UNIVERSITY OF KWAZULU-NATAL

"*Adopting price-earnings and enterprise multiples*

to beat the

Johannesburg Stock Exchange All Share Index"

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DECLARATION

I Dylan Mayne Allison declare that

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ABSTRACT

Adopting price-earnings and enterprise multiples to beat the Johannesburg Stock Exchange All Share Index

Background:

The theory behind the efficient market hypothesis exerts that it is not possible to consistently outperform the overall stock market by using stock picking and market timing strategies. The argument holds that, in an efficient market, all stock prices are appropriately priced and there is no over- or undervalued stocks to be found. Nevertheless, deviations from true stock prices can occur according to the hypothesis, although these deviations are mostly random occurrences. Thus, the only way an investor can outperform the overall stock market is by luck alone. However, the efficient market hypothesis is a controversial topic where it is often discussed within modern financial circles where academic theory has strong arguments both for and against the theory.

Purpose:

The purpose of this study is to investigate whether it is feasible to outperform the overall stock market through investing in stocks that appear undervalued according to enterprise multiple (EV/EBITDA) and the price-earnings ratio.

Realisation of the Study:

Portfolios have been constructed based on information accessed for the trading periods 1998 to 2007, this 10 year sample period should provide a relatively short time frame in which to analyze the data against the theory. For each of the trading years commencing 1st January, two portfolios were constructed with the first portfolio consisting of between 15 and 20 stocks with the lowest price-earnings ratio, the second portfolio consisting of 10 and 20 stocks with the lowest enterprise multiples. These portfolios were held for the one calendar year sample period (ending 31st December) and the unadjusted returns as well as the risk adjusted returns of the portfolios were compared to the returns achieved on the Johannesburg Stock Exchange All Share Index (JSE All Share Index) over the same time period. The sample consists of the 160 most active stocks listed on the Johannesburg Stock Exchange.

Conclusion:

The study results indicate that it is indeed possible to outperform the overall stock market by investing in undervalued stocks as identified by the utilization of the low price-earnings and low enterprise multiple metrics.

Key words:

Efficient Market Hypothesis (EMH), Enterprise Valuation, Enterprise Multiple, Price-Earnings ratio, Relative Valuation, Stock Valuation, Value Investing, Johannesburg Stock Exchange All Share Index

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TERMS AND ABBREVIATIONS

ALSI – All Share Index of the Johannesburg Stock Exchange, which is an equity index intended to reflect the performance of the South African ordinary stock market as a whole

Beta – the Beta measures the risk of a portfolio relative to an efficient market and can be interpreted as the sensitivity of a portfolio's expected excess return to the efficient market's excess return. If the market is inefficient, the beta of the portfolio is a less accurate predictor of a portfolio's excess return. For example, if a portfolio has a beta of 0.5 in an efficient market, a 1% rise in the market's excess return should result in the portfolio's excess return to rise by approximately 0.5% itself

Cash and Cash Equivalents - The total of cash, positive bank balances and short-term loans advanced

D/E – Debt to Equity: The total of long-term interest-bearing debt plus the total of short-term interest-bearing debt (including overdraft facilities) divided by the total equity

Debt – Total debt (sum of long-term interest-bearing debt, short-term interest-bearing debt and current liabilities) is all used in all ratios with the exception of serviced debt to equity and serviced debt as a monetary figure. In these cases the total of the long-term interest-bearing debt and short-term interest-bearing debt has been used

Decile – A rating, usually of performance, on a scale of 1 to 10 where 1 is best, 10 is worst, and each number corresponds to an increment of 10 percentage points

DPS - Dividends per Share: Consist of the total cash dividends and stock dividends (as a proxy for cash dividends), declared in respect of the financial years under review

EBITDA – Earnings before Interest, Taxes, Depreciation and Amortization

EMH – Efficient Market Hypothesis

Equity Funds – These are ordinary shareholders' funds consisting of ordinary share capital, all capital reserves and distributable reserves, adjusted for the same items as "total assets". Provisions included with credit balances such as warranty provisions, provisions for self insurance and provisions for maintenance are included with long-term loans or creditors in the case of short-term provisions. Deferred tax is deemed as retained profit. Cost of control and intangible assets is not included with the total assets but deducted from equity funds

EV – Enterprise Value - A measure of a company's value, often used as an alternative to straightforward market capitalization. EV is calculated as market cap plus debt, minority interest and preferred shares, less (subtract) total cash and cash equivalents. The reason you subtract cash and equivalents from market capitalization is because if someone were to actually buy the company, they would get all the cash the company currently has, meaning it would effectively be deducted from the cost after the transaction was concluded

FTSE/JSE - is an equity index intended to reflect the performance of the South African ordinary share market as a whole

Inflation - Inflation is a continuous and considerable rise in prices in general

JSE – Johannesburg Stock Exchange

Market Capitalization – Market Capitalization equals the market value of all fully paid and issued ordinary shares calculated at the closing price of the last trading day

NAV – Net Asset Value - The total value of a company's assets less the total value of its liabilities is its net asset value (NAV). For valuation purposes it is common to divide the net assets by the number of shares in issue, which then arises in the net assets per share. This is the value of the assets that belong to each share, in much the same way the P/E ratio measures profit per share

P/B – Price to Book ratio – expressed as a multiple (i.e. how many times a company's stock is trading per share compared to the company's book value per share), is an indication of how much shareholders are paying for the net assets of a company. The book value of a company is the value of the company's assets as expressed on the balance sheet of the annual financial results. The price/book value ratio, often expressed simply as "price-to-book", provides investors with a way to compare the market value, or what they are paying for each stock

P/E – Price Earnings multiple - A valuation ratio of a company's current share price compared to its per-share earnings. Typically a company with negative earnings reported for the previous reporting period will not have a P/E ratio

Risk free rate - The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time

INTRODUCTION TO BEATING THE STOCK MARKET

"Value investing by its very nature is contrarian, value investors are typically initially wrong since they go against the crowd, and the crowd is the one typically pushing up the stock price"

Seth Klarman, (1957-)

1 Introduction

The aim of this chapter is to present the reader with a concise background to the dissertation. This is followed by the problem discussion and the purpose and relevance of the research, concluding with delimitations and the outlook of the dissertation which are presented thereafter.

1.1 Background

If one recalls an old joke about an economist strolling down the street with a young friend when they come upon a bank note lying on the street. As the young friend is about to reach down and pick it up, the economist says "Don't bother, if it were a real bank note, someone would have already picked it up!" (Andrew Lo 2000). This joke is indicative of economic logic taken a step too far, yet it serves as a light hearted introduction to the work to be covered in this dissertation.

Should this be translated as a light hearted joke relative to the stock market, one could theoretically ask: "If there existed an investment strategy that consistently resulted in higher returns for an investor, would market participants already have taken advantage of such a strategy and

subsequently driven stock prices upwards to fully reflect all available information?" If stock prices were priced to fully reflect all available information about all companies, sectors and macroeconomic events then such an investment strategy would be deemed ineffective, since there would be no mispricing of stock values in the market to take advantage of.

If the market was strongly efficient, stocks would be valued accordingly, thus astute professional investors and money managers would find themselves unemployed, due to the fact that no single investor could have an ascendancy over the other. Should an investor earn superior returns in one year, then it would be deemed as a stroke of luck, not due to a more accurate analysis of events than other market participants. Research and opinions claim this is the actual case, whereas others believe in market inefficiencies in several aspects and the possibility to outperform the market by taking advantage of such inefficiencies.

1.2 Problem Discussion

The efficient market hypothesis asserts that it is impossible for market participants to consistently outperform the overall stock market. In an efficient market, current share prices reflect all available information and the resultant collective analysis and knowledge of all investors. The outcome of such is that each stock sells at a price that is appropriate, given its risk, based on the proper available approximation of the probability distribution of the company's future cash flows. Since, in such a perfect market, all stocks trade at a fair value, there is no over- or undervalued stocks where an investor may trade and benefit from idiosyncrasies in information and subsequently buy undervalued stocks to sell at inflated prices. Expert stock picking and market timing strategies can

therefore not lead to beating the market and subsequently higher returns. In an efficient market, riskier investments are the only available routes to obtaining higher returns (Fama 1991).

Nevertheless, the efficient market hypothesis is and remains controversial and there are numerous arguments for and against it. The fact that a number of professional investors do consistently perform better than the overall market is one of these arguments used by opponents of the efficient market hypothesis, although these market beating returns are achieved over decades of market participation (Heakal 2002).

If a stock is undervalued, it is deemed to be trading below its intrinsic value. One methodology for calculating whether a stock is undervalued is to use relative valuation. This means that the value of the asset is derived through comparing it to similar assets by examining certain common variables such as book value, cash flows, earnings or sales (Damodaran 2002).

1.3 Purpose

The sole purpose of the study is to investigate the possibility of outperforming the Johannesburg Overall Stock Exchange Index by investing in stocks that have been analyzed through the application of the enterprise multiple and price-earnings ratio. This analysis will give precedence to which stocks appear undervalued according to the valuation metrics and the subsequent conclusion of the performance of the selected stocks according to their stock price performance relative to the performance of the index over a period of 10 years, with the stock selection revisited on an annual basis.

1.4 Delimitations

The ensuing dissertation research will focus on studying stocks that comprise the Johannesburg Stock Exchange All Share Index in January 2008. The Johannesburg Stock Exchange All Share Index is described as the top 99 percent of eligible listed companies ranked by full market capitalization (before free float weightings are applied). It is this index that will be used for extracting the relevant data for analysis and subsequent concluding commentary. The identified stocks will be studied over a period of 10 years, between 1998 and 2007, whereby qualifying stocks that meet the criteria will be picked based on information from the previous year, thus information from 1997 to 2006. Pursuant to the selection of qualifying the shares, the issue of transaction costs and capital gains tax (CGT) will not be taken into account. If such costs were to be included, then it would be advisable to base the calculations on assumptions of the size of the transactions. Since these assumptions would not be exact, the simple route would be to ignore transaction and tax costs entirely, thus using a clean methodology of buying and selling in the analysis process will result in fewer anomalies in results.

1.5 Disposition of the Dissertation

The dissertation is separated into six chapters. A brief introduction to each chapter follows:

Chapter 2 – The Efficient Market Hypothesis

The aim of the second chapter is to provide the reader with a more comprehensive understanding of the efficient market hypothesis (EMH), the origins of the hypothesis and the three differing levels of market efficiency. In addition, past market efficiency research is also presented.

Chapter 3 – Relative Valuation

In order to decide which of the stocks on the JSE All Share index is undervalued, one would use relative valuation metrics. The third chapter presents the reader with the basic understanding of relative valuation. In addition the multiples the researcher will apply in the relative valuation of stocks listed on the FTSE JSE All Share Index are presented.

Chapter 4 – Methodology

Chapter four explains the practical procedures of the study in conjunction with our proposed methodological approach to the sourced and collected data.

Chapter 5 – Presentation and discussion of results

In chapter five the empirical results of the study are presented, commencing with the results of the price-earnings (P/E) strategy. Thereafter the results of the enterprise multiple (EV/EBITDA) strategy is presented. The chapter concludes with a discussion and summary of the dissertation's empirical findings.

Chapter 6 – Analysis of empirical results and conclusion

In chapter six, the empirical results of the study are analyzed. The P/E strategy and the EV/EBITDA strategy are initially analyzed separately and then compared. The chapter concludes with a discussion around additional factors to be considered in this kind of study and what the results indicate about whether the market is efficient or not. Thereafter the conclusions attained in the course of the dissertation. Recommendations will be made relating to further studies and the expansion of the theory and subsequent data analysis.

THE EFFICIENT MARKET HYPOTHESIS

"Where we have strong emotions, we're liable to fool ourselves."

Carl Sagan, Astronomer, 1934-1996

2 Introduction

The aim of this chapter is to provide the reader with an understanding of the efficient market hypothesis, the origins of the hypothesis and different levels of market efficiencies. Furthermore, arguments for and against the hypothesis are briefly discussed.

The Efficient Market Hypothesis, EMH, is an investment theory that states it is impossible for investors to consistently outperform the overall stock market entirely due to market efficiency. According to EMH theory, the current stock prices of all traded assets, including those prices of stocks, bonds and property, listed on the stock exchange perfectly reflect all available information and the collective analysis and knowledge of all investors participating at any given time. These assertions were formulated by Eugene Fama in 1970 and published in the Journal of Finance as *"Efficient Capital Markets: A Review of Theory and Empirical Work."*.

The theory of EMH is traced back to initial research by Maurice Kendall in which a published research paper where he presented his study: *"The Analysis of Economic Time – Series – Part 1: Prices"*, of stock and commodity prices that he found that instead of moving in frequent cycles, prices seemed to follow a random walk, or as he put it: *"The series looks like a wandering one,*

almost as if once a week, the Demon of Chance drew a random number from a symmetrical population of fixed dispersion and added it to the current price to determine the next week's price."[1] (Kendall 1953. p.11:34). This phenomenon had been suggested in earlier research by a Stanford University professor Holbrook Working in 1934, although this research lacked sufficient empirical evidence to support his theory (Fama 1970).

It is these early workings that led to countless analysis and research into the theory of Random Walk and Efficient Market Hypotheses by many celebrated mathematicians, economists and statisticians.

The four main characteristics of EMH are as follows:

1. Share prices respond correctly and immediately to any and all new information relevant to price valuation.

2. Changes in expected security returns from one period to the next are driven by changes in the level of risk-free interest rate and changes in the level of the risk premium of the security in question. Changes in stock prices that are associated with other factors are purely random and cannot be predicted. Within the theory of EMH this non predictability refers to the "random walk of prices" work of Kendall et al (Heakal 2002).

3. Trading rules or specific investment strategies do not produce superior returns since it is not possible to discriminate between profitable and unprofitable investments based on readily available information.

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[1] Maurice Kendall (Kendall M G), 1953: *"The Analysis of Economic Time – Series – Part 1: Prices", Journal of the Royal Statistical Society.* A (General) **116** (1): 11–34.

4. Professional investors do not produce superior returns than other investors. Differences in return performance between different groups of investors are purely due to luck and chance and not skill.

Recent publication by controversial investment finance writer Joel Greenblatt (2006) asserts that: *"If you really want to beat the market, most professionals… can't help you."* The only superior performer in the market is the market itself, beating any index, sector or asset class over time. In an efficient market, the market price of an investment does not have to be equal to the true value at each point in time. Though, all deviations from the true value of an asset are purely random (Haugen 2001).

2.1 The different levels of market efficiency

In early years of research published by Fama (notably in 1965) argues that there are three levels of market efficiency; weak efficiency, semi-strong efficiency, and strong efficiency. Fama concluded that *"…predictable variations in equity returns were statistically insignificant…"*[2]

Further research and analysis by Eugene Fama published in 1970 explained the three levels of EMH theory.

The first instance of the three levels, weak efficiency, implies that the current stock prices reflect all historical information of past share prices. Due to the weak efficiency of the market it is impossible for investors to predict and outperform the overall market by using historical data, or alternatively known as technical analysis.

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[2] Eugene Fama (1965) – "The Behavior of Stock Market Prices", Journal of Business, edition 38, p. 34-105

On examination of semi-strong market efficiency, this second hypothesis means that all public information is included in the current stock price valuation and an investor is unable to outperform the market by applying either technical or fundamental analysis of publicly available information (Fama 1970).

Under the third level of market efficiency, strong form efficiency, all information both private and public is included in the share price valuation. The implication of this hypothesis is that not even insiders can claim to have superior information and thereby profit from such knowledge. This extreme level of efficiency is not meant to allude to the description of reality. Instead it is formulated to serve as a benchmark that can be used to estimate the importance of deviations from the efficient market (Fama 1970)[3].

Figure 2.1 on the following page demonstrates the relationship and positioning between the three differing information sets. If current stock prices reflect only information in past stock prices, then the market is deemed weak-form efficient. If current stock prices reflect not only historical information but also all publicly available information about a specific company, such as its financial results, the results of competing firms and all other information that could be of interest when applying a valuation methodology of the firm then the market is deemed semi-strong form efficient. Finally if current stock prices reflect all available information, including private and inside information then the market is deemed strong-form efficient (Haugen 2001).

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[3] Eugene Fama (1970) – "Efficient Capital Markets: A Review of Theory and Empirical Work.", Journal of Finance, edition 35, p. 383-417

Reaction of Stock Price to New Information in Efficient and Inefficient Markets
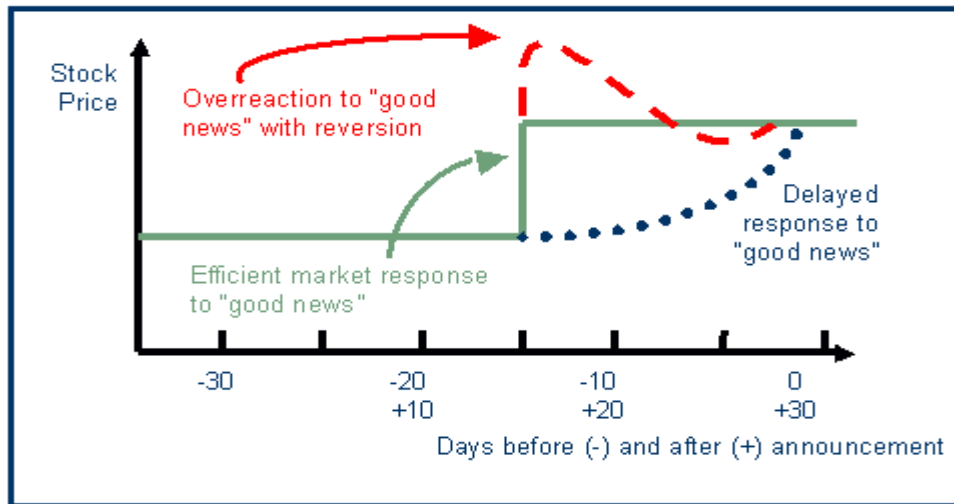
Reaction of Stock Price to New Information in Efficient and Inefficient Markets
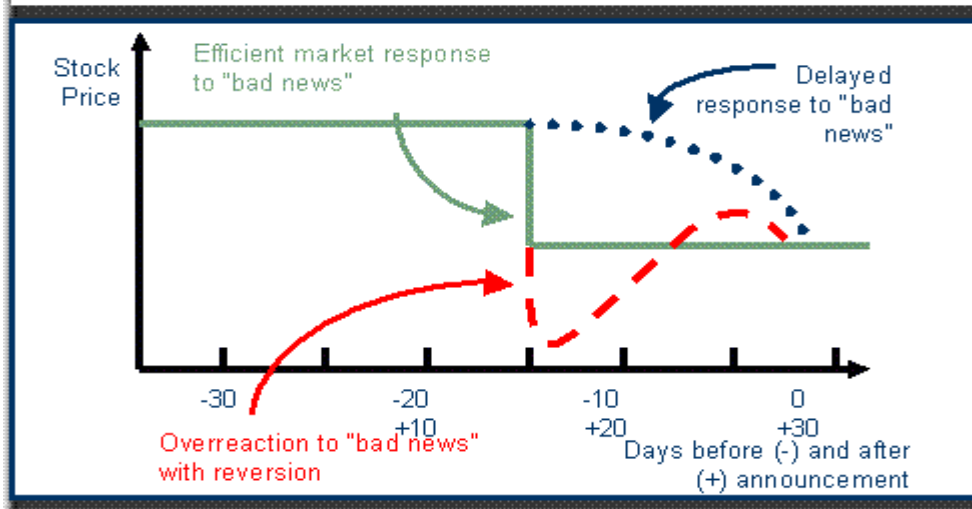
Figure 2.1 – How share prices react to new information relating to a listed stock

(Source: **financeunleashed.blogspot.com/2007/12/market-...** – these figures indicate how listed stock prices react to good news and bad news, demonstrating that there is no reliable reaction to the dissemination of news surrounding the newly acquired information. There are too many variables affecting the reaction of any news on a stock price.)

2.2 Studies of market efficiency

Despite being one of the highly studied propositions in all known social sciences, economists have been unable to reach agreement about whether all markets are efficient or not (Andrew Lo 2000). That aside, EMH theory cannot explain the existence and cause of success by esteemed investors such as Warren Buffett, David Dreman, Bill Lynch or George Soros who are outspoken on the topic of the mechanics of efficient markets.

In the closing component of this chapter, research on the four main characteristics of the EMH will be presented. Having been previously mentioned, the characteristics are as follows:

1. Share prices respond correctly and immediately to newly available information,

2. Changes in expected security returns are driven by changes in the level of risk-free interest rate and the changes in the level of the risk premium of a specific security,

3. Trading rules or specific investment strategies do not produce superior market beating returns, and

4. Professional investors do not produce superior market beating returns.

When it comes to testing whether the market reacts correctly and timeously to newly available information, a number of studies have shown that this is the case, whereas others have shown that the market tends to lag in its response to new information and that the magnitude of the reaction if not always correct (Haugen 2001).

In an efficient market, all changes in expected security returns not driven by changes in the level of risk-free interest rate or the risk premium of the specific security are deemed to be of a purely

random nature and event. Several studies have shown that this characteristic of an efficient market is not aligned with reality. Systems or patterns of inefficiency in the market that investors can use when attempting to achieve superior profits than the overall market, better known as anomalies, have been discovered and researched. Anomalies in the stock market are phenomena that opponents of EMH use in their criticisms of the EMH theory (Heakal 2002). The so called Monday Effect is one such market anomaly that has been observed and researched where market returns on a Monday tends to follow the trend from the previous closing trade day, Friday (Wang et al 1997). The P/E Effect is another market anomaly that has been discovered and researched. This anomaly suggests that portfolios consisting of low price earnings stocks show higher average risk adjusted returns than portfolios with high price earnings stocks over a meaningful period (Shiller 2005).

According to the EMH, specific investment strategies or trading rules do not produce superior returns. Several studies have tested the efficiency of such rules, and most studies have failed. Nevertheless, there is one strategy that has produced superior returns in simulations. This strategy is called *value investing* and is built upon the assumption that the market overreacts to good or bad economic, corporate or earnings news, and thereby, stock prices do not always correspond with their true intrinsic values. This implies that an investor can profit from buying undervalued stocks. Value investing has proven that it is possible to produce superior returns in several simulations based on historical data, even after adjusting for factors such as transaction costs, taxes and risk adjustment (Haugen 2001).

The fourth characteristic of an efficient market is that differences in performance between different groups of investors are due primarily to chance, and professional investors do not produce superior returns than other investors. As with the other characteristics of an efficient market, there is no

undisputed evidence when it comes to this aspect of investment management. A study of mutual fund performance during the period 1945-1964 shows that different groups of investors do not differ in their average investment performance (Jensen 1968). Nonetheless, a recent and more comprehensive study of mutual fund performance shows that professional investors can succeed in outperforming the market on a continuous basis (Carhart 1997).

2.3 Common misconceptions of efficient markets

In order to understand the concept of efficient markets, it is useful to discuss a few common misconceptions surrounding efficient markets. The first misconception is that, in an efficient market, stock prices cannot differ from their intrinsic value. This is not the case. Though, the condition is that deviations from intrinsic value are entirely random without any correlation to the dissemination of stock information relating to any corporate information, economic news or global events.

A second misconception is that no investor can beat the market in a given period of time. This is not the case; in fact, according to EMH theory half of all investors should beat the market in a certain period of time, due to the fact that deviations from true value are random (Damodaran 2002).

Another misconception about an efficient market has to do with the fact that no group of investors can deliver market outperformance with consistency. This point may need some clarification. What the theory of EMH says is that no investor can consistently outperform the market due to superior analysis of information that is available to all investors. However, due to pure chance, investors can outperform the market repeatedly. Since the number of investors trading in the stock market is

considerable, the laws of probability suggest that a number of investors, due to luck, will be able to outperform the market consistently (Damodaran 2002).

2.4 Implications for this study

In this study market efficiency is tested through investigating whether it is possible to outperform the overall FTSE JSE Overall Index by using two different investment strategies; namely by investing in stocks that are undervalued according to the value of the P/E ratio and investing in stocks that are undervalued according to the enterprise multiple (EV/EBITDA).

As explained earlier in this chapter, if the market is efficient, it is not possible to outperform the market by using such investment strategies. If the results of the study show that these investment strategies are indeed successful, then this is an indication that the market is not efficient in the weak form, since the research in this study is based on historical data. This is true as long as the results are not due to errors in the study itself.

C h a p t e r 3

RELATIVE VALUATION

"...no matter how many instances of white swans we may have observed, this does not justify the conclusion that all swans are white."

Karl Popper

3 Introduction

In this dissertation, an investigation into whether it is possible to outperform the FTSE JSE Overall Index by investing in undervalued stocks. In order to decide which stocks are undervalued the researcher will turn to relative valuation metrics. This chapter provides the reader with the basic concepts of relative valuation. This is followed by a discussion about advantages and disadvantages of using multiples in valuing listed stocks. Thereafter, the price-earnings ratio and the enterprise multiple, the valuation metrics used to value listed stocks, are presented.

According to Damodaran (2002) there are three general approaches to valuation: the discounted cash flow valuation (DCF) that relates the value of an asset to be expected future cash flows on the asset concerned, the contingent claim valuation that is based on option pricing models, and the relative valuation that derives the value of an asset by comparing it to similar assets by examining certain common variables such as book value, cash flows, earnings or sales.

Relative valuation is less complicated, less time-consuming and demands fewer assumptions than the discounted cash flow valuation methodology. The fact that relative valuation is fairly easy to

utilize has made it a well established method. Another advantage with using this method is that key data in form of different financial multiples that are available (McClure 2003). Yet another advantage of relative valuation is that it is more likely than other valuation methodologies to capture the current mood of a stock market. Whereas this can be desirable in some cases it can also be problematic, for example if relative valuation is used in the valuation of an Initial Public Offering (IPO), then there stands a risk that the entire industry or sector in which the IPO company operates in undervalued, and therefore, valuing an IPO relative to other similar companies in that industry would lead to an undervaluation of the IPO stock (Damodaran 2002).

Another weakness of relative valuation is that it can seem too simplistic and straightforward and the subsequent multiples are calculated with inconsistent estimates of values and without due consideration for important underlying factors such as risk, growth and cash flow potential. Lack of transparency when it comes to the underlying assumptions in relative valuation can be a problem since this leaves room for the manipulation of information (Damodaran 2002).

In relative valuation it is assumed that the market is correct in its pricing of stocks on average, but this is not always correct when it comes to pricing individual stocks. By comparing certain multiples, an investor can discover such anomalies in pricing and eventually they will be corrected over time. The multiples of a company can be compared to those of other companies or to historical multiples of the same company. The former method us the most widely used. The latter requires a long company history in order to function in a satisfactory manner (Damodaran 2002).

3.1 The use of multiples

Some of the advantages with using multiples are they are easy to understand and that the variables implemented in the multiples are usually accessible (Damodaran 2002). When using relative valuation it is important to ensure that the multiples used are defined and formulated in the same way for all companies scrutinized. Many multiples, although they are widely used in the financial field, are differently defined and used by different analysts. Examples of multiples used in valuation are the price-earnings ratio (P/E), the price-to-book (PB) ratio and the enterprise multiple (McClure 2003).

The fact that companies belong to the same industry, even sector does not make them easy to compare with each other. Companies within the same industry can exhibit significant differences and this will affect the accuracy of comparison and the multiples used therein. Therefore, it is of utmost importance that the firms have similar underlying fundamentals (McClure 2003). Differences in growth, risk and cash flow between companies must be considered when deciding whether companies are eligible for useful comparison. All these variables can affect the multiples of the firm being analyzed, and furthermore these differences can be handled in three different ways. The first approach is to make subjective adjustments to the multiple of a specific company based on the average multiple of the sample of firms under analysis. If the multiple of a specific company differs significantly from the average, and the variance cannot be explained due to the firm's fundamentals such as growth prospects, risk or cash flows, then the company may be considered as over- or undervalued. The second approach is adjusting the multiple by taking into

account the so called *companion variable*, which is the most important variable in the determination of the multiple. Once the adjustment is made the adjusted ratios are compared across the firms in the sample, and it is assumed that the companies are comparable when it comes to all other aspects in the analysis. The third approach can be used when firms are considered different when it comes to more than one variable and it includes the application of regression analysis of the multiples against the differing variables (Damodaran 2002).

When using multiples it is important to ensure that the numerator and denominator are defined consistently. If the numerator is an equity measure, such as market price or value of the equity concerned, then the denominator should also be an equity measure. The same applies if a firm measure, such as EBITDA or book value of capital, is used. For the price-earnings ratio both the numerator and denominator are equity measures. In the case of the enterprise multiple, both the numerator (enterprise multiple) and the denominator (EBITDA) are firm measures (Damodaran 2002).

It is crucial to consider the distribution characteristics of the utilized multiples. In the case of the P/E ratio, since it is often measured that it cannot be lower than zero and since there are no upper limits, the multiple is skewed towards positive values. Therefore, the median value is usually more relevant to use than the average value of the multiple when it comes to identifying the typical firm in the sample of firms under comparison. Another problem with using the average P/E ratios when comparing companies is there is a possibility that some companies under comparison may have negative P/E ratios, the average will be biased thus these negative P/E ratios are subsequently left out the sample (Damodaran 2002).

3.2 The Price-Earnings ratio

The price-earnings ratio (P/E) is the most frequently used and consulted of all earnings multiples. It is calculated as price per share divided by the earnings per share. The resultant ratio expresses how much investors are willing to pay for the company's future earnings (Damodaran 2002). All else equal, the price –earnings ratio tells an investor how much a stock costs relative to that company's recent earnings performance.

3.2.1 Price-Earnings ratio definitions

The P/E ratio can be calculated using the current earnings per share, resulting in the current *P/E ratio*. Alternatively, expected earnings per share can be used as the denominator, which subsequently results in the *forward P/E ratio*. A third type of P/E ratio is the *trailing P/E ratio*, which uses trailing four quarters of earnings per share as the denominator (Damodaran 2002).

Earnings per share (EPS) are calculated in the following manner:

$$\text{Earnings per Share} = \frac{\text{Profit}}{\text{Weighted Average Shares}}$$

The current P/E ratio is calculated as follows:

$$\text{P/E Ratio} = \frac{\text{Price per Share}}{\text{Annual Earnings per Share}}$$

The trailing P/E ratio is calculated as follows:

Trailing P/E ratio = <u>**Market price per share**</u>
                          Trailing four quarters of earnings per share

The forward P/E ratio is calculated as follows:

Forward P/E ratio = <u>**Market price per share**</u>
                         Expected earnings per share over next year

Since earnings in this case are just estimates, there is greater uncertainty involved in this calculation (Damodaran 2002). Forward P/E can be used when comparing current earnings to future earnings, and when a more forward-focus is desirable when comparing companies.

When looking at the P/E ratio of a company an analyst should take into account the quality of the P/E ratio is dependent on the quality of the denominator, earnings per share, since this is the accounting measure that can be manipulated in such scenarios.

3.2.2 Understanding the Price-Earnings ratio

In order to understand the P/E ratio it is critical to understand its underlying factors. The P/E ratio can be derived from a simple discounted cash flow model where the value of the equity is defined as:

$$\text{Value of Equity} = P_0 = \frac{DPS1}{ke - g^n}$$

Where:

DPS1 = Expected dividend payout in the next financial year

ke = cost of equity

gn = expected stable growth rate

By dividing both sides of the equation, the P/E ratio is derived as follows:

$$\frac{P_0}{EPS_0} = \text{P/E ratio} = \frac{\text{Payout Ratio x } (1 - g^n)}{ke - g^n}$$

Where:

EPS_0 = Earnings per share

Payout ratio = yearly dividend per stock divided by earnings per share (Adapted from Damodaran 2002).

The P/E ratio is determined by payout ratio, risk and expected growth rate in earnings. All else equal, the following characteristics of a company have the following impacts on the P/E ratio.

Table 3.1 Determinants of the P/E ratio[4]

Characteristics	Influence on the P/E ratio
Increasing payout ratio	Higher P/E
Higher risk (through discount rate)	Lower P/E
growth rate in earnings (given that return on equity > cost of equity)	Higher P/E

(Adapted from Damodaran 2002)

3.2.3 Interpretations of the Price-Earnings ratio

The P/E ratio can be used to analyze and value companies. The average P/E ratio on the FTSE JSE All Share Index, since 1980, is currently priced at around 13.1 times.[5] This average is close to the long-term historical P/E of the exchange, probably indicating some value over the long term. But if one considers the current P/E of the market, at around 9.4 times, then it is noted that the FTSE JSE All Share Index is remarkably cheap by historical standards. This aside, an investor should always keep in mind that P/E ratios vary over time, dependant on the market conditions and the industry the company operates in.

Investors are cautioned by the founders of value investing, Graham and Dodd, not to focus their attentions to forecast earnings numbers to derive any form of forward price-earnings ratio. Secondly they further cautioned against placing too much emphasis on the recent past (or near

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[4] Damodaran, 2002

[5] Research conducted by Dr. Adrian Saville in "Remembering a Classic Investment Theory" alludes to research conducted that the long term trailing average P/E since 1980 is averaging 13.1 times even though the average P/E in the 1990's rose to 25 times.

future). Graham and Dodd published work in 1934, in which they highlighted that a few months (a quarter or bi-annual), or even a full year of financial information could be misleading. They instead argued that any price-earnings ratio based solely on one year of data would say more about what the local economy was doing at that particular moment in time as opposed to a company's long term prospects in that market it operates in.[6]

A high P/E ratio compared to the P/E ratio of other companies in the industry can be an indicator of one of the following:

1. The company shows a high growth rate in earnings. The higher the growth rate, the higher the net present value (NPV) of future earnings. If a company's earnings grow by an average of 15 percent per annum, it is generally accepted that the company doubles its earnings every five years.

2. The company's growth rate is expected to continue for a longer period of time. The longer the growth rate is expected to keep on, the higher the NPV of future earnings. A company whose earnings is expected to grow during the next ten years will have a higher P/E ratio than a company whose earnings are expected to grow during the next five years, all else equal.

3. The company has a higher payout ratio (annual dividend per stock divided by earnings per share). This is due to the fact that the risk decreases as a portion of the company earnings are distributed to shareholders in the form of dividends. The higher the proportion of the earnings that shareholders have access to, the lower the risk shareholders carry. A lower risk justifies a lower return on equity, which results in a higher NPV of future earnings and a higher P/E ratio.

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[6] Graham and Dodd are granted the mantle of "fathers of value investing" through the publication of the book: 'Security Analysis: Principles and Techniques" published in 1934 in New York. Much debate and credit is afforded to these pioneers of valuation to which many a successful value manager has emerged.

4. The company has lower risk. The lower the risk, lower uncertainty and lower yield investors require and thereby the higher the NPV of future earnings and the higher the P/E ratio.

5. The market interest rate (risk free rate used to calculate the NPV) is low. The lower the interest rate, then the higher the NPV and the higher the P/E ratio[7] (Thomas Au, 2004).

If a company is not profitable, that is the company reports negative earnings per share (EPS), the company is said to have a negative P/E ratio. Many financial publications refer to companies with negative EPS as having a P/E ratio of zero. These examples are often seen in the financial press, such as in publications like newspaper Business Day and weekly financial magazine Finweek. Others hold the opinion that the P/E ratio does not exist if the calculated result is negative, and this is often quoted by financial data providers such as Bloomberg, Reuters and McGregor BFANet.

3.3 The enterprise multiple

The enterprise value to EBITDA multiple, also called the enterprise multiple, has become widely used in estimating company value over the last two decades in investment analysis. The multiple is calculated as the total market value of the company net of cash, divided by the earnings before interest, tax, depreciation and amortization. The reason for the exclusion of cash from the market value of equity is that the interest income from the cash is not included in EBITDA. Should the researcher not subtract the cash from the valuation the resultant multiple will be overvalued and skew the sample search results (Damodaran 2002).

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[7] A book published by Thomas Au has examined the principles of value investing outlined by Graham and Dodd in the 1940s which continues to be used today by individuals and companies who face challenging investment decisions.

EBITDA is a measure of a company's profits. It can be used to compare the profitability of different companies and industries. The measure first came into use in the 1980's as a tool for leveraged buyout investors to investigate whether a company could comfortably service its debt in the short run, by dividing EBITDA by the interest charges of the company. The EBITDA measure is now used in several businesses (McClure 2006).

One of the advantages of EBITDA is that the valuation is not affected by financing and accounting decisions and they more closely reflect the operations of the business (James Hitchner 2003).

$$\text{Enterprise Multiple} = \frac{\text{EV}}{\text{EBITDA}}$$

$$= \frac{\text{Market value of equity} + \text{Market value of debt} - \text{Cash}}{\text{EBITDA}}$$

The enterprise multiple looks at a company in the same way as a potential suitor (acquirer) would, and therefore, the debt is included. A company with a low P/E ratio compared to similar companies in the same industry may appear cheap on face value, but the company may have a large debt burden that is not reflected in the P/E ratio. Instead, this is reflected in a high enterprise multiple. For most companies, the enterprise multiple is lower than the P/E ratio (Fitch 2002).

The enterprise multiples are different for different industries. Therefore, the enterprise multiple of a certain company should be compared to the enterprise multiples of companies in the same sector and to those of companies in other sectors. Higher enterprise multiples will be found in sectors with high growth and lower depreciation charges, and lower enterprise multiples will be found in sectors with low growth and, or greater demands for maintenance-level capital (Fitch 2002).

The enterprise multiple is determined by the tax rate, depreciation and amortization, reinvestment requirements, cost of capital and expected growth.

All else equal, the following characteristics of a company have the following impact on the enterprise multiple valuations:

Table 3.2 Determinants of the Enterprise Multiple[8]

Characteristics	Influence on Enterprise Multiple
Lower tax rate	Higher multiple
Higher depreciation and amortization	Lower multiple
Greater reinvestment demands	Lower multiple
Lower cost of capital	Higher multiple
Higher expected growth	Higher multiple

(Adapted from Damodaran 2002)

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[8] Determinants on the Enterprise Multiple adapted from Damodaran 2002

C h a p t e r 4

METHODOLOGY

> *"Research is to see what everybody else has seen, and to think what nobody else has thought"*

> Albert Szent-Gyorgyi

4 Introduction

In this chapter, the reader will be presented with the methodology of the dissertation, commencing with a description of the research approach and the data collection process. The purpose of this chapter is to investigate whether it possible to outperform the FTSE JSE Overall Stock Exchange by investing in stocks that are under-valued according to the price-earnings ratio and enterprise multiple. Portfolios of undervalued stocks are created for each year of analysis. The portfolio composition is described in section 4.3. This is followed by the discussion of the validity and reliability of the dissertation.

4.1 Research approach

According to Ghauri and Gronhaug (2005), when conducting research, a researcher can choose between a quantitative and a qualitative research approach depending on the nature of the research. The contrasting methods differ purely in the procedure followed. According to Boris Blumberg et al (2005), the purpose of qualitative research is to gain insights and understanding where studies base their accounts on qualitative information i.e. words, sentences and narratives. The purpose of

quantitative research is to focus on testing and verification of data, where such studies rely on quantitative information i.e. numbers and figures.[9]

Thus a quantitative approach has been applied while conducting this study. This approach is result-orientated with a logical and critical approach, whereas the qualitative approach is more process-orientated (Ghauri and Gronhaug 2005).

In this dissertation the researcher relates theory and reality through deduction. This means that conclusions are drawn through logical reasoning (Ghauri and Gronhaug 2005).

4.2 Collection of research data

According to Nicholson and Bennett (2008) there are two types of data, primary and secondary. Data that has been collected for a special purpose is classified as primary data, whereas secondary data consists of existing data that is available from published annual financial statements and data service providers such as McGregor BFA, Thomson Reuters and I-Net Bridge, and is consequently available for analysis. In this dissertation secondary data has been used for purpose of analysis.

One of the advantages of using secondary data is that it saves time and money, since the collection of primary data is more time consuming and expensive. The use of secondary data shortens the process of data collection for a particular study and allows more time for analysis (Bryman and Bell 2005). The researcher of the dissertation has exclusive access to secondary data, since all data required for the fulfillment of analysis has already been published and made available on the public domain through the various news and stock exchange channels such as the Sens service provided

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[9] Business Research Methods by authors Boris Blumberg, Donald R. Cooper and Pamela S. Schindler (2005)

by the JSE. The main sources of data analyzed in this study were obtained through the official annual reports of the companies studied and data providers, namely: Thomson Reuters, McGregor BFAnet and I- Net Bridge.

The researcher regards this data collected from the above mentioned sources as being of high quality. The data service providers and their systems are recognized and utilized by every investment firm around the globe for data service provision whilst furthermore viewed as leading technologies which are extensively used by professionals within the financial arena. The annual reports used are compiled and published by the companies themselves and are furthermore audited by independent external auditors.

Nevertheless, it is submitted that secondary data has some limitations. One of them can be that the researcher is not familiar with the material and therefore, it can take time for the researcher to fully comprehend the data involved (Bryman and Bell 2005). However, it is believed that in this study this is not an issue, since the researcher is familiar with the data provided by McGregor BFA, Thomson Reuters and I-Net Bridge systems and is also competent in interpreting corporate annual reports.

Another possible disadvantage of using secondary data is that some key information may not be available, the data may be incomplete or there may even be inaccuracies in the data once obtained from source (Bryman and Bell 2005). During the data collection process the researcher encountered some difficulties with minor inaccuracies, this was due to minor inconsistencies and incompleteness of the data presented from financial data providers. The minor inconsistencies discovered in the data sets have not resulted in any skewed results, the researcher is confident that the data results for each period of analysis is sound and complete.

Listed companies report at differing periods in the financial year, where some companies have financial year end in February, other companies may have financial year end in June. It is for this reason that the data obtained has been treated as consistently as possible. Therefore the data presented in the studied corporate annual reports differed between companies, which in turn made the data collection slightly more complicated than it would have been if the companies were more consistent in their reporting formats.

4.3 Portfolio composition and evaluation

As described in the delimitations section of this dissertation, the researcher has chosen to limit the study to The Johannesburg Stock Exchange All Share Index[10], which is the top 99 percent of eligible listed companies ranked by full market capitalization (before free float weightings are applied). Since this dissertation is an analysis of a longer sample period, ten years of corporate data, there will be instances where certain stocks have fallen from the index due to corporate action, delisting, listing and other market events. Subsequently not all stocks included in the study have been consistently listed during the study period.

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[10] The JSE Ltd ("JSE") is licensed as an exchange under the Securities Services Act, 2004 and is Africa's premier exchange. It has operated as a market place for the trading of financial products for nearly 120 years. In this time, the JSE has evolved from a traditional floor based equities trading market to a modern securities exchange providing fully electronic trading, clearing and settlement in equities, financial and agricultural derivatives and other associated instruments and has extensive surveillance capabilities. The JSE is also a major provider of financial information. (source: JSE Investor Relations - http://ir.jse.co.za/phoenix.zhtml?c=198120&p=irol-irhome)

4.3.1 Portfolio composition

Based on the average P/E ratio of each company listed on the JSE All Share during year 0, the researcher will build a portfolio consisting of the lowest ranked decile[11] of the PE and EV/EBITDA results of the companies under analysis. Decile ranking is used so as to divide the sample data set into ten equal components with the lowest ranking decile set in each relative multiple sample set becoming the target research data set to be used for analysis of each research period. During the following year (year 1) an investment is made into that portfolio, the subsequent returns of the portfolio are compared and analyzed against the return of the benchmark, in this instance the benchmark has been set as the JSE All Share Index. The return analysis data results arrived at will be based upon the simple share price movement during the period of analysis, to be discussed hereafter. The role of dividends play a role in the total return of a stock price, and it is common knowledge that companies typically distribute dividends during the financial year, in the form of cash dividends or the issue of shares in lieu of cash dividends.

During this study the inclusion of dividends is fully included and accounted for in the stock price valuation and should be taken into consideration for overall return comparison, the share price at

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[11] Decile is a rating, usually of performance, on a scale of 1 to 10 where 1 is best, 10 is worst, and each number corresponds to an increment of 10 percentage points. In the analysis of the research data, the lowest ranking decile for the PE and EV/EBITDA strategy will be used. Thus the decile with the lowest PE and lowest EV/EBITDA will qualify for analysis.

year end of the study will reflect the interim or full year dividend distribution payout for the preceding financial year.

A study of the ALSI 40, undertaken by Kagisho Mahura and Johan Smith[12] (2008) found that in the period 1996 to 2006 dividends contributed up to 50 percent of total returns of in 10 percent of the ALSI40 sample over the analysis period. This study indicates that distributions in the form of dividends can boost the return in value of the investment over time. Dividends, in this study, are considered an important contributing factor to the behavior of stock prices and although dividends in the form of cash flows are critical to value investors, in this study the value of dividends are briefly discussed.

The study undertaken by Plexus Asset management, and highlighted in the graph below, indicates that in the South African scenario: dividends account for 28 percent of the total return in the market.

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[12] Kagisho Mahura, University of Stellenbosch, found that in a sample of Top 40 stocks listed on the JSE for the period of 1996 to 2006, dividends contributed 50 percent to 10 percent of the sample whilst for a further third of the sample dividends contributed 25 percent of the total return.

Figure 4.1 Components of the Total Nominal Return on the JSE All Share Index
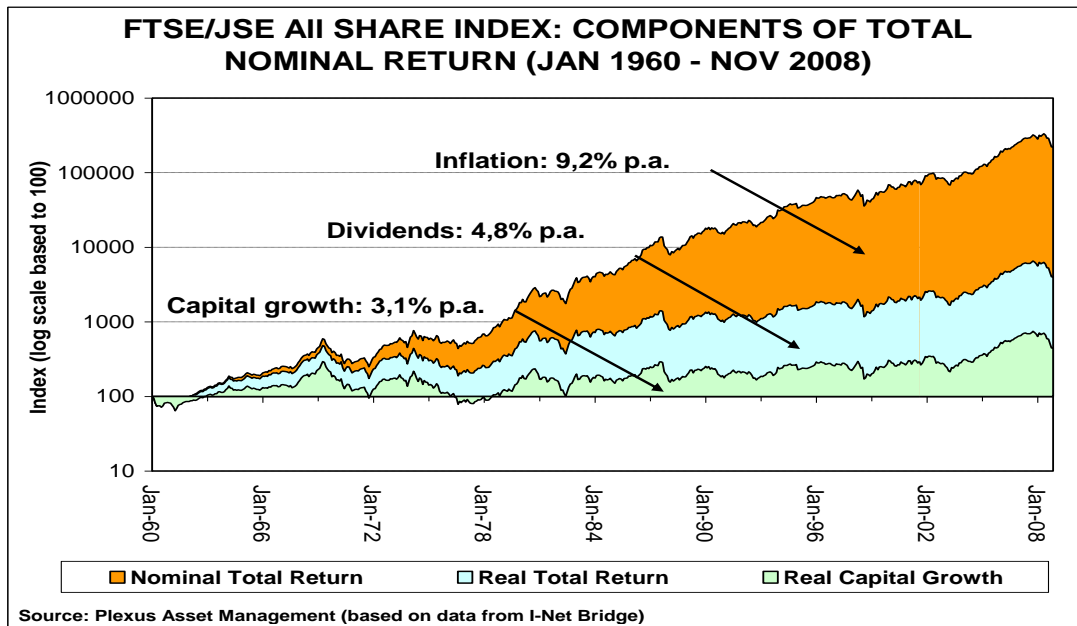
The composition of each model portfolio analysis will be along the lines of making an equal investment into the selected stocks as at January 1st (or the next trading day, if January 1st is not a trading day). The portfolio is held until December 31st, a calendar year. The reason for this holding period is that the portfolio construction is based on information from the company annual reports for the previous year. These annual reports are generally released a few months into the next reporting period.

Based on the enterprise multiple, EV/EBITDA, portfolios are composed and evaluated in the same manner as the P/E portfolios. Hence, each year the analysis will have two different portfolios, one consisting of the decile of lowest P/E ratios and another portfolio consisting of companies with the lowest decile enterprise multiples (EV/EBITDA).

The first portfolio investment is made on January 1st, 1998, based on information from the annual reports of companies for the year 1997. Each of the consecutive years, two new portfolios (one

based on the lowest quintile P/E ratios and one based on the lowest quintile enterprise multiple), are analyzed and constructed on January 1st and kept for a period of one calendar year.

As described in the previous chapter, the multiple of a certain company is generally compared to the multiples of other companies in the same industry, in order to decide whether the multiple is at a reasonable level. However, in this study the researcher does not decide what stocks to invest in based upon whether each stock is undervalued relative to other companies. The researcher therefore does not discriminate at all between the lowest decile results in the data sample; instead the researcher has chosen only the stocks that indicate the lowest multiples for the year concerned. This multiple has been screened so as to strip out stocks that may be suspended during the period of analysis, or stocks that carried negative price earnings multiples during the year of analysis which would have resulted in a low PE average. Furthermore, stocks that did not have a full year of PE data to average were also screened out of the selection process. The P/E ratios used in this dissertation were obtained from Thomson Reuters, and are calculated on the average monthly P/E ratio during one calendar year.

C h a p t e r 5

PRESENTATION AND DISCUSSION OF RESULTS

> *"No amount of experimentation can ever prove me right; a single experiment can prove me wrong."*

Albert Einstein

5 Introduction

In this chapter, the empirical results are presented, beginning with the portfolio composition for each methodology, namely the PE portfolio and the Enterprise Multiple portfolio, and the subsequent returns of each portfolio for each year of analysis. Thereafter, a summary of the results is presented.

5.1 Portfolio Composition and returns

As described in the previous chapter on Methodology, two portfolios are created each year based on information received and analyzed from Thomson Reuters. The data analyzed is the previous year's data. One of the portfolios consists of the lowest decile ranked P/E ratio whilst the other portfolio consists of the lowest ranked Enterprise Multiples. The portfolio is constructed purely on the lowest available price earnings and Enterprise Multiple values whereby a portfolio is built and the returns achieved for the calendar year are analyzed against the JSE All Share index returns for the same calendar year period.

The twenty different portfolios are named after which of the multiples, and from what year, they are based upon. The P/E multiple portfolio analysis will be presented in its entirety followed by the Enterprise Multiple portfolio analysis.

5.1.1 The P/E multiple analysis strategy

In this section the composition and the performance of the portfolios composed with the P/E strategy are presented.

P/E PORTFOLIO 1998

The companies in the study with the lowest P/E ratios for 1998 are presented in table 5.1.

Table 5.1 P/E Portfolio 1998

	COMPANY NAME	PE ratio	Return	Market
	Elementone Ltd	0.29x	27.58	
	Compagnie Financiere Richemont SA	0.67x	67.72	
	Arcelormittal South Africa Ltd	0.85x	12.18	
	AVI Ltd	1.76x	-2.24	
	Group Five Ltd	2.17x	-58.2	
	Metair Investments Ltd	2.25x	-32.9	
	Afgri Limited	2.30x	-24.95	
	Barloworld Ltd	2.31x	-38.5	
	Wilson Bayly Holmes - Ovcon Limited	2.59x	-63.4	
	Sun International Ltd	2.92x	-23.19	
	Hudaco Industries Ltd	3.28x	-60.81	
	Invicta Holdings Ltd	3.32x	-72.42	
	Palabora Mining Co Ltd	3.40x	-28.64	
	Growthpoint Properties Ltd	3.56x	-29.97	
	Argent Industrial Ltd	3.77x	-46.34	
	Rainbow Chicken Ltd	4.10x	28.57	
	Basil Read Holdings Ltd	4.11x	-14.44	
	Medi Clinic Corp Ltd	4.32x	-34.19	
	Sycom Property Fund	4.32x	0.33	
	Omnia Holdings Ltd	4.39x	-24.34	

	RETURNS		**-20.91**	**-12.28**
	AVERAGE P/E RATIO	2.83x		
	STOCK COUNT	20		
	Low PE	0.29		
	High PE	4.39		
	Low Return	-72.42		
	High Return	67.72		

Since the portfolio is constructed using the lowest qualifying price earnings ratios, the portfolio consisted of 20 stocks for the period 1st January 1998 to 31st December 1998. During this period the return on the JSE All Share Index was -12.28 percent. The portfolio return was beaten by the market by 8.64 percent for 1998. Detailed analyses of the portfolio returns against the returns of the market are presented in chapter 6 hereafter.

P/E PORTFOLIO 1999

The companies in the study with the lowest P/E ratios for 1999 are presented in table 5.2.

Table 5.2 P/E Portfolio 1999

	COMPANY NAME	**PE ratio**	**Return**	**Market**
	Compagnie Financiere Richemont SA	0.28x	85.55	
	Elementone Ltd	0.92x	266.96	
	AECI Ltd	1.99x	168.75	
	Iliad Africa Ltd	2.38x	8.31	
	Afgri Limited	2.47x	16.72	
	African Rainbow Mineral Ltd	2.58x	258.83	
	Naspers Ltd	2.70x	144.5	
	Growthpoint Properties Ltd	2.80x	34.94	
	Barloworld Ltd	3.20x	107.7	
	Palabora Mining Co Ltd	3.63x	40.45	
	Argent Industrial Ltd	3.70x	51.58	
	AVI Ltd	4.26x	135.94	
	PSG Group Ltd	4.32x	39.83	
	Metair Investments Ltd	4.60x	52.97	
	Reunert Ltd	4.75x	39.24	

	COMPANY NAME	PE ratio	Return	Market
	Distribution & Warehousing Network Limited	4.86x	-13.79	
	Medi Clinic Corp Ltd	5.19x	54.38	
	Arcelormittal South Africa Ltd	5.28x	134.75	
	Gold Reef Resorts Ltd	5.60x	125.77	
	Netcare Ltd	5.71x	2.19	
	RETURNS		87.78	58.06
	AVERAGE P/E RATIO	3.55x		
	STOCK COUNT	20		
	Low PE	0.28		
	High PE	5.71		
	Low Return	-13.79		
	High Return	266.96		

The 1999 P/E portfolio returned 87.78 percent against the JSE All Share return of 58.06 percent over the same period. The 1999 portfolio beat the JSE All Share Index by 29.72 percent.

P/E PORTFOLIO 2000

The companies in the study with the lowest P/E ratios for 2000 are presented in table 5.3.

Table 5.3 P/E Portfolio 2000

	COMPANY NAME	PE ratio	Return	Market
	Compagnie Financiere Richemont	0.43x	33.59	
	Elementone Ltd	0.97x	5.49	
	African Rainbow Mineral Ltd	1.20x	-46.61	
	Remgro Ltd	1.74x	22.35	
	Metair Investments Ltd	2.09x	40.96	
	Iliad Africa Ltd	2.34x	16.92	
	Naspers Ltd	2.66x	-44.66	
	Argent Industrial Ltd	2.90x	-6.05	
	PSG Group Ltd	3.11x	-39.85	
	Group Five Ltd	3.85x	-39.32	
	Barloworld Ltd	4.02x	16.14	
	Gold Reef Resorts Ltd	4.14x	20	
	Hudaco Industries Ltd	4.15x	-19.63	
	African Bank Investments Ltd	4.33x	-57.38	
	Afgri Limited	4.41x	73.38	

		PE ratio	Return	Market
	AVI Ltd	4.63x	44.74	
	RETURNS		**1.25**	**-2.23**
	AVERAGE P/E RATIO	2.91x		
	STOCK COUNT	16		
	Low PE	0.43		
	High PE	4.63		
	Low Return	-57.38		
	High Return	73.38		

The 2000 P/E portfolio returned -1.54 percent against the JSE All Share return of -2.23 percent over the same period. The 2000 portfolio narrowly beat the JSE All Share Index by 3.48 percent.

P/E PORTFOLIO 2001

The companies in the study with the lowest P/E ratios for 2001 are presented in table 5.4.

Table 5.4 P/E Portfolio 2001

	COMPANY NAME	PE ratio	Return	Market
	Elementone Ltd	0.14x	-5.77	
	Compagnie Financiere Richemont SA	0.69x	14	
	Buildmax Ltd	1.49x	285.71	
	Arcelormittal South Africa Ltd	1.82x	600.32	
	Trencor Ltd	2.26x	161.54	
	Remgro Ltd	2.79x	40.33	
	Redefine Income Fund Ltd	3.26x	37.58	
	PSG Group Ltd	3.39x	8.7	
	Argent Industrial Ltd	3.39x	57.73	
	Mvelaphanda Resources Ltd	3.64x	6.03	
	Iliad Africa Ltd	3.67x	88.41	
	Metair Investments Ltd	3.68x	77.27	
	Digicore Holdings Limited	3.80x	11.54	
	Omnia Holdings Ltd	3.88x	72.93	
	Grindrod Ltd	4.47x	77.05	
	AVI Ltd	4.79x	60.23	
	RETURNS		**99.60**	**26.01**
	AVERAGE P/E RATIO	2.95x		

		PE ratio	Return	Market
	STOCK COUNT	16		
	Low PE	0.14		
	High PE	4.79		
	Low Return	-5.77		
	High Return	600.32		

The 2001 P/E portfolio returned 95.84 percent against the JSE All Share return of 26.01 percent over the same period. The 2001 portfolio beat the JSE All Share Index by 73.59 percent.

P/E PORTFOLIO 2002

The companies in the study with the lowest P/E ratios for 2002 are presented in table 5.5.

Table 5.5 P/E Portfolio 2002

	COMPANY NAME	PE ratio	Return	Market
	Petmin Ltd	0.45x	139.19	
	Elementone Ltd	0.46x	13.08	
	Resilient Property Income Fund	0.66x	12.87	
	Remgro Ltd	1.52x	6.73	
	Distribution & Warehousing Network	2.42x	24.44	
	Buildmax Ltd	2.61x	-37.04	
	Digicore Holdings Limited	3.15x	-27.59	
	Omnia Holdings Ltd	3.48x	140.09	
	Sentula Mining Ltd	3.53x	29.65	
	Exxaro Resources Ltd	3.62x	8.93	
	Barloworld Ltd	4.28x	14.26	
	Grindrod Ltd	4.32x	44.53	
	Argent Industrial Ltd	4.41x	116.41	
	AVI Ltd	4.43x	36.78	
	Allied Technologies Ltd	4.48x	13.42	
	Astral Foods Ltd	4.52x	23.75	
	RETURNS		34.97	-12.68
	AVERAGE P/E RATIO	2.99x		
	STOCK COUNT	16		
	Low PE	0.45		
	High PE	4.52		

	Low Return	-37.04	
	High Return	140.09	

The 2002 P/E portfolio returned 34.97 percent against the JSE All Share return of -12.68 percent over the same period. The 2002 portfolio beat the JSE All Share Index by 47.65 percent.

P/E PORTFOLIO 2003

The companies in the study with the lowest P/E ratios for 2003 are presented in table 5.6.

Table 5.6 P/E Portfolio 2003

	COMPANY NAME	PE ratio	Return	Market
	Petmin Ltd	0.11x	133.57	
	Compagnie Financiere Richemont	1.13x	2.69	
	Basil Read Holdings Ltd	2.09x	29.14	
	Remgro Ltd	2.59x	33.64	
	Elementone Ltd	2.68x	32.95	
	Digicore Holdings Limited	3.20x	160	
	Argent Industrial Ltd	3.66x	10.83	
	Sentula Mining Ltd	4.63x	96.46	
	Sasfin Holdings Ltd	4.69x	47.73	
	Metropolitan Holdings Limited	4.81x	19.34	
	Invicta Holdings Ltd	4.88x	46.06	
	Grindrod Ltd	4.98x	78.57	
	Fountainhead Property Trust	5.25x	38.43	
	Omnia Holdings Ltd	5.50x	38.15	
	Capital Property Fund	5.51x	39.66	
	Barloworld Ltd	5.76x	28.29	
	RETURNS		**52.22**	**12.09**
	AVERAGE P/E RATIO	3.84x		
	STOCK COUNT	16		
	Low PE	0.11		
	High PE	5.76		
	Low Return	2.69		
	High Return	160		

The 2003 P/E portfolio returned 52.22 percent against the JSE All Share return of 12.09 percent over the same period. The 2003 portfolio beat the JSE All Share Index by 40.13 percent.

P/E PORTFOLIO 2004

The companies in the study with the lowest P/E ratios for 2004 are presented in table 5.7.

Table 5.7 P/E Portfolio 2004

	COMPANY NAME	PE ratio	Return	Market
	Compagnie Financiere Richemont	0.64x	33	
	Remgro Ltd	2.27x	66.2	
	Elementone Ltd	2.38x	92.6	
	Telkom SA Ltd	2.74x	76.38	
	Redefine Income Fund Ltd	3.38x	21.22	
	Hyprop Investments Ltd	3.56x	58.85	
	Santam Ltd	3.98x	44.71	
	Fountainhead Property Trust	4.32x	47.81	
	African Rainbow Mineral Ltd	4.48x	-37.05	
	Octodec Investments Ltd	4.49x	36.91	
	Metropolitan Holdings Limited	4.59x	66.72	
	Sentula Mining Ltd	4.71x	98.75	
	Exxaro Resources Ltd	4.78x	32.04	
	Sycom Property Fund	4.83x	43.53	
	Hosken Consolidated Investments	5.25x	548.93	
	Capital Property Fund	5.37x	50.79	
	RETURNS		**80.09**	**20.42**
	AVERAGE P/E RATIO	3.82x		
	STOCK COUNT	16		
	Low PE	0.64		
	High PE	5.37		
	Low Return	-37.05		
	High Return	548.93		

The 2004 P/E portfolio returned 80.09 percent against the JSE All Share return of 20.42 percent over the same period. The 2004 portfolio beat the JSE All Share Index by 59.67 percent.

P/E PORTFOLIO 2005

The companies in the study with the lowest P/E ratios for 2005 are presented in table 5.8.

Table 5.8 P/E Portfolio 2005

	COMPANY NAME	PR ratio	Return	Market
	Compagnie Financiere Richemont	0.85x	58.31	
	Remgro Ltd	2.52x	53.42	
	Elementone Ltd	2.61x	77.54	
	Telkom SA Ltd	2.66x	57.61	
	Exxaro Resources	3.20x	170.11	
	Octodec Investments Ltd	3.21x	42.06	
	Sanlam Limited	3.52x	21.85	
	Fountainhead Property Trust	3.60x	41.5	
	Emira Property Fund	3.74x	48.25	
	Resilient Property Income Fund	3.87x	52.29	
	Acucap Properties Ltd	4.04x	53.44	
	Redefine Income Fund Ltd	4.13x	86.04	
	Hyprop Investments Ltd	4.35x	61.01	
	Mvelaphanda Group Ltd	4.36x	17.71	
	Highveld Steel and Vanadium Corp	4.39x	129.38	
	RETURNS		**64.70**	**41.55**
	AVERAGE P/E RATIO	3.35x		
	STOCK COUNT	15		
	Low PE	0.85		
	High PE	4.39		
	Low Return	17.71		
	High Return	170.11		

The 2005 P/E portfolio returned 57.27 percent against the JSE All Share return of 41.55 percent over the same period. The 2005 portfolio beat the JSE All Share Index by 23.15 percent.

P/E PORTFOLIO 2006

The companies in the study with the lowest P/E ratios for 2006 are presented in table 5.9 on the following page.

Table 5.9 P/E Portfolio 2006

	COMPANY NAME	PE ratio	Return	Market
	Compagnie Financiere Richemont	0.91x	58.5	
	Exxaro Resources Ltd	0.93x	87.35	
	Telkom SA Ltd	2.66x	18.4	
	SA Corporate Real Estate Fund	2.81x	14.89	
	Emira Property Fund	2.93x	18.12	
	PSG Group Ltd	3.20x	72.64	
	Elementone Ltd	3.35x	69.1	
	Aveng Ltd	3.88x	90.24	
	Capital Property Fund	4.03x	19.48	
	Remgro Ltd	4.12x	57.95	
	Mvelaphanda Group Ltd	4.15x	29.26	
	Fountainhead Property Trust	4.18x	18.83	
	Palabora Mining Co Ltd	4.45x	35.29	
	Sycom Property Fund	4.56x	12.43	
	Premium Properties Ltd	5.11x	34.45	
	RETURNS		**42.46**	**35.74**
	AVERAGE P/E RATIO	3.36x		
	STOCK COUNT	15		
	Low PE	0.91		
	High PE	5.11		
	Low Return	12.43		
	High Return	90.24		

The 2006 P/E portfolio returned 42.46 percent against the JSE All Share return of 35.74 percent over the same period. The 2006 portfolio beat the JSE All Share Index by 6.72 percent.

P/E PORTFOLIO 2007

The companies in the study with the lowest P/E ratios for 2007 are presented in table 5.10.

Table 5.10 P/E Portfolio 2007

	COMPANY NAME	PE ratio	Return	Market
	Elementone Ltd	0.53x	5.53	
	Compagnie Financiere Richemont	0.81x	17.68	
	Palabora Mining Co Ltd	2.54x	75.13	

Tongaat-Hulett Group Ltd	2.76x	-4.72	
Telkom SA Ltd	2.78x	19.18	
Hospitality Property Fund Ltd	2.81x	8.34	
Sycom Property Fund	3.48x	17.57	
Remgro Ltd	3.60x	19.41	
Capital Property Fund	3.78x	34.84	
Fountainhead Property Trust	4.97x	17.9	
Emira Property Fund	5.05x	28.63	
SA Corporate Real Estate Fund	5.36x	27.06	
Aveng Ltd	5.70x	84.57	
Hyprop Investments Ltd	5.81x	24.36	
Highveld Steel and Vanadium Corp	5.89x	44.89	
RETURNS		**28.02**	**15.11**
AVERAGE P/E RATIO	3.69x		
STOCK COUNT	15		
Low PE	0.53		
High PE	5.89		
Low Return	-4.72		
High Return	84.57		

The 2007 P/E portfolio returned 28.02 percent against the JSE All Share return of 15.11 percent over the same period. The 2007 portfolio beat the JSE All Share Index by 12.91 percent.

5.1.2 The enterprise multiple (EV/EBITDA) strategy

In this section of analysis the composition and performance of the portfolios built using the Enterprise Multiple (EV/EBITDA) strategy are presented.

ENTERPRISE MULTIPLE PORTFOLIO 1998

The companies in the study with the lowest Enterprise Multiples for 1998 are presented in table 5.11.

Table 5.11 EV/EBITDA Portfolio 1998

	COMPANY NAME	EV	Return	Market
	Mvelaphanda Resources Ltd	0.01x	34.23	
	Afgri Limited	0.62x	-24.95	
	Arcelormittal South Africa Ltd	0.87x	12.18	
	Group Five Ltd	1.05x	-58.2	
	Metair Investments Ltd	1.07x	-32.9	
	Elementone Ltd	1.09x	27.58	
	AVI Ltd	1.17x	-2.24	
	Iliad Africa Ltd	1.91x	0	
	Sun International Ltd	2.04x	-23.19	
	PSG Group Ltd	2.14x	-13.62	
	Hudaco Industries Ltd	2.24x	-60.81	
	Palabora Mining Co Ltd	2.37x	-28.64	
	Reunert Ltd	2.52x	13.83	
	Cashbuild Ltd	2.53x	-31.55	
	Oceana Group Ltd	2.79x	-12.91	
	Impala Platinum Holdings Ltd	2.80x	85.27	
	Omnia Holdings Ltd	2.98x	-24.34	
	Barloworld Ltd	3.00x	-38.5	
	Murray & Roberts Holdings Ltd	3.00x	-52.48	
	Tiger Brands Ltd	3.23x	-7.6	
	RETURNS		**-11.94**	**-8.64**
	AVERAGE ENTERPRISE MULTIPLE	1.97x		
	STOCK COUNT	20		
	Low EV	0.01		
	High EV	3.23		
	Low Return	-60.81		
	High Return	85.27		

The 1998 EV/EBITDA portfolio returned -11.94 percent against the JSE All Share return of -12.28 percent over the same period. The 1998 portfolio beat the JSE All Share Index by 0.34 percent.

ENTERPRISE MULTIPLE PORTFOLIO 1999

The companies in the study with the lowest Enterprise Multiples for 1999 are presented in table 5.12.

Table 5.12 EV/EBITDA Portfolio 1999

	COMPANY NAME	EV	Return	Market
	Wilson Bayly Holmes - Ovcon Limited	0.55x	188.33	
	Invicta Holdings Ltd	0.70x	71.38	
	Group Five Ltd	0.77x	110.27	
	PSG Group Ltd	1.21x	39.83	
	AECI Ltd	1.44x	168.75	
	Elementone Ltd	1.84x	266.96	
	Reunert Ltd	1.95x	39.24	
	Arcelormittal South Africa Ltd	1.98x	134.75	
	AVI Ltd	2.06x	135.94	
	Metair Investments Ltd	2.10x	52.97	
	Barloworld Ltd	2.24x	107.7	
	Oceana Group Ltd	2.29x	13.44	
	Allied Electronics Corporation Ltd	2.45x	29.41	
	Argent Industrial Ltd	2.45x	51.58	
	Sentula Mining Ltd	2.60x	-21.43	
	Cashbuild Ltd	2.63x	47.3	
	Allied Technologies Ltd	2.86x	20.01	
	City Lodge Hotels Ltd	3.09x	47.67	
	Tiger Brands Ltd	3.13x	23.33	
	Northam Platinum Ltd	3.19x	176.56	
	RETURNS		**85.20**	**58.06**
	AVERAGE ENTERPRISE MULTIPLE	2.08x		
	STOCK COUNT	20		
	Low EV	0.01		
	High EV	3.23		
	Low Return	-60.81		
	High Return	85.27		

The 1999 EV/EBITDA portfolio returned 85.20 percent against the JSE All Share return of 58.06 percent over the same period. The 1999 portfolio beat the JSE All Share Index by 27.14 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2000

The companies in the study with the lowest Enterprise Multiples for 2000 are presented in table 5.13.

Table 5.13 EV/EBITDA Portfolio 2000

	COMPANY NAME	EV	Return	Market
	African Rainbow Mineral Ltd	0.85x	-46.61	
	Sentula Mining Ltd	1.01x	22.44	
	Metair Investments Ltd	1.27x	40.96	
	AVI Ltd	1.33x	44.74	
	Invicta Holdings Ltd	1.49x	31.66	
	Arcelormittal South Africa Ltd	1.52x	-46.35	
	Afgri Limited	1.71x	73.38	
	Iliad Africa Ltd	1.84x	16.92	
	PSG Group Ltd	1.91x	-38.95	
	Hudaco Industries Ltd	2.26x	-19.63	
	Group Five Ltd	2.28x	-39.32	
	Elementone Ltd	2.30x	5.49	
	Compagnie Financiere Richemont SA	2.33x	33.59	
	Naspers Ltd	2.60x	-44.66	
	City Lodge Hotels Ltd	2.66x	-6.38	
	Argent Industrial Ltd	2.84x	-6.15	
	Barloworld Ltd	2.86x	16.14	
	Sappi Ltd	3.07x	-10.61	
	Oceana Group Ltd	3.22x	54.17	
	Medi Clinic Corp Ltd	3.28x	46.67	
	RETURNS		**6.38**	**-2.23**
	AVERAGE ENTERPRISE MULTIPLE	2.13x		
	STOCK COUNT	20		
	Low EV	0.85		
	High EV	3.28		
	Low Return	-46.61		
	High Return	73.38		

The 2000 EV/EBITDA portfolio returned 6.38 percent against the JSE All Share return of -2.23 percent over the same period. The 2000 portfolio beat the JSE All Share Index by 8.61 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2001

The companies in the study with the lowest Enterprise Multiples for 2001 are presented in table 5.14.

Table 5.14 EV/EBITDA Portfolio 2001

	COMPANY NAME	EV	Return	Market
	PSG Group Ltd	0.18x	8.7	
	Group Five Ltd	0.86x	125.24	
	Sentula Mining Ltd	1.25x	72.36	
	Buildmax Ltd	1.37x	285.71	
	Datatec Ltd	1.58x	-43.85	
	Wilson Bayly Holmes - Ovcon Limited	1.63x	66.83	
	AVI Ltd	2.11x	60.23	
	Famous Brands Ltd	2.13x	-0.91	
	Digicore Holdings Limited	2.24x	11.54	
	Iliad Africa Ltd	2.30x	88.41	
	Remgro Ltd	2.43x	40.33	
	Astral Foods Ltd	2.44x	0	
	Hudaco Industries Ltd	2.49x	81.21	
	Argent Industrial Ltd	2.50x	57.73	
	Afgri Limited	2.70x	79.54	
	Rainbow Chicken Ltd	2.72x	98.79	
	City Lodge Hotels Ltd	2.96x	18.32	
	Metair Investments Ltd	3.11x	77.27	
	Murray & Roberts Holdings Ltd	3.14x	130	
	Impala Platinum	3.22x	57.85	
	RETURNS		**65.77**	**26.01**
	AVERAGE ENTERPRISE MULTIPLE	2.17x		
	STOCK COUNT	20		
	Low EV	0.18		
	High EV	3.22		
	Low Return	-43.85		
	High Return	285.71		

The 2001 EV/EBITDA portfolio returned 65.77 percent against the JSE All Share return of 26.01 percent over the same period. The 2001 portfolio beat the JSE All Share Index by 39.76 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2002

The companies in the study with the lowest Enterprise Multiples for 2002 are presented in table 5.15.

Table 5.15 EV/EBITDA Portfolio 2002

	COMPANY NAME	EV	Return	Market
	Elementone Ltd	0.10x	13.08	
	PSG Group Ltd	0.98x	12.94	
	Wilson Bayly Holmes - Ovcon Limited	1.06x	59.01	
	Group Five Ltd	1.40x	75.33	
	Peregrine Holdings Limited	1.90x	-4.62	
	Omnia Holdings Ltd	1.93x	140.09	
	Digicore Holdings Limited	1.99x	-27.59	
	AVI Ltd	2.14x	36.78	
	Phumelela Gaming and Leisure Ltd	2.17x	0	
	Argent Industrial Ltd	2.40x	116.41	
	Astral Foods Ltd	2.40x	23.75	
	Iliad Africa Ltd	2.42x	118.18	
	Sentula Mining Ltd	2.43x	29.65	
	Invicta Holdings Ltd	2.59x	92.61	
	Hudaco Industries Ltd	2.70x	52.2	
	Gold Reef Resorts Ltd	2.82x	20.83	
	Murray & Roberts Holdings Ltd	2.82x	79.97	
	Famous Brands Ltd	2.85x	85.56	
	Basil Read Holdings Ltd	2.92x	84.21	
	Distribution & Warehousing Network	2.92x	24.44	
	RETURNS		**51.64**	**-12.68**
	AVERAGE ENTERPRISE MULTIPLE	2.15x		
	STOCK COUNT	20		
	Low EV	0.1		
	High EV	2.92		
	Low Return	-27.59		
	High Return	140.09		

The 2002 EV/EBITDA portfolio returned 51.64 percent against the JSE All Share return of -12.68 percent over the same period. The 2002 portfolio beat the JSE All Share Index by 64.32 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2003

The companies in the study with the lowest Enterprise Multiples for 2003 are presented in table 5.16.

Table 5.16 EV/EBITDA Portfolio 2003

	COMPANY NAME	EV	Return	Market
	Digicore Holdings Limited	0.72x	160	
	Omnia Holdings Ltd	1.09x	38.15	
	Elementone Ltd	1.18x	32.95	
	Peregrine Holdings Limited	1.26x	-10.5	
	Allied Technologies Ltd	1.60x	35.86	
	Group Five Ltd	1.63x	33.18	
	AVI Ltd	1.66x	24.16	
	Allied Electronics Corporation Ltd	1.82x	31.49	
	Rainbow Chicken Ltd	1.97x	66.48	
	Telkom SA Ltd	2.08x	0	
	Invicta Holdings Ltd	2.13x	46.06	
	Basil Read Holdings Ltd	2.17x	29.14	
	Wilson Bayly Holmes - Ovcon	2.19x	63.38	
	Sentula Mining Ltd	2.27x	96.46	
	Shoprite Holdings Ltd	2.28x	36.02	
	Astral Foods Ltd	2.43x	94.13	
	Cashbuild Ltd	2.52x	139.06	
	Convergenet Holdings Ltd	2.67x	500	
	Grindrod Ltd	2.78x	78.57	
	Distribution & Warehousing Network	2.84x	209.82	
	RETURNS		85.22	12.09
	AVERAGE ENTERPRISE MULTIPLE	1.97x		
	STOCK COUNT	20		
	Low EV	0.72		
	High EV	2.84		
	Low Return	-10.5		
	High Return	209.82		

The 2003 EV/EBITDA portfolio returned 85.22 percent against the JSE All Share return of 12.09 percent over the same period. The 2003 portfolio beat the JSE All Share Index by 73.13 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2004

The companies in the study with the lowest Enterprise Multiples for 2004 are presented in table 5.17.

Table 5.17 EV/EBITDA Portfolio 2004

	COMPANY NAME	EV	Return	Market
	Elementone Ltd	0.46x	92.6	
	Allied Electronics Corporation Ltd	1.00x	56.47	
	Telkom SA Ltd	1.64x	76.38	
	PSG Group Ltd	1.65x	89.1	
	Business Connexion Group Ltd	1.71x	0	
	Digicore Holdings Limited	2.23x	244.68	
	AVI Ltd	2.31x	39.68	
	Argent Industrial Ltd	2.54x	192.89	
	Sentula Mining Ltd	2.63x	98.75	
	Rainbow Chicken Ltd	2.71x	54.48	
	Arcelormittal South Africa Ltd	2.74x	142.78	
	Shoprite Holdings Ltd	2.85x	41.95	
	Group Five Ltd	2.90x	61.81	
	Invicta Holdings Ltd	3.00x	98.68	
	Highveld Steel and Vanadium Corp Ltd	3.01x	262.09	
	Northam Platinum Ltd	3.23x	-0.76	
	Barloworld Ltd	3.34x	63.05	
	Metair Investments Ltd	3.39x	27.59	
	Omnia Holdings Ltd	3.39x	104.98	
	Sun International Ltd	3.83x	54.24	
	RETURNS		90.07	20.42
	AVERAGE ENTERPRISE MULTIPLE	2.53x		
	STOCK COUNT	20		
	Low EV	0.46		
	High EV	3.83		
	Low Return	-0.76		
	High Return	262.09		

The 2004 EV/EBITDA portfolio returned 90.07 percent against the JSE All Share return of 20.42 percent over the same period. The 2004 portfolio beat the JSE All Share Index by 69.65 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2005

The companies in the study with the lowest Enterprise Multiples for 2005 are presented in table 5.18.

Table 5.18 EV/EBITDA Portfolio 2005

	COMPANY NAME	EV	Return	Market
	Telkom SA Ltd	1.54x	57.61	
	Elementone Ltd	1.74x	77.54	
	Business Connexion Group Ltd	1.80x	68.39	
	Basil Read Holdings Ltd	2.31x	233.33	
	Arcelormittal South Africa Ltd	2.50x	-0.08	
	Highveld Steel and Vanadium Corp Ltd	2.62x	129.38	
	Comair Ltd	2.96x	25.33	
	Peregrine Holdings Limited	3.21x	107.97	
	Buildmax Ltd	3.44x	151.14	
	Sentula Mining Ltd	3.47x	202.54	
	Brait SA	3.73x	113.57	
	Allied Electronics Corporation Ltd	3.79x	46.11	
	UCS Group	4.22x	44.6	
	Murray & Roberts Holdings Ltd	4.27x	46.36	
	Rainbow Chicken Ltd	4.33x	26.05	
	Petmin Ltd	4.42x	74	
	Metair Investments Ltd	4.46x	33.99	
	Convergenet Holdings Ltd	4.52x	-42.86	
	Invicta Holdings Ltd	4.64x	8.23	
	Remgro Ltd	4.83x	53.42	
	RETURNS		72.83	41.55
	AVERAGE ENTERPRISE MULTIPLE	3.44x		
	STOCK COUNT	20		
	Low EV	1.54		
	High EV	4.83		
	Low Return	-42.86		
	High Return	233.33		

The 2005 EV/EBITDA portfolio returned 72.83 percent against the JSE All Share return of 41.55 percent over the same period. The 2005 portfolio beat the JSE All Share Index by 31.28 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2006

The companies in the study with the lowest Enterprise Multiples for 2006 are presented in table 5.19.

Table 5.19 EV/EBITDA Portfolio 2006

	COMPANY NAME	EV	Return	Market
	Telkom SA Ltd	1.69x	18.4	
	Elementone Ltd	1.79x	77.54	
	PSG Group Ltd	3.21x	72.64	
	Rainbow Chicken Ltd	3.26x	62.6	
	Comair Ltd	3.36x	31.49	
	Remgro Ltd	3.72x	57.95	
	Astral Foods Ltd	3.84x	59.27	
	Premium Properties Ltd	3.91x	35.45	
	UCS Group	4.03x	100.27	
	Peregrine Holdings Limited	4.10x	99.41	
	Datatec Ltd	4.28x	66.21	
	Palabora Mining Co Ltd	4.30x	35.29	
	Arcelormittal South Africa Ltd	4.54x	66.67	
	Metair Investments Ltd	4.55x	27.61	
	Octodec Investments Ltd	4.68x	46.1	
	Imperial Holdings Ltd	5.10x	40.69	
	Phumelela Gaming and Leisure Ltd	5.16x	69.15	
	AECI Ltd	5.29x	32.64	
	JD Group Ltd	5.30x	18.54	
	Nampak Ltd	5.44x	35.09	
	RETURNS		**52.65**	**35.74**
	AVERAGE ENTERPRISE MULTIPLE	4.08x		
	STOCK COUNT	20		
	Low EV	1.69		
	High EV	5.44		
	Low Return	18.4		
	High Return	100.27		

The 2006 EV/EBITDA portfolio returned 52.65 percent against the JSE All Share return of 35.74 percent over the same period. The 2006 portfolio beat the JSE All Share Index by 16.91 percent.

ENTERPRISE MULTIPLE PORTFOLIO 2007

The companies in the study with the lowest Enterprise Multiples for 2007 are presented in table 5.20.

Table 5.20 EV/EBITDA Portfolio 2007

	COMPANY NAME	EV	Return	Market
	Aveng Ltd	1.42x	85.57	
	Palabora Mining Co Ltd	2.48x	75.13	
	Telkom SA Ltd	2.89x	19.18	
	Peregrine Holdings Limited	3.41x	66.17	
	Buildmax Ltd	4.37x	152.03	
	Premium Properties Ltd	4.78x	34.9	
	UCS Group	5.10x	20.89	
	Astral Foods Ltd	5.29x	36.44	
	Business Connexion Group Ltd	5.34x	-18.17	
	Datatec Ltd	5.37x	-0.19	
	PSG Group Ltd	5.59x	2.18	
	Astrapak Limited	5.64x	-25.22	
	Northam Platinum Ltd	5.64x	-13.56	
	Phumelela Gaming and Leisure Ltd	5.74x	30.84	
	Iliad Africa Ltd	5.78x	17.77	
	Arcelormittal South Africa Ltd	5.86x	43.76	
	Sasol Ltd	5.98x	35.24	
	Omnia Holdings Ltd	6.17x	18.81	
	Metair Investments Ltd	6.21x	29.74	
	Trencor Ltd	6.23x	-5.57	
	RETURNS		30.30	15.11
	AVERAGE ENTERPRISE MULTIPLE	4.97x		
	STOCK COUNT	20		
	Low EV	1.42		
	High EV	6.23		
	Low Return	-25.22		
	High Return	152.03		

The 2007 EV/EBITDA portfolio returned 30.30 percent against the JSE All Share return of 15.11 percent over the same period. The 2007 portfolio beat the JSE All Share Index by 15.19 percent.

5.2 Summary of the price earnings and ev/ebitda portfolios

A summary of the unadjusted risk returns on each of the portfolio strategies can be seen in figure 5.1 and figure 5.2.

Figure 5.1 Price-Earnings Returns versus the JSE All Share Returns on a cumulative basis
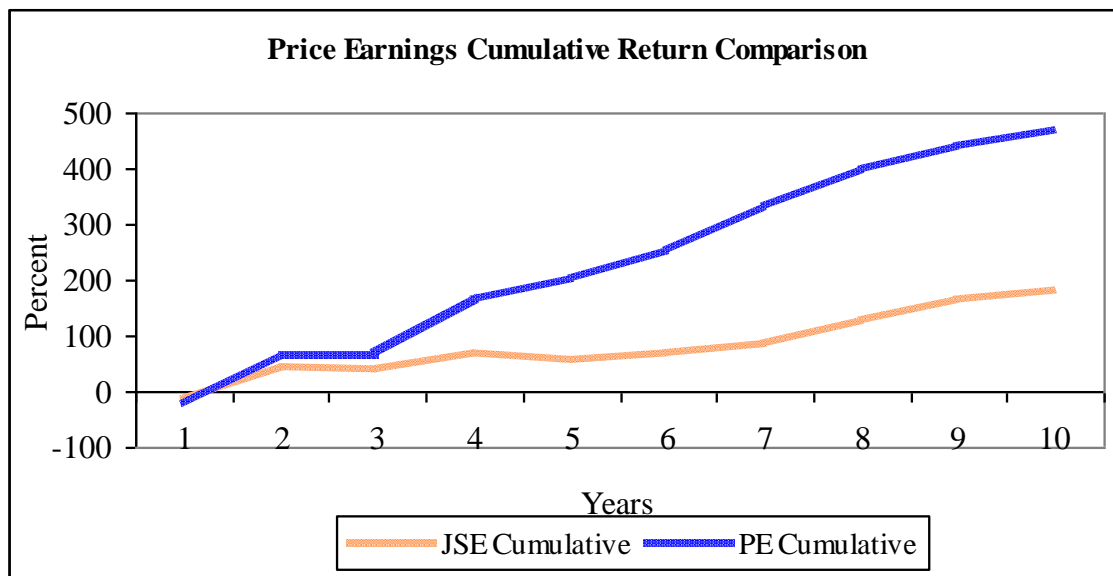
Figure 5.1 graphically represents the performance of the Price Earnings returns relative to the performance of the JSE All Share Index. The graph shows a cumulative return over the 10 year period of analysis for each investment strategy, Price Earnings cumulatively and the JSE All Share Index cumulatively.

Figure 5.2 Enterprise Multiple Returns versus the JSE All Share Returns on a cumulative basis
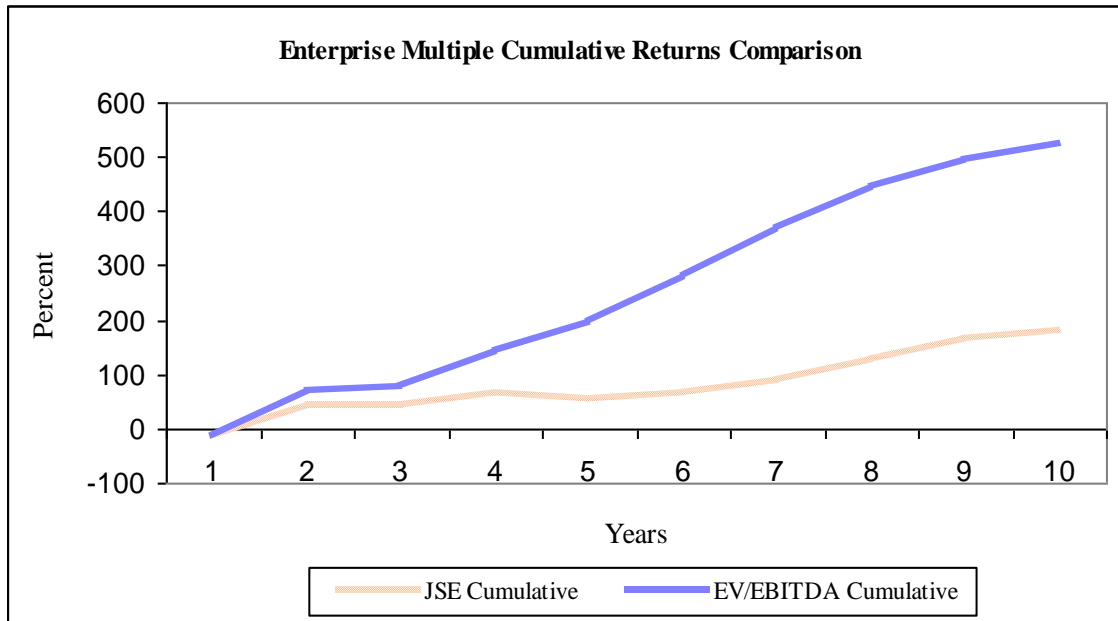
Figure 5.2 graphically represents the performance of the EV/EBITDA returns relative to the performance of the JSE All Share Index. The graph shows a cumulative return over the 10 year period of analysis for each investment strategy, EV/EBITDA cumulatively and the JSE All Share Index cumulatively.

ANALYSIS OF EMPIRICAL RESULTS AND CONCLUSION

"Traditional scientific method has always been at the very best, 20 - 20 hindsight. It's good for seeing where you've been. It's good for testing the truth of what you think you know, but it can't tell you where you ought to go."

Robert M. Pirsig 1893-1986

6 Introduction

In this chapter, the empirical findings are analyzed. Firstly the Price Earnings portfolios are analyzed individually and then the entire Price-Earnings strategy is analyzed. The Enterprise Multiple strategy is analyzed in the same way. Thereafter, the strategies are compared in order to ascertain which strategy was more successful than the other. The issue of additional costs and taxes are discussed in brief. The chapter ends with a discussion on market efficiency and what these methodologies indicate in relation to efficient markets.

The purpose of this study was to investigate whether it possible to outperform the JSE All Share Index (the overall market) by investing in stocks that are deemed undervalued relative to the overall market itself. The resultant research incorporated two different strategies, namely by investing in stocks that were undervalued according to the price-earnings multiple and investing in stocks that were undervalued according to the enterprise multiple ratio.

6.1 Summary of the Price Earnings Portfolio vs. the JSE All Share Index

The summary of the returns achieved through the application of picking stocks in each year based on their lowest quintile price earnings ratios is presented below in table 6.1.

Table 6.1 Portfolio Returns of the Price Earnings Portfolios

YEAR	PE Return	JSE Return	Difference
1998	-20.92	-12.28	-8.64
1999	87.78	58.06	29.72
2000	1.25	-2.23	3.48
2001	99.6	26.01	73.59
2002	34.97	-12.68	47.65
2003	52.22	12.09	40.13
2004	80.09	20.42	59.67
2005	64.7	41.55	23.15
2006	42.46	35.74	6.72
2007	28.02	15.11	12.91
TOTALS	**470.17**	**181.79**	**288.38**

The Price Earnings strategy was successful in outperforming the JSE All Share Index for nine of the ten years of analysis. As noted above in table 6.1 the only year the Price Earnings portfolio was beaten by the overall market was in 1998.

The Price Earnings portfolio delivered a return of 28.84 percent per year over and above that of the JSE All Share Index return. This higher average return is mostly attributable to the high returns achieved by the Price Earnings portfolio in the years 1999, 2001, 2003, 2004 and 2005.

The aggregate return on a cumulative basis for the Price-Earnings portfolios over the ten year period amounted to 470.17 percent, compared to the aggregate cumulative return of 181.79 percent for the JSE All Share Index.

6.2 Analysis of individual price-earnings portfolios

In order to evaluate the results of the Price-Earnings strategy, each individual portfolio will be studied and briefly analyzed. The development of each portfolio relative to the benchmark JSE All Share Index is an important consideration when deciding whether the investment strategy proves to be a good strategy, or if the results can be put down to pure luck.

Price-Earnings Portfolio 1998

The breakdown of the portfolio can be seen in table 6.2 below.

Table 6.2 Breakdown of the 1998 Price-Earnings portfolio

	RETURNS		-20.91	-12.28
	AVERAGE P/E RATIO	2.83x		
	STOCK COUNT	20		
	Low PE	0.29		
	High PE	4.39		
	Low Return	-72.42		
	High Return	67.72		

In 1998 the stock market in South Africa was affected by a number of external global factors that resulted in a negative return for the year. The "Asian crisis"[13] created ripples across the globe, with major effects felt in emerging markets. The resultant economic crisis saw the JSE All Share index fall 39 percent from May to September 1998. The portfolio of low price-earnings multiples saw only 5 of the 20 stocks deliver a positive return for the year, whilst the average P/E for the portfolio was very low at 2.834 times, this did not deter the portfolio from having more winners than losers in 1998. The stock market returned -12.28 percent, which was 8 percent more than the portfolio of selected low price-earnings stocks.

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[13] Asian markets attracted almost half the total capital inflow into developing countries, with Thailand in particular posting high economic growth rates for a decade from 1985 to 1996. After a collapse in the Thai baht, and a devaluation exercise by the Thai government to "float" the currency, the follow on effects amongst Asian countries resulted in regional market collapse and subsequent slump in all asset classes from property, equity and a precipitous rise in private debt.

The highest return for a stock in the selected portfolio was 67.72 percent, this came from diversified industrialist Richemont whilst the lowest return was achieved by another industrial company, Invicta Holdings, which returned -72.42 percent.

Price-Earnings Portfolio 1999

The breakdown of the portfolio can be seen in table 6.21 below.

Table 6.21 Breakdown of the 1999 Price-Earnings portfolio

	RETURNS		87.78	58.06
	AVERAGE P/E RATIO	3.55x		
	STOCK COUNT	20		
	Low PE	0.28		
	High PE	5.71		
	Low Return	-13.79		
	High Return	266.96		

In 1999 the JSE All Share index saw resurgence in value, with the market returning 58.06 percent for the year. This market return was the highest return for the stock market in the 10 years of analysis. The return achieved in the stock market arose from a number of factors, amongst them the continued rally in technology centered companies, as well as a renewed interest in heavyweight large capitalization companies. The euphoria and panic around failure in general technologies come the new millennium drove share prices and price-earnings ratios in the counters to astronomical highs, such an example would be Dimension Data which had a P/E of 85 times in 1999. The portfolio of selected low price-earnings stocks did not disappoint in 1999, with a return of 87.78 percent, the portfolio beat the stock market return by 29 percentage points.

The portfolio of stocks selected in 1999 saw only one of the 20 stocks deliver a negative return in the year of analysis. Of the 20 stocks selected 9 companies also failed to outperform the stock market return. Of the portfolio with 20 stocks, 8 companies delivered returns in excess of 100 percent for the year and it is due to these incredible returns that the portfolio beat the market. The highest return achieved in the portfolio came from Elementone, a media company which delivered

a return of 266.96 percent whilst the laggard in the portfolio was home improvement retailer Distribution and Warehousing Network the only negative return of -13.79 percent.

Price-Earnings Portfolio 2000

The breakdown of the portfolio can be seen in table 6.22 below.

Table 6.22 Breakdown of the 2000 Price-Earnings portfolio

			1.25	-2.23
RETURNS				
AVERAGE P/E RATIO	2.91x			
STOCK COUNT	16			
Low PE	0.43			
High PE	4.63			
Low Return	-57.38			
High Return	73.38			

The arrival of the "new millennium", the year 2000, saw stock markets reverse the gains achieved in 1999 as the fear of technology failure evaporated. The stretched valuations in stock prices saw the stock market for the year 2000 decline, and at year end the market had given back a small percentage of the gains achieved previously. An example of such a reversion was noted in Dimension Data with a P/E in 1999 of 85 times the P/E turned to a P/E of -14 times in 2000, indicative of the sharp decline in similar technology counters.

The portfolio of selected low price-earnings stocks saw 7 of the 16 counters deliver a negative return in the period under analysis. The highest return was achieved by food producer Afgri Holdings with a return of 73.38 percent whilst the lowest return came from African Bank Limited, a -57.38 percent return.

Price-Earnings Portfolio 2001

The breakdown of the portfolio can be seen in table 6.23 below.

Table 6.23 Breakdown of the 2001 Price-Earnings portfolio

	RETURNS		99.60	26.01
	AVERAGE P/E RATIO	2.95x		
	STOCK COUNT	16		
	Low PE	0.14		
	High PE	4.79		
	Low Return	-5.77		
	High Return	600.32		

The portfolio in 2001 achieved the highest return of the sample period with a return of 99.60 percent against the market return of 26.01 percent. The market in 2001 was volatile against the backdrop of the "War against Terrorism" in which global stability was rocked with terrorist attacks in the United States of America. This in turn resulted in a rise in commodity prices, and as the South African market is predominantly mining orientated the surge in heavyweight mining stocks contributed to the rise in the overall market.

Only one stock failed to deliver a positive return in 2001, this being Elementone which had previously contributed to a portfolio outperformance in the 1999 portfolio. The stock Arcelormittal Steel contributed an enormous return of 600 percent, mostly due to the fact that the stock had split into 3 separate operating companies. It is to be noted that the unbundling was consolidated to formulate the return as "one single entity'.

The portfolio of low price-earnings companies outperformed the market by 73 percent in the year 2001, and is the highest outperformance achieved in the ten years of analysis.

Price-Earnings Portfolio 2002

The breakdown of the portfolio can be seen in table 6.24 below.

Table 6.24 Breakdown of the 2002 Price-Earnings portfolio

	RETURNS		34.97	-12.68
	AVERAGE P/E RATIO	2.99x		
	STOCK COUNT	16		
	Low PE	0.45		
	High PE	4.52		
	Low Return	-37.04		
	High Return	140.09		

The portfolio of low price-earnings stocks in 2002 delivered an exceptional positive return against a negative return for the JSE All Share index. The portfolio had two stocks deliver a negative return for the year, namely Buildmax and Digicore Holdings. It should be noted that Buildmax had achieved a return of 285 percent the previous year, and it was to be accepted that the previous year's winners would give back some of its exceptional gains.

The portfolio itself achieved an outperformance over the market of 47.65 percent with the largest return generated by Omnia Holdings and of course the lowest return by Buildmax.

Price-Earnings Portfolio 2003

The breakdown of the portfolio can be seen in table 6.25 below.

Table 6.25 Breakdown of the 2003 Price-Earnings portfolio

	RETURNS		52.22	12.09
	AVERAGE P/E RATIO	3.84x		
	STOCK COUNT	16		
	Low PE	0.11		
	High PE	5.76		
	Low Return	2.69		
	High Return	160		

The portfolio of lowest price-earnings stocks continued to outperform the benchmark JSE All Share index, with a return of 52.22 percent against the positive return of 12.09 percent in 2003.

The portfolio in 2003 had positive return contributions from all its constituent holdings, although it is to be noted that two of the stocks did not beat the market return for the year. The lowest return in the portfolio was achieved by Richemont, with a return of 2.69 percent whilst the stock with the greatest return was Digicore Holdings with a return of 160 percent.

The portfolio of lowest price-earnings stocks outperformed the market by 40.13 percent in 2003.

Price-Earnings Portfolio 2004

The breakdown of the portfolio can be seen in table 6.26 below.

Table 6.26 Breakdown of the 2004 Price-Earnings portfolio

			80.09	20.42
RETURNS			80.09	20.42
AVERAGE P/E RATIO	3.82x			
STOCK COUNT	16			
Low PE	0.64			
High PE	5.37			
Low Return	-37.05			
High Return	548.93			

The portfolio in 2004 delivered an exceptional market beating performance in 2004 with a return of 80.09 percent. The benchmark All Share Index returned 20.42 percent.

The portfolio had one negative contributor to returns in 2004, with African Rainbow Minerals achieving a -37.05 percent return. It is to be noted that every other stock in the selected portfolio beat the market return of 20.42 percent in the year.

The portfolio of lowest price-earnings stocks outperformed the market by 59.67 percent.

Price-Earnings Portfolio 2005

The breakdown of the portfolio can be seen in table 6.27 below.

Table 6.27 Breakdown of the 2005 Price-Earnings portfolio

RETURNS			**64.70**	**41.55**
AVERAGE P/E RATIO	3.35x			
STOCK COUNT	15			
Low PE	0.85			
High PE	4.39			
Low Return	17.71			
High Return	170.11			

The portfolio in 2005 delivered its fourth highest return in the ten year period of analysis, this against the JSE All Shares second highest return over the same period. The portfolio achieved a return of 64.70 percent against the market return of 41.55 percent.

The portfolio had no stocks achieving a negative return for the period, although four of the fifteen stocks achieved returns below that of the market return.

The portfolio achieved an outperformance over and above that of the market by 23.15 percent with the lowest return coming from the Mvelaphanda Group and the greatest return achieved by mining company Exxaro Resources.

Price-Earnings Portfolio 2006

The breakdown of the portfolio can be seen in table 6.28 below.

Table 6.28 Breakdown of the 2006 Price-Earnings portfolio

RETURNS			**42.46**	**35.74**
AVERAGE P/E RATIO	3.36x			
STOCK COUNT	15			
Low PE	0.91			
High PE	5.11			
Low Return	12.43			
High Return	90.24			

The portfolio of lowest price-earnings multiple stocks delivered another positive year of returns, and again these returns exceeded the returns achieved by the JSE All Share index. The portfolio return was 42.46 percent versus the benchmark overall market return of 35.74 percent. It should be noted that the return generated by the market in 2006 was the third highest return for the sample period.

The portfolio of stocks again had no stocks with negative returns for the period under analysis, whilst eight of the fifteen stocks failed to achieve a return higher than the benchmark.

The price-earnings portfolio beat the benchmark by 6.72 percent in 2006, with the lowest return of 12.43 percent coming from Sycom Property Fund and the highest return generated by construction company, Aveng Limited.

Price-Earnings Portfolio 2007

The breakdown of the portfolio can be seen in table 6.29 below.

Table 6.29 Breakdown of the 2007 Price-Earnings portfolio

	RETURNS		28.02	15.11
	AVERAGE P/E RATIO	3.69x		
	STOCK COUNT	15		
	Low PE	0.53		
	High PE	5.89		
	Low Return	-4.72		
	High Return	84.57		

In the final year of analysis the portfolio of lowest price-earnings stocks delivered a positive return in excess of the JSE All Share index. The portfolio return was 28.02 percent whilst the benchmark return was 15.11 percent.

In 2007 the portfolio had one stock with a negative return, whilst two other stocks failed to achieve a return in excess of the 15.11 percent gain of the benchmark.

The portfolio achieved a 12.91 percent gain in excess of the JSE All Share index, with the lowest return coming from the Tongaat-Hulett Group and the top gain stemming from construction company Aveng Limited once again.

6.21 Summary of the Price-Earnings multiple vs. the JSE All Share Index

A summary of the returns achieved relative to the JSE All Share Index by the portfolio of lowest Price-Earnings stocks is presented below in figure 6.21.

The summary shows that the portfolio of Price-Earnings stocks underperformed the benchmark in one year, namely the first year of analysis, in 1998. Thereafter the portfolio delivered returns in excess of the market for years 2, 4, 5, 6, 7 and 8 with moderate outperformance in years 3, 9 and 10.

Figure 6.21 Summary of Price-Earnings multiple strategy versus JSE All Share
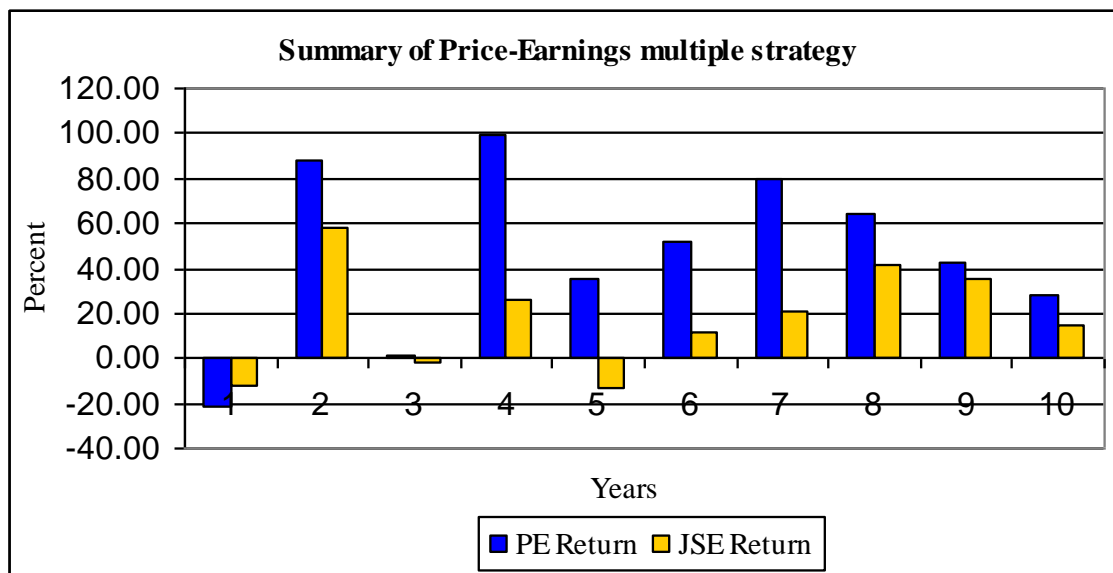
6.3 Summary of enterprise multiple portfolios vs. the JSE All Share Index

The summary of the returns achieved through the application of picking stocks in each year based on their lowest quintile enterprise multiple ratios is presented below in table 6.3.

Table 6.3 Portfolio Returns of the Enterprise Multiple Portfolios

YEAR	EV Return	JSE Return	Difference
1998	-11.942	-12.28	0.338
1999	85.2	58.06	27.14
2000	6.38	-2.23	8.61
2001	65.765	26.01	39.755
2002	51.642	-12.68	64.322
2003	85.22	12.09	73.13
2004	90.07	20.42	69.65
2005	72.831	41.55	31.281
2006	52.65	35.74	16.91
2007	30.297	15.11	15.187
TOTALS	**528.113**	**181.79**	**346.32**

The enterprise multiple strategy used was successful in outperforming the JSE All Share Index for ten of the ten years of analysis.

The Enterprise Multiple portfolio delivered a return of 34.63 percent per year over and above that of the JSE All Share Index return, which delivered an annual return of 18.18 percent per annum. This higher average return is mostly attributable to the high returns achieved by the Enterprise Valuation portfolio in the years 1999, 2001, 2003, 2004 and 2005.

The aggregate return on a cumulative basis for the Enterprise Multiple portfolios over the ten year period amounted to 528.11 percent, compared to the aggregate cumulative return of 181.79 percent for the JSE All Share Index.

6.4 Analysis of individual enterprise multiple portfolios

In order to evaluate the results of the Enterprise Multiple strategy, each individual portfolio will be studied and briefly analyzed. The development of each portfolio relative to the benchmark JSE All Share Index is an important consideration when deciding whether the investment strategy proves to be a good strategy, or if the results can be put down to pure luck.

Enterprise Multiple Portfolio 1998

The breakdown of the portfolio can be seen in table 6.4 below.

Table 6.4 Breakdown of the 1998 Enterprise Multiple portfolio

			-11.94	-12.28
RETURNS			-11.94	-12.28
AVERAGE ENTERPRISE MULTIPLE	1.97x			
STOCK COUNT	20			
Low EV	0.01			
High EV	3.23			
Low Return	-60.81			
High Return	85.27			

The portfolio in 1998 achieved a negative return of -11.94 percent against the negative return of the market of -12.28 percent. The portfolio beat the market by a slim margin of 0.34 percent in 1998. This year was the only year in which the portfolio of stocks delivered an outright negative return for the period under analysis.

The highest return was achieved by Impala Platinum with a return of 85.27 percent whilst the stock which contributed the lowest return was Hudaco Industries with a return of -60.81 percent.

In 1998 the portfolio had 14 stocks that delivered a negative return for the year, with 12 of the 14 stocks achieving negative returns in excess of the benchmark.

Enterprise Multiple Portfolio 1999

The breakdown of the portfolio can be seen in table 6.41 below.

Table 6.41 Breakdown of the 1999 Enterprise Multiple portfolio

			85.20	58.06
	RETURNS			
	AVERAGE ENTERPRISE MULTIPLE	2.08x		
	STOCK COUNT	20		
	Low EV	0.55		
	High EV	3.19		
	Low Return	-21.43		
	High Return	266.96		

The portfolio in 1999 achieved a return of 85.20 percent; this return was 27.14 percent higher than the 58.06 percent return achieved by the benchmark.

The stock with the greatest return was media company Elementone with a return of 266.96 percent, whilst mining company Sentula Mining delivered a negative return of -21.43 percent.

Only one stock failed to deliver a positive performance in this period of analysis and that was Sentula Mining. Furthermore 11 of the 20 stocks failed to beat the benchmark return for the year.

Enterprise Multiple Portfolio 2000

The breakdown of the portfolio can be seen in table 6.42 below.

Table 6.42 Breakdown of the 2000 Enterprise Multiple portfolio

			6.38	-2.23
	RETURNS			
	AVERAGE ENTERPRISE MULTIPLE	2.13x		
	STOCK COUNT	20		
	Low EV	0.85		
	High EV	3.28		
	Low Return	-46.61		
	High Return	73.38		

The portfolio in 2000 achieved a positive return of 6.38 percent against the benchmark return of -2.23 percent; this resulted in an outperformance of 8.61 percent for the year under analysis.

The stock with the highest return was Afgri Limited which delivered a return of 73.38 percent whilst African Rainbow Minerals delivered a negative return of -46.61 percent.

In this year of analysis 9 of the 20 stocks failed to produce a positive return, while all 9 stocks performed worse than the benchmark average.

Enterprise Multiple Portfolio 2001

The breakdown of the portfolio can be seen in table 6.43 below.

Table 6.43 Breakdown of the 2001 Enterprise Multiple portfolio

			65.77	26.01
RETURNS				
AVERAGE ENTERPRISE MULTIPLE	2.17x			
STOCK COUNT	20			
Low EV	0.18			
High EV	3.22			
Low Return	-43.85			
High Return	285.71			

The portfolio in 2001 delivered a return of 65.77 percent against the benchmark return of 26.01 percent. The portfolio outperformed the market by 39.76 percent.

The stock with the highest return was Buildmax which delivered a return of 285.71 percent whilst the lowest return was achieved by Datatec with a -43.85 percent return.

In this year of analysis 2 stocks out of the 20 stocks delivered a negative return whilst one stock had a flat return. In this year six of the portfolio stocks failed to beat the benchmark JSE All Share Index return.

Enterprise Multiple Portfolio 2002

The breakdown of the portfolio can be seen in table 6.44 below.

Table 6.44 Breakdown of the 2002 Enterprise Multiple portfolio

	RETURNS		51.64	-12.68
	AVERAGE ENTERPRISE MULTIPLE	2.15x		
	STOCK COUNT	20		
	Low EV	0.1		
	High EV	2.92		
	Low Return	-27.59		
	High Return	140.09		

The portfolio in 2002 delivered a positive return far in excess of the market, with a positive return of 51.64 percent against the negative return of -12.68 percent. The portfolio of low enterprise multiple stocks outperformed the market by 64.32 percent.

Surprisingly, in the year when the stock market was negative only two of the 20 stocks were negative for the period under analysis.

The stock with the highest return was Omnia Holdings with a return of 140.09 percent whilst the worst performer was Digicore Holdings with a return of -27.59 percent.

Enterprise Multiple Portfolio 2003

The breakdown of the portfolio can be seen in table 6.45 below.

Table 6.45 Breakdown of the 2003 Enterprise Multiple portfolio

	RETURNS		85.22	12.09
	AVERAGE ENTERPRISE MULTIPLE	1.97x		
	STOCK COUNT	20		
	Low EV	0.72		
	High EV	2.84		
	Low Return	-10.5		
	High Return	500.00		

The portfolio in 2003 delivered its second highest return this year with a gain of 85.22 percent relative to the market return of 12.09 percent. The outperformance achieved in 2003 is the highest against the benchmark and amounted to 73.13 percent.

The portfolio had only one stock with a negative return for the period under analysis, this stock was Peregrine Holdings.

The stock with the highest return was an astonishing return of 500 percent by Convergenet Holdings, and Peregrine Holdings returned -10.50 percent being the only stock to contribute negatively to the overall return of the portfolio.

Enterprise Multiple Portfolio 2004

The breakdown of the portfolio can be seen in table 6.46 below.

Table 6.46 Breakdown of the 2004 Enterprise Multiple portfolio

			90.07	20.42
	RETURNS			
	AVERAGE ENTERPRISE MULTIPLE	2.53x		
	STOCK COUNT	20		
	Low EV	0.46		
	High EV	3.83		
	Low Return	-0.76		
	High Return	262.09		

The portfolio in 2004 delivered the highest return in the period of analysis with a return of 90.07 percent relative to the benchmark return of 20.42 percent. The return generated in 2004 by the portfolio of low enterprise multiples delivered the second highest outperformance against the benchmark, this was an outperformance of 69.65 percent.

The portfolio had one stock that delivered a negative return for the period under analysis; aside from the stock which contributed negatively every other stock beat the benchmark return.

The stock with the highest return for the analysis period was Highveld Steel and Vanadium which returned 262.09 percent, whilst Northam Platinum generated a negative return of -0.76 percent.

Enterprise Multiple Portfolio 2005

The breakdown of the portfolio can be seen in table 6.47 below.

Table 6.47 Breakdown of the 2005 Enterprise Multiple portfolio

	RETURNS		72.83	41.55
	AVERAGE ENTERPRISE MULTIPLE	3.44x		
	STOCK COUNT	20		
	Low EV	1.54		
	High EV	4.83		
	Low Return	-42.86		
	High Return	233.33		

The portfolio in 2005 delivered its fifth year of returns in excess of 50 percent per annum, and again outperforming the benchmark JSE All Share Index. The portfolio returned 72.83 percent against the benchmark return of 41.55 percent, this amounted to an outperformance of 31.28 percent for the period under analysis.

The portfolio of selected low enterprise multiple stocks had two negative returns out of the portfolio of 20 stocks. It is noted that six of the portfolio holdings failed to achieve returns in excess of the benchmark JSE All Share Index in 2005.

The stock with the highest return was Basil Read Holdings with a return of 233.33 percent whilst the winning stock in 2003, Convergenet Holdings gave back some of its gains by returning -42.86 percent in 2005.

Enterprise Multiple Portfolio 2006

The breakdown of the portfolio can be seen in table 6.48 below.

Table 6.48 Breakdown of the 2006 Enterprise Multiple portfolio

	RETURNS		52.65	35.74
	AVERAGE ENTERPRISE MULTIPLE	4.08x		
	STOCK COUNT	20		
	Low EV	1.69		

	High EV	5.44		
	Low Return	18.4		
	High Return	100.27		

The portfolio of lowest enterprise multiples delivered yet another return in excess of 50 percent, with a return of 52.65 percent against the benchmark gain of 35.74 percent. The portfolio outperformed the overall market by 16.91 percent in 2006.

There were no stocks in the portfolio that delivered a negative return for the year, although eight stocks failed to achieve a return in excess of the benchmark. It is to be noted that five of the eight stocks still managed returns in excess of 30 percent for the year.

The stock with the highest return for the year was technology company UCS Holdings, which returned 100.27 percent for the year under review whilst another technology company, Telkom Limited delivered the lowest return in the portfolio, a return of 18.40 percent.

Enterprise Multiple Portfolio 2007

The breakdown of the portfolio can be seen in table 6.49 below.

Table 6.49 Breakdown of the 2007 Enterprise Multiple portfolio

			30.30	15.11
	RETURNS		30.30	15.11
	AVERAGE ENTERPRISE MULTIPLE	4.97x		
	STOCK COUNT	20		
	Low EV	1.42		
	High EV	6.23		
	Low Return	-25.22		
	High Return	152.03		

In the final year of analysis, the enterprise multiple portfolio delivered a return of 30.30 percent against the benchmark JSE All Share Index gain of 15.11 percent. The outperformance for the tenth year in a row was 15.19 percent.

There were five stocks in 2007 that failed to deliver a positive return for the year, whilst one other stock failed to beat the benchmark gain of 15.11 percent.

The stock that achieved the highest return was Buildmax with a return of 152.03 percent, whilst packaging produce Astrapak delivered a return of -25.22 percent.

6.41 Summary of the Price-Earnings multiple vs. the JSE All Share Index

A summary of the returns achieved relative to the JSE All Share Index by the portfolio of lowest Earnings Multiple stocks is presented below in figure 6.31.

The summary shows that the portfolio of Enterprise Multiple stocks did not underperform the benchmark in any one year. The portfolio delivered returns in excess of the market for years 2, 4, 5, 6, 7, 8, 9 and 10 with moderate outperformance in year 1 and 3.

Figure 6.41 Summary of Enterprise Multiple strategy versus JSE All Share
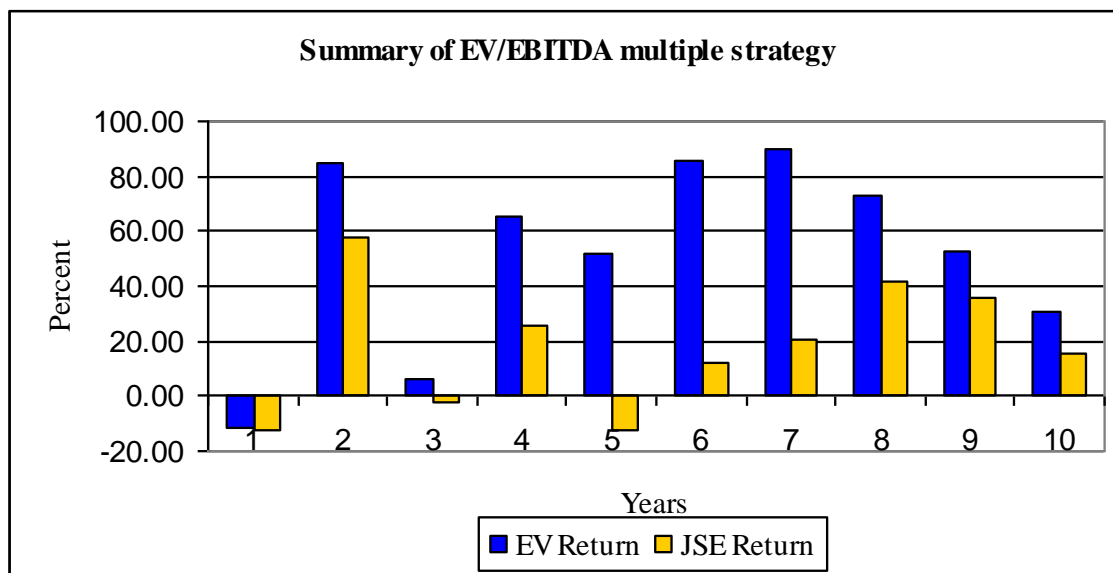
6.5 Comparison of the Price-Earnings and Enterprise Multiple Strategies

In the previous sections an extensive analysis of the yearly performance of each portfolio strategy, the stock holdings in the portfolio strategy coupled with the relative multiples has been conducted and presented. In order to decide whether the strategies have been successful in producing higher returns than the benchmark JSE All Share Index or not, the strategies can be analyzed and examined at an aggregate level.

The table set out below is an aggregate summary of the 10 year returns for each investment strategy against the benchmark, namely the JSE All Share Index.

Table 6.5 Summary of aggregate 10 year unadjusted portfolio returns versus JSE All Share Index

YEAR	PE Return	PE Cumulative	EV Return	EV Cumulative	JSE Return	JSE Cumulative
1998	-20.92	-20.92	-11.94	-11.94	-12.28	-12.28
1999	87.78	66.86	85.21	73.26	58.06	45.78
2000	1.25	68.11	6.38	79.64	-2.23	43.55
2001	99.60	167.71	65.77	145.41	26.01	69.56
2002	34.97	202.68	51.64	197.05	-12.68	56.88
2003	52.22	254.9	85.22	282.27	12.09	68.97
2004	80.09	334.99	90.07	372.34	20.42	89.39
2005	64.70	399.69	72.83	445.17	41.55	130.94
2006	42.46	442.15	52.65	497.81	35.74	166.68
2007	28.02	470.17	30.30	528.11	15.11	181.79
TOTALS	**470.17**		**528.11**		**181.79**	

The green highlights in the table indicate which strategy performed better than the other. The results of this simple exercise show that the Enterprise Multiple strategy beat the Price-Earnings strategy 8 of the 10 years under review.

The most profitable strategy for an investor to have followed would have been to invest according to the Enterprise Multiple methodology. The aggregate growth of the Enterprise Multiple portfolio

was 528.11 percent. The Price-Earnings cumulative growth amounted to 470.17 percent over the same period of analysis whilst the benchmark JSE All Share Index achieved an aggregate return of 181.79 percent. As shown in table 6.5 of aggregate portfolio returns, both the Price-Earnings and the Enterprise Multiple strategy produced significantly higher aggregate returns than the benchmark index.

Although both methodologies returned gratifying results, the Enterprise Multiple strategy outperformed the Price-Earnings strategy by 57.94 percent over the ten year period. Simply put the Enterprise Multiple strategy delivered outperformance against its peer strategy by 5.79 percent per annum.

6.6 Additional costs

In the delimitation section of the dissertation, it was stated that any transaction costs or taxes would be taken into account. Though, and when analyzing the results, these costs should be taken into consideration in order to decide whether or not the strategies were effective in outperforming the benchmark index, which in this study is represented by the JSE All Share Index. A computation of the exact size of the transaction costs will not be undertaken, but when examining the final results an estimate on the impact of such costs on the results will be considered.

6.6.1 Transaction costs and taxes

In the study presented, the transactions made each year have limited the potential effect of transactional costs; this is primarily due to the portfolios being recalculated on an annual basis. Thus the 2 portfolios were only rebalanced annually, and only the stocks that were not part of the lowest multiples during the following year were actually traded. The exceptional returns achieved by both the Price-Earnings and Enterprise Multiple portfolios were that much higher than the

returns generated by the benchmark that in conclusion if transaction costs and taxation were to be taken into consideration, both strategies would still have generated aggregate gains in excess of the JSE All Share Index.

Although, neither transaction costs or tax have been taken into account in the dissertation, it is yet essential to be aware of their existence and the potential effects they can have on portfolio returns, especially when calculating aggregate returns over longer periods of time. It is a generally accepted proviso by "value" managers that excessive rebalancing of portfolios lead to a decrease in returns over time.

6.6.2 Information and processing costs

The two investment strategies used in the dissertation have been relatively passive since both portfolios were constructed once a year and the subsequent stock holdings were held during the calendar year without interference of any sort. Further, the information used in this dissertation is relatively accessible to the man on the street, and can be collected from various public sources such as the internet, a stockbroker or a data service provider. Therefore, the information and processing costs were relatively low and have not affected the result of the study itself.

6.7 Is the market efficient?

For the Efficient Market Hypothesis, EMH, to be valid, it should be impossible for investors to consistently outperform the benchmark JSE All Share Index, but in this dissertation such a consistent outperformance of the benchmark was successfully achieved. However, one cannot entirely dismiss the EMH only because the market was beaten during the period of analysis by investing in low Price-Earnings and low Enterprise Multiple portfolios. Firstly, the EMH is not as rigid as implied above. For example, if the results of this research dissertation could be due to luck

then the EMH theory could be valid (Damodaran 2002). Furthermore, if this study were to be conducted and undertaken during a different period, or even over a twenty year period then the results might be different.

According to Fama (1970) there are three different levels of market efficiency: weak form, semi-strong form and strong efficiency. Just because the market itself may not be strongly efficient, it may still be efficient in some of the weaker forms.

In this study the portfolio samples for each year of analysis were based on historical data, so called technical analysis. If the market is efficient in its weak form, it should be impossible for investors to predict and outperform the market with the use of historical data. If the market is not efficient in its weak form, it can neither be semi-efficient nor strongly efficient. Yet again at this juncture, the possibility that the market beating results obtained are due to luck still exist.

According to Haugen (2001) one of the main characteristics of an efficient market is that trading rules or specific investment strategies do not produce superior returns, but the results achieved in this dissertation indicate the opposite. The investment strategies used in this research project did produce superior returns, and should the market have been efficient then such superior returns should not have been possible.

Fama (1991) states that in an efficient market, the only way to obtain returns higher than those of the market is by taking on riskier investments (if the results are not due to pure luck). Although the returns achieved in this research project were not risk adjusted, the portfolios still generated superior returns over the market, and when risk adjusted should still achieve market beating returns.

Despite the fact that the EMH is one of the most studied propositions in all of the social sciences, economists have still not reached consensus over whether markets are efficient or not (Andrew Lo 2000). After the realization of this dissertation and the analysis of the results obtained, two differing conclusions could be reached about market efficiency, depending on what is believed regarding the data obtained and the resultant performance of the differing methodology portfolios.

On one hand, it can be said that despite the fact that the results contradict the EMH Theory, it could still hold and be valid. This could certainly be the case if the results achieved are due to luck and an abnormally high return on one or two stocks in each portfolio.

On the other hand, it could be stated that the EMH Theory is not valid due to the fact that both investment strategies succeeded in generating significantly higher returns than the market. Although, during some years the high returns on the portfolios were sometimes due to an exceptional return in a few stocks, the mere fact that the strategies were successful in identifying these stocks thereby contradict EMH Theory.

Finally, the reader should bear in mind that the period under review was fraught with market volatility, as the general market locally and globally for that matter too, endured a number of stress tests ranging from bull markets in 1998 to bear market in 2000 and the cycle continues to repeat itself with market recovery, market rally and today as this dissertation is drawn to completion – markets have one again collapsed under the gravity of the credit crunch and global financial excesses.

6.8 Conclusion

In this chapter, the conclusions of the research dissertation are presented. Furthermore recommendations are proposed for further and additional research in this area of investment finance.

The purpose of this study was to investigate whether it is possible to consistently outperform a benchmark, in this study the benchmark being the JSE All Share Index, by identifying and investing in stocks that are undervalued according to the Price-Earnings ratio and the Enterprise Multiple. The results achieved in this study conclusively demonstrate that adopting such methodologies can indeed outperform the market over a ten year period.

In this dissertation, technical analysis of historical data was applied. According to the weak form of the Efficient Market Hypothesis, it should not be possible to outperform the market with such a strategy. The results from this study opine that the market is not as efficient as one would like to believe and that it is possible to continuously outperform the market by using specific trading rules or investment strategies. In an efficient market, current share prices reflect all available information and the resultant collective analysis and knowledge of all investors. The outcome of such is that each stock sells at a price that is appropriate, given its risk, based on the proper available approximation of the probability distribution of the company's future cash flows. The results analysed in the empirical analysis (chapter 6) illustrate that stock prices of undervalued stocks may indeed deliver performances in excess of a benchmark, and that such returns are consistently achieved for the majority of the period under analysis. In this ten year study the Price-Earnings investment strategy beat the benchmark nine times in the ten years whilst the Enterprise Multiple investment strategy beat the benchmark ten out of ten years.

The analysis of stocks that appeared cheap by valuation has delivered astonishing returns far in excess of the returns generated by the All Share Index benchmark.

Even though the results from this study indicate some form of market inefficiency, a ten year analysis period may still not be a sufficient period of analysis to draw exact conclusions about whether the market is efficient or not, and a thorough study over a longer period of time may be considered. However, the researcher believes that this current study indicates the absence of market efficiency on the Johannesburg Stock Exchange during the period under analysis of 1998 to 2007. Furthermore, delimitations to the study resulted in a number of large capitalization mining stocks being excluded from the study, this factor could be taken into consideration when seeking to construct a diversified portfolio of stocks based upon the trading rules applied in this analysis.

Recommendations for further studies and expansion of the theory

Further research to be considered in this field of study could be undertaken along the lines of analyzing the current undervalued sample set and comparing the valuations and returns generated against the overvalued stocks in the same sample. Such an exercise would illustrate the variances in returns of value stocks against "growth" stocks. A study could be based along the lines of picking the lowest Price-Earnings multiples relative to the highest Price-Earnings multiples and both multiples compared to the returns achieved by the benchmark. The same procedure should be adopted for the Enterprise Multiple methodology.

Furthermore, and to address further limitations in future studies, the sample of the JSE All Share Index could be broken down into an analysis of only the financial sector or the industrial sector. The reason for recommending this approach is to dissect certain sectors in the overall market and apply the same trading rules to the sub sectors of the market. Such additional research would

enhance the theory of applying a quantitative analysis approach to various market sectors, and analyzing the subsequent result sets of evidence in the same fashion.

From a quantitative analysis perspective, there are a multitude of statistical methodologies that may be applied and used to analyse the subsequent data. An analysis using the following statistical methods could be undertaken, the techniques the researcher proposes are constructing frequency distributions, population mean, dispersion of returns analysis, variance and standard deviation analysis, interpreting the variance and standard deviations of the returns, undertaking a linear regression and correlation analysis and also a multiple regression and correlation analysis.

These advanced statistical methods would enhance the validity of the study in a mathematical and scientific manner.

ADDENDA

ADDENDUM 4: PERMISSION TO CONDUCT RESEARCH

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Johannesburg Stock Exchange

http://www.jse.co.za

Bond Exchange of South Africa

www.besa.co.za

ETHICAL CLEARANCE

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6 OCTOBER 2008

MR. D ALLISON (204518308)
GRADUATE SCHOOL OF BUSINESS

Dear Mr. Allison

ETHICAL CLEARANCE APPROVAL NUMBER: HSS/0608/08M

I wish to confirm that ethical clearance has been approved for the following project:

> *"Adopting price – earnings and enterprise multiples to beat the Johannesburg Stock Exchange All Share Index"*

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Yours faithfully

MS. PHUMELELE XIMBA

cc. Supervisor (Prof. W Geach)
cc. Mrs. C Haddon

Founding Campuses: ▆ Edgewood   ▩ Howard College   Medical School   ▆ Pietermaritzburg   ▩ Westville

Company	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
					ADDENDUM 1 - Price-Earnings Multiple Table					
ABSA Group Ltd	8.27	10.84	14.61		6.49	6.94	12.14	8.28	10.45	9.64
Acucap Properties Ltd	33.13	11.47	4.04	5.66	12.91	25.22				
Adcock Ingram Holdings Ltd										
Adcorp Holdings Ltd	17.14	19.70	15.50	12.09	-53.67	-6.79	7.32	8.52	15.73	
Advtech Ltd	15.58	13.75	13.85	12.07	6.28	-0.65	-65.99	11.51	11.06	
AECI Ltd	19.34	8.33	12.22	15.36	13.91	10.30	-18.16	8.37	1.99	-8.77
Afgri Limited	13.05	14.07	14.30	12.51	7.01	8.51	7.44	4.41	2.47	2.30
African Bank Investments Ltd	13.00	11.97	11.91	11.07	6.73	5.12	7.23	4.33	12.38	35.19
African Oxygen Ltd	17.20		7.05	10.78	11.77	11.21	12.29	11.86	16.94	9.12
African Rainbow Mineral Ltd	11.39	23.29	16.27	4.88	12.22	-8.31	-13.61	1.20	2.58	4.61
Fountainhead Property Trust	4.97	4.18	3.60	4.32	5.25	7.24	5.48	5.62	6.42	6.96
Allied Electronics Corporation Ltd	16.19	14.95	14.23	11.01	9.24	5.53	7.61	6.68	7.42	5.30
Allied Technologies Ltd	16.77	15.81	14.08	14.78	9.04	4.48	9.96	11.96	9.00	8.76
Anglo Platinum Ltd	19.41	16.10	23.54	19.22	30.02	11.83	12.29	11.21	15.92	24.85
AngloGold Ashanti Ltd	-18.08	-143.57	-61.99	64.33	28.21	17.60	19.46	20.13	12.06	12.63
Apexhi Properties Ltd	10.62	9.30	10.36	12.58	61.66	63.65	45.05			
Argent Industrial Ltd	8.76	9.61	8.37	8.30	3.66	4.41	3.39	2.91	3.70	3.77
Aspen Pharmacare Holdings Ltd	17.06	17.18	29.60	24.33	14.42	11.37	11.10	12.62	18.24	-34.11
Astral Foods Ltd	12.12	8.98	7.42	8.80	5.77	4.52	5.12			
Astrapak Limited	13.41	14.55	13.69	12.06	9.15	6.28	6.60	5.81		
Aveng Ltd	5.70	388.00	15.40	17.24	8.80	8.11	9.39	9.42	11.78	
AVI Ltd	12.78	15.01	8.03	6.85	6.41	4.43	4.79	4.63	4.26	1.76
Avusa Ltd										
Barloworld Ltd	11.07	7.27	5.85	6.79	5.76	4.28	6.88	4.02	3.20	2.31
Basil Read Holdings Ltd	21.03	13.54	6.97	-1.33	2.09	8.70	-3.78	-1.27	8.62	4.11
Bell Equipment Co	13.79	10.44	-109.60	-46.18	20.14	7.20	9.17	9.09	8.24	-5.05
Bidvest Group Ltd	12.32	16.00	12.89	13.72	10.42	10.40	11.28	13.36	20.80	18.47
Blue Label Telecoms Ltd	41.22									
Brait SA	7.32	8.21	7.13	5.90	-16.88	-7.33	12.62	7.76	10.87	21.83
Buildmax Ltd	18.59	7.61	16.05	244.90	-1.40	2.61	1.49	-2.37	-0.56	
Business Connexion Group Ltd	12.37	15.22	10.24	5.38						
Capital Property Fund	3.78	4.03	4.63	5.37	5.51	-39.36	8.21	6.29	7.13	4.27
Cashbuild Ltd	8.64	10.86	12.11	11.51	9.77	6.01	5.16	4.93	19.47	5.29
Caxton and CTP Publishers and Printers Limited	13.38	13.37	15.27	11.45	12.14	10.89	11.86	12.08	8.54	6.18
Ceramic Industries	13.67	14.89	12.46	10.93	8.19	11.42	11.30	9.11	10.89	9.06
City Lodge Hotels Ltd	14.66	14.89	11.70	11.28	10.31	8.30	6.24	6.96	8.21	5.53
Clientele Ltd										
Comair Ltd	18.45	10.33	9.67	-47.46	-5.73	-102.59	9.70	7.30	9.40	6.76
Coronation Fund Managers Ltd	11.97	12.20	12.79	11.50	18.45					
Datatec Ltd	11.04	12.70	11.37	11.50	-10.39	-3.39	35.54	5.84	45.94	51.43
Digicore Holdings Limited	18.23	11.40	10.18	9.73	5.00	3.15	3.80	5.14	282.00	
Dimension Data Holdings Plc	20.71	25.36	50.39	-40.11	-2.79	-0.28	-0.79	-14.44	85.30	37.19
Discovery Holdings Limited	13.32	17.21	21.56	20.93	14.03	10.33	17.13	37.64	43.19	0.00
Distribution & Warehousing Network Limited	13.94	14.05	12.00	14.16	6.95	4.38	6.56	6.58	4.86	-20.42
DrdGold Ltd	-171.13	-4.19	-7.53	-5.17	50.92	-49.95	-6.89	-1.21	-2.30	-7.44
Emira Property Fund	5.05	2.93	3.74	5.69	15.95	0.00	0.00	0.00	0.00	0.00
Cipla Medpro SA Ltd	13.04	17.55	31.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Eqstra Holdings Ltd										
Exxaro Resources Ltd	25.74	0.93	3.20	4.78	0.00	3.62	5.96	0.00	0.00	0.00
Famous Brands Ltd	15.29	15.20	14.42	13.03	7.86	6.11	5.38	4.81	7.83	4.93
FirstRand Ltd	9.17	10.85	11.48	11.15	10.53	9.07	9.40	13.11	16.50	26.86
Foschini Ltd	9.08	11.51	12.26	21.51	9.43	8.15	9.36	10.72	17.22	8.22

Freeworld Coatings Ltd	8.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gold Fields Limited	19.14	38.12	68.95	75.85	24.53	18.78	25.21	-92.20	-68.85	-20.43
Gold Reef Resorts Ltd	54.77	16.52	13.09	13.46	9.73	5.80	5.90	4.14	5.60	0.00
Grindrod Ltd	9.06	7.25	7.14	6.84	4.98	4.23	4.47	4.68	-2.68	4.91
Group Five Ltd	17.79	29.89	17.53	8.78	6.23	6.01	5.01	3.85	5.92	2.17
Growthpoint Properties Ltd	-399.21	13525.31	13900.31	10464.09	8401.97	6449.31	12.61	4.40	2.80	3.56
Harmony Gold Mining Co Ltd	416.92	-579.84	-16.62	-9.36	142.67	21.38	13.96	13.22	11.68	25.52
Highveld Steel and Vanadium Corp Ltd	5.89	7.04	4.39	6.39	23.35	7.14	-3.24	14.87	35.49	6.44
Hosken Consolidated Investments Ltd	12.55	14.97	13.93	5.25	10.18	-0.94	-2.69	-29.23	6.87	25.00
Hospitality Property Fund Ltd	2.81	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hudaco Industries Ltd	13.75	12.27	10.39	10.65	6.31	5.82	5.66	4.15	7.04	3.28
Hulamin Ltd	110.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyprop Investments Ltd	5.86	5.27	4.35	3.56	17.77	29.54	-949.28	313.07	171.82	99.43
Iliad Africa Ltd	9.02	9.67	10.55	11.64	7.81	4.56	3.67	2.34	2.38	3.03
Illovo Sugar Ltd	13.56	14.48	15.82	26.66	7.98	7.27	14.68	8.05	12.07	6.02
Impala Platinum Holdings Ltd	11.25	17.26	12.86	7.77	12.17	9.08	8.12	7.45	9.55	6.13
Imperial Holdings Ltd	16.82	10.02	9.95	8.92	6.95	6.41	7.48	9.07	13.32	9.13
Investec Bank	9.03	12.67	12.46	24.33	42.77	-16.07	16.57	26.36	33.69	27.87
Invicta Holdings Ltd	8.81	11.17	8.30	7.70	4.88	4.86	5.53	6.54	5.96	3.32
JD Group Ltd	10.02	10.73	10.70	12.86	11.24	8.21	11.68	14.88	19.96	11.19
Elementone Ltd	0.53	3.35	2.61	2.38	2.68	0.46	0.14	0.97	0.92	0.29
Johannesburg Stock Exchange	27.29	31.34								
Kagiso Media Ltd	12.30	15.27	16.81	16.83	8.98	6.16	7.60	8.34	27.44	66.55
Keaton Energy Holdings Ltd										
Kumba Iron Ore Ltd	28.64	134.43								
Lewis Group Limited	6.58	9.80	10.57	10.59						
Liberty Holdings Ltd	7.16	7.06	12.27	8.74	-70.47	12.49	6.64	23.14	6.74	5.31
Madison Property Fund Managers Holdings Limited	-31.46	47.39								
Makalani Investments Ltd	17.84	32.93	98.54							
Massmart Holdings Ltd	12.42	15.28	15.06	17.11	13.30	9.83	10.07	21.40		
Medi Clinic Corp Ltd	16.68	19.01	17.35	7.79	8.66	6.39	6.99	6.23	5.19	4.32
Merafe Resources Ltd	23.62	12.55	20.30	46.14		-8.16	-14.20	-4.75	-11.83	-3.86
Metair Investments Ltd	12.12	8.59	8.85	6.71	6.30	8.27	3.68	2.09	4.60	2.25
Metmar Limited	15.97	10.97								
Metorex Ltd	13.09	14.05	21.89	114.64	-711.94	-55.26	14.36	6.27	21.44	-12.70
Metropolitan Holdings Limited	6.49	5.51	5.47	4.59	4.81	-10.84	12.29			
Arcelormittal South Africa Ltd	9.66	8.45	4.89	5.43	7.27		1.82	-1.35	5.28	0.85
Mondi Ltd	115.95									
Mr Price Group Ltd	10.83	14.38	13.20	12.28	10.08	9.27	8.94	9.48	17.74	9.18
MTN Group Ltd	22.92	14.47		12.31	12.50	21.62	34.24	53.77	55.21	34.46
Murray & Roberts Holdings Ltd	25.48	20.05	12.74	9.49	8.50	7.77	6.50	-7.08	-5.03	4.60
Mvelaphanda Group Ltd	-18.21	4.15	4.36	5.99						
Mvelaphanda Resources Ltd	-7.55	19.88	5.75	-816.67	3790.13	69.23	3.64	10.91	-133.92	40.70
Nampak Ltd	14.31	14.39	15.03	11.35	9.10	11.11	12.76	9.99	15.56	8.68
Naspers Ltd	18.61	22.13	11.28	11.00	27.22	-12.12	-2.36	2.66	2.70	5.76
Nedbank Group	9.35	12.14	9.47	11.62	-10.36	32.13	2301.22	6.43	13.38	10.36
Netcare Ltd	16.68	25.04	13.98	11.09	12.60	8.70	11.08	4.80	5.71	7.19
Clicks Group Ltd	12.01	13.27	15.18	69.85	19.69	13.58	13.62	22.65	28.46	15.93
Northam Platinum Ltd	6.83	12.10	9.46	8.23	8.73	13.23	8.53	8.85	6.87	5.35
Oceana Group Ltd	10.71	12.93	15.48	11.09	8.16	7.96	9.83	6.88	5.78	5.91
Octodec Investments Ltd	8.82	4.88	3.21	4.49	6.55	8.44	72.39	1717.97	584.11	171.96
Omnia Holdings Ltd	11.00	21.40	10.00	10.55	5.50	3.48	3.88	15.80	6.33	4.39
Palabora Mining Co Ltd	2.54	4.45	-12.97	-0.74	-65.30	7.72	8.37	5.50	3.63	3.40
Pangbourne Properties Ltd	6.97	10.35	8.59	7.29	10.70	12.96	29.60	143.80	-216.79	-19.80
Peregrine Holdings Limited	9.35	7.50	6.12	7.15	12.93	14.26	5.45	6.47	16.96	82.44
Petmin Ltd	7.92	9.73	5.57	6.22	0.11	0.45	7.99	38.47	47.83	7.54
Phumelela Gaming and Leisure Ltd	12.30	13.30	12.36	13.39	5.94	2.42				
Pick'n Pay Stores Ltd	20.20	23.54	20.23	18.55	17.42	15.10	14.26	21.68	21.82	19.21

Premium Properties Ltd	8.11	5.11	4.31	5.40	6.59	7.01	26.04	-44.46	242.36	39.46
Pretoria Portland Cement Co Ltd	16.36	16.48	16.29	18.58	11.57	8.91	8.06	9.35	12.55	7.55
PSG Group Ltd	7.19	5.25	4.75	8.25	240.20	-3.40	3.39	3.11	4.32	4.10
Rainbow Chicken Ltd	11.16	8.82	7.15	9.14	6.59	5.48	6.31	5.62	18.50	-3.07
Raubex Group Ltd	29.15									
Redefine Income Fund Ltd	12.19	5.74	4.13	3.38	5.64	13.57	3.26	4.23		
Remgro Ltd	3.60	4.12	2.52	2.27	2.59	1.52	2.79	1.74		
Resilient Property Income Fund Limited	8.25	7.27	3.87	5.75	16.21					
Reunert Ltd	16.66	16.99	12.08	13.01	12.23	10.69	10.91	7.36	4.75	6.38
Compagnie Financiere Richemont SA	0.81	0.91	0.85	0.64	1.13	0.66	0.69	0.43	0.28	0.67
RMB Holdings	8.70	11.11	10.53	9.82	8.81	8.29	10.24	13.29	17.38	17.14
SA Corporate Real Estate Fund	5.36	2.81		5.38	9.00	9.15	7.29	6.91	7.78	12.76
SABMiller PLC	21.72	21.02	17.17	16.52	22.80	24.53	15.95	13.04	17.22	17.99
Sanlam Limited	9.07	5.91	3.52	12.12	12.31	-33.33	6.08	11.50	6.67	32.90
Santam Ltd	11.37	5.63	5.34	3.98	6.14	10.20	6.02	10.64	8.50	4.45
Sappi Ltd	18.55	80.96	-18.57	135.78	23.82	15.46	14.81	5.57	13.01	7.54
Sasfin Holdings Ltd	10.27	6.60	6.58	8.02	4.69	4.73	4.65	5.26	7.17	11.16
Sasol Ltd	10.63	11.89	14.31	9.77	8.54	7.41	7.83	5.63	10.39	6.26
Sentula Mining Ltd	47.32	32.95	8.96	4.71	4.63	3.53	5.38	5.95	-12.12	-3.18
Shoprite Holdings Ltd	17.15	13.76	12.73	11.21	9.73	8.82	10.38	16.28	24.23	23.83
Simmer and Jack Mines Ltd	-25.02	-35.33	-18.46	-0.56	-2.36	63.05	-17.74	-3.90	-1.30	-1.05
Spar Group Limited	18.73	17.38	15.05	12.01						
Spur Corporation Ltd	13.60	13.59	14.04	12.68	12.34	9.64	7.12	7.03	15.23	
Standard Bank Group	11.51	14.70	14.48	14.69	10.59	10.36	11.78	15.03	13.59	13.11
Stefstock	26.97									
Steinhoff International Holdings Ltd	9.66	14.50	12.56	11.02	8.32	8.66	12.31	10.52	14.96	27.35
Sun International Ltd	23.37	14.93	11.52	10.69	12.37	-27.77	-8.44	-158.47	10.55	2.92
Super Group Ltd	24.14	11.15	11.27	14.21	8.94	7.92	11.14	4.35	14.44	12.80
Sycom Property Fund	3.48	4.56	5.09	4.83	8.27	7.35	7.65	8.04	6.89	4.32
Telkom SA Ltd	2.78	2.66	2.65	2.74	3.20					
Tiger Brands Ltd	9.27	9.32	10.75	9.05	8.15	7.06	7.38	8.43	9.80	8.84
Tongaat-Hulett Group Ltd	2.76	14.47	15.73	21.79	-71.52	10.75	7.69	9.06	14.50	
Trencor Ltd	7.96	21.79	9.02	26.39	-15.86	-3.57	2.26		-54.18	8.90
Truworths International Ltd	10.15	15.13	14.92	13.62	9.67	9.04	8.56	16.78	52.32	10.79
TWP Holdings Ltd	27.32									
UCS Group	8.75	9.51	10.39	12.76	15.39	8.21	7.94	6.68	25.55	20.18
Convergenet Holdings Ltd	26.31	-3.47	-2.77	45.07	6.60	-0.07	-0.38	-19.23		
Vodacom Group Proprietary Ltd										
Vukile Property Fund Ltd	13.38	8.16	6.60	9.17						
Wesizwe Platinum Ltd	-47.98	-90.77	-28.81							
Wilson Bayly Holmes - Ovcon Limited	15.34	17.04	14.49	12.37	10.55	9.04	7.06	4.54	5.92	2.59
Woolworths Holdings Ltd	13.14	15.34	14.77	14.03	10.75	11.39	13.21	10.25	14.69	8.99
Zeder Investment Ltd	8.31	10.48								
TOTAL HOLDINGS	**141.00x**	**135.00x**	**134.00x**	**129.00x**	**126.00x**	**125.00x**	**121.00x**	**117.00x**	**110.00x**	**0.00x**
TOTAL SELECT	**15.00**	**15.00**	**15.00**	**16.00**	**16.00**	**16.00**	**16.00**	**16.00**	**20.00**	**20.00**

	COMPANY NAME	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
	ADDENDUM 2 - Enterprise Mulitple Tables										
ASAJ.J	ABSA Group Ltd										
ACPJ.J	Acucap Properties Ltd	23.79x	16.77x	16.95x	12.61x						
AIPJ.J	Adcock Ingram Holdings Ltd										
ADRJ.J	Adcorp Holdings Ltd		9.49x	8.26x	7.17x	6.62x	3.60x	3.80x	5.52x	10.31x	
ADHJ.J	Advtech Ltd	9.43x	7.91x	7.22x	6.45x	4.91x	-1.44x	5.35x	5.05x	10.34x	
AFEJ.J	AECI Ltd	9.23x	5.29x	5.97x	5.40x	5.53x	3.95x	8.79x	3.54x	1.44x	4.97x
AFRJ.J	Afgri Limited	6.65x	8.77x	10.21x	4.74x	3.31x	3.44x	2.70x	1.71x	-0.08x	0.62x
ABLJ.J	African Bank Investments Ltd										
AFXJ.J	African Oxygen Ltd		12.74x	6.34x	4.91x	8.17x	4.93x	5.28x	6.31x	6.40x	5.14x
ARIJ.J	African Rainbow Mineral Ltd	10.08x	7.07x	4.47x	5.04x	14.45x	-161.07x	10.53x	0.85x	5.76x	8.62x
FPTJ.J	Fountainhead Property Trust					8.00x	6.14x	12.39x	6.24x	5.11x	
ATNJ.J	Allied Electronics Corporation Ltd	7.16x	5.20x	3.79x	1.00x	1.82x	3.80x	4.17x	4.35x	2.45x	3.54x
ALTJ.J	Allied Technologies Ltd	8.14x	7.52x	6.34x	5.29x	1.60x	4.64x	6.86x	4.41x	2.86x	3.30x
AMSJ.J	Anglo Platinum Ltd	11.29x	10.27x	12.42x	9.14x	12.17x	6.68x	6.99x	6.96x	10.20x	
ANGJ.J	AngloGold Ashanti Ltd	17.65x	13.89x	24.44x	14.35x	16.57x	8.99x	9.40x	8.61x	7.96x	7.28x
APAJ.J	Apexhi Properties Ltd	18.87x	14.54x	12.72x	12.26x	11.51x	11.77x				
ARTJ.J	Argent Industrial Ltd	7.28x	7.42x	5.70x	2.54x	2.94x	2.40x	2.50x	2.84x	2.45x	
APNJ.J	Aspen Pharmacare Holdings Ltd	11.16x	13.37x	16.99x	7.22x	5.23x	6.05x	7.44x	9.35x	27.25x	-4.23x
ARLJ.J	Astral Foods Ltd	5.29x	3.84x	4.22x	4.02x	2.43x	2.40x	2.44x			
APKJ.J	Astrapak Limited	5.64x	5.84x	6.46x	4.15x	3.80x	3.49x	3.47x			
AEGJ.J	Aveng Ltd	1.42x	8.96x	8.87x	6.56x	3.97x	4.55x	5.55x	4.98x		
AVIJ.J	AVI Ltd	7.82x	6.37x	6.45x	2.31x	1.66x	2.14x	2.11x	1.33x	2.06x	1.17x
AVUJ.J	Avusa Ltd										
BAWJ.J	Barloworld Ltd	8.39x	6.13x	5.44x	3.34x	2.86x	3.17x	4.38x	2.86x	2.24x	3.00x
BSRJ.J	Basil Read Holdings Ltd	9.62x	9.16x	2.31x	-1.74x	2.17x	2.92x	-10.72x	-0.48x	2.63x	-0.49x
BELJ.J	Bell Equipment Co	10.07x	6.80x	16.91x	19.75x	5.58x	4.02x	6.77x	6.56x	4.85x	63.53x
BVTJ.J	Bidvest Group Ltd	8.48x	6.54x	5.82x	5.16x	4.26x	5.17x	7.49x	8.52x	14.92x	14.82x
BLUJ.J	Blue Label Telecoms Ltd										
BATJ.J	Brait SA	6.76x	7.36x	3.73x			-1.68x	-2.33x	-0.12x	3.66x	
BDMJ.J	Buildmax Ltd	4.37x	8.93x	3.44x	0.00x	-0.25x	-0.23x	1.37x	-1.99x		
BCXJ.J	Business Connexion Group Ltd	5.34x	6.32x	1.80x	1.71x						
CPLJ.J	Capital Property Fund										
CSBJ.J	Cashbuild Ltd	6.32x	5.21x	5.17x	3.83x	2.52x	-0.32x	-0.20x	7.11x	2.63x	2.53x
CATJ.J	Caxton and CTP Publishers and Printer	9.87x	8.82x	5.88x	5.64x	3.55x	3.77x	5.23x	7.40x		8.13x
CRMJ.J	Ceramic Industries	7.58x	5.56x	5.20x	3.97x	4.54x	6.05x	6.15x	5.24x	5.67x	8.43x
CLHJ.J	City Lodge Hotels Ltd	10.00x	7.27x	6.43x	5.36x	4.42x	4.16x	2.96x	2.66x	3.09x	4.00x
CLIJ.J	Clientele Ltd										
COMJ.J	Comair Ltd	6.52x	3.36x	2.96x	-3.70x	-20.53x	7.50x	5.32x	4.70x	4.26x	
CMLJ.J	Coronation Fund Managers Ltd	6.93x	6.90x	8.07x	7.03x						
DTCJ.J	Datatec Ltd	5.37x	4.28x	5.08x	24.99x	-1.28x	6.56x	1.58x	18.32x	20.39x	35.14x
DGCJ.J	Digicore Holdings Limited	9.79x	5.35x	4.76x	2.23x	0.72x	1.99x	2.24x	9.56x		
DDTJ.J	Dimension Data Holdings Plc	9.94x	6.99x	8.19x	15.86x	331.21x	-0.23x	-0.86x	35.04x	17.53x	22.96x
DSYJ.J	Discovery Holdings Limited										
DAWJ.J	Distribution & Warehousing Network Li	10.04x	7.35x	7.85x	5.74x	2.84x	2.92x	4.07x	3.73x		
DRDJ.J	DrdGold Ltd	21.33x	22.98x	-6.22x	390.10x	7.55x	-12.30x	-6.82x	-0.92x	20.47x	-12.86x
EMIJ.J	Emira Property Fund	-462.33x	10.20x	9.00x							
CMPJ.J	Cipla Medpro SA Ltd	10.08x	11.41x	66.15x							
EQSJ.J	Eqstra Holdings Ltd										
EXXJ.J	Exxaro Resources Ltd	16.79x	50.27x	17.62x		3.68x	2.97x				
FBRJ.J	Famous Brands Ltd	9.34x	9.69x	7.06x	5.44x	3.17x	2.85x	2.13x	3.50x	3.21x	5.91x
FSRJ.J	FirstRand Ltd										
FOSJ.J	Foschini Ltd	13.55x	12.29x	9.77x	4.63x	5.14x	5.66x	4.98x	7.15x	6.62x	10.00x
FWDJ.J	Freeworld Coatings Ltd										
GFIJ.J	Gold Fields Limited	9.77x	15.93x	22.28x	16.23x	8.91x	12.07x	-43.10x	10.02x	-7.25x	

Ticker	Company										
GDFJ.J	Gold Reef Resorts Ltd	19.32x	8.49x	6.89x	6.48x	4.09x	2.82x	31.35x	4.47x		
GNDJ.J	Grindrod Ltd	8.37x	6.68x	7.34x	5.91x	2.78x	4.39x	9.12x	4.30x	12.74x	3.24x
GRFJ.J	Group Five Ltd	10.74x	7.90x	5.37x	2.90x	1.63x	1.40x	0.86x	2.28x	0.77x	1.05x
GRTJ.J	Growthpoint Properties Ltd	14.35x				19.65x					
HARJ.J	Harmony Gold Mining Co Ltd	22.32x	68.05x	-9.78x	111.86x	11.45x	9.63x	12.91x	6.64x	6.00x	23.36x
HVLJ.J	Highveld Steel and Vanadium Corp Ltd	7.39x	6.06x	2.62x	3.01x	7.57x	3.18x	5.76x	4.43x	40.10x	
HCIJ.J	Hosken Consolidated Investments Ltd	12.59x	22.94x	37.47x	-4.07x	-3.25x	-1.74x	-5.45x	-1190.20x	-306.91x	457.69x
HPAJ.J	Hospitality Property Fund Ltd										
HDCJ.J	Hudaco Industries Ltd	13.68x	6.00x	5.32x	4.87x	3.19x	2.70x	2.49x	2.26x	3.35x	2.24x
HLMJ.J	Hulamin Ltd	14.93x									
HYPJ.J	Hyprop Investments Ltd	22.00x	15.55x	15.42x	10.83x	11.52x	12.36x	14.64x			10.77x
ILAJ.J	Iliad Africa Ltd	5.78x	6.00x	6.07x	6.81x	6.87x	2.42x	2.30x	1.84x	1.70x	1.91x
ILVJ.J	Illovo Sugar Ltd	7.17x	8.09x	7.35x	4.70x	3.22x	3.78x	4.03x		4.86x	3.55x
IMPJ.J	Impala Platinum Holdings Ltd	9.86x	10.41x	9.80x	6.74x	5.11x	5.52x	3.38x	4.23x	4.94x	2.80x
IPLJ.J	Imperial Holdings Ltd	7.35x	5.10x	4.82x	4.02x	3.45x	3.95x	5.03x	5.55x	5.89x	6.48x
INLJ.J	Investec Bank										
IVTJ.J	Invicta Holdings Ltd	10.22x	12.12x	4.64x	3.00x	2.13x	2.59x	3.85x	1.49x	0.70x	7.63x
JDGJ.J	JD Group Ltd	7.05x	5.30x	6.70x	5.55x	7.32x	5.46x	9.91x		9.82x	10.65x
ELEJ.J	Elementone Ltd	10.49x	1.79x	1.74x	0.46x	1.18x	0.10x	4.84x	2.30x	1.84x	1.09x
JSEJ.J	Johannesburg Stock Exchange	23.96x	26.78x								
KGMJ.J	Kagiso Media Ltd	8.22x	6.33x	7.96x	8.61x	5.09x	3.81x	7.70x	6.24x	9.48x	34.99x
KEHJ.J	Keaton Energy Holdings Ltd										
KIOJ.J	Kumba Iron Ore Ltd	15.00x									
LEWJ.J	Lewis Group Limited	7.16x	8.30x	5.44x							
LBHJ.J	Liberty Holdings Ltd										
MDNJ.J	Madison Property Fund Managers Hold	22.78x	9.68x								
MKLJ.J	Makalani Investments Ltd										
MSMJ.J	Massmart Holdings Ltd	8.71x	5.75x	7.66x	5.86x	4.57x	3.73x	4.18x			
MDCJ.J	Medi Clinic Corp Ltd	9.26x	9.73x	4.51x	4.62x	3.87x	3.54x	4.45x	3.28x	3.45x	5.41x
MRFJ.J	Merafe Resources Ltd	13.70x	13.50x	16.19x		-14.28x	-80.14x	-12.39x	-338.32x	-4.48x	
MTAJ.J	Metair Investments Ltd	6.21x	4.55x	4.46x	3.39x	3.46x	5.00x	3.11x	1.27x	2.10x	1.07x
MMLJ.J	Metmar Limited	8.06x									
MTXJ.J	Metorex Ltd	13.23x	13.11x	9.13x	8.25x	7.29x	60.01x	3.22x	2.66x		
METJ.J	Metropolitan Holdings Limited										
ACLJ.J	Arcelormittal South Africa Ltd	5.86x	4.54x	2.50x	2.74x	3.42x	3.16x	5.84x	1.52x	1.98x	0.87x
MNDJ.J	Mondi Ltd	25.60x									
MPCJ.J	Mr Price Group Ltd	9.81x	7.75x	5.58x	4.57x	2.87x	3.49x	3.30x	7.86x	7.66x	10.55x
MTNJ.J	MTN Group Ltd	8.17x	8.28x		6.25x	3.86x	7.50x	12.12x	23.36x	16.36x	19.11x
MURJ.J	Murray & Roberts Holdings Ltd	10.70x	8.35x	4.27x	6.59x	3.17x	2.82x	3.14x	-21.25x	4.28x	3.00x
MVGJ.J	Mvelaphanda Group Ltd	11.62x	9.60x	8.96x							
MVLJ.J	Mvelaphanda Resources Ltd	-3240.51x	69.63x	-104.98x		-422.79x	1786.19x		5.88x	1.71x	0.01x
NPKJ.J	Nampak Ltd	6.26x	5.44x	5.67x	4.20x	3.59x	6.27x	5.71x	5.87x	6.10x	3.64x
NPNJn.J	Naspers Ltd	13.09x	9.35x	6.61x	5.41x	5.19x	9.99x	11.88x	2.60x	5.89x	19.10x
NEDJ.J	Nedbank Group										
NTCJ.J	Netcare Ltd	12.53x	24.50x	7.83x	7.39x	6.30x	5.34x	4.98x	3.74x	3.43x	4.97x
CLSJ.J	Clicks Group Ltd	7.66x	8.62x	7.22x	11.58x	5.51x	6.06x	8.79x	11.73x	10.25x	7.32x
NHMJ.J	Northam Platinum Ltd	5.64x	7.10x	6.44x	3.23x	5.38x	4.62x	3.44x	3.40x	3.19x	
OCEJ.J	Oceana Group Ltd	6.82x	6.20x	6.84x	5.76x	4.19x	4.66x	4.28x	3.22x	2.29x	2.79x
OCTJ.J	Octodec Investments Ltd	18.26x	4.68x	3.64x	6.24x	6.54x	9.92x	12.52x	10.84x	10.31x	9.17x
OMNJ.J	Omnia Holdings Ltd	6.17x	6.11x	4.73x	3.39x	1.09x	1.93x			4.53x	2.98x
PAMJ.J	Palabora Mining Co Ltd	2.48x	4.30x	8.66x	-1.64x	33.59x	6.92x	6.45x	5.34x	4.09x	2.37x
PAPJ.J	Pangbourne Properties Ltd	31.32x	10.91x	7.91x	9.98x	8.73x	15.94x		5.82x	6.55x	11.20x
PGRJ.J	Peregrine Holdings Limited	3.41x	4.10x	3.21x	10.67x	1.26x	1.90x	3.54x	14.59x	65.74x	
PEMJ.J	Petmin Ltd	10.71x	7.91x	4.42x	-6.71x		9.37x	6.41x		84.48x	5.40x
PHMJ.J	Phumelela Gaming and Leisure Ltd	5.74x	5.16x	6.91x	4.88x	3.03x	2.17x				
PIKJ.J	Pick'n Pay Stores Ltd	9.08x	9.69x	7.86x	6.66x	5.53x	5.41x	8.09x	9.34x	8.04x	10.23x
PMMJ.J	Premium Properties Ltd	4.78x	3.91x	4.78x	6.07x	6.64x	9.34x	10.03x	8.54x	8.46x	9.76x
PPCJ.J	Pretoria Portland Cement Co Ltd	10.92x	8.90x	9.06x	6.90x	5.32x	3.93x	4.39x	6.08x	6.46x	4.51x
PSGJ.J	PSG Group Ltd	5.59x	3.21x	8.16x	1.65x	836.88x	0.98x	0.18x	1.91x	1.21x	2.14x

Code	Name										
RBWJ.J	Rainbow Chicken Ltd	5.33x	3.26x	4.33x	2.71x	1.97x	3.27x	2.72x	3.22x	11.54x	-4.64x
RBXJ.J	Raubex Group Ltd										
RDFJ.J	Redefine Income Fund Ltd										
REMJ.J	Remgro Ltd	19.98x	3.72x	4.83x	-100.90x	9.34x	-11.49x	2.43x			
RESJ.J	Resilient Property Income Fund Limited	33.06x	33.13x	16.93x	16.46x	12.81x					
RLOJ.J	Reunert Ltd	14.32x	9.23x	7.88x	5.95x	5.36x	7.66x	7.51x	5.92x	1.95x	2.52x
CFRJ.J	Compagnie Financiere Richemont SA	8.24x	9.50x	7.05x	13.86x	6.07x	12.88x	4.66x	2.33x	3.75x	3.53x
RMHJ.J	RMB Holdings										
SACJ.J	SA Corporate Real Estate Fund										
SABJ.J	SABMiller PLC	10.75x	11.92x	8.92x	8.73x	8.26x	8.89x	7.23x	7.36x	8.23x	13.07x
SLMJ.J	Sanlam Limited										
SNTJ.J	Santam Ltd										
SAPJ.J	Sappi Ltd	7.69x	9.80x	14.90x	8.00x	6.87x	5.80x	4.16x	3.07x	5.87x	4.99x
SFNJ.J	Sasfin Holdings Ltd										
SOLJ.J	Sasol Ltd	5.98x	8.81x	7.00x	4.74x	3.64x	4.34x	4.41x	3.58x		
SNUJ.J	Sentula Mining Ltd	12.32x	5.72x	3.47x	2.63x	2.27x	2.43x	1.25x	1.01x	2.60x	
SHPJ.J	Shoprite Holdings Ltd	6.64x	6.57x	5.23x	2.85x	2.28x	3.77x	3.56x	6.07x	13.90x	14.11x
SIMJ.J	Simmer and Jack Mines Ltd	-39.12x	-26.32x	-9.90x	-6.07x	6.00x	10.51x	128.61x			
SPPJ.J	Spar Group Limited	10.54x	9.47x	9.88x							
SURJ.J	Spur Corporation Ltd	10.69x	8.66x	7.89x	7.22x	5.67x	6.03x	4.54x	4.48x		
SBKJ.J	Standard Bank Group										
SSKJ.J	Stefstock										
SHFJ.J	Steinhoff International Holdings	10.63x	10.30x	9.20x	4.94x	5.33x	10.67x	7.38x	9.95x		
SUIJ.J	Sun International Ltd	7.94x	6.08x	5.44x	3.83x	5.55x	13.51x	11.18x	10.94x	8.68x	2.04x
SPGJ.J	Super Group Ltd	8.08x		6.73x	5.69x	4.20x	3.24x	3.56x	8.50x	10.15x	15.70x
SYCJ.J	Sycom Property Fund										
TKGJ.J	Telkom SA Ltd	2.89x	1.69x	1.54x	1.64x	2.08x					
TBSJ.J	Tiger Brands Ltd	9.65x	8.47x	7.65x	5.83x	5.04x	4.85x	5.13x	5.16x	3.13x	3.23x
TONJ.J	Tongaat-Hulett Group Ltd	14.53x	11.93x	7.82x	9.22x	12.51x	5.25x	7.06x	7.60x	13.76x	
TREJ.J	Trencor Ltd	6.23x	9.14x	6.17x	8.67x	11.38x	18.72x		12.14x	9.27x	15.34x
TRUJ.J	Truworths International Ltd	11.40x	9.89x	9.70x	5.97x	6.18x	5.18x	5.66x	18.75x	9.64x	6.00x
TWPJ.J	TWP Holdings Ltd										
UCSJ.J	UCS Group	5.10x	4.03x	4.22x	4.22x	3.59x	4.11x	4.00x	8.26x	12.58x	12.65x
CVNJ.J	Convergenet Holdings Ltd	20.39x		4.52x	9.88x	2.67x	-0.81x	-87.94x			
VODJ.J	Vodacom Group Proprietary Ltd										
VKEJ.J	Vukile Property Fund Ltd	15.48x	15.15x	14.72x							
WEZJ.J	Wesizwe Platinum Ltd	-45.02x	-90.25x	-29.43x							
WBOJ.J	Wilson Bayly Holmes - Ovcon Limited	10.09x	7.16x	5.07x	4.62x	2.19x	1.06x	1.63x	-0.32x	0.55x	3.35x
WHLJ.J	Woolworths Holdings Ltd	9.63x	8.18x	7.44x	5.68x	4.90x	4.94x	4.92x	5.39x	6.16x	6.00x
ZEDJ.J	Zeder Investment Ltd										
TOTAL HOLDINGS		119.00x	114.00x	113.00x	103.00x	104.00x	103.00x	96.00x	89.00x	83.00x	71.00x
TOTAL SELECT		20	20	20	20	20	20	20	20	20	20

ADDENDUM 3 - Total Return Tables (including Dividends)									
Average Return >	**34.09%**	**48.91%**	**54.63%**	**58.93%**	**42.67%**	**22.31%**	**38.61%**	**4.49%**	**66.07%**	**9.86%**
Calendar Year >	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**2001**	**2000**	**1999**	**1998**
ABSA Group Limited	-6.79%	28.54%	36.79%	80.33%	38.82%	-6.05%	26.78%	7.65%	2.57%	2.82%
Acucap Properties Ltd	26.43%	25.19%	53.44%	25.12%	57.25%					
Adcock Ingram Holdings Ltd										
Adcorp Holdings Ltd	39.31%	32.00%	50.30%	52.12%	97.46%	-28.66%	-37.87%	-34.25%	34.61%	-5.26%
Advtech Ltd	61.61%	52.86%	80.83%	44.05%	112.50%	53.85%	-10.34%	-76.23%	-59.20%	17.65%
AECI Ltd	18.87%	32.64%	40.38%	18.76%	38.04%	53.78%	37.56%	10.76%	168.75%	-49.01%
Afgri Limited	10.68%	39.72%	-17.31%	29.14%	6.79%	17.88%	79.54%	73.38%	16.72%	-24.95%
African Bank Investments Ltd	23.12%	25.15%	45.71%	111.26%	94.20%	-27.99%	67.52%	-57.38%	-37.28%	166.45%
African Oxygen Ltd	9.97%	17.05%	17.23%	36.46%	39.84%	16.43%	25.37%	-15.53%	108.80%	-46.69%
African Rainbow Mineral Ltd	53.22%	142.32%	58.45%	-37.05%	6.58%	9.57%	56.74%	-46.61%	258.83%	-72.01%
Fountainhead Property Trust	17.90%	18.83%	41.50%	47.81%	38.43%	23.07%	5.34%	37.81%	48.15%	-7.31%
Allied Electronics Corporation Ltd	41.63%	54.95%	46.11%	56.47%	31.49%	13.21%	28.18%	3.06%	29.41%	-39.78%
Allied Technologies Ltd	14.03%	28.70%	11.78%	54.61%	35.86%	13.42%	5.41%	74.95%	20.01%	-4.43%
Anglo Platinum Ltd	24.07%	98.91%	126.47%	-26.47%	-5.73%	-25.25%	33.18%	97.91%	142.50%	26.08%
AngloGold Ashanti Ltd	-10.75%	6.62%	59.03%	-35.43%	10.70%	43.88%	97.48%	-23.95%	43.33%	29.41%
Apexhi Properties Ltd	12.32%	31.45%	45.53%	28.82%	36.12%	25.41%				
Argent Industrial Ltd	21.71%	38.21%	27.72%	192.89%	10.83%	116.41%	57.73%	-6.15%	51.58%	-46.34%
Aspen Pharmacare Holdings Ltd	18.18%	-0.87%	85.52%	50.73%	64.29%	30.92%	26.41%	10.11%	63.53%	660.00%
Astral Foods Ltd	36.44%	59.27%	33.30%	123.81%	94.13%	23.75%				
Astrapak Limited	-25.22%	2.50%	17.89%	61.62%	93.53%	26.67%	87.50%	-9.09%	-10.20%	-41.49%
Aveng Ltd	84.57%	90.24%	52.49%	37.09%	-8.87%	31.91%	20.16%	-8.50%		
AVI Ltd	6.74%	31.57%	28.24%	39.68%	24.16%	26.78%	60.23%	44.74%	135.94%	-2.24%
Avusa Ltd										
Barloworld Ltd	37.34%	58.35%	13.35%	63.05%	28.29%	14.26%	33.06%	16.14%	107.70%	-38.50%
Basil Read Holdings Ltd	165.87%	309.62%	233.33%	24.66%	39.14%	84.21%	79.25%	-85.68%	42.18%	-14.44%
Bell Equipment Co	105.38%	176.32%	53.23%	-20.51%	-16.75%	2.66%	21.79%	73.33%	81.67%	-16.33%
Bidvest Group Ltd	-6.34%	49.19%	19.67%	66.13%	16.49%	6.59%	2.48%	-20.83%	46.92%	9.04%
Blue Label Telecoms Ltd										
Brait SA	7.69%	37.50%	113.57%	51.90%	7.06%	-40.08%	-6.97%	-33.51%	-19.76%	49.13%
Buildmax Ltd	152.03%	-9.95%	151.14%	243.75%	-5.88%	-37.04%	285.71%	-41.67%	-65.71%	-73.08%
Business Connexion Group Ltd	-18.17%	7.37%	68.39%							
Capital Property Fund	34.84%	19.48%	38.85%	50.79%	39.66%	-6.88%	13.23%	13.96%	95.46%	-17.37%
Cashbuild Ltd	13.80%	15.20%	33.05%	66.71%	139.06%	146.75%	302.50%	-62.06%	47.30%	-31.55%
Caxton and CTP Publishers and Printers Limited	14.80%	3.04%	68.45%	25.63%	40.95%	6.42%	8.65%	-5.39%	40.27%	-23.45%
Ceramic Industries	11.63%	20.08%	38.32%	52.43%	-18.70%	28.38%	69.60%	23.94%	74.09%	-6.29%
City Lodge Hotels Ltd	29.14%	60.28%	30.86%	37.22%	72.79%	105.98%	18.32%	-6.38%	47.67%	-46.72%
Clientele Ltd										
Comair Ltd	61.96%	31.49%	25.33%	81.76%	-6.45%	-24.00%	-29.73%	-12.50%	105.45%	
Coronation Fund Managers Ltd	33.85%	29.36%	41.00%	13.24%						
Datatec Ltd	-0.19%	66.21%	98.43%	-26.55%	103.70%	-66.75%	-43.85%	-66.71%	37.99%	94.32%
Digicore Holdings Limited	134.20%	63.83%	75.48%	244.68%	160.00%	-27.59%	11.54%	-60.00%	-34.34%	
Dimension Data Holdings Plc	42.59%	33.29%	7.44%	-6.67%	18.11%	-73.54%	-71.98%	33.16%	53.02%	22.28%
Discovery Holdings Limited	2.37%	16.32%	25.86%	64.76%	53.38%	-7.50%	-32.20%	2.61%		
Distribution & Warehousing Network Limited	41.72%	80.99%	30.73%	229.41%	209.82%	24.44%	-22.41%	16.00%	-13.79%	134.84%
DrdGold Ltd	-15.11%	-30.97%	14.73%	-60.19%	-37.20%	94.08%	181.67%	-42.03%	-37.27%	135.71%
Emira Property Fund	28.63%	18.12%	48.25%	38.95%						
Cipla Medpro SA Ltd	-9.84%	22.47%								

Eqstra Holdings Ltd										
Exxaro Resources Ltd	87.59%	87.35%	170.11%	32.04%	12.90%	8.93%				
Famous Brands Ltd	46.40%	23.71%	54.65%	179.52%	85.56%	65.63%	-0.91%	-33.60%	106.84%	-30.78%
FirstRand Ltd	-0.87%	24.63%	43.05%	55.73%	27.08%	3.35%	-7.98%	-1.95%	37.17%	-5.13%
Foschini Ltd	-10.91%	15.12%	35.40%	111.02%	79.78%	65.24%	13.30%	-59.51%	131.83%	-47.79%
Freeworld Coatings Ltd										
Gold Fields Limited	-24.03%	20.24%	62.45%	-26.31%	-18.22%	112.87%	128.31%	-11.51%	28.72%	-27.58%
Gold Reef Resorts Ltd	65.78%	43.88%	20.24%	118.47%	128.36%	20.83%	42.86%	20.00%	125.77%	66.67%
Grindrod Ltd	55.13%	27.53%	67.97%	246.64%	78.57%	44.53%	77.05%	109.68%	13.97%	-33.49%
Group Five Ltd	22.82%	119.19%	42.41%	61.81%	33.18%	75.33%	125.24%	-39.32%	110.27%	-58.20%
Growthpoint Properties Ltd	26.35%	12.28%	41.95%	25.42%	16.62%	23.27%	1.20%	0.02%	34.94%	-29.97%
Harmony Gold Mining Co Ltd	-36.64%	30.98%	65.82%	-52.49%	-25.02%	92.20%	131.49%	-7.72%	50.56%	131.51%
Highveld Steel and Vanadium Corp Ltd	44.89%	-0.96%	129.38%	262.09%	-10.66%	16.88%	19.63%	-32.20%	45.99%	42.52%
Hosken Consolidated Investments Ltd	34.68%	57.43%	71.53%	548.93%	52.17%	-14.81%	-44.33%	-3.00%	91.39%	23.38%
Hospitality Property Fund Ltd	8.34%									
Hudaco Industries Ltd	43.80%	48.14%	34.49%	59.97%	30.67%	52.20%	81.21%	-19.63%	94.13%	-60.81%
Hulamin Ltd										
Hyprop Investments Ltd	24.37%	36.27%	61.01%	58.85%	31.74%	28.64%	12.69%	42.74%	80.87%	1.90%
Iliad Africa Ltd	17.77%	18.06%	14.41%	89.82%	125.79%	118.18%	88.41%	16.92%	8.31%	
Illovo Sugar Ltd	17.06%	60.30%	72.03%	15.92%	-7.84%	6.55%	73.35%	-27.89%	22.66%	-20.24%
Impala Platinum Holdings Ltd	35.60%	66.79%	106.05%	-13.62%	10.78%	2.36%	57.85%	68.78%	223.31%	85.27%
Imperial Holdings Ltd	-34.20%	20.16%	40.69%	60.82%	27.08%	3.29%	-2.62%	-8.16%	90.61%	-34.24%
Investec Bank	-25.35%	59.34%	52.87%	41.65%	13.80%	-29.00%	-36.25%	-7.48%	35.65%	7.89%
Invicta Holdings Ltd	7.22%	107.27%	8.23%	98.68%	46.06%	92.61%	15.89%	31.66%	71.38%	-72.42%
JD Group Ltd	-32.71%	8.68%	18.54%	68.03%	109.80%	-17.35%	-32.88%	-23.05%	108.52%	-11.31%
Elementone Ltd	5.53%	69.10%	77.54%	92.60%	32.95%	13.08%	-5.77%	5.49%	266.96%	27.58%
Johannesburg Stock Exchange	68.19%									
Kagiso Media Ltd	0.65%	10.46%	17.40%	122.65%	104.76%	32.73%	14.00%	-10.71%	-6.67%	-26.83%
Keaton Energy Holdings Ltd										
Kumba Iron Ore Ltd	162.92%									
Lewis Group Limited	-16.67%	30.82%	25.55%							
Liberty Holdings Ltd	10.73%	16.85%	13.05%	31.49%	-0.40%	2.86%	-11.75%	-4.74%	94.86%	-29.75%
Madison Property Fund Managers Holdings Limited	53.00%									
Makalani Investments Ltd	7.58%	-5.22%								
Massmart Holdings Ltd	7.59%	41.05%	18.38%	54.10%	73.66%	49.73%	31.04%			
Medi Clinic Corp Ltd	-6.56%	42.99%	59.12%	14.62%	69.65%	16.43%	42.64%	46.67%	54.38%	-34.19%
Merafe Resources Ltd	212.00%	22.95%	-17.83%	1.33%	-21.05%	46.15%	51.16%	43.33%	-14.29%	118.75%
Metair Investments Ltd	29.74%	27.61%	33.99%	27.59%	20.00%	121.45%	77.27%	40.96%	52.97%	-32.90%
Metmar Limited	102.16%									
Metorex Ltd	34.88%	125.00%	171.70%	13.40%	-21.45%	-13.87%	9.86%	31.25%	35.00%	5.00%
Metropolitan Holdings Limited	6.93%	33.08%	14.50%	66.72%	19.34%	-19.00%	-14.80%	-8.41%	44.59%	-46.18%
Arcelormittal South Africa Ltd	43.76%	66.67%	-0.08%	142.78%	44.63%	113.41%	600.32%	-46.35%	134.75%	12.18%
Mondi Ltd										
Mr Price Group Ltd	-8.39%	40.11%	56.41%	67.02%	34.92%	31.21%	33.56%	-45.71%	165.39%	-20.96%
MTN Group Ltd	51.72%	38.70%	42.87%	53.98%	132.24%	-7.20%	-47.73%	6.70%	207.99%	23.61%
Murray & Roberts Holdings Ltd	158.25%	109.08%	46.36%	3.65%	11.71%	79.97%	130.00%	-29.96%	63.00%	-52.48%
Mvelaphanda Group Ltd	1.95%	29.26%	17.71%							
Mvelaphanda Resources Ltd	16.28%	80.98%	58.62%	-40.08%	-53.17%	78.33%	6.03%	512.24%	91.67%	34.23%
Nampak Ltd	4.02%	35.09%	13.15%	26.82%	-2.96%	25.24%	10.77%	-36.68%	111.91%	-35.59%
Naspers Ltd	-1.36%	49.51%	50.78%	82.13%	77.46%	21.26%	-35.13%	-44.66%	144.50%	-41.96%
Nedbank Group	6.82%	38.43%	23.26%	39.79%	-41.80%	-6.40%	-24.44%	27.74%	37.45%	-2.70%
Netcare Ltd	-13.88%	87.37%	53.96%	3.85%	67.85%	11.51%	205.36%	15.42%	2.19%	-34.03%
Clicks Group Ltd	37.59%	30.83%	-5.17%	25.09%	16.43%	13.41%	-42.59%	-7.62%	122.69%	-1.29%
Northam Platinum Ltd	-13.56%	191.13%	134.46%	-0.76%	-41.41%	24.78%	23.25%	126.65%	176.56%	58.75%

Oceana Group Ltd	28.39%	11.38%	9.33%	-7.89%	22.13%	12.46%	82.73%	54.17%	13.44%	-12.91%
Octodec Investments Ltd	37.36%	46.10%	42.06%	36.91%	85.64%	6.73%	0.08%	-3.91%	66.98%	-41.99%
Omnia Holdings Ltd	18.81%	67.80%	-17.81%	104.98%	38.15%	140.09%	72.93%	-40.06%	15.79%	-24.34%
Palabora Mining Co Ltd	75.13%	35.29%	-5.56%	-43.76%	14.32%	7.68%	42.61%	5.47%	40.45%	-28.64%
Pangbourne Properties Ltd	27.00%	22.50%	55.37%	26.63%	44.96%	21.16%	-10.50%	31.11%	68.03%	14.73%
Peregrine Holdings Limited	66.17%	99.41%	107.97%	50.11%	-10.50%	-4.62%	-21.38%	-52.10%	-52.75%	
Petmin Ltd	138.93%	71.26%	74.00%	56.25%	133.57%	139.19%	10.00%	-4.37%	650.09%	993.37%
Phumelela Gaming and Leisure Ltd	30.84%	69.15%	19.58%	132.20%	50.49%					
Pick'n Pay Stores Ltd	18.09%	19.89%	28.49%	35.91%	38.63%	28.10%	-18.31%	34.32%	89.26%	-15.84%
Premium Properties Ltd	34.90%	35.45%	67.77%	37.21%	100.10%	6.15%	26.06%	87.34%	55.94%	-42.72%
Pretoria Portland Cement Co Ltd	18.10%	31.67%	13.91%	114.10%	55.37%	53.55%	41.90%	9.31%	51.52%	-32.94%
PSG Group Ltd	2.18%	72.64%	144.82%	89.10%	17.72%	12.94%	8.70%	-38.95%	39.83%	-13.62%
Rainbow Chicken Ltd	48.78%	62.60%	26.05%	54.48%	66.48%	4.31%	98.79%	96.43%	-37.78%	28.57%
Raubex Group Ltd										
Redefine Income Fund Ltd	19.86%	29.37%	86.04%	21.22%	22.41%	24.32%	37.58%			
Remgro Ltd	19.41%	57.95%	43.42%	66.20%	33.64%	6.73%	40.33%			
Resilient Property Income Fund Limited	46.58%	47.14%	52.29%	41.03%	49.02%					
Reunert Ltd	-8.69%	63.65%	47.86%	80.07%	16.96%	8.47%	55.98%	62.32%	39.24%	13.83%
Compagnie Financiere Richemont SA	17.68%	58.50%	58.31%	33.00%	2.69%	-23.91%	14.00%	33.59%	85.55%	67.72%
RMB Holdings	-7.14%	24.28%	32.98%	73.05%	34.11%	-3.70%	-1.69%	-7.79%	37.89%	-25.26%
SA Corporate Real Estate Fund	27.06%	14.89%	21.85%	21.42%	49.34%	25.13%	7.23%	3.73%	65.00%	-28.10%
SABMiller PLC	18.78%	36.67%	23.81%	40.88%	12.33%	-22.72%	48.97%	-14.62%	29.32%	-17.92%
Sanlam Limited	29.40%	25.54%	21.85%	53.41%	21.05%	-13.28%	-0.21%	14.65%	50.00%	
Santam Ltd	23.61%	13.35%	48.29%	44.71%	67.33%	-5.96%	19.36%	15.87%	71.64%	-43.61%
Sappi Ltd	-16.95%	62.47%	-12.28%	-8.47%	-20.72%	-4.36%	122.18%	-10.61%	171.13%	-7.44%
Sasfin Holdings Ltd	61.60%	28.71%	40.25%	212.43%	47.43%	-5.27%	-4.31%	-20.10%	-11.79%	-23.84%
Sasol Ltd	35.24%	17.81%	92.36%	32.58%	-5.24%	3.89%	123.19%	-0.48%	143.24%	-53.65%
Sentula Mining Ltd	75.67%	133.46%	202.54%	98.75%	96.46%	29.65%	72.36%	22.44%	-21.43%	-52.46%
Shoprite Holdings Ltd	72.83%	43.41%	46.61%	41.95%	36.02%	16.98%	-17.34%	-11.07%	16.48%	-3.69%
Simmer and Jack Mines Ltd	0.20%	370.48%	864.39%	-12.50%	-7.69%	73.33%	0.00%	-40.00%	-16.67%	7.14%
Spar Group Limited	44.27%	43.82%	49.91%							
Spur Corporation Ltd	5.24%	29.68%	47.52%	50.59%	36.89%	38.04%	24.55%	3.04%		
Standard Bank Group	7.82%	27.96%	18.39%	72.57%	33.88%	-0.25%	4.92%	21.98%	44.91%	-13.95%
Stefstock										
Steinhoff International Holdings Ltd	-19.72%	34.87%	51.49%	68.10%	12.14%	-19.49%	36.89%	9.92%	65.98%	
Sun International Ltd	25.31%	47.49%	49.88%	54.24%	46.58%	11.00%	-24.07%	32.64%	40.63%	-23.19%
Super Group Ltd	2.16%	11.68%	-13.40%	41.37%	54.89%	-29.42%	72.45%	-48.00%	4.10%	4.36%
Sycom Property Fund	17.57%	21.43%	34.70%	43.53%	28.40%	26.95%	14.50%	39.21%	63.97%	0.33%
Telkom SA Ltd	19.18%	18.40%	57.61%	76.38%						
Tiger Brands Ltd	3.44%	22.97%	55.89%	29.15%	16.17%	24.10%	0.18%	-4.49%	23.33%	-7.60%
Tongaat-Hulett Group Ltd	-4.72%	45.24%	59.39%	67.19%	-25.77%	-7.17%	49.75%	-21.91%	41.29%	-37.90%
Trencor Ltd	-5.57%	47.95%	47.47%	43.43%	17.92%	-15.20%	161.54%	-15.03%	-56.00%	-44.35%
Truworths International Ltd	-11.61%	37.85%	44.97%	88.14%	47.52%	46.86%	31.22%	-45.21%	109.56%	
TWP Holdings Ltd										
UCS Group	20.89%	100.27%	44.60%	11.92%	125.32%	-23.60%	-2.01%	-75.56%	103.23%	
Convergenet Holdings Ltd	820.00%	150.00%	-42.86%	16.67%	500.00%	-87.50%	-93.85%	-27.78%	80.00%	
Vodacom Group Proprietary Ltd										
Vukile Property Fund Ltd	11.28%	31.24%	24.85%							
Wesizwe Platinum Ltd	91.67%	79.10%								
Wilson Bayly Holmes - Ovcon Limited	91.55%	68.20%	68.75%	67.10%	63.38%	59.01%	66.83%	-18.02%	188.33%	-63.40%
Woolworths Holdings Ltd	-6.81%	31.65%	30.52%	63.52%	47.37%	40.16%	38.83%	-26.57%	38.85%	-54.27%
Zeder Investment Ltd	19.14%									