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Use of the Efficient Frontier Method In Unit Trust Portfolio Selection

Thomas Vhutshilo Mugivhi

A Project Report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Business Administration

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ABSTRACT

This paper investigated whether optimal market portfolios delivered returns superior to those of existing unit trust portfolios over a five-year period.

Three sets of unit trust portfolios were used for the research and they represented the Large Capitalization, Mining & Resources, and Financial & Industrial sectors of the JSE Securities Exchange. For each of the three sectors, an optimised market portfolio was constructed using the efficient frontier method, and these were compared and contrasted with existing portfolios.

The optimised market portfolios consistently resulted in higher Sharpe ratios compared with existing unit trust portfolios over the period under review. Assertion that optimal market portfolio produce returns, which are superior to those of existing unit trust portfolio was confirmed.

DECLARATION

I, Thomas Vhutshilo Mugivhi, declare that this project report is my own work, unaided. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examined in this or any other university.

_____

Thomas Vhutshilo Mugivhi

14 July 2011

DEDICATION

To my mother, Mrs. Tshinakaho Sarah Mugivhi

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I would like to express my sincere thanks to all who assisted me in the compilation of this project report. In particular, I would like to thank:

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1. INTRODUCTION

1.1. Background To The Research

Investors are faced with the challenge of structuring their portfolios so as to maximize return and minimise risk. Therefore, in choosing assets both risk and return must be considered and the trade-off must be developed (Kerbel, 2002). Investors achieve this balance by ensuring that they continually strive to have a well-diversified portfolio across the different investment options. Kwan (2003) also argues that pooling of investor capital enables investors to achieve higher expected returns without additional risk exposure.

Investors often use unit trust funds to pool their funds. Fund managers, who rely on a number of different methods to construct their portfolios, manage these funds. The methods include, amongst others, fund mandates, companies' historical performance, dividend yield, long-term prospects of the rand-dollar exchange rate, and the strength of the companies' balance sheet (Thomas, 2003).

This research seeks to investigate whether fund managers can improve their funds' returns by investing on the optimal market portfolio.

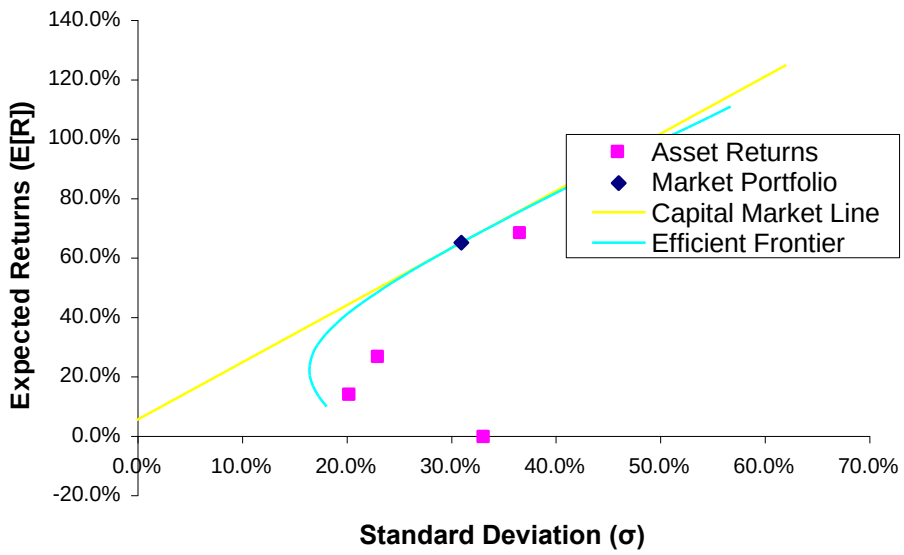

Figure 1: Efficient Frontier

The optimal portfolio is located on the efficient frontier (figure 1) and is made up of a combination of risk free assets such as cash and risky assets, which include shares and derivatives. According to Merton (2003), existing finance theory can be put into investment management practice in ways that will greatly benefit clients. He further argues that the investment profession has developed the tools, but too often, fund managers rely on static one-period analyses when considering how best to handle the returns and risks of clients.

1.2. The Problem

To test whether the optimal market portfolio delivers returns superior to those of existing unit trust portfolios.

1.3. Rationale For The Research

The aim of this research project is to investigate whether an optimal market portfolio outperforms existing unit trust portfolios held by fund managers. The research would also determine whether prior planning and evaluation of investment alternatives could be an effective mechanism to mitigate the impact of volatility in the financial sector and provide a higher level of portfolio returns (Pirbhai, 2001).

Furthermore, the research would attempt to bridge the gap between theory and practice of portfolio management. According to Mao (1970) there exists a wide disparity between the theory and practice of portfolio analysis. The theory has been characterised by increased use of quantitative/mathematical tools and, whilst the practice has no doubt changed at the same time, business executives do not appear to have adopted many of the new techniques.

The study will also provide a basis for questioning current practices and assumptions associated with unit trusts performance. It could, therefore, form

a basis for a change in the way that fund managers' construct and periodically review their portfolios.

1.4. Assumptions

The study will make the following assumptions:

- Portfolios are constructed and / or reviewed on a quarterly basis,
- The goal of the rational investor is to choose the portfolio which maximises his expected utility,
- Investors are risk averse (Bowen, 2002),
- Investors can borrow and lend funds at the risk free market interest rate (Koutsoyiannis, 1982),
- The investor can rank the various portfolios on the basis of their expected return and standard deviation (risk), with a set of indifference curves (Bowen, 2002),
- The utility derived from a portfolio depends on its mean (expected) return and its standard deviation (Bowen, 2002), and
- Unit trusts are primarily a way of saving for the long term.

1.5. Subsequent Chapters Of The Research

The research is divided into seven chapters:

- **Chapter Two: Literature Review** – This chapter provides a summary of the relevant theory applicable to the study and conceptualises the optimal portfolio selection dynamics.
- **Chapter Three: Research Proposition** – The chapter outlines the research proposition.
- **Chapter Four: Research Methodology** – This chapter describes the research methodology followed and the data used.
- **Chapter Five: Presentation of Results** – The results of the study are presented.
- **Chapter Six: Interpretation of Results** – The results presented on chapter five are analysed.
- **Chapter Seven: Conclusions and Recommendations** – This chapter provides conclusion and recommendations for the study. The chapter also provide suggestions for further research on the topic.

2. LITERATURE REVIEW

The literature review covers five aspects of portfolio management and selection. The first aspect covers the general investment and portfolio management and the second provides an overview of the different categories of investment classes. The third part highlights the Association of Collective Investments' requirements relating to investing in unit trusts. The fourth aspect discusses the current unit trust selection criterion. The final aspect provides a proposed selection criterion.

2.1. General Investment And Portfolio Management

2.1.1. Portfolio Management Overview

According to Reilly & Brown (2000), portfolio management theory assumes that an investor wants to maximise returns from investments for a given level of risk. Investors are also risk averse and as such would choose an asset with lower level of risk if two assets have equal rates of return. It is with this view in mind that investors use portfolio theory as a means of diversification (O'Connor & Rozeff, 2002).

On the other hand, it is also accepted that investors make their choices of optimising their investments under uncertainty (Jacob & Pettit, 1998). However, with available information and latest valuation techniques, it is possible to develop an optimal portfolio (Jacob & Pettit, 1998), which would help maximize an investor's returns. That is, investors can benefit from a combination of different asset classes in a structured portfolio (Dimensional, 2003).

Clements (1993) argues that an investor should vary the mix of their investments portfolio depending on how long they plan to invest. The further away the investment horizon, the more an investor should have in shares. The closer the horizon, the more an investor should lean towards bonds and money markets instruments.

According to Neu-Ner & Firer (2002), the risks inherent in an investment can be described as being made up of those risks, which are common to all assets and thus cannot be diversified (i.e. systematic or market risks) and those, which are unique to the asset and thus can be eliminated by diversification. A key consideration of diversification is the correlation of securities to each other. If security returns are not correlated i.e. do not move together in the same direction, diversification could eliminate or minimise unsystematic risk (Markowitz, 1959). Statman (1987) showed that a well-diversified portfolio of randomly chosen shares must include at least thirty shares.

2.1.2. Efficient Market Hypothesis

Reilly & Brown (2000) describe the efficient market hypothesis as a state within which share prices fully reflect all of the publicly available information in the market and therefore reflect expectations of all investors. The market reacts quickly to new or unexpected information and incorporates this information into share prices immediately. According to Fama (1991), these efficient capital markets are markets that are efficient in processing information and the prices of securities at any time are based on evaluation of all information available at that time. Reilly & Brown (2000) further argues that in fully efficient markets, investors pay the market price for acquisitions and therefore, there are no bargains. The belief has lead investment companies to introduce index funds, which aims to track the performance of a broad market or sectoral index such as the JSE All-Share Index, JSE Financial Index or JSE Large Cap Index (van Rensburg, 2003). These funds also attempt to minimise tracking error by replicating the index promptly after revisions (Graham & Pirie, 1994).

According to Seneque (2002), there are three forms of market efficiency, and these are:

- Weak form – current shares prices fully reflect the information implied by the historical sequence of past prices. In other words, a knowledge of past share movement cannot be used to predict price changes,

- Semi-strong form – current share prices fully reflect all publicly available information. This implies that an investor cannot earn superior returns on using information which is generally available, and
- Strong form – which states that all information, not only publicly available information, is impounded in security prices. This means that there is no opportunity for any investor to earn superior returns based on inside information (Fama, 1970).

Seneque (2002), also highlighted that empirical studies have provided sufficient evidence to accept the weak and semi-strong forms of efficient market hypothesis in the JSE.

2.2. Categories Of Assets / Investments

2.2.1. Stocks / Equities

A share of stock can be defined as a unit, which represents partial ownership in a company. Initially sold by the company itself to raise funds for expansion or capital-intensive projects, the shares are then bought and sold by investors in the secondary market. Shareholders can vote on the company's major decisions, and receive dividends as their share of profits. As a company's stock price rises or falls, so does the shareholders' investment (JPMorganChase, 2003).

These units are derived by dividing up the capital requirements of a company into a large number of units, which affords investors with an opportunity to become shareholders of the company without necessarily being held responsible for the action of the company (InvestorWords.Com, 2003).

2.2.2. Bonds

Companies and governments issue bonds to raise money to fund a variety of projects and operations. Unlike stocks, a bond is a loan that the issuer promises to pay back, usually at a set interest rate. Bonds are then bought and sold by investors in the secondary market (JPMorganChase, 2003).

Bonds are fixed interest bearing securities, which are issued by the central government, municipalities, and other large organisations such as Eskom, the Post Office, Transnet, Telkom and the Land Bank and these securities assure an investor a fixed predetermined income (Oost, 2002). These institutions, known as the issuer, borrow money from the bondholders and promise to pay the investor a specified rate of interest (coupons) during the life of the bond and to repay the face value of the bond (i.e. principal amount) when it matures or becomes due (InvestorWords.Com, 2003). Bonds provide a predictable stream of payments and repayment of principal, and as such investors invest in them to preserve and increase their capital and to receive dependable interest income (The Bond Market Association, 2002).

2.2.3. Short Term Debt Securities

Short-term debt securities are highly marketable financial instruments traded in the money markets. Many of these securities trade in large denominations (Bodie, Kane & Marcus, 2002). Treasury bills are the most common marketable money market instruments. These treasury bills provide the government with the means of borrowing funds. The government sells the bills to the investors at a discounted price from the stated maturity value. When the bill matures, the investor receives the face value of the bill and the earnings are represented by the difference between the purchase price and the face value of the bill (Bodie, Kane & Marcus, 2002). Individual investors also can access these markets by pooling their funds into collective investments such as unit trusts, which are then invested in money market securities on their behalf.

The yield on these investments may outperform other types of investments for short periods, but is unlikely to do so over the long term. Investors tend to seek sanctuary from volatile equity markets in domestic fixed-interest funds, or use them as parking places, while they decide where to invest for the longer term (Moledi, 2003).

Blume & Friend (1973) observed that the issuance of low risk securities such as corporate bonds would improve the efficiency of the security markets and couldn't understand "why corporations did not place more reliance on such financing". There has been a strong growth in the use of short-term debt securities since publication of Blume & Friend (1973)'s work.

2.2.4. Derivatives

A derivative instrument is a financial contract whose characteristics and value depends upon the characteristics and value of an underlying commodity, bond, share or currency. Examples of derivatives include futures and options (InvestorWords.Com, 2003). These instruments give the holder a right, but not the obligation, to buy (for a call option) or sell (for a put option) a specified amount of a given stock, commodity, currency, index, or debt, at a specified period of time (InvestorWords.Com, 2003).

Derivative securities provide a number of useful functions in the area of risk management, income generation and financial engineering (Strong, 2002). It is usually easier and quicker to deal in a derivative contract than in the underlying asset (Fick, 2003). These instruments were originally designed to enable market participants to eliminate risk. A wheat farmer, for example, can fix a price for his crop even before it is planted, eliminating price risk. An exporter can fix a foreign exchange rate even before beginning to manufacture the product, eliminating foreign exchange risk (Harvey & Gray, 1997).

According to Fick (2003), these instruments are used in unit trust funds for:

- Allocation of funds effectively across different asset classes;
- Hedge the assets of the fund;
- Insure the portfolio against specific events; and
- Take advantage of anomalies in derivative market pricing in an attempt to enhance the fund's investment returns.

Fund managers also look to derivative instruments to hedge against potential losses that are inherent in equity, bonds and money markets investments (Stulz, 1984).

2.2.5. Unit Trusts

The Collective Investment Schemes Control Act (2003) defines a unit trust as a collective investment that enables an investor to pool his or her money with other investors who have similar investment objectives. Unit trusts allow investors to make a small investment in different companies or sectors, thereby enabling a higher level of diversification for a small amount of money as compared to direct investment in shares and bonds (Lai, 2002).

The Act also provides guarantees such as transparency on investment costs, portfolio prices, and liquidity of the pooled investments, which makes it easy for investors to cash in their investment any time they want to. The Act also requires that the underlying assets in a unit trust be disclosed to investors at least on a quarterly basis and must also have a defined policy and mandate. The act also reinforces the principle of "diversification across asset classes by setting limits on how much the asset manager can invest in any single share" (Clayton, 2003). For instance, the total of investments by any one manager across all the funds offered may not exceed 24% of the shares in issue by any one company, or 15% of the shares of the companies that are in the same group as the manager (Benetton, 2003).

By pooling the assets of many investors, and pursuing a set investment objective, fund managers are able to provide investors with buying power unavailable to individual investors (JPMorganChase, 2003).

The South African unit trust industry is valued at R192 billion in assets invested (Moledi, 2003) and these are invested through approximately three hundred and sixty four unit trust funds (Personal Finance, 2003). These funds are both South African Rand and foreign currency-based, catering for different investor needs and risk profile. Investment fund managers invest the pool of

money in different assets in financial markets. These include a range of local and international shares or bonds, property, money market instruments and their derivatives. The total value of the pool of invested money is split into equal portions called participatory interests of units. When investors invest in unit trusts, they buy a share of the units of the total fund. The unit price is dependent on the market value of the instruments in which the pool of money is invested and therefore rises and falls on a daily basis (Association of Collective Investments, 2003).

The wide range of underlying assets that fund managers invest in, imply that an investor's risk is spread amongst many assets rather than on one or only a few. If any of the underlying assets perform poorly, the investment won't necessarily perform poorly as there are other assets that may have done well. Unit trusts also provide sanctuary for risk-averse investors when the equity markets are volatile (Moledi, 2003).

2.3. Association of Collective Investments Requirements

Association of Collective Investments (ACI) was established in 1967 as The Association of Unit Trusts (AUT) and represents the collective interests of South African management companies, registered foreign collective investment schemes and their investors.The primary aim of the Association is to facilitate the development and growth of the industry, through its dealings with the authorities and regular communication with the media and investing public. Working on behalf of its members, the Association acts as the custodian of codes of practice and standards throughout the industry, and is the forum for identifying and fulfilling common goals (Association of Collective Investments, 2003). In March 2002, ACI restructured the classification of unit trust funds. Domestic equity funds are obligated to invest according to the following requirements (Equinox.co.za, 2003):

- Invest a minimum of 85% of the assets of the portfolio in South Africa and the balance in assets that are listed on registered offshore Stock Exchanges,

- A minimum of 75% should be invested in equities at all times. This allows the fund manager to invest a maximum of 25% of the fund in cash or other fixed interest investments in times of equity volatility, and
- A minimum of 80% of the equity portfolio must, at all times, be invested in the JSE sectors as defined by the category. This means that if a fund is classified as a Large Cap fund, 80% of the equity portfolio should be invested in companies defined as Large Cap companies.

Furthermore, there are primarily nine categories of equity funds that invest in South Africa as shown on Table 4. Each of these funds has a fund objective, and they must conform to the defined investment requirement of each category. In most cases, the unit trust management company also impose further requirements (mandates) on their fund manager in terms of minimum liquidity, adherence to investments within different categories (Equinox.co.za, 2003).

2.4. Current Selection Criterion

2.4.1. Passive Portfolio Management

Funds using passive management include index funds that are designed to replicate exactly a well defined index of common stock e.g. Alsi 40. Proponents of this management style view indexes as appropriate proxies for market portfolios operating within efficient markets. This view was reinforced by Elton and Gruber (1995), who found that index funds had outperformed more than 50% of active managers.

2.4.2. Active Portfolio Management

Elton and Gruber (1995), argues that active portfolio management involves taking a position different from that which would be held in a passive portfolio, based on a forecast about the future. Fund managers who actively manage their portfolios seek to take advantage of inefficiencies in the market. These managers can be divided into three categories, namely:

2.4.2.1. Sector Selectors / Sector Rotation

Portfolio managers who practice this type of analysis will tend to rotate their portfolios by overweighting or underweighting sectors over time as they change forecasts of what sector is over or undervalued. These managers would use factors such as:

- Broad industrial classification (e.g. industrial, financial, utilities),
- Major product classification (e.g. consumer goods, industrial goods, services),
- Perceived characteristics (e.g. growth, cyclical, stable),
- Sensitivity to economic phenomena (e.g. interest-sensitive stocks, exchange rate-sensitive stocks).

2.4.2.2. Market Timers

Portfolio managers who are market timers change the beta of a portfolio according to forecasts of how the market will perfom. They achieve their objectives through:

- Usage of options, futures or by swapping securities; and
- Changing the amount invested in short-term bonds.

2.4.2.3. Security Selectors

These managers search for undervalued securities and form these securities into optimal portfolios. This view also assume that the market weights on securities are not the optimal proportion to hold for each security. Portfolio managers would then actively increase the weight of undervalued securities and decrease it for overvalued securities. Most active portfolio managers practice security selection (Elton & Gruber, 1995).

2.5. Proposed Selection Criterion

Markowitz (1952) published a formal model of portfolio selection embodying diversification principles. This model provides for the identification of the efficient set of portfolios or the efficient frontier of risky assets. That is, a model that presented techniques of portfolio analysis directed towards

determining a most suitable portfolio for a large private or institutional investor.

According to Pirbhai (2001), this model explorers how risk-averse investors can construct optimal portfolios taking into consideration the trade off between market risk and expected returns. The theory quantifies the benefits of diversification. Out of a universe of risky assets, an efficient frontier of optimal portfolios is constructed and each portfolio on the efficient frontier offers the maximum possible expected return for a given level of risk. Bodie & Marcus (2002) also defines the efficient frontier as the graphical representation of a set of portfolios that maximises expected return for each level of portfolio risk. The efficient frontier for a given set of securities is traditionally the best risk-return trade-off (Kwan, 1981). This efficient frontier will take the form of a convex curve, which shows that risk increases with return but at a diminishing rate (Kerbel, 2002). According to Schirripa & Tecotzky (2000), a portfolio is on the efficient frontier if it has the highest expected return for a given level of risk, and the lowest level of risk for a given expected return.

Kerbel (2002) argues that a rational investor will seek an optimal combination of risk and return from his investment, that is, the higher the level of risk to be accepted, the greater the expectation of return. Therefore, a rational investor will choose a portfolio on the efficient frontier. It should, however, be noted that not all portfolios on the efficient frontier are optimal.

Sharpe (1964), Lintner (1965) and Vèlez-Pareja (2001) showed that under equilibrium, the optimal portfolio is the combination of risky assets and the risk less asset. This optimal portfolio can be found by maximising the slope (i.e. the Sharpe ratio) of the capital market line (CML) that joins the point of the risk-free return and the efficient frontier as demonstrated in figure 1. It should also be noted that the optimal risky portfolio is the same for all investors regardless of their risk preferences.

A set of portfolios on the CML dominates all portfolios below it and investors are no longer restricted to their own wealth. Feldman & Reisman (2002), have

also argued that investors who hold portfolios that are not on the CML, bear risks that they are not compensated for.

Introduction of risk free investing and borrowing creates a new set of expected return-risk possibilities, which have the effect of chancing the efficient set from an arch to a straight line, tangent to the original feasible set (i.e. without the risk free asset). It should, however, be noted that risk will increase as the amount of borrowing increases.

Sharpe (1966) also argue that the mean variance portolio implies that the objective of professional fund managers is to maximise the ex ante Sharpe measure, which entails maximising the slope of the CML. Sharpe (1966) further argue that a “good” fund manager is one whose CML is steeper than the CML representing the passive strategy of holding a market-index portfolio. Investors would prefer to invest their funds with the most able fund manager, that is, one who consistently obtains the highest Sharpe ratio for his portfolio and presumably has real forecasting ability.

Furthermore, Michaud (1998) argued that the value of mean-variance analysis is in building not just one portfolio but a set of portfolios suitable for differing levels of risk tolerance while also creating a disciplined investment process.

3. RESEARCH PROPOSITION

Based on the preceding literature, it is proposed that a unit trust portfolio derived from the optimal market portfolio outperforms existing unit trust funds.

4. RESEARCH METHODOLOGY

4.1. The Research Population

The population for this research project includes all the shares listed on the JSE and the three hundred and sixty four unit trust funds available in South Africa.

4.2. Convenience Sampling

According to Leedy & Ormrod (2001) convenience sampling makes no pretence of identifying a representative subset of a population. An attempt was made to select those unit trust categories, which represent key sectors of the economy such as mining & resources, financial & industrial, and large capitalisation. Some of the constituent unit trust funds were, however, excluded due to lack of availability of their underlying data.

4.3. Sample Size And Selection

From the sixteen unit trust categories on the JSE, the following three categories were identified for analysis and the basis for selection was as follows:

- Financial and Industrial – this category has the widest number of shares available for selection i.e. seventy nine shares;
- Mining and Resources – this category is of interest due to the sensitivity of its constituent shares to the rand / dollar exchange rate. This category includes forty nine shares; and
- Large capitalisation – this category is of interest to investors due to its inclusion of a selection of the largest companies in the JSE. This category includes seventy two shares. For instance, a mere five of the hundred and sixty five stocks in the Alsi account for 41% of the index weight (Bradfield, 2004).

4.3.1. Financial and Industrial

This category has six unit trust funds and all of them were included in the analysis:

- ABSA Financial and Industrial Index Fund
- Old Mutual Financial and Industrial Fund
  - Old Mutual Financial Fund
  - Old Mutual Industrial Fund

- Sanlam Industrial Trust
- Standard Bank Industrial and Financial Fund (A)
  - Standard Bank Financial Fund
  - Standard Bank Industrial Fund

4.3.2. Mining and Resources

Even though this category has nine unit trust funds, only seven of them were included in the analysis:

- FTNIB Mining & Resources Fund
- Futuregrowth Core Mining & Resources
- Investec Commodity Fund
- Liberty Resources Fund
- Metropolitan Resources Fund
- Old Mutual Mining & Resources Fund
- Sage Resources Fund

The following funds were excluded due to non-availability of historical data:

- Coronation Resources Fund
- Sanlam Resources Fund

4.3.3. Large capitalisation

This category has six unit trust funds, but only five of them were included in the analysis:

- Coronation Top 20
- Liberty ALSI 40
- Old Mutual ALSI 40
- RMB Top 40
- Sanlam Index Trust

The following fund has been excluded due to non-availability of historical data:

- Kagiso Top 40

4.4. Data Collection & Analysis

4.4.1. Source of Data

The data required for this study was obtained from the following sources:

- Quarterly unit trust funds' holding values were sourced from McGregor BFA,
- Yield on the medium to long term government bonds i.e. R150 was used as the historical risk free rate of return and was sourced from Inet, and
- Current share selection methodology for each category of unit trust funds was sourced from Equinox and the Association of Collective Investments.

4.4.2. Data Analysis

Weekly share prices spanning one year prior to the beginning of each quarter being reviewed was used to generate input for the efficient frontier.

According to Hobbs (2001), the input data necessary for performing mean-variance analysis, which generates the efficient frontier, are estimates of:

- The expected return for each security,
- The risk (or standard deviation) for each security, and
- The correlation coefficients between each possible pair of securities for those shares under consideration.

Quarters ending in the following months were included in the analysis:

- March, June, September and December 1999,
- March, June, September and December 2000,
- March, June, September and December 2001,
- March, June, September and December 2002, and
- March, June, September and December 2003.

For each of the twenty quarters, the following values were also computed for each of the three quarterly optimal portfolios:

- Optimal portfolio return,
- Quarterly standard deviation, and
- Sharpe ratio,

The above-mentioned three measures were also computed on a quarterly basis for each of the sixteen unit trust funds under review. It should also be noted that the Sharpe ratio uses the standard deviation of returns as a measure of total risk and therefore evaluates the fund manager on the basis of both the rate of return performance and diversification (Sharpe, 1994).

4.4.3. Efficient Frontier & Optimal Portfolio

Historical share prices have been used as the basis for input for a mean-variance analyses that generate optimal ex-post and diversified portfolios that would have performed well over the preceding period (Kroll, Levy & Markowitz, 1984). All the shares listed in each of the three sectors under review have been used to generate these diversified optimal portfolios for particular sectors. For each of the three sectors under review, quarterly optimal portfolios are identified and these portfolios are re-balanced on a

quarterly basis. Furthermore, it should also be noted that the optimal portfolio is one that lies at the point of tangency between the efficient frontier and the CML as depicted on Figure 1. These diversified optimal portfolios are then compared with actual unit trust portfolios for the quarter. This technique is known as back-testing (Guertler & Mendi, 2001).

4.4.4. Portfolio Comparison and Criteria For Out-performance

To compare portfolios at the end of each quarter, the Sharpe ratios which measure portfolio performance have been computed. This ratio is calculated by dividing the excess return of an investment by its standard deviation. The higher the Sharpe ratio, the better (Israelsen, 2003). In instances where two funds have identical excess returns, the fund with the lower standard deviation exhibits a superior performance (Akeda, 2003). The Sharpe ratio produce a relative measure that can be used to rank portfolios and provide a basis for assessing out-performance (Reilly & Brown, 2003).

Furthermore, the Sharpe Ratio encapsulates the fund managers' efficiency on the one hand and the market climate within which the funds are invested (Scholz & Wilkens, 2004).

It is, however, also believed that the Sharpe Ratio does not offer a reasonable ranking of funds in the bear markets (Tinic & West, 1979; Jobson & Korkie, 1981; Israelsen, 2003).

4.5. Data Reliability

According to Leedy & Ormrod (2001), reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured hasn't changed. The data for the study is the actual historical data from McGregor BFA, and is deemed to be reliable.

4.6. Validity and Reliability

4.6.1. Internal Validity

According to Leedy & Ormrod (2001), internal validity refers to the extent to which the researcher is able to draw “accurate conclusions” from the study. This involves reducing the possibility that the research results came due to reasons other than those concluded in the study. To ensure internal validity of the study, historical data has been used for the analysis. Three categories of unit trust funds will be used to ensure that the results are consistent.

4.6.2. External Validity

External validity refers to the extent to which generalizations into other areas can be made from the results of a specific study (Leedy & Ormrod, 2001). This research can be used to assess a fund’s ability to outperform other funds. One of the goals of this research is to provide a basis for questioning current practices and assumptions associated with unit trusts performance. It could, therefore, form a basis for a change in the way that fund managers’ construct and periodically review their portfolios. The success in constructing optimal portfolios lies in being able to use available quantitative / mathematical tools and techniques.

Even though quarterly portfolio have been analysed over a five year period, further research may need to be undertaken prior to generalising the results to the entire unit trust industry.

4.7. Limitation

The following limitations are foreseen for the study:

- Historical data may not provide a basis for predicting a share’s future potential due to phenomena that Bjork & Naslund (1998) call ‘estimation risk’ and ‘learning’;

- The Sharpe ratio produce a relative measure on performance of the different portfolios without providing certainty on whether the differences are statistically significant (Reilly & Brown, 2003),
- The study ignore transaction costs associated with investing,
- Quarterly portfolio returns will exclude dividends, and
- Residual correlation between some of the unit trust funds due to common holdings (Elton, Gruber & Blake; 1999).

5. PRESENTATION OF RESULTS

Figure 2, 3 and 4 depicts the historical risk-adjusted quarterly returns for the Financial & Industrial, Mining & Resources, and Large Capitalization unit trust portfolio for the period 1999 to 2003. In accordance with the research proposition, the optimal market portfolio on each of the three categories consistently has the highest risk adjusted returns as measured by the Sharpe ratio. The three optimal portfolios also have lower volatility as indicated by the smoothness of their returns' line (Nawrocki, 1999).

5.1. Financial & Industrial

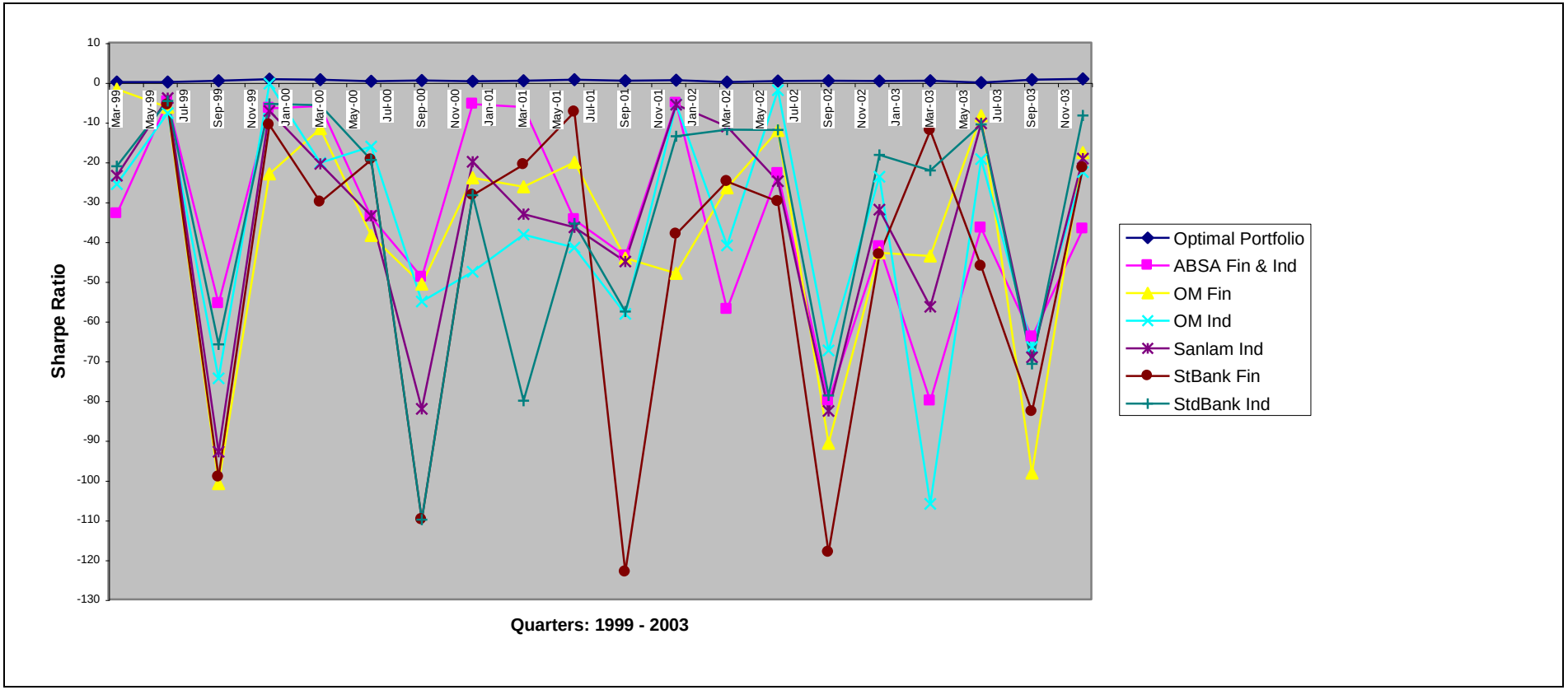

Figure 2: Financial & Industrial Risk-Adjusted Returns

5.2. Mining & Resources

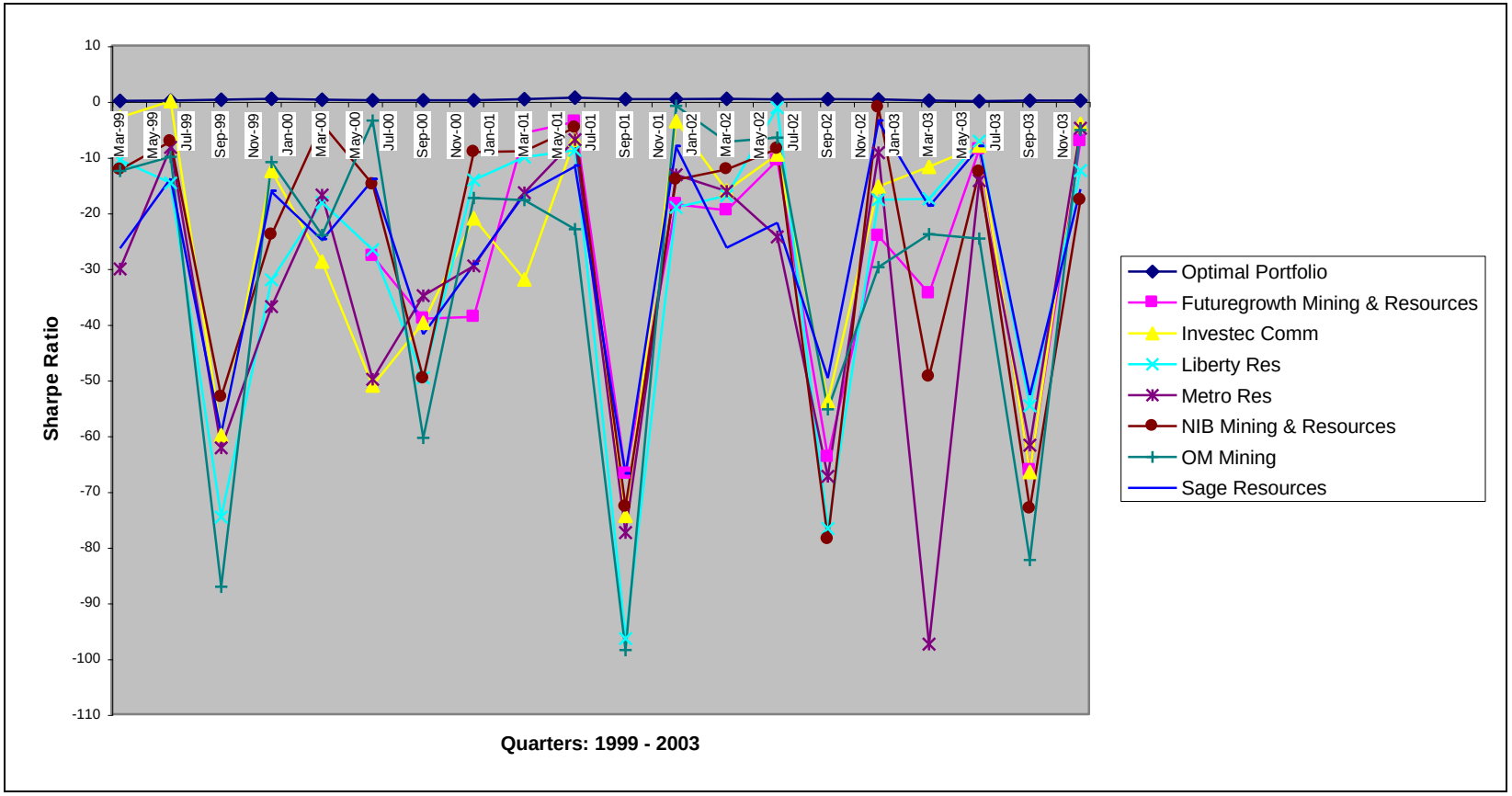

Figure 3: Mining & Resources Risk-Adjusted Returns

5.3. Large Capitalization

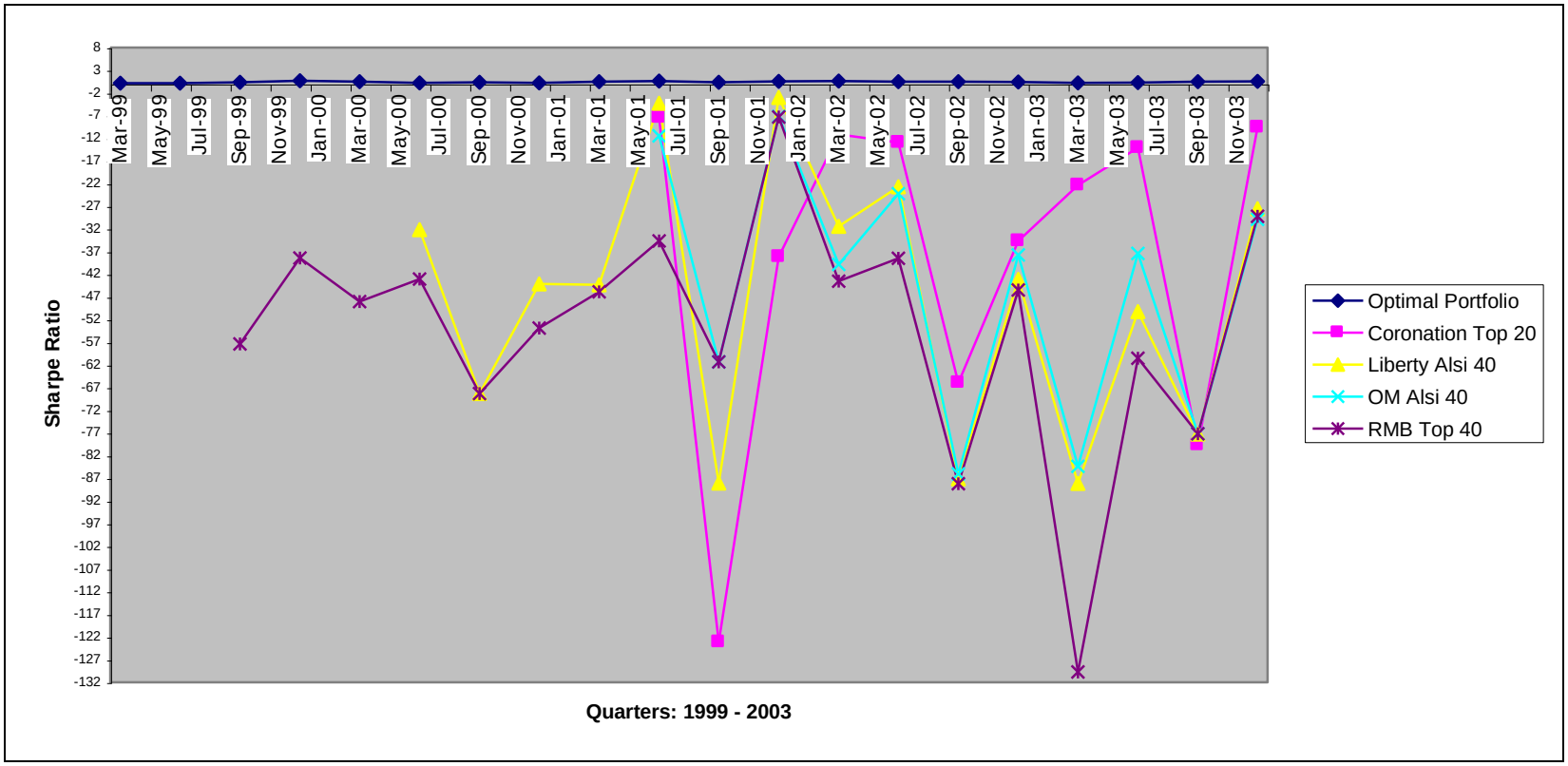

Figure 4: Large Capitalization Risk-Adjusted Returns

6. INTERPRETATION OF RESULTS

The aim of the study was to investigate whether an optimal market portfolio outperforms existing unit trust portfolios held by fund managers. The study also sought to determine whether prior planning and evaluation of investment alternatives could be an effective mechanism to mitigate the impact of volatility in the financial sector and help fund managers provide higher level of portfolio returns.

Furthermore, the research attempted to bridge the gap between theory and practice of portfolio management. This would also provide a basis for questioning current practices and assumptions associated with unit trusts' performance.

The findings, as depicted by the three graphs in Chapter 5, are discussed below:

6.1. Existing Unit Trust Funds

All existing unit trust funds reviewed, as shown on Figure 2, 3, and 4, have showed much greater levels of volatility over time, with the Standard Bank Financial Fund, Old Mutual Mining Fund, and Coronation Top 20 showing the greatest levels of volatility. This could be construed to highlight the high risks associated with investing in unit trust funds. This is the case, despite views from fund management companies that present unit trusts as appropriate investments for risk averse investors and also an opportunity to diversify.

Furthermore, the results also confirm Merton (2003)'s assertion that the investment profession has developed the tools, but too often, fund managers rely on static one-period analyses when considering how best to handle the returns and risks of clients.

6.2. Optimised Unit Trust Funds

Figures 2, 3, and 4 show optimised portfolios with consistently low levels of volatility. All three optimal portfolios have sharpe ratios which revolves around zero, which is lower that that of the other portfolios.

From the results presented, it can be inferred that the use of efficient frontier method in portfolio selection provides measurable benefits of diversifying funds for portfolios invested entirely in equities.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. Summary

This project report determined the appropriateness of using the efficient frontier to construct an optimal unit trust portfolio. The aim was to investigate whether an optimal market portfolio outperforms existing unit trust portfolios held by fund managers.

The study found that the method provides consistently superior Sharpe ratios for the optimal portfolios compared to those of existing unit trust portfolios over the five years, quarterly periods reviewed.

It can, therefore, be concluded that the efficient frontier method would help fund managers construct optimal unit trust portfolios.

7.2. Recommendations

This report indicates that fund managers can make use of efficient frontier techniques to generate superior returns and gain competitive advantage over their colleagues.

The principles, concepts and tools highlighted in this report can be used to enhance the returns of unit trust funds.

7.3. Suggestions for Further Research

This body of research would benefit from work in the following areas:

- The use of target share prices in constructing an optimal unit trust portfolio.

- Quantitative research to determine the ability of actively managed funds to outperform their passively managed counterparts.

- Mean variance analysis as a tool to develop a diversified portfolio across different asset classes.

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APPENDICES

Table 1: Domestic Financial & Industrial Equity Unit Trust Funds

Code	Fund	Inception Date
ABSF	ABSA Financial and Industrial Index Fund	10 Nov. 1997
OMIT	Old Mutual Financial and Industrial Fund	21 May 1990
SBAF	Standard Bank Industrial and Financial Fund (A)	07 Jan 2001
SNIT	Sanlam Industrial Trust	03 Aug 1966

Table 2: Domestic Large Capitalization Equity Unit Trust Funds

Overall Rank	Fund	Inception Date
CNAT	Kagiso Top 40 Tracker Fund	01 Aug 1997
CNTF	Coronation Top 20 Fund	10 Jan 2000
LBFT	Liberty ALSI 40 Tracker Fund	13 Mar 2000
OMSA	Old Mutual ALSI 40 Fund	03 Jan 2001
RMBT	RMB Top 40 Index Fund	18 Jun 1996
SNXT	Sanlam Index Trust	15 Oct 1965

Table 3: Domestic Mining & Resources Equity Unit Trust Funds

Overall Rank	Fund	Inception Date
CCGF	Coronation Resources Fund	01 Oct 1999
INVC	Investec Commodity Fund (R)	07 Mar 2000
LIRA	Liberty Resources Fund (A)	01 Jan 2001
MTRR	Metropolitan Resources Fund	01 Oct 1996
OMTM	Old Mutual Mining & Resources Fund	01 Jun 1987
SAGR	Sage Resources Fund	08 Jan 1997
SNFT	Sanlam Resources Fund	01 Oct 1998
STNM	Futuregrowth Core Mining and Resources Fund	01 Sept 1998
SYMR	Nedbank Mining & Resources Fund	30 Sept 1994

Table 4: Quarterly R150 Bond Yield for period March 1999 – December 2003

Date	R150
25-Mar-99	14.33
24-Jun-99	14.39
30-Sep-99	14.39
30-Dec-99	13.14
30-Mar-00	13.31
29-Jun-00	13.77
28-Sep-00	12.99
28-Dec-00	11.95
29-Mar-01	11.38
28-Jun-01	10.48
27-Sep-01	9.98
27-Dec-01	12.1
28-Mar-02	12.42
27-Jun-02	11.84
26-Sep-02	12.28
26-Dec-02	11.1
27-Mar-03	11.03
26-Jun-03	9.325
25-Sep-03	8.785
25-Dec-03	7.995

Table 5: ABSA Financial & Industrial – Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AAA				165	470		442	415	382	314	335	302									
ABC –DEL	12	7				7															
ABI	207	212	328	284	348		94	86	107	67	82	74	78	76	44	38	43	41	35	39	30
ABL	384	403	418	185	248		72	53	44	62	75	64	58	30	41	36	38	39	36	42	55
ABR		26	14	16		26	14	16													
ACR							50	16	12	6											
ADC -DEL	82	91	103	77		91	103	77													
ADH	34	31	19	20	13																
ADL	1	2																			
ADR										4	4	4									
AEG				123	172		50	54	56	41	33	34	34	35	40	44	50	42	43	42	44
AFB	144	257	272	208	322		94	98	97	93	100	85	70	55	75	60	66	49	46	43	49
AFE	41														38	41	46	41			44
AFI	209	211	223	117	165		49	38	22	39	35	33		15	30	22	29	26			
AFR	23	30	30	21	26					22	3	4	27	22	42	41	45	32	21	27	28
AFX	79	107													43	43	47	43	30	32	39
AGR -DEL	1																				
AHH			14	14			3	3	4	8	8	10	11	18	33	33					
AHV	170	167	183	121	116	167	183	121	116	10											
AIH –DEL		68				68															
ALT	42	54	54	46	48		19	27	29	27	35	28	36	33	35	34	38	31			
ALY	15	33	19	17		33	19	17													
AMA										4											
AMB	101	137	104	40	42	137	104	40	42												
AME	42	45	36	19	34																
APK	2		64	46	40																
APL							9	12	10	23	27	28									
APN		48	27	22	31		52	55	43	41	54	59	34	36	38	34	39	34	28	32	45
APP							3	3	3	13	13	17									
APX –DEL	7																				
AQL		42	50	43																	

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ARL											6	7									
ARO -DEL																					
ART																					
ARX -DEL	52	50				50															
ASA	692	732	837	576	620		209	223	232	280	296	291	295	173	188	172	183	171	160	157	192
AST -DEL	50	100				100															
ATS	1																				
AVI	115	119	192	101	109		59	72	74	37	38	43	47	51	65	66	71	60	55	61	62
AVS	110	155	171	144	45	155	171	144	45	5								17	19	20	15
AXA -DEL	266000	250250	271250	202125	119025	250250	271250	202125	119025									17	19	20	15
BAT	131	143	127	73	100					23											
BAW	170	249	261	221	331		123	133	144	156	146	120	164	143	164	153	109	86	113	119	133
BDE																					14
BDEO																					1
BEG	14	14	61	10	10		10	10	10	10	10	10									
BEL										14											
BJM	87	115	164	126	154		24	20	15	4											
BLL -DEL			69	24	6		69	24	6												
BNT	10		69	24	6																
BOE -DEL	443	639	697	512	571	639	697	512	571	108	115	98	111	69							
BPP -DEL	19																				
BRC							14	20	19	21											
BRM	21	20	21	32	39		32	32	35	46	50	43									
BRN	23	36	14	6		36	14	6		5	2	2									
BSB	6	8	7	8	7																
BSR	4	6	8	6	5																
BTG	14									15	18	16									
BVT	416	501	503	400	648		178	189	173	170	192	165	174	143	177	164	173	153	125	120	115
CAN	40	40	40	44	48		39	51	54	63	49	49	33	29	48	46	45	42			
CAS -DEL	107	110	105	128	154	110	105	128	154												
CAT	50	73	66	63	69		6	5	5	5			33	25	26	25					24
CCH -DEL	44	59	46	36	41	59	46	36	41												
CEN	21	59	46	36	41																

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
CET -DEL	3	3				3															
CFC																					
CGS -DEL	230	285	299	292	428	285	299	292	428												
CGU -DEL	51	46				46															
CHT -DEL	11																				
CLC -DEL	19	23	17	18	25	23	17	18	25	27	32	37									
CLE							14	15	15	5											
CLH	5	6	6	6	7		5	6	6												
CLT -DEL	18	30				30															
CML																			13	10	13
CNC	1	1	1	1	1																
COM			15	14	20		12	9	9												
CPA	43	48	19	12	116								10								
CPB -DEL			20	17	61		20	17	61	12	8	5									
CPC -DEL					15				15	6	6	5									
CPM -DEL	65	47	48	27	31	47	48	27	31												
CPS -DEL	6	8				8															
CPSD	14																				
CPT	100	130	91	78	107		15	15	14	37	37	37		21							
CPX	562	565	448	482	511		68	59	47	43	48	48	50	30	39	25	26	29	14	19	22
CRH	115	145	186	138	203	145	186	138	203	29	33	28	26	22							
CRK -DEL	32	22				22															
CRM	4	5					4	4	4												
CRN	138	169	217	162	243	169	217	162	243	38	44	37	45	40	39	35	36	36			
CRS -DEL	46	59	36	19	18	59	36	19	18												
CRX -DEL	14	14				14															
CUL	29	16	12	4	4		3	3	3	2											
CXT -DEL																	64				
DAW	19	13	10	12	9																
DDT	589	645	629	562	939		891	1061	857	552	524	158	241	141	101	44	59	29	40	46	68
DEL	83	112	10	8	67		11	14	15	16	9	8	44	31	54	52	54	44			
DLF -DEL	78	139	74	94	97	139	74	94	97												
DLV			7	8	12		9	8	7	34	36	31									

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
DNA							14	13	10												
DNL -DEL																					
DST			23	21	38		14	14	22	38	39	49	31	27	54	48					
DSY			23	21	38		73	79	77	58	62	59	48	38							
DTC	175	344	314	199	393		94	110	72	33	44	21	34	26	27	10	11	6			
ECO	53	34	143	149	238		48	27	19				23	22	33	34	46	45	36	45	51
ECR -DEL									3	13											
ELH	37	71	70	68	109		6	5	3	42	41	43					36	35	25	28	19
ELR	9	7	8	12	9																
ENV																					
EPW -DEL	34																				
ERM	56	91	68	48	34																
ETN -DEL	13	16	41	36	48	16	41	36	48												
FAM -DEL	49	43			57	43			57												
FBF -DEL	44	36				36															
FCS -DEL	6	7	6	6	7	7	6	6	7												
FDS -DEL	323	351	445	281	360	351	445	281	360	44											
FIN -DEL	44	60	86	57	62	60	86	57	62	12											
FIT -DEL	164	162				162															
FLX -DEL																					
FNC -DEL																					
FOM	12																				
FOS	120	200	201	211	140		75	72	43				27	21	28	32	36	34	32	36	43
FRO							36	23	11	3	3	1									
FSC -DEL							20	21													
FSH	1	2	40	35	15																
FSR	1412	1300	1340	1204			541	542	650	526	579	501	501	413	355	303	342	302	296	283	345
GBL -DEL	14	6			87	6			87	8	9	8									
GCH -DEL	75	43	41	27	45	43	41	27	45												
GDF		27			17		16	21	22												
GDL -DEL	1																				
GLH -DEL			13	12	13		13	12	13												
GMB	42	39	54	46	57		42	40	37	28	35	39									

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
GNK			30	20	26		42	40	37	26	39	54									
GRC -DEL	12	12	11	17		12	11	17													
GRY	101														17	18	19	22	12	11	12
GSC -DEL	258	344	396	283	326	344	396	283	326												
HCH -DEL	31	48	61	52		48	61	52													
HDC		25	36	34	43																
HDG -DEL	72	62	58	58		62	58	58													
HLH -DEL	47	43	32	48	50	43	32	48	50	16				22							
HOR -DEL	53	25	19	17		25	19	17													
HRL -DEL	22	20	25	20	26	20	25	20	26	3	3	3									
HVL	95																				
HVN	11	6				6															
HYP	40	46																			
IDI							29	33	20	3											
IDW -DEL	31	52				52															
IFS -DEL	19	24	12	7	5	24	12	7	5												
ILV	59	59	63	66	70		23	24	23	35	54	55	42	39	38	37	38	32	22	22	20
INL	660	756	810	624	675		240	243	265	187	313	213	207	144	95	73	45	31	39	39	51
INP																126	102	68			95
IPL	237	334	406	358	460		174	179	190	158	174	141	158	108	139	122	138	125	107	114	121
IPR	2																				
IRV -DEL	25	25	22	27		25	22	27													
ISC	960														88	81	85	51	45	57	81
IST					9																
ITT -DEL	14	20	37	29		20	37	29													
IVS -DEL	16																				
IVT	5	6	18	18	21																
JDG	65	103	92	85	132		68	72	60	50	56	52	38	20	24	22	29	28	38	45	63
JNC	154	218	219	219	400		200	201	176	113	116	89	87	81	105	76	114	110			
JSC							9	9	6	3											
KER	107	17	22	16	20		3	3	45	43	50	35	34	26	32	26	29	29	32	38	34
KGM					13		42	50	46	60	53	52									
KIR	7	6																			

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
KNG	16	9																			
KOS	147	210																			
LAF	98	98	83	80	59	98	83	80	59												
LBS -DEL	305	315				315															
LBT															277	273	268	266	239	226	216
LFS -DEL		20	25	24	19	20	25	24	19												
LGB -DEL	7	9				9															
LGL	879	829	816	496	614		229	225	240	198	189	170	193	174	95	89	93	79	71	66	76
LON	269	378																			
LOT -DEL	447	493	374	232	339	493	374	232	339												
LSR -DEL																					
LST	47	65	67	45	54		29	10	4	4	4	4	4	4	4	4					
LTA -DEL	46	59	65	80	108	59	65	80	108												
LTH -DEL	4																				
MAF	78	90	100	115	84		69	71	69	66	67	65	56	48							
MBT -DEL	95	266	247	266	452	266	247	266	452	4											
MCC	9	11	11	13	23	11	11	13	23												
MDC	23	26	38	39	30		18	23	24	8	8	10	38	25	33	32	32	31	18	20	27
MDM -DEL	3	3				3															
MEB -DEL				17	20			17	20												
MET				17	20							60	71	43	51	45	49	42	48	45	55
MET -DEL	179	238	258	199	312	238	258	199	312	60											
MGX	97	140	117	95	118		48	34	17	13	4	3									
MHH -DEL	164	314			326	314			326	61	68	29	39	16	30	31					
MLB -DEL	83	118	131	126	14	118	131	126	14	24			28	22							
MMD -DEL			57	11	11		57	11	11	11											
MNS	19		28	28	39		28	28	39	6			18	18	22	22					
MNX -DEL	40																				
MOL -DEL	37	41	28	9	7	41	28	9	7	1	1	1	1								
MPC	24	49	55	54	43												30	23	17	20	23
MRB	8	7																			
MSM		7								34	36	48	40	28	42	47	37	35	34	41	49
MST	24	32	29	20	22																

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
MTC	134	165	196	188	268		70	69	17	20	27	26	48	36	51	51	48	36	49	44	52
MTK -DEL	42	38	36	37	61	38	36	37	61												
MTL					28		19	14	13	6											
MTN	149	184	471	457	903		730	644	562	380	378	270	269	250	135	95	141	138	189	231	330
MTP															16	16	18	20			
MTR -DEL	2	2			35	2			35	380	378	270	269								
MUR	23	19	22	31	34		13	14	12	52	26	30	37	34	65	76	39	33	34	41	42
NAI	1655	1256	1178	806	1082																
NAN	5612	5534	5534	3742	5363	5534	5534	3742	5363												
NCL	127	176	200	174	123		43	42	43	32	35	28	24	20	32	26	29	23	14	18	20
NDS -DEL	2	2				2															
NED	942	1294	1241	1073	1023		478	521	574	430	467	390	385	316	191	163	167	132	127	98	88
NIB -DEL				33	36			33	36	60	71	70	71	51	27	23					
NMB -DEL	23	29				29															
NPK	161	230	301	250	329		93	85	71	49	53	49	54	68	108	105	111	90	73	74	78
NPN	92	120	145	114	234		107	112	58	51	76	35	40	18	32	32	80	66	73	79	116
NTC	96	127			89		5	5	6	8	11	12	123	46	55	51	54	50	49	59	61
NTL -DEL					10				10												
NWL	49	68								6	7	6									
OCE	22	16	21	18	23		9	10	11	13											
OHA -DEL	20	9	3	2	2	9	3	2	2	2	2	2									
OML				1572	1762		713	822	941	782	803	659	689	674	646	522	545	433	401	385	418
OMN	33			1572	1762																
OZZ	32	30	47	49	51	30	47	49	51												
PAP	7																	35	17	17	18
PCN											2	1									
PDM	36	45	22	6	6	45	22	6	6												
PEP	50	65	59	48	260	65	59	48	260	8	9	15							24	32	46
PGH -DEL				29	31			29	31	40	46	44									
PGS -DEL	121		13	18			13	18													
PIK	52	39	54	45	177		92	102	116	101	87	77	70	60	61	62	36	33	28	30	36
PIM	52						19	22	15	8	3	2									
PIN -DEL	110																				

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
PKN	91	124				124															
PLG -DEL					11				11												
PMA		39	72	53	59																
PML	138	51	73	94																	
PMN	46	43	32	25	27	43	32	25	27												
PMV	45	46	41	24	25																
PNR -DEL																					
PON	1811	3474	3422	3326	5011	3474	3422	3326	5011	443	218	140									
POR -DEL	4	3				3															
POW -DEL	47	55	81	48	61	55	81	48	61	5											
PPC	94	99	8	8			51	51	55	67	69	62	57	38	38	39	51	45	20	23	29
PRT -DEL					13				13												
PSB -DEL	57	71				71															
PSG	35	57	59	40	122																
PSL -DEL	68	21				21															
RAD -DEL	99	127	104	70	32	127	104	70	32												
RAG	6	6																			
RAH	209	197	160	90	116				14	35	36	33		18							
RBV	97	133	118	85			43	43	34	24	30	23									
RBW	2	2	9	5	5																
RCH	175	213	222	229	267		135	155	145	118	132	112	1395	1538	1326	905	970	668	615	691	760
RDS -DEL	7																				
REM								292	353	298	355	366	400	341	423	403	378	314	288	261	318
RGL					74				74	38	5	5	5	5	5	5	5	5			
RHW	10				74																
RLO	77	81	80	76	80		64	72	83	41	54	48	62	45	54	53	57	50	48	46	59
RLY	23	47	33	41	27																
RMH	307	293	439	402	426		145	145	168	163	196	167	171	124	116	101	110	100	89	89	110
RNS -DEL					27				27												
RNT	55	51	76	26	17		4	3	17												
RTN					34		22	17	12	13	10	11									
SAB	1436	1551	1536	1495	1552		542	524	570	534	596	541	790	754	965	832	720	594	478	517	619
SAE	47	41	42	45	45																

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
SAP	206														421	351	332	267	199	202	200
SBK	949	817	1534	1477	1159		501	525	593	541	606	533	532	454	512	459	482	434	453	442	478
SBO					84		43	44	44	45											
SBV																					
SCG -DEL																					
SDG -DEL	70	77				77															
SEM -DEL									16	15											
SFR -DEL	118	79	80	90	74	79	80	90	74												
SFT	58	79	78	58	91	79	78	58	91	1											
SFW -DEL	8	8	13	9	9	8	13	9	9												
SGG	78	80			116		46	40	29	36											
SHF			128	132	195		75	80	83	61	65	72	98	83	74	61	65	46	55	59	54
SHP	148	162	122	96	132		54	59	103	42	36	39	40	41	49	41	45	36	41	49	59
SHV -DEL	6	5	7	6	8	5	7	6	8												
SIB -DEL					22				22												
SIS	31	2	4	3	4		5	7	10	40			27	9	27	27	32	38			
SLM	603	551	628	575	761		272	282	325	288	349	298	291	226	277	242	245	196	176	192	221
SLU -DEL					4				4	10	4	3									
SMR	6																				
SNT	108	5					40	41	43	47	54	49	51	53	30	26	26	24	15	17	22
SOL	544																				
SPG	105	140	130	85	119		57	44	38	53	65	63	48	23	30	25	27	24	20	24	28
SPR -DEL	4	6	9	8	6	6	9	8	6												
SPS	130	174	146	85	100																
SRN										4	4	4									
SRV -DEL										11											
SRY -DEL							6	6	7												
SSA			20	15	27		7	7	10	7	5	3									
STK	77	92	83	74	70		19	13	4	1											
STO	64	70	54	26	21																
STS -DEL	2	1				1															
SUR										5	1	1	1								
SWL							8	8	11	3	4	4									

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
SYC	7																	24	10	10	10
TBE	46	58	35	25	13	58	35	25	13	13	13	13	13								
TBS	307	300	396	361	384		134	125	144	116	138	129	128	120	133	138	168	135	93	96	111
TDH									9												
TDL -DEL	92	135	121	65	16	135	121	65	16	4											
TEM -DEL	62	70	71	90	108	70	71	90	108												
TGN	50	49	70	75	88		36	45	68	69	42	26	83	44							
TIW	74	74	85	56	46																
TKG																		87	58	66	104
TLJ -DEL	11	15	13	14		15	13	14													
TMT			26	21	20		91	130	34	1											
TNT	137	127	131	123	184		52	61	67	78	74	74	70	60	39	40	38	28	18	19	18
TOC -DEL																					
TOY -DEL	41	40	37	32	39	40	37	32	39	16											
TRE	31	22	25	23	13									9							
TRT	34	43	45	39	34		22	27	28	36											
TRU	12	23	22	20	25		43	41	29	8	9	9	33	26	60	58			44	46	38
TSC	7																				
USV	40	33	35	26	30		5	7	6	17									15	16	17
UTR	62	65	70	76	101		46	46	42	45	50	47									
VLE	1	1	29	27	25																
VLX -DEL	7	7				7															
VNF	758	933	1009	917	974		449	173	138	101	110	103	124	107	105	97	106	91	89	90	112
VTR -DEL	3	3				3															
WAC -DEL	59	79	84	81	91	79	84	81	91												
WBO																					
WHL	47	83	168	157	154		52	50	45	48	55	57	55	41	57	60	67	66	51	54	64
WLN	108	174	5	5	104	174	5	5	104	5	6	7		23	2	1	1				
WLO	23	37	32	32	29		5	6	4	4	5	5	24	22							
WPH -DEL							5	4	5												
ZLT					50		29	22	12	9											

Table 6: Old Mutual Financial - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABL	29056	48594	42012	18640	37740										7440	6510	9831	4864	3658	4278	
ADR																					
AFB							12709	13186	13322	9644			9815	13248	18650	14873	16466	14546	14194	13291	5762
AFI	6571	7665												2200	2172	1591	2080	1912			
AHV	6102	6515				3084				688											
AMB					10715	4750															
APL	12524	7385																			
ASA	83510	86642	34295	23600	19880	42481	24167	25766	25338		32706	32188	20566	28494	24779	22665	16847	19937	19655	19275	18598
AXA -DEL	15646880	38845950	111913100	83393310	137773680	87855680				109	85	24									
BAT	47046	49002	15591	8977										3870	4590	4185	3825	2925			
BJM	4743	6353	9070	7003					484		969	833					310				
BOC -DEL			68024	46724	59889	36300															
BOE -DEL	29201	33576	6314	4640			16229	17240	21675	19393	24836	21036	16133	8938							
CLE	1367																				
CPA																					
CPB -DEL						5980															
CPC -DEL	6841	5308																			
CPT	44785	43050	36436	31318	36802	31907	8490	8490	6032	14035	10207	10047	7765	7576	8290	7152	7766	7287	6782	6534	7967
CRH	4758	7070																			
CRN	28408	39304	30439	22648	35054	44657	19245	17884	14881	7728	8927	7526	7608	7703							
DCL -DEL	3366	7152																			
DEC			37966	24298	24298	27599	17542	14069	13171	10177	10696	12583	8787	6659	7483	5418	2793	2315	1723	1668	
DSY							8634	9364	10233	8776	9471	8950	6951	9193	7696	8765	6087	5182	14393	17388	15401
EQX -DEL	1320	1118																			
ERM	43904	67270	41733	29470	26423	12683	17387	8816	1937	1257	2378	2378	2230		1467	723					
FBF -DEL			1187	816	327	327					327	327	327	327	327	327	327				
FDS -DEL	10084	25447	45759	28870	21087																
FIT -DEL	3922	3882																			
FSR	47389	64619	78928	70921	66870	90545	40716	40774	33864	28776	20302	17567	23564	28832	18760	16038	12823	16200	18418	17598	25963
FVT													293	147							
GCH -DEL	16322	20967	21419	13803	22133	19515	14168	218	218	218	174	174									

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
GSC -DEL		1151				37703															
HCI																					
IFS -DEL																					
INH -DEL	17299	41128	67488	51376	60888	45270	23876	23852	55413	41416	37301	25192	22701	14656							
INL	3500	4351				7988	7365	7455			5736	3907	3200	2588				1943	7481	7443	6400
INP																8310			1384	1377	1939
LBH		6315			12642	11148	12250	11830	12600	11978	18176	16502	8556	4680	8153	7778	9096	4399	4416	4364	2847
LBS -DEL																					
LBT																		942			
LGL		7640	23404	14230	30208	40811	10131	9943	17622	5037	12699	11409	7287	17496	30139	28040	28592	17676	17172	15882	15896
MAF											6372	6124	5263	5753							
MBN	2565	1794																			
MEL											19	15	21				1771	1665			
MET												10626	11896	12256	33046	29112	20712	11536	12232	11512	12264
MET -DEL					6576		16936	16209	28175	15156											
MOB	256	165																			
MTL						2459															
NAI		1296																			
NAN	238837	575930	499768	337871		190002	291929	276474	315970	328297											
NED	69858	68013	81103	70130	57861	62384	51792	56447	11132	11813	11218	9372	13289	8584	32916	27964	25312	6937			11103
NIB -DEL					16633	24187	12998	11779	10967	12872	15624	15364	13740	7593							
OML				64386	83190	77196	52060	60042	38196	50204	15620	12831	13413	12490				10427	18700	17938	17074
PGR			44946	20829	22299	26908															1100
PSB -DEL	15102	18927																			
PSG	7364	11980									1814	1664	1535	636							
PTR -DEL	16250	17500																			
QUY			9960	5600	2600	1688	910	492													
RAD -DEL		2745									2977	4624									
RAH	2873	4210																			
RAI -DEL	23232	21207																			
REM															6246	5942	4952	4116			
RMH		537	3554	3258		13374	14182	14182	15809	22906			3623	2656	7466	6541	4506	4092	12141	12027	14900

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
RNT	2671																				
SBK		4025	25039	24098	48606	80549	33125	34688	51240	44218	44313	39010	39420	39082	27647	24796	27647	22181	21319	20799	32485
SBO		5501	13242	10806	15963	39490															
SGG																					
SIB -DEL																					
SLM		10680	74289	68055	58038	56409	38592	39989	42969	28303	26370	22510	29861	36190	28098	24532	27939	21865	12853	14010	538
SNT																					10280
SPG	1346																				
TBE	178	7449	4493	3193	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655			
UNF -DEL	8580	6461	13623	6788	1049	5982					429	519	434	31							
VTR -DEL																					
WPH -DEL		4163					7300	5600	7100	6440	5544	5463	5218	3000							

Table 7: Old Mutual Industrial - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABI									3298												
ABL	20000	18900	144	64	7184																
ADR	4995	7909	7300	6039	6442	9247	8015	8169	6808	5314	5832	5339									
AEG				2888	5171												3000	2520	1320	1275	
AFB						9671	24729	25656	20591	16706	8639	7347	6385	3610	3739	2982	4278	3174	3373	3159	1770
AHV																					
APK																			78	93	140
APL																					
ASA	16249	8850	175	121	12090	10469	23087	24614	25692	22470	19644	19333	18217	11694	9468	8660	6320	5880	9136	8960	9769
AVI		3850	4505	2365	4640	4905	9359	11503	11813	12124	10838	12110	9966	6934	5096	5203	5576	4723	3169	3511	
AXA -DEL																					
BAT	3810	4153																			
BAW	678	2280	12528	10584	15948	17753	22680	24640	21420	18620	15982	13122	15661	11609	11108	10403	10088	6157	6016	6351	7000
BDEO																					43
BEL																					
BJM	3175	5480																			
BOC -DEL			2664	1830	4848	14340															
BOE -DEL							7700	8180	4470		3745	3172									
BVT	10125	10851	11821	9382	22510	23972	30669	32439	21855	17913	20576	17640	11978	9374	11858	11007	9035	8011	7774	7512	6849
CAS -DEL						7728	15008	12261													
CGS -DEL		3300	7808	7605	14850																
CHE																					
CNC																					
CPA	1230	2833	2663	1731	2164	2068															
CPB -DEL	1399	2174																			
CPX	13847	13934	11008	11848	14641	3957	4059	3550	2836												
CRN	16152	18120	23260	17307	26034	26800	30899	28713	20920	10199	6050	5100	5040	3059							
DDT	15105	16555	16132	14410	23576	39972	45196	53816	25989	13183	7713	2325	5760	2751					331	376	502
DEC		643	5233	3349	3349	2747	702	563													
DEL															1980	1880	1960	1616	1587	1688	1027
DLF -DEL	2033	3649	3750	4780	4900	2280															

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
DLV							5800	5600	1766												
DSY							2476	2685			2713	2564	2011	2340	1959	2232	2014	1714	3458	4178	5269
DTC	20162	25362	23134	14671	33155	35682	21416	25168	14400				1320	1362	1060	392	436		1521	1946	2743
ECO					5502	7777															
ENV	1678	1788																			
ERM	6950	11360					14910	7560													
FDS -DEL	8758	9520	12071	7616	10020																
FOS																	1596	1498	2065	2261	4716
FRO						77															
FSR	14296	10205	11915	10706	31916	38922	44561	44625	53550	37000	32752	28340	28340	18160	21049	17995	17620	15561	18290	17476	19041
FVT													200	100	67	80					72
GCH -DEL	9840	11280	10800	6960	11002	9701	7690	118	118		118	118									
GHO -DEL																					
GRF														1750	1837	2809	4860	4275	3900	5175	7238
GSC -DEL	4185	6177	7647	5469	5492	5414															
IFS -DEL																					
INH -DEL	5952	6572	5550	4225	5900	5625	4925	4920													
INL	7000	8015	8855	6825	22932	21857	23785	24077	26266	20533	15709	10701	9557	5223	2539	1938	1805	1222	1573	1565	2044
INP																3427	2520	1694	2196	2185	2860
IPL	5990	8533	15620	13798	18530	19800	24884	25605	27183	24791	23200	18698	12408	7083	9120	8028	8434	7652	10792	11477	12029
ISC	10600														2860	2626	2763	1648	2941	3731	4720
ITI -DEL																					
JCM	3680	4408	9198	8750	18480	25200	17881	16167	13158	7380											
JDG					6360	5370	10800	11508						49	1513	1398	1836	1770	4212	5055	7077
JNC	3641	7879	7939	7939	14471	20099	18692	18833	14841	9297	10339	7897	7690	6102	5974	4347	3406	3301			
LBT															1515	1492	1292	1164	2527	2383	885
LGL						13750	24807	24345	25961	14311	12561	11286	11934	10259	8623	8022	9508	8038	8803	8142	7127
LOT -DEL	37400	41250	31713	19674	33919	24979															
LTA -DEL			3638	4440	6750	9711															
MAS																					
MBN	2152	1862																			
MBT -DEL																					
MGX														367							

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
MMW -DEL																					
MNX -DEL	530	315																			
MOB	1326	855																			
MPC					10500	12825			11040	8390	11373	13726	11342	7584	6461	6526	6332	4854	5804	6859	7034
MSM																	3294	3134	4410	5334	6405
MST	3336	4462																			
MTC		90					9663	9547			258	245	1471	2988	4210	4193	3924	2997	4075	3652	3710
MTN															2925	2075	7044	6889	13217	16156	23098
MUR					6858	4803	8177	9045	7930	12266	13665	15400	14191	9809	8856	10341	12160	10436	9335	11017	6730
NAI																					
NAN	173645	171233	171233	115763																	
NED	15470	16512	13600	11760	17810	17316	38726	42207	43938	28868	16918	14134	10930	8384	11967	10166	10085	7108			
NPK		4463	8000	6658	8838	11765									2740	2680	2830	2300			
NPN		7881	9523	7487	14711	22052	21195	22132	10812						2370	2396	3967	3253	6736	7319	9592
NTC											769	831	1211	910	1092	1013	1068	996	2399	2843	3509
NWL	928	1280																			
OML				15252	26010	34152	49047	56568	53940	44653	36400	29900	19821	17528	17093	13806	13572	10802	12446	11939	9197
PEP					8700	2995	4618	5245	1142						920	1093	1231	1081	1357	1840	2670
PKN																					
PMA	1998	1773																			
PMN	2045	1888																			
PON	85491	169738	201855	196187	295589	196888	297853	320192	207752	82784	38192	24443									
PPC																		2670	2999	3405	4305
PSG	2595	4221	3746	2535	7784	2488					19	18									
PTR -DEL	4857	5230																			
RAH	4710	4005	3000	1700	2150	1049															
RAI -DEL	4425	3750	3000	1923	2225	1721															
RBV	3841	5281	4291	3081	3807	11409	12801	12761	10308	1260	1523	1204									
RCH	2202	2020	1817	1876	2664	3280	5460	6300	5880	5280	4922	4190	43600	41866	36023	24597	21988	13902	16555	18594	16497
RDF																		1435	1380	1200	1200
RDP -DEL	1114	1245																			
REM								32597	39361	31222	30923	31833	33475	23028	31026	29515	26125	21715	23681	21498	18885
RLO	2973	3277													1598	1581	1679	1471	1513	1454	1853

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
RMB -DEL																					
RMH							3858	3858	4469	4030	4180	3552	3685	2821	3159	2768	2990	2716	3110	3081	3403
SAB	5598	5743												7445	14181	12215	7813	6303	10602	11465	15718
SAP																			5147	5230	4057
SBK						18360	39434	41295	44227	42777	39368	34657	34994	28100	27040	24252	23791	21424	22684	22131	19096
SFR -DEL	5950	386																			
SFT		425			2955	4864															
SHF					523	1628	7942	8485	8861	8190	7548	8303	10495	7541	7564	6244	5744	4020			
SHP	2018	2215	2048	1600	2240	1723			8492	7006	5239	5689	4521	1906	2290	1920	1033	822	931	1120	
SLM						12278	21239	22008	19613	17760	20469	17473	16687	11937	15500	13533	12954	10363	14381	15675	12788
SOL	4581	6280																			
SPG	6970	7776	4777	3122	10896	14223	13760	10710	9253	12852	16617	16040	15491	7112	1750	1425	1545	1400	1700	1980	2325
SPS	3750	5025	4200	2460	2925																
TBS															3500	3625	3570	2870	1926	1987	1479
TDH									780												
THW -DEL		5025	4200	2460	2925																
TIW	7214	1004	8226	5417	6897	4531					166	151									
TKG																		1526	2029	2294	3243
TLJ -DEL	4841	5600	4410	4860																	
TRE																					
TRU			3621	3331	51									1368	1198	1160	1330	1210	1460	1530	1880
USV	10240	11360	10780	7805	9100	10500	12180	15785	13650	5838	5977	4948	6950	7099	6836	5916	6113	5259	6354	7010	5350
UTR						6930	11845	11845	10712	11639	12038	11363	7574	4136	3516	3196	2205	1854	2140	2358	2761
VNF	5368	2618	4230	3848	15769	26929	50062	19299	15401	6820	3616	3391	4846	3619	7038	6531	6159	5316	7136	7242	7051
WHL	819	1441													1537	1628	2421	2397	2698	2881	3408
WLN			2465	2578	6071	4311	3890	4207													
WLO	2261	3642	3952	3990	4794	3586	3040	3274													

Table 8: Sanlam Industrial - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABL	12136														1491	1304	1404				
ADR							8398	8559	4072	6528	7661	7014	5045	4883							
AEG				3387	14183		7640	8218									2650	2226	3665	3540	3297
AFB	10920	16754	17707	13560	9039	17373	9864	10234	7256	9021	10658	9064	9814	3394	4109	3277	3628	2692	3300	3090	
AHV	11487	11403																			
ALT											1558	1246	1421	3668	3880	3777	4212	3449	4019	4932	4877
AMB	12850	17431	7549	2900																	
APL											1316	1380	1904	1831	1652	1680	1848	1960			
APN													1200	2975	3166	2805	4620	3942	4852	5634	6912
ASA	13546	9751	13678	9413			13253	14130	8203	11665	10689	10520	7020	3232	4822	4410	4693	5380	4515	4428	
AVI											1961	2191	2392	2622	2762	2820	3339	2828	3744	4149	6912
AVS					11265																
BAT							4719	4399													
BAW					12798		7135	7752	3866		5980	4910	8204	11267	10332	9676	9436	7372	8342	8808	12178
BDE																					1320
BDEO																					66
BOC -DEL																					
BOE -DEL	10241	14783	8764	6442	6084	10276	10688	11355	5081	6493	6856	5807	3488	1251							
BVT	12585	15078	19923	15812	11035	20148	8440	8927	9935	9708	10600	9087	8711	10676	12538	11639	12266	10876	12129	11720	10676
CCH -DEL	10769	18935	6960	5438	2944																
CGS -DEL																					
CPC -DEL																					
CPT	11406	15082			5534																
CPX	14134	12298	11472	12347	19425																
CRH					14002	15623							2184								
CRN	12904	15807	18052	13432		6203	8124	7550	2989	1778	2360	1989		2211							
CRS -DEL	8248	13546																			
DDT	15114	14373	9440	8433	12957	30601	20638	24575	20857	13000	12340	3720		430					967	1099	1463
DTC	15124	16730	10804	6852	18451	20892	10033	11791		2888					2624	970	1080				
ECO		319				7726													5760	7192	9078
ELH									4119	6391											

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ERM		17040																			
FDS -DEL			5408	3412	15093		8356	7090	4599												
FIN -DEL					1791																
FOS	4964	8284	6350	6650	13792		9593	9216	2712						1218	1386	2964	2782	4359	4772	7445
FSR	14697	5910	9174	8244		25636			11652	13275	14671	12694	12694	11153	14611	12491	11776	11427	13431	12833	
GBL -DEL						6184															
GRF																					
GSC -DEL	14500	19357	7880	5636	15861		12372	15946													
HCH -DEL					12817																
HDG -DEL																					
IDI						6624	12022	13740	2781	1262											
ILV			9310	9660	11331																
INH -DEL	15955	15709	18781	14297	13051	13713	14042	14028	11294	7428	7336	4955	4899	2890							
INL						14582			721						1871	1428	1330	900	2347	2336	
INP																2524	2264	1523	1973	1963	
IPL	7512	10574	10262	9065	16217	21148	9861	10147	10305	12576	11263	9078	10088	7925	11779	10369	9708	8807	9870	10497	14318
JCM										1287	1544	204	186	1165							
JDG			7427	6853	7175	9572	8392	8943	5273	3082	2235	2073	1952	850	2293	2119	2782	2682	8470	10164	12671
JNC					9064	16706	8717	8782	7177	8139	12608	9630	9377	8159	5762	4193	6244	4057	888	1118	1089
KER																					
KR	5250																				
LBT											1824	1884	5493	5687							
LGL	8278	7808	7591	4615			8370	8214	8908	3283	4347	3905	4847	4029	2532	2356	2471				
LOT -DEL	54085	59652	39821	24704	54470																
LST	7365	10157	6473	4337	2825																
LTA -DEL					8114																
MEL	9957	2529																			
MET												3108	2960	438			1958	3120	4285	4033	
MET -DEL					16425		5408	5176	7878	6086											
MGX		6992				3020															
MHH -DEL					8299	20055															
MLB -DEL			4802	4628																	
MPC									3397	3076	2436	2940	2850	2700							

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
MSM																					4618
MST																					1297
MTC							8199	8101													
MTN					10485	23458	5780	5102	14048	5663									6878	8408	16620
MTR -DEL	141	185																			
MUR													1460	1951	3700	4320	5080	4360	5517	6511	6064
NCL						9481	12429	12375	7999	7613	8395	6584	5734	5563	6912	5730	3514				
NED	12996	15879	17740	15340	12264	14865	17004	18533	19100	17433	9495	7932	6781	6901	4679	3975	8166	6468	4744	3668	
NPK	13087	10993	2315	1927	14544				1586								1058	860			
NPN			5205	4092	8795	16038	13967	14585	4121	2538	2714	1264	2285	1783	2747	2776	3448	2827	5434	5904	7727
NTC															2035	1888	1990	1856	2659	3151	3463
NWL		7686																			
OML				15532	17068	28807	18569	21416	24683	27073	18213	14961	15211	13052	12770	10314	10761	8564	7978	7653	
PEP						1551	2008	2280													
PIK			3386	2816	15191		4145	4639	5228	5228	1634	1443	1697	2061	2750	2803	3568	3246			
PIM							7044	8287	3242	3597											
PMA	3588	4548																			
PML																					
PON			1E+05	105507	144794																
PSG					17400	3528															
PSL -DEL	4200																				
RAI -DEL	10900	9237																			
RBV	11469	15769	4514	3241	8289																
RCH	1429	1636	2621	2706	2583	3843	2765	3190	3788	2922	2467	2100	25070	31500	21565	14725	14507	9516	13662	15345	11049
REM								12140	13825	12949	17341	17851	19501	24561	24985	23768	17827	14818	12480	11330	12256
RMB -DEL					10316																
RMH			4641	4255	14660		8527	8527					2230								
SAB	13592	15143	16278	15843		4836	6138	5932	15045	7996	8558	7773	11084	15579	17449	15030	13017	10840	5822	6296	13174
SAP																		856	3251	3303	4377
SBK	17368	14611	20229	19468	10555	25862	17089	17895	21600	22830	22831	20099	20295	13436	15903	14263	14984	14525	16794	16384	
SBO											1039	755	449	37					115	115	115
SFR -DEL																					
SFT		603	11337	8452	15334		12760	9182	3363												

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
SHF													7565	6185	6542	5400					
SHP	2226	8625	8320	6500	5903		4041	4433	5761	4362											
SLM	12318	11245	15056	13792	27509	29112	16281	16871	11969	13653	13204	11271	11031	6862	12284	10725	10868	8694	10010	10911	
SNMM											11800	11800	11800	11800							
SNT										3410	3898	3553	3822								
SOL	9740	13351																			
SPG					12720																
TBS	9877	5898	4087	3722					4409												4432
TIW			8921	5874	16564																
TKG																		2186	6394	7227	11626
TNT						7241															
TRT					9015																
TRU		7860	4471	4113	12553	8200	5797	5481	4150	3121											
USV														2079	2002	1733	2148	1848	2233	2463	4476
VNF	11610	15948	15880	14443	17311	19928	27565	10626	8480	8221	5905	5537	6896	6266	6126	5685	6164	7372			
WHL					11890																
WLO					14157																

Table 9: Standard Bank Financial - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABL		2384	1305	579	991		1852	1359	2461	4101	5814	4950	5321	4953	1140	998	1074	1013	341	399	236
AFB		767	1011	774	2056	1919	4000	4150	5248	4790	2239	1904		1174	1580	1260	1395	652	792	742	623
AFI		660							1374	1138					568	416	544	363			
AMB		761																			
ASA		274	2561	1763	2070	2294	5140	5480	7150	7621			5233	2573	1425	1304	1264	735	316	310	295
BAT		1493								2786	2849	2498		202							
BJM						624															
BOE -DEL		1475	1800	1323	3000	3309	4297	4564	6526	5512	6074	5145	5989	5670							
CDR -DEL						546															
CPI														7							
CPT		1878	748	643	1645	1350	1650	1650	1774	1612	1245	1226		855	1020	880	1085	1018	401	386	400
CRH						2010	5350	4975	6572					1302	303	270					
CRN		1147	1761	1310	1690					2521											
DSY					1305	976	1800	1952	1593	1493	1279	1208		1075	396	451	407	473	313	378	341
ERM		341	844	596																	
FDS -DEL		1230	1623	1024	1550	2063	4950	4200													
FIT -DEL		291																			
FSR		1248	4348	3907	5720	6162	9961	9975	15158	13087	6630	5737	5438	5761	2869	2453	2760	2373	825	788	946
GBL -DEL						1196															
GMB			616	520	1150	1100	1404	1320	1404												
GSC -DEL			1659	1187	1938		2160	2784													
INL		1763	3163	2438	3276	3383	6618	6699	9828	7821	4780	3256	1920	3882	1294	988	920	868	424	421	525
INP																1537	1379	1170	729	725	924
JNC			711	711	1800																
LBH		1302	1194	774	1158	1021	1575	1521	1854	503	3013	2736	4030	4800	1566	1494	1545	1288	515	508	381
LBT															277	273	236	994	429	404	232
LGL		382	2033	1236	2663	3125			5400	946					560	521	547	462	304	281	497
MAF														963	433	395	369	300	134	135	137
MEL															335	280	250	235			
MET												4143	4470	1880	1166	1027	1495	1227	666	627	719
MET -DEL					535	1295	2213	2118	5684	3400											

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
NED		1390	3839	3319	4384	5328	9968	10864	14398	11509	7616	6362	5365	6751	1685	1431	2111	1056	358	277	496
NIB -DEL						748	1600	1450	1534	1521	1356	1334		534	763	650					
OML				4536	5814	6335	9750	11245	13699	12469	9100	7475	4515	9104	2074	1675	542	1486	707	678	646
PGH -DEL														135							
PSB -DEL		434																			
PSG		251	169	114	702	299					744	682									
RAD -DEL			745	505																	
RAH			600	340																	
REM																	557	720	288	261	297
RMH		1043	1349	1237	1771	751	2626	2626	3725	4143	7458	6338	6234	7536	1845	1616	1536	1395	533	528	588
SBK		2065	3636	3499	5238	6426	10070	10545	13969	13084	9407	8282	6609	8774	2656	2382	2653	2416	1000	976	1175
SBO									1050	2881	2915	2118									
SLM		1175	2861	2621	3870	4986	8411	8715	13298	13059	9403	8027	5882	6390	1976	1725	1672	1411	602	656	405
SLU -DEL															417	480					
SNT			500	458	758	575	1846	1918	2666	2839	2296	2093	655	869	429	360	364	660	288	324	257
TRE		137																			

Table 10: Standard Bank Industrial - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AAA														347							
ABI			153	133							1408	1293	1233	1212							
ABL	8500	8400	6960	3088			1852	1359	2461		859	631		1246	480	420	486	208	620	725	1227
ADT																					
AEG				2363	3398					1788	833	896	452	209	560	606	760	638	968	935	356
AFB	1680	2990	1896	1452		1919	4000	4150	5248		1867	1937	1656	261	316	252	530	393	660	618	
AFE															318	343	548	492	752	890	1081
AFI									1374												
AFR														270							
AGI															180	172	303	242			
AHN		574																			
AHV	1980	1970																			
ALT													338		177	172	216		344	422	
AMB	2013	2730																			
APK														70				578	608	728	1095
APN															335	297	370	315	178	207	
AQL	1400	1150	1380	1190																	
ARL																					
ASA	4604	2950	6308	4341		2294	5140	5480	7150				1344	1043	747	683	774	720	966	948	
ATN	1090	2867																			
AVI										1449	1013	1245	879	819	349	357	382	324	386	428	
AVS	2925	4140	4540	3821										122	182	195	255	235	558	600	
BAT	2189													172							
BAW	1371											1100		793	252	236	274	689	349	369	1403
BDE																					124
BJM						624															
BOC -DEL										519	2	2									
BOE -DEL	1334	4950	6600	4851	4284	3309	4297	4564	6526	3829	3350	3558		762							
BSB	704	896	832	896																	
BTG	13800																				
BVT					6671					5250	4471	4728	2431	1330	667	619	1215	1077	1011	976	

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
CAS -DEL			1382	1681																	
CAT																					
CCH -DEL	2995	2074	2681	2094	1114																
CDR -DEL						546															
CGS -DEL	5073	6270	711	693	5767																
CNC																					
CPSD																		380			
CPT						1350	1650	1650	1774					201	178	154	482	255	289	278	325
CPX	3394	4377	3002	3231	3448					22											
CRH			1408	1045	251	2010	5350	4975	6572	2680											
CRN	2034	2507	3218	2394	2686						1590	1478	1182	487							
DDT	5035	5518			3142					8179	6737	8022		512	645	280			265	301	675
DLV	1547	2026																			
DSY					1035	976	1800	1952	1593								245	492	988	1194	1135
DTC	2926	3681	2485	1576	5159					5220	936	1100	5256	193	564	208		79	272	348	550
ECO		79	1501	1570														550	1044	1304	2295
FDS -DEL	5111	5555	1274	804	2105	2063	4950	4200		2329	805	683	2090								
FIN -DEL		4020	6533	4310	3368					1647											
FOS										1768	1516	1456	445	210	67	76	160	150	310	339	413
FRO	1556	2344	2370	1875						979											
FRT			522	276																	
FSR	5556	4228	5730	5149	5627	6162	9961	9975	15158	4348	4197	4203	3784		995	850	1023	904	1062	1015	2061
GBL -DEL						1196															
GCH -DEL	1599	1833																			
GMB						1100	1404	1320	1404												
GRF														308							
GSC -DEL			1896	1356	1349		2160	2784		2292	3078	3967									
ILV																	405	344			
INL	3000	2290	3795	2925	4409	3383	6618	6699	9828	3643	2160	2186		776	412	314	396	497	345	343	448
INP																556	431	404	296	295	386
IPL	1476	4200	2324	2053	5127					3962	5080	5227	2685	862	788	694	864	783	750	798	1675
ISC															352	323	776				
JCM													968								

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
JDG													280	375				800	788	945	2436
JNC	1390	1960	4068	4068	7956					7700	7440	7496	3772								
KLT -DEL	3105	2928																			
KNG	981	471																			
LAN	4148	5246																			
LBH						1021	1575	1521	1854		3220	3110	2034	1005	699	667	600				
LBT															462	455					
LFS -DEL		1414	3500	3300	810																
LGL	1343	3558	6184	3760	3834	3125			5400	3125					252	234	393		683	632	729
LOT -DEL	6453	7118																			
MAC -DEL		840																			
MAF														344	452	412					
MBT -DEL																					
MET										2271	1459	1051		311							
MET -DEL	1304	2921	2640	2036		1295	2213	2118	5684												
MGX	2475	1189												686							
MHH -DEL															80	82					
MIR -DEL	709		621	803																	
MMD -DEL	6224	6120	2744	540																	
MNY			452	172	200					380											
MSM																			945	1143	915
MTC			1500	1440	2702					2034	1622	1603	1731		500	498	536	147			
MTN											1971	1740		1091	828	588	414	1138	651	796	285
MUR															435	508	673	741	511	603	822
NAN	118800	134900	113600	76800																	
NCL	2911	1410	4073	3555	5212					4188	3680	3664	2794	118	456	378	372				
NED	5682		1926	1665	4762	5328	9968	10864	14398	5728	6266	6829	4703	1856	644	547	755	598	895	692	
NIB -DEL						748	1600	1450	1534					267							
NPK	1845	2628	1420	1182						2128	2051	1862	1055	575	518	507	481	506	316	320	
NPN	690	1500								2477	2543	2655	698	366			518	425	1300	1413	2076
NTC		2400	1920	1200										265	321	297	354	330	394	467	506
OAI					726																
OCE	1250	903	580	506																	

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
OMA -DEL																					
OML				3830	7542	6335	9750	11245	13699	9270	8250	9515	7712	2690	1001	809	1012	1045	1381	1325	1670
OMN			1800	1600																	
OZZ	1640																				
PDM	1215	1485	744	210																	
PEP	902	145	653	540	5655					1078	1179	1339									
PGR		236																			
PGS -DEL	3441	3239																			
PIK	114													464	334	341	226	206			
PIN -DEL																					
PKN																					
PMA			955	705	810					1450											
PMN	2418	2279	1709	1329	1443					1488	892	1000									
PON	59438	48224	18520	18000	32544					50736	40058	43063	21133								
POW -DEL	1264	1499																			
PSG						299															
PTH		485																			
PTR -DEL	4063	4375																			
PWN	1536																				
RAD -DEL	1123	499																			
RAG	656	630	698	399																	
RAH	6057	5710	4630	2624																	
RBV			2535	1820	2278					2106	1808	1802	585								
RCH			754	778	1688					1427	1292	1491	923	4988	3110	2124	549	751	621	698	2016
REM												3327	2457	3432	625	594	1486	983			1765
RLO											600	675	491	746	320	316	371	325			
RMH	1900	1810	998	915		751	2626	2626	3725		1710	1710	1174	2370	1248	1094	1263	1147	1314	1301	
SAB	5535	2507	3144	3060	6398					4950	4048	3912		3010	1304	1123	1216	981	1729	1870	1870
SAP															725	606	458	598	1761	1789	1638
SBK	3600	3500	6261	6025	9986	6426	10070	10545	13969	9450	7950	8325	4850	2446	1216	1091	1839	1656	1115	1088	3252
SBO									1050												
SFR -DEL	1530	1020																			
SFT	2489	2941			3004					2352	1572	1131					233	132			

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
SHF												1131		437	462	381	440	314	414	443	1124
SHP													1808	400							
SLM		1869	2145	1965	3707	4986	8411	8715	13298	5244	4486	4648	3614	1858	601	525	631	717	826	900	
SLU -DEL											770	635	581								
SNT						575	1846	1918	2666		568	590	496	381	160	134	323				
SOL		1525																			
SPG	2861	3428	3247	2123											280	228	272		660	769	840
SPS	1486	1991	2800	1640																	
STO	1260	1380	1050	513																	
TBE	3276	3183	1276	907	470					470	470	470	470	470	470	470	470	470			
TBS			1485	1353	5254						1216	1130	488	379	700	725	714				
TDH														78							
TIW		1425													345	350	310	242	290	346	388
TKG																			814	920	521
TLJ -DEL			735	810																	
TNT			1845	1738	3016					3250	2380	2800	1259	297					669	700	
TRT	548	689	724	627													430	418			
VNF		1551	4024	3660	15822					9164	5109	1970	1138	1149	548	508	498				
WET														67	249	267	299	272			
WHL															420	445					798
WPH -DEL		1785																			

Table 11: Coronation Top 20 - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABL										4101	5814	4950	5321								
AFB										4790	2239	1904									
AFI										1138											
AGL														30615	46435	36045	31625	14742	2376	2553	
AMS														22663	28350	24780	6320				
ASA										7621			5233					8820	14407	14129	14159
AVI																		6395	10205	11309	12423
BAT										2786	2849	2498									
BDE																					921
BIL														30787	40500	36338	29895				
BOE -DEL										5512	6074	5145	5989								
BVT																					7436
CPT										1612	1245	1226									
CRN										2521											
DDT															29670	12880	13335	8415	4124	4685	
DSY										1493	1279	1208									
DUR															3009	3221					
FSR										13087	6630	5737	5438								
GFI														22410	21924	24478	25179	2501	4049	4506	2407
GMF														10650	22500	24250	21625	7000			
HAR														17826	25560	30060	24255	6900	10411	10517	7074
IMP														18874	24016	23528	21800	14516	9281	12090	13635
INL										7821	4780	3256	1920				897				
INLP																				7245	488
ISC														11851	11000	10100	12750	7604	5567	7063	6276
KMB														13132	17936	13585					
LBH										503	3013	2736	4030								
LBT														15606	16632	16380	13788				
LGL										946											
MET												4143	4470								
MET -DEL										3400											

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
NED										11509	7616	6362	5365								
NHM																	13440	3600			
NIB -DEL										1521	1356	1334									
NPK																			3645	3690	8645
NPN																			6798	7386	24951
NTC																			405	480	
OML										12469	9100	7475	4515								
PSG											744	682									
RCH														29295	21565	14725	13515				
REM														7472	29148	27728	23522	26728	31648	28730	31191
RMH										4143	7458	6338	6234								
SAB																	11552	20665	16821	18191	18077
SAP														9886	15950	13332					
SBK										13084	9407	8282	6609	19047	16000	14350	24120	21264	24705	24102	25592
SBO										2881	2915	2118									
SLM										13059	9403	8027	5882					4536			
SNT										2839	2296	2093	655								
SOL													**16380**	16380	1650	1782		23055	25458	25351	26097
TBS																		17252	20740	21396	26730
TKG																		6430	17445	19718	31363
VNF															12950	12018	12327	14385	21948	22274	21425
WHL																		14836	16698	17832	21090

Table 12: Liberty ALSI 40 - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABI															297	256	303	311	295	324	389
ABL						70	106	78	74					227							
AFB														376	731	583	667				
AGL						276	629	746	923	1253	11608	10424	20240	23008	33733	26185	25644	24908	20124	21623	26748
AMS						337	810	1153	1694	1571	5166	4317	7402	8947	5856	5119	4723	3671	2422	2632	3234
ANG						150	284	275	262	327	1053	1035	1722	2645	2033	2114	4456	3933	3114	3535	4460
AOD																	417	364			
ASA						138	319	341	411					1369	2111	1931	2123	2141	2023	1983	2608
AVG																	292	245	184	219	285
BAW						83	166	181	226	308	848	696	955	1087	1805	1690	1350	1167	1363	1439	1916
BDE																					209
BIL						590	1207	1128	1447	2244	5918	5478	10576	12397	17815	15984	15360	14582	11621	13581	18251
BOE -DEL						141	184	196	229					461							
BVT						130	261	276	295					1046	1914	1777	1936	1860	1584	1531	1698
CPX						35	76	66	61												
CRH						76									109	97					
CRN							129	120	148						468	426					
DBR -DEL						548	1264	1536	1770												
DDT						506	1245	1482	1344					1010	1120	486	706				
DTC						123	114	134	102												
DUR															1046	1119	825	564			
FDS -DEL						57	110	93	121												
FSR						385	729	730	1012					2988	4176	3570	4152	3973	3692	3528	4645
GBL -DEL						49															
GFI						93	231	199	257	383	1093	1228	2048	4714	7629	8518	7762	5906	4967	5529	5697
GSC -DEL							131	169													
HAR													863	1589	3190	3752	3542	2687	3305	3339	3563
IMP						134	319	395	564	508	1762	1389	2824	3317	3787	3710	3731	2974	3486	4542	4868
INL						188	353	357	450					1041	816	623	599	440	447	445	624
INP																1257	1165	849	870	865	1216
IPL						105	225	231	283	355	963	776	926	773	1597	1406	1636	1608	1366	1453	1838

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ISC						40					522	452	235	372	983	903	981	542	422	535	828
JDG										101	277	257		132							
JNC						145	289	292	295					589	922	671	1033	1084			
KMB													669	1185	1874	1419	1335	837	793	881	10
LBT						131	344	343	343					2173	3510	3457	3402	3322	2885	2720	3190
LGL						151	335	328	406					1223	1014	943	1033	946	819	758	940
MET														303							
MHH -DEL							140	187	105												
MTC						63	103	102	30												
MTN						377	1017	897	907					1821	1281	909	1386	1469	2393	2925	4503
NED						283	654	713	916					2348	2037	1731	2064	1772	1454	1125	1091
NPK						69	143	130	125					491	1172	1146	1251	1102	920	931	1061
NPN						104	160	168	101									860	913	992	1570
NTC																			628	744	992
OML						477	990	1142	1462					5072	7230	5839	6296	5501	5011	4807	5440
PIK														400	419	427	446	440	391	420	554
PON						893															
PPC																			254	288	381
RCH						77	182	210	226	248	710	604	8651	11392	15839	10815	11466	8149	7672	8617	10331
REM								427	555					2479	4513	4293	4160	3747	3684	3345	4381
RMH							177	177	237					954	1288	1129	1260	1240	1123	1112	1488
SAB						346	751	726	912	1099	3128	2841	5048	5563	10880	9371	8388	7333	6010	6499	8654
SAP						108	234	245	286	407	1121	1227	2181	2882	4633	3873	3781	3292	2555	2596	2779
SBK						333	711	744	951					3250	5663	5079	5514	5380	5139	5013	6623
SHF											363	399	585	562	750	619	676	534	558	596	833
SLM						198	407	422	562					1640	3048	2661	2787	2416	2199	2397	2984
SOL						222	530	663	719	1183	3238	3238	5335	7024	9764	10545	9632	8648	6565	6538	8041
TBS							193	179	238	235	686	638	757	873	1550	1605	1634	1423	1301	1343	1665
TKG																		729	766	866	1484
VNF						271	655	253	217					724	1138	1056	1183	1107	967	982	1303
WHL																			630	673	857

Table 13: Old Mutual ALSI 40 - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABI															447	386	442	478	650	716	798
ABL										508	832	708	656	400							
AFB										581	1042	886	796	662	1101	878	1127				
AGL										4984	31024	27860	39425	40716	50631	39302	37748	38703	43746	47004	55581
AMS										6244	13822	11550	14298	15936	8789	7682	5530	4637	5350	5813	6506
ANG										1300	2807	2759	3313	4656	3041	3162	6565	6223	6799	7717	8788
AOD																	609	555			
ASA										2234	4341	4273	3338	2425	3182	2911	3097	3302	4483	4396	5422
AVG																	432	377	403	479	918
BAW										1224	2266	1861	1840	1915	2709	2537	2651	2323	2990	3157	3937
BIL										8912	15818	14642	20689	21967	26453	23734	22609	22631	25389	29671	36846
BOE -DEL										1044	1862	1577	1261	832							
BVT										1405	2641	2264	1937	1845	2876	2670	2813	2838	3478	3361	4032
CRN										356	684	576	521		875	795					
DBR -DEL										13085											
DDT										4531	7083	2135	2743	1781	1681	730	993				
DTC										228											
DUR															1569	1679	1197	888			
FDS -DEL										337											
FSR										4325	8288	7171	5949	5270	6268	5359	6112	6066	8109	7749	9541
GFI										1519	2922	3280	3950	8313	11474	12810	11414	9355	10938	12175	11881
HAR													1295	2158	4785	5628	5174	4236	6548	6614	6800
IMP										2024	4720	3721	5455	5859	5718	5602	5559	4652	7659	9977	10076
INL										1714	4230	2882	2256	1825	606	462	883	674	987	982	1462
INP																1574	1717	1306	1924	1914	2519
IPL										1408	2577	2077	1787	1366	2407	2119	2386	2464	3009	3200	3748
ISC											1395	1207	454	612	1537	1411	1485	843	942	1196	1696
JDG										401	740	687		233							
JNC										1015	1733	1323	1071	1035	1383	1006	1498	1672			
KMB													1291	1992	2813	2131	1940	1320	1794	1993	584
LBT										1824	3004	3102	3439	3744	5267	5187	5003	5069	6335	5973	6441

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
LGL										1781	2795	2511	2202	2155	1534	1428	1497	1437	1791	1657	1933
MET												1031	815	555							
MHH -DEL										433											
MTN										3235	5351	3832	3175	3199	1936	1373	2027	2266	5192	6347	8982
NED										3541	6810	5689	4446	4153	3017	2563	3053	2744	3177	2456	2171
NPK										591	1041	969	881	859	1400	1369	1828	1708	2048	2074	2162
NPN										427	871	406						1333	2034	2210	3123
NTC																			1376	1630	2176
OML										6423	11430	9389	8261	8947	10852	8765	9271	8783	10996	10548	11063
PIK											931	822	801	718	644	656	664	664	850	913	1105
PPC																			560	636	804
RCH										986	1898	1615	16688	20094	23774	16233	16883	12800	16905	18988	20764
REM										2453	4971	5117	4635	4378	6773	6444	6128	5716	8088	7343	9014
RMH										1345	2657	2258	1942	1683	1934	1694	1830	1905	2479	2456	3061
SAB										4368	8363	7595	9741	9765	16357	14089	12361	11164	13168	14240	17517
SAP										1619	2999	3282	4212	5097	6960	5818	5576	5115	5698	5790	5679
SBK										4457	8832	7776	6060	5730	8788	7882	8160	8260	11343	11066	13878
SHF											970	1067	1129	989	1172	968	1021	826	1238	1323	1640
SLM										2593	5162	4407	3578	2896	4575	3995	4048	3768	4921	5364	6096
SOL										4699	8655	8655	10287	12337	14718	15895	14270	13259	14810	14748	16459
TBS										935	1834	1705	1458	1536	2338	2422	2385	2210	2902	2993	3389
TKG																		1108	1676	1894	3004
VNF										890	1587	1488	1405	1276	1708	1585	1719	1745	2185	2218	2717
WHL																			1401	1496	1787

Table 14: RMB Top 40 - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABI															548	474	533	389	320	353	405
ABL	3346		3137	1392	2444	2670	3059	2244	1762	2455	1526	1299	1188	650							
AFB										2792	1911	1625	1442	1074	1357	1082	1179				
AGL	3799		7530	8977	14144	10487	18205	21583	22035	24047	56923	51116	71393	65909	62424	48457	45173	31172	21910	23542	27848
AMG -DEL	2046																				
AMS	6672		7955	8995	14119	12806	23448	33384	40477	30150	25345	21180	25840	25584	10828	9464	6716	3810	2668	2899	3387
ANG	4309		3342	4858	5415	5698	8228	7960	6255	6261	5168	5081	6022	7584	3760	3909	7846	4926	3392	3850	4630
AOD																	715	441			
ASA	6817		5756	3961	6206	5235	9243	9854	9808	10790	7965	7839	6045	3915	3926	3591	3760	2718	2247	2204	2775
AVG																	523	314	205	244	486
BAW	1861		1952	1649	3322	3160	4811	5227	5392	5910	4155	3412	3333	3102	3340	3128	3190	1925	1503	1587	2020
BIL	9619		11684	13954	26424	22429	32420	30290	34568	43028	29016	26859	37460	35222	32612	29260	26798	18212	12603	14728	18928
BOE -DEL	4059		4371	3213	5831	5365	5334	5667	5460	5041	3415	2892	2284	1322							
BVT	4586		3813	3026	6079	4927	7561	7997	7033	6784	4845	4154	3508	2978	3550	3295	3418	2338	1735	1676	2066
CGS -DEL	2502		2331	2271	4434																
CPX	6088		3297	3549	4986	1314	2194	1918	1462												
CRH															201	179					
CRN	1916		2080	1548	3131	2899	3746	3481	3529	1733	1255	1058	947		863	784					
DBR -DEL	11124		14615	16677	25001	20819	36582	44475	42282	63230											
DDT	6278		4806	4293	9640	19229	36029	42901	32116	21870	12998	3918	4967	2874	2072	900	1204				
DTC	2627		2511	1592	4365	4663	3309	3888	2448	1101											
DUR															1879	2011	1410	673			
FDS -DEL	2814		2832	1787	2979	2178	3170	2690	2921	1624											
FSR	13443		9847	8848	16754	14651	21105	21136	24182	20877	15207	13158	10771	8541	7728	6607	7317	5011	4061	3880	4884
GFI	1843		2432	3261	4665	3520	6687	5757	6144	7341	5361	6020	7152	13474	14150	15799	13731	7444	5459	6076	6222
GFS -DEL	482																				
GMF			1517	2057	3261																
GSC -DEL	2913		3144	2248	3426	3290	3786	4880													
HAR													3014	4558	5911	6952	6018	3333	3201	3234	3636
IMP			2626	3581	5727	5085	9256	11458	13457	9776	8633	6805	9864	9493	7055	6912	6619	3781	3851	5016	5157
INL	6152		5325	4105	7712	7142	10235	10360	10773	8244	7771	5293	4274	3101	1485	1133	1038	539	473	470	633

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
INP																2183	1926	979	946	942	1270
IPL	2599		3036	2682	4543	3991	6505	6693	6774	6814	4725	3808	3235	2231	2966	2611	2866	2002	1474	1567	1899
ISC						1538					2558	2214	822	1064	1820	1671	1730	637	418	530	777
JDG										1937	1358	1259		376							
JNC	1706		1669	1669	4065	5516	8375	8438	7040	4887	3180	2429	1935	1698	1708	1243	1821	1361			
KMB													2335	3389	3470	2629	2355	1409	860	955	294
LBS -DEL																					
LBT					5296	4990	9952	9934	8182	8786	5503	5684	6226	6214	6495	6397	5947	4122	3100	2922	3277
LGL	8342		6649	4043	6707	5747	9685	9505	9690	8580	5122	4602	3991	3496	1891	1759	1816	1188	895	828	984
MET												1891	1476	908							
MET -DEL	1946																				
MHH -DEL							4052	5417	2497	2091											
MNR -DEL	7967																				
MTC					2954	2399	2977	2941	709												
MTN					9725	14332	29420	25972	21672	15615	9818	7031	5749	5224	2375	1685	2447	1856	2606	3186	4693
NAN	53393		36039	24364	46313																
NED	8965		8373	7240	11352	10758	18920	20620	21882	17074	12492	10436	8050	6691	3713	3154	3778	2333	1578	1220	1127
NIB -DEL															326	278					
NPK			2227	1854	3282	2635	4135	3754	2989	2850	1908	1776	1596	1405	1727	1689	1751	1010	1007	1020	1110
NPN						3963	4650	4856	2411	2062	1603	747						1038	962	1045	1584
NTC																			678	803	1106
OML				11375	19451	18126	28652	33045	34920	31006	20970	17225	14958	14498	13379	10806	11094	6760	5454	5232	5660
PEP			380	314																	
PIK											1707	1506	1451	1135	794	809	806	569	446	479	599
PON						33948															
PPC																			275	312	407
RCH	1668		1603	1655	2777	2915	5268	6079	5409	4760	3480	2962	30215	32564	29310	20014	19724	10152	8288	9309	10744
REM								12363	13244	11847	9113	9381	8398	7103	8350	7943	7329	4727	4055	3681	4607
RMH	3338		2390	2192			5118	5118	5652	6494	4874	4142	3517	2727	2384	2088	2220	1555	1224	1213	1548
SAB	13630		10624	10340	16930	13173	21725	20995	21777	21071	15332	13925	17633	15895	20142	17349	14786	9127	6485	7013	8938
SAP	1958		2602	3444	5081	4117	6761	7093	6837	7798	5493	6012	7620	8282	8576	7169	6665	4158	2815	2860	2922
SBK	8352		8832	8500	12275	12650	20565	21535	22699	21524	16207	14268	10975	9256	10518	9433	9751	6779	5644	5506	6944
SFR -DEL																					

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
SHF											1779	1957	2044	1606	1388	1145	1189	653	586	626	859
SLM	5877		4974	4557	7982	7513	11791	12218	13417	12515	9471	8085	6478	4681	5641	4925	4911	3039	2409	2626	3120
SOL	5183		6844	7345	10838	8429	15328	19202	17186	22688	15874	15874	18635	20044	18156	19609	17050	10876	7192	7162	8424
TBS	3693		2388	2176	4113		5581	5186	5693	4515	3367	3131	2645	2506	2878	2981	2889	1793	1430	1475	1752
TKG																		923	848	958	1565
TNT																					
VNF	7227		6880	6257	10693	10311	18987	7319	5182	4298	2909	2728	2545	2088	2106	1954	2089	1391	1058	1074	1369
WHL																			682	729	888

Table 15: Sanlam Index Trust - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ABI															1234	1066	1236	1163	1380	1520	1685
ABL	7000	10101	9881	4384	5961	6057	4517	3314	2223	2852	2806	2389	2605	1487							
ADC -DEL																					
AFB										3258	3514	2988	3163	2467	3038	2422	2943				
AGL	9946		23405	27903	33544	23789	26879	31867	27812	27919	1E+05	93980	156489	151980	1E+05	108816	105394	93111	94264	101284	115629
AIT -DEL																					
AMG -DEL	8800	5097																			
AMS	13081	17355	24886	28138	33467	29043	34607	49271	51079	35001	46578	38924	56680	58737	24337	21273	20234	11283	11346	12329	13902
ANG	8022	11681	10847	15771	12856	12934	12204	11807	7890	7279	9491	9331	13192	17416	8450	8785	18155	14700	14587	16557	19212
AOD																	1657	1363			
ASA	22224	17598	18709	12875	14714	11871	13643	14546	12376	12529	14638	14406	13251	9007	8773	8024	8737	8002	9474	9291	11295
ATN																					
ATNP																					
AVG																	1055	917	862	1025	2016
BAW		2640	6061	5120	7871	7168	7105	7719	6806	6861	7642	6275	7310	7133	7500	7023	5912	5696	6385	6741	8284
BIL	20112	25355	37980	45358	62662	50865	52015	48598	46475	49979	53353	49386	82129	81746	74031	66423	63499	54509	54436	63616	78881
BOE -DEL	17367	14785	13569	9973	13827	12167	7875	8366	6892	5855	6279	5319	5007	3035							
BTG																					
BVT	9836	11784	11836	9393	14413	11171	11157	11801	8879	7882	8902	7631	7687	6864	7955	7385	8147	6951	7421	7171	8578
CCH -DEL																					
CGS -DEL	4146	8094	7396	7204	10521																
CPX	18552	14099	10223	11003	11833	2980	3239	2833	1845												
CRH					7335	6567			4509				2071		452	403					
CRN	5200	6370	6437	4789			5526	5135		2007	2300	1939			1947	1768	584				
CXT -DEL																					
DBR -DEL	29220	41959	45341	51737	59311	47235	53994	65644	53367	73413											
DDT	13404	14691	15609	13943	22870	43606	53180	63323	40527	25401	23893	7203	10889	6628	4654	2020	2996				
DTC		7170	8437	5351	10392	10657	4884	5740	3088	1278											
DUR															4345	4651	3409	2108			
ELH																					
FDS -DEL	6900	7500	8930	5634	7076	4944	4681	3972	3645	1886											

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
FSR	45173	29901	30548	27449	39729	33228	31156	31201	30519	24250	27958	24191	23614	19611	17354	14836	17131	14853	17295	16525	20073
GBL -DEL						4248															
GFI			7610	10202	11168	7982	9875	8502	7753	8528	9857	11067	15685	30938	31704	35398	30806	22078	23266	25897	25836
GFS -DEL																					
GMF	5940		4917	6664	7731																
GSC -DEL	14493	9447	10211	7303	8124		5588	7203													
HAR													6605	10482	13257	15591	14212	10043	14077	14220	15415
IMP		6434	8196	11176	13602	11555	13638	16883	16997	11331	15892	12528	21628	21774	15738	15418	15857	11118	16333	21276	21114
INL	18926	15716	16590	12787	18224	16192	15069	15254	13565	9604	14294	9737	8984	6813	3391	2588	2685	1644	2096	2086	2708
INP																5223	5190	3174	4075	4054	5276
IPL	7361	8918	9444	8342	10773	9145	9596	9874	8546	8020	8683	6998	7093	5082	6638	5843	6748	6013	6398	6804	7950
ISC						3488					4705	4072	1802	2445	4085	3751	4026	2027	1977	2508	3537
JDG										2252	2500	2318		870							
JNC	1493	6221	5169	5169	9644	12522	12366	12459	8888	5676	5847	4466	4246	3846	3832	2788	4559	4053			
KLG																					
KMB													5120	7697	7786	5897	5465	3128	3716	4128	1223
LBS -DEL																					
LBT			10815	12669	12555	11318	14687	14661	10327	10226	10133	10466	13645	14266	14585	14364	14457	12418	13514	12742	13779
LGL	29048	20522	17788	10815	15908	13046	14299	14033	12235	9973	9422	8465	8753	8027	4212	3919	4354	3537	3837	3549	4071
MET												3476	3236	2066							
MET -DEL	5588	6435	3760	2899																	
MHH -DEL							5980	7995	3152	2429											
MLB -DEL																					
MMD -DEL																					
MNR -DEL	23868	23069																			
MTC			3767	3617	7005	5440	4394	4342	910												
MTN					23061	32498	43430	38340	27351	18136	18048	12926	12605	11905	5323	3776	6047	5490	11210	13703	19474
MUR																					
NAI		162000	1E+05	81928																	
NAN					109831																
NCL																					
NED	16867	25227	26343	22779	26940	24403	28246	30785	27622	19844	22955	19177	17663	15464	8466	7192	8453	6623	6813	5268	4694
NIB -DEL															759	647					

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
NPK	4979	5712	6910	5752	7785	5976	6107	5544	3772	3311	3508	3265	3499	3197	4870	4763	5550	4118	4310	4363	4584
NPN						8996	6856	7159	3041	2395	2940	1370						3214	4278	4648	6791
NTC																			2942	3486	4590
OML				25447	46123	41108	42294	48779	44071	36013	38552	31668	32790	33291	30043	24266	26254	20563	23471	22515	23502
PAM																					
PEP		1233	1235	1021																	
PIK											3138	2770	3181	2623	1741	1775	1869	1645	1832	1966	2376
PMA																					
PML																					
PON						76979															
PPC																			1190	1351	1698
RCH	4030	4898	4995	5157	6587	6613	7777	8973	6826	5529	6400	5447	66241	74770	65818	44942	47404	30464	35936	40363	44612
REM								18224	16717	13760	16768	17261	18407	16300	18754	17840	17623	14005	17258	15667	18926
RLY																					
RMB -DEL																					
RMH	6354	6053	7412	6796			7554	7554	7133	7541	8960	7614	7709	6261	5354	4691	5202	4636	5259	5210	6416
SAB	40348	38108	32948	32068	40155	29880	32074	30997	27492	24481	28202	25613	38652	36512	45212	38943	34835	27410	28150	30442	37427
SAP		6339	8088	10704	12051	9344	9980	10470	8630	9064	10108	11063	16700	18942	19255	16095	15694	12307	11966	12158	11988
SBK	26693	19879	28643	27566	29115	28686	30375	31808	28656	25002	29794	26229	24061	21332	23533	21106	21717	20113	24071	23484	28901
SFR -DEL																					
SHF											3271	3598	4481	3689	3116	2572	3005	1997	2612	2790	3566
SHP																					
SLM	20531	13668	18816	17237	18928	17039	17405	18035	16932	14538	17412	14864	14201	10777	12666	11059	12171	9031	10300	11227	12872
SNT																					
SOL	19699	17670	21253	22808	25702	19121	22625	28343	21688	26361	29193	29193	40849	45969	40574	43820	37128	32326	30754	30625	34762
STX40															4160	3640	3500	2832	3060	3276	
TBS	7404	7225	8498	7741	9719		8243	7660	7183	5237	6187	5752	5796	5742	6440	6670	7077	5320	6096	6289	7210
TIW																					
TKG																		2726	3589	4057	6395
TNT			2304	2170																	
VNF	13065	20951	21349	19418	25361	23386	27987	10789	6541	4992	5352	5019	5579	4752	4729	4388	5055	4138	4530	4598	5656
WHL																			2952	3152	3706

Table 16: Futuregrowth Mining & Resources - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG											99	103	101	56					70	68	71
AFE						317	297	284	269	401	435	371	490	605	668	720	803	515	390	462	612
AFG																	14	14	9	8	11
AFL						186	209	149	174	73	63	81	55	75	83	57		30	106	129	68
AFR						134	144	151	174	178	95	118	57	2							
AFX						158				32	159	158	172	100	111	110	49	43	109	119	164
AGL						91	209	248	148	119	1418	1273	1531	1631	2323	1803	1835	1577	1904	2046	2693
AIN						644	385	178	170	258	328	284	83	92	74	74	79	107	180	190	63
AMS						592	840	1196	1272	724	1203	1005	1474	1491	810	708	1169	419	449	488	321
ANG						188	28	27	22	57	252	248	739	801	466	484	1336	1242	818	928	832
AOD															289	385	356	204			
ARL											41	43	49	40							57
ASG															56	58	61	65	63	60	59
ASR																	80	88	70	61	32
AVG											127	134	52	71							
AVI											103	115	42	46							
BAW																			40	43	102
BIL						662	754	704	955	1032	893	827	1993	1813	1694	1520	1278	1120	1069	1250	2545
CNY						139	50	26	25	19	4	4	4	4	4	4	4	4			
DBR -DEL						964	842	1023	970	717											
DEL															17	16	17	14			
DUK -DEL						101															
DUR						94	84	86	12	126											
ENR						229	265	315	300	305	310	320	371	467	307	374	233	193	95	99	86
GFI						399	541	465	520	697	338	379	795	2213	1586	1771	1082	676	808	900	862
GFS -DEL						288	122	11													
GMF						554	456	590	896	773	1342	1171	2084	1936	1067	1149	1025	830			
GRF																			36	48	68
HAR						285	233	228	218	104	417	436	620	1962	1548	1820	1382	576	729	736	423
HDC															14	16	17	16			
HVL						286	350	301	209	162	172	150	192	171	267	273	156	139	154	163	99

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ICH -DEL						248															
ILV						153	123	129	125	115	319	328	368	214	184	181	157	92	80	80	107
IMP						726	958	1186	1465	955	625	493	928	874	1229	1204	1608	1083	1419	1848	1613
ISC						327	325	423	235	482	844	730	455	458	1075	987	962	523	363	460	826
JCD															11	12	18	18	8	8	
JCDD																16	19	20	19	20	20
JCG -DEL						118	110	98	127	133	93	119	36	40							
KLG						2	2	2	3	3											
KMB													1185	1895	902	683	345	542	485	538	
KPM -DEL						263	295	471	541	360											
LON						214	9	11	13	12				49	118	92	131	177	67	74	285
MTX											56	49	60	54	166	145	161	173	158	173	146
MUR																		55	155	183	192
MVL														756	356	437	390	400	464	625	545
NHM						127	284	463	572	459	555	437	312	233	685	781	828	398	260	228	209
OMN											60	53	79	96	99	165	234	354	256	259	324
OZZ													20	19	47	44	52	54			
PAM						89	106	126	134	129	130	123	176	46				36	25	32	176
PPC											72	65	77	67	103	105	137	120	185	210	165
RBW													33	29							
SAL						92	84	77	80	32											
SAP						693	836	877	698	750	312	341	504	1051	1146	957	905	819	749	762	710
SCE						89	87	80	60	171	97	74	137	255	253	219	190	168	168	198	188
SMC											25	20	23	29	23	23	42				
SOL						955	1078	1351	964	1430	1398	1398	1971	2192	2101	2269	2006	1575	1011	1007	1150
TBS															98	102					
TNT						83							81	81	79	80	75	56	167	175	168
TSX						92	82	79	76	80	117	99	126	135	701	838	671	576	554	632	753
WAR									53	96	199	197	126				88	150			
WBO																	20	19	90	103	146

Table 17: Investec Commodity - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AFE	92	756	1327	1946	1234	3277	2729	2604	2058	993	2150	1836	3873	4470	3901	4204	4692				
AFL														3250	1267	878					
AFX													621	583	583	574	2086		3207	3494	
AGL	126		494	588			806	955	1738	1479	4842	4348	17831	17772	25969	20159	19102	14991	17105	18379	22694
AIH -DEL	183	780																			
AIN	471	1893	11453	14683	15740	6752	3305	1525	1462	2129	520	449	5701				3950	4171	1051	1110	7527
AIT -DEL																					
AMG -DEL		1649																			
AMS	323	2450	17832	20163	20879	13859	7064	10057	11991	7759			15459	11729	6885	6018	5056	5079			
ANG		240	1560	2268	1900		2770	2680	1989	893	5272	5183	4199	5548	4028	4187	5636	3620	6541	7424	8666
AOD															6825	9100	10277	4137			
ASR													1680	2830	3458	3777	4256	4682	4309	3721	3320
AVG	29	28	1675	1985	2163																
AVI		1017	5529	2903	4024																
BIL	398	1561	10927	13050		9240	10412	9728	10403	9050	7016	6494	15700	17701			3604	14343	11054	12918	21698
CNY					1300	904															
DBR -DEL			20244	23100	25060	10970	7937	9649	9920	15128											
DLV																					2186
DUK -DEL	83	79																			
DUR			2080	2370	2070	807	267	272	229												
ENR							563	668	570	284											
GFI			8901	11933	12793	5169	6007	5171	5269	2128			7475	24948			9352		8079	8993	8614
GFS -DEL	175		2805	3313	3627	3069	1547	138													
GMF	297	1410	9648	13077	15547	11162	9383	12126	12437	7031	9774	8531	13922	6512	16200	17460		2678			
HAR			10306	13119	8404	9157	3520	3445	2600	798	2625	2743	11275	11407	20318	23896	5893	8656	2906	2935	
HCI		7535																			
HVL	149	795	3778	4510	6090	4795	3098	2664	1956	1865	2008	1755	2246	2668			1909	4923			
ICH -DEL	386	655	4963	6300	6395	6586															
ILV	473	904	1418	1471	1567	1173	1427	1493	1441	1096	1692	1739	1954	1966	1566	1541	1580	1340	4307	4301	
IMP	960	2650	17457	23805	26145	12485	7566	9366	9640	5700	7261	5724	16343	19332	14409	14117	8720	4571	13707	17856	13649
ISC	772	1121	86426	106089	10655	8002	7245	9441	5748	7353	12681	10976	1360	4101	15450	14186	9690	3993	5317	6746	11753

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
JCD			1520	1840	1280	832	800	592	608												
JCG -DEL	46	793	4625	5256	7600	5071	2920	2602	2864	2250	1493	1909	2404	1784							
KGL -DEL	113	267																			
KMB													5984	15590	7538	5709	8616	3830	3319	3687	
LON	623	2535	3149	3510	3521	4432							9371	7000			3300	865	3182	3493	2522
MNR -DEL	103	120																			
MTX															2592	2268	3162	1778			
MUR																	4509	3870			
MVL														3975	4950	6063	8372	7140	529	713	3093
NHM	146	1327	2445	3460	3972	3632	4157	6769	6170	2831	2486	1956	2085	1986	9399	10726	7114				
NWT -DEL	201	297	331	214	256	248															
ODM -DEL																					
OMN															1379	2310	2520	2611	2652	2688	3360
PAM			645	698	671	460												3297	1933	2433	808
PIN -DEL	100	96																			
PPC																	2749	2403			
RFN -DEL	104	269	1279	1341	1058																
RNG			485	539	3400	655															2174
SAL			1750	1138	1470	1050	963	875	910	930	754	711	928	1175							
SAP		2273	17583	23271	28746	12766	11847	12428	9754	5374	4275	4679	12206	19494	11716	9793	9194	4480	8407	8542	10110
SCE										1947	1518	1155	2795	4773	3850	3325	3325				1344
SOL	138	189	18783	20157	21973	12999	11539	14455	9134	9331	11268	11268	17623	26816	19828	21415	11314	14760	11175	11129	12403
TNT		521	2900	2731	4087	1905	1148	1351	1473	1362	1301	1285	5881	7092	6233	6292	5950	2852			
TSX			476	584	744	616	548	528	1728	1824	2088	1760	3743	4025	2888	3452	1683	4305	7124	8127	9683
TWE -DEL	216	690	9735	6815	7139																
VOG -DEL	202	260	270	311	353	365															
WAR					1613												5399	1545			
WBO																		1834	2332	2658	4550

Table 18: Liberty Resources - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG																			2702	2610	2729
AFE	1875	3185	2700	3960	2510	8094	3432	3275	3406	3930			4300	5427							7179
AFG								1560	1950	1326	1014	936	1131	827	1287	1482	1568	1552	1053	858	1170
AFL					1210	1750	2700	1929									6400	2530			
AGL	415		1058	1261	1489				2863	4609	20332	18258	21068	42435	30097	23363	18975	45020	86918	93390	84799
AIN	1936		8077	10355	13544	11750									22206	22200	19750	12391			9698
AIT -DEL																					
AMS			9152	10348	13090		4572	6510		7960	17950	15000	13851	44820	20250	17700					
ANG			1950	2835	4749				829	3514	11138	10950	8440		13700	14243	40670	10647	14220	16140	18368
ASG	1571	1564	2380	2897	3060	3196	3740	3740	3740				4704	6403	7104	7360	7808	7800	7500	7200	7080
AVG	338									3600	4800	5050	5510								
BIL					5303	13244	18933	17690	12241	4203	8658	8014	13192	29250	54000	48450	41671	21709	59685	69750	87000
CHE	600	581	1153	1163	1188	1093	1208	1364	2758	3071	3000	2700	2870	3350	3400	3760	4200	3928	3203	4128	
DBR -DEL			8257	9422	4475	6885	15675	19057		12200											
DLF -DEL	780	1400	3750	4780	3675																
DUK -DEL		57																			
ENR	900	980	769	896	1155		1550	1840	1570	3190				8546							
FRE	136	101	132	157	154	73	48	60													
GFI			9108	12210	8550	2736	4560	3926	15360	15475	8584	9638	23000	42280	42630	47597	25539	12630	8957	9970	11986
GFS -DEL	1650		1740	2055	2250	4000															
GMF	5940	7050	4150	5625	6688	12650	15015	19404	17670	15416	16900	14750	19300	21532	10760	11596	6691	17665			
HAR	2945	4335				10615	9375	9175	2429		10252	10711	23550	45570	28400	33400	38955	7320			
HVL		1325				905	600	516	405												
ICH -DEL	690	2120	3245	4118	4181	3071															
ILV	938	930	2398	2488																	
IMP	7200	4240	8349	11385	8516	11010	5044	6244	15617	8664					28590	28010	38150	36972	13380	17430	40600
ISC			37800	46400	8155	3500			12300	21800	21199	18348	11350	765	22000	20200	21505	4063	21656	27476	20981
JCG -DEL		1975	2750	3125	2975	1175															
KGL -DEL	1125	1127																			
KMB													25222	45600	18691	14157	13020	11295	4515	5016	
KPM -DEL	940	3195	4620	6848	8113	6430	7663	12261	14310												

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
LAF	2	2																			
LON	3488																				2600
MAR -DEL	387	300	510	450																	
MNR -DEL	1148	6942																			
MTX					534	457	489	752	877	3077	2627	2289	2815		4680	4095	4030	3120	2860	3120	3055
MUR																	11205	8720	16650	19650	20550
MVL															9900	12125	11127	8559	7280	9800	6921
NHM	325	218	968	1370	1542		4574	7448	9207	6990	9150	7200	6780	11899	26653	30415	19200	9000	11497	10095	5918
NWT -DEL	1220																				
ODM -DEL	500																				
PAM	325	333				4601	5654	6723	6568	6319							15637	10057	6963	8762	15475
PAMD																				6672	8819
PPC	1166																				
RFN -DEL	1950	878																			
RNG	725	1200	1594	1771	1882	1286															
SAL			875	569	735	525	481	438	455	525	455	429	560	788	490	359	18				
SAP		3915	4420	5850	12707	10120	10200	10700					24000	41453	36250	30300	28625	38180	19846	20164	31850
SCE					1410	1880	1748	1596	1634	3788	3873	2947	6094	10314	10314	8907	19858	14005	14005	16514	15677
SMC							710	698	632	575	220	180	4								
SOL		4575	8610	9240	12775	10200	10201	12779	16154	21747	20976	20976	31620	48184	49500	53460	45675	30450	16710	16640	47500
SOLDBI																					
TNT	2888	4463																			
TSX		22											1395	1582	25537	30525	17802	15284	18315	20893	24894
TWE -DEL					1100	1012															
VOG -DEL	2525	2525	2625	3025	3438	3533	6	6	6												
WAR			2005	2310	1836				4375		12000	11875									

Table 19: Metropolitan Resources - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG																			132	128	889
AFE						924	917	875	910	1050	1295	1106	1204	4378	4664	5027					2509
AFL					97	70	81	58	68	55	141	181	242	333					1010	1230	650
AFR	310	400	395	275	175	400	430	450	520	530											
AFX			897	1004	1361	1376	1292	1277	1126												
AGL	332		1058	1261	1290	1133	1128	1337	1432	1593	9000	8082	8289	14478	11393	8844	8380	7513	7677	8249	9473
AIN					804	1645	2876	1328	1272	1853	2185	1889	1994								
AIT -DEL	356	640																			
AMS	2641	3208	2919	3300	1870	3654	5159	7344	7417	5628	3949	3300	10276	11496	9315	8142	7268	5359	5440	5911	6705
ANG	757	819									2228	2190	4853	2336	1370	1424	5403	4401	2370	2690	3140
AOD															1218	1624	1834	1479			
BIL	1525	1922	3336	3984	5020	3080	2740	2560	2850	3620	6435	5957	10148	11183	9827	8817	8198	7183	7241	8462	11715
BNC -DEL	68	62																			
CHE			573	578	590	543	600	678	1353	1507	1845	1661	1765	2060	2091	2312	2583	2416	2386	3075	
CRM																			670	610	615
DBR -DEL	1200	1904	4338	4950	4654	3978	4950	6018	3000	6710											
ENR	225	245	1538	1793	2310	2600	2480	2944	2826	2871	4674	4826	5808	7215	6716	8168	3586	3831	4075	4238	3668
GFI			1588	2129	2261	205				3120			1150	2444	4872	5440	7194	5052	7166	7976	7640
GFS -DEL							1951	174													
GMF	2476	3526	3869	5244	6234	4378	5095	6584	8099	6140	8831	7707	12606	12501	10407	11216	10002	6955			
HAR	618	607									469	490	1963	3280	1420	1670	1470	976	2508	2534	2763
HVL						1177	1886	1622	1273	1132	1348	1179									
ILV	359	356	382	396	422	316															
IMP	3440	4558	2277	3105	6474	5448	3783	4683	3856	1995	2824	2226	3937	6040	5718	5602	5450	4350	11150	14525	14500
ISC	27									1775	6711	5808							77	98	
KMB													7663		1416	1073	4883	3765	4515	5016	5513
KPM -DEL					738	2500	2093	3348	4293												
LON	3813	5355	3991	4448	3644									3263	3053	2369	2016	1425	1630	1789	2184
MLN -DEL	8	5	5	5	6	6															
MNR -DEL	1102	1282																			
MVL														5163	4891	5990	6422	4940	4495	6052	5977

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
NHM							186	303	375	1152	2057	1618	2286	2178	2246	2563	1764	1102	1285	1129	1431
ODM -DEL	20	37																			
PAM	237	243	1075	1163	1119	910	1084	1289	2761	2657	2209	2104									
SAP	1154	1323	3214	4253	3813	4438	4473	4692	6368	2376					1450	1212	3169	2546	2915	2962	2993
SCE											771	586	1089	1859	1843	1591	1591	1340	1374	1620	1538
SOL	1113	3050	4305	4620	5110	4896	4550	5700	5257	7078	7905	7905	11320	13425	10054	10858	9597	7952	7636	7604	8683
SOLDBI																					
TBX	96	100	244	116	160																
TNT	816	756	1151	1084	1622	1014	928	1092	1190												
TSX											1631	1375	1744	1887	4331	5177	4455	2941	546	623	
WAR		900																			

Table 20: NIB Mining & Resources - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG							19647	21133	29924	43689	7650	7910	7800								
AFE	4205	5101			8594	13943	18518	17670	11463	13227	8142	6954	5160	3961	17957	19355	21600	13740			45458
AFL			3458	6465	4376	3660	9170	6550	7634	6188	3284	4198	5629	5255							
AFR																					
AFX			2985	3341																	
AGL	1492		1086	1294		6233	13267	15729			20332	18258	28396	22632	52110	40451	30360	22680	23943	25726	49169
AIN	9423	13901	12188	15626	29124	24057													12128	12810	12765
AIT -DEL	6442																				
AMG -DEL	5588	11422																			
AMS						17731	9027	12853		30177	14360	12000	11863	24750	43740	38232	12166	15145			
ANG					12791		2881	2787	2177	1887	7425	7300	12660	5690	9453	9827	16268	21294	21330	24210	
AOD																		8230			
BAW			27589	23308	9356				24190	12087											
BIL		6003	13129	15680	2619	38272	69982	65385	59254	3345	28860	26714	41513	32100	32854	29477	17570	15788	22489	26282	44660
BNX																					
CHE			2524	2546	4589																
CNY					3500	2415	869	452		421	51	51	51	51	51	51	51	51			
DBR -DEL					16558	32191	21599	26259		39650											
DUK -DEL			2204	1521	2244																
DUR									28800	1458											
ENR	1828		8369	9757	9209	8351			13131	18529	7380	7620	9600	8393							
GEM -DEL	2000		4842	4914	4216	3533															
GFI							56665	48783	2294		10875	12210	28750	57216	26796	29918	16822	16840	21246	23649	16770
GFS -DEL	3859		7170	8468	9015	9285															
GMF	10127	12251	11271	15278	13902	17546	26887	34746	55902	51660	32313	28202	36477				12564	8737			
HAR	4741	11595	14223	18104	23653	18236	4785	4683	4		7035	7350	32185	51852	28400	33400	26460	19520	28178	28464	17660
HDG -DEL	4600	4358																			
HVL	1565	1397	8359	9977	12402	11202	12658	10886	8713	20100				4548							
ICH -DEL	2915	6583				2146															
ILV																			8353	8342	7530
IMP	11480	9911			19671	36275	51449	63689	67596	52811	14119	11130	11248	45000	18869	18487	25070	20050			

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ISC			37800	46400	10252	6661	14401	18764	12409	13012	29000	25100			25012	22966	17063	7159	7049	8943	
JCD			2683	3248													49	50	57	63	68
JCDD																	20	21	20	21	21
JCG -DEL	659	2927	3385	3846			7135	6357													
KMB													23170	12765	1183	896	17631		29633	32922	
KPM -DEL	2209	6674	6726	9969	9621	10281	12798	20477													
LON										6466				25892	7269	5640	7200				
MAR -DEL			2664	2350																	
MNR -DEL		13521																			
MTX					2787	1502	5456	8394	13458	17538	6324	5511	6776	4443	13704	11991	19861	15376	7718	8419	8244
MUR							657	726													
MVL															566	693	17643	13572	14145	19041	18808
NHM									10042	20441	4575	3600	5085	6460	17801	20313	14185	12000	19865	17442	10004
ODM -DEL	2977																				
OMN						33											8090	8382	8512	8629	10786
PAM			3758	4064	7093	5048	4048	4813	282												8073
PIN -DEL																					
RNG			810	900																	
SAL			3065	1992	2575	1839	1686	1533	1613	1861	930	877	1145								
SAP					24940	20210	36863	38670	49810	17476	4254	4656	7200	21638	25085	20968	18320	13800			16826
SCE					1105					6903	1900	1446	2685	4626							
SMC							7100	6980	6650	7325	3666	3000	3333	4266							
SOL	5071	4050	16178	17362	21569	26267	13118	16433	43174	25615	27968	27968	29512	53720	22000	23760	28875	17400			17091
STH -DEL																					
TDL -DEL					2957																
TNT			9513	8959		1788				4673	1913	1890					850	639			
TSX	3450	4539	2412	2959	4626	2790	2331	2246									5271	4544	14885	16980	25829
TWE -DEL			5340	3738	1650																
WAR							756	744	3992	21531							3461				

Table 21: Old Mutual Mining - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG																			2464	2380	1600
AFE	538	3018	1096	1608	462	486			13000	6075				7940					650	770	4713
AGL	1098		1978	2358							5187	4658	20770	23058	41133	31930	30255	28596	27370	29408	38163
AIN	723	1796	905	1160	6599																
AIT -DEL	3489	6281																			
AMG -DEL	5412	5756																			
AMS	8836	7300	15276	17272	15146	14493	20515	29209	36024	23046	19850	16588	20236	32515	1539	1345	1201	885			
ANG	541	694	2405	3497							2896	2847	4115	2098	13152	13673	27888	22714	5807	6591	10519
AOD															8522	11363		1594			
AVG			3176	3765	3126																
BEL															350	423	478	425			
BIL			6464	7719	8512	8495	7124	6656			12558	11624	22140	30286	13770	12354	11487		30341	35457	42908
BNX																					
CHE	434	454	1243	1254	1281	3348	9558	10793	9631	10725	11607	10446	10694	12482	6378	7054	7249	6780	3593	4630	
DBR -DEL	4650		12985	14817	16074	14550	22605	27482	9800	20252											
DLF -DEL	2028	3640	3011	3838	2955																
DUR			5200	5925	373																
ENR						3380	3588	4260	3344	4195	6470	6680	8416	10454							
GFI	4015		13455	18038	13923	6567	8831	7603	23859	14258	3263	3663	5175	37329			8993	9683	11444	12739	5230
GFS -DEL																					
GMF	990	2367				1169	17018	21992	17754	18816	23346	20376	28019	23002	22082	23799	28575	23125			
HAR	5322	7130	1633	2079	2271	2185							22765	37932	12141	14279	9335				760
HVL	5074	4527	7492	8943	10339	9063	11514	9902	7675	6822	7200	6294	10296	11583	13761	14049	14288	12455	10693	11304	9391
ICH -DEL	2469	3793	5359	6801	6904	7145															
IFS -DEL																					
ILV					7434	5563	7184	7518	7252	6308	7394	7602	8539	8592	6806	6695	6865	5822	4221	4216	3805
IMP	2912	1739	8562	11676	12053	15142	22094	27350	20863	11829	203	160	6470	6948	28078	27508	19786	15560	19389	25258	24170
IRV -DEL	1104	1104																			
ISC	25153	36543	31595	38784	3895	1175	5973	7783	6910	17480	12378	10713	6093	13568	10116	9288	9771	423			10080
KLG	385	347	76	89	114	18	16	20													
KMB													16695	807					4842	5380	

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
LON	6303	2426				873											2632	6100	7657	8406	10261
MUR	965	1482	880	1241															4163	4913	2398
NHM						635	2751	4480	5538	4109	3214	2529	3572	3393	4583	5230	1241				
NWT -DEL																					
ODM -DEL	207	383																			
OMN			6885	6120	7831	5663	4757	4606	4688		6064	5411	8051	9732	8856	14835	14975	15281	6275	6361	7952
SAP	717		12420	16439	17085	14345	24720	25931						7260	23200	19392	18320	19320	23568	23947	16016
SCN	990	601	496	437	551	321	421	521	261												
SOL	4673	9455	15726	16877	18667	8580	16708	20930	22396	18421	15569	15569	22190	34196	29231	31569	27902	28043	16571	16502	27867
SOLDBI																					
TBS					6248																
TNT																			2558	2675	1574
TSX	563	706												9533	12193	14575	12542	10428	12224	13945	15538
VOG -DEL	503	503																			

Table 22: Sage Resources - Quarterly value of shares held for period December 1998 - December 2003

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
AEG																	1202	2058	1553	1500	1569
AFE	1500	1820	1634	2396	1256						2355	2011	2190	3295	4000	4312	4812	4419			1394
AFR					7910	8280	6698	7009	8100	8751	2673	3300									
AFX										5096	2209	2200	2475	2980					2460	2679	4144
AGL	622		3273	3902		499					11865	10654	12916	17519	22100	17155	17356	19925	25090	26959	37774
AIN	3095	4888	6807	8727	8803	9053	21529	9937	11436	17109	1098	949									2105
AIT -DEL	50	90																			
AMS			9321	10539		3341	1948	2774	2921	4092	13488	11271	12318	8999	15119	13215	11347	10337	3048	3313	638
ANG			2067	3005	2834					2057	4188	4117	7723	6725	8632	8974	18013	18959	18067	20506	20764
AOD																		1485			
ARL											2021	2110	2422	2787				549	2298	3056	6424
AVG	1061	1489	1352	1603	3333	5545	4545	3219	4577	6937											
AVI						4410	2414	2967	1537	4408	1962	2192									
BIL			7287	8703	2510	6354	11371	10624	11956	8601	11080	10256	14822	17886	16268	14596	16036	14922	23124	27024	41227
BLT -DEL	578	479																			
BNC -DEL	140	127	143	76																	
BNX	684	395	389	684																	
CHE						4610	3058	3453	2803	3611	2178	1960	2112								
CKS						719	713	782	757	761	151	156									
COIP	227	91																			
DBR -DEL	2250	4760	12508	14273	15770	13739	7326	8907	5420	3355											
DUK -DEL						485															
ENR											566	584	1094								
FRE	559	415	544	647																	
GFI	705		2871	3849	8119	8582	5240	4512	8269	12019	5289	5939	14088	25418	12313	13747	13428	8588	12145	13518	5113
GFS -DEL	5839		2355	2782	7963	8012															
GMF	3366	5006	6220	8431	8865	10249	11770	15211	16027	11257	12492	10903	17487					8337			
GRF															191	292	3507	3218	2351	3120	4364
HAR	1973	2876	1210	1540	3258	5609								7443	5112	6012	3043	9043			
HLH -DEL					1196	1730															
HVL	4222	1732	1561	1863	5615	6283	3018	2595	1964	1746											

	1998	1999				2000				2001				2002				2003			
	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
ICH -DEL	966	1484	2543	3227	2834																
ILV	938	930	3324	3449	3755	6496	7089	7418	7561	7802	6800	6991	4827	3595	3278	3225	180	152			
IMP	5200	6042	1837	2505							2461	1940	12716	9972	9606	9411	10384	14399	16645	21684	21646
IRV -DEL	800	800	2065	2516																	
ISC	10600	29537	16390	20119	7641	5497	5030	6554							8736	8021	9061	6589	14553	18464	17812
JCG -DEL	1506	898	1251	1421																	
KMB													3965	9618	1369	1037					
KPM -DEL	940	1420	1406	2084	1695																
LON			2428	2706	2030									4791					9894	10863	7631
MTX	614	585	746	965	309																
MUR																			5087	6004	7375
NHM	1458	973					11007	17921	19638	14106	4801	3778			6585	7515	9020	4162	2762	2425	1476
NWT -DEL	1073	896																			
ODM -DEL	400	555	771	781																	
OMN															568	952	1773	2072	3512	3560	4450
PAM			787	851	819		339	404	638	1593											27
PIN -DEL	1750	1643																			
PPC					2650	949	4180	4213	5038	4948	4457	4005	5285	3656	3365	3440	4182	3983	4474	5080	6422
RBW						276	322	567	1052	1760	1357	1779	1960	1899							
RFN -DEL	858	772																			
RNG																					
SAL			1971	1281	1564	1117															
SAP	683	783	3231	4276	2955	4751	6758	7089	12497	8051	5140	5626	5592	6853	15689	13114	14118	15438	10818	10992	12285
SCE																	1976	2078			
SOL	4830	6620	13994	15018	13708	14943	12533	15701	15104	15813	10860	10860	14488	19372	16563	17888	16073	13309	14318	14258	20180
TBS													5982	6156							
TNT	1155	1071	2037	1918	1274													3170	10671	11159	5344
TSX	1440	1063	1871	2295	2901	2703	2769	2668	3600	977	2267	1911	4645	6523	6944	8300	6835	3634			4347
VKG																		1099	646	452	452
VOG -DEL	4067																				
WAR										1528											
WBO															369	427	1491	2314	2440	2782	3963
WRC -DEL	1516	1364																			

Table 23: Sharpe Ratio Rankings

	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jun-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03
Financial & Industrial																				
Optimal Portfolio	0.0570	0.0738	0.3767	0.7832	0.6475	0.2805	0.4782	0.2453	0.4142	0.6437	0.4137	0.5352	0.0531	0.3622	0.3884	0.3238	0.3796	-0.0846	0.6880	0.8791
ABSA Fin & Ind	-33.1027	-4.8771	-55.6344	-6.5330	-5.9416	-33.8857	-49.0102	-5.4566	-6.1905	-34.5070	-43.6610	-5.2817	-57.0882	-22.9667	-80.1002	-41.3520	-80.1015	-36.6565	-64.0392	-36.8948
OM Fin	-1.6910	-6.2496	-100.881	-23.0471	-11.6123	-38.4868	-50.7670	-23.9854	-26.2819	-20.1012	-44.1920	-48.0287	-26.4890	-12.1165	-90.7542	-42.8323	-43.6870	-8.3829	-98.2318	-17.6255
OM Ind	-25.6264	-7.7036	-74.4327	-0.3309	-20.2140	-16.1632	-55.0720	-47.6536	-38.2687	-41.5325	-58.1913	-5.5469	-41.0245	-1.9643	-67.3879	-23.7282	-105.996	-19.3249	-66.5379	-22.5654
Sanlam Ind	-23.4825	-3.9862	-92.8680	-7.2261	-20.4953	-33.5033	-82.1076	-19.9466	-33.1296	-36.4442	-45.0553	-5.6100	-11.1069	-24.8883	-82.6515	-32.0165	-56.4540	-10.3158	-69.1031	-19.1562
StBank Fin		-5.6974	-99.2490	-10.7105	-30.0665	-19.4914	-109.969	-28.3918	-20.7199	-7.4744	-123.127	-38.1593	-24.9100	-29.9755	-118.160	-43.3276	-12.0771	-46.2700	-82.8232	-21.5105
StdBank Ind	-21.1205	-4.6700	-65.9115	-5.4302	-5.7440	-19.4914	-109.969	-28.3918	-108.982	-21.9661	-47.5672	-10.5114	-20.3525	-11.9495	-78.7292	-18.2664	-22.1493	-10.5542	-70.8012	-8.3033
Highest Value	**0.0570**	**0.0738**	**0.3767**	**0.7832**	**0.6475**	**0.2805**	**0.4782**	**0.2453**	**0.4142**	**0.6437**	**0.4137**	**0.5352**	**0.0531**	**0.3622**	**0.3884**	**0.3238**	**0.3796**	**-0.0846**	**0.6880**	**0.8791**
Large Capitalization																				
Optimal Portfolio	0.1105	0.1166	0.3568	0.6517	0.5061	0.2292	0.3579	0.2341	0.4919	0.5848	0.3274	0.5173	0.6085	0.4948	0.4715	0.414464	0.2374	0.2932	0.4939	0.5568
Coronation Top 20										-7.4744	-123.1269	-38.1593	-11.1362	-12.9612	-65.9341	-34.6533	-22.3840	-14.1257	-79.7385	-9.6087
Liberty Alsi 40						-32.1772	-68.2833	-44.1005	-44.3536	-4.3037	-88.0547	-3.0229	-31.4643	-22.7211	-87.1539	-43.1162	-88.1060	-50.2540	-77.2603	-27.5552
OM Alsi 40										-11.4906	-61.3215	-7.1820	-39.8111	-24.2714	-86.0513	-37.7474	-84.3821	-37.4223	-77.1559	-29.8590
RMB Top 40			-57.3595	-38.4036	-48.0224	-43.0544	-68.2917	-53.8609	-45.8903	-34.6473	-61.3090	-7.2862	-43.5028	-38.4980	-88.1723	-45.4606	-129.7221	-60.4924	-77.1970	-29.2466
Highest Value	**0.1105**	**0.1166**	**0.3568**	**0.6517**	**0.5061**	**0.2292**	**0.3579**	**0.2341**	**0.4919**	**0.5848**	**0.3274**	**0.5173**	**0.6085**	**0.4948**	**0.4715**	**0.4145**	**0.2374**	**0.2932**	**0.4939**	**0.5568**
Mining & Resources																				
Optimal Portfolio	0.0613	0.1492	0.2696	0.4435	0.2860	0.1525	0.1825	0.1777	0.3767	0.6359	0.3946	0.4105	0.4300	0.3581	0.3960	0.3495	0.1061	0.0344	0.1246	0.1298
Futuregrowth Mining & Resources						-27.7762	-38.9977	-38.7145	-5.6858	-3.6647	-66.8289	-18.4528	-19.5804	-10.6166	-63.8628	-24.1822	-34.4773	-8.6396	-66.2085	-7.1466
Investec Comm	-2.8984	0.0168	-59.9488	-12.5072	-28.7882	-51.0254	-39.7615	-20.9918	-31.9683	-6.9103	-74.3869	-3.5878	-16.0351	-9.5646	-53.8559	-15.3154	-11.7500	-7.9823	-66.5575	-4.0244
Liberty Res	-10.5234	-14.6887	-74.6343	-32.0289	-18.1625	-26.6347	-49.6306	-14.1144	-10.0037	-8.8042	-96.4306	-19.0608	-16.9333	-1.1460	-76.6711	-17.6606	-17.4971	-7.1846	-54.6440	-12.4518
Metro Res	-30.0789	-8.2942	-62.2208	-36.8718	-16.8207	-49.8795	-34.9048	-29.5710	-16.4084	-6.8869	-77.4110	-13.1648	-16.1322	-24.3481	-67.3192	-9.2177	-97.4292	-14.2296	-61.7275	-4.8595
NIB Min & Res	-12.2852	-7.1929	-53.0840	-23.9672	-3.9886	-14.9219	-49.7365	-9.1095	-8.9639	-4.7326	-72.7680	-14.0663	-12.2554	-8.5247	-78.5863	-1.0780	-49.4063	-12.6521	-73.0767	-17.7534
OM Mining	-12.4757	-9.9516	-87.1520	-10.9041	-24.0049	-3.4851	-60.3828	-17.3389	-17.7209	-22.9316	-98.4765	-0.8171	-7.2838	-6.5125	-55.2914	-29.7642	-23.8338	-24.6620	-82.3156	-5.1652
Sage Resources	-26.3802	-13.8942	-59.5941	-16.2260	-24.8909	-14.1625	-41.8019	-29.3304	-16.6828	-11.7247	-66.9288	-8.2274	-26.2772	-21.7845	-49.6843	-3.6169	-18.8731	-8.2431	-52.7387	-15.7744
Highest Value	**0.0613**	**0.1492**	**0.2696**	**0.4435**	**0.2860**	**0.1525**	**0.1825**	**0.1777**	**0.3767**	**0.6359**	**0.3946**	**0.4105**	**0.4300**	**0.3581**	**0.3960**	**0.3495**	**0.1061**	**0.0344**	**0.1246**	**0.1298**