An evaluation of the performance of black-influenced and black-owned companies on the Johannesburg Stock Exchange.

By

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Declaration

I the undersigned hereby declare that the work contained in this research is my own original work and has not previously in its entirety or in part been submitted at any university for a degree.

Signed by candidate

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Abstract

From 1995 to 1998 the popular business press regularly reported that black-influenced (BI) and black-owned (BO) companies outperformed the all-share index (ALSI) and the financial and industrial index (F&I). However, popular business press reports were not necessarily based on sound theoretical and/or empirical evidence. Indeed, the favourable publicity BI and BO companies enjoyed in the popular press could have influenced the demand for listed BI and BO companies' shares and, consequently, share price performance.

The primary objective of this study is to test the performance of BI and BO companies relative to their respective control (non-BI and non-BO) companies and sectors. The secondary objective is to explain the suggested superior performance of BI and particularly BO companies. Two main hypotheses are developed. Firstly, the suggested performance of BI and BO are based on linear risk-and-return relationships. Secondly, strategic positioning through stakeholder orientation explains the suggested superior performance of BI and BO companies.

The findings on the primary objective indicate that BI and BO companies are relatively better performers. However, the findings are marginal and not statistically significant. Hence, the findings are inconclusive.

The findings in respect of the secondary objectives are also inconclusive. Findings on the linear risk-and-return hypothesis reveal that BI and BO companies generally have relatively lower, albeit marginally, *ex ante* risk-adjusted returns than other companies. The findings on strategic positioning through stakeholder orientation reveal that BO companies are relatively better performers, whereas BI companies are relatively poorer performers than comparable companies. Once again, the findings are not significant at a 95% confidence level and, therefore, inconclusive.

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Chapter One

Introduction

Background

This thesis focuses on the performance of black-owned (BO)[1] and black-influenced (BI)[2] companies relative to non-black owned (non-BO) and non-black influenced (non-BI) companies. The popular business press, including the *Financial Mail, Business Day* and *Sunday Times Business Times,* reported that BO companies offer better returns to their shareholders than non-BO companies. For example, the *Financial Mail* (1997) reported that BO companies, and companies with at least 33% black shareholding, perform better on average than the actuaries all-share index (ALSI) and actuaries financial and industrial index (F & I) on the Johannesburg Stock Exchange (JSE). Sikhakhane (1998) also pointed out that BI companies outperform the ALSI. This is consistent with Kobokoane's (1999, p.10) assertion that BI and BO companies performed better than the ALSI over a two-year period prior to the 1998 global stock market crisis.

The suggested superior performance of listed BI and BO companies compared to non-BI companies, non-BO companies and their respective sectors could be the result of the business reports since actual share price variations on the JSE are influenced, in part, by information conveyed and relayed through published reports (Visser & Affleck-Graves, 1982: 72). The favourable publicity BI and BO companies enjoy in the popular press could have increased the demand for listed BI and BO companies' shares and, consequently, their share performance.

[1] BO companies denote companies with more than 50% black shareholders. The term 'black' refers to African, Asian and Coloured South Africans.
[2] BI companies denote both BO companies and companies with at least 1% black shareholders.

The press reports *generally* have not offered sound explanations, based on theoretical and empirical evidence, for the alleged superior performance of BO and BI companies. A sound theoretical and empirical examination is necessary, either to support the notion that BO and BI companies are superior performers relative to non-BO companies, non-BI companies and their respective sectors, or to refute the notion of superior performance by BO and BI companies.

Existing literature provides risk-and-return relationships and strategic positioning through favourable stakeholder orientation as possible explanations for the alleged superior performance of BI and BO companies. Some of the salient arguments are reviewed below to indicate their relevance to the present study.

Risk-and-return relationships

The seminal work of Markowitz (1952) suggested that there is a linear relationship between risk and return. This 'one-to-one correspondence' exists since companies assuming greater risk reward investors by offering them greater returns (Brealey & Myers, 1996). On reviewing risk-and-return relationships cognisance should be taken of market capitalisation, capital structure and operational maturity. Market capitalisation: the market capitalisation of BO and BI companies could be relatively small. Malkiel & Xu (1997) indicate that smaller companies normally exhibit greater degrees of diversifiable risk than larger companies. Capital structure: the capital structure of BO and BI companies could be different from that of non-BO and non-BI companies. Higher degrees of risk are normally synonymous with higher debt-to-equity ratios (Brealey & Myers, 1996). Operational maturity: BO and BI companies are new phenomena on the JSE and could be regarded as emerging companies. Emerging companies are less *operationally mature* and are normally regarded with greater scepticism than established companies. This scepticism stems from uncertain future prospects on the stock

market. Brealey & Myers (1996) note that uncertain future prospects are positively related to risk. Thus, risk profiles inherent in BO and BI companies could explain their alleged superior performance.

Strategic positioning through favourable stakeholder orientation

The perceived favourable stakeholder orientation of BO and BI companies could also contribute towards their alleged superior performance (Jones, 1995; Clarkson, 1995; Donaldson & Preston, 1995; Greenley & Foxall, 1997). The putative superior performance of BI and particularly BO companies could be related to their ownership and control structure as well as current government policies towards black economic empowerment (BEE) (Sikhakane, 1998; RDP, 1994). Firstly, the ownership and control structures of most BO companies and some BI companies include labour (through trade union representation) and the community (through 'stokvels' and church denominations). Several stakeholder groups are thus reflected in their ownership and control structure reflecting an inclusive orientation as opposed to an exclusive operation subject to the vagaries of restricted membership/partnership and a limited market. Secondly, the South African government favours companies associated with BEE by awarding them tender opportunities (Sikhakhane, 1998) thereby strengthening their position with regard to sustained future growth and performance. If all other things remain equal, the favourable strategic position of BO and BI companies would thus enable them to create superior value to non-BO and non-BI companies.

The preceding assumptions are subjected to empirical scrutiny in this study (as clarified in the ensuing objectives of this inquiry).

Objective of study

The research objective is to:

A) determine whether BO and BI companies perform better than non-BO companies, non-BI companies and their respective sectors; and, if so,

B) to examine the linear risk-and-return relationships and/or strategic positioning through stakeholder orientation.

However, before the research objectives can be adequately pursued in this study, it is important to briefly sketch the broader context of black-owned and black-influenced companies with the view to illuminate the overall operational framework of this inquiry.

Black-owned (BO) and black-influenced (BI) companies

The broad operational framework is sketched in terms of economic empowerment programmes of other previously disadvantaged groups as well as specific developments that led to BO and BI companies.

Economic Empowerment (EE) Programmes by previously disadvantaged groups

This section discusses black economic empowerment (BEE) within the broader realm of EE programmes by other previously disadvantaged groups both in South Africa and elsewhere in the world.

EE programmes and the corporate ownership and control changes favouring disadvantaged groups are not unique to black South Africans. For example, after the white Afrikaner ethnic group had empowered themselves politically in 1948, they saw the need to empower themselves economically. At that stage, South Africa's minority white population was divided into three groups—Afrikaners, Jews and other English speaking whites. The Afrikaners were

the largest group amongst the white South Africans, yet their *per capita* income was less than half of the English speaking white South Africans in 1946 (Farron, 1998). By 1976 the *per capita* income of Afrikaners increased to more than two-thirds of the income of English-speaking white South Africans. The corporate ownership and control paradigm for Afrikaners changed from virtually zero percent in 1948 to 17% of the market capitalisation on the JSE by 1987. However, the Jews, who made up approximately 2.3% of whites, controlled 62% of the market capitalisation on the JSE in 1987. English-speaking white South Africans controlled the remainder (approximately 27%). Since overlaps between the different white ethnic groups exist the percentages do not add up 100%. (Farron, 1998).

The Malaysian government also implemented EE initiatives geared towards the Bumiputras (widely known as Malays) after racially inspired riots in the late 1960s. At that stage the Malaysia's Chinese minority exercised a disproportionately high degree of control over the Malaysian economy. The economic disparity between the economically advantaged minority Chinese Malaysians and economically disadvantaged Bumiputras (literally meaning 'sons of the soil') led to racial riots in May 1969. Subsequent to the riots, the Malaysian government introduced an EE programme geared towards making the economy more reflective of the country's racial composition by 1990. They called this programme the 'new economic policy' or NEP. The NEP introduced positive discrimination favouring Bumiputras (Farron, 1998).

In 1970 the Bumiputras owned only 2.4% of equity in public companies, whereas the non-Bumiputras Malaysians owned 34.3% and foreigners owned 63.3%. Since the Bumiputras, Chinese and Indians comprise 60%, 30% and 10% of the Malaysian population respectively, the NEP aimed to change the corporate ownership paradigm to 30%, 40% and 30% for the Bumiputras, non-Bumiputras (Chinese and Indians) and foreigners respectively by 1990. By 1990 the Bumiputras, non-Bumiputras and foreigners owned 28.6%, 46.2% and 25.2% respectively of companies listed on the Kuala Lumpur Stock Exchange (KLSE) (Toh, 1998). The NEP therefore reached its target in respect of listed companies.

This section briefly discussed EE programmes that strengthened the corporate ownership and control position of other previously disadvantaged groups. The ensuing section discusses specific developments that led to BO and BI companies.

Specific developments that led to BO and BI companies

The nature of BI and BO companies is profoundly influenced by legislative political and economic historical discrimination against blacks insofar that whites dominated South Africa's corporate ownership and control structures. The historical legislative political and economic laws include the Land Act 27 of 1913, Native Urban Areas Act 21 of 1923 and proclamation 293 of 1962. These laws systematically restricted black persons from economic rights and freedoms. In this regard, Sethi (1990) notes that South Africa's economic inequality is a direct consequence of several past political laws.

The institutional advantages white persons enjoyed relative to black persons led to a concentration of corporate ownership and control by white (non-black) South Africans. In March 1994 black persons controlled virtually zero percent of the market capitalisation on the JSE (McGregor, 1995). Since the JSE reflects the market for all publicly listed companies and most of the largest companies except parastatals (eg. Eskom, Telkom), it could be suggested that the ownership and control paradigm shifts on the JSE reflect changes within the South African economy.

After the realisation of partial black political empowerment in February 1990, BEE received renewed attention. This is evident from policy documents and conference proceedings of several organisations and political parties such as the Black Management Forum (BMF), the Association for the Advancement of Black Accountants of Southern Africa (ABASA), the African National Congress (ANC) and the National African Federated Chamber of Commerce (NAFCOC). This attention is not confined to organisational conferences and policy documents. The popular business press, for example, the *Business Day,* the *Financial Times* and the *Sunday Times Business Times*, also published articles dealing with the development of BEE.

Since its election in 1994, the ANC-led South African government also has been concerned with addressing economic disparities between black and white South Africans (Vermeulen, 1999, p. 6). Sikhakhane (1998) notes that the government uses its tender contracts to advance BEE. In awarding tender contracts, amounting to more than 50 billion rand yearly, the government favours BEE consortia and/or companies involved in BEE.

In a non-racial and democratic country such as South Africa, government reflects the population demographics of the country. For the survival and economic prosperity of the country, the owners and controllers of the corporate economy and members of the democratic government should have favourable relations. Accordingly, to achieve such favourable relations between the corporate economy and the democratic government, the corporate ownership and control structure should ideally be reflective of the population demographics. Non-black conglomerates such as South African National Life Assurers Mutual (Sanlam) and Anglo-American Corporation Limited (Anglo-American) realised that an all-white corporate ownership and control structure is not conducive to symbiotic relations between government, business and society. In their efforts to foster an environment more conducive to such symbiotic relations, these non-black conglomerates were instrumental in several BEE deals leading to the formation of BI and BO companies. Sanlam, for example, assisted Corporate Africa Limited (Corpaf, an unlisted black-owned company) to attain control of Metropolitan Life Limited (Metlife) in 1993. Furthermore, on unbundling, Anglo-American announced that they would sell off part of their non-core businesses to BEE consortia only. In 1996 Anglo-American sold 34.9% of their 47.4% stake in Johannesburg Consolidated Industries limited (JCI) to the Amalgamated Mining Group limited (AMG, a BEE consortium) (De Lange, 1996, p.6). In 1997 Anglo-American sold a 35% stake in Johnnies Industries Corporation Limited (Johnnic) to the national empowerment consortium (NEC, a BEE consortium) (Enterprise, 1997, p.40).

The developments in BEE led to radical changes in South Africa's traditional corporate ownership and control structure. This corporate ownership and control paradigm change is reflected on the Johannesburg Stock Exchange (JSE). For example, black South Africans controlled approximately 10% of the market capitalisation by 1999 (McGregor, 1999) from virtually 0% in March 1994 (McGregor, 1995).

In conclusion, from the brief review of the EE exercises by other previously disadvantaged groups and specific developments on BI and BO companies, it is evident that similarities exist between their EE exercises and BEE. For example, EE programmes of other disadvantaged groups normally followed political empowerment. Furthermore, during and subsequent to EE, a change in corporate ownership and control is evident, favouring the previously disadvantaged groups. Knowledge of the EE experiences by other disadvantaged groups is useful in conceptualising BEE and more specifically BO and BI companies. It is such comparative knowledge that could ideally provide BO and BI companies with a competitive advantage over non-BO and non-BI companies, hence the favourable superior performance.

Structure of study

This study is structured as follows: *Chapter two* reviews related literature in respect of performance, based on risk-and-return relationships and strategic positioning through stakeholder orientation. In reviewing risk-return literature, arguments both favouring and disputing the linear relationship are discussed and analysed. In reviewing stakeholder literature, theories supporting stakeholder orientation (Jones, 1995; Clarkson, 1995; Donaldson & Preston, 1995; Greenley & Foxall, 1997; 1998) as well as those supporting shareholder orientation (Copeland, 1996; Argenti, 1997; Friedman, 1979) are discussed and analysed. *Chapter three* outlines the method of study. It discusses the research technique used and describes the selection of sample and instruments employed to collect the data. Furthermore, it provides a method for analysing the data. *Chapter four* presents, interprets and discusses the findings of the study. *Chapter five* concludes the study and presents areas for future research.

Chapter Two

Literature review

Introduction

The introductory chapter highlighted the putative superior performance of BO and BI companies. This chapter specifically examines literature that could illuminate some of these suppositions. There is, however, a dearth of research in this regard. Nevertheless, as suggested in chapter one, existing studies concentrating on risk-and-return relationships and strategic positioning through stakeholder orientation could offer explanations for the performance of BO and BI companies relative to non-BO companies, non-BI companies and their respective sectors. Accordingly, this chapter reviews literature on performance in respect of linear risk-and-return relationships and strategic positioning through stakeholder orientation.

Linear Risk-and-Return relationship

Background

Modern portfolio theory contends that a linear relationship exists between systematic risk and return (Brealey & Myers, 1996). Two factors that could influence the risk profiles of BI and particularly BO companies are their degrees of leverage and operational maturity.

Leverage

It is sometimes hypothesised that BI and particularly BO companies are relatively more highly levered than comparable companies (Segal & Brown, 1998; Kantor, 1998, p. 76). This hypothesis stems from historical disparities in the income allocation between black and white South Africans (South African Advertising Research Foundation, 1998). Based on the skewed income distribution between black and white South Africans, black persons often do not own sufficient capital to acquire meaningful stakes in South African companies. In acquiring

meaningful stakes, black persons often rely on debt financing (Finansies & Tegniek, 1996). For example, in acquiring a shareholding in Metlife, Corporate Africa Limited (Corpaf) used their stakes in Mobile Telephones Network (MTN) and *The Sowetan* newspaper as collateral to secure a loan for an initial 7.1% shareholding (Beare, 1996).

Since it could be hypothesised that black control transactions are moderately levered (Kantor, 1998, p.76; Segal & Brown, 1998), the financial viability of listed BI and BO companies depends on the performance of the stock market. Any decrease in the stock market's performance could be detrimental to the success of BI and, more particularly, BO companies with great exposure to debt financing. The high exposure to leverage thus increases the risk exposure of several BI and BO companies. Any decrease in short-term profitability could negatively affect the repayment schedule of BI and BO companies. The risk profiles of BI and BO companies could be reflective of their chance to default on their debt holders. Since BI and BO companies are perceived to be more levered than non-BI and non-BO companies, their risk profiles should be greater. Segal & Brown (1998) note that the exponential losses in value experienced by several BI and BO companies during the 1998 stock market crisis could be ascribed to the high degrees of leverage inherent in them.

Operational Maturity

As noted in the introductory chapter BO and BI companies are less *operationally mature,* and thus riskier, than established non-BO and non-BI companies since they are not sufficiently resilient to weather adverse economic conditions.

Modern portfolio theory contends that higher risks are balanced by higher returns. Investors assume greater risk or greater variance of returns if they anticipate increases in expected returns. Brealey & Myers (1996) note that abnormal returns are non-existent in the long run without abnormal exposure to risks. This applies to BO and BI companies as well: their superior returns compared to non-BO and non-BI companies could be ascribed to their greater risk exposure.

Modern portfolio theory also asserts that for a well-diversified portfolio only non-diversifiable risk is relevant. With portfolio diversification risks inherent to individual companies are diversified away. Factors that relate to the general economy, however, affect all companies and cannot be diversified away in forming portfolios. The responsiveness or sensitivity of companies to macro-economic factors differs, however. The higher the degree of responsiveness the greater the non-diversifiable risk of that company. Brealey & Myers (1996) note that a linear relation exits between non-diversifiable risk and expected returns. Consequently, increases in non-diversifiable risks are matched by increases in expected returns.

In examining the relation between risk and average returns, Fama & MacBeth (1973) found a linear relation on the NYSE from 1935 to 1968. Pettengill, Sundaram & Mathur (1995) also find an overall long-term unconditional positive relationship between systematic risk and realised returns for the period January 1926 to December 1990 on the NYSE. The brief review of literature on the linear risk-and-return relationship generally suggested that the alleged superior performance of BI and BO companies is attributable to their higher degrees of risk. Even so, there are those authors who argue against this linear relationship.

Arguments against the linear relation

During the past twenty years two new hypotheses emerged that threatened the validity of the linear risk-return relationship. Bowman (1980) argues that risks and returns are negatively correlated. He states that an increase in risk provides a decrease in return and *vice versa*. Fama & French (1992), however, find no correlation between risk and return. They find that size and not risk is better correlated with return. Other factors that could influence the risk-and-return relationships of companies are the products and/or services offered, the location, information flow, technology, etc. These factors are beyond the scope of this study, however.

In discussing the linear risk-and-return relationship literature relating to the negative and zero risk-and-return hypotheses should also be reviewed.

Negative correlation hypothesis

After examining the risk-and-return relationship for the period 1972 to 1976, Bowman (1980) finds:

- negative associations between risk and return in the initial sample of two industries;
- similar negative associations for all but one of an additional nine industries;
- on removing the four most volatile companies in the industry with positive risk-and-return association, no positive relation is evident;
- on examining the association between risk and return in a broader sample of 85 industries, that a statistically significant negative association is evident in 56 industries at a p-value of 0.001; and
- significant negative associations across companies within industries.

Explanations for negative correlation hypothesis

Companies whether or not they are BO and BI companies should produce relatively higher returns without incurring relatively higher risks on the basis of superior management, the attitude of the companies to assuming risk and higher risk propensity by such companies in the expectation of greater returns. Another factor that could influence the negative risk-and-return relationship is the spread between actual return and risk-free rate of return.

- Management

  Bowman (1980) suggests that superior management skills could enable a company to achieve high long-term stable returns. He argues that the best strategic managers continually seek corporate and business strategies that would allow for consistently higher returns relative to those of competing companies. Superior management skills could thus explain the negative risk-and-return hypothesis.

- Attitude to assuming risk

  Modern finance theory argues that investors are risk averse and only increase their degree of risk exposure in the presence of increases in expected returns (*ceteris paribus*). In some circumstances, however, companies could increase their risk exposure without increasing their actual returns, thus explaining the paradox. Nevertheless, Bowman (1980;1982) notes that although it is not inherent in astute management, some companies could assume a risk-taking or indifferent position. This, however, is an exceptional behaviour and not the rule.

- Prospect of earning higher returns

  Management could be both risk-seeking and risk-averse (Oviatt & Bauerschmidt, 1991). Bowman (1982) notes that when the performance of a company is below its target level, risk-seeking activities usually follow. This is done to recover poor past performances. According to Bowman (1982) risk-averse behaviour normally occurs when the performance of a company is above its target level. Troubled companies could assume more risks than successful companies in the hope of earning greater returns. If the returns are not realised, negative risk-return relationships result (Bowman, 1982).

- Spread between actual return and the risk-free rate of return

  At times, the positive relationship between systematic risk and actual return is, however, conditional on a positive spread between the actual return and the risk-free rate of return (Pettengill, Sundaram & Mathur, 1995). The actual return should thus be greater than the risk-free rate of return, for there to be a linear risk-and-return relationship. Pettengill *et al* (1995) point out that no investor would hold risk-free assets, such as government bonds, if actual returns on securities, such as shares, are always greater than the risk-free rate of return. The chance of not earning actual returns greater than the risk-free rates of return

return. The chance of not earning actual returns greater than the risk-free rates of return thus reflects the risk investors bear. On testing their hypothesis Pettengill *et al* (1995) find that significant linear relations exist between risk and realised returns for portfolios, with realised returns greater than the risk-free rate. On the other hand, portfolios with realised returns lower than the risk-free rate reflect negative risk-and-return relationships (Pettengill *et al*, 1995).

Critique of negative correlation hypothesis

The negative correlation hypothesis is criticised based on time dependency, measurement technique used and industry characteristics.

- Time dependency

  In examining the negative risk-and-return paradox over time Figenbaum & Thomas (1986) used Bowman's (1980) risk-return analysis technique for non-overlapping five-year periods (i.e. 1960-64, 1965-69, 1970-74, 1975-79). They included only companies with at least three years of data and industries with at least six companies in their sample for meaningful returns and variances of returns. The period 1965-69 exhibits a significantly positive correlation. On the other hand, the periods 1970-74 and 1975-79 exhibit significantly negative correlations. Findings for the 1960-64 period were marginal. This indicates that the negative risk-and-return paradox is time-dependent.

- Measurement technique employed

  The use of market and accounting-based techniques greatly contribute to the association between risk and return. The negative risk-and-return relationships disappear when market measures such as *betas* are applied (Figenbaum & Thomas, 1986). Beginning of period (BOP) calculation procedures further exhibit positive risk-and-return relationships while end-of-period (EOP) procedures exhibit negative risk-and-return relationships. EOP methods inflate losses while BOP methods inflate profits (Baucus *et al* 1993). Using the

ordinary least square (OLS) technique, Oviatt & Bauerschmidt (1991) find a significant negative risk-and-return relationship. However, when the two-stage least square technique is applied with the same sample, no significant relationship is evident (Oviatt & Bauerschmidt, 1991). The technique employed thus contributes to the suggested negative risk-and-return relationships.

- Industry characteristics

  Industry characteristics influence the negative risk-and-return relationships. Low performing industries tend to show negative risk-and-return relationships. On the other hand, better performing industries appear to exhibit positive risk-and-return relationships. (Figenbaum & Thomas, 1986).

Zero risk-return relationship

On testing the risk-and-return relationship over the period 1963 to 1990, Fama & French (1992) find no relationship between systematic risk and return for the period 1963 to 1990 on the NYSE. Fama & French (1992) note that small market capitalisation (size) companies perform better on average than larger market capitalisation companies. They note that size is a better indicator than systematic risk when expected return is estimated. Although Malkiel & Xu (1997) found a size effect, they also found that large market capitalisation companies are associated with small degrees of unsystematic risk. On testing the relationship between average annual returns and unsystematic risks, Malkiel & Xu (1997) find that unsystematic risks explain changes in returns better than size by approximately 10%. They hypothesise that unsystematic risk could proxy systematic risks which influences share prices. Bradfield & Affleck-Graves (1991) and Bradfield, Barr & Affleck-Graves (1988) further point out that the size effect, which is prominent on the New York Stock Exchange (NYSE), is not apparent on the JSE.

Summary of perspective on risk and return

The preceding literature review suggests that a linear relationship exists between systematic risk and expected return. It is expected that the performance of BO and BI companies could be associated with systematic risk.

Although the linear risk-and-return relationship is widely accepted in finance literature, two hypotheses threaten its validity. They are the negative and zero risk-and-return correlation hypotheses. The negative risk-and-return correlation hypothesis argues that increases in risks are not balanced by increases in actual returns, but rather by decreases in actual returns. However, this theory is criticised on the basis of time dependency, the measurement technique employed and the industry characteristics. The suggested relative superior performance of BO and BI companies could be ascribed to these factors. Moreover, the zero risk-and-return relationship hypothesis argues that movements in systematic risk are not correlated with actual returns (Fama & French, 1992; 1996). They note that size (market capitalisation) is a better proxy of return than risk. Malkiel & Xu (1997) note, however, that although systematic risk is not correlated with actual return, unsystematic risk and actual return are positively related. They argue that unsystematic risk could be a proxy for systematic risk. Furthermore, Bradfield & Affleck-Graves (1991) as well as Bradfield, Barr & Affleck-Graves (1988) indicate that the size effect is not apparent on the JSE.

The linear risk-and-return relationship as yet has not been refuted. It is also apparent that the anomalies inherent in the linear risk-and-return relationship are time-dependent (Figenbaum & Thomas, 1986) and influenced by the specific methodologies used (Baucus *et al* 1993). The performance of BI and BO companies could thus be explained from a linear risk-and-return perspective.

The risk-and-return relationship does not exist in a vacuum but is profoundly influenced by strategic positioning through stakeholder orientation—the focus of the ensuing section.

Strategic positioning through stakeholder orientation

Background

It is widely accepted that companies have several stakeholders (Donaldson & Preston, 1995; Clarkson, 1995; Jones, 1995; Campbell, 1997). Stakeholders are defined as all parties who affect, or are affected by, the actions of the company. These parties include workers, consumers, suppliers, the community, government and shareholders (Clarkson, 1995; Jones, 1995). Donaldson & Preston (1995) and Clarkson (1995) note that the long-term survival and prosperity of companies depend on their ability to balance the interest of all stakeholders effectively. Here it could be avowed that in Apartheid South Africa, the interest of stakeholders usually assumed a race/class profile.

In the old corporate South African paradigm, race and class divisions were strongly correlated. For example, white South Africa was characterised by economic wealth and political freedom, whereas black South Africa was characterised by economic poverty and restricted or virtually no political freedom. This paradigm had been important to stakeholder relationships, particularly the relationship between workers and shareholders. Shareholders were almost exclusively white, whereas the workers were almost exclusively black. In many cases the 'struggles' of workers against the profit-seeking investors were equated with the 'struggles' of the politically disadvantaged blacks against the white ruling class. The actions of workers in the form of strikes, work stoppages, 'go-slows' and so on, often received legitimacy from the politically disadvantaged black community strengthening their position to influence the form and content of structural change *vis-à-vis* BEE.

In the new corporate South Africa corrective measures such as affirmative action and black empowerment programmes are in place to address past economic imbalances. Accordingly, societal divisions are increasingly moving away from race to class, with the emergence of a black elite as borne out by the fact that, currently, black shareholders control approximately 10% of the market capitalisation on the JSE (this figure includes double counting due to pyramids) (McGregor, 1999).

Another feature of the new corporate ownership and control paradigm is the emergence of black trade union investment funds. These investment funds own and control an array of companies on behalf of their members. Trade unions, for example, own and control half of the National Empowerment Consortium's (NEC) controlling stake in Johnnies Industrial Corporation limited (Johnnic) (Finansies & Tegniek, 1996). Accordingly, it can be hypothesised that trade union involvement in corporate ownership and control structures would (probably) decrease the risk of labour disruptions, strikes, deadlock wage negotiations between a company's management and workers, since workers have a share in the success of the company (Finansies & Tegniek, 1996).

Furthermore, the new paradigm would influence not only labour relations favourably but also relations with current and potential consumers. It can thus be argued that the credibility of companies with black shareholders would increase amongst black consumers. Since blacks comprise the bulk of the consumer base (South African Advertising Research Foundation, 1998), the success of South Africa's companies depends increasingly on the black consumer base. This means, amongst others, that the chances of companies to succeed and prosper would increase when they are well received by black consumers, in general, and the black community at large.

The South African government views BEE as an important vehicle for attaining economic parity between black and white South Africans (Bond, 2000; Kantor, 1998). Although the government is not a very active participant in BEE, they use their tender contracts as a tool to contribute to BEE. Sikhakhana (1998) notes that current government tender policy guidelines favour companies or consortia with black participation.

This section discussed the background to BEE in the context of strategic positioning through stakeholder orientation with the view to highlight its relevance to this study. The ensuing section discusses elements inherent to stakeholder orientation.

Stakeholder orientation

Clarkson (1995) states that the performance of companies relates to their stakeholder orientation. Since stakeholder orientation facilitates focus-driven strategies and tactics, it leads to superior performance. Strategic management literature concurs on the importance of stakeholder orientation in creating competitive advantage (Clarkson, 1995; Donaldson & Preston, 1995).

Stakeholder orientation in the South African context is, however, a complex problem. This complexity, as borne out by existing literature, could have a profound impact on the performance of specific companies whether or not they are BI or BO companies. In this regard, the following aspects of stakeholder orientation warrant attention, namely: corporate culture, balancing the interest of stakeholders, supplier relations and performance, ethical responsibility/corporate social responsibility and empirical evidence of stakeholder orientation.

- Corporate culture

  Corporate culture is often indicative of the values, beliefs and expectations of top management and the controlling shareholders (Smit & Cronje, 1995). Since the ownership-and-control paradigm of BI and BO companies reflects a high degree of labour and community involvement, it could be suggested that the corporate culture embedded in BI and BO companies should foster sound consumer market and labour orientation.

  Consumer orientation refers to symbiotic relations between the company and its consumer market (Kohli & Jaworski, 1990). In achieving symbiotic relations, information pertaining to customers and competitors should be collected and disseminated on a continual basis (Kohli & Jaworski, 1990). Despande *et al* (1993) and Kohli & Jaworski (1990) suggest that performance and favourable consumer orientation are positively correlated.

  According to Jones (1995) the presence of mutual and trusting labour orientation normally enhances the performance of companies. He notes that companies with favourable labour orientation tend to perform better than those without.

- Balancing the interest of stakeholders

  The goal of shareholder value maximisation is often pursued at the expense of other stakeholders (Day & Fahey, 1990). Increases in shareholder value could stem from decreases in labour compensation, decreases in customer value, inferior products and so on. Although short-term shareholder value could increase, value with respect to other stakeholders often decreases. The long-term effects of short-sighted shareholder value maximisation strategies could have adverse impacts on company value. Broader stakeholder orientation, together with shareholder value, could disseminate consistent signals about potential long-term company value creation (Day & Fahey, 1990).

The ownership and control composition of BO and BI companies includes labour through trade unions, the general community through community structures, the religious community through religious bodies and profit-seeking investors. For example, the National Empowerment Consortium (NEC) effectively controls Johnnies Industrial Corporation Limited (Johnnic). Trade unions control half the NEC whereas profit-seeking black investors, consumer and community groups control the other half. Based on the ownership and control structure of BO and BI companies, it could be suggested that they should balance the interest of stakeholders.

- Supplier relations and performance

  Mutual trust and co-operation between the underlying company and its suppliers often decreases cost and increases profitability (Jones, 1995). It could be suggested that a small number of loyal suppliers is indicative of mutual trusting and co-operative relationships (Jones, 1995). The increased economies of scale to the suppliers make it possible for them to supply goods at a reduced cost per unit. Where there is a long-term customer-supplier relationship, suppliers would also not hesitate to invest more to produce superior products. Jones (1995) argues that a company with a small number of loyal suppliers performs better than one with a large number of disloyal suppliers.

- Ethical responsibilities/ corporate social responsibility (CSR)

  Subsequent to partial political empowerment in 1990, CSR became more relevant to top management of large SA corporations (Bosch, 1990). CSR means different things to different companies but there is general agreement that CSR entails spending part of the corporate profits on projects that lead to an increase in the welfare of the historically disadvantaged communities. According to Tanya Kirsch of Community Growth Asset Management companies satisfying both social responsible and good financial standards

would perform well over time (Clayton, 1999, p. 4). Clarkson (1995) and Jones (1995) support this contention. Jones (1995) argues that ethical principles such as trust, trustworthiness and co-operation inherent to stakeholder orientation could lead to significant competitive advantages. Competitive advantages could arise from reduced agency costs, costs associated with team production and transaction costs. Jones (1995) notes that these cost reductions are unavailable to opportunistic companies. Opportunistic companies are those who pursue self-interest at the cost of others. He notes that the market normally penalises unethical and opportunistic companies over time.

Performance increases emanating from competitive advantages depend, however, on the external market environmental factors such as the intensity of competitive forces (Jones, 1995). Understanding the effect of stakeholder orientation on the performance of companies necessitates an analysis of the external market environment.

- Empirical evidence of stakeholder orientation

  In examining the association between stakeholder orientation and performance in a sample of United Kingdom companies amongst competitors, consumers, employees, shareholders and unions, Greenley & Foxall (1997) find that a conditional linear relationship exists between performance and stakeholder orientation. They note that the linear relationship is conditional on the external business environment. External strategic variables such as competitive hostility should thus be taken into account when the impact of stakeholder orientation on performance is assessed.

On testing the association between market orientation and performance with respect to stakeholder orientation in a sample of UK companies, Greenley & Foxall (1998) find that different types of stakeholder orientations relate to different types of performance means. They note that the external business environment is a key factor influencing performance.

When analysing the performance of BO and BI companies cognisance should be taken of these factors since they influence stakeholder orientation. Companies possessing these factors whether or not they are BO and/or BI should have competitive advantages.

Criticism of stakeholder orientation

In conceptualising the impact of stakeholder orientation on BO and BI companies heed should be taken of the criticism relating to stakeholder orientation. This section discusses the criticism under the headings of management's role and modern capitalism.

- Management's role

  Treynor (1981) argues that management's primary responsibility is toward their shareholders and not to mediate for the fair treatment of all the stakeholders. If management compromises the shareholder value creation objective they run the risk of losing their jobs. Shareholders are both the residual claimants and the referees of management's financial power. He notes that it is in the interest of management to adhere to the shareholder value maximisation objective and not stakeholder orientation.

  Copeland, Koller & Murrin (1996) note that shareholder value creation is not in conflict with the interest of other long-term stakeholders. Shareholder value orientation increases productivity and rations scarce resources optimally. Value created through this process could ensure higher economic growth, fair compensation to labour and the procurement of the right products or services to the right consumers. Copeland *et al* (1996) therefore suggest that shareholder value analysis could lead to increases in stakeholder value.

Donaldson & Preston (1995) and Clarkson (1995), however, conclude that overwhelming evidence exists that stakeholder orientation leads to performance increases. However, they also note that evidence indicating the converse is non-existent.

- Modern capitalism

Unlike modern capitalism the stakeholder theory does not view shareholder value creation as its primary objective (Argenti, 1997). Stakeholder theory argues that balancing the diverse interest of all stakeholders is more important than shareholder value creation. For example, it could be in the interest of labour to derive maximum outputs for minimum inputs. An unproductive labour force could thus be maintained. Argenti (1997) notes that such actions contradict modern capitalism, since it destroys shareholder value rather than creates it. However, Argenti (1997) concedes that companies could perform better when there is harmony between various stakeholders. He notes that achieving such harmony should not be viewed as a goal on its own but merely serve to enhance the performance of a particular company.

Friedman (1979) states that 'there is only one social responsibility of business and that is to maximise profit'. According to Friedman (1979), the main goal of any company should be the creation of shareholder value. Stakeholder orientation does not argue against shareholder value creation but against shareholder value creation at the cost of other stakeholders. Serving the interests of all stakeholders could create a harmonious environment that provides business with a means to achieve shareholder value creation (Uliana & Clayton, 1995).

This study suggests that, based on the perceived harmonious relationship BI and BO companies have with their stakeholders, their performance should exceed that of non-BI and non-BO companies.

Summary of literature on stakeholder orientation and performance

There appears to be a positive relationship between stakeholder orientation and performance (Campbell, 1997; Clarkson, 1995; Jones, 1995; Donaldson & Preston, 1995; Greenley & Foxall, 1997; 1998). Indeed, the notion that improved stakeholder orientation creates greater value for companies is widely accepted in management literature and remains fairly undisputed. In fact, even some of the proponents (Argenti, 1997; Friedman, 1979) of shareholder orientation note that harmony between stakeholder groups could create value. It is envisaged that strategic positioning through stakeholder orientation would explain the suggested superior performance of BI and BO companies in particular, relative to non-BI and non-BO companies.

Significance of reviewed literature to this study

The contention by popular business press that black (BI&BO) companies outperform non-black (BI&BO) companies usually does not consider factors such as risk. This study tests the supposition of the alleged superior performance of black companies to non-black companies. It also speculates that risk-and-return relationships and strategic positioning through stakeholder orientation offer explanations for the suggested performance of black companies. In this regard, literature on risk-and-return relationships and stakeholder orientation was reviewed. The reviewed literature generally suggests that companies whether or not they are black should perform better in the presence of higher risk and/or better strategic positioning through stakeholder orientation.

When considering the limited or short existence (operational maturity) of black companies and their perceived degree of leverage they should be more risky than non-black companies. As pointed out earlier black companies are new phenomena on the JSE and could be treated

with greater scepticism than more established non-black companies. Kantor (1998, p76) also noted that transactions leading to black corporate control are often moderately levered. This study, therefore, contends that operational maturity and degree of leverage make black companies more risky than other companies.

It should be noted that government policies toward BEE and the ownership and control structure of black companies ought to create a favourable stakeholder environment for them. For example, Sikhakana (1998) and Kantor (1998) pointed out that government favours BEE companies on awarding tender contracts. The ownership and control structures of black companies are often reflective of several stakeholders. Earlier in this study it was mentioned that some black companies are owned and controlled by labour (via trade unions) as well as the community (via 'stokvels' and church denominations). This favourable stakeholder orientation should enable black companies to position themselves strategically better than non-black companies as their support base allows for a greater degree of certainty.

In summary, on reviewing the available literature it is expected that black companies would perform better than non-black companies and their sectors since they are believed to be more risky and/or better positioned strategically. The next chapter develops a method that allows for empirical scrutiny of these theoretical suppositions.

Chapter Three

Methodology

Introduction

The first two chapters outlined some of the conceptual or theoretical aspects of the alleged superior performance of black companies relative to non-black companies. This chapter specifically focuses on the methodological issues underlying this inquiry. Accordingly, it is structured as follows. Firstly, the objectives and hypotheses are presented and discussed. Secondly, models used to solve the study objectives and resulting hypotheses are then presented and discussed. Thirdly, the research design is presented. Fourthly, the sources of data are outlined. Fifthly, assumptions and limitations are presented and discussed. Lastly, the approach for manipulating and ascertaining the significance of findings is presented and discussed.

Objectives & Hypotheses of the study

Objectives

Primary objective

The primary objective of this study is to test the alleged notion that black companies perform better than non-black companies and their respective sectors.

Secondary objective

The secondary objective of the study is to test whether the alleged notion that black companies perform better than non-black companies and their respective sectors, can be explained based on linear risk-and-return relationships and/or strategic positioning through stakeholder orientation.

Hypotheses

Based on the above objectives the following hypotheses are developed:

Primary hypothesis

The primary hypothesis tests whether black companies perform better than non-black companies and their respective sectors, on both the *ex post* raw return and the *ex post* risk-adjusted return basis. *Ex post* returns refer to historical returns.

Ho 1: *Ex post* returns (black companies) $\nmid$ *Ex post* returns (non-black companies and sectors)

Null hypothesis 1: This hypothesis states that black companies do not perform significantly better than non-black companies and their respective sectors, as measured by *ex post* returns (i.e. raw returns[3] and risk-adjusted returns). A rejection of the null hypothesis gives rise to the alternate hypothesis (Hi 1). The alternate hypothesis states that black companies do perform significantly better than non-black companies and their respective sectors, as measured by *ex post* returns.

Hi 1: *Ex post* returns (black companies) > *Ex post* returns (non-black companies and sectors)

Secondary hypotheses

The secondary hypotheses test whether the performance of black companies could be explained based on *ex ante* risk-adjusted rates of returns and/or strategic positioning through stakeholder orientation. *Ex ante* returns refer to expected returns.

[3] Raw returns are defined as the returns before considering the effect of risk.

Ho 2a: *Ex ante* risk-adjusted returns (black companies) $\not>$ *Ex ante* risk-adjusted returns (non-black companies and sectors)

Null hypothesis 2a: This hypothesis states that black companies do not have significantly higher returns than non-black companies and their respective sectors on an *ex ante* risk-adjusted basis, as measured by the capital asset pricing model (CAPM). A rejection of the null hypothesis gives rise to the alternate hypothesis (Hi 2a). The alternate hypothesis states that the *ex ante* risk-adjusted returns of black companies are significantly higher than non-black companies and their respective sectors, as measured by the CAPM.

Hi 2a: *Ex ante* risk-adjusted returns (black companies) > *Ex ante* risk-adjusted returns (non-black companies and sectors)

Ho 2b: Strategic positioning (black companies) ≯ Strategic positioning (non-black companies)

Null hypothesis 2b: This hypothesis states that the performance of black companies against non-black companies cannot be explained based on strategic positioning through stakeholder orientation, as measured by the return on invested capital (ROIC). A rejection of the null hypothesis gives rise to an acceptance of the alternate hypothesis (Hi 2b). The alternate hypothesis states that the performance of black companies against non-black companies can be explained based on strategic positioning through stakeholder orientation, as measured by the ROIC.

Hi 2b: Strategic positioning (black companies) > Strategic positioning (non-black companies)

Models used to test the hypotheses

This study tests the hypotheses using models on *ex post* returns, *ex ante* returns and strategic positioning through stakeholder orientation.

Ex post returns

Ex post returns are tested on raw returns and risk-adjusted returns.

Raw returns

Equation 3.1 (Reilly & Brown, 1997, p.7) is used to test whether BO and BI companies perform better than non-BO companies, non-BI companies and their respective sectors based on raw returns.

$$R_{i,t} = [HPR_t - 1] * 100 \quad \ldots (3.1)$$

HPR_t Per share historical period return on company i at period t. HPR_t is shown by equation 3.2 (Reilly & Brown, 1997, p.7).

$$HPR_t = [SP_t + C_t]/SP_{t-1} \quad \ldots (3.2)$$

To execute equation 3.1, C_t must be estimated. Equation 3.3 (Smit, Hamman, Gear & Smit, 1996, p. 71) is used to estimate C_t.

$$C_t = (SP_{i,t} * DY_{i,t}) / 12 \quad \ldots (3.3)$$

C_t Estimated dividend of company i or sector i in month t.

$SP_{i,t}$ Closing share price of company i or sector i in month t.

$DY_{i,t}$ Yearly dividend yield of company i or sector i in month t.

Monthly geometric averages for companies over the sample period are calculated by equation 3.4 (Reilly & Brown, 1997, p.8).

$$GM = [\Pi HPR]^{1/n} \quad \ldots(3.4)$$

GM Geometric average on company i.

ΠHPR_t The product of monthly holding period returns.

n The number of observations on company i.

Risk-adjusted returns

Raw returns could portray an inaccurate picture of a company's real performance since it does not consider risk. Assessing on raw returns only could provide such a company with a superior assessment relative to its control company and sector. After factoring risk into the equation, a company with superior raw returns could have inferior risk-adjusted returns. In calculating *ex post* risk-adjusted returns, this study applies both the systematic risk-adjusted Treynor (1965) index and the total risk-adjusted Sharpe (1966) ratio.

Treynor index

The Treynor index was developed by Treynor (1965) to evaluate the risk-adjusted performance of a company or portfolio of companies. This index calculates the risk-adjusted performance by dividing the difference of a company's average raw returns and the average risk-free rate during the same period by a company's beta estimate.

The Treynor index is given by equation 3.5 (Reilly & Brown, 1997, p.996).

$$T_i = [R_i - Rf]/ B_i \quad \ldots(3.5)$$

T_i *Ex post* Treynor index on company i or sector i.

R_i *Ex post* raw geometric mean return on company i or sector i.

Rf *Ex post* geometric mean return on the risk-free asset.

B_i Beta estimate on company i or sector i.

Sharpe ratio

Sharpe (1966) developed a ratio to evaluate the risk-adjusted performance of a company or a portfolio of companies. The Sharpe ratio evaluates risk-adjusted performance by taking into account all risk associated with that particular company or portfolio of companies. This ratio calculates the risk-adjusted performance by dividing the difference of a company's average raw returns and the average risk-free rate during the same period by a company's standard deviation estimate. This study applies the *ex post* Sharpe ratio as used by (Hodges, Taylor & Yoder, 1997) and as suggested by (Sharpe, 1966; 1994; Reilly & Brown, 1997, p.998).

Ex Post Sharpe ratio is given by equation 3.6 (Reilly & Brown, 1997, p. 998).

$$Si = [Ri - Rf] / Std.Dev \quad \ldots(3.6)$$

Si	*Ex post* Sharpe ratio on company i or sector i.
Ri	*Ex post* raw geometric mean return on company i or sector i.
Rf	Geometric mean return on the risk-free asset..
Std.Dev	Standard deviation of return on company i or sector i.

Since the Sharpe ratio factors in all risks related to a company or sector and the Treynor index uses only systematic risk, distortions could result due to diversifiable or unsystematic risk.

Ex Ante risk-adjusted returns

Capital Asset Pricing Model (CAPM)

This section discusses the CAPM under the headings of risk, assumptions, critiques, alternative, relevance and variables.

Risk

The CAPM estimates the return necessary to compensate an investor for a given amount of risk. The model argues that, since investors diversify their unsystematic risk away, only systematic risk is relevant. The model contends that positive relationships exist between systematic risk and return. For diversified investors the CAPM is a useful indicator for risk-adjusted performance. *Ex ante* risk-adjusted returns could offer explanations for the alleged superior performance of black (BI & BO) companies relative to non-black (non-BI & non-BO) companies and their respective sectors. If the CAPM estimates of black companies are greater than non-black companies and their respective sectors, then the alleged superior performance of black companies could be explained through higher degrees of expected risk levels relative to non-black companies and their respective sectors.

Assumptions

As is the case with all models, the CAPM is subject to several assumptions. These assumptions are listed briefly below:

- All investors are risk-averse, i.e. they expect the maximum return for the minimum amount of risk.
- Unlimited borrowing and lending is possible at a given risk-free rate with no restrictions on short sales.
- All investors have homogeneous expectations.
- All assets are perfectly liquid and perfectly divisible.
- No transaction costs and taxes exist.
- No single investor or group of investors can influence share prices by means of their own buying and selling activity.
- All assets are subject to fixed and given quantities.

In practice most of the assumptions underlying the CAPM are unrealistic. For example, the cost of borrowing always exceeds the cost of lending. Secondly, in the case of small exchanges such as the JSE, thin trading occurs. Thirdly, transaction costs and taxes do exist. Lastly, large institutional investors could influence share price movements, particularly in smaller exchanges such as the JSE.

Critiques

Firstly, although the CAPM is an *ex ante* model, only historical data are available (Brigham & Gapenski, 1996). Secondly, Roll (1977) argues that it is impossible to test the validity of the CAPM since the predictors used to test the model are derived from the model. Thirdly, *beta* estimates for individual companies suffer a non-stationary problem (Levy, 1971). The non-stationary problem refers to differences in *beta* estimates at different calculation periods. Levy (1971), however, points out that the non-stationary problem disappears in portfolios. Fourthly, it is noted that unsystematic risk also affects return (Brealey & Myers, 1996). Fifthly, authors such as Fama & French (1992; 1996) find size (market capitalisation) rather than systematic risk as an indicator of expected return. Since the CAPM is subjected to a lot of criticism an alternative model was established.

Alternative to CAPM

The arbitrage pricing theory (APT) could be used as an alternative to the CAPM. Ross (1976) first developed this model. Unlike the single factor CAPM, the APT measures share returns as a function of several factors. The influence each factor has on a company's share return is measured by separate beta values. Van Rensburg (1998), however, notes that the lack in identifying priced factors empirically makes it difficult to apply the APT with sufficient accuracy. The APT therefore remains largely unused in practice.

Relevance of CAPM

Although the CAPM is strongly criticised, no widely accepted alternative exists (Cornell *et al* 1996; Kolb, 1993). The CAPM is a simple and easy method to calculate the *ex ante* risk-adjusted rate of return (Firer, 1993). The criticism against the CAPM revolves around the use of historical data. The CAPM is an *ex ante* model, however no *ex ante* data is available. This necessitates the use of historical data.

Brealey & Myers (1996) note that as an *ex ante* model the CAPM is sound. Furthermore, Bradfield (1989) argues that the CAPM is well specified for shares on the JSE. Bradfield & Affleck-Graves (1991) note that the factors (i.e. size, dividend yield and liquidity) threatening the validity of the CAPM on the NYSE are not prevalent on the JSE. Since it is widely accepted that the JSE is operationally efficient (Bhana, 1995; Davidson & Meyer, 1993; Bradfield & Affleck-Graves, 1991), the CAPM is appropriate for assessing *ex ante* risk-adjusted returns on the JSE.

Equation 3.7 shows the CAPM's computation.

$$Ks = r_f + [E(r_m)-r_f]beta \quad \ldots(3.7)$$

Variables of the CAPM

Ks	*Ex ante* risk-adjusted rate of return
$E(r_m)$	Expected return on the market portfolio
r_f	Risk-free rate of return
beta	Measure the systematic risk attached to shares of a company

Risk-free rate

The model contends that a risk-free asset is one with zero covariance with another asset and zero variance in returns (Firer, 1993). Since government treasury securities (Treasury bills and Treasury bonds) are reasonably free of risk, they are cited as good proxies for the risk-free rate (Pringle & Harris, 1984). The use of either long-or short-term securities is not specified by the CAPM (Pringle & Harris, 1984). Practitioners normally prefer T-Bonds, whereas academics normally prefer T-Bills (Cornell *et al* 1997). In deciding whether to use either of the two, the length of the investment horizon should be considered. Pringle & Harris (1984) suggest that the maturity period on the security should be similar to the duration of the investment. Short-term securities forecast for short-term inflation expectation. Thus, the use of short-term securities could distort findings for long-term investments.

Firer (1993), however, notes that in South African studies of the CAPM, short-term securities are mostly used. This study uses the 3-month net certificates of deposit (NCD) rate as a proxy of the risk-free rate.

Beta

For publicly traded companies Copeland *et al* (1993) recommend using published beta estimates. This study uses Bradfield (1998a; 1998b) published *beta* estimates for financial and industrial index data. Bradfield adjusts for thin trading and prior information associated with *beta* estimates. The use of Bradfield (1998a; 1998b) published *beta* estimates is consistent with the approach of Correia & Uliana (1998).

Market premium

The market premium reflects the difference between the market return and risk-free rate of return. Since the risk-free rate of return was discussed on page 36 of this study this section concentrates on market return.

- Market return

Total return equates capital gains or losses plus cash flows from dividends in the case of shares. Firer (1993) points out that the market proxy and the choice of average should be chosen carefully when calculating market return.

Market proxy

On choosing a market proxy, a choice is normally made between the all share index (ALSI) and the financial and industrial index (F&I). Firer (1993, p.35) argues that the use of the F&I is incompatible with the assumption that the market should contain all risky assets. He notes that the F & I is a subset of the market and could influence findings. In South Africa, however, the ALSI is strongly influenced by mining shares. Mining shares are often thinly traded—which could lead to distortions in findings. Correia & Uliana (1998) find that F & I data produce consistently higher *ex ante* risk-adjusted rates of returns than ALSI data. The use of ALSI data therefore bias *ex ante* risk-adjusted rates of returns for financial and industrial companies downward. Correia & Uliana (1998) recommend the use of the F & I as a proxy for the market. This study follows their recommendation.

Choice of average

Arithmetic or Geometric

On calculating the market return a choice should be made between either arithmetic or geometric averages. Arithmetic averages calculate the average return of each single period's returns since it assumes that returns are independent. Geometric averages calculate the average return as the growth between the beginning and ending values.

Since geometric averages use beginning and ending values, it is not appropriate if a portfolio is continually re-balanced (Cornell *et al* 1997). On the other hand, arithmetic averages are simple averages of single-period rates of return. For example, if the rates of return were R100, R200 and R100 in years 1, 2 and 3 respectively, the simple arithmetic average would be 100% in the first period and –50% in the second period, and 25% for the entire period. The geometric average, however, would be 0%.

Modigliani & Modigliani (1997) point out arithmetic averages are always higher than geometric averages. In shorter periods greater differences between the arithmetic and geometric averages are evident. Shorter-period fluctuations could cause distortions in the arithmetic average. Arithmetic averages are thus biased by measurement period.

Copeland *et al* (1993) and Correia & Uliana (1998) recommend using the geometric average. The Association for Investment Management and Research also recommends using geometric average (Modigliani & Modigliani, 1997). Therefore, this study uses geometric averages.

- Risk-free rate of return

In calculating the market premium the 90-Day Bankers' Acceptance rate is used as a proxy for the risk-free rate. This is consistent with Page & Palmer (1991).

According to Firer (1993), judgement could be used to determine the period over which to calculate past returns. The market premium is calculated on a monthly basis, for the period 30 November 1978 to 30 November 1998 using geometric averages for market returns and risk-free rates of returns. Although the period over which past returns is calculated, is long enough to ensure sufficient accuracy, it should still be viewed as a limitation since findings could change when a different period is applied.

In evaluating the performance of black companies, two factors were considered, i.e. linear risk-and-return relationships and strategic positioning through stakeholder orientation. This section outlined the methodology applied to evaluate risk-and-return relationships. The next section outlines the methodology applied to evaluate strategic positioning through stakeholder orientation.

Strategic positioning through stakeholder orientation

In testing strategic positioning through stakeholder orientation the return on invested capital (ROIC) ratio is applied. This section outlines the rationale for using this ratio as an appropriate measure for operating performance, in terms of organisational effectiveness and strategy.

Organisational effectiveness

Porter (1996, p.62) notes that organisational effectiveness reflects a company's ability to produce products of comparable value at lower costs, and/or to produce products of higher value at comparable costs to competitors. It is a reflection of cost and product leadership. Copeland *et al* (1993, p. 209) note that cost leadership creates competitive advantages for companies. Organisational effectiveness is thus in part responsible for higher profitability levels. As noted earlier in this study, good supplier and labour orientation resulting from good stakeholder orientation, increases labour productivity and decreases costs.

Strategy

Strategy relates to a company's ability to perform activities differently or to perform similar activities in different ways from competitors (Porter, 1996, p.62). It is assumed that the only element differentiating black companies from non-black companies, is the fact that previously disadvantaged (black) persons have shareholding in black companies. As noted earlier, South Africa's consumer base comprises mostly black persons. In South Africa's present political and economic transition, black consumers could be more receptive of black companies relative to non-black companies (Basson, 1996, p.51). It could be suggested, therefore, that black companies would be able to access and maintain their strategic market position amongst black consumers better than non-black companies. Based on relatively better stakeholder orientation, black companies could be strategically better off than non-black companies.

In measuring operating performance the ROIC ratio is applied. It measures organisational effectiveness explicitly and strategy implicitly. This study acknowledges that other ratios such as the return on equity (ROE) and the return on assets (ROA) also measure operating performance. The ROE, however, combines financial structure with operating performance resulting in inaccurate analyses. Findings derived from the ROA and ROIC are relatively indifferent. The difference between them is that the ROA uses total assets and the ROIC applies net working capital. Signals from these ratios are similar in almost all cases. This study applies the ROIC ratio since it is readily amenable to evaluation as borne out by the work of Copeland et al (1996). A summary of the ROIC calculation is shown in equation 3.8.

As shown in figures 3.1 and 3.2 only variables associated with operational performance are included in both the NOPLAT (numerator) and operating invested capital (denominator). All other non-operational variables such as excess cash and marketable securities, non-interest bearing liabilities and non-operating investments are excluded from the ROIC calculation.

ROIC = NOPLAT / Invested Capital ...(3.8)

The calculation's numerator (NOPLAT) and denominator (invested capital) are shown in figure 3.1 and figure 3.2 respectively.

Figure 3.1 NOPLAT

Sales	xxx
less: cost of sales	(xxx)
selling, general and administrative expenses	(xxx)
depreciation expense	(xxx)
Earnings before interest and taxes (EBIT)	xxx
Add: Taxes on EBIT	xxx
Add: Change in deferred taxes	xxx
Noplat	**xxx**
Taxes on EBIT	
Provision for income taxes	xxx
Add: Tax shield on interest expense	xxx
Less: Tax on interest income	(xxx)
Less: Tax on nonoperating income	(xxx)
Taxes on EBIT	**xxx**
Reconciliation to Net Income	
Net Income	xxx
Add: Increase in deferred taxes	xxx
Add: Goodwill amortization	xxx
Adjusted net income	xxx
Add: Interest expense after tax	xxx
Total income available to investors	xxx
Less: Interest income after tax	(xxx)
Less: Non-operating income after tax	(xxx)
Noplat	**xxx**

Figure 3.2 Invested Capital

Operating current assets	xxx
Less: Non-interest bearing current liabilities	(xxx)
Net working capital	xxx
Add: Net property plant and equipment	xxx
Add: Other operating assets less other liabilities	xxx
Operating invested capital	**xxx**
Add: Excess marketable securities	xxx
Add: Goodwill	xxx
Add: Non-operating investments	xxx
Total investor funds	xxx
Reconciliation to investor funds	
Equity	xxx
Add: Deferred income taxes	xxx
Adjusted equity	xxx
Add: All interest-bearing debt	xxx
Total investor funds	xxx

Research design

In testing the hypotheses an experimental research methodology is applied. This technique is used since academic research on the performance of BO and BI companies is scarce. The performance of BO and BI companies (experimental samples) is judged against control samples of non-BO companies, non-BI companies and their respective sectors. The control samples reflect the benchmark.

Sample selection

BO and BI companies

A schedule of all BO and BI companies listed on the JSE was obtained from *Finance Week* (1998). This schedule was cross-referenced for errors and omissions with those obtained from McGregorsBFA and the JSE's market division. *BO companies are defined as companies under the full ownership and control of black shareholder groups, that is, companies with more than 50% black shareholding. BI companies are defined as companies with at least 1% black shareholding (it therefore includes BO companies).* The BO companies comprise the following 21 companies:

1. African Harvest Limited (AFHarvest)
2. African Life Assurance Limited (Aflife)
3. AMB Holdings Limited (AMB)
4. Botswana RST Limited (Botswana)
5. Capital Alliance Holdings Limited (Capital Alliance)
6. Carson Limited (Carson)
7. FBC-Fidelity Bank Holdings Limited (FBC)
8. Fortune Beverages Limited (Fortune) prev. Kilimanjaro Investment Limited
9. Hosken Consolidated Investment Limited (HCI)
10. Johnnies Industrial Corporation Limited (Johnnic)
11. Kunene Technology Limited (KTL)
12. Mathomo Group Limited (Mathomo)
13. Metropolitan Life Limited (Metlife)
14. Molope Group Limited (Molope)
15. New Africa Investments Limited (NAIL)
16. Northern Bakeries Limited (Norbake)
17. Real Africa Holdings Limited (RAH)

18. Real Africa Investments Limited (RAIL)
19. SA Empowerment Fund Investments Limited (Empower)
20. Umbono Investments Corporation Limited (Umbono)
21. Yabeng Investments Holdings Company Limited (Yabeng)

The BI companies include the following over and above all the listed BO companies:

1. Afribrand Holdings Limited (Afribrand)
2. Comparex Limited (Comparex), prev. Persetel QData Holdings Ltd
3. CTP Limited (CTP)
4. Education Investment Corporation Limited (Educor)
5. Grinaker Construction Limited (Grinaker)
6. Grintek Limited (Grintek)
7. Infinity Technologies Limited (Infiniti)
8. Johannesburg Consolidated Industries Limited (JCI)
9. Kagiso Media Limited (Kagiso)
10. Macmed Health Care Limited (Macmed)
11. M-Cell Limited (M-Cell)
12. Medi-Clinic Corporation Limited (Medi-Clinic)
13. MIH Holdings Limited (MIH) /M-Web Holdings Limited (M-Web)
14. Millennium Entertainment Group Limited (Mega)
15. Oceana Fishing Group Limited (Ocfish)
16. Omni Media Corporation Limited (Omnicor)
17. Perskor beleggings Limited (Perskor beleggings)
18. Perskorgroep Limited (Perskorgroep)
19. Plessey Corporation Limited (Plessey)
20. Premier Group Limited (Premier)
21. PSG Group Limited (PSG)
22. Sasani Limited (Sasani)
23. Siltek Limited (Siltek)

24. SNA Investments Limited (SNA)

25. South African Breweries Limited (SAB)

26. Times Media Limited (TML)

Exclusion criteria

To assure the accuracy of the findings several companies were excluded. The criteria applied to exclude companies are outlined below:

All share classes other than ordinary

This study uses only ordinary share capital. It should be noted that each share class is subject to different trading conditions. For example, it appears that N-class shares are not as frequently traded as ordinary shares. The use of other share classes, therefore, could distort findings.

Holding companies

Holding companies are excluded for two reasons. Firstly, this study is concerned with the operating performance of black (BI & BO) companies relative to the control companies. Secondly, their inclusion will cause double counting problems, and bias findings. However, if a black holding company does not have an underlying listed black operating company, it may be included to increase the sample size.

Mining companies

Mining companies accounting and tax treatments differ from financial and industrial companies. Owing to these differences, the inclusion of mining companies such as JCI could distort findings.

Foreign operating companies

Foreign operating companies are subject to different business environments. For example, labour and tax laws differ from country to country (Ahern, 1997, p.23). Their inclusion could distort findings.

Cash companies

A cash company is not an operational company. Its primary concern is to invest its cash prudently. Since this study evaluates the operating performance of black companies cash companies are excluded.

Redevelopment sector companies

The redevelopment sector on the JSE reflects only black companies. Therefore, no comparisons are possible with non-black companies within this sector.

Data insufficiency

Beta estimates

Bradfield (1998a; 1998b) does not calculate *beta* estimates for companies with less than 30 months' data and for delisted companies.

Share price data

Companies with insufficient share price data for the sample period are excluded. In an attempt to increase sample sizes the 3-year sample period is relaxed to a 1-year sample period. A trade-off therefore exists between sample size and sample period. The 3-year and 1-year sample periods only apply for testing the primary hypotheses. In testing the secondary hypotheses only the relaxed sample is used, that is, the sample for the one-year study period.

All excluded BI and BO companies and the reasons for exclusion for the 3-year and 1-year sample periods are shown in appendices A1 – A4.

After imposing the exclusion criteria, sample sizes for listed BI companies were 9 and 15 for the 3-year and 1-year sample periods respectively. For listed BO companies, the sample sizes are 8 and 9 for the 3-year and 1-year sample periods respectively. These companies are shown in table 3.1. The small sample sizes are a limitation. This hinders the generalisability of findings, which should be treated with caution.

Table 3.1 [Sample BO and BI companies]

	BO companies	BI companies
3 year period	1. African Life 2. Capital Alliance 3. FBC 4. Fortune 5. HCI 6. Metlife 7. Norbake 8. Yabeng	1. African Life 2. Capital Alliance 3. FBC 4. Fortune 5. HCI 6. Metlife 7. Norbake 8. Ocfish 9. Yabeng
1 year period	9. Mathomo	10. Comparex 11. CTP 12. KGM 13. Macmed 14. Mathomo 15. Siltek

Control samples

This study formed control samples of non-BO companies, non-BI companies and the sector to evaluate the performance of BO and BI companies against. Control samples were constructed based on the line of business and, if possible, market capitalisation. The line of business is based on the categories (sectors) as given by the I-Net database and the JSE handbook. Since the JSE is operationally efficient (Bhana, 1995; Davidson & Meyer, 1993; Bradfield & Afflect-Graves, 1991), the market capitalisation of companies as at any given time, should be a fair reflection of their size. The market capitalisation as at 30 November 1998 for all sampled companies was obtained from the I-Net database.

It was difficult to obtain a control company that met the criteria effectively. Often companies fell within the same sector but their operational line of business differed significantly. A typical example is the insurance sector, where short-term and life insurance fell under the same sector while their line of business and market differed. This should be viewed as a limitation in the selection of control companies.

Lists of sampled BO and BI companies, their respective controlled companies and sectors for the 3-year and 1-year sampled periods are shown in appendices A5 – A8.

Data

The data for this study has been obtained from the following sources:

- Intelligent Network (I-Net) database

  Share prices, sector prices, dividend yields, financial and industrial index prices, the NCD rates and the 90-Day deposit rate have been obtained from I-Net. This database is easy to handle and flexible. Studies that used I-Net include Page & Palmer (1991) and Baviere & de Villiers (1997).

- McGregor's On Line & Bureau for Financial Analysis at the University of Pretoria (McGregorsBFA) database

  Company financial statements were obtained from the McGregorsBFA database. To ensure uniformity, McGregorsBFA adjusts financial statements of individual companies.

- Financial Risk Service of the University of Cape Town (Bradfield, 1998a; 1998b)

  Beta and standard deviation estimates were obtained from this source.

Data is cross-referenced from different sources to ensure its accuracy. In the event of differences the most frequent observations are used.

Assumptions and Limitations

Any model or study is based on certain assumptions and is subject to contextual limitations. This study is based on and subject to the following:

Assumptions

- The JSE is a fair reflection of the South African corporate environment.
- Measures adopted to assess and evaluate the performance of black (BO & BI) companies relative to non-black (non-BO & non-BI) companies and their respective sectors relay a fairly accurate picture of their performance. Furthermore, measures adopted by this study properly assess the factors that influence the performance of black companies relative to non-black companies and their respective sectors.

Limitations

- Sample sizes are unavoidably small.
- Since the performance of black companies could be evaluated only by using data not exceeding three years, the findings could change with time.
- From June 1998 till the end of 1998 financial markets globally were in crisis. This crisis depressed share prices globally as well as on the JSE. Although the global stock market crisis affected all companies listed on the JSE, black companies were relatively worse affected (Segal & Brown, 1998, p.4; Mittner, 1998, p.13). When the relationship between black companies relative to non-black companies is tested, the global stock market crisis should be factored into the controls, otherwise the findings could be distorted.

This study incorporates controls for the effects of the global stock market crisis, by evaluating the *ex post* performance of black companies relative to non-black companies and the sectors over a 30-month and 6-month period ending on the 31 May 1998. The normal sample periods are 3-years and 1-year ending on 30 November 1998. The *ex ante* risk-adjusted returns are evaluated for the periods ending 31 May 1998 and 30 November 1998. The normal sample periods, in part, include the effect of the global stock market crisis. Assessments based only on the normal sample periods could bias the findings.

Approach to analysing and ascertaining the significance of findings

Approach to analysing the data

- This study uses the spreadsheet package EXCEL and the statistical package STATISTICA to analyse data.

Significance of findings

Parametric / Non-parametric statistics

In establishing the significance of differences in findings between the experiment and control group, a choice should be made between parametric and non-parametric statistics. Parametric statistics are more powerful but are subject to the following assumptions:

- The population mean is normally distributed.
- Observations are independent.
- The measurement scale is either interval or ratio scaled.
- Variances are homogeneous.

Congruent with established research findings and related methodology the data of this study is also independent, ratio scaled and variance homogeneous. Data normality, however, needs to be tested. The EXCEL function "=skew(list)" is applied to test for normal distribution. If the function returns a value within this study's tolerable range of between -0.2 and +0.2, then normal distribution is assumed. If the value fell outside the tolerable range, normal distribution is not assumed. As to be discussed on page 52 non-parametric statistics are appropriate for the purposes of this study.

Since sample sizes are less than 30 and selected independently, the Mann-Whitney U-test (the non-parametric statistical equivalent to the t-test of independent samples) is appropriate.

Having provided the methodological basis of the ensuing empirical analysis it is now possible to present, discuss and interpret the research findings within the context of the existing literature on risk-and-return relationships and strategic positioning through stakeholder orientation in chapter four.

Chapter Four

Findings presented, discussed and interpreted

Introduction

The first two chapters hypothesised that risk-and-return relationships and strategic positioning through stakeholder orientation explain the alleged superior performance of black (BO & BI) companies to non-black (non-BO & non-BI) companies. The third chapter developed a method to investigate this hypothesis. This chapter presents and discusses the findings of this study and is set out as follows. Firstly, the choice of statistics is outlined. Thereafter, findings on *ex post* returns, *ex ante* returns and strategic positioning through stakeholder orientation are presented, analysed and discussed.

Choice of statistics

In chapter three, it was pointed out that data normality should be tested when choosing between parametric and non-parametric statistics. From the skew coefficients shown in appendices B1 – D6 it is evident that data are not normally distributed. Hence, non-parametric statistics are appropriate. The median (a measure of central location) and Mann-Whitney-U test (a measure of statistical significance, which is the statistical equivalent to the t-test of independent samples) are applied. Statistical significance is measured at a 95% confidence level.

Ex post returns

Table 4.1 (Monthly median ex post returns of samples of BI & BO companies relative to non-BI, non-BO companies and their sectors over the three-year period and specific periods within)

Periods	30 Nov 1995 - 30 Nov 1998			30 Nov 1995 - 31 May 1998			30 Nov 1997 - 30 Nov 1998			30 Nov 1997 - 31 May 1998		
Company & sector Median returns	Raw returns	Treynor index	Sharpe ratio	Raw returns	Treynor index	Sharpe ratio	Raw returns	Treynor Index	Sharpe ratio	Raw returns	Treynor Index	Sharpe ratio
BI	1.18%	-0.06%	0.00%	2.07%	2.59%	0.12%	-2.16%	-4.17%	-0.26%	2.43%	2.39%	0.19%
non-BI	-0.07%	-1.08%	-0.11%	1.41%	-0.14%	-0.03%	-2.11%	-3.55%	-0.28%	1.58%	0.94%	0.06%
Difference (BI & non-BI)	1.23%	1.02%	0.11%	0.66%	2.73%	0.15%	-0.05%	-0.62%	0.02%	0.85%	1.45%	0.13%
P-values	0.507805	0.691105	0.565996	0.401548	0.207588	0.293629	0.983454	0.693553	0.442883	0.290204	0.158474	0.248572
Sector	0.82%	-0.44%	-0.06%	1.99%	0.72%	0.13%	-1.47%	-2.55%	-0.34%	2.00%	0.82%	0.15%
Difference(BI & sector)	0.34%	0.38%	0.06%	0.08%	1.87%	-0.01%	-0.69%	-1.62%	0.08%	0.43%	1.57%	0.04%
P-values	0.450335	0.398859	0.758671	0.266956	0.244506	0.596803	0.371826	0.278232	0.368377	0.371826	0.097903	0.83893
BO	1.33%	0.06%	0.01%	2.79%	2.41%	0.16%	-3.05%	-4.35%	-0.28%	2.85%	2.84%	0.19%
non-BO	0.76%	-0.42%	-0.04%	2.29%	0.16%	0.02%	-2.11%	-3.11%	-0.34%	1.30%	0.23%	0.06%
Difference (BO & non-BO)	0.57%	0.48%	0.05%	0.50%	2.25%	0.14%	-0.94%	-1.24%	0.06%	1.55%	2.61%	0.13%
P-values	0.674427	0.91636	0.752716	0.599514	0.40624	0.482208	0.75728	0.964784	0.452916	0.62721	0.277447	0.565303
Sectors	0.82%	0.44%	-0.06%	1.99%	0.72%	0.13%	-1.47%	-2.55%	-0.34%	2.00%	0.82%	0.15%
Difference(BO & sector)	0.51%	0.50%	0.07%	0.80%	1.69%	0.03%	-1.58%	-1.80%	0.06%	0.85%	2.02%	0.04%
P-values	0.397328	0.340994	0.16901	0.290055	0.560966	0.65112	0.307378	0.399105	0.100582	0.450572	0.174908	0.272114

Figure 4.1

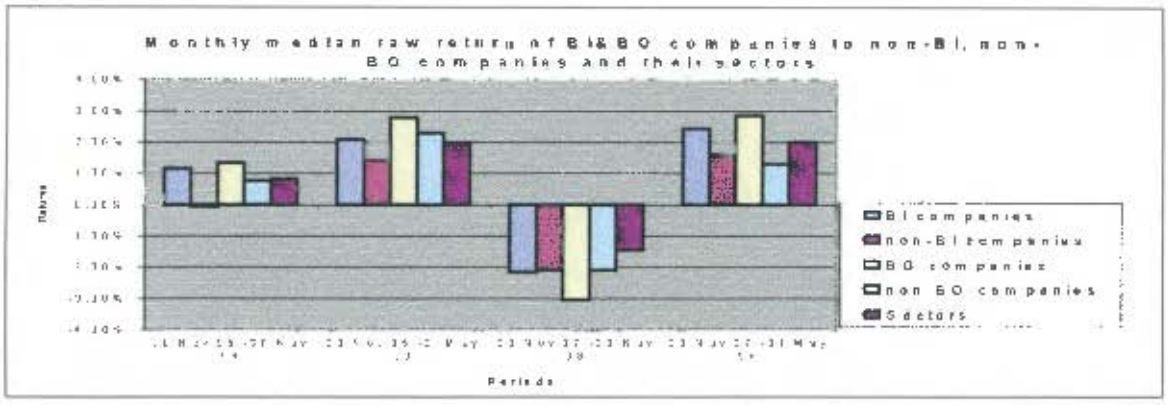


Figure 4.2

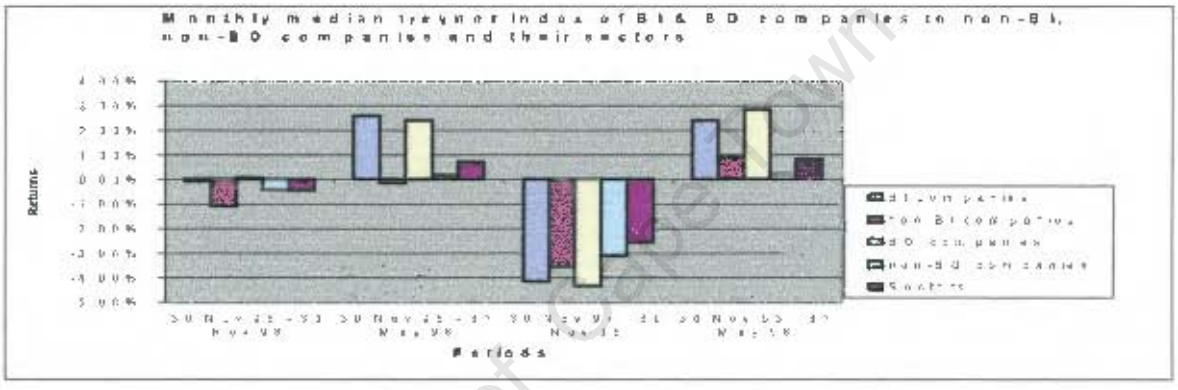
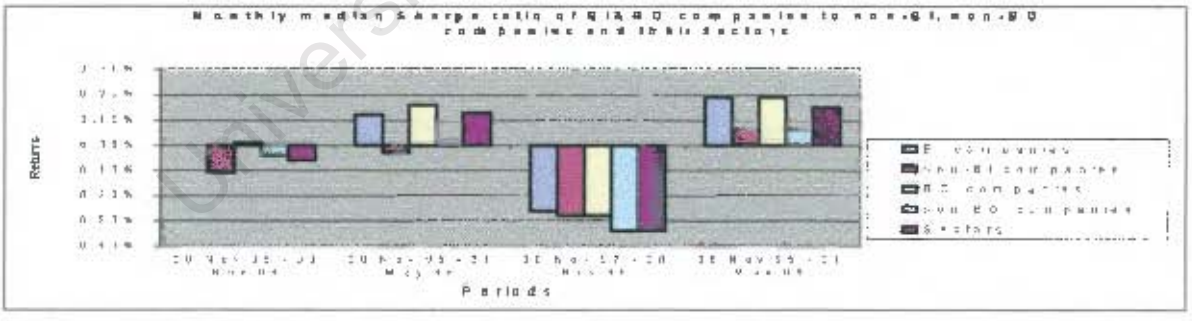


Figure 4.3



As shown in table 4.1 as well as figures 4.1, 4.2 and 4.3 the samples of black (black-owned and black-influenced) companies performed better than their control samples and sectors. From the p-values in table 4.1 it is apparent that the findings are small and not significant, however.

Other factors that influence the findings are the spreads within samples, stock market crisis, insurance sector black companies and the performance measurement technique applied.

Spreads between the monthly median returns of samples of black companies generally appear to be greater than that of samples of their non-black control companies and sectors. This is evident from the boxplots in appendices E1 – G4. Since the number of observations in corresponding samples are similar, it suggests that the returns in samples of black companies are more volatile and consequently more risky than samples of non-black companies and sectors.

Besides the spreads within samples, the findings are also influenced by the returns of insurance sector black companies. During all sampled periods only insurance sector black companies consistently outperformed their control companies and sectors. This is shown in appendices B1 – B8.

Harris (1996) suggests that companies with black shareholders or those associated with black-controlled companies should have an edge in the black insurance market. Furthermore, Basson (1996) suggests that black insurance companies would have better access to certain niche markets than other companies. Market participants on the JSE, therefore, could have associated the potential growth within the insurance market with black insurance companies. This suggestion could explain their good performance within the insurance market.

It should also be noted that although black companies generally performed better than their non-black control companies and sectors over the three-year period (30 November 1995 – 30 November 1998) their performance within specific periods, differed. From reviewing table 4.1, it appears that the overall performance of black companies is better in the periods that excluded the effect of the global stock market crisis (i.e. June 1998 – Nov 1998). Furthermore, in the one-year sampled period (half of this period is affected by the global stock market crisis) black companies generally performed worse than non-black companies and sectors. The poor performance of black companies during certain periods could be associated with the global stock market crisis. As noted on page 50 of this dissertation, this suggestion is consistent with the findings of Segal & Brown (1998, p.4) and Mittner, 1998, p.13).

Another factor to be considered is the biases that result from the performance measurement technique applied. The findings on all chosen performance measurement techniques (i.e. raw returns, Treynor index and Sharpe ratio) are similar over most sampled periods. However, over some sampled periods, findings on the Sharpe ratio differed from that on raw returns and the Treynor index. Black companies performed better than their control companies and sectors in all periods except the one-year period based on both raw returns and the Treynor index. In contrast findings on the Sharpe ratio reveal that black-owned companies performed better than non-black owned companies and their respective sectors in all sampled periods. Sharpe ratio based findings also revealed that black-influenced companies performed better than their control companies in all sampled periods and performed worse than their respective sectors over the 30-month period, only.

Since the effect on risk is considered in the Sharpe ratio and not in raw returns, differences in findings could be ascribed to risk. Contrasting findings between the Sharpe ratio and Treynor index could be attributed to the inclusion of both systematic and unsystematic risk in the Sharpe ratio and only systematic risk in the Treynor index. Since black companies performed

better than non-black companies using the Sharpe ratio, it could be suggested that sampled black companies have less firm-specific or unsystematic risk and more systematic risk than sampled non-black companies and sectors. The responsiveness of black companies to general changes in the market should thus be greater than non-black companies. This is reflected in their poor performance during the global stock market crisis (Segal & Brown, 1998, p.4; Mittner, 1998, p.13).

Summary

Findings on *ex post* returns (i.e. raw returns, Treynor index & Sharpe ratio) reveal that black companies performed slightly better than their control companies and sectors. These findings, however, are not significant at a 95% confidence level. They are also influenced by spreads within samples, the inclusion of insurance sector black companies, stock market crisis and the performance measurement technique applied. Hence, this study *cannot find conclusive evidence* for the contention that black companies are superior performers to non-black companies. However, they do appear to suggest that the overall performance of black companies is marginally better than their non-black control companies and sectors.

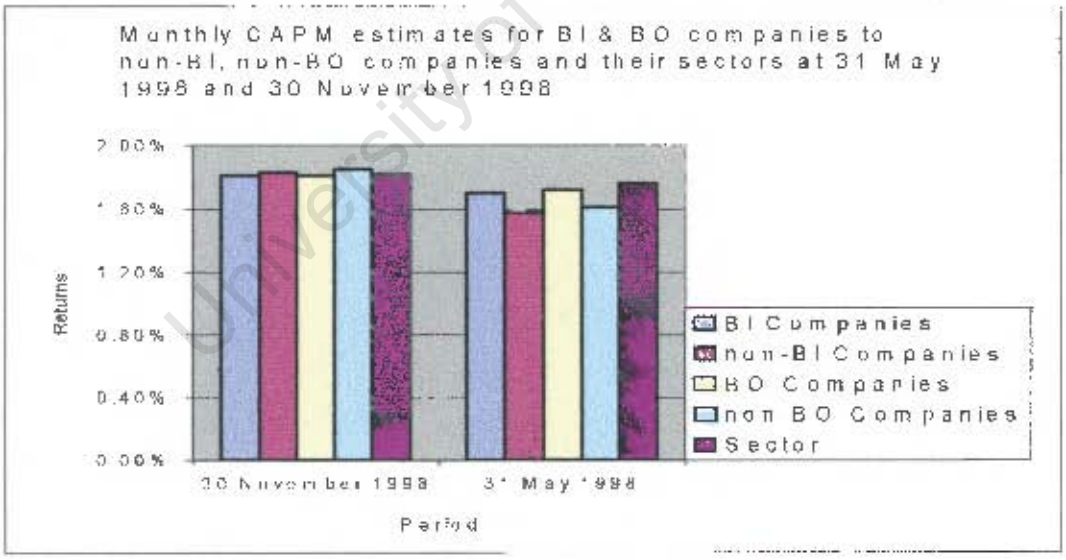
The following sections discuss the suggested marginal superior performance of black companies in the context of *ex ante* returns and strategic positioning through stakeholder orientation.

Ex ante returns (CAPM)

Table 4.2 (Monthly median CAPM estimates for samples of BI & BO companies relative to non-BI, non-BO companies and their sectors at 30 November 1998 and 31 May 1998)

	CAPM estimates at 30 Nov 1998			CAPM estimates at 31 May 1998		
	Return	Max	Min	Return	Max	Min
BI Companies	1.81%	2.21%	1.64%	1.70%	2.17%	1.34%
non-BI Companies	1.83%	1.90%	1.57%	1.58%	1.79%	1.39%
Difference (BI &non-BI)	-0.02%	0.31%	0.07%	0.12%	0.38%	-0.05%
P-values	0.724271			0.190911		
Sector	1.82%	1.85%	1.74%	1.76%	1.79%	1.62%
Difference (BI & sector)	-0.01%	0.36%	-0.10%	-0.06%	0.38%	-0.28%
P-values	0.944791			0.38348		
BO Companies	1.81%	2.21%	1.68%	1.72%	1.98%	1.47%
non-BO Companies	1.85%	1.90%	1.68%	1.61%	1.78%	1.43%
Difference(BO & non-BO)	0.04%	0.31%	0.00%	0.11%	0.18%	-0.02%
P values	0.690354			0.481726		
Sector	1.84%	1.85%	1.74%	1.76%	1.79%	1.62%
Difference(BO& sector)	-0.03%	0.36%	-0.06%	-0.04%	0.17%	-0.15%
P values	0.964601			0.331997		

Figure 4.4



As at the 30th of November 1998 samples of black companies produced lower expected returns relative to their control samples and respective sectors. However, as at the 31 May 1998 samples of black companies produced higher expected returns than their control samples but lower expected returns than samples of their respective sectors. These findings are shown in table 4.2 and figure 4.4. Detailed findings are shown in the tables in appendices C1 – C4 and graphically in appendices H1 and H2. None of the findings are significant at a 95% confidence level. Based on these findings, the hypothesis that expected risk-adjusted returns explain the performance of black companies cannot be accepted.

Contrary to the predictions of this study, the linear *ex ante* risk-and-return relationship does not explain the higher marginal *ex post* returns of black companies relative to their control companies and respective sectors. In fact, black companies generally produced relatively lower expected returns. The non-linear or negative risk-and-return relationship could be based on better management (Bowman, 1980; 1982; Oviatt & Bauerschmidt, 1991), prospect theory (Bowman, 1982) and the time period concerned (Figenbaum & Thomas, 1986; Marsh & Swanson, 1984).

Better management

Bowman (1980; 1982) & Oviatt & Bauerschmidt (1991) note that in the presence of better management, some companies could perform better than other companies. Black companies could have been better managed than non-black companies, thus explaining their marginal superior *ex post* performance.

Prospect theory

Bowman (1982) notes that certain companies could assume more risk in the prospect of greater returns. However, if greater returns are not realised a non-linear risk-and-return relationship results. The favourable publicity in the popular business press about black companies could have resulted in risk-taking behaviour by non-black companies. In the absence of greater returns, a non-linear risk-and-return relationship could have resulted.

Time period concerned

Figenbaum & Thomas (1986) and Marsh & Swanson (1984) point out that non-linear risk-and-return relationships could occur from time to time. This is a temporary anomaly, however. During the study period black companies received a lot of attention from the popular business press. The attention black companies received could have translated into higher share prices on the JSE. This suggestion is consistent with the findings of Visser & Affleck-Graves (1982) who note that share price variations on the JSE are, in part, influenced by published reports.

Expected rate of return and valuation

The expected rate of return or cost of equity capital based on the CAPM is commonly used as discounting factors in the discounted cash flow (DCF) valuation model. According to the DCF valuation the value of a company is based on the present value of future cash flows.

Lower cost of equity capital estimates produces higher company value, if all other things remain constant (Brealey & Myers, 1996). Based on the DCF valuation model, the overall lower expected rates of returns of black companies relative to their control companies and respective sectors could explain the performance of black companies.

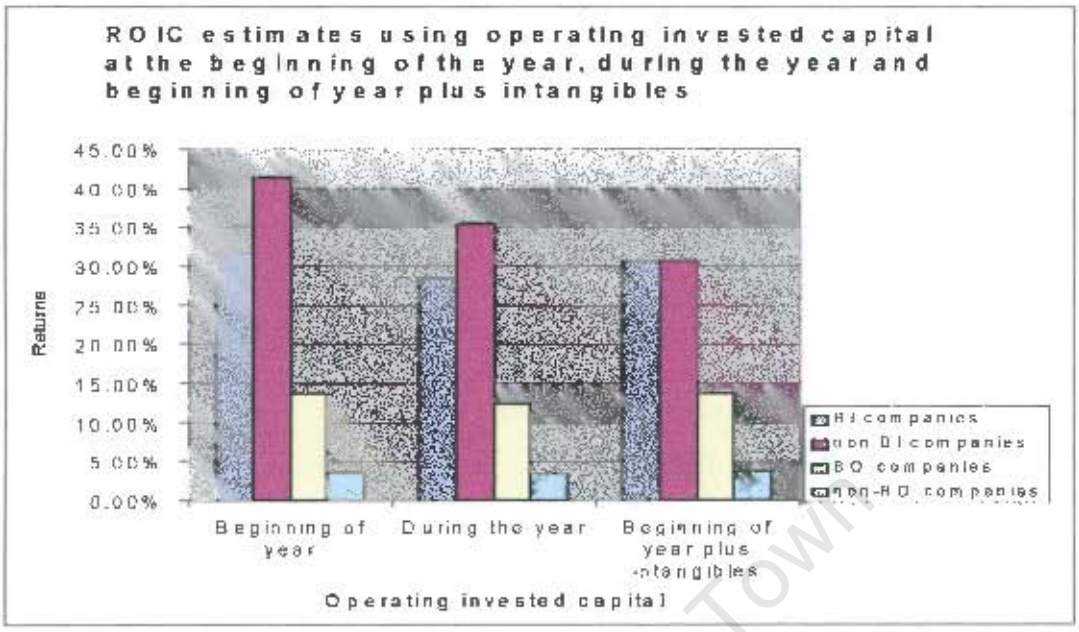
This study argued that the alleged superior performance of black companies could be explained through *ex ante* risk-and-return relationships and/or through strategic positioning through favourable stakeholder orientation. No empirical evidence is apparent for the contention on *ex ante* linear risk-and-return relationships. Findings on the contention on strategic positioning are examined in the ensuing section.

Strategic positioning through stakeholder orientation (ROIC)

Table 4.3 (Median ROIC estimates for BI & BO companies relative to non-BI & non-BO companies using operating invested capital at the beginning of the financial year 1997/8, during the financial year 1997/8 and at the beginning of the financial year 1997/8 plus intangibles)

Return	Beginning of year	Max	Min	During the year	Max	Min	Beginning of year plus intangibles	Max	Min
BI	31.68%	189.71%	-36.94%	28.55%	81.43%	-43.96%	30.59%	189.71%	-36.94%
non-BI	41.38%	205.21%	-30.74%	35.48%	225.35%	38.33%	30.76%	205.21%	30.74%
Difference (BI&non-BI)	-9.70%	-15.50%	-6.20%	-6.93%	-143.92%	-5.63%	-0.17%	-15.50%	-6.20%
P-values	0.693553			0.520287			0.983454		
BO	13.65%	58.40%	-36.94%	12.36%	38.61%	-43.96%	13.65%	56.46%	-36.94%
Non-BO	3.78%	78.66%	-30.74%	3.42%	75.21%	-38.33%	3.78%	78.66%	-30.74%
Difference(BO &non-BO)	9.87%	-20.26%	-6.20%	8.94%	-36.60%	-5.63%	9.87%	22.20%	-6.20%
P-values	0.75728			0.691105			0.75728		

Figure 4.5



The analysis of strategic positioning is based on ROIC, using operating invested capital at the beginning of year, average operating invested capital during the year and operating invested capital at the beginning of the year plus intangibles. As shown in summary table 4.3 and figure 4.5 the sample of BI companies performed worse than its control sample, whereas the sample of BO companies performed better than its control sample. From the p-values in table 4.3 it is evident that the findings are not significant at the 95% confidence level. More in-depth findings on performance of sampled black companies are shown in appendices D1 - D6.

Degree of black influence and performance

As illustrated in appendices D1 - D6 some BO companies and/or companies with strong degrees of black influence, produced relatively better *ex post* (raw returns and risk-adjusted) returns and returns on invested capital (ROIC) relative to their control companies. These companies include African Life and Oceana Fishing.

As a black-owned insurance company, African Life is well positioned within the black consumer market. For example, African Life and the National Stokvels Association of South Africa (NASASA) started a joint venture to develop funeral schemes for predominantly black consumers (Counihan, 1995, p. 39). The joint venture is important for consumer orientation, since NASASA has a strong membership base in the black community. The superior performance of African Life relative to its control company and sector could thus be associated with superior consumer market orientation.

Oceana Fishing's strength, on the other hand, could be associated with its shareholding structure. Its shareholding structure includes the fishing community, community leaders, members from the emergent black business community of Western Cape, the Food and Allied Workers' Union and the West Coast Pelagic Fishermen's Union (Smith, 1995, p. 92). Oceana Fishing's shareholding structure is representative of their consumer market, labour market and the community. The relative superior performance of these two companies, based on *ex post* returns and ROIC, could thus be associated with better strategic positioning through stakeholder orientation relative to their control companies.

Differences in financial-ends

Findings could have been influenced by differences in financial year-ends between black companies and their respective control companies. The financial year-ends of three (i.e. FBC, Mathamo & Yabeng) of the selected nine BO companies and six (Comparex, FBC, Macmed, Mathamo, Siltek & Yabeng) of the chosen fifteen BI companies deviated by more than 3 months from their control companies. The differences in year-ends between some black companies and their control companies, is a limitation to this evaluation.

In summary, the findings generally reveal that the alleged superior performance of black companies relative to their control companies could *not* be attributed to superior strategic positioning through stakeholder orientation. However, individual BO companies and companies with strong degrees of black influence performed relatively better than their control companies. Interestingly, these companies also have strong degrees of perceived stakeholder orientation. It could be suggested that black companies with strong degrees of perceived stakeholder orientation should perform better than comparable companies.

Summary

This chapter analysed and discussed findings on *ex post* (raw and risk-adjusted) returns, *ex ante* risk-adjusted returns and strategic positioning through stakeholder orientation. Factors that could have influenced findings were also discussed. This section presents a synopsis of these analyses and discussions.

Ex post returns

In all sample periods, sampled black companies *generally* performed better than their control samples and respective sectors. This is based on *ex post* raw and risk-adjusted returns. However, the findings are marginal and *not* significant at a 95% confidence level. Interestingly, study periods that exclude the global stock market crisis produced more favourable findings for black companies relative to their respective control companies and sectors.

Ex ante risk-adjusted returns

The findings reveal that samples of black companies generally offered lower *ex ante* returns than their control samples and respective sectors. Based on the findings, it could be suggested that risk does not explain the marginal superior performance of samples of black companies.

Explanations for the non-linear or negative risk-and-return relationship could be ascribed to the following factors:

- The presence of superior management in companies with higher returns and lower risks relative to others (Baucus *et al* 1993; Bowman, 1980; 1982; Oviatt & Bauerschmidt, 1991).
- The presence of higher risk in poorly performing companies in the prospect of higher returns (Bowman, 1982).
- The study period used (Figenbaum & Thomas, 1986; Marsh & Swanson, 1984).

These factors could have caused the negative relationship between risk and return experienced by black companies.

Strategic positioning through stakeholder orientation

Based on the 1997/98 ROIC findings, the sample of BI companies does not offer greater strategic value from improved perceived stakeholder orientation than its control sample. On the other hand, the BO companies offer greater strategic value from stakeholder orientation. However, the findings are inconclusive. Interestingly, individual BO and companies with strong degrees of black influence generally offered greater strategic value based on the ROIC relative to their control companies.

Factors that could have influenced findings

Overall findings could have been influenced by the global stock market crisis and the dynamic developments of black companies on the JSE.

The global stock market crisis. It is evident from the findings that the spread of differences, between the samples of black companies and their control samples and respective sectors, is

generally larger for the period that excluded the period influenced by the global stock market crisis. This is because black companies generally were affected worse by the global stock market crisis than their control companies and respective sectors (Segal & Brown, 1998, p.4; Mittner, 1998, p.13).

The developments surrounding black companies on the JSE are ongoing and dynamic: During the course of the study period, developments on the JSE could have distorted the findings. One such development was the acquisition of Yabeng by Hosken during June 1998. Since samples that excluded the effect of the global stock market crisis should also control for the effect of the take-over, both Yabeng and Hosken are included in the samples of black companies.

In conclusion, samples of black companies performed marginally better than their control samples and respective sectors, based on *ex post* returns. Generally, the marginal superior performance of black companies could not be explained from a linear risk-and-return perspective and/or strategic positioning through stakeholder orientation. However, strategic positioning through stakeholder orientation offered partial support for the performance of BO companies and companies with strong degrees of black influence. Findings are influenced by the global stock market crisis and dynamic developments on the JSE. Since the findings are insignificant and influenced by the above factors caution should be applied when interpreting the findings.

Chapter Five

Conclusion

This chapter is divided into four parts. Firstly, the objectives of this study are reviewed. Secondly, the findings are discussed. Thirdly, conclusions are drawn from the findings. Lastly, areas for future research are presented.

Objective

The objective of this study is two-pronged. Primarily, this study examines the performance of black (BI & BO) companies. Secondary, this study assesses whether linear risk-and-return relationships and/or stakeholder relationships could explain the performance of black companies.

Findings on study objective

Primary objective

Evidence generally reveals that black companies are marginally better performers than their control companies and respective sectors. This is in respect of both raw and risk-adjusted *ex post* returns. These findings are consistent with popular perceptions in the business press. Statistically, though these findings are not significant at a 95% confidence level. Hence, the evidence is inconclusive.

Secondary objectives

Firstly, the linear risk-and-return relationship is examined. In terms of the linear risk-and-return theory, the performance of companies is based on their risk profiles. Companies with higher risks should offer greater returns, if all other things remain equal. The findings on

expected returns suggest that black companies are *not* riskier than their respective control companies and sectors. However, the findings are small and not significant at a 95% confidence level.

Secondly, stakeholder relationships are considered. The stakeholder theory argues that the performance of companies relates to their degree of stakeholder orientation. According to this theory, companies with greater degrees of stakeholder orientation should perform better than those without. Stakeholder orientation is measured according to the return on invested capital (ROIC) ratio. The findings reveal that the sample of BI companies does not have higher ROIC ratios than its control sample. On the other hand, the sample of BO companies does have higher ROIC ratios than its control sample. At a 95% confidence level these findings are not significant, however. It should be noted, however, that individual black companies with strong degrees of stakeholder orientation performed better than their control companies in terms of both *ex post* returns and the ROIC ratio. This tentatively supports the notion that black companies could perform better than other companies based on their degree of stakeholder orientation.

Conclusions drawn from findings

This study finds that black companies perform marginally better than their control samples and sectors between November 1995 and November 1998, based on *ex post* returns. Hence, reports in the popular business press are not unfounded. However, the findings are inconclusive.

This study cannot find conclusive explanations for the performance of black companies based on the linear risk-and-return relationship and/or strategic positioning through stakeholder orientation. Generally, findings on the *ex ante* risk-adjusted returns reveal non-linear

associations between risks and returns. As discussed on pages 59 and 60 of this dissertation, the non-linear risk-and-return relationship could be ascribed to superior management, prospect theory, and the study period applied. Although, the explanations based on strategic positioning through stakeholder orientation are inconclusive, the findings reveal associations between *ex post* returns and strategic positioning in individual BO and companies with strong degrees of black influence. It could be suggested that strategic positioning through stakeholder orientation positively influences the performance of BO and companies with strong degrees of black influence.

Areas for future research:

- An evaluation of the effect of 'bull' and 'bear' markets on the performance of black companies on the JSE.
- A repeat of this study with a larger sample of BI and particularly BO companies and over a longer study period when the data becomes available.
- An evaluation of performance based on strategic positioning through stakeholder orientation of companies with significant black corporate control.

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Appendices

Appendix A 1

[Excluded BI companies for the 3-year period]

Company	Reason for exclusion
AfHarvest	Redevelopment sector
Afribrand	No *beta* estimates
AMB	Insufficient data
Comparex	Insufficient data
CTP	Insufficient data
Kagiso	Insufficient data
Macmed	Insufficient data
Botswana	Foreign company
Educor	Insufficient data & no *beta* estimates
Empower	Redevelopment sector
Grinaker	No *beta* estimates
Grintek	Holding company
Infiniti	Insufficient data
JCI	Mining company
Johnnic	Holding company
Mathomo	Insufficient share price data
M-Cell	No controlled company
MEGA	No controlled company
MIH/M-Web	No controlled company
Molope	Insufficient data
Molope-N-	Insufficient data & different share class
NAIL	Holding company
Omnicor	Holding company
Perkorsgroep	No I-Net data
Perskor Belegging	Holding company
Plessey	Insufficient data
Premier	Holding company

RAH	Holding company
RAIL	Holding company
SAB	Holding company
Siltek	Insufficient data
Sasani	Insufficient share price data
SNA	Cash company
Umbono	Insufficient data

Appendix A 2

[Excluded BO companies for the 3-year period]

Company	Reason for Exclusion
AfHarvest	Redevelopment sector
AMB	Insufficient data
Botswana	Foreign company
Carson	Insufficient data & no beta estimates
Johnnic	Holding company
Mathomo	Insufficient data
Molope	Insufficient data
Molope-N-	Insufficient data & different share class
NAIL	Holding company
RAH	Holding company
RAIL	Holding company
Empower	Redevelopment sector
Umbono	Redevelopment sector

Appendix A 3

[Excluded BI companies for the 1-year period]

Company	Reason for exclusion
AfHarvest	Redevelopment sector
Afribrand	No *beta* estimates
AMB	Insufficient data
Botswana	Foreign company
Educor	Insufficient data & no *beta* estimates
Empower	Redevelopment sector
Grinaker	No *beta* estimates
Grintek	Holding company
Infiniti	Insufficient data
JCI	Mining company
Johnnic	Holding company
M-Cell	No controlled company
MEGA	No controlled company
MIH/M-Web	No controlled company
Molope	Insufficient data
Molope-N-	Insufficient data & different share class
NAIL	Holding company
Omnicor	Holding company
Perkorsgroep	No I-Net data
Perskor Belegging	Holding company
Plessey	Insufficient data
Premier	Holding company
RAH	Holding company
RAIL	Holding company
SAB	Holding company
Sasani	Insufficient share price data
SNA	Cash company
Umbono	Insufficient data

Appendix A 4

[Excluded BO companies for the 1-year period]

Company	Reason for Exclusion
AfHarvest	Redevelopment sector
AMB	Insufficient data
Botswana	Foreign company
Carson	Insufficient data & no *beta* estimates
Johnnic	Holding company
Molope	Insufficient data
Molope-N-	Insufficient data & different share class
NAIL	Holding company
RAH	Holding company
RAIL	Holding company
Empower	Redevelopment sector
Umbono	Redevelopment sector

Appendix A 5

[BO companies & their controlled companies for the 3-year sample period]

BO Company	Market Capitalisation R '000	Controlled Company	Market Capitalisation R '000	Sector
African Life	581,845,420	Fedsure	681,209,893	Insurance
Capital Alliance	179,028,243	Commercial Union of SA Limited	115,500,000	Insurance
FBC	225,978,420	Saambou	128,317,623	Banks & other financial services
Fortune, prev. Kilimanjaro	6,306,768	Amalgamated Beverages Industries Limited (ABI)	546,291,910	Beverages, Hotels & Leisure
HCI	313,674	Sage Group Limited	213,072,784	Insurance
Metlife	584,146,167	Liberty Life Assurance limited	2,606,070,551	Insurance
Norbake	2,516,800	Macadams	6,409,308	Food
Yabeng	10,472,155	Ettington	11,538,696	Investment Trusts

Appendix A 6

[BI companies & their controlled companies for the 3-year sample period]

BI Company	Market Capitalisation R '000	Controlled Company	Market Capitalisation R '000	Sector
African Life	581,845,420	Fedsure	681,209,893	Insurance
Capital Alliance	179,028,243	Commercial Union of SA Limited	115,500,000	Insurance
FBC	225,978,420	Saambou	128,317,623	Banks & other financial services
Fortune, prev. Kilimanjaro	6,306,768	Amalgamated Beverages Industries Limited (ABI)	546,291,910	Beverages, Hotels & Leisure
HCI	313,674	Sage Group Limited	213,072,784	Insurance
MetLife	584,146,167	Liberty Life Assurance limited	2,606,070,551	Insurance
Norbake	2,516,800	Macadams	6,409,308	Food
Ocfish	59,011,617	Sea Harvest	41,983,890	Food
Yabeng	10,472,155	Ettington	11,538,696	Investment Trusts

Appendix A 7

[BO companies & their controlled companies for the 1-year sample period]

BO Company	Market Capitalisation R '000	Controlled Company	Market Capitalisation R '000	Sector
African Life	581,845,420	Fedsure	681,209,893	Insurance
Capital Alliance	179,028,243	Commercial Union of SA Limited	115,500,000	Insurance
FBC	225,978,420	Saambou	128,317,623	Banks & other financial services
Fortune, prev. Kilimanjaro	6,306,768	Amalgamated Beverages Industries Limited (ABI)	546,291,910	Beverages, Hotels & Leisure
HCI	313,674	Sage Group Limited	213,072,784	Insurance
Mathomo	8,927,759	Specialty Stores	46,729,242	Stores
MetLife	584,146,167	Liberty Life Assurance limited	2,606,070,551	Insurance
Norbake	2,516,800	Macadams	6,409,308	Food
Yabeng	10,472,155	Ettington	11,538,696	Investment Trusts

Appendix A 8

[BI companies & their controlled companies for the 1-year sample period]

BI Company	Market Capitalisation R '000	Controlled Company	Market Capitalisation R '000	Sector
African Life	581,845,420	Fedsure	681,209,893	Insurance
Capital Alliance	179,028,243	Commercial Union of SA Limited	115,500,000	Insurance
Comparex	1,755,109,151	Dimension Data	1,394,107,258	Electrical & Electronics
CTP	149,611,686	Independent Newspapers Limited (IDW)	86,076,578	Media
FBC	225,978,420	Saambou	128,317,623	Banks & other financial services
Fortune, prev. Kilimanjaro	6,306,768	Amalgamated Beverages Industries Limited (ABI)	546,291,910	Beverages, Hotels & Leisure
HCI	313,674.30	Sage Group Limited	213,072,784	Insurance
Kagiso	37,221,771	Primedia	135,501,151	Media
Macmed	80,864,826	Adcock Ingram	53,177,752	Pharmaceutical & Medical

Mathomo	8,927,759	Specialty Stores	46,729,242	Stores
MetLife	584,146,167	Liberty Life Assurance limited	2,606,070,551	Insurance
Norbake	2,516,800	Macadams	6,409,308	Food
Ocfish	59,011,617	Sea Harvest	41,983,890	Food
Siltek	34,833,792	Fintech	65,996,914	Electrical & Electronics
Yabeng	10,472,155	Ettington	11,538,696	Investment Trusts

Appendix B 1

Primary Hypotheses
3-Year Sample Period [30 November 1995 to 30 November 1998]
Black-influenced (BI) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	5.53%	Fedsure	1.60%	3.93%	Insurance	0.82%	4.71%
Captall	2.65%	Cusaf	-0.79%	3.43%	Insurance	0.82%	1.83%
FBC	1.16%	Saambou	2.59%	1.42%	Banks & other financial services	1.09%	0.07%
Fortune	-0.65%	ABI	1.97%	2.62%	Beverages, Hotels & Leisure	-0.42%	0.23%
HCI	3.98%	Sage	-0.07%	4.05%	Insurance	0.82%	3.16%
Metlife	1.50%	Liberty	-0.29%	1.79%	Insurance	0.82%	0.67%
Norbake	-0.60%	Macadams	2.11%	2.71%	Food	-0.65%	0.05%
Ocfish	0.76%	Sea harvest	-0.78%	1.53%	Food	-0.65%	1.41%
Yabeng	-3.38%	Ettington	-1.20%	2.18%	Investment trusts	1.19%	4.57%
Max	5.53%		2.59%	4.05%		1.19%	4.71%
Min	-3.38%		-1.20%	1.42%		-0.65%	0.05%
Sample mean	1.22%		0.57%	0.65%		0.43%	0.79%
Sample median	1.16%		-0.07%	1.23%		0.82%	0.34%
Sample mode	#N/A		#N/A	#N/A		0.82%	#N/A
Skew	-0.0467		0.2133	0.3000		-0.7625	0.6873

Appendix B 2

3-Year Sample Period [30 November 1995 to 30 November 1998]

Black-owned (BO) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	5.53%	Fedsure	1.60%	3.93%	Insurance	0.82%	4.71%
Captall	2.65%	Cusaf	-0.79%	3.43%	Insurance	0.82%	1.83%
FBC	1.16%	Saambou	2.59%	1.42%	Banks & other financial services	1.09%	0.07%
Fortune	-0.65%	ABI	1.97%	2.62%	Beverages, Hotels & Leisure	-0.42%	0.23%
HCI	3.98%	Sage	-0.07%	4.05%	Insurance	0.82%	3.16%
Metlife	1.50%	Liberty	-0.29%	1.79%	Insurance	0.82%	0.67%
Norbake	-0.60%	Macadams	2.11%	2.71%	Food	-0.65%	0.05%
Yabeng	-3.38%	Ettington	-1.20%	2.18%	Investment trusts	1.19%	4.57%
Max	5.53%		2.59%	4.05%		1.19%	4.71%
Min	-3.38%		-1.20%	1.42%		-0.65%	0.05%
Sample mean	1.27%		0.74%	0.53%		0.56%	0.71%
Sample median	1.33%		0.76%	0.57%		0.82%	0.51%
Sample mode	#N/A		#N/A	#N/A		0.82%	#N/A
Skew	-0.1256		-0.0642	0.0908		-1.2843	0.5641

Appendix B 3

30-Month Sample Period (30 November 1995 to 31 May 1998)

Black-influenced (BI) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	6.16%	Fedsure	3.35%	2.81%	Insurance	1.99%	4.17%
Captall	5.75%	Cusaf	0.23%	5.51%	Insurance	1.99%	3.76%
FBC	2.07%	Saambou	4.10%	2.02%	Banks & other financial services	2.27%	0.20%
Fortune	-0.09%	ABI	3.17%	3.26%	Beverages, Hotels & Leisure	0.81%	0.90%
HCI	5.70%	Sage	1.41%	4.29%	Insurance	1.99%	3.71%
Metlife	3.52%	Liberty	0.78%	2.74%	Insurance	1.99%	1.52%
Norbake	1.68%	Macadams	7.39%	5.71%	Food	-0.10%	1.79%
Ocfish	1.75%	Sea harvest	-0.39%	2.14%	Food	-0.10%	1.86%
Yabeng	0.38%	Ettington	-0.07%	0.45%	Investment trusts	2.22%	1.84%
Max	6.16%		7.39%	5.71%		2.27%	4.17%
Min	-0.09%		-0.39%	0.45%		-0.10%	0.20%
Sample mean	2.99%		2.22%	0.77%		1.45%	1.54%
Sample median	2.07%		1.41%	0.66%		1.99%	0.08%
Sample mode	#N/A		#N/A	#N/A		1.99%	#N/A
Skew	0.2449		1.0571	0.1499		-1.0491	0.2797

Appendix B 4

30-Month Sample Period (30 November 1995 to 31 May 1998)

Black-owned (BO) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	6.16%	Fedsure	3.35%	2.81%	Insurance	1.99%	4.17%
Captall	5.75%	Cusaf	0.23%	5.51%	Insurance	1.99%	3.76%
FBC	2.07%	Saambou	4.10%	2.02%	Banks & other financial services	2.27%	0.20%
Fortune	-0.09%	ABI	3.17%	3.26%	Beverages, Hotels & Leisure	0.81%	0.90%
HCI	5.70%	Sage	1.41%	4.29%	Insurance	1.99%	3.71%
Metlife	3.52%	Liberty	0.78%	2.74%	Insurance	1.99%	1.52%
Norbake	1.68%	Macadams	7.39%	5.71%	Food	-0.10%	1.79%
Yabeng	0.38%	Ettington	-0.07%	0.45%	Investment trusts	2.22%	1.84%
Max	6.16%		7.39%	5.71%		2.27%	4.17%
Min	-0.09%		-0.07%	0.45%		-0.10%	0.20%
Sample mean	3.15%		2.55%	0.60%		1.65%	1.50%
Sample median	2.79%		2.29%	0.50%		1.99%	0.80%
Sample mode	#N/A		#N/A	#N/A		1.99%	#N/A
Skew	0.0271		0.9985	-0.1031		-1.7027	0.1614

Appendix B 5

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-influenced (BI) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BI companies		Non-BI companies		Difference (BI &non-BI)	Sector		Difference (BI & sector)
Aflife	2.58%	Fedsure	-2.22%	4.81%	Insurance	-1.48%	4.06%
Captall	-5.05%	Cusaf	-4.06%	0.98%	Insurance	-1.48%	3.57%
Comparex	6.15%	DiData	0.16%	6.00%	Electrical	1.98%	4.17%
CTP	-2.62%	Independent	-2.27%	0.35%	Media	-2.09%	0.53%
FBC	-1.22%	Saambou	-0.99%	0.23%	Banks & other financial services	-1.03%	0.19%
Fortune	-1.70%	ABI	1.18%	2.88%	Beverages, Hotel & Leisure	-1.76%	0.06%
HCI	2.48%	Sage	-3.07%	5.55%	Insurance	-1.48%	3.96%
Kagiso	-2.96%	Primedia	-3.62%	0.67%	Media	-2.09%	0.86%
Macmed	-2.16%	Adcock	-0.65%	1.52%	Pharmaceutic als & Medical	-1.38%	0.78%
Mathomo	-9.45%	Specialty	0.97%	10.43%	stores	-4.22%	5.23%
Metlife	-3.05%	Liberty	-1.90%	1.15%	Insurance	-1.48%	1.58%
Norbake	-7.96%	Macadams	-13.05%	5.09%	Food	-1.61%	6.35%
Ocfish	-0.59%	Sea Harvest	0.73%	1.32%	Food	-1.61%	1.02%
Siltek	0.36%	Fintech	-4.11%	4.47%	Electrical	1.98%	1.63%
Yabeng	-4.81%	Ettington	-2.11%	2.70%	Investment trust	-1.34%	3.46%
Max	6.15%		1.18%	10.43%		1.98%	6.35%
Min	-9.45%		-13.05%	0.23%		-4.22%	0.06%
Sample mean	-2.00%		-2.33%	0.33%		-1.27%	-0.73%
Sample median	-2.16%		-2.11%	-0.05%		-1.48%	-0.69%
Sample mode	#N/A		#N/A	#N/A		-1.48%	#N/A
Skew	0.0834		-2.2277	1.1774		1.0063	0.4395

Appendix B 6

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-owned (BO) Companies

Risk-adjusted Returns

Raw Returns
Geometric Averages

BO companies		Non-BO companies		Difference (BO &non-BO)	Sector		Difference (BO & sector)
Aflife	2.58%	Fedsure	-2.22%	4.81%	Insurance	-1.48%	4.05%
Captall	-5.05%	Cusaf	-4.06%	0.98%	Insurance	-1.48%	3.57%
FBC	-1.22%	Saambou	-0.99%	0.23%	Banks & other financial services	-1.03%	0.19%
Fortune	-1.70%	ABI	1.18%	2.88%	Beverages, Hotel & Leisure	-1.76%	0.06%
HCI	2.48%	Sage	-3.07%	5.55%	Insurance	-1.48%	3.96%
Mathomo	-9.45%	Specialty	0.97%	10.43%	Stores	-4.22%	5.23%
Metlife	-3.05%	Liberty	-1.90%	1.15%	Insurance	-1.48%	1.58%
Norbake	-7.96%	Macadams	-13.05%	5.09%	Food	-1.61%	6.35%
Yabeng	-4.81%	Ettington	-2.11%	2.70%	Investment trust	-1.34%	3.46%
Max	2.58%		1.18%	10.43%		-1.03%	6.35%
Min	-9.45%		-13.05%	0.23%		-4.22%	0.06%
Sample mean	-3.13%		-2.81%	-0.32%		-1.76%	-1.57%
Sample median	-3.05%		-2.11%	-0.94%		-1.48%	-1.58%
Sample mode	#N/A		#N/A	#N/A		-1.48%	#N/A
Skew	-0.0086		-2.0543	1.1359		-2.7370	-0.2815

Appendix B 7

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black-influenced (BI) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BI companies		Non-BI companies		Difference (BI& non-BI)	Sector		Difference (BI & sector)
Aflife	4.44%	Fedsure	2.93%	1.51%	Insurance	2.00%	2.45%
Captall	3.82%	Cusaf	-1.07%	4.89%	Insurance	2.00%	1.83%
Comparex	6.32%	DiData	4.22%	2.09%	Electrical	4.98%	1.34%
CTP	1.79%	Independent	-0.14%	1.92%	Media	3.40%	1.61%
FBC	1.46%	Saambou	3.44%	1.98%	Banks & other financial services	2.49%	1.03%
Fortune	-0.05%	ABI	4.79%	4.83%	Beverages, Hotel & Leisure	1.93%	1.98%
HCI	7.65%	Sage	1.30%	6.34%	Insurance	2.00%	5.65%
Kagiso	4.14%	Primedia	5.00%	0.85%	Media	3.40%	0.75%
Macmed	2.43%	Adcock	0.89%	1.53%	Pharmaceuticals & Medical	2.27%	0.16%
Mathomo	1.07%	Specialty	3.62%	2.55%	Stores	0.40%	0.66%
Metlife	2.85%	Liberty	1.28%	1.57%	Insurance	2.00%	0.85%
Norbake	-1.48%	Macadams	1.16%	2.64%	Food	0.01%	1.49%
Ocfish	2.38%	Sea Harvest	1.92%	0.46%	Food	0.01%	2.37%
Siltek	2.16%	Fintech	1.58%	0.58%	Electrical	4.98%	2.82%
Yabeng	6.75%	Ettington	1.30%	5.45%	Investment trust	1.70%	5.05%
Max	7.65%		5.00%	6.34%		4.98%	5.65%
Min	-1.48%		-1.07%	0.46%		0.01%	0.16%
Sample mean	3.05%		2.15%	0.90%		2.24%	0.81%
Sample median	2.43%		1.58%	0.85%		2.00%	0.43%
Sample mode	#N/A		#N/A	#N/A		2.00%	#N/A
Skew	0.2554		0.0873	0.8815		0.3864	1.4234

Appendix B 8

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black-owned (BO) Companies

***Ex Post* Returns**

Raw Returns
Geometric Averages

BO companies		Non-BO companies		Difference (BO& non-BO)	Sector		Difference (BO & sector)
Aflife	4.44%	Fedsure	2.93%	1.51%	Insurance	2.00%	2.45%
Captall	3.82%	Cusaf	-1.07%	4.89%	Insurance	2.00%	1.83%
FBC	1.46%	Saambou	3.44%	1.98%	Banks & other financial services	2.49%	1.03%
Fortune	-0.05%	ABI	4.79%	4.83%	Beverages, Hotel & Leisure	1.93%	1.98%
HCI	7.65%	Sage	1.30%	6.34%	Insurance	2.00%	5.65%
Mathomo	1.07%	Specialty	3.62%	2.55%	Stores	0.40%	0.66%
Metlife	2.85%	Liberty	1.28%	1.57%	Insurance	2.00%	0.85%
Norbake	-1.48%	Macadams	1.16%	2.64%	Food	0.01%	1.49%
Yabeng	6.75%	Ettington	1.30%	5.45%	Investment trust	1.70%	5.05%
Max	7.65%		4.79%	6.34%		2.49%	5.65%
Min	-1.48%		-1.07%	1.51%		0.01%	0.66%
Sample mean	2.95%		2.08%	0.86%		1.61%	1.33%
Sample median	2.85%		1.30%	1.55%		2.00%	0.85%
Sample mode	#N/A		#N/A	#N/A		2.00%	#N/A
Skew	0.2259		-0.2075	0.3326		-1.3935	1.2429

Appendix B 9

3-Year Sample Period

Black-influenced (BI) Companies

***Ex Post* Risk-adjusted Returns**

Treynor Index
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	4.90%	Fedsure	0.25%	4.65%	Insurance	-0.44%	5.34%
Captall	0.61%	Cusaf	-1.94%	2.56%	Insurance	-0.44%	1.05%
FBC	-0.06%	Saambou	1.01%	1.07%	Banks & other financial services	-0.19%	0.13%
Fortune	-3.77%	ABI	0.91%	4.68%	Beverages, Hotels & Leisure	-1.68%	2.09%
HCI	2.65%	Sage	-1.08%	3.72%	Insurance	-0.44%	3.08%
Metlife	0.18%	Liberty	-1.48%	1.67%	Insurance	-0.44%	0.62%
Norbake	-2.03%	Macadams	0.60%	2.63%	Food	-2.61%	0.58%
Ocfish	-1.18%	Sea harvest	-14.91%	13.73%	Food	-2.61%	1.44%
Yabeng	-4.08%	Ettington	-4.56%	0.49%	Investment trusts	-0.12%	3.96%
Max	4.90%		1.01%	13.73%		-0.12%	5.34%
Min	-4.08%		-14.91%	0.49%		-2.61%	0.13%
Sample mean	-0.31%		-2.36%	2.05%		-1.00%	0.69%
Sample median	-0.06%		-1.08%	1.02%		-0.44%	0.38%
Sample mode	#N/A		#N/A	#N/A		-0.44%	#N/A
Skew	0.4467		-2.3577	2.2343		-1.0332	0.9033

Appendix B 10

3-Year Sample Period

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**

Treynor Index
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	4.90%	Fedsure	0.25%	4.65%	Insurance	-0.44%	5.34%
Captall	0.61%	Cusaf	-1.94%	2.56%	Insurance	-0.44%	1.05%
FBC	-0.06%	Saambou	1.01%	1.07%	Banks & other financial services	-0.19%	0.13%
Fortune	-3.77%	ABI	0.91%	4.68%	Beverages, Hotels & Leisure	-1.68%	2.09%
HCI	2.65%	Sage	-1.08%	3.72%	Insurance	-0.44%	3.08%
Metlife	0.18%	Liberty	-1.48%	1.67%	Insurance	-0.44%	0.62%
Norbake	-2.03%	Macadams	0.60%	2.63%	Food	-2.61%	0.58%
Yabeng	-4.08%	Ettington	-4.56%	0.49%	Investment trusts	-0.12%	3.96%
Max	4.90%		1.01%	4.68%		-0.12%	5.34%
Min	-4.08%		-4.56%	0.49%		-2.61%	0.13%
Sample mean	-0.20%		-0.79%	0.59%		-0.80%	0.60%
Sample median	0.06%		-0.42%	0.48%		-0.44%	0.50%
Sample mode	#N/A		#N/A	#N/A		-0.44%	#N/A
Skew	0.3047		-1.1453	0.0423		-1.6764	0.7442

Appendix B 11

30-Month Sample Period

***Ex Post* Black-influenced (BI) Companies**

Risk-adjusted Returns

Treynor Index

Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	11.16%	Fedsure	2.66%	8.50%	Insurance	0.72%	10.44%
Captall	4.78%	Cusaf	-1.70%	6.48%	Insurance	0.72%	4.06%
FBC	0.58%	Saambou	3.95%	3.37%	Banks & other financial services	0.96%	0.39%
Fortune	-2.10%	ABI	3.91%	6.01%	Beverages, Hotels & Leisure	-0.40%	1.70%
HCI	5.85%	Sage	0.16%	5.69%	Insurance	0.72%	5.14%
Metlife	2.41%	Liberty	-0.44%	2.85%	Insurance	0.72%	1.69%
Norbake		Macadams			Food		
Ocfish	2.77%	Sea harvest	-5.85%	8.63%	Food	-1.56%	4.33%
Yabeng	-0.60%	Ettington	-2.03%	1.42%	Investment trusts	1.29%	1.89%
Max	11.16%		3.95%	8.63%		1.29%	10.44%
Min	-2.10%		-5.85%	1.42%		-1.56%	0.39%
Sample mean	3.10%		0.08%	3.02%		0.39%	2.71%
Sample median	2.59%		-0.14%	2.73%		0.72%	1.87%
Sample mode	#N/A		#N/A	#N/A		0.72%	#N/A
Skew	0.8740		-0.4654	-0.1965		-1.6686	1.4954

Appendix B 12

30-Month Sample Period

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**
Treynor Index
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	11.16%	Fedsure	2.66%	8.50%	Insurance	0.72%	10.44%
Captall	4.78%	Cusaf	-1.70%	6.48%	Insurance	0.72%	4.06%
FBC	0.58%	Saambou	3.95%	3.37%	Banks & other financial services	0.96%	0.38%
Fortune	-2.10%	ABI	3.91%	6.01%	Beverages, Hotels & Leisure	-0.40%	1.70%
HCI	5.85%	Sage	0.16%	5.69%	Insurance	0.72%	5.14%
Metlife	2.41%	Liberty	-0.44%	2.85%	Insurance	0.72%	1.69%
Norbake		Macadams			Food		
Yabeng	-0.60%	Ettington	-2.03%	1.42%	Investment trusts	1.29%	1.89%
Max	11.16%		3.95%	8.50%		1.29%	10.44%
Min	-2.10%		-2.03%	1.42%		-0.40%	0.38%
Sample mean	3.15%		0.93%	2.22%		0.67%	2.43%
Sample median	2.41%		0.16%	2.25%		0.72%	1.69%
Sample mode	#N/A		#N/A	#N/A		0.72%	#N/A
Skew	0.8073		0.1692	-0.0364		-1.6391	1.5767

Appendix B 13

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-influenced (BI) Companies

***Ex Post* Risk-adjusted Returns**

Treynor Index
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & Sector)
Aflife	1.40%	Fedsure	-3.11%	4.51%	Insurance	-2.55%	3.95%
Captall	-2.95%	Cusaf	-5.04%	2.09%	Insurance	-2.55%	0.40%
Comparax	4.87%	DiData	-1.47%	6.34%	Electrical	0.58%	4.29%
CTP	-10.00%	Independent	-7.44%	2.56%	Media		
FBC	-1.06%	Saambou	-1.86%	0.80%	Banks & other financial services	-2.11%	1.05%
Fortune	-5.93%	ABI	-0.28%	5.65%	Beverages, Hotels & Leisure	-3.05%	2.88%
HCI	1.09%	Sage	-3.48%	4.57%	Insurance	-2.55%	3.64%
Kagiso	-4.17%	Primedia	-3.76%	0.41%	Media		
Macmed	-2.77%	Adcock	-3.55%	0.78%	Pharmaceutical & Medical	-3.03%	0.26%
Mathomo	-8.67%	Specialty	-0.34%	8.33%	Stores	-4.83%	3.84%
Metlife	-4.34%	Liberty	-3.04%	1.30%	Insurance	-2.55%	1.80%
Norbake	-9.94%	Macadams	-10.93%	1.00%	Food	-3.99%	5.95%
Ocfish	-4.19%	Sea harvest	-4.63%	0.44%	Food	-3.99%	0.20%
Siltek	-0.80%	Fintech	-6.95%	6.15%	Electrical	0.58%	1.38%
Yabeng	-5.38%	Ettington	-6.34%	0.96%	Investment trusts	-2.75%	2.63%
Max	4.87%		-0.28%	8.33%		0.58%	5.95%
Min	-10.00%		-10.93%	0.41%		-4.83%	0.20%
Sample mean	-3.52%		-4.15%	0.63%		-2.52%	-1.00%
Sample median	-4.17%		-3.55%	-0.62%		-2.55%	-1.62%
Sample mode	#N/A		#N/A	#N/A		-2.55%	#N/A
Skew	0.1638		-0.8125	0.6889		1.0390	0.3095

Appendix B 14

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**
Treynor Index
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & Sector)
Aflife	1.40%	Fedsure	-3.11%	4.51%	Insurance	-2.55%	3.95%
Captall	-2.95%	Cusaf	-5.04%	2.09%	Insurance	-2.55%	0.40%
FBC	-1.06%	Saambou	-1.86%	0.80%	Banks & other financial services	-2.11%	1.05%
Fortune	-5.93%	ABI	-0.28%	5.65%	Beverages, Hotels & Leisure	-3.05%	2.88%
HCI	1.09%	Sage	-3.48%	4.57%	Insurance	-2.55%	3.64%
Mathomo	-8.67%	Specialty	-0.34%	8.33%	Stores	-4.83%	3.84%
Metlife	-4.34%	Liberty	-3.04%	1.30%	Insurance	-2.55%	1.80%
Norbake	-9.94%	Macadams	-10.93%	1.00%	Food	-3.99%	5.95%
Yabeng	-5.38%	Ettington	-6.34%	0.96%	Investment trusts	-2.75%	2.63%
Max	1.40%		-0.28%	8.33%		-2.11%	5.95%
Min	-9.94%		-10.93%	0.80%		-4.83%	0.40%
Sample mean	-3.97%		-3.82%	-0.15%		-2.99%	-0.98%
Sample median	-4.34%		-3.11%	-1.24%		-2.55%	-1.80%
Sample mode	#N/A		#N/A	#N/A		-2.55%	#N/A
Skew	-0.0365		-1.2376	0.8857		-1.5234	0.2387

Appendix B 15

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black-influenced (BI) Companies

***Ex Post* Risk-Adjusted Returns**

Treynor Index
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	7.48%	Fedsure	2.25%	5.23%	Insurance	0.82%	6.66%
Captall	2.84%	Cusaf	-3.70%	6.54%	Insurance	0.82%	2.02%
Comparax	5.94%	DiData	4.32%	1.61%	Electrical	3.79%	2.15%
CTP	1.19%	Independent	-1.96%	3.15%	Media		
FBC	0.22%	Saambou	3.18%	2.96%	Banks & other financial services	1.26%	1.05%
Fortune	-1.88%	ABI	7.41%	9.29%	Beverages, Hotels & Leisure	0.71%	2.58%
HCI	8.54%	Sage	0.15%	8.40%	Insurance	0.82%	7.72%
Kagiso	2.39%	Primedia	3.49%	1.10%	Media		
Macmed	1.41%	Adcock	-0.42%	1.84%	Pharmaceutical & Medical	1.34%	0.07%
Mathomo		Specialty			Stores		
Metlife	1.81%	Liberty	0.12%	1.69%	Insurance	0.82%	0.99%
Norbake		Macadams			Food		
Ocfish	6.82%	Sea harvest	2.74%	4.07%	Food	-1.31%	8.13%
Siltek	0.54%	Fintech	0.94%	0.40%	Electrical	3.79%	3.25%
Yabeng	3.89%	Ettington	0.23%	3.66%	Investment trusts	0.72%	3.15%
Max	8.54%		7.41%	9.29%		3.79%	8.13%
Min	-1.88%		-3.70%	0.40%		-1.31%	0.07%
Sample mean	3.17%		1.44%	1.73%		1.23%	1.93%
Sample median	2.39%		0.94%	1.45%		0.82%	1.57%
Sample mode	#N/A		#N/A	#N/A		0.82%	#N/A
Skew	0.3671		0.2651	0.8405		0.6647	0.8033

Appendix B 16

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**

Treynor Index
Geometric Average

BO companies		non-BO companies		Difference (BO & non-BI)	Sectors		Difference (BO & Sector)
Aflife	7.48%	Fedsure	2.25%	5.23%	Insurance	0.82%	6.66%
Captall	2.84%	Cusaf	-3.70%	6.54%	Insurance	0.82%	2.02%
FBC	0.22%	Saambou	3.18%	2.96%	Banks & other financial services	1.26%	1.05%
Fortune	-1.88%	ABI	7.41%	9.29%	Beverages, Hotels & Leisure	0.71%	2.58%
HCI	8.54%	Sage	0.15%	8.40%	Insurance	0.82%	7.72%
Mathomo		Specialty			Stores		
Metlife	1.81%	Liberty	0.12%	1.69%	Insurance	0.82%	0.99%
Norbake		Macadams			Food		
Yabeng	3.89%	Ettington	0.23%	3.66%	Investment trusts	0.72%	3.16%
Max	8.54%		7.41%	9.29%		1.26%	7.72%
Min	-1.88%		-3.70%	1.69%		0.71%	0.99%
Sample mean	3.27%		1.38%	1.89%		0.85%	2.42%
Sample median	2.84%		0.23%	2.61%		0.82%	2.02%
Sample mode	#N/A		#N/A	#N/A		0.82%	#N/A
Skew	0.2374		0.5208	0.1740		2.2670	0.9400

Appendix B 17

3-Year Sample Period

Black-influenced (BI) Companies

***Ex-Post* Risk-adjusted Returns**

Sharpe Ratio
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	0.38%	Fedsure	0.03%	0.35%	Insurance	-0.06%	0.44%
Captall	0.06%	Cusaf	-0.17%	0.22%	Insurance	-0.06%	0.11%
FBC	-0.00%	Saambou	0.09%	0.09%	Banks & other financial services	-0.03%	0.02%
Fortune	-0.18%	ABI	0.07%	0.25%	Beverages, Hotels & Leisure	-0.23%	0.05%
HCI	0.12%	Sage	-0.11%	0.24%	Insurance	-0.06%	0.18%
Metlife	0.02%	Liberty	-0.17%	0.19%	Insurance	-0.06%	0.08%
Norbake	-0.07%	Macadams	0.03%	0.10%	Food	-0.33%	0.26%
Ocfish	-0.07%	Sea harvest	-0.26%	0.19%	Food	-0.33%	0.25%
Yabeng	-0.26%	Ettington	-0.25%	0.02%	Investment trusts	-0.02%	0.25%
Max	0.38%		0.09%	0.35%		-0.02%	0.44%
Min	-0.26%		-0.26%	0.02%		-0.33%	0.02%
Sample mean	-0.00%		-0.08%	0.08%		-0.13%	0.13%
Sample median	-0.00%		-0.11%	0.11%		-0.06%	0.05%
Sample mode	#N/A		#N/A	#N/A		-0.06%	#N/A
Skew	0.8465		-0.0189	-0.0757		-0.9706	0.6690

Appendix B 18

3-Year Sample Period

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**

Sharpe Ratio
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	0.38%	Fedsure	0.03%	0.35%	Insurance	-0.06%	0.44%
Captall	0.06%	Cusaf	-0.17%	0.22%	Insurance	-0.06%	0.11%
FBC	-0.00%	Saambou	0.09%	0.09%	Banks & other financial services	-0.03%	0.02%
Fortune	-0.18%	ABI	0.07%	0.25%	Beverages, Hotels & Leisure	-0.23%	0.05%
HCI	0.12%	Sage	-0.11%	0.24%	Insurance	-0.06%	0.18%
Metlife	0.02%	Liberty	-0.17%	0.19%	Insurance	-0.06%	0.08%
Norbake	-0.07%	Macadams	0.03%	0.10%	Food	-0.33%	0.26%
Yabeng	-0.26%	Ettington	-0.25%	0.02%	Investment trusts	-0.02%	0.25%
Max	0.38%		0.09%	0.35%		-0.02%	0.44%
Min	-0.26%		-0.25%	0.02%		-0.33%	0.02%
Sample mean	0.01%		-0.06%	0.07%		-0.10%	0.11%
Sample median	0.01%		-0.04%	0.05%		-0.06%	0.07%
Sample mode	#N/A		#N/A	#N/A		-0.06%	#N/A
Skew	0.6748		-0.2171	-0.0436		-1.5773	0.9251

Appendix B 19

30-Month Sample Period
Black-influenced (BI) Companies
***Ex Post* Risk-adjusted Returns**
Sharpe Ratio
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	0.55%	Fedsure	0.30%	0.25%	Insurance	0.13%	0.42%
Captall	0.34%	Cusaf	-0.12%	0.46%	Insurance	0.13%	0.21%
FBC	0.04%	Saambou	0.27%	0.23%	Banks & other financial services	0.16%	0.12%
Fortune	-0.14%	ABI	0.25%	0.39%	Beverages, Hotels & Leisure	-0.08%	0.06%
HCI	0.16%	Sage	0.02%	0.14%	Insurance	0.13%	0.03%
Metlife	0.26%	Liberty	-0.07%	0.33%	Insurance	0.13%	0.13%
Norbake		Macadams			Food		
Ocfish	0.08%	Sea harvest	-0.20%	0.29%	Food	-0.27%	0.35%
Yabeng	-0.06%	Ettington	-0.10%	0.04%	Investment trusts	0.19%	0.25%
Max	0.55%		0.30%	0.46%		0.19%	0.42%
Min	-0.14%		-0.20%	0.04%		-0.27%	0.03%
Sample mean	0.15%		0.04%	0.11%		0.07%	0.09%
Sample median	0.12%		-0.03%	0.15%		0.13%	-0.01%
Sample mode	#N/A		#N/A	#N/A		0.13%	#N/A
Skew	0.5700		0.3298	-0.3150		-1.8095	0.5414

Appendix B 20

30-Month Sample Period

Black-owned (BO) Companies

***Ex Post* Risk-adjusted Returns**

Sharpe Ratio
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & sector)
Aflife	0.55%	Fedsure	0.30%	0.25%	Insurance	0.13%	0.42%
Captall	0.34%	Cusaf	-0.12%	0.46%	Insurance	0.13%	0.21%
FBC	0.04%	Saambou	0.27%	0.23%	Banks & other financial services	0.16%	0.12%
Fortune	-0.14%	ABI	0.25%	0.39%	Beverages, Hotels & Leisure	-0.08%	0.06%
HCI	0.16%	Sage	0.02%	0.14%	Insurance	0.13%	0.03%
Metlife	0.26%	Liberty	-0.07%	0.33%	Insurance	0.13%	0.13%
Norbake		Macadams			Food		
Yabeng	-0.06%	Ettington	-0.10%	0.04%	Investment trusts	0.19%	0.25%
Max	0.55%		0.30%	0.46%		0.19%	0.42%
Min	-0.14%		-0.12%	0.04%		-0.08%	0.03%
Sample mean	0.16%		0.08%	0.09%		0.11%	0.05%
Sample median	0.16%		0.02%	0.14%		0.13%	0.03%
Sample mode	#N/A		#N/A	#N/A		0.13%	#N/A
Skew	0.3966		0.2115	-0.2246		-2.2940	1.0821

Appendix B 21

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-influenced (BI) Companies

***Ex Post* Risk-adjusted Returns**

Sharpe Ratio
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & Sector)
Aflife	0.11%	Fedsure	-0.33%	0.44%	Insurance	-0.34%	0.45%
Captall	-0.27%	Cusaf	-0.43%	0.16%	Insurance	-0.34%	0.08%
Comparax	0.34%	DiData	-0.13%	0.47%	Electrical	0.07%	0.27%
CTP	-0.47%	Independent	-0.28%	0.19%	Media		
FBC	-0.08%	Saambou	-0.16%	0.08%	Banks & other financial services	-0.27%	0.19%
Fortune	-0.28%	ABI	-0.02%	0.26%	Beverages, Hotels & Leisure	-0.41%	0.13%
HCI	0.05%	Sage	-0.36%	0.41%	Insurance	-0.34%	0.39%
Kagiso	-0.21%	Primedia	-0.23%	0.02%	Media		
Macmed	-0.19%	Adcock	-0.24%	0.05%	Pharmaceutical & Medical	-0.36%	0.17%
Mathomo	-0.49%	Specialty	-0.03%	0.46%	Stores	-0.62%	0.13%
Metlife	-0.43%	Liberty	-0.35%	0.08%	Insurance	-0.34%	0.09%
Norbake	-0.33%	Macadams	-0.62%	0.29%	Food	-0.50%	0.17%
Ocfish	-0.26%	Sea harvest	-0.08%	0.17%	Food	-0.50%	0.24%
Siltek	-0.05%	Fintech	-0.57%	0.52%	Electrical	0.07%	0.12%
Yabeng	-0.35%	Ettington	-0.34%	0.00%	Investment trusts	-0.34%	0.01%
Max	0.34%		-0.02%	0.52%		0.07%	0.45%
Min	-0.49%		-0.62%	0.00%		-0.62%	0.01%
Sample mean	-0.19%		-0.28%	0.08%		-0.32%	0.13%
Sample median	-0.26%		-0.28%	0.02%		-0.34%	0.09%
Sample mode	#N/A		#N/A	#N/A		-0.34%	#N/A
Skew	0.8614		-0.3332	0.2419		1.1172	0.9823

Appendix B 22

1-Year Sample Period [30 November 1997 to 30 November 1998]

Black-owned (BO) Companies

***Ex Post* Risk-Adjusted Returns**
Sharpe Ratio
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BO)	Sectors		Difference (BO & Sector)
Aflife	0.11%	Fedsure	-0.33%	0.44%	Insurance	-0.34%	0.45%
Captall	-0.27%	Cusaf	-0.43%	0.16%	Insurance	-0.34%	0.08%
FBC	-0.08%	Saambou	-0.16%	0.08%	Banks & other financial services	-0.27%	0.19%
Fortune	-0.28%	ABI	-0.02%	0.26%	Beverages, Hotels & Leisure	-0.41%	0.13%
HCI	0.05%	Sage	-0.36%	0.41%	Insurance	-0.34%	0.39%
Mathomo	-0.49%	Specialty	-0.03%	0.46%	Stores	-0.62%	0.13%
Metlife	-0.43%	Liberty	-0.35%	0.08%	Insurance	-0.34%	0.09%
Norbake	-0.33%	Macadams	-0.62%	0.29%	Food	-0.50%	0.17%
Yabeng	-0.35%	Ettington	-0.34%	0.00%	Investment trusts	-0.34%	0.01%
Max	0.11%		-0.02%	0.46%		-0.27%	0.45%
Min	-0.49%		-0.62%	0.00%		-0.62%	0.01%
Sample mean	-0.23%		-0.29%	0.06%		-0.39%	0.16%
Sample median	-0.28%		-0.34%	0.06%		-0.34%	0.06%
Sample mode	#N/A		#N/A	#N/A		-0.34%	#N/A
Skew	0.6203		0.0974	0.0099		-1.4905	1.1112

Appendix B 23

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black Influenced (BI) Companies

***Ex Post* Risk-Adjusted Returns**

Sharpe Ratio
Geometric Averages

BI companies		non-BI companies		Difference (BI & non-BI)	Sectors		Difference (BI & sector)
Aflife	0.37%	Fedsure	0.25%	0.12%	Insurance	0.15%	0.22%
Captall	0.20%	Cusaf	-0.27%	0.47%	Insurance	0.15%	0.05%
Comparax	0.39%	DiData	0.37%	0.02%	Electrical	0.59%	0.20%
CTP	0.10%	Independent	-0.11%	0.21%	Media		
FBC	0.02%	Saambou	0.22%	0.20%	Banks & other financial services	0.22%	0.20%
Fortune	-0.12%	ABI	0.48%	0.60%	Beverages, Hotels & Leisure	0.13%	0.25%
HCI	0.23%	Sage	0.02%	0.22%	Insurance	0.15%	0.08%
Kagiso	0.15%	Primedia	0.19%	0.04%	Media		
Macmed	0.07%	Adcock	-0.03%	0.11%	Pharmaceutical & Medical	0.19%	0.12%
Mathomo		Specialty			Stores		
Metlife	0.19%	Liberty	0.02%	0.17%	Insurance	0.15%	0.04%
Norbake		Macadams			Food		
Ocfish	0.20%	Sea harvest	0.09%	0.11%	Food	-0.23%	0.43%
Siltek	0.05%	Fintech	0.06%	0.01%	Electrical	0.59%	0.54%
Yabeng	0.39%	Ettington	0.01%	0.38%	Investment trusts	0.10%	0.28%
Max	0.39%		0.48%	0.60%		0.59%	0.54%
Min	-0.12%		-0.27%	0.01%		-0.23%	0.04%
Sample mean	0.17%		0.10%	0.07%		0.20%	-0.03%
Sample median	0.19%		0.06%	0.14%		0.15%	0.04%
Sample mode	#N/A		#N/A	#N/A		0.15%	#N/A
Skew	-0.1192		0.2088	1.1336		0.4028	0.9067

Appendix B 24

6-Month Sample Period [30 November 1997 to 31 May 1998]

Black-owned (BO) Companies

***Ex Post* Risk-Adjusted Returns**

Sharpe Ratio
Geometric Averages

BO companies		non-BO companies		Difference (BO & non-BI)	Sectors		Difference (BO & Sector)
Aflife	0.37%	Fedsure	0.25%	0.12%	Insurance	0.15%	0.22%
Captall	0.20%	Cusaf	-0.27%	0.47%	Insurance	0.15%	0.05%
FBC	0.02%	Saambou	0.22%	0.20%	Banks & other financial services	0.22%	0.20%
Fortune	-0.12%	ABI	0.48%	0.60%	Beverages, Hotels & Leisure	0.13%	0.25%
HCI	0.23%	Sage	0.02%	0.22%	Insurance	0.15%	0.08%
Mathomo		Specialty			Stores		
Metlife	0.19%	Liberty	0.02%	0.17%	Insurance	0.15%	0.04%
Norbake		Macadams			Food		
Yabeng	0.39%	Ettington	0.01%	0.38%	Investment trusts	0.10%	0.28%
Max	0.39%		0.48%	0.60%		0.22%	0.28%
Min	-0.12%		-0.27%	0.12%		0.10%	0.04%
Sample mean	0.18%		0.10%	0.08%		0.15%	0.03%
Sample median	0.20%		0.02%	0.18%		0.15%	0.05%
Sample mode	#N/A		#N/A	#N/A		0.15%	#N/A
Skew	-0.6673		0.0673	0.7444		1.0693	-0.1640

Appendix C 1

Secondary Hypotheses

Ex Ante Risk-adjusted returns as reflected by the CAPM

Black-influenced (BI) Companies
Expected risk-adjusted returns (CAPM)
As at 30 November 1998

BI companies		Non-BI companies		Difference (BI & non-BI)	Sector		Difference (BI & sector)
Aflife	1.77%	Fedsure	1.85%	0.08%	Insurance	1.84%	0.07%
Captall	2.13%	Cusaf	1.83%	0.30%	Insurance	1.84%	0.29%
Comparex	1.80%	DiData	1.76%	0.04%	Electrical	1.82%	0.02%
CTP	1.64%	Independent	1.67%	0.02%	Media		
FBC	2.21%	Saambou	1.88%	0.32%	Banks & other financial services	1.85%	0.36%
Fortune	1.68%	ABI	1.73%	0.06%	Beverages, Hotel & Leisure	1.82%	0.14%
HCI	1.81%	Sage	1.89%	0.07%	Insurance	1.84%	0.03%
Kagiso	1.82%	Primedia	1.90%	0.08%	Media		
Macmed	1.89%	Adcock	1.69%	0.20%	Pharmaceuticals & Medical	1.78%	0.10%
Mathomo	1.88%	Specialty	1.87%	0.01%	Stores	1.85%	0.02%
Metlife	1.81%	Liberty	1.83%	0.02%	Insurance	1.84%	0.03%
Norbake	1.79%	Macadams	1.90%	0.10%	Food	1.74%	0.05%
Ocfish	1.66%	Sea Harvest	1.57%	0.09%	Food	1.74%	0.08%
Siltek	1.89%	Fintech	1.75%	0.13%	Electrical	1.82%	0.07%
Yabeng	1.85%	Ettington	1.68%	0.17%	Investment trust	1.81%	0.04%
Max	2.21%		1.90%	0.32%		1.85%	0.35%
Min	1.64%		1.57%	0.01%		1.74%	0.02%
Sample mean	1.84%		1.79%	0.06%		1.81%	0.03%
Sample median	1.81%		1.83%	-0.02%		1.82%	-0.01%
Sample mode	1.89%		1.83%	0.06%		1.84%	0.04%
Skew	1.2281		-0.6596	1.2277		-1.2273	1.8240

Appendix C 2

Ex Ante Risk-adjusted returns as reflected by the CAPM

Black-Owned (BO) Companies
Expected risk-adjusted returns (CAPM)
As at 30 November 1998

BO companies		Non-BO companies		Difference (BO & non-BO)	Sector		Difference (BO & sector)
Aflife	1.77%	Fedsure	1.85%	0.08%	Insurance	1.84%	0.07%
Captall	2.13%	Cusaf	1.83%	0.30%	Insurance	1.84%	0.29%
FBC	2.21%	Saambou	1.88%	0.32%	Banks & other financial services	1.85%	0.36%
Fortune	1.81%	ABI	1.89%	0.07%	Beverages, Hotel & Leisure	1.84%	0.03%
HCI	1.68%	Sage	1.73%	0.06%	Insurance	1.82%	0.14%
Mathomo	1.88%	Specialty	1.87%	0.01%	Stores	1.85%	0.02%
Metlife	1.81%	Liberty	1.83%	0.02%	Insurance	1.84%	0.03%
Norbake	1.79%	Macadams	1.90%	0.10%	Food	1.74%	0.05%
Yabeng	1.85%	Ettington	1.68%	0.17%	Investment trust	1.81%	0.04%
Max	2.21%		1.90%	0.32%		1.85%	0.36%
Min	1.68%		1.68%	0.01%		1.74%	0.02%
Sample mean	1.88%		1.83%	0.05%		1.83%	0.06%
Sample median	1.81%		1.85%	-0.04%		1.84%	-0.03%
Sample mode	#N/A		1.83%	#N/A		1.84%	#N/A
Skew	1.1970		-1.3168	1.0227		-2.1238	1.4070

Appendix C 3

Ex Ante Risk-adjusted returns as reflected by the CAPM

Black Influenced (BI) Companies
Expected risk-adjusted returns (CAPM)
As at 31 May 1998

BI companies		Non-BI companies		Difference (BI & non-BI)	Sector		Difference (BI & sector)
Aflife	1.47%	Fedsure	1.64%	0.17%	Insurance	1.76%	0.29%
Captali	1.72%	Cusaf	1.55%	0.17%	Insurance	1.76%	0.04%
Comparex	1.68%	DiData	1.60%	0.08%	Electrical	1.75%	0.07%
CTP	1.51%	Independent	1.58%	0.06%	Media		
FBC	1.95%	Saambou	1.61%	0.35%	Banks & other financial services	1.77%	0.18%
Fortune	1.57%	ABI	1.49%	0.07%	Beverages, Hotel & Leisure	1.79%	0.23%
HCI	1.63%	Sage	1.74%	0.12%	Insurance	1.76%	0.13%
Kagiso	1.87%	Primedia	1.79%	0.07%	Media		
Macmed	1.70%	Adcock	1.56%	0.14%	Pharmaceuticals & Medical	1.66%	0.03%
Mathomo		Specialty			Stores		
Metlife	1.72%	Liberty	1.78%	0.07%	Insurance	1.76%	0.04%
Norbake		Macadams			Food		
Ocfish	1.34%	Sea Harvest	1.39%	0.05%	Food	1.68%	0.34%
Siltek	2.17%	Fintech	1.47%	0.69%	Electrical	1.75%	0.42%
Yabeng	1.96%	Ettington	1.57%	0.39%	Investment trust	1.62%	0.34%
Max	2.17%		1.79%	0.69%		1.79%	0.42%
Min	1.34%		1.39%	0.05%		1.62%	0.03%
Sample mean	1.71%		1.60%	0.11%		1.73%	-0.02%
Sample median	1.70%		1.58%	0.12%		1.76%	-0.06%
Sample mode	1.72%		#N/A	#N/A		1.76%	-0.04%
Skew	0.3948		0.2606	1.9961		-1.2174	0.2727

Appendix C 4

Ex Ante Risk-adjusted returns as reflected by the CAPM

Black-Owned (BO) Companies
Expected risk-adjusted returns (CAPM)
As at 31 May 1998

BO companies		Non-BO companies		Difference (BO & non-BO)	Sector		Difference (BO & sector)
Aflife	1.47%	Fedsure	1.64%	0.17%	Insurance	1.76%	0.29%
Captall	1.72%	Cusaf	1.55%	0.17%	Insurance	1.76%	0.04%
FBC	1.95%	Saambou	1.61%	0.35%	Banks & other financial services	1.77%	0.18%
Fortune	1.57%	ABI	1.49%	0.07%	Beverages, Hotel & Leisure	1.79%	0.23%
HCI	1.63%	Sage	1.74%	0.12%	Insurance	1.76%	0.13%
Mathomo		Specialty			Stores		
Metlife	1.72%	Liberty	1.78%	0.07%	Insurance	1.76%	0.04%
Norbake		Macadams			Food		
Yabeng	1.96%	Ettington	1.57%	0.39%	Investment trust	1.62%	0.34%
Max	1.96%		1.78%	0.39%		1.79%	0.34%
Min	1.47%		1.49%	0.07%		1.62%	0.04%
Sample mean	1.72%		1.63%	0.09%		1.75%	-0.03%
Sample median	1.72%		1.61%	0.11%		1.76%	-0.04%
Sample mode	1.72%		#N/A	#N/A		1.76%	-0.04%
Skew	0.3386		0.4872	0.8618		-2.3413	0.0890

Appendix D 1

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Operating Invested Capital at the begin of the year
BI Companies relative to non-BI Companies

BI companies		Non-BI companies		Difference
Aflife	25.98%	Fedsure	3.78%	22.19%
Captall	31.16%	Cusaf	-30.74%	61.90%
Comparax	189.71%	DiData	99.61%	90.11%
CTP	43.57%	Independent	58.61%	15.04%
FBC	-1.52%	Saambou	-16.17%	14.65%
Fortune	37.22%	ABI	41.38%	4.16%
HCI	13.65%	Sage	51.67%	38.02%
Kagiso	154.19%	Primedia	191.51%	37.32%
Macmed	61.48%	Adcock	43.46%	18.01%
Mathomo	58.40%	Specialty	78.66%	20.26%
Metlife	-36.94%	Liberty	-0.85%	36.09%
Norbake	5.03%	Macadams	40.35%	35.32%
Ocfish	62.35%	Sea Harvest	30.76%	31.59%
Siltek	30.59%	Fintech	205.21%	174.62%
Yabeng	-15.17%	Ettington	-0.57%	14.60%

Max	189.71%	205.21%	174.62%
Min	-36.94%	-30.74%	4.16%
Sample mean	43.98%	53.11%	-9.13%
Sample median	31.16%	41.38%	-10.22%
Sample mode	#N/A	#N/A	#N/A
Skew	1.38	1.25	2.51

Appendix D 2

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Operating Invested Capital at the begin of the year
BO Companies relative to non-BO Companies

BO companies		Non-BO companies		Difference
Aflife	25.98%	Fedsure	3.78%	22.19%
Captall	31.16%	Cusaf	-30.74%	61.90%
FBC	-1.52%	Saambou	-16.17%	14.65%
Fortune	37.22%	ABI	41.38%	4.16%
HCI	13.65%	Sage	51.67%	38.02%
Mathomo	58.40%	Specialty	78.66%	20.26%
Metlife	-36.94%	Liberty	-0.85%	36.09%
Norbake	5.03%	Macadams	40.35%	35.32%
Yabeng	-15.17%	Ettington	-0.57%	14.60%

Max	58.40%	78.66%	61.90%
Min	-36.94%	-30.74%	4.16%
Sample mean	13.09%	18.61%	-5.52%
Sample median	13.65%	3.78%	9.86%
Sample mode	#N/A	#N/A	#N/A
Skew	-0.24	0.33	0.80

Appendix D 3

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Average Operating Invested Capital during the year
BI Companies relative to non-BI Companies

BI companies		Non-BI companies		Difference
Aflife	17.52%	Fedsure	3.42%	14.11%
Captall	12.36%	Cusaf	-38.33%	50.69%
Comparax	65.11%	DiData	57.70%	7.41%
CTP	40.21%	Independent	48.24%	8.03%
FBC	-1.23%	Saambou	-15.48%	14.25%
Fortune	34.84%	ABI	35.48%	0.65%
HCI	28.43%	Sage	38.91%	10.49%
Kagiso	81.43%	Primedia	75.33%	6.10%
Macmed	36.95%	Adcock	40.28%	3.33%
Mathomo	38.61%	Specialty	75.21%	36.60%
Metlife	-43.96%	Liberty	-0.80%	43.16%
Norbake	4.23%	Macadams	29.21%	24.97%
Ocfish	54.25%	Sea Harvest	28.72%	25.54%
Siltek	28.55%	Fintech	225.35%	196.80%
Yabeng	-22.13%	Ettington	-0.55%	21.58%

Max	81.43%	225.35%	196.80%
Min	-43.96%	-38.33%	0.65%
Sample mean	25.01%	40.18%	-15.17%
Sample median	28.55%	35.48%	-6.93%
Sample mode	#N/A	#N/A	#N/A
Skew	-0.45	2.08	3.28

Appendix D 4

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Average Operating Invested Capital during the year
BO Companies relative to non-BO Companies

BO companies		Non-BO companies		Difference
Aflife	17.52%	Fedsure	3.42%	14.11%
Captall	12.36%	Cusaf	-38.33%	50.69%
FBC	-1.23%	Saambou	-15.48%	14.25%
Fortune	34.84%	ABI	35.48%	0.65%
HCI	28.43%	Sage	38.91%	10.49%
Mathomo	38.61%	Specialty	75.21%	36.60%
Metlife	-43.96%	Liberty	-0.80%	43.16%
Norbake	4.23%	Macadams	29.21%	24.97%
Yabeng	-22.13%	Ettington	-0.55%	21.58%

Max	38.61%	75.21%	50.69%
Min	-43.96%	-38.33%	0.65%
Sample mean	7.63%	14.12%	-6.49%
Sample median	12.36%	3.42%	8.94%
Sample mode	#N/A	#N/A	#N/A
Skew	-0.84	0.32	0.38

Appendix D 5

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Operating Invested Capital at the beginning of year plus intangible assets
BI Companies relative to non-BI Companies

BI companies		Non-BI companies		Difference
Aflife	24.28%	Fedsure	3.78%	20.49%
Captall	31.16%	Cusaf	-30.74%	61.90%
Comparax	189.71%	DiData	99.61%	90.11%
CTP	43.10%	Independent	8.46%	34.65%
FBC	-1.52%	Saambou	-16.17%	14.65%
Fortune	29.74%	ABI	41.31%	11.57%
HCI	13.65%	Sage	51.67%	38.02%
Kagiso	32.82%	Primedia	15.07%	17.75%
Macmed	61.48%	Adcock	43.46%	18.01%
Mathomo	56.46%	Specialty	78.66%	22.20%
Metlife	-36.94%	Liberty	-0.85%	36.09%
Norbake	4.89%	Macadams	40.35%	35.46%
Ocfish	62.35%	Sea Harvest	30.76%	31.59%
Siltek	30.59%	Fintech	205.21%	174.62%
Yabeng	-15.17%	Ettington	-0.57%	14.60%

Max	189.71%	205.21%	174.62%
Min	-36.94%	-30.74%	11.57%
Sample mean	35.11%	38.00%	-2.89%
Sample median	30.59%	30.76%	-0.17%
Sample mode	#N/A	#N/A	#N/A
Skew	1.95	1.83	2.60

Appendix D 6

Stakeholder Orientation

Return on Invested Capital (ROIC) over a one-year period
ROIC = NOPLAT / Operating Invested Capital at the beginning of year plus intangible assets
BO Companies relative to non-BO Companies

BO companies		Non-BO companies		Difference
Aflife	24.28%	Fedsure	3.78%	20.49%
Captall	31.16%	Cusaf	-30.74%	61.90%
FBC	-1.52%	Saambou	-16.17%	14.65%
Fortune	29.74%	ABI	41.31%	11.57%
HCI	13.65%	Sage	51.67%	38.02%
Mathomo	56.46%	Specialty	78.66%	22.20%
Metlife	-36.94%	Liberty	-0.85%	36.09%
Norbake	4.89%	Macadams	40.35%	35.46%
Yabeng	-15.17%	Ettington	-0.57%	14.60%

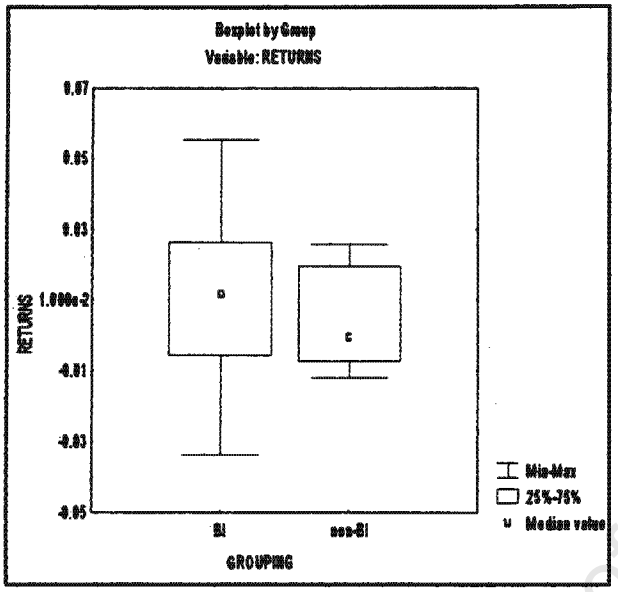
Max	56.46%	78.66%	61.90%
Min	-36.94%	-30.74%	11.57%
Sample mean	11.84%	18.60%	-6.77%
Sample median	13.65%	3.78%	9.86%
Sample mode	#N/A	#N/A	#N/A
Skew	-0.26	0.33	1.11

Appendix E 1

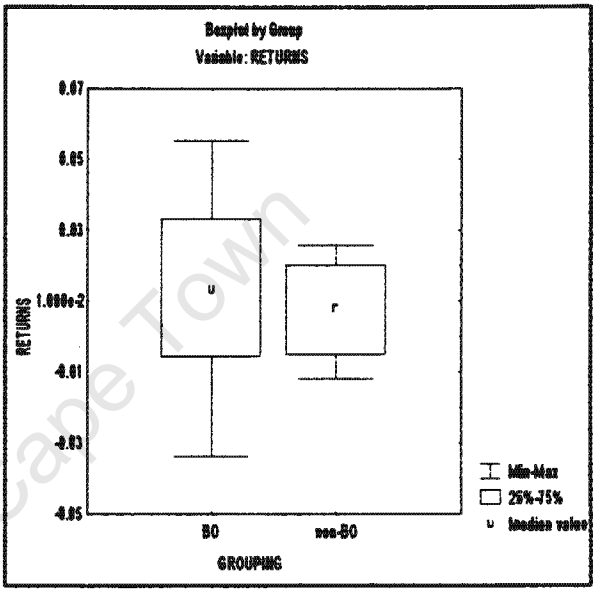
Ex post raw returns

3-year period (30 Nov 1995 – 30 Nov 1998)

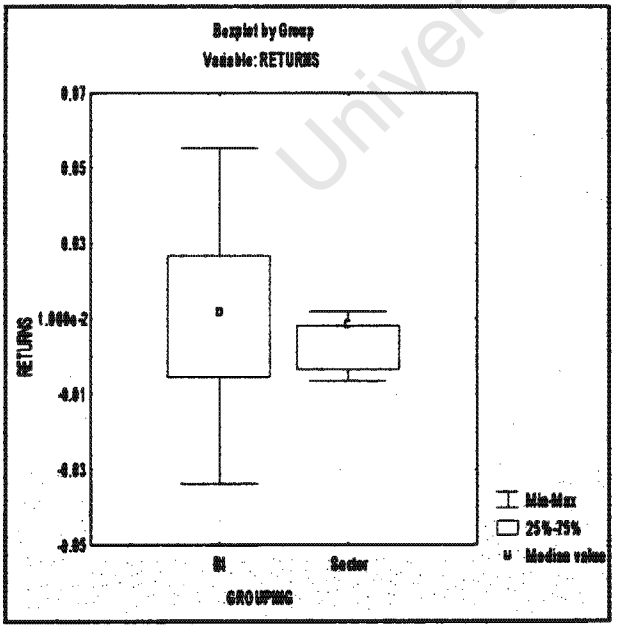
BI companies relative to non-BI companies



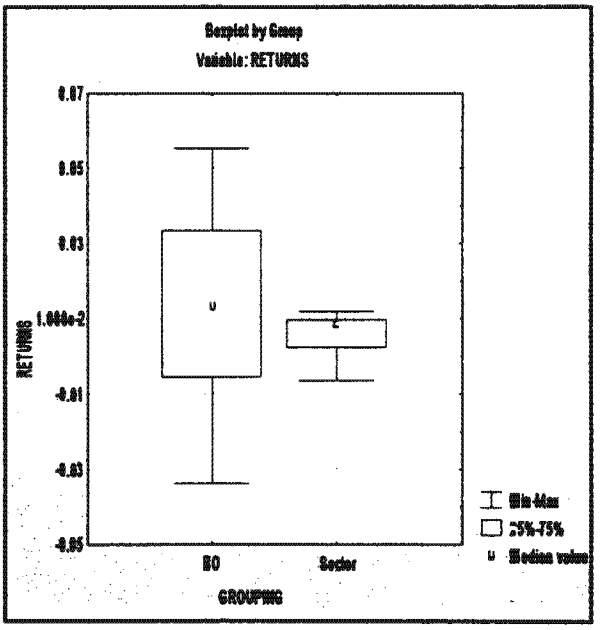
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

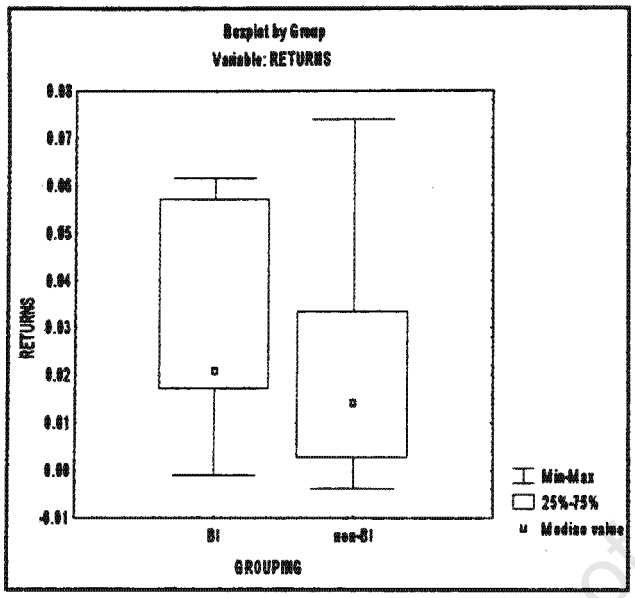


Appendix E 2

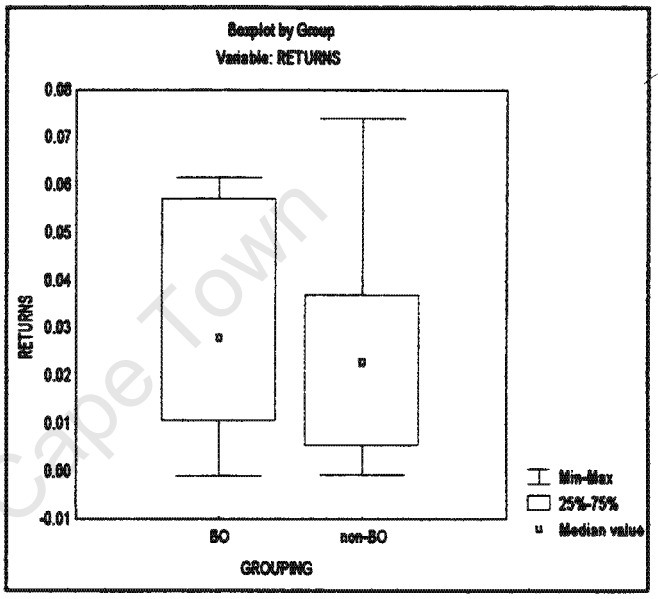
Ex post raw returns

30-month period (30 Nov 1995 – 31 May 1998)

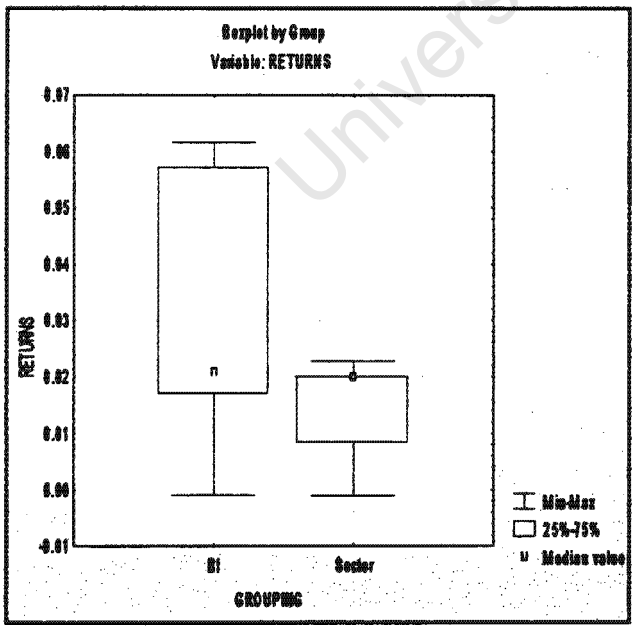
BI companies relative to non-BI companies



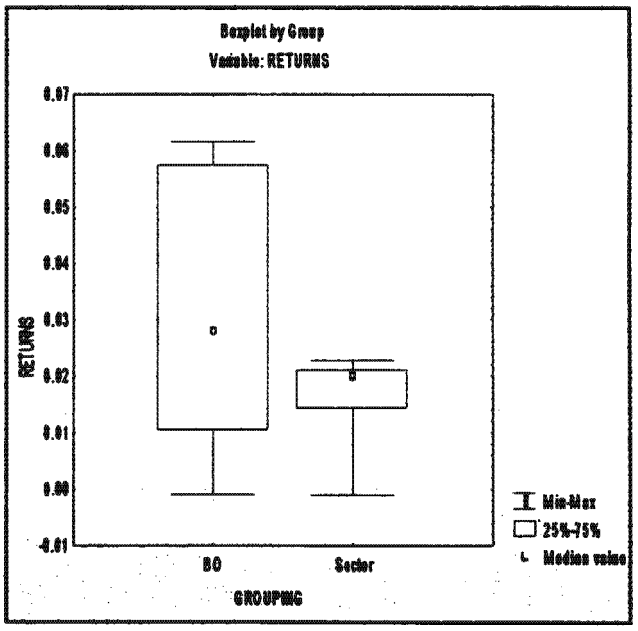
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

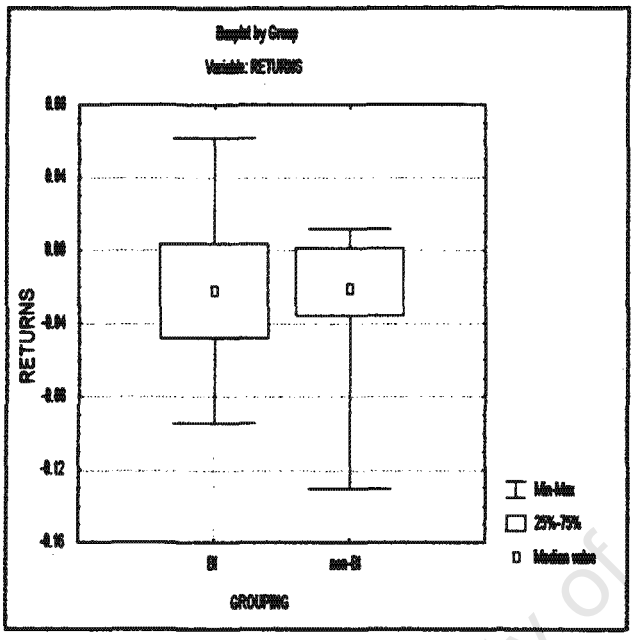


Appendix E 3

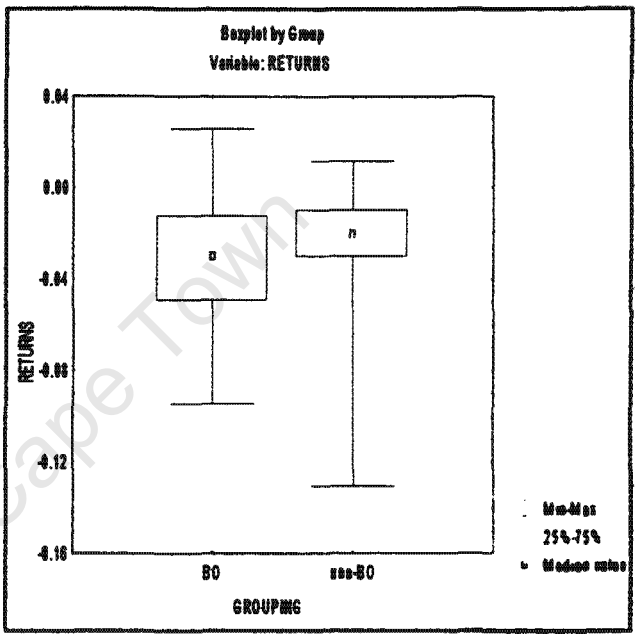
Ex post raw returns

One-year period (30 Nov 1997 – 30 Nov 1998)

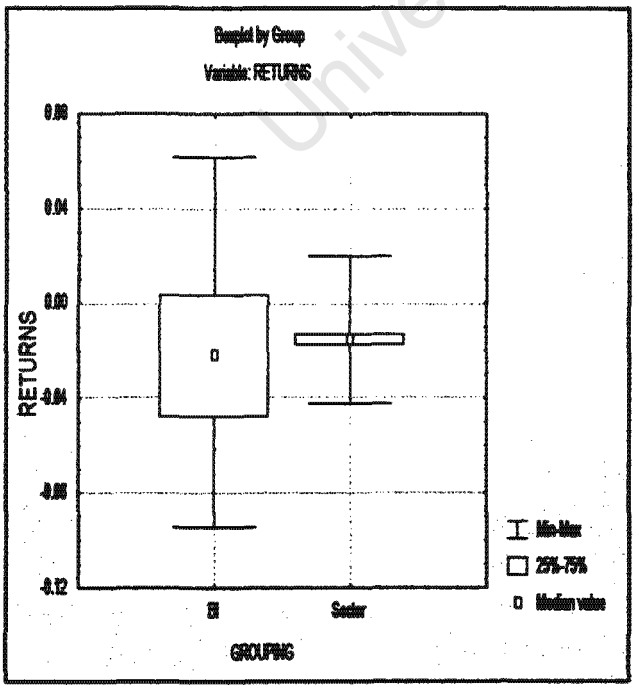
BI companies relative to non-BI companies



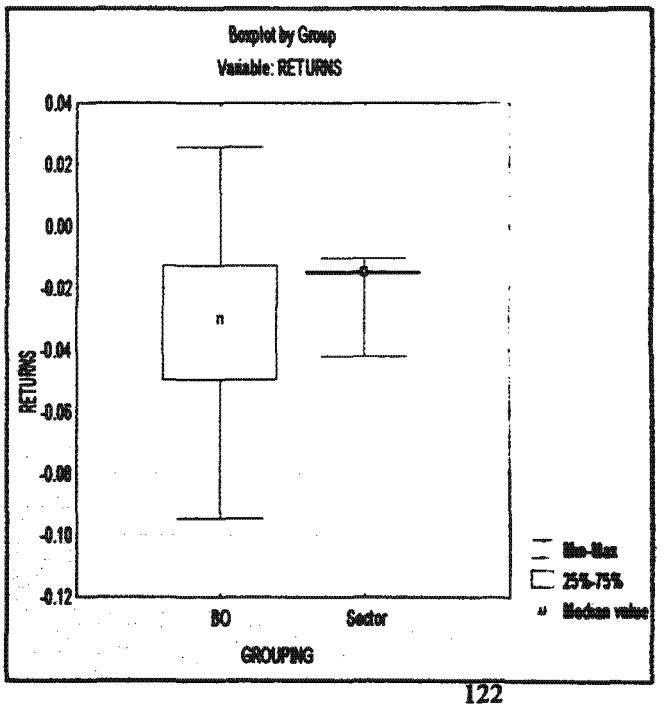
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

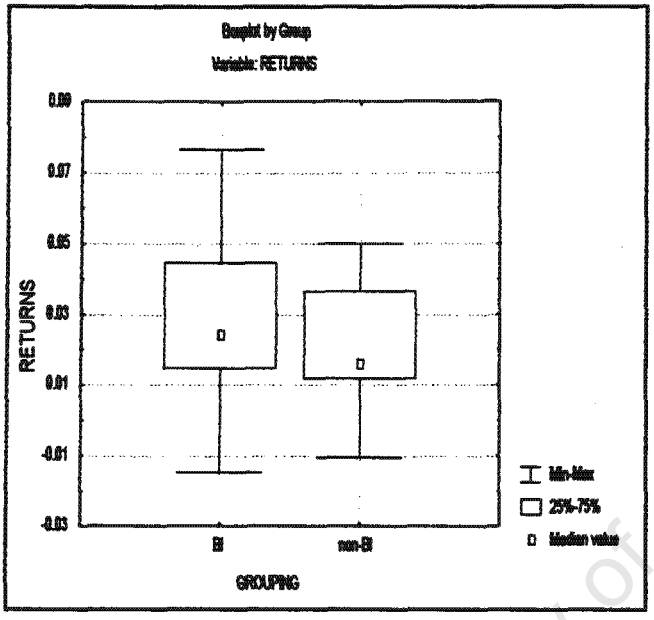


Appendix E 4

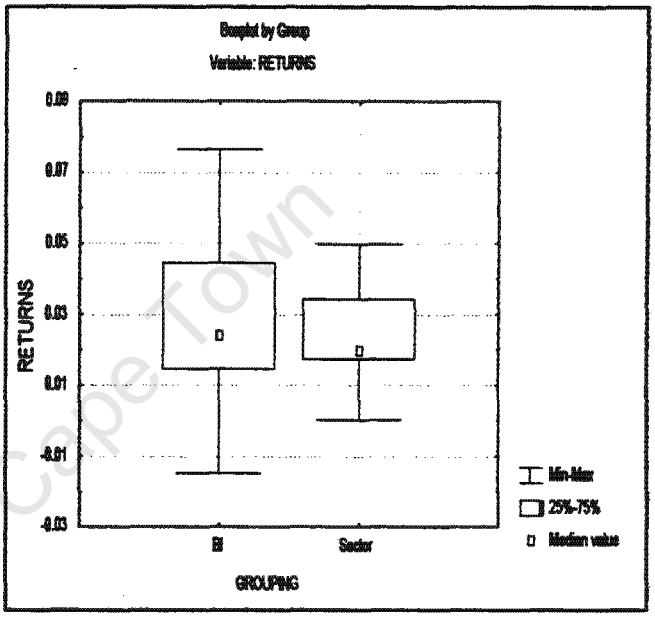
Ex post raw returns

6-month period (30 Nov 1997 – 31 May 1998)

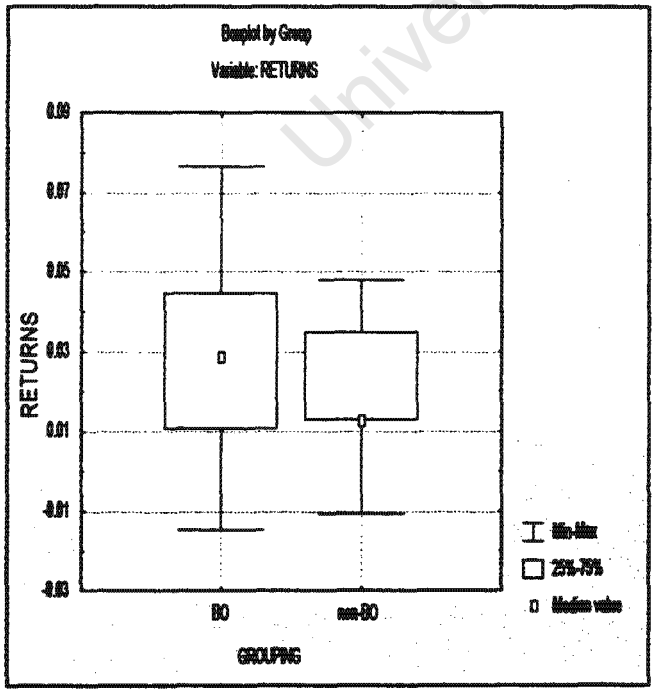
BI companies relative to non-BI companies



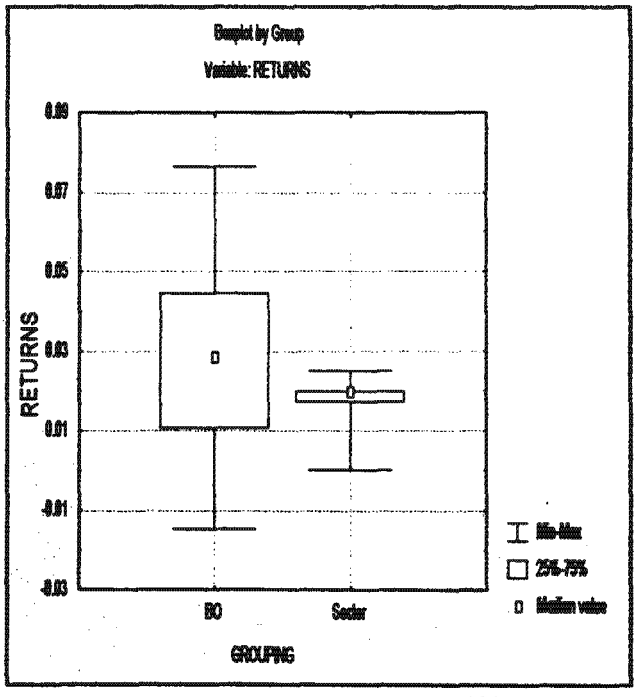
BO companies relative to non-BO companies



BI companies relative to sector



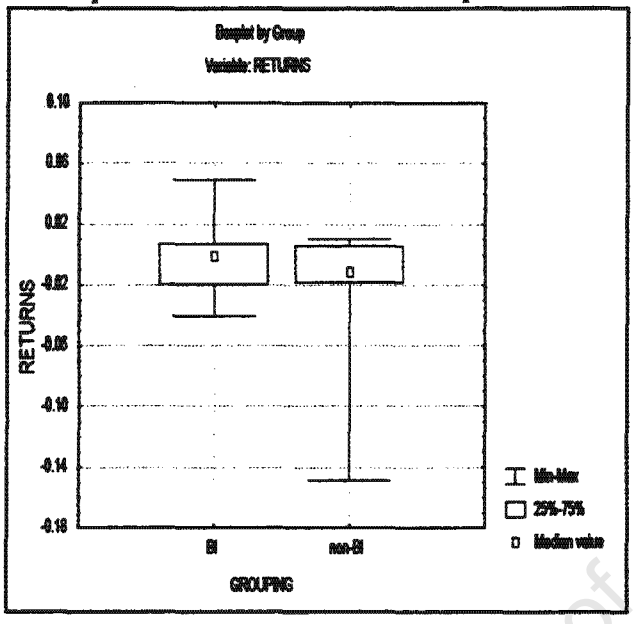
BO companies relative to sector



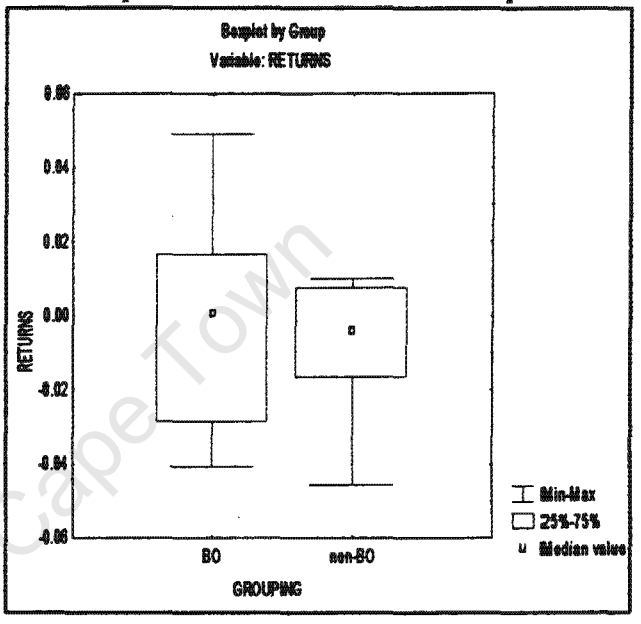
Appendix F 1

Ex post returns
Treynor index
3-year period

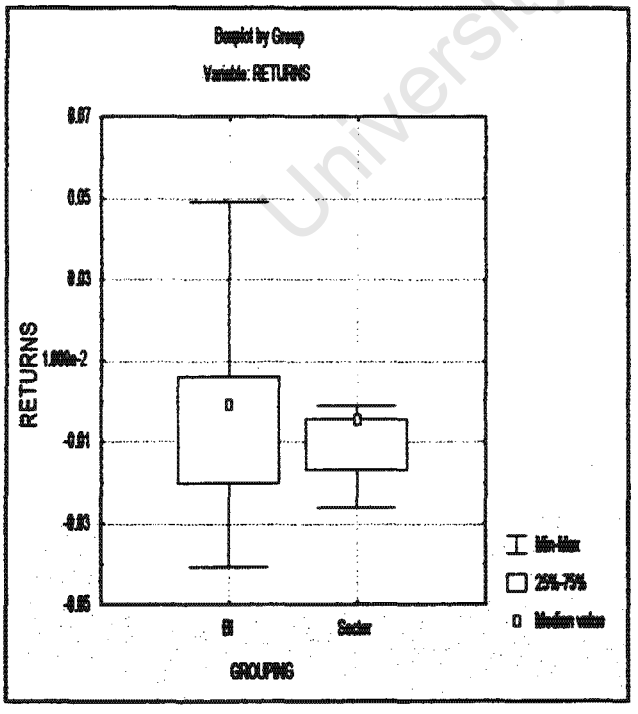
BI companies relative to non-BI companies



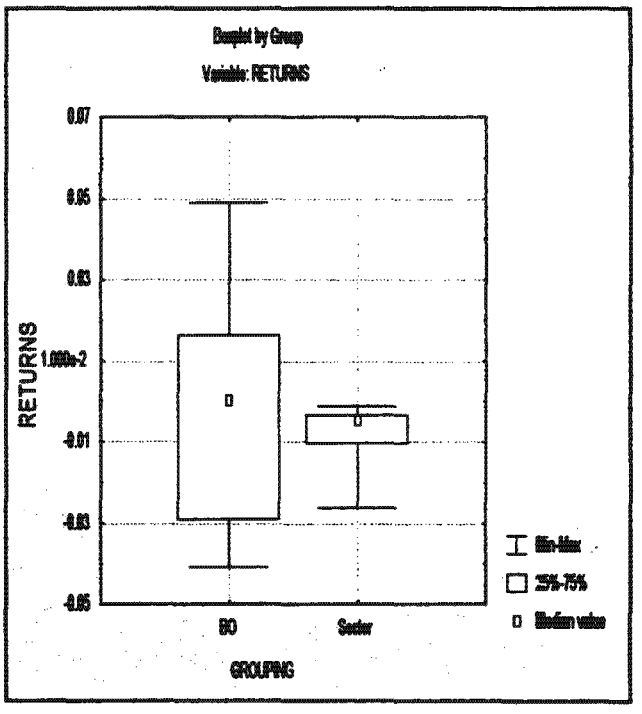
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



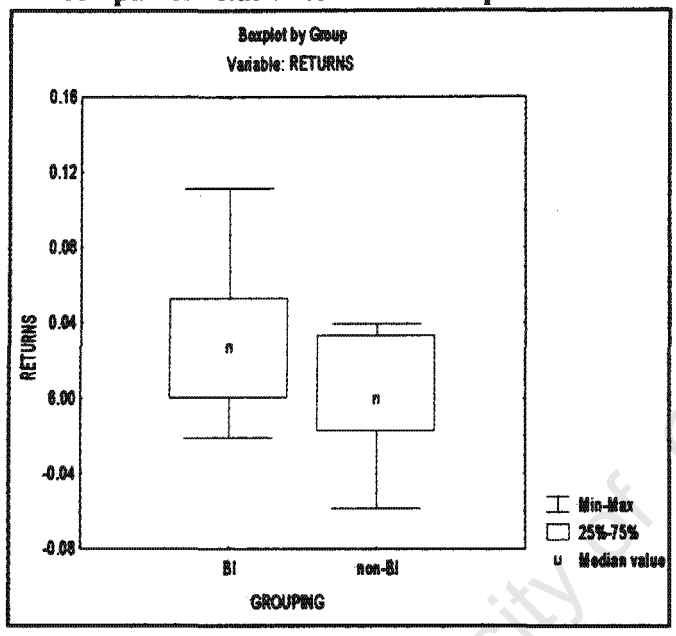
Appendix F 2

Ex post returns

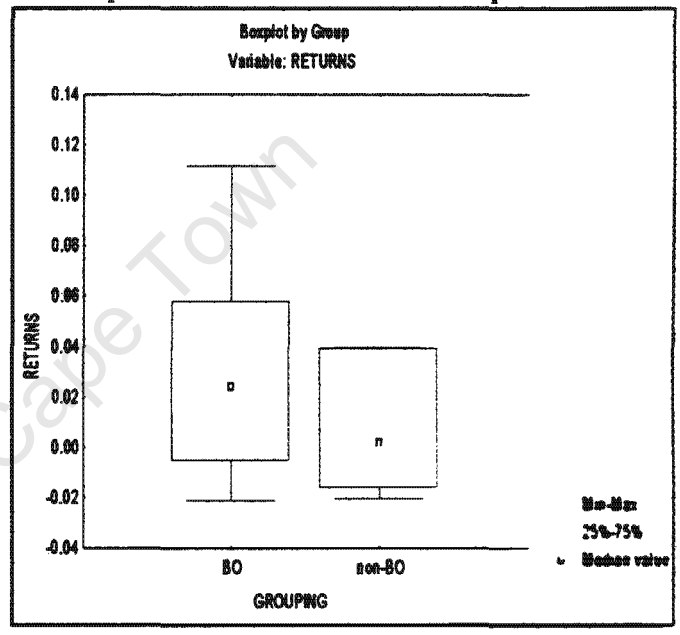
Treynor index

30-month period

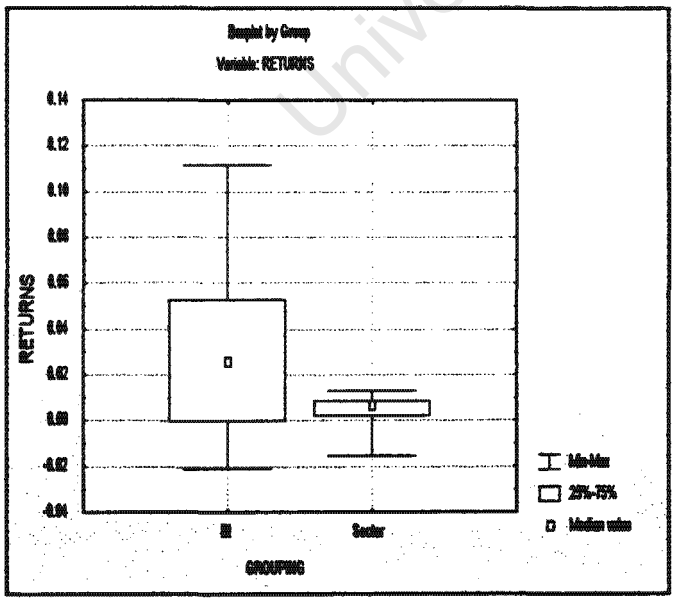
BI companies relative to non-BI companies



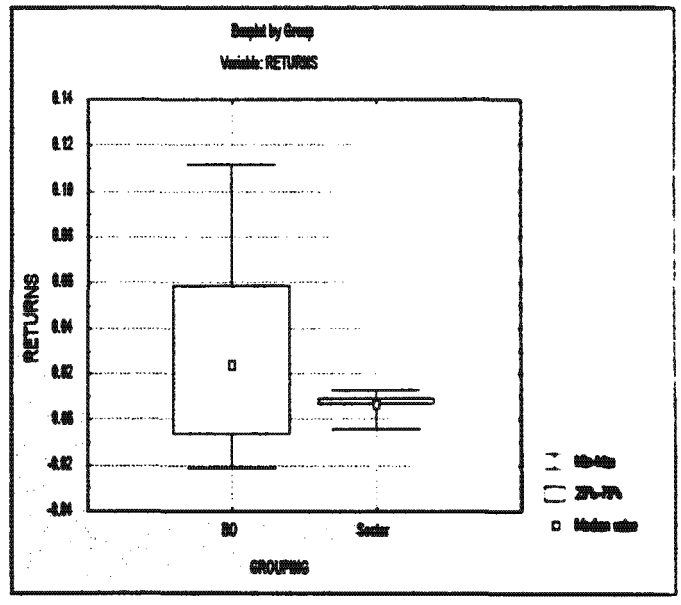
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



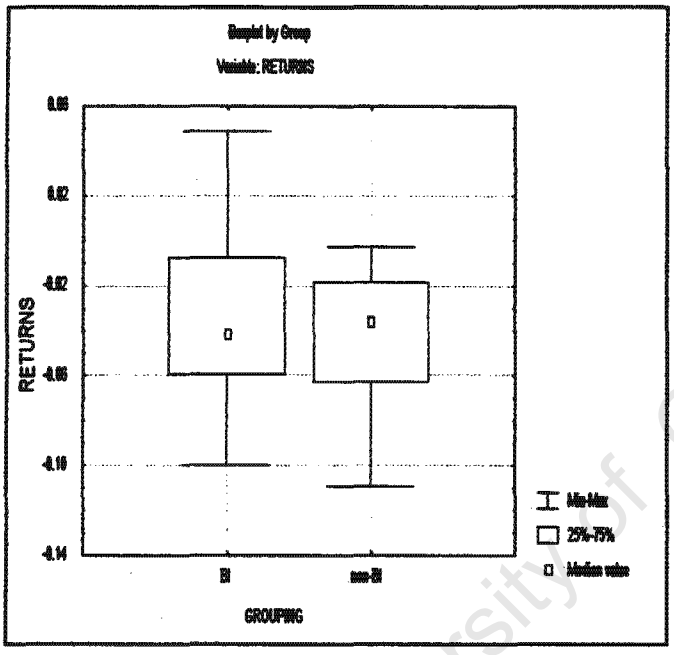
Appendix F 3

Ex post returns

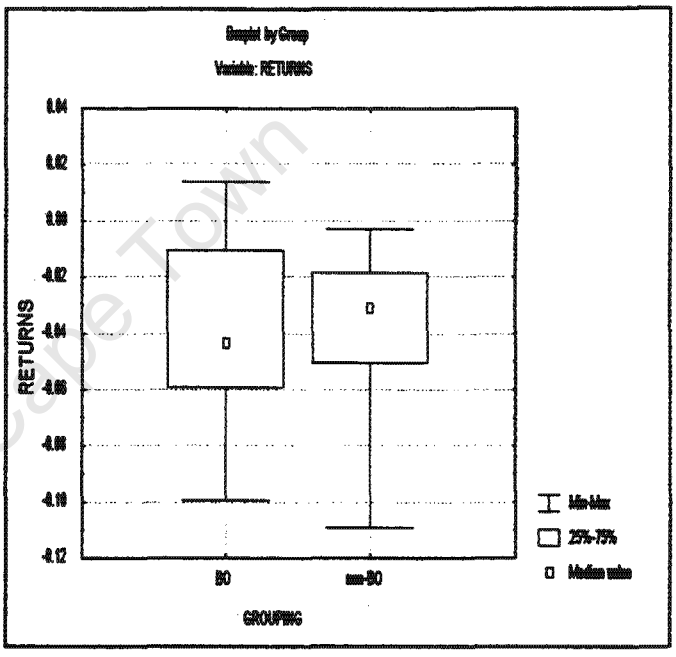
Treynor index

One-year period

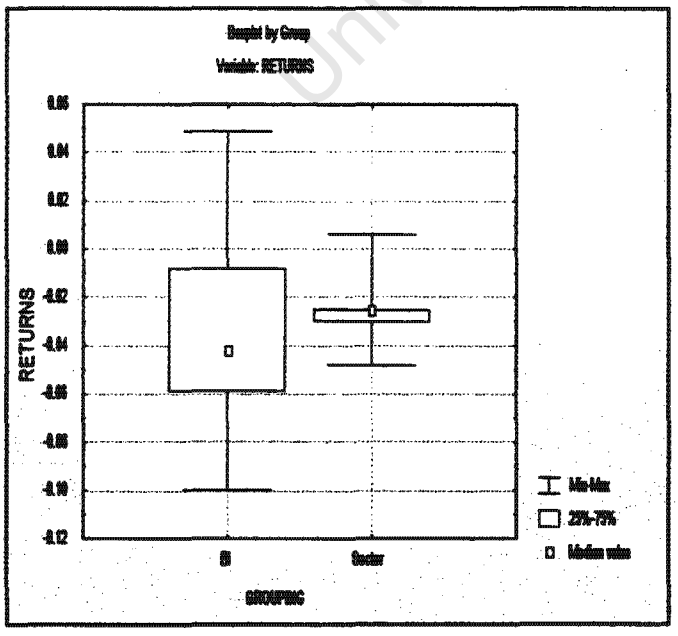
BI companies relative to non-BI companies



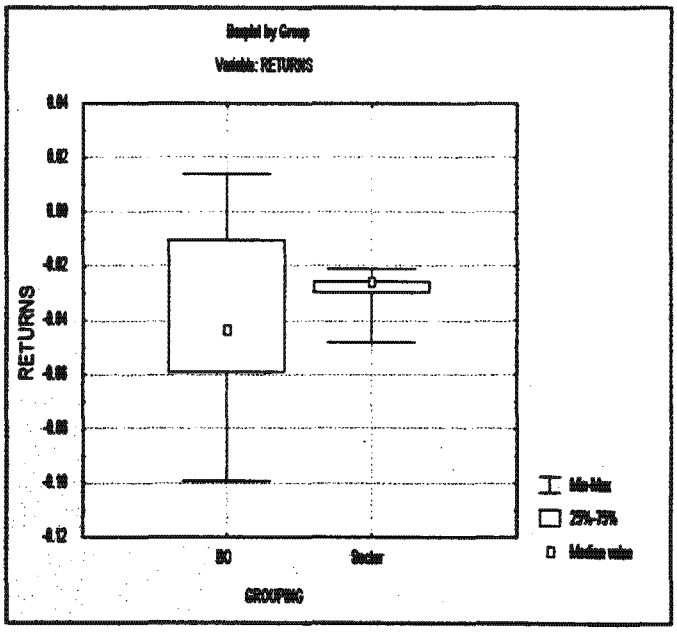
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



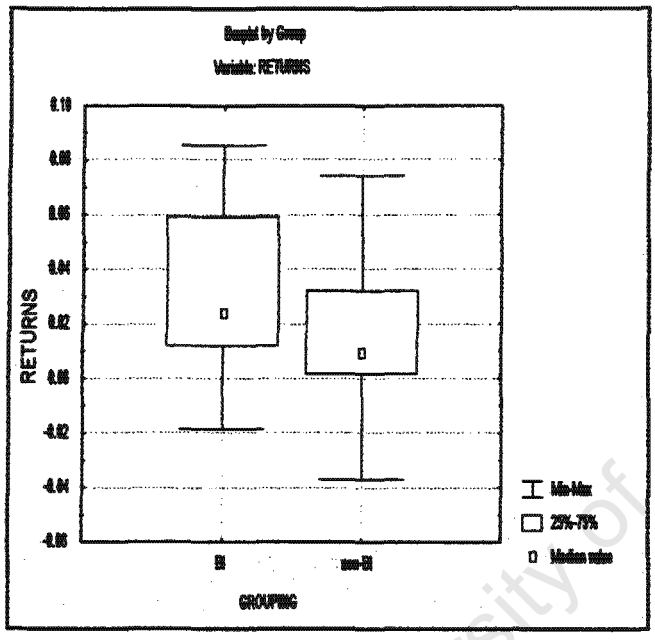
Appendix F 4

Ex post returns

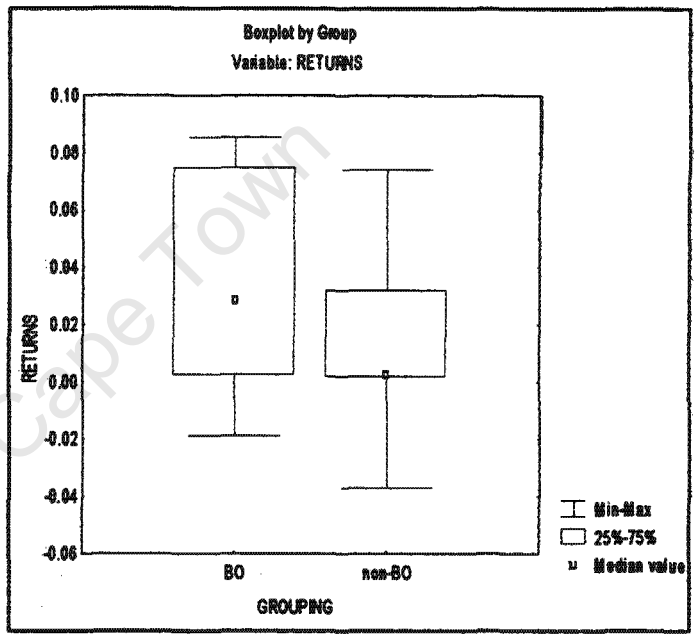
Treynor index

Six-month period

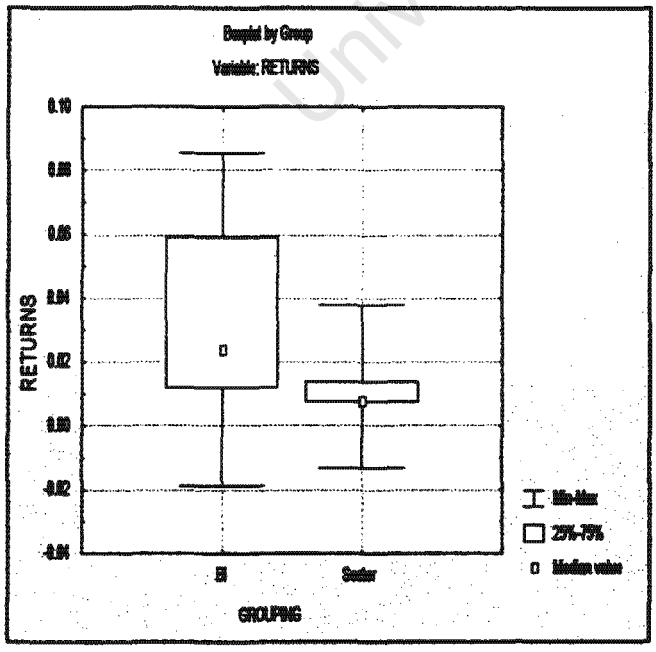
BI companies relative to non-BI companies



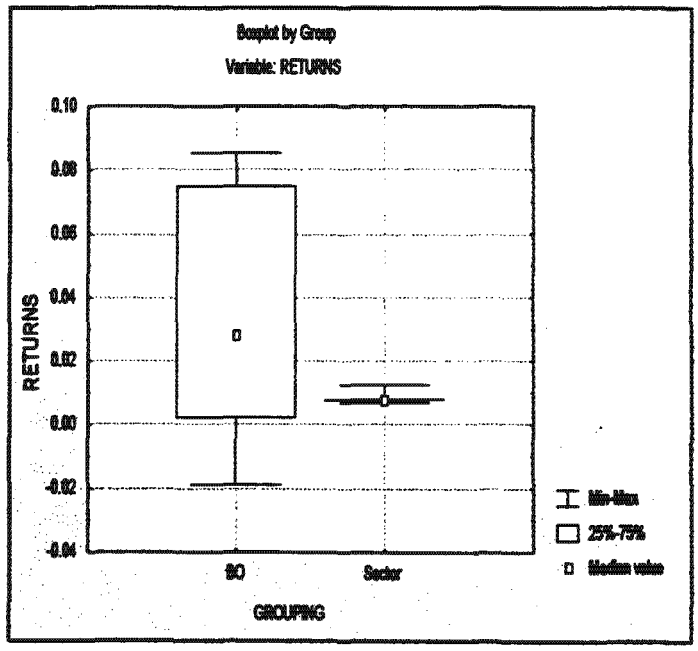
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



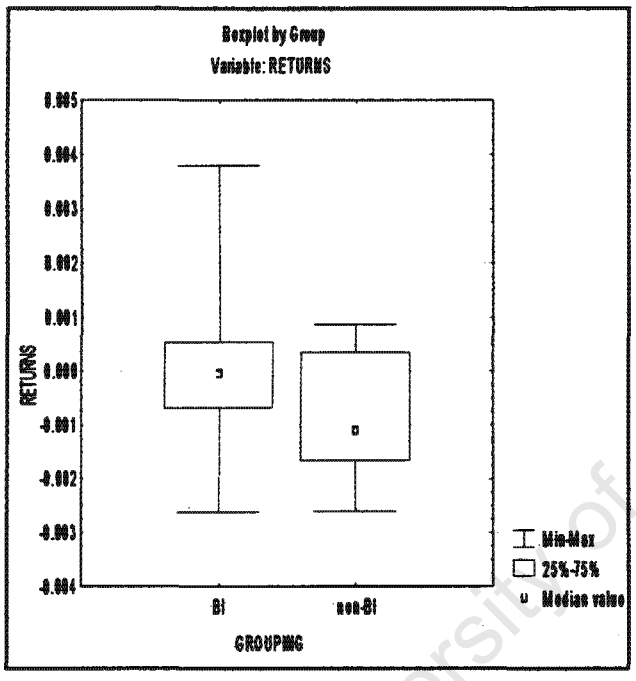
Appendix G 1

Ex post returns

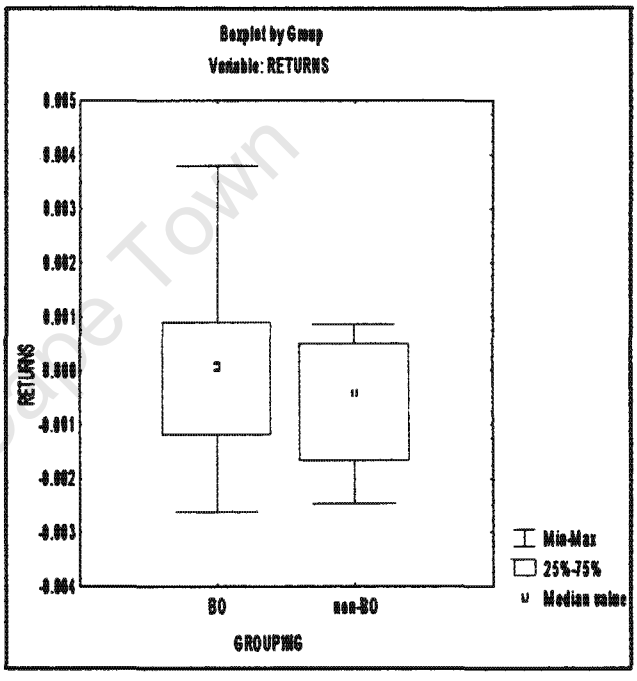
Sharpe ratio

3-year period

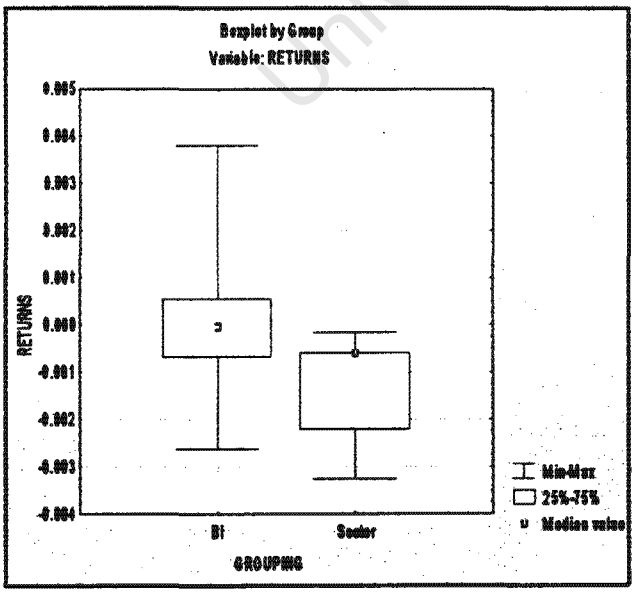
BI companies relative to non-BI companies



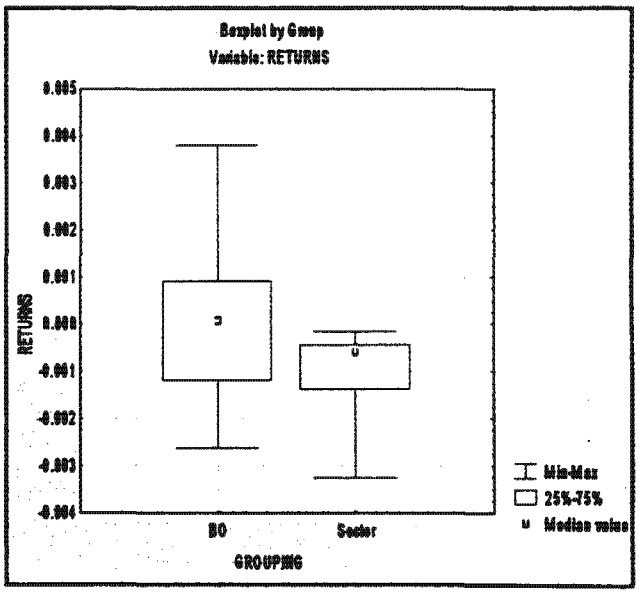
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



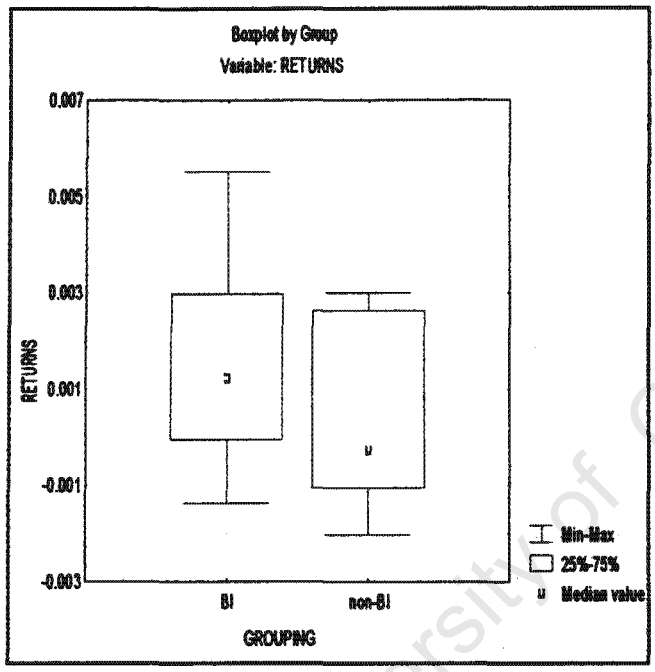
Appendix G 2

Ex post returns

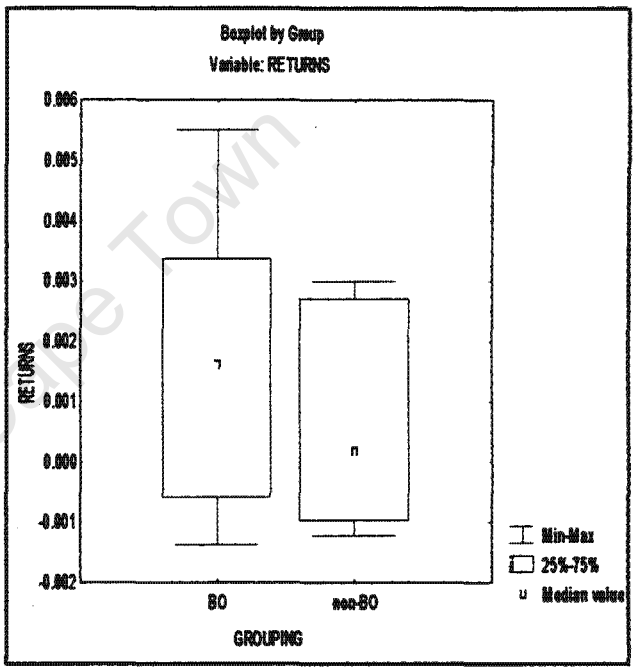
Sharpe ratio

30-month period

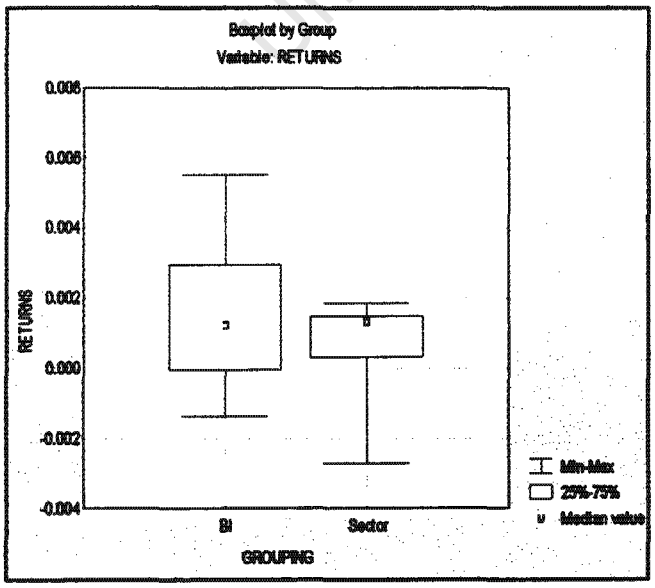
BI companies relative to non-BI companies



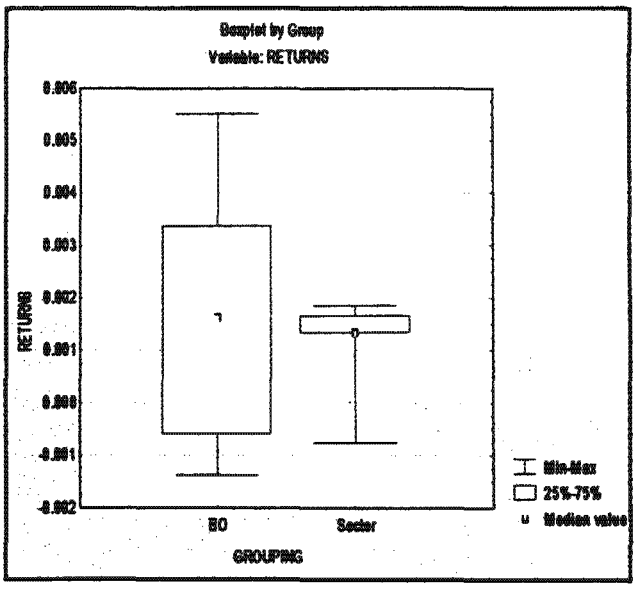
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



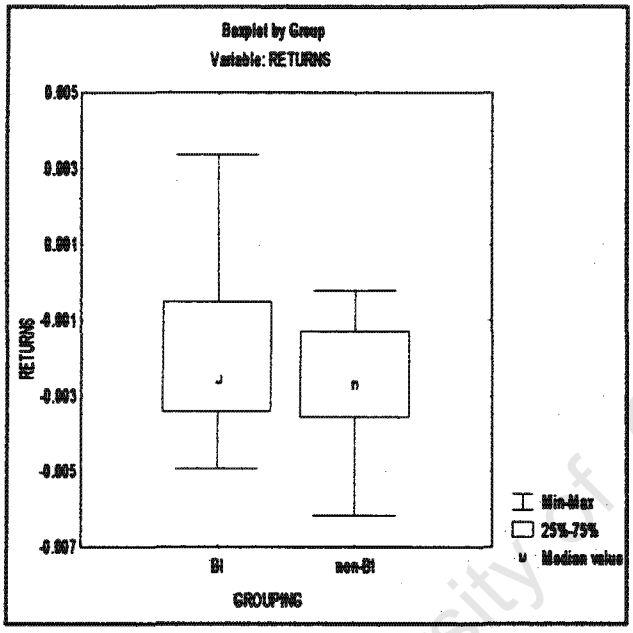
Appendix G 3

Ex post returns

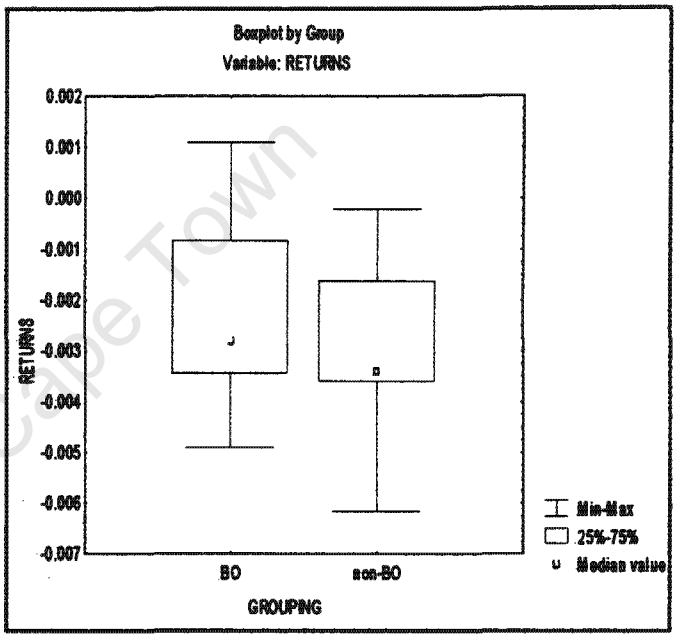
Sharpe ratio

1-year period

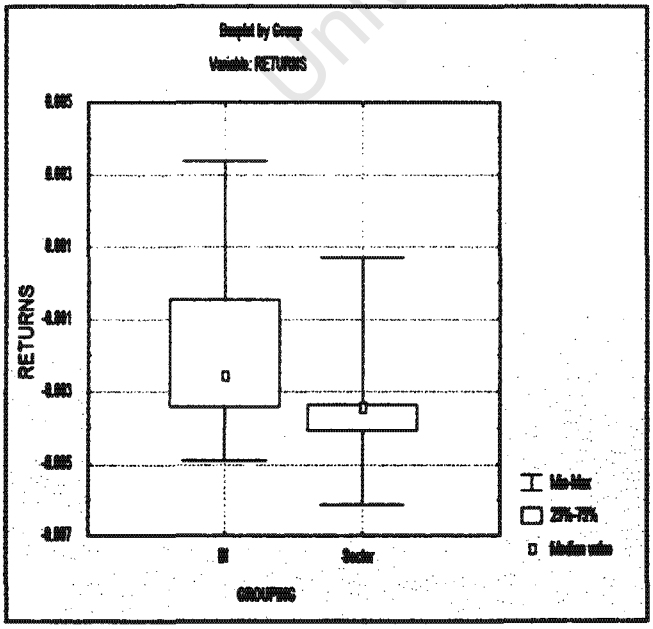
BI companies relative to non-BI companies



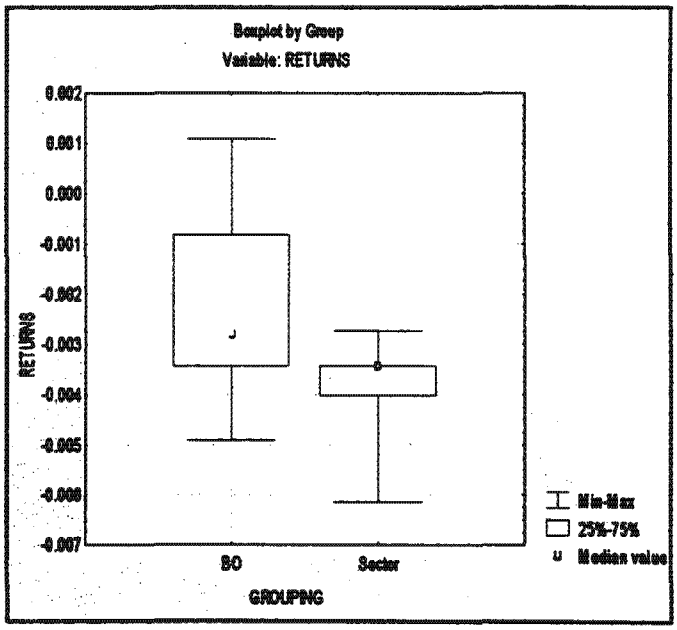
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector



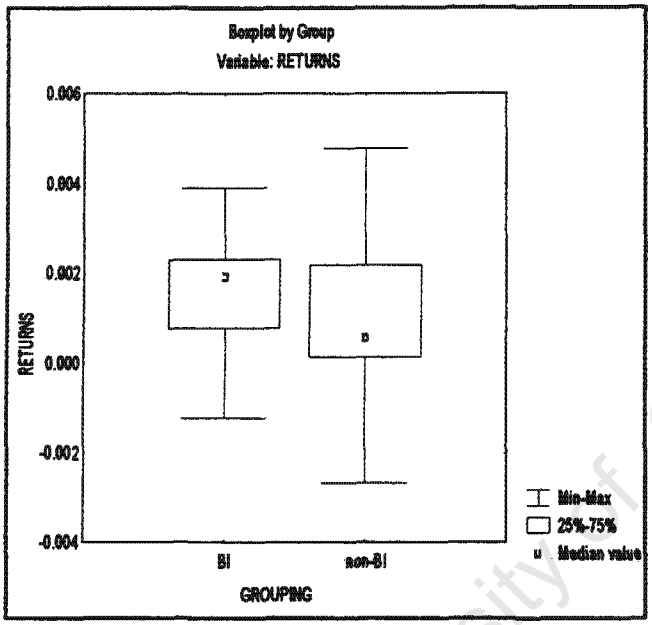
Appendix G 4

Ex post returns

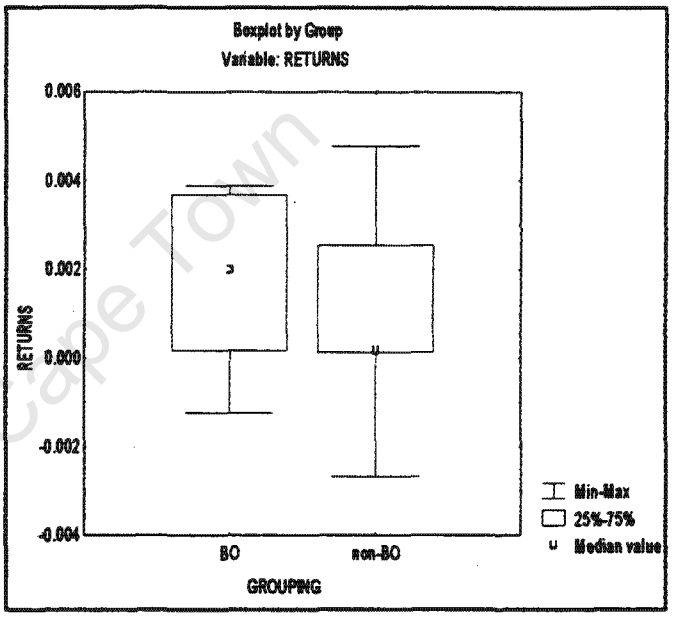
Sharpe ratio

Six-month period

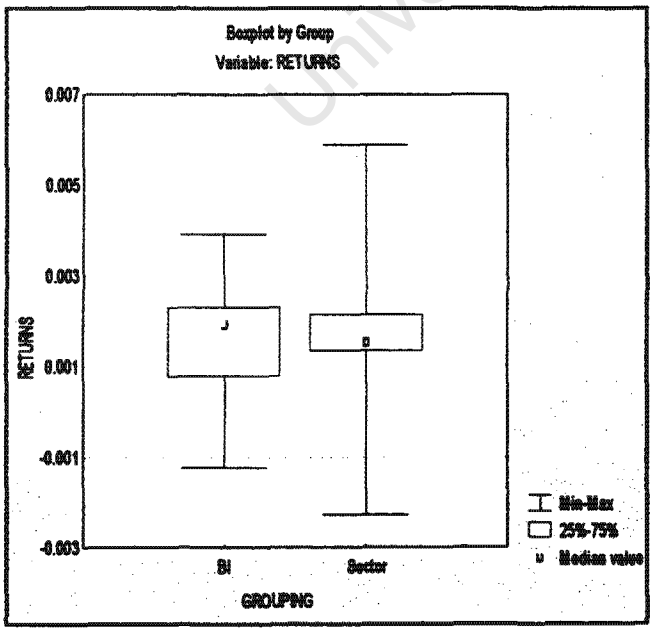
BI companies relative to non-BI companies



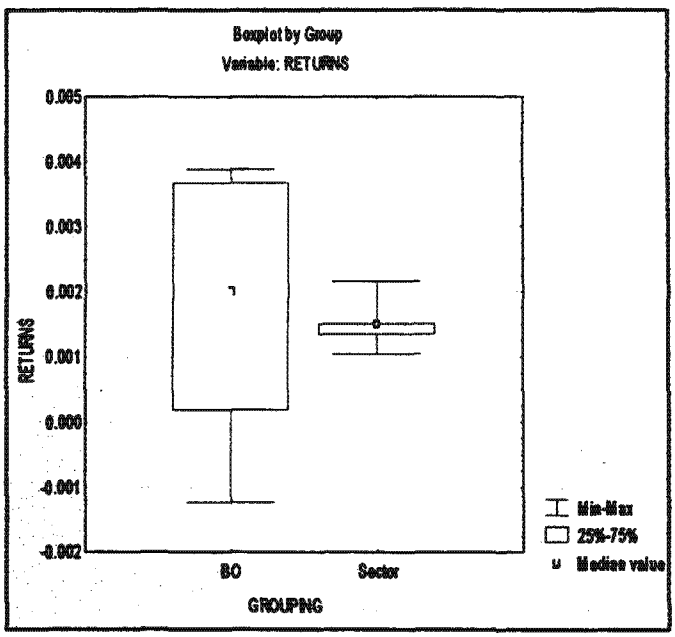
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

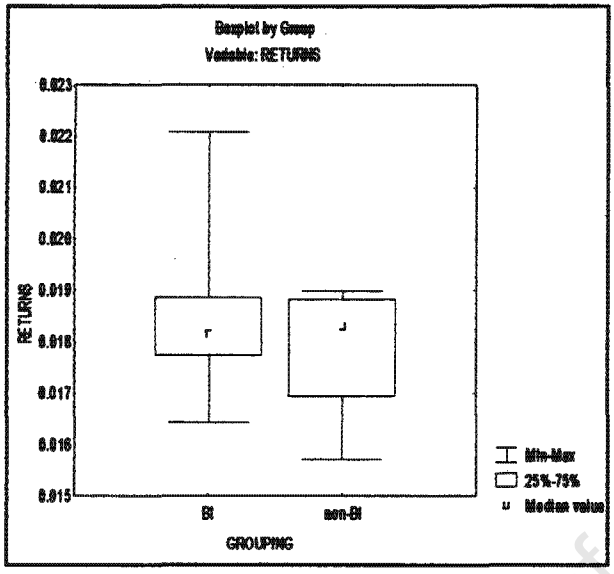


Appendix H 1

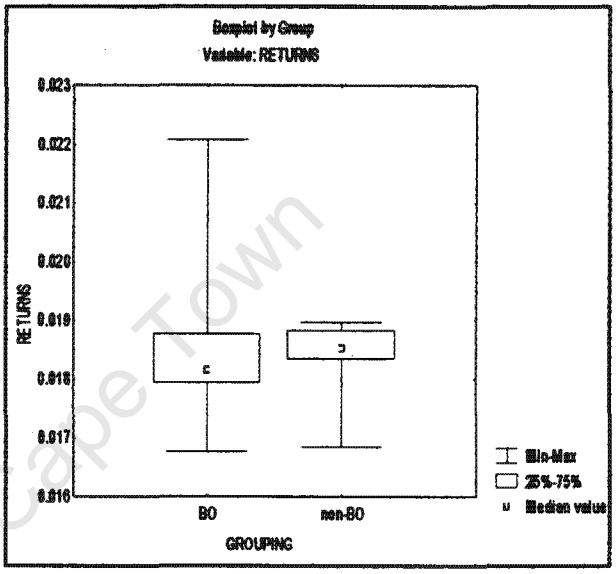
Capital Asset Pricing Model (CAPM)

At 30 November 1998

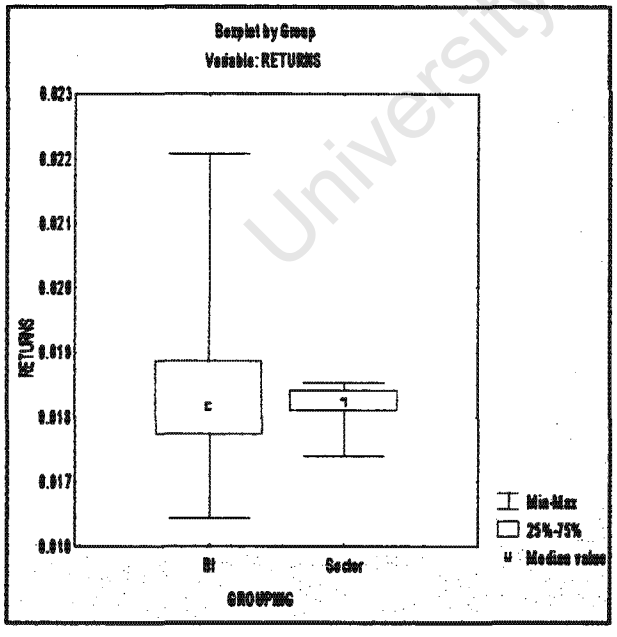
BI companies relative to non-BI companies



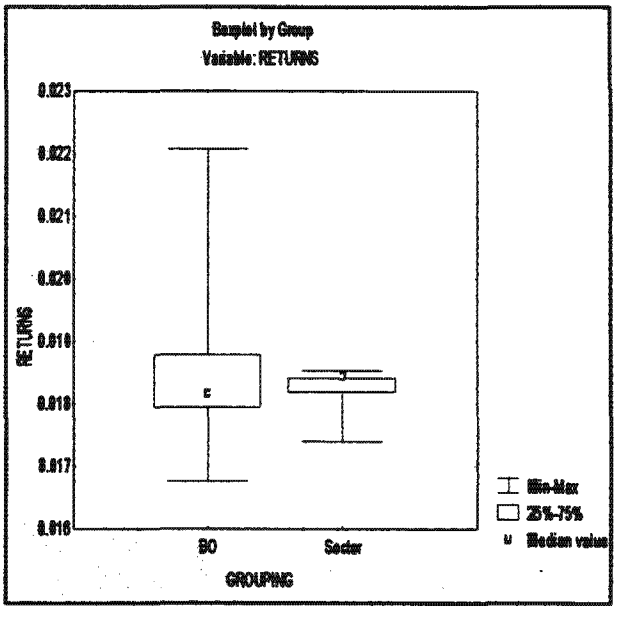
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

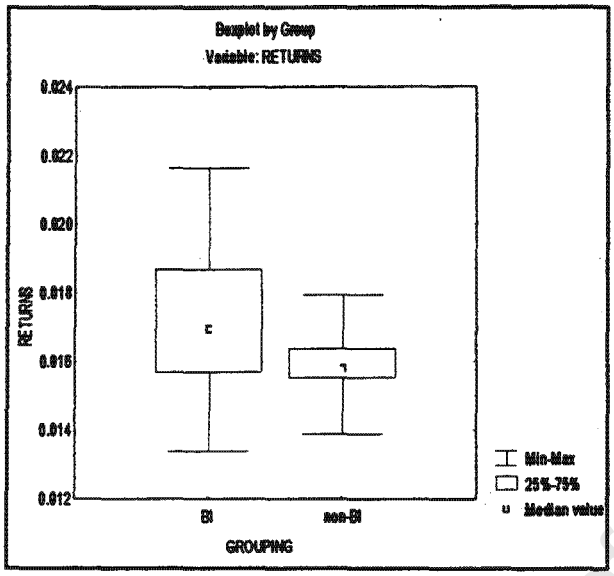


Appendix H 2

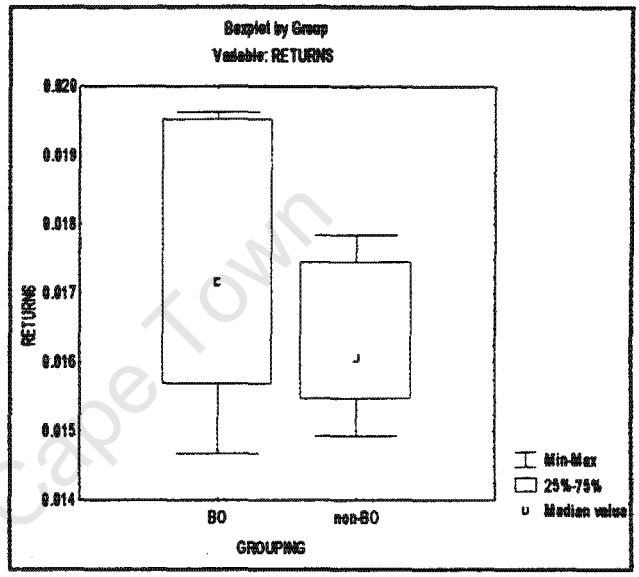
Capital Asset Pricing Model (CAPM)

At 31 May 1998

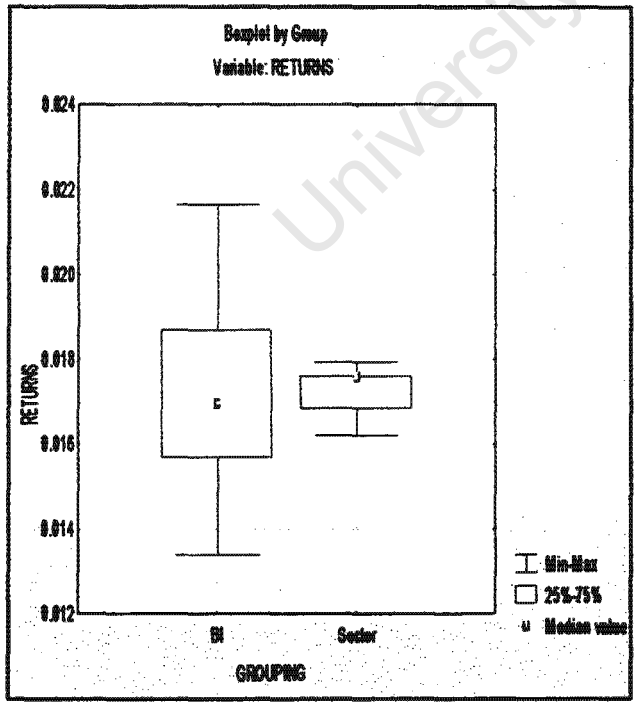
BI companies relative to non-BI companies



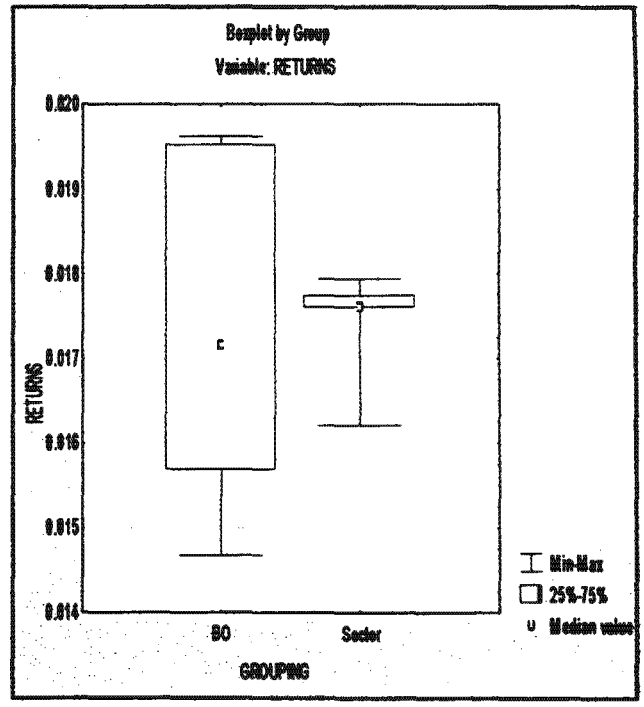
BO companies relative to non-BO companies



BI companies relative to sector



BO companies relative to sector

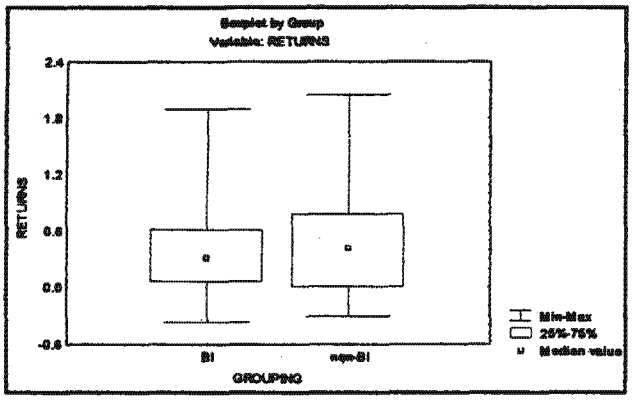


Appendix I 1

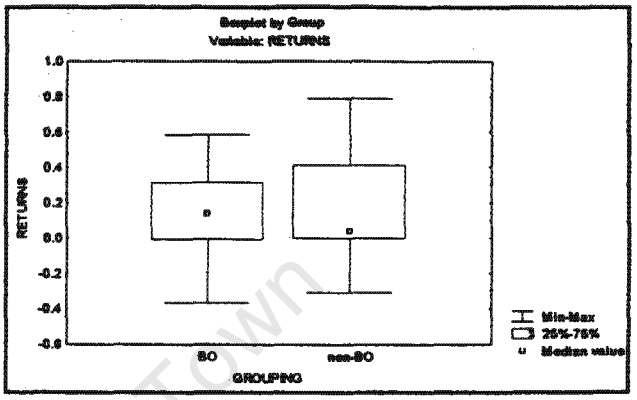
Return on invested capital

Using operating invested capital at the beginning of the year

BI companies relative to non-BI companies

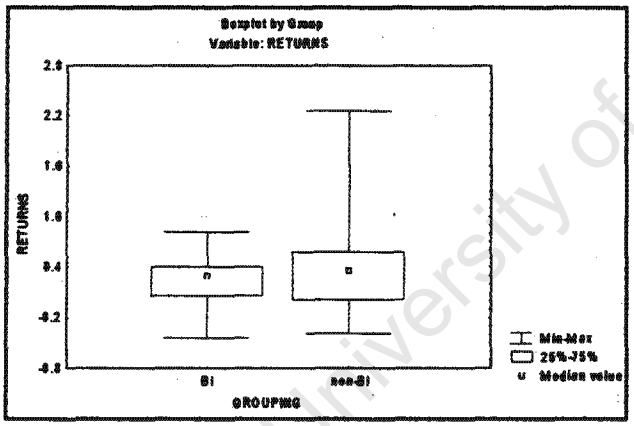


BO companies relative to non-BO companies

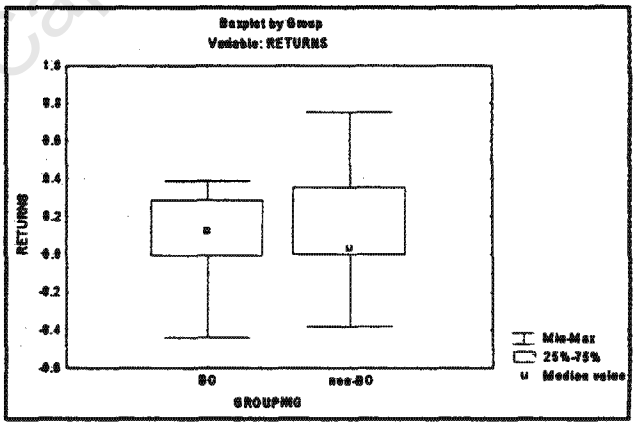


Using average operating invested capital during the year

BI companies relative to non-BI companies

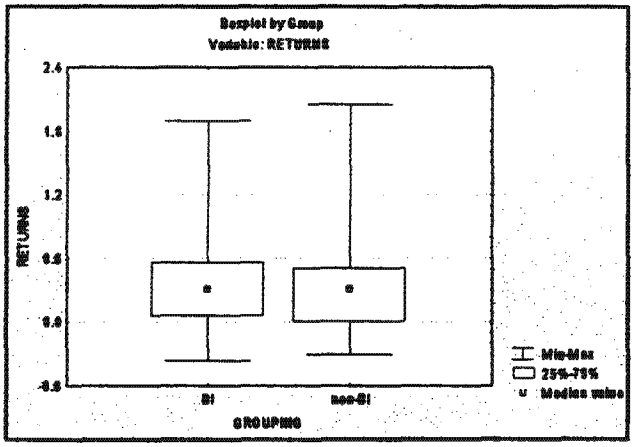


BO companies relative to non-BO companies



Using operating invested capital at the beginning of the year plus intangibles

BI companies relative to non-BI companies



BO companies relative to non-BO companies