.

Fisher and Jordan (2002) describe value managers as managers seeking high yield. They tend to look for companies that have either high dividend yields, low market-to-book value ratios or low price earnings ratios. According to these authors, in times of economic uncertainties there tends to be an increasing emphasis on seeking such high yield investments. This stems from the desire to achieve high current income and can be accomplished by holding stocks that pay high current dividends.

They describe an alternative to this approach as purchasing out of favour stocks. Out of favour stocks tend to be stocks with low P/E ratios. They explain that at various times in the economic cycle, certain stock groups that are stocks whose basic businesses are in certain sectors of the economy tend to be out of favour. This means that investors tend to shy away from owning these stocks because they feel that the economic environment is not conducive to business in these industries. When this occurs, there are very few buyers around and lots of sellers; the prices of these securities tend to drop; sometimes they drop way out of line with the earnings of these companies. This then causes deterioration in their P/E ratios, and when their P/E ratios become very low, these analysts jump in to buy the out of favour stocks.

1.1.3 Momentum and Contrarian Strategists

In contrast to value and growth strategists' momentum and contrarian strategists group stocks on the basis of the size of their returns over some time period. Momentum investors seek out to purchase those stocks that have recently risen significantly in price on the belief that they will continue to rise owing to an upward shift in their demand curves. Conversely, those stocks that have recently fallen significantly in price are sold on the belief that their demand curves have shifted downward.

Investors who call themselves contrarians do just the opposite of what most other investors are doing in the market: They buy stocks that others have ignored and think of as losers, and they sell stocks that others have feverishly pursued and think of as winners. They do so in the belief that investors tend to over react to news. That is, stocks that have plunged in price because of some recent piece of bad news (such as recently announced weak earnings) are thought to have fallen too far in price. Hence such stocks are viewed as being ready for a price rebound as investors realize that they have over reacted to the bad news associated with the stock and subsequently drive the price upward toward the stocks fundamental value.

Similarly, stocks that have risen rapidly in price because of some recent piece of good news (such as recently announced strong earnings) are thought to have risen too far in price. Hence such stocks are viewed as being ready for a price drop as investors realize that they have overreacted to the good news associated with the stock and subsequently drive the price downward towards the stocks fundamental value.

1.1.4 Value and Growth Strategies

A number of studies report that value strategies have higher average returns than growth strategies; Basu (1983), Rosenberg et al (1985), Dechow and Thaler (1985, 1987), Jaffe et al (1989), Fama and French (1992, 1996), Lakonishok et al (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 growth strategy.

In their study Davis et al (2000) confirm the controversial findings of Rosenberg et al (1985) that firms with high ratios of book value of common equity (BE/ME) have higher returns than firms with low (BE/ME) ratios. In addition they confirm the robustness of the multifactor model of Fama and French (1993, 1996), which uses the market portfolio and mimicking portfolios for factors related to size (market capitalization) and style (BE/ME) to describe returns in the U.S.A. over a 68-year period.

It has also been documented that the historical superiority of value stocks over growth stocks may be influenced by the firm size effect. Arshanapalli et al (1998) found that the superior performance of value stocks over growth stocks is positively and significantly associated with the firm size variable (small – large) in most of the countries. Fama and French (1998) examine both value premium and size effect on the average returns in emerging markets. They report that value stock portfolio returns in emerging markets confirm superior performance of value stocks in developed markets. Moreover, the returns on small and large capitalization portfolios suggest that there is an important size effect.

According to Drew and Veeravaghaulan (2002) small and high book-to-market equity stocks generated higher returns than big and low book-to-market equity stocks in the Malaysian setting. Therefore their findings clearly document evidence of a size and book-to-market equity effect and suggest that size and value premiums are a compensation for risk that is not captured by the capital asset pricing model. Hence proposing that small firms and high book-to-market equity firms carry a risk premia. These findings are consistent with that of Hawawini and Keim (1995) and Heston et al (1998) in that an international size effect is documented.

The value premium in markets around the world has also been examined. Arshunapulli et al (1998) examined the performance of value and growth investing strategies for North America, Europe and The Pacific Rim and international securities. They found that regardless of geographic region, value stocks, showed superior performance over growth stocks in the period 1975-95. This superior performance is positively and significantly associated with the firm size variable (small – large) in most countries. Market movement has little or no explanation of the value-growth spread. The Capital Asset pricing model (CAPM) does not explain why high

book-to-market (HB/M) ratios of common stocks have higher average returns than firms with low book-to-market (LB/M) 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 covering the average returns on portfolios in the United States and 13 major markets outside the United States.

In their study of the comparison of returns between value and growth and between small and large capitalization portfolios for an emerging market (Istanbul stock exchange ISE) Gonec and Karan (2003) documented that growth portfolios have superior performance over value portfolios. Their results do not confirm the evidence from most developed and emerging markets. Moreover their results are inconsistent with the evidence from most developed markets, monthly and annually small-large portfolio spreads favour large stocks. They concluded that size and B/M risk factors along with market risk premium produce better description of the returns on value and growth portfolios.

Academic studies covering the period from the early 1960s to the early 1990s have found that value has been the long-term winner. One study Davis (1994) that looked at the period 1940-63 has found out the same thing, as has another that has gone back to 1929 (Davis et al 2000). So for the period of 60 plus years value has beaten growth but recently it has not Lofthouse (2001) and Gonec and Karan (2003)

Chan, Louis and Lakonishok (2004), also reckon that the latter part of the 1990s was harsh on value stocks. Growth stocks rocketed in value in those years. They state that the most plausible interpretation of the events of the late 1990s is that investor sentiment reached exaggerated levels of optimism about the prospects for technology, media, and telecommunication stocks. Most of the studies mentioned above are in developed capital markets, except the studies by Gonec and Koran (2003) on Istanbul Stock Exchange and Drew and Veevarghavan (2002) on the Kuala Lumpur stock exchange, which are on emerging markets. The study on emerging markets by Fama and French (1998) include only two in African countries; that is Nigeria and Zimbabwe.

According to Chan, Louis and Lakonishok (2004), value and growth are now widely recognized distinctive specializations adopted by money managers. They state that the topic of value and growth investing strategies is a prime example of fruitful exchange of ideas between academic research and investment practice. The results of academic studies have formed the basis for investment strategies that are widely applied in equity markets. Given this potential benefit, it would be important to know whether a size and value premium would be observed in other emerging markets such as the Nairobi Stock Exchange. Such knowledge would be handy to investors at the Nairobi Stock Exchange particularly institutional investors such as pension schemes and mutual funds that would wish to employ the most rewarding strategies. Hence, the study.

looked at investment ratios in general while this proposed study is restricted to book to market value ratios to test whether there exists a value premium at the Nairobi stock exchange.

1.2 STATEMENT OF THE PROBLEM

The motive of every investor is to make good return on his /her investment. In making the investment decision the investor would therefore wish to employ that strategy that will realize superior performance. It is therefore important for an investor to know the strategy that will realize superior performance in a particular stock market. Black and McMillan (2004), state that style investing incorporates strategies that help discriminate the future performance of particular types of stocks. One of the most frequently used styles is value investing, where investors purchase value stocks rather than growth stocks in order to benefit from potential long term performance of value stocks in the form of higher average returns.

The finding that the value-premium anomaly is robust for the USA over a 68-year period and that a multifactor asset-pricing model does a better job of capturing the cross-section of average returns than beta, naturally, remains controversial. Fama and French (1998) find additionally that the value premium is pervasive for a sample of 12 major Europe, Australia and Far East (EAFE) countries. Fama and French estimate that, for the period 1975 through to 1995, the difference in average returns of high and low BE/ME stocks was 7.86% per year. Additionally, they suggest that the value premium is evident in emerging market returns, but admit that, due to a short sample period and high volatility of returns, the asset-pricing tests performed by Fama and French (1998) for emerging markets were 'quite imprecise'. The lack of evidence on the important issue of whether size and value premium are pervasive in emerging markets requires immediate attention. In contrast to the body of literature analyzing the cross-section of stock

returns in developed markets, few studies have investigated whether such findings are corroborated in emerging markets. This is potentially important because such evidence may be sample-specific – that is, driven by economic, institutional and regulatory arrangements peculiar to developed markets. A study by Asienwa (1992) sought to find out whether there is a relationship between share performance and investment ratios of companies quoted at the Nairobi stock exchange. It is indicative from the study that a relationship exists between investment ratios and share prices. The conclusion was that there is a strong relationship between investment ratios and share prices of companies quoted at the Nairobi stock exchange. However, the study focuses on performance as indicated by the share price and not returns. Also the above study looked at investment ratios in general while this proposed study is restricted to book to market value ratios to test whether there exists a value premium at the Nairobi stock exchange. The problem is therefore that of determining whether there is a value premium at the Nairobi Stock Exchange Market.

1.3 OBJECTIVES OF THE STUDY

- i. To examine whether there exists a value premium at the Nairobi Stock Exchange.

1.4 SIGNIFICANCE OF THE STUDY

This study would be of interest to various people including: -

- (i) Investment practitioners

The study will be of use to investors, investment advisors and security analysts in selecting the best investment strategy.

- (ii) Academicians and researchers

The results of the study will add to the body of knowledge in the field of finance proving beneficial to students of finance

CHAPTER TWO

LITERATURE REVIEW

2.1 RETURN ON INVESTMENT

When people buy common stocks they give up current consumption in hope of attaining increased future consumption. They expect to collect dividends and eventually sell the stock at a profit Van Horne (1998). A common stock is a type of security, which represents a commitment on the part of a corporation to pay periodically whatever its board of directors deems appropriate as cash dividend. Although the amount of cash dividend to be paid during the next year is subject to some uncertainty, it is generally relatively easy to accurately predict. However, the amount for which a stock can be bought or sold varies considerably, making the annual return difficult to accurately predict Sharpe, Alexander and Bailey (2004). This means that investors buy stock because they expect an increase in their wealth; this increase in their wealth has two components that is, the dividend received and the increase in the value of the stock (capital gain). The percentage change in the investor's wealth from the beginning to the end of a period is known as the rate of return or simply the return.

2.2 RETURNS ON VALUE AND GROWTH STOCKS.

Four possible explanations for the higher returns of value stocks over growth stocks, which are defined as the value premium, have been documented. Black (1993) and MacKinlay (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 et al. (1991), and Capaul et al. (1993), obtain results against the sample-specific explanation for the value premium.

The second explanation of value premium depends on compensation of risk securities. Fama and French (1992, 1996) show that value strategies are fundamentally riskier, so the higher average return on value stocks reflects compensation for bearing the risk. They also argue that the three-factor model explains the expected returns of a portfolio through returns on the market portfolio, the difference between the returns on the market portfolios of small capitalization stocks and

large capitalization 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 et al. (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 the value premium depends upon a behavioral 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 et al. (1999) show that the three-factor risk model explains the value premium better than the characteristic model of Daniel and Titman (1997). They concluded 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 et al. (1998) examine the performance of value and growth investing strategies for North America, Europe, the Pacific Rim, and International securities. They find that regardless of geographic region, value stocks show superior performance over growth stocks in the period of 1975-95. This superior performance is positively and significantly associated with the firm size variable (small-large) 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 (HB/M) ratios of common stocks have higher average returns than firms with low book-to-market (LB/M) 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 United States and 13 major markets outside of the United States.

2.3 THEORIES EXPLAINING THE VALUE PREMIUM

Academic studies covering a period of 60 plus years have shown that value has been the long-term winner. Value stocks have been shown to beat growth stocks in markets around the world. Various theories have been advanced to explain this:

Brealey and Myers (2000) explain that stock prices today reflect investor's expectations of future operating and investment performance. Growth stocks sell at a high price earnings ratio – P/E (low earnings yield – E/P) because investors are willing to pay now for expected superior returns on investments that have not been made.

Lakonishok, Shleifer, and Vishney, (1994) and Haugen (1995) argue that the value premium in average returns arises because the market under-values distressed stocks and over-values growth stocks. When these pricing errors are corrected, distressed (value) stocks have high returns and growth stocks have low returns.

On the other hand, Fama and French (1993, 1995, and 1996) argue that the value premium is compensation for risk missed by the Capital Asset Pricing Model (CAPM) of Sharpe (1964). They argue that stocks with high Book –value-to-market-value ratios are more prone to financial distress and hence riskier than glamour stocks. However, if value strategy is fundamentally riskier then it should under perform relative to the growth strategy during undesirable states of the world when the marginal utility of wealth is high. Lakonishok et al (1994) tested this and found no evidence to support the view that superior returns on value stocks reflect their higher fundamental risk, nonetheless, there are many possible proxies for risk, so the risk based explanation cannot be definitely laid to rest.

Another explanation by Chan, Louis, and Karceski (2000) draws on behavioral considerations. Studies in psychology have suggested that individuals tend to use heuristics for decision-making, which opens up the possibility of judgemental biases in investment behaviour. In particular

investors may extrapolate past performance too far into the future. Value stocks tend to have a history of poor performance relative to growth stocks with respect to earnings, cash flow and sales. Therefore, in so far as investors and brokerage analysts overlook the lack of persistence in growth rates, and project past growth into the future, favourable sentiment is created for glamour stocks.

While agreeing with the above explanation, Chan, Louis, and Lakonishok, (2004) add that agency factors may play a role in the higher prices of glamour stocks. They argue that analysts have self-interest in recommending successful stocks to generate trading commissions, as well as investment banking business. Moreover, growths in stock are typically in exciting industries and are thus easier to tout in terms of analysts' reports and media coverage. All these considerations play into career concerns of professional money managers and pension plan executives. Such individuals may feel vulnerable holding a portfolio of companies that are tainted by lackluster past performance so they gravitate towards successful growth oriented stocks. The upshot of all these is that value stocks become under priced and glamour stocks become over priced relative to their fundamentals.

On their part, Black (1993) and McKinley (1995) argued that the value premium in U.S. stocks is sample specific. Its appearance on U.S. stocks is a chance result unlikely to recur in future returns. This argument was tested by Davis (1994) and he showed that there was a value premium in U.S. stocks before 1963, the start date for the studies by Fama and French and others.

Hanson (2004) attributes the premium to the fact that human capital is not silent to market expectations but claims for compensation increase as market value increases. According to him, firms experiencing good times (growth stocks), are forced to share a larger portion of their proceeds (earnings) with their employees, whereas low labour compensation claims in firms experiencing hard times (value stocks) are contributing to higher than expected earnings. Accordingly, even if growth firms are consistently showing higher earnings, they will fall below market expectations as a consequence of larger rents to human capital.

2.4 THE VALUE PREMIUM IN EMERGING MARKETS

Fama and French (1998) study emerging markets as another test of the international evidence for the value premium. They provide average annual returns for value-weighted market, value, and growth, small and large portfolios for 16 emerging markets. The emerging markets in this sample are Argentina, Brazil, Chile, Colombia, Greece, India, Jordan, Korea., Malaysia, Mexico, Nigeria, Pakistan, Philippines, Taiwan. Venezuela and Zimbabwe. Initially, they state that average returns in emerging markets are higher than in developed markets. The highest average excess return belongs to Argentina with 64.71% per year. Only two of 16 emerging markets (India and Jordan) have average returns below 9.47% that is the value-weight average of developed market returns. They also suggest that the links among emerging markets' returns are weak because the average correlation between the excess market returns of individual countries is only 0.07.

Examining the returns for portfolios formed on B/M, Fama and French show that there is a value premium in emerging market returns. Thus, values versus growth portfolio returns in emerging markets confirm the superior performance of value stocks in developed markets. The value-growth spread for 12 out of 16 countries is positive. The countries that have annual negative value-growth spreads are Argentina (-36.47%), Colombia (-17.47%), Mexico (-0.15%), and Pakistan (-4.65%). On the other hand, they show that the standard deviations of annual returns on market portfolios are very high. Therefore, Fama and French interpret the positive value premium results for emerging markets with caution because of very volatile emerging market returns.

In the same study, Fama and French test whether there is a size effect in emerging market returns. They examine the returns on small and large portfolios, and find that small cap stocks have higher average returns than large cap stocks in 11 of 16 emerging markets, similar to stock returns in the United States and other developed countries. They conclude that there seems to be a size effect in emerging market returns. The countries in which large stocks earn higher average returns than small stocks (negative small-large spread) are Colombia (-20.54%), Greece (-11.57%), India (-0.21%), Pakistan (-11.07%), and Philippines (-5.88%). As presented above, there is a negative value premium in Colombia and Pakistan. For Greece and India, value-

growth spreads of 2.63% and 1.53%, respectively are very small when we compare these returns with value-growth spreads in other emerging markets.

Chen and Zhang (1998) compare the return experience of value stocks across the six countries, the United States, Japan, Hong Kong, Malaysia, Taiwan and Thailand. They show that the value-weighted market returns are lowest for the United States and Japan and highest for Taiwan and Thailand, indicating a negative correlation between markets. By using the same structure as Fama and French (1992, 1996) to measure the returns of a portfolio, they find that the high average return for the value stocks tends to persist in the United States; is less persistent for the growth markets of Japan, Hong Kong and Malaysia; and is almost non-existent for the high growth markets of Taiwan and Thailand. They demonstrate that the value premium arises because of firms that are in distress, with high financial leverage and facing substantial earnings uncertainty. In terms of the size effect, they find that small firms tend to have higher returns than large firms, except for Taiwan.

Chen and Zhang (1998) search for a relationship between market growth and the value stock effect to explain the inconsistent pattern of the value stock effect among the countries. They argue that the higher the growth of the market, the smaller the value stock effect. If there is this kind of relationship in the high growth markets, such as Thailand and Taiwan, then relatively marginal firms may still enjoy the benefit of a rapidly expanding economy because the risk for value stocks is not so much higher in some absolute sense. To address this issue, they use the cross-country value stock effect that is measured by the ratio of return differences between small, high book-to-market stocks (SH) and large, low book-to-market stocks (LL) to the respective excess market return standard deviation for the six countries. Consistent with their argument, they find a negative correlation between the market returns and the cross-country value stock effect. They conclude that the fast-growing markets with higher market returns have smaller value stock effects. Therefore, in those markets, even though SH may still be somewhat riskier than LL, the spread is not as pronounced as in a mature market like the United States.

2.5 THE FF THREE-FACTOR MODEL

In a remarkable paper, Fama and French (1992) observe that the cross section of average equity returns in the USA bears little or no relation to the betas of the traditional CAPM. Fama and

Fama and French identify three-risk factors- overall market factor; firm size and book-to-market equity – to explain the cross section of returns on US stocks. The central contribution of the Fama and French (1992) is the notion that, if stocks are priced rationally, risks must be dimensional, as distinct from the monad- dimensional capital asset pricing model CAPM.

Fama and French (1996) provide a multifactor model explanation to the patterns in stock returns not explained by the traditional CAPM and claim that anomalies disappear in their multifactor model. Their model states that the excess expected return on a portfolio is explained by: (i) the excess return on a broad market portfolio; (ii) the difference between the return on a portfolio of small stocks and return on large stocks; and (iii) the difference between the return of high book-to-market equity stocks and the return on low book-to-market stocks.

The findings of Fama and French suggest that high book-to-market equity firms have low earnings to book equity and positive slopes on the HML factor. Conversely, low book-to-market equity firms have high earnings on book equity and have negative slopes on the HML factor. The findings of Fama and French (1992, 1993) have raised considerable controversy in academia. Kothari et al (1995) suggest that value premium is due to survivorship bias. Black (1993) and Mackinlay (1995) suggest that the value premium explanation of Fama and French is due to data- snooping, and Lakonishok et al. (1994) and Haugen (1995) argue that the value premium might be real but irrational.

Lakonishok et al. (1994) suggest that the premium is as a result of investor over-reaction, which underprices value stocks and overprices growth stocks. This is because investors overreact to stocks, which have performed well in the past and hence buy them. Similarly they sell stocks that have performed poorly in the past and as a result these stocks become underpriced.

Lakonishok et al, (1994) state that value strategies produce high returns because they are contrarian to naïve strategies – not because they are fundamentally riskier as postulated by Fama and French (1992). Lakonishok et al. (1994) observe that naïve strategies range from extrapolating the past in to the future to overreacting to good or bad news. In essence, Lakonishok et al. (1994) state that the predictive power of financial ratios merely reflects the systematic errors made by investors. In a similar vein, La Porta (1996) suggests that value stocks earn superior returns because investors systematically misperceive their future performance.

Fama postulates an alternative explanation and French (1992) who suggest that investors who invest in high book-to-market equity stocks tend to bear high fundamental risk and that superior

returns generated are a compensation for this risk. In another influential paper, Daniel and Titman (1997) suggest that it is not the covariance structure of returns that explains the cross-section of stock returns, but the characteristic itself. Daniel and Titman ask two fundamental questions: (i) are there really pervasive factors directly associated with size and BE/ME? ; and (ii) are there risk premia associated with these factors?

In essence, Daniel and Titman attempt to establish a relationship between high returns generated on small size and high book-to-market stocks and their respective factor loadings. Daniel and Titman construct portfolios of stocks sorted on size and book-to-market equity ratio, paying special attention to the seasonality effect on these returns. These separate the returns of the size and BE/ME portfolios in January and non- January months and observe that when separated for seasonality, the results of Fama and French's constructed portfolios indicate that the size effect is exclusively a January phenomenon and that the BE/ME effect occurs largely in January for bigger firms (where they generate a return premium of 3% for the non-January months).

In a reply to Daniel and Titman, (1997), Davis et al. (2000) extend the data on US stock returns back to 1926. They observe that: (i) the value premium in the US stock returns is robust; (ii) the characteristic-based model of Daniel and Titman is sample-specific; and (iii) the multifactor model of Fama and French (1996) explains the value premium is better than the characteristic-based model. The findings of Davis et al. suggest that the evidence in favor of the characteristic model provided by Daniel and Titman (1997) appears to be a feature of the sample period.

Further evidence to the debate on the robustness of factor-based models versus characteristic-based pricing models is provided by Berk (2000) and Pastor and Stambaugh (2000). Berk (2000) suggests that, by sorting data into groups on variables known a priori to be correlated with equity returns, the explanatory power of a correctly specified asset pricing model can be reduced. Therefore, the explanatory power of the model will always be smaller in a group than in the whole sample. Berk (2000) suggests that a methodology that sorts stocks into more groups, such as the one adopted by Daniel and Titman (1997), destroys the within group explanatory power of a correctly specified asset-pricing model.

Pastor and Stambaugh (2000) state that there is virtually no difference between the Fama and French risk model and the Daniel and Titman characteristic model because both models lead to similar portfolio choices within the investment universe constructed to exploit differences

between the risk-based model of Fama and French and the characteristic based model of Daniel and Titman.

The findings of Davis et al. (2000), Berk (2000) and Pastor and Stambaugh (2000) have certainly shifted the focus from a better model debate to conducting further tests on the robustness of the Fama and French (1992) multifactor models to determine if their findings for the US portfolios can be confirmed across different capital markets.

is sometimes referred to as the "multiple" because it shows how much investors are willing to pay per shilling of earnings. It relates the earnings per share to the price the shares sell at the market. A high P/E ratio indicates strong shareholders' confidence in the company and its future. It indicates how the stock market is judging the company's earnings performance and prospects Asienwa (1992). The P/E ratio is widely used by security analysts to value the firm's performance as expected by investors. It indicates investors' judgement or expectations about the firm's performance Pandey (1999).

The greatest weakness with P/E ratio is that companies sometimes "manage" their earnings with accounting wizardry to make them look better than they really are. A crafty Chief financial officer with a firm's tax assumptions in a given quarter and add several percentage points of earnings growth Macharia (2002).

$$\text{The earnings yield} = \frac{\text{Earnings per share}}{\text{Market price per share}}$$

It is the reciprocal of the P/E ratio and expresses the rate of return on an investment.

Research literature often looks at the earnings yield as opposed to the price earnings ratio. Two advantages of using the E/P ratio are:

1. Companies with negative earnings are automatically ranked at the lowest E/P ratios, whereas they are not automatically ranked as having the highest P/E ratios.

2.6 TOOLS USED TO SORT STOCKS INTO VALUE AND GROWTH

2.6.1 Price earnings ratio and earnings yield

Price earnings ratio [PE] = $\frac{\text{Market price per share}}{\text{Earnings per share}}$

It is sometimes referred to as the “multiple” because it shows how much investors are willing to pay per shilling of earnings. It relates the earnings per share to the price the shares sell at the market. A high P/E ratio indicates strong shareholders’ confidence in the company and its future. It indicates how the stock market is judging the company’s earnings performance and prospects Asienwa (1992). The P/E ratio is widely used by security analysts to value the firm’s performance as expected by investors. It indicates investors’ judgement or expectations about the firm’s performance Pandey (1999).

The greatest weakness with P/E ratio is that companies sometimes “manage” their earnings with accounting wizardry to make them look better than they really are. A crafty Chief financier can fool with a firm’s tax assumptions in a given quarter and add several percentage points of earnings growth Macharia (2002).

The earnings yield = $\frac{\text{Earnings per share}}{\text{Market price per share}}$

It is the reciprocal of the P/E ratio and expresses the rate of return on an investment.

Research literature often looks at the earnings yield as opposed to the price earnings ratio. Two advantages of using the E/P ratio are:

- i. Companies with negative earnings are automatically ranked as the lowest E/P ratios, whereas they are not automatically ranked as having the highest P/E ratios.

- ii. P/E ratios 'blow up' when earnings approach zero, and this can cause statistical problems. This does not happen with the E/P ratios.

2.6.2 Book value to market value ratio [B/P]

$$\text{Book value to market value ratio} = \frac{\text{Book value per share}}{\text{Market price per share}}$$

The use of book-to-market value ratios has a long tradition in finance and security analysis. Recently, this measure has received considerable attention because of its apparently important but not well-understood role in explaining patterns in stock returns. Harris and Marston, (1994). These authors state that despite book-to-market values role in explaining security returns, little consensus has yet developed on what it is really measuring in empirical studies.

Capaul, Rowley, and Sharpe (1993) discussed the merits of book-to-market value as a single variable to distinguish between value and growth stocks. The logic is that favourable growth prospects raise a firm's stock price and hence reduce its B/M ratio. In contrast, high B/M stocks are more likely than others to have high asset values and less growth potential.

Book value is connected to earnings.

"In the book-keeping cycle, net income not paid out to shareholders becomes a balance sheet account called retained earnings or earned surplus. These past profits tend to be the principle component of book value ... Thus as a rule of thumb companies with large book-values relative to market prices have net worth that consist in great part of retained earnings. Such companies tend also to be selling at very low prices when compared with average long-term earnings." (Whitman and Shubik, 1979, p186)

They argue that book value is a measure of resources and the amount of resources a management has available is an indicator of future earning power. If this view is taken, buying shares on a low price relative to net assets value [or a high book-to-market value] is a value strategy.

2.6.3 Dividend yield [D/P]

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market price per share}}$$

It is the measure of return on the owner's investment from cash dividends. This is the return dividend wise, only on a share. It evaluates an investor's return in relation to the market value of the share. It gives the actual cash received by the investor as a rate of return on investment. Put differently, it tells you what percentage of your purchase price the firm will return to you in dividends.

Not all the shares pay dividends, nor should they. If a firm is growing quickly it can best benefit shareholders by re-investing its earnings in the business that is what it should do. So, a share with no dividend or yield is not necessarily a loser. Nevertheless, many investors would like a dividend both for the income and the security it provides. If a firm's share prices falter, the investor would have a dividend and it is definitely a nice sweetener for a mature share with steady but unspectacular growth.

There are a number of arguments why high dividend yields might produce abnormal returns. In the context of a simple dividend model, the total return on a stock will be its initial dividend yield plus its growth rate. $K = D/P + g$. If we expect all stocks with the same risks to offer the same return, then low growth stocks will have to offer higher initial yields. However if investors are poor at assessing growth prospects, it is possible that the growth rate assumed for high growth rate stocks will be too high and that for low growth stocks will be too low. Accordingly, high yield stocks might be expected to offer a higher total yield Lofthouse (2001)

Another argument is related to taxation. In many countries, income is taxed at a higher rate than capital gains. Even where income and capital gains are taxed the same, capital gain is typically not paid until the gain is realized and thus the capital gains tax can be postponed in a way that income taxes can not. If investors are interested in after tax income, they will presumably only

purchase high yielding stocks. That is, offer higher returns than low yielding stocks on a pre tax basis.

2.6.4 Cash flow to price ratio [C/P]

Many investors are suspicious of the Earnings per share figures because of differences between companies in how they calculate depreciation and amortization and differences over time in how a particular company will calculate these figures. This is the same weakness of earnings figures mentioned in the Earnings yield section; that is, the vulnerability of earnings figures to accounting wizardry. These investors will choose to use some measure of cash instead of earnings and calculate a cash flow ratio. This ratio can be calculated in a number of ways:

$$C/P = \frac{\text{Cash flow per share}}{\text{Market price per share}}$$

$$\text{Where cash flow per share} = \frac{\text{Profit after taxes} + \text{depreciation} + \text{amortization}}{\text{Weighted average number of ordinary shares}}$$

2.6.5 Price to sales ratio [P/S]

Price to sales ratio has become increasingly popular method of valuation for a few reasons. First, O'Shaughnessy (1998) found that shares with low price to sales ratio out performed shares with low P/E multiples.

Secondly as mentioned earlier some investors do not trust the net earnings since they are subject to accounting manipulations. Sales are harder to 'manage' or manipulate. Proponents of the approach argue that the sales are more stable and less subject to accounting manipulations than are earnings.

Finally, the explosion in Internet shares forced investors to look for ways to value companies with lots of potential but no earnings yet.

2.7 MAJOR INVESTMENT STYLES

Fisher (1984a and 1984b) claims that the reason for purchasing low price to sales ratio is essentially contrarian. He argues that profit growth often comes from margin expansion and investors then form excessive expectations. Few companies can sustain significantly above average profit margins for long. Even fewer analysts can tell which companies will maintain profitability. A stock with low sales to price ratio will have low sales margins and will be thought to be a candidate for recovery or improvement.

However Fisher does not recommend simply buying the cheapest Price to sales ratio stocks. He notes that the technique is not applicable in every sector. For instance, the ratio is not appropriate for service companies such as banks and insurance companies that do not have traditional sales. Also, the definition of a low ratio varies with the type of sector and this makes the technique very subjective. Due to these shortcomings, this ratio will also not be included in the analysis in this study.

Momentum investors seek stocks that have experienced recent acceleration in earnings or upward price movement. The theory behind momentum investing is that stocks that have done

2.6.6 Growth at reasonable price [GARP]

GARP investors typically relate P/E ratios to growth rates.

2.7.1 Indexing

GARP = $\frac{\text{Price earnings ratio}}{\text{Growth rate}}$

Given four stocks with P/E ratio of 10, 20, 30 and 40 and growth rates of 8%, 20%, and 30%. The GARP ratios would be 1.25, 1, 1.5 and 1.33 respectively. The stock with P/E of 20 would be deemed the cheapest, although it has neither the lowest P/E ratio nor the highest growth rate. GARP is neither a pure value nor a pure growth tool but it lies somewhere in between. The basic assumption, however is that growth prospects can be over-rated, which has value overtones.

There have been numerous empirical studies that indicate that investment style does make a difference in investment returns. As a result, some financial academics are beginning to abandon the prior acceptance of efficient market theory and are offering alternative theories.

2.7 MAJOR INVESTMENT STYLES

There are four major investment styles for investors in common stocks: value, growth, momentum and indexing. Value investors seek to purchase a portion of a business for a price below its intrinsic value. The intrinsic value of a company may be based on either (or both) the value of its net assets or the ability of the company to generate future earnings.

Growth investors attempt to purchase stocks that have high expected future growth rates. Some growth investors are more disciplined with regard to the price they are willing to pay for future growth. They seek growth at a reasonable price (GARP). While their emphasis may be different, GARP investors are essentially equivalent to value investors who seek future earnings growth.

Momentum investors seek stocks that have experienced recent acceleration in earnings or upward price movement. The theory behind momentum investing is that stocks that have done well in the recent past will continue to do well.

2.7.1 Indexing

Indexing has become more popular in recent years as some investors choose to accept modest under-performance relative to a chosen index in return for low management fees and transaction costs. An index fund is designed to track the performance of a specific bond or stock market index such as the S & P 500. An index fund will have a tendency to under-perform its targeted index because there will be management fees and transaction costs for the fund which are not reflected in the targeted index. Indexing is a passive strategy, which makes no attempt to identify, undervalued or overvalued stocks.

There have been numerous empirical studies that indicate that investment style does make a difference in investment returns. As a result, some financial academics are beginning to abandon the prior acceptance of efficient market theory and are offering alternative theories.

The efficient market hypothesis states that prices of securities fully reflect available information. The implication is that one cannot beat the market except by chance and that investors should strive only to develop a broadly diversified portfolio weighted on the basis of current market values. The only relevant measure of risk under efficient market theory is beta – a measure of tendency of a security's price to respond to price changes of a broad based market index. Accounting based measurements of risks are not relevant because all information about a company is already reflected in the price of their securities.

2.7.2 Value and Growth Investment Styles

Advocates of the new finance offer evidence that the financial markets are inefficient and those investors can take advantage of these systematic inefficiencies to generate superior returns.

There have been numerous studies on the subject of value versus growth investment strategies. The studies cover different time periods and different stock universes. Two of the studies include foreign stock. The Bauman, Conover and Miller study is the most comprehensive with regard to international stocks and includes 2800 stocks on 21 countries over a ten year time period.

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 variables. 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 the variables in the various studies that were used to identify value stocks. Several studies compared investment returns after different time periods.

There was no one variable that appeared to be better than others in identifying value stocks that outperformed the market. For the Nicholson study, price/earnings were 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 and 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.

Several studies of the considered risk as measured by beta and the 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 and French found evidence to the contrary – stocks with low price/book value ratios actually had lower betas.

Attempts to explain the persistent advantage of value stocks over growth stocks focus on a reversion to the mean. In pricing a security, investors and analysts naturally take into consideration the expected future growth rates of the company. As future growth rates are

difficult to predict, investors and analysts often extrapolate from past growth rates. This process of estimating growth tends to ignore the tendency of corporate profit growth to revert to the mean.

This phenomenon was clearly demonstrated in a study by Fuller, Huberts and Levinson (1992). While growth stocks initially experience higher growth rates than value stocks, the higher growth rates do not last long enough to justify the higher price/earnings multiples which growth investors have been willing to pay. The stocks were ranked by P/E ratios and divided into quintiles. For the eighteen years ending March 1991, the lowest P/E quintile outperformed the highest P/E quintile by 8.0% on an annualized, risk-adjusted basis. The quintile with the lowest P/E ratios had a mean ratio of 6.1 while the quintile with the highest P/E ratios had a mean ratio of 44.9.

Fuller, et al. (1993) analyzed the earnings per share (EPS) growth of the different quintiles after each of eight years. After one year, the highest P/E quintile had EPS growth, which exceeded the lowest P/E quintile by 18.5%. In years 2 and 3, this EPS growth advantage declined to 7.0% and 3.6%, respectively. For years 4 and 5, the EPS growth advantage was in the 1-2% range. The earnings growth rates converged close to the mean after only four years. The P/E ratios of the quintiles implied longer periods of high growth (for high P/E stocks) or low growth (for low P/E stocks) than what the companies actually experienced.

Earnings growth rates tend to revert to the mean quickly because of the nature of the capital markets. Industries which are experiencing high growth rates tend to attract competition and capital investment by other firms. This competitive process eventually results in lower returns on equity and lower earnings growth rates.

Conversely, industries with low growth rates do not attract much new capital investment and management may attempt to achieve higher earnings by operating more efficiently. Thus, the earnings growth rates of both high and low growth companies tend to revert to the mean.

Several researchers expect the value investing advantage to continue based upon human behaviour. Lakonishok et al. (1994) suggests that investors put excessive weight on the recent past in attempting to predict the future. This is a common judgement error in psychological

experiments and may explain investor preference for glamour stocks. They also suggest that institutions prefer glamour stocks and are willing to pay a premium for them because they appear to be "prudent" investments. They are easy to justify to sponsors, who erroneously equate good companies with good investments.

Four major investment styles for investors in common stocks are value, growth, momentum and indexing. Ten major studies on value and growth investment strategies were reviewed. The results of all ten studies were consistent. Value investing strategies outperformed growth strategies. This held true regardless of which variable was used to identify value stocks. Variables that were used to identify value stocks included price/earnings, price/book value, price/cash flow, and dividend yield. None of the studies found evidence to support the view that value strategies involve more risk.

Although growth stocks initially experience higher growth rates than value stocks, the growth rates of both quickly revert toward the mean. When investing in stocks, investors demonstrate over-optimism for growth stocks and over-pessimism for value stocks. Several researchers expect the value investing advantage to continue, based upon the persistent nature of human behaviour.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 SCOPE OF THE STUDY

A study of common stocks quoted at the Nairobi Stock Exchange for the period 2001 to 2004 will be carried out.

3.2 POPULATION

Instead of sampling all common stocks at the Nairobi Stock Exchange will be included in the study. This is so for various reasons. For one, the first steps in the data analysis require that all the quoted companies are included to facilitate categorization into growth and value stocks. Secondly, the total population is small (48 companies) and it is therefore feasible to deal with all of them. Lastly, the data required can be gotten from a central place – the Nairobi Stock Exchange.

3.3 DATA COLLECTION

The variables being studied are return and book to market ratios.

Secondary data from the Nairobi Stock Exchange will be used. Annual data availed by the Stock exchange includes the P/E ratio, dividend yield, the price to book value ratio, as well as the dividend per share. Daily stock prices will also be availed in electronic form. In this study growth and value portfolios will be created using book-to-market ratios (B/M). The book-value to market value-ratio will be calculated as follows. First the book value of the firm's common stock will be determined by using the most recent balance sheet data and calculating the total value of stockholders equity.

Second, the market capitalization of the firm's common stock is determined by taking the most recent market price for the firm's common stock and multiplying it by the number of outstanding shares. Lastly the book value of stockholder's holders' equity is divided by the market capitalization to arrive at the BV/MV ratio.

3.4 DATA ANALYSIS

Value and growth portfolios were created using book-to-market ratios (B/M) of stocks traded at the NSE for the period between the years 1999 and 2004. To form value and growth portfolios, stocks were ranked by their B/M ratio at the end of each calendar year. Then firms were grouped based on the breakpoints for the bottom 30%, and top 30% of the ranked value of the B/M ratios. The end of each of the year's 1999 all through to 2003 constituted the portfolio formation dates. At these dates all the companies were ranked according to the B/M ratios. The rankings formed the criteria for the formation of growth and value portfolios. The top 30% (high M) value companies were classified as value stocks and the bottom 30% (low B/M) value companies were classified as growth stocks, such that at the formation date there were be two growth portfolios and two value portfolios each in respect of the single variable which was the B/M.

The end month price for stocks classified as value or growth was calculated by getting the weighted average of the prices at which a stock was traded during the last day of trading in that month. The monthly returns for each stock classified as value or growth for the period 2000 to 2004 was determined.

The following formula was used to calculate the monthly returns (R_i)

$$R_i = \frac{\text{Dividends} + (\text{Ending Price} - \text{Beginning Price}) \times 100}{\text{Beginning price}}$$

Then the average monthly return for each stock for the five years was calculated as follows.

$$\text{Average monthly return for stock } i \text{ at year } t = (R_{it}) = \frac{1}{12} \sum_{i=1}^{12} R_i$$

The next step was to calculate the monthly return for each portfolio as follows; after which the average monthly return for each portfolio for each of the five years was calculated.

$$\text{Average monthly return for an equally weighted portfolio at year } t = (R_{pt}) = \frac{1}{n} \sum_{i=1}^n R_{it}$$

Where n = number of stocks in a portfolio at year t .

After calculating the average monthly return for each portfolio for each of the five years the five year monthly return was calculated as follows

$$\text{Five year average monthly return} = \frac{1}{5} \sum_{t=1}^5 R_{pt}$$

Finally, a comparison of the five-year average monthly returns for the two portfolios was done by performing tests of significance to determine whether there was a significant difference between the average returns of each pair. The z statistic was calculated as follows;

First the standard deviation for each portfolio was calculated as follows;

$$\text{Standard deviation for each portfolio } S = \sqrt{\frac{\sum (X - \bar{X})^2}{n}}$$

Then the z statistic was calculated as follows.

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} \right)}}$$

Where \bar{X}_1 = the five year average monthly returns for the value portfolio.

\bar{X}_2 = the five year average monthly return for the growth portfolio.

S_1 = the standard deviation of the value portfolio.

S_2 = the standard deviation of the growth portfolio.

$N_1 = n_1 = n_2 = 900 = 15 \text{ stocks} \times 12 \text{ months} \times 5 \text{ years}$.

n of 900 is used because the five year average monthly return is essentially an average of all the 900 observations in a portfolio and the standard deviation measures the variation of all these observations from this average.

	VALUE	GROWTH
2002	1.43	2.53
2003	6.07	7.18
2004	1.35	4.75

CHAPTER FOUR

4.0 RESEARCH FINDINGS

4.1 PORTFOLIO FORMATION

To form value and growth portfolios, stocks were ranked by their B/M ratio at the end of each calendar year. Then firms were grouped based on the breakpoints for the bottom 30%, and top 30% of the ranked value of the B/M ratios this method was used by Fama and French (1998). The end of each of the year's 1999 all through to 2003 constituted the portfolio formation dates. The mid 40% was assumed to consist the grey area and hence stocks falling under that range were ignored. At these dates all the companies were ranked according to the B/M ratios. The rankings formed the criteria for the formation of growth and value portfolios. The top 30% (high B/M) value companies were classified as value stocks and the bottom 30% (low B/M) were classified as growth stocks, such that at the formation date there were two growth portfolios and two value portfolios each in respect of the single variable which was the B/M. The end month price for stocks classified as value or growth was calculated by getting the weighted average of the prices at which a stock was traded during the last day of trading in that month. The monthly returns for each stock classified as value or growth for the period 2000 to 2004 was then determined.

4.2 RETURNS AND z VALUE FOR THE PORTFOLIOS.

Table I

	AVERAGE MONTHLY RETURNS	
YEAR	VALUE STOCKS RETURN %	GROWTH STOCKS RETURN %
2000	-0.6	-0.76
2001	-0.71	-1.61
2002	1.42	2.52
2003	8.47	7.18
2004	1.35	-0.75

Table II

	MEAN DEVIATIONS SQUARED	
	VALUE STOCKS	GROWTH STOCKS
	6.7081	4.3264
	7.29	8.5849
	0.3249	1.44
	41.9904	34.3396
	0.4096	4.2849
Total	56.723	52.9758
	11.3446	10.59516
Standard Deviation	3.36817458	3.255020737

Table III

portfolio	Value stocks	Growth stocks
%Return(Average)	1.99	1.32
Standard Deviation	3.36	3.25

Z Statistic=7.806

The following formula was used to calculate the monthly returns (R_i)

$$R_i = \frac{\text{Dividends} + (\text{Ending Price} - \text{Beginning Price}) \times 100}{\text{Beginning price}}$$

The average monthly return for each stock for the five years was calculated as follows.

$$\text{Average monthly return for stock } i \text{ at year } t = (R_{it}) = \frac{1}{12} \sum_{i=1}^{12} R_i$$

Then monthly return for each portfolio as follows; after which the average monthly return for each portfolio for each of the five years was calculated.

$$\text{Average monthly return at year } t = (R_{pt}) = \frac{1}{n} \sum_{i=1}^n R_{it}$$

Where n = number of stocks in a portfolio at year t .
 After calculating the average monthly return for each portfolio for each of the five years the five year monthly return was calculated as follows

$$\text{Five year average monthly return} = \frac{1}{5} \sum_{t=1}^5 R_{pt}$$

Finally, a comparison of the five-year average monthly returns for the two portfolios was done by performing tests of significance to determine whether there was a significant difference between the average returns of each pair. The z statistic was calculated as follows;

First the standard deviation for each portfolio was calculated as follows;

$$\text{Standard deviation for each portfolio } S = \sqrt{\frac{\sum (X - \bar{X})^2}{n}}$$

Then the z statistic was calculated as follows.

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} \right)}}$$

The tables above show that value stocks have higher average monthly returns than growth stocks in four of the five years. Also for the five years value stocks have higher average returns hence concluding that there exists a value premium at the Nairobi stock exchange. This is consistent to academic studies covering the period from the early 1960s to the early 1990s which have found that value has been the long-term winner. Also at 0.05 level of confidence, the critical z is

1.64(for a one tail test).Since my value is greater than 1.64 I conclude that there exists a value premium at the Nairobi stock exchange

SUMMARY AND RECOMMENDATIONS.

5.1 SUMMARY

The study shows that there exists a value premium at the Nairobi stock exchange when stocks are sorted on the basis of book-to-market value ratio. This is consistent with findings from similar studies in other markets in the world. Previous studies show that for 60 plus years, value has outperformed growth Academic studies covering the period from the early 1960s to the early 1990s have found that value has been the long-term winner. One study Davis (1994) that looked at the period 1940-53 has found out the same thing, as has another that has gone back to 1929 (Davis et al 2000). So for the period of 60 plus years value has beaten growth.

5.2 IMPLICATIONS OF THE STUDY

Though value oriented investment style is employed by investment managers in other stock markets around the world it may be appropriate for investment managers to employ both value oriented and growth oriented investment styles at the Nairobi stock exchange due to the difficulty in classification of stocks as growth or value. Further more the two styles yield returns which have a very small difference.

CHAPTER FIVE

SUMMARY AND RECOMMENDATIONS.

5.1 SUMMARY

The study shows that there exists a value premium at the Nairobi stock exchange when stocks are sorted on the basis of book-to-market value ratio. This is consistent with findings from similar studies in other markets in the world. Previous studies show that for 60 plus years, value has outperformed growth Academic studies covering the period from the early 1960s to the early 1990s have found that value has been the long-term winner. One study Davis (1994) that looked at the period 1940-63 has found out the same thing, as has another that has gone back to 1929 (Davis et al 2000). So for the period of 60 plus years value has beaten growth

5.2 IMPLICATIONS OF THE STUDY

Though value oriented investment style is employed by investment managers in other stock markets around the world it may be appropriate for investment managers to employ both value oriented and growth oriented investment styles at the Nairobi stock exchange due to the difficulty in classification of stocks as growth or value. Further more the two styles yield returns which have a very small difference.

5.3 LIMITATIONS OF THE STUDY

The findings of the study should be viewed in the light of the following limitations.

- i. The period covered by the study, that is, five years is short as compared to periods covered by others Studies such as that by Fama and French (25 Years). In any study, the higher the sample size (in this case the period of study), the more reliable the findings will be. I confined myself to five years because of the time limitation within which I had to do the study.
- ii. The classification ratios were available only for the date that marks the financial year-end of each firm. Where the financial year-end was not 31st December, the ratio was assumed to apply at 31st December. This is a limitation in that the ratio at 31st December may have been quite different from the ratio at the financial year-end.
- iii. Only stocks quoted at the exchange for two consecutive years were included in the study. This is because classification done in one year was used to analyze performance during the following year. Exclusion of some of the stocks may have distorted the results.
- iv. The stock prices used to calculate returns are those on the last day of trading on a particular stock during that month. This was not necessarily the month end date and in some cases, the last day of trading was very far from the month-end date. The returns in such a case would only be an approximation.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

A similar study can be undertaken for a longer period of time, maybe 10, 20 or 25 years. This may give more reliable and authoritative results.

A study could be undertaken use the top 50% and bottom 50% stocks using the top as the value50% portfolio and the bottom 50% as the growth portfolio.

A study could also be undertaken to find out if all investment managers in Kenya employ the value or growth oriented investment strategies and if so, to what extent

A similar study could be undertaken while stocks are sorted into growth or value stocks using different ratios such as E/P, D/P and C/P

REFERENCES:

- Arshanapalli, B., T. D. Cogin and J. Doukas, 'Multifactor Asset Pricing Analysis of International Value Investment Strategies,' *Journal of Portfolio Management* (Summer 1998), pp.10-23.
- Asienwa T. K., (1992) "Relationship between Investment ratios and the share performance of companies quoted at the Nairobi Stock Exchange" unpublished MBA project, University of Nairobi.
- Banz, R. W., 1981, The relation between return and market value of common stocks. *Journal of Financial Economics*, 9, pp. 3-18.
- Basu, S., "The Relationship between Earnings Yield, Market Value and Return for NYSE Common Stocks," *Journal of Financial Economics* (1983) 12, pp. 129-156
- Berk, J. B., 2000, Sorting out sorts. *Journal of Finance*, 55, pp.407-27.
- Black, F., "Beta and Return," *Journal of Portfolio Management* (1993) 20, pp. 8-18.
- Brealey and Myers, (2000) *Principles of Corporate Finance*, McGraw Hill.
- Campbell, J. Y., 2000, Asset pricing at the millennium. *Journal of Finance*, 55, pp. 1515-1567.
- Capaul, C., I. Rowley and W.F. Sharpe, "International Value and Growth Stock Returns", *Financial Analysts Journal* (January-February 1993), pp. 27-36
- Chan, L. K. C., Y. Hamao and J. Lakonishok, "Fundamentals and Stock Returns in Japan," *Journal of Finance* (1991) 46, pp. 1739-1789.
- Chen, N. and F. Zhang, "Risk and Return of Value Stocks", *Journal of business* (October 1998), pp. 71-102.
- Daniel, K. and S. Titman, "Evidence on the Characteristics of Cross Sectional Variation in Stock Returns," *Journal of Finance* (1997) 52, pp. 1-33.
- Davis, J. L., E. F. Fama and K. R. French, "Characteristics, Covariances, and Average Returns: 1929-1997," *Journal of Finance* (1999) 55, 389-406
- De Bondt, W. F. M. and R. H. Thaler, "Does the Stock Market Overreact?," *Journal of Finance* (1985) 40, pp. 793-805.
- De Bondt, W. F. M. and R. H. Thaler, "Further Evidence on Investor Overreaction and Stock Market Seasonality," *Journal of Finance* (1987) 47, pp. 427-465.

- Fama, E. F. and K. R. French, "Common Risk Factors in the Returns on Stocks and Bonds", *Journal of Financial Economics* (1993) 33, pp. 3-56.
- Fama, E. F. and K. R. French, "Multifactor Explanations of Asset Pricing Anomalies," *Journal of Finance* (1996) 51, pp. 55-84.
- Fama, E. F. and K. R. French, "The Cross Section of expected Stock Returns," *Journal of Finance* (1992) 47, pp. 427-465
- Fama, E. F. and K. R. French, "Value versus Growth: The International Evidence," *Journal of Finance* (1998) 53, pp. 1775-1799.
- Fama, E. F. and K. R. French, 1995, Size and Book-to-market factors in earnings and returns. *Journal of Finance*, 50, pp. 131-55.
- Fisher D.E. and Jordan R. J., (2002) *Security analysis and portfolio management*. Prentice Hall (2002)
- Fisher K. L. (1984a) "Price to sales ratio: a new tool for measuring stock popularity" *AAII Journal* 6, (June) 13-17.
- Haugen, R. A., 1995, *The New Finance: The Case Against Efficient Markets*. Prentice Hall, Englewood Cliffs, NJ.
- Haugen, R., *The New Finance: The Case against Efficient Markets* (Prentice Hall, Englewood Cliffs, (1995).
- Hawawini, G. and Keim, D. B., 1995, On the predictability of common stock returns: Worldwide evidence. In: *Finance*. (eds. Narow, R. A., V. Maksimovic and W. T. Ziemba). North-Holland, Amsterdam.
- Jaffe, J., D. B. Keim and R. Westerfield, "Earnings Yields, Market Values, and Stock Returns," *Journal of Finance* (1989) 44, pp. 135-148.
- Keim, D. B. and R. F. Stambaugh, 1984, A further investigation of the weekend effect in stock returns. *Journal of Finance*, 39, pp. 819-40.
- Keim. D. B., 1983, Size related anomalies and stock return seasonality. *Journal of Financial Economics*, 12, pp. 13-32.
- Khanna, A., "Equity Investment Prospects in Emerging Markets," *The Columbia Journal of World Business* (1996), 31, pp. 33-39.
- Kothari, S. P., J. Shanken and R. G. Sloan, 1995, Another look at the cross-section of expected stock returns. *Journal of Finance*, 50, pp. 185-224.
- Lakonishok, J., A. Shleifer and R. W. Vishny, "Contrarian Investment, Extrapolation and Risk," *Journal of Finance* (1994) 49, pp. 1541-1578.

Macharia Gathoni, (2002) "Forecasting ability of valuation ratios (Nairobi Stock Exchange)", Unpublished MBA Project (University of Nairobi)

McKinley, A. C., "Multifactor Models do not Explain Deviations from the CAPM," Journal of Financial Economics (1995) 38, pp. 3-28.

Pandey, I. M., (1999) Financial Management, Vikas publishing house PVT Ltd.

Pastor, L. and R. F. Stambaugh, 2000, Comparing asset pricing models: an investment perspective. Journal of Financial Economics, 56, pp. 335-81.

Reilly, F. K., and Brown K.C., (2000) Investments analysis and portfolio management, Harcourt College publishers.

Rosenberg, B., K. Reid and R. Lanstein, "Persuasive Evidence of Market Inefficiency," Journal of Portfolio Management (1985) 11, pp. 9-17.

Sharpe, W. F., Alexander, G. J., and Bailey, J. V., (2003) Investments, Prentice Hall of India.

	1999	2000	2001	2002	2003	2004
PRICE TO BOOK-VALUE RATIO						
PRICE PER SHARE						

APPENDIX (I)

DATA COLLECTION FORM

COMPANY

NAME.....

YEAR	1999	2000	2001	2002	2003	2004
PRICE TO BOOK-VALUE RATIO						
PRICE PER SHARE						

APPENDIX (II)

VALUE PORTFOLIO 2000

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
A Bauman	8.04	-0.63
Jubilee Insurance	4.35	-0.83
East African Portland Cement	4.17	1.9
Kenya Airways	3.7	2.62
Express Kenya	3.57	-0.43
CMC Holdings	3.13	-4.92
Pan African Insurance	3.13	-6.74
Kenya Oil	2.78	1.59
KCB	2.5	-1.12
National Bank	2.13	1.95
City trust	2.13	1.37
Serena	1.12	0.54
Rea Vipingo	1.85	-3.41
Car & General	1.85	0.95
Athi River Mining	1.85	-2.51

APPENDIX (III)

GROWTH PORTFOLIO 2000

	BOOK TO	AVERAGE	MONTHLY
	MARKET VALUE	RETURNS	RETURNS
Carbacid	0.89	-3.21	-0.67
BOC Kenya	0.75	-1.69	0.5
Egaards Ltd	0.68	-1.8	
Standard newspapers	0.65	-1.96	4.18
Total Kenya	0.61	1.72	-3.27
Diamond Trust	0.65	-4.46	0.48
Nation Media	0.51	1.13	1.63
Standard Chartered bank	0.49	1.59	-0.99
Firestone EA Ltd	0.45	-1.2	-0.62
Uchumi Supermarkets	0.28	2.54	0.16
Limuru Tea	0.27	0	2.45
Kenya Orchards	0.09	0	-3.08
A Bauman	0.01	-2.81	-2.03
Barclays Bank	3.23	-1.19	0.15

APPENDIX (IV)

VALUE PORTFOLIO 2001

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
DIAMOND TRUST		
A BAUMAN	8.27	-0.67
KENYA ORCHARDS	8.05	0.5
EAST AFRICAN PORTLAND CEMENT	6.52	4.16
CMC HOLDINGS	6.32	-3.23
JUBILEE	5.80	-0.48
PAN AFRICAN INS.	4.58	1.63
KENYA AIRWAYS	4.41	-0.09
EXPRESS KENYA	3.90	-6.62
NBK	3.42	0.19
ATHI RIVER MINING	3.25	0.75
UNGA GRP	3.22	-2.45
CROWN BERGER	3.08	-3.09
KCB	2.81	-2.03
REA-VIPINGO	2.72	0.15
WILLIAMSON TEA	2.65	0.85

APPENDIX (V)

GROWTH PORTFOLIO 2001

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
DIAMOND TRUST	1.14	-2.65
ICDC-I	1.13	-2.16
MARSHALLS EA	1.02	0
BAMBURI	0.99	-5.07
CAR & GENERAL	0.98	0
KAPCHORUA TEA	0.93	-0.54
NATION MEDIA GROUP	0.91	-3.11
STANDARD GROUP	0.83	4.79
BAT	0.81	-0.35
BARCLAYS	0.74	0.05
SAMEER AFRICA	0.67	-2.7
TOTAL KENYA	0.53	-7.46
STANDARD CHARTERD	0.52	1.62
UCHUMI	0.37	-3.21
LIMURU TEA	0.31	-3.33

APPENDIX (VI)

VALUE PORTFOLIO 2002

	BOOK TO MARKET VALUE	AVERAGE RETURNS	MONTHLY
A BAUMAN	16.47	-2.67	
CMC HOLDINGS	10.85	9.92	
JUBILEE	6.78	1.11	
EAST AFRICAN PORTLAND CEMENT	6.76	2.14	
CROWN BERGER	5.52	1.38	
UNGA GRP	5.26	-0.88	
KENYA AIRWAYS	4.76	0.32	
REA-VIPINGO	3.52	1.24	
KCB	3.34	2.89	
KAKUZI	3.25	-6.5	
CITY TRUST	3.06	0.14	
NBK	2.96	2.41	
KENYA OIL CO.	2.88	4.4	
ATHI RIVER MINING	2.87	2.82	
KPLC	2.75	2.8	

APPENDIX (VII)

GROWTH PORTFOLIO 2002

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
HFCK	1.43	0.3
EABL	1.35	5.84
EAGGADS	1.18	-0.49
TOTAL KENYA	1.13	4.51
SAMEER AFRICA	1.13	3.28
KENYA ORCHARDS	1.10	0
KAPCHORUA TEA	1.03	0.03
ICDC-I	1.03	-0.2
BAT	0.95	2.53
NATION MEDIA GROUP	0.93	7.57
STANDARD GROUP	0.91	6.09
BARCLAYS	0.85	3.88
STAN CHART	0.48	3.93
UCHUMI	0.34	0.35
LIMURU TEA	0.15	0.06

APPENDIX (VIII)

VALUE PORTFOLIO 2003

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
		3.78
A BAUMAN	11.20	9.84
UNGA GRP	9.19	11.5
JUBILEE	7.94	4.48
KAKUZI	6.04	
EAST AFRICAN PORTLAND CEMENT	5.89	23.8
CMC HOLDINGS	5.89	20.13
MUMIAS	5.47	0.92
PAN AFRICAN INS.	4.98	11.25
WILLIAMSON TEA	4.59	2.05
EXPRESS KENYA	4.44	2.23
REA-VIPINGO	4.27	0.22
KENYA AIRWAYS	4.23	3.68
CROWN BERGER	4.13	25.28
SASINI TEA	3.91	1.19
KPLC	3.10	6.72

APPENDIX (IX)

GROWTH PORTFOLIO 2003

	BOOK TO MARKET VALUE TO MARKET	AVERAGE MONTHLY RETURNS
		2.1
EAST AFRICAN CABLES	1.44	0
KENYA ORCHARDS	1.38	18.95
EABL	1.37	6.04
MARSHALLS EA	1.34	1.07
EAGGADS	1.27	-1.94
KAPCHORUA TEA	0.99	4.91
TOTAL KENYA	0.96	-0.55
UCHUMI	0.94	1.34
SAMEER AFRICA	0.89	29.37
BAT	0.88	15
BAMBURI	0.81	11.85
BARCLAYS	0.53	10.61
NATION MEDIA GROUP	0.53	13.84
STAN CHART	0.37	-4.94
LIMURU TEA	0.17	

APPENDIX (X)

VALUE PORTFOLIO 2004

	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
		-0.1
A BAUMAN	14.71	-0.83
KPLC	7.63	6.07
KENYA AIRWAYS	6.46	5.7
KAKUZI	5.84	1.76
WILLIAMSON TEA	4.91	3.81
SASINI TEA	4.22	5.72
MUMIAS	3.85	-1.11
EXPRESS KENYA	3.22	-1.42
JUBILEE	3.09	-5.31
UNGA GRP	3.05	5.55
MARSHALLS EA	2.33	3.48
CITY TRUST	2.31	2.08
REA-VIPINGO	2.13	-0.39
KAPCHORUA TEA	1.68	-4.76
CMC HOLDINGS	1.62	

APPENDIX (XI)

GROWTH PORTFOLIO 2004

POPULATION OF STUDY	BOOK TO MARKET VALUE	AVERAGE MONTHLY RETURNS
		-0.97
SAMEER AFRICA	0.61	-1.53
BOC GASES	0.58	1.58
EABL	0.56	-1.4
PAN AFRICAN INS.	0.54	-3.52
DIAMOND TRUST	0.48	-1
CARBACID	0.46	-3.02
UCHUMI	0.37	-2.05
BAMBURI	0.30	-1.32
NATION MEDIA GROUP	0.27	10.15
LIMURU TEA	0.26	3.4
CAR & GENERAL	0.25	-2.68
BARCLAYS	0.19	-2.83
BAT	0.17	-3.27
STAN CHART	0.14	-2.77
STANDARD GROUP	0.11	

APPENDIX XII

POPULATION OF STUDY.

Main Investment Market Segment

Agricultural

Unilever Tea Company Ltd

Kakuzi Ltd

Rea Vipingo Plantations Ltd

Sasini Tea & Coffee Ltd

Commercial and Services

Car & General (K) Ltd

CMC Holdings Ltd

Hutchings Biemer Ltd

Kenya Airways Ltd

Marshals (EA) Ltd

Nation Media Group

TPS Eastern Africa Ltd

Uchumi Supermarket Ltd

Finance and Investment

Barclays Bank Ltd

C.F.C Bank Ltd

Diamond Trust Bank Kenya Ltd

Housing Finance Company Ltd

I.C.D.C Investments Co Ltd

Jubilee Holdings Ltd

Kenya Commercial Bank Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Pan African Insurance Holdings Ltd

Standard Chartered Bank Ltd

Industrial and Allied

Athi River Mining Ltd

B.O.C Kenya Ltd

Bamburi Cement Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

Crown Berger Ltd

Olympia Capital Holdings Ltd

E.A. Cables Ltd

E.A Portland Cement Ltd

East African Breweries Ltd

Sameer Africa Ltd

Kenya Oil Co Ltd

Mumias Sugar Co Ltd

Kenya Power and Lighting Ltd

Total Kenya Ltd

Unga Group Ltd

Alternative Investment Market Segment

A Bauman & Co. Ltd

City Trust Ltd

Eaagads Ltd

Express Ltd

Williamson Tea Kenya Ltd

Kapchorua Tea Co. Ltd

Kenya Orchards Ltd

Limuru Tea Co.

Standard Group Ltd