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**MAF 04: Dividend Yield as a Model for Value Investing on
the JSE**

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ABSTRACT

In terms of the efficient market hypothesis, equity prices reflect all available relevant information and evidence indicates that active investing is not able to consistently offer higher returns than a strategy of passive investing. Yet a value investing strategy, following on the principles of Graham and Dodd and further expanded by Buffett and other value investors, implies that searching for and investing in companies trading below intrinsic value provides higher risk adjusted returns than comparable market proxies. Value investing may include a number of strategies such as investing in low P/E companies and investing in companies trading below net tangible value. Another value investing strategy involves finding and investing in high dividend yield companies or investing in companies offering dividend yields at least equal to 2/3 of the long-term government bond yield. The objective of this study is to evaluate whether investing in a portfolio of high dividend yield companies provides significantly greater returns than investing in a relevant market proxy or a portfolio of low dividend yield companies. This study ranks shares on the basis of dividend yields and back-tests share returns of investing in a portfolio of high dividend yield shares in relation to a relevant market proxy and/or investing in a portfolio of low dividend yield shares. In order to address to some extent the issue of survivorship bias, the relative returns of investing in high dividend yield shares as identified in prior published research reports are compared to the returns of investing in a relevant market proxy.

1. Introduction

In the book “Security Analysis,” Benjamin Graham and David Dodd (1934) introduced the strategy of *value investing* which has subsequently become one of the most widely-accepted strategies in the investment community. Value Investing is the search for companies that are trading at a price which is less than the intrinsic value of the assets that the business currently has in place (Damodaran, 2012).

The purpose of this study is to evaluate whether value-investing strategies outperform the market index by selecting high dividend yielding shares to construct a value portfolio.

These “value” stocks are thought to be created as a result of the “Overreaction Theory,” which proposes that equity investors often overreact to new information, resulting in some security prices deviating meaningfully from their intrinsic values, for a prolonged period. This overreaction is then followed by “mean reversion,” as these securities trade back to their intrinsic values over time, thereby allowing investors to attain abnormal returns should they correctly identify these mispriced stocks. De Bondt and Thaler (1985) found long-term negative serial dependence, consistent with investor overreaction for the NYSE. Cubbin, Eidne, Firer, and Gilbert (2006) found significant evidence of investor overreaction for the JSE, which suggests that investors could potentially attain abnormal risk-adjusted returns by following a value investment strategy on the JSE.

In order to identify “value” stocks, Graham (1949) suggested a number of investment screens²⁸, based on underlying company fundamentals. The most widely-used of these screens identify companies that have high dividend yields, low price/earnings ratios and low price/tangible net asset value (“Price/Book”) ratios (Visscher & Filbeck, 2003). Studies have tested the effectiveness of these screens in allowing investors to produce abnormal returns, and persistent, significant evidence has led academics to conclude that it is difficult to deny the existence of the value effect (Fama & French, 1998). The question, however, is whether this value effect is an invalidation of the Efficient Market Hypothesis (EMH), or evidence of risk factors that are not accurately captured by CAPM (Lintner, 1965; Mossin, 1966; Sharpe, 1964; Treynor, 1961). This therefore means that the performance of value stocks should be analysed on the basis of relative returns and risk-adjusted returns.

The majority of studies on value investing have been conducted on stock markets in developed economies. The majority of value investing research studies have focused on the price/earnings (Basu, 1977) and price/book screens (Fama & French, 1992; Lakonishok, Shleifer, & Vishny, 1994); or these screens in conjunction with a dividend yield screen. This means that the effectiveness of value investing strategies based on dividend yields alone remains a relatively under-researched area. Due to the ease and lack of investment expertise required to implement such a strategy, evidence that it could provide abnormal risk-adjusted returns could provide a valuable tool for the equity market investor.

The purpose of this study, therefore, is to analyse the effectiveness of value investing in a South African emerging market context. The study focuses specifically on the use of the high

²⁸ A screen is a technique to filter a large number of possible investments based on values for selected variables. For example, an investment screen may be constructed to identify shares with a dividend yield above 5%. Alternatively, an investment screen could be constructed to select shares with a price to book ratio of less than one.

dividend yield screen as a measure to identify value stocks, and therefore obtain abnormal risk-adjusted returns on the JSE. A back-test of a portfolio of the 30 highest dividend yielding stocks on the JSE is performed over the period from 1 January 2006 to 31 December 2015. The returns generated by this portfolio are then benchmarked against the returns attained on the FTSE/JSE J203 All Share Index (ALSI) Total Return Index (TRI) and other relevant market proxies. These returns are compared on an absolute, and Sharpe (1966) ratio basis, after adjusting for taxes and transaction costs.

Arguably, the conceptual basis for many of the value indicators may be a puzzle for academic studies outside the realm of behavioural finance. As a general study of value investing, the period studied extends the recent study by Van Heerden and Van Rensburg (2015) on value indicators by four years. In relation to the use of DY specifically, this may involve different risk-return profiles relative to other value indicators. The results of this study support this premise when evaluating a high dividend yield investing strategy relative to investing in the ALSI TRI benchmark. Furthermore, the dividend yield reflects cash flows to investors which may be indicative of lower operating and financial risks, often in situations where these companies may be going through difficult times, and which may offset to some extent the perception implicit in other indicators such as the price to book ratio. This study focused on the long-term performance of a portfolio of high dividend yield shares.

The study will follow the following structure: Section 2 is a literature review of value investing in the international and South African context, followed by its interaction with the EMH; and concludes with an analysis of the effectiveness of dividend yield investment strategies, both globally and on the JSE. Section 3 provides a description of the test methodology applied, including an examination of the data. Section 4 analyses the results of the testing, and Section 5 summarises and concludes the study.

2. Literature Review

Benjamin Graham and David Dodd introduced the strategy of "Value Investing" to the world in the 1934 book entitled "Security Analysis." Graham (1949) subsequently refined the principles of value investing in "The Intelligent Investor". Since then, eminent investors such as Warren Buffett, Walter Schloss, Seth Klarman, Christopher Browne and Irving Kahn have made themselves known as value investors. The underpinning principle of this investment strategy is to purchase stocks that are trading at a price below their intrinsic value, after the market has overreacted to the release of adverse company information (Visscher & Filbeck, 2003). The investor then sells the stocks once they have traded back to their intrinsic values, obtaining an abnormal return whilst taking on little additional risk (Lakonishok et al., 1994). Identifying stocks that are trading at below their intrinsic values, however, is far more difficult than this may suggest and value investors often have to sustain long periods of underperformance. In order to identify such stocks, Graham (1949) provided 10 definitive "screens," based on underlying company fundamentals. Over the years, these screens have been widely accepted by the academic community as indicators of value, yet these screens are generally applied more loosely than indicated by Graham (1949). Resultantly, value stocks can be identified as having low price/earnings [PE] ratios, high book/market [B/M] ratios and high dividend yields (Visscher & Filbeck, 2003).

Efficient Market Hypothesis

Samuelson (1965) suggested that security price changes are completely independent of one another, and therefore that security prices follow a “random walk.” The implication of this is that future price changes should be impossible to predict, as they have no relationship with the past. Eugene Fama (1965 & 1970) proposed that all security prices fully reflect all available information in an efficient market, which gave birth to the “Efficient Market Hypothesis” [EMH]. Fama described 3 forms of market efficiency - weak-form, semi-strong form and strong form efficiency. Under this model investors are therefore only compensated for the risk that they take on, and abnormal risk-adjusted returns are unattainable. Jensen (1978) and Malkiel (2003) then went as far as to suggest that a trading strategy that consistently produces positive risk-adjusted returns does not necessarily refute the EMH, unless it does so after trading costs and throughout various different time periods. As value investing relies on the fact that stock prices can deviate meaningfully from their intrinsic values, it is in direct contradiction with the theory of EMH, particularly weak-form and semi-strong form of market efficiency.

In their seminal study, however, De Bondt and Thaler (1985) investigated the presence of the “Overreaction Theory” in equity markets. This theory suggests that investors regularly overreact to both positive and adverse new company information, leading to inaccurate market pricing, and therefore a degree of market inefficiency. A phenomenon called “Mean Reversion” then occurs, as stock returns revert to a relevant mean return. De Bondt and Thaler (1985) analysed the difference in the returns between 2 portfolios over the period from 1926-1982 on the New York Stock Exchange [NYSE]. The first portfolio consisted of the 35 stocks with the highest PE ratios on the market, known as the “winners” as their prices had previously performed very well. The second, “loser,” portfolio represented the bottom 35 PE stocks. Over the period of the study it was found that the loser portfolio, on average, outperformed the winner portfolio by over 25% in a 3-year measurement period, whilst also being significantly less risky. This provided conclusive evidence that the NYSE was not an efficient market over the period of the study.

Chopra, Lakonishok, and Ritter (1992) reperformed this study on the same data set, whilst adjusting for market risk and the size effect. It was found that the loser portfolios still outperformed the winners by between 5% and 10% per year over the measurement period. Cubbin et al (2006) then applied the methodology developed by De Bondt and Thaler to the JSE over the period from 1983 to 2005. Again it was found that the loser portfolio outperformed the winner portfolio by an average of 11% per year. This provided compelling evidence that the JSE is not a perfectly informationally efficient market, and therefore that it could be possible for a value investment strategy to attain excess risk-adjusted returns.

This being said, however, tests of market efficiency are inherently limited by a phenomenon known as the “Joint Hypothesis Problem” (Fama & French, 1996). This is because an equilibrium asset pricing model is used to calculate the expected returns that act as the benchmark when testing market efficiency. As CAPM (Lintner, 1965; Mossin, 1966; Sharpe, 1964; Treynor, 1961) is often used as this asset pricing model, tests that seemingly refute market efficiency can either present evidence of an inefficient market, or risk factors that are not captured by CAPM. The outperformance of loser portfolios discussed above, could therefore just be commensurate return for risk taken on that is not effectively measured by

CAPM, and not evidence of market inefficiency. Fama and French (1996) indicate that the size effect and market to book ratios capture the risks not captured by CAPM.

International Evidence

Basu (1977) studied the effectiveness of the PE ratio value screen on NYSE industrial stocks over the period from 1957 to 1971. Basu created portfolios of high and low PE stocks, and compared their returns to randomly constructed portfolios of equivalent risk, as measured by CAPM. It was found that the low PE portfolios significantly outperformed the randomly constructed portfolios, whilst the high PE portfolios were unable to outperform. Basu considered this an invalidation of semi-strong form market efficiency, and termed it the “value effect.”

In 1992, Fama and French conducted a study that tested the ability of a firm’s book/market [BM] ratio to predict future stock returns. They tested NYSE and NASDAQ listed stocks over the period from 1962 to 1989 and found that there was a significantly positive relationship between BM ratios and stock returns. High BM ratios generally resulted in high future stock returns, consistent with the value investing approach to selecting shares. Fama and French (1992), however, contested that the higher returns attained were merely compensation for holding riskier stocks, and that BM ratios captured risks not considered by CAPM. The results of Lakonishok et al (1994), however, provide strong evidence against this assertion. Lakonishok et al (1994) tested the same data set as the Fama and French study, finding that the increased return on value stocks, as identified by high BM ratios, was not matched by a commensurate increase in risk. Lakonishok et al. (1994) stated that the higher returns for high BM shares were due to the behavioural biases of investors, who extrapolate past performance too far into the future. This leads to high BM firms becoming under-priced, creating opportunities to purchase shares below their intrinsic value.

In one of the more recent seminal value investing papers, Fama and French (1998) tested the presence of the value premium in several global equity markets from 1975-1995. They found evidence of such a value premium in 12 of the 13 major markets tested. Value screens based on the BM ratio, earnings yield, cash flow yield and dividend yield were all found to be significant. Importantly, this study also found a significant value premium in 16 emerging markets that were studied. South Africa, however, was not included in the analysis.

South African Evidence

Prior to 2001, value investing had been a significantly neglected area of research in South Africa, specifically given its extensive coverage internationally and its reputation as a profitable investment strategy (M. Graham & Uliana, 2001). The first South African value investing study was undertaken by Plaistowe and Knight in 1986 who found evidence that the BM ratio significantly predicted returns on the JSE between 1973 and 1980.

Klerck and Maritz (1997) then tested the effectiveness of Benjamin Graham’s (1949) stock selection criteria on industrial shares traded on the JSE, between 1977 and 1994. A “value portfolio” was created, consisting of all stocks that met Graham’s PE, dividend yield and debt screens. This portfolio significantly outperformed the market index, but was also found to be riskier. Once risk-adjusted, however, the returns to Graham’s (1949) value investing strategy

were still significantly greater than the market proxy, suggesting the increase in risk was not commensurate to the extra return attained.

Graham and Uliana (2001) then tested the BM effect again, but only considered industrial shares due to the differing definitions of BM in various JSE market sectors. No conclusive evidence of a value premium was found, as high BM stocks failed to outperform low BM stocks between 1987 and 1996. High BM stocks, however, were actually found to be less risky, and outperformed on a risk-adjusted basis. This suggested that Fama and French's (1992) assertion that high BM stocks exhibited risk factors not captured by CAPM did not necessarily hold for the JSE. Mutooni and Muller (2007) replicated this study, testing data from 1986 to 2006. Again, significant evidence of the BM value effect was found, even after adjusting for the size effect. This is backed-up by Basiewicz and Auret (2009) who found that the BM effect even survived adjustments for transaction costs and thin trading on the JSE.

Rousseau and Van Rensburg (2003) tested the PE ratio value effect, comparing the returns on a series of portfolios of the lowest PE industrial stocks on the JSE to portfolios of the highest PE stocks. The low PE portfolios outperformed over all time periods tested between 1982 and 1998. Interestingly, it was found that the outperformance of the low PE portfolios increased as the holding period of the portfolios increased; providing evidence that value investing is a long-term strategy.

It can be seen that the body of research in South Africa finds overwhelming evidence of a value premium on the JSE. Auret and Cline (2011), however, found no significant evidence of the value effect between 1988 and 2006. Their study, however, considered all shares on the JSE, whilst all previous studies had focused only on the industrials sector. This suggests that the value effect previously found could be time-dependent (Malkiel, 2003) or not extend to the entire body of JSE shares. This leaves scope for more research on the entire body of JSE shares and the existence of the value effect in more recent times.

In addition to this, the landmark JSE value investing studies have mainly focused on the BM and PE value screens, leaving the effectiveness of a dividend yield strategy relatively under-researched. This gives weight to the need for this study, as it considers a dividend yield investment strategy, over the entire body of JSE listed shares, during a recent time period.

Dividend Theories

Benjamin Graham's (1949) screen for identifying value stocks based on a high dividend yield, has become one of the most widely-accepted value investing screens in the investment community (Visscher & Filbeck, 2003). Initially, Graham (1949) suggested that value stocks were characterised by a dividend yield which is greater than two-thirds of the AAA corporate bond yield (Damodaran, 2012). This is roughly analogous to the long-term government bond yield, which in South Africa is currently 8.82%; meaning that value stocks should have a dividend yield of greater than 5.88% (based on the R186 SA government bond – 30/06/2016)(Bloomberg, 2016). As discussed, this screen is often relaxed in the investment community, requiring stocks to have only a "high" dividend yield in order to qualify as a value stock. For dividend yields to be an effective screen of value stocks, however, there needs to be a relationship between dividends and intrinsic firm value, which begs the question as to why this relationship exists (Fakir, 2013).

In a 1961 study, Miller and Modigliani put forward their famous “Dividend Irrelevance Theory.” This theory explained that dividends bore no relationship to firm value as they did not impact on a firm’s earning potential, and that investors are therefore indifferent to the levels of dividend pay-outs. This theory was created under the restrictive assumptions of no transactions costs and taxes, perfect information, efficient equity markets, rational investor behaviour and several more. These assumptions often break down in the real world. This theory, however, is somewhat supported by Warren Buffett (2013) who argues that dividends are irrelevant due to investors’ ability to create “synthetic dividends” by selling shares, as and when their income needs arise. Black and Scholes (1974) added weight to this dividend irrelevance argument. Black and Scholes found no evidence that differences in dividend yields led to differences in stock returns, and it was therefore concluded that dividend policy does not affect stock returns. According to this, dividend yields should therefore have no power in forecasting future stock returns, and dividend yield strategies will not allow the investor to attain abnormal risk-adjusted returns.

In contrast to this, Miller and Rock (1985) found significant evidence of the “Dividend Signalling Theory.” This theory relaxes the assumption of perfect information, admitting that there is an asymmetry of information between company managers and investors. As managers hold far more information regarding the future prospects of the company, it is thought that dividends are a signal of this information to the public. High (low) dividend levels can therefore be thought of as optimistic (pessimistic) signals about the company’s future earnings potential, which in turn should lead to stock price appreciation (depreciation)(Erasmus, 2013).

The fact that dividends must be paid out of free cash flows is also an indicator of a company’s underlying financial health and quality of earnings, although companies can and do borrow at times in order to meet dividend requirements. Earnings are subject to accounting manipulation, whilst dividends offer a more positive indication of a company’s future cash generating ability (Tweedy Browne Company LLC, 2014). Higher dividend levels can therefore indicate increased future cash flows, and increased valuations, allowing investors to obtain abnormal risk-adjusted returns by investing in high dividend yielding companies. In more recent times, companies have also increased share repurchases as a way of distributing cash to its shareholders. However, this study focuses on dividend yields.

Whilst both dividend irrelevance and relevance theories have been discussed above, the body of academic research strongly suggests that dividends are relevant to firm value, and therefore that they can be used as a predictor of future stock returns. This literature is discussed below.

Dividend Yield as a Value Investing Strategy

International Evidence

In their 1974 paper, Black and Scholes (1974) tested the ability of dividend yields to predict future stock returns. The entire universe of stocks listed on the NYSE from 1947 to 1966 was tested. Over the time period analysed, the returns on 25 portfolios of the highest dividend yielding stocks on the exchange, were compared to those portfolios of the lowest dividend yielding stocks. The high dividend yield portfolios did not significantly outperform the low yield portfolios, either before or after adjustment for taxes. Black and Scholes therefore

advised that dividend yields should be ignored when making investment decisions; and suggested that investors should rather attempt to reduce risk through improving diversification in order to attain improved risk-adjusted returns.

This study is partly supported by Fama and French (1988), which performed a regression of dividend yields against stock returns, in order to measure their forecasting power. Consistent with Black and Scholes, it was found that less than 5% of monthly and quarterly return variation is explained by a stock's dividend yield, as measured by the regression's R^2 . Contrary to this, however, dividend yields explain a significant portion of stock returns (greater than 25%) when the return period is extended to between 2 and 4 years. This gives evidence to the ability of a value investing strategy based on dividend yields to outperform a market proxy. It also strongly supports the assertion of Rousseau and Van Rensburg (2003) that value investing is a long-term strategy. A study by Litzenberger and Ramaswamy (1979) found a "strong positive relationship between before-tax expected returns and the dividend yields of common stocks" on the NYSE between 1952 and 1977.

In an influential paper in favour of the efficient market hypothesis, Fama and French (1996) tested the existence of the value premium using several value screens, with equilibrium returns being measured using the "Fama and French 3 Factor Model" instead of the CAPM. The 3 factor model attempts to better capture asset risk, and calculates asset equilibrium returns as a function of market risk (β), the small firm premium and the value premium (as measured by the BM ratio). It was found that significant abnormal risk-adjusted returns could no longer be attained using a dividend yield investment strategy. Fama and French therefore argued that the dividend yield value effect is not an invalidation of the EMH, but rather is evidence of investors attaining increased returns by taking on commensurate increased levels of risk. This places some doubt on the effectiveness of a dividend yield strategy to produce abnormal risk-adjusted returns.

In recent times, however, investing based on dividend yield strategies has continued to gain momentum, and one of the most popular strategies has become known as "The Dogs of the Dow" (Visscher & Filbeck, 2003). In terms of this strategy, the investor purchases the 10 highest dividend yielding stocks within a large-capitalisation index on an exchange at the end of the calendar year. The portfolio is then held for a year, before rebalancing takes place. Visscher & Filbeck (2003) studied the results of implementing this strategy on the Canadian Toronto 35 index from 1987 to 1997. The results showed that the "dogs" strategy outperformed the Toronto 35 index and the TSE 300 (market proxy) by a compound annual return of 6.13% and 6.46%, respectively. In addition, this outperformance was statistically significant, even after adjusting for taxes and transaction costs. Brzeszczynski and Gajdka (2008) replicated this study for the Polish stock market, and Brzeszczynski, Archibald, Brzeszczynska, and Gajdka (2008) tested dividend yield investing for the London Stock Exchange. Again, these studies found that the "dogs" strategy significantly outperformed the relevant market proxy, even after adjusting for taxes and transaction costs.

South African Evidence

In 2004, Hendrik Wolmarans decided to test a high dividend yield investing strategy for the JSE (colourfully referred to as the "Dogs of the Dow" strategy). Whilst several variations of this strategy were also tested, it was shown that the original high dividend yield ("dogs") strategy managed to outperform the ALSI by an average annual rate of 9.8% from 1985-

1998. This proved to be significant even after an adjustment for risk was made. In addition, several variations of the “dogs” strategy, all based on high dividend yields, managed to significantly outperform the ALSI on a risk adjusted basis. This gave strong evidence to the effectiveness of high dividend yield strategies for the JSE.

The first study on the presence of the dividend yield value effect on the JSE, was conducted by Fraser and Page (2000). This study sorted all industrial shares into 5 portfolios, by dividend yield and BM ratios. The highest BM and dividend yield portfolio (value) was found to outperform the lowest BM and dividend yield portfolio (growth) by approximately 8% per annum from 1973 to 1997. The study also found that dividend yields could significantly predict share returns on the JSE, although its predictive power was weaker than the BM ratio.

Van Rensburg and Robertson (2003) applied a multiple regression methodology to determine the capability of 24 company-specific fundamental factors to explain the average monthly returns of that company over the period from 1990 to 2000. They found that dividend yield was one of only 6 significant explanatory variables over this time period, suggesting that dividend yields can significantly predict returns on the JSE. This study was then replicated by Auret and Sinclair (2006), including the BM ratio, which had previously been ignored. It was found, however, that the BM ratio completely subsumed the dividend yield effect when included in the regression analysis, making it a better predictor of future stock returns. In a prior study, Van Rensburg (2001) had found that the earnings yield and the dividend yield were both significant indicators of value.

Muller and Ward (2013) again tested for significant explanatory variables of equity returns, but used an improved data set, from 1985 to 2011, including all shares listed on the JSE, whereas previous studies had only focused on industrial shares. A graphical time-series approach was used to test these variables. They formed 5 portfolios of 32 shares each, based on each attribute and tracked each portfolio’s return over the measurement period. It was found that the highest dividend yield portfolio outperformed the lowest dividend yield portfolio by an average of 12.6% per annum, whilst also outperforming the ALSI total return index by an average of 5.5% per annum. This study therefore found that a “dividend yield style [effect] does exist” on the JSE.

Kruger and Toerien (2014), however, noted that the majority of these South African tests on the value effect had been done during stable market conditions, and therefore tested to see whether these anomalies were consistent over the sub-prime mortgage financial crisis of 2008. Their tests showed that the dividend effect failed to be significant over this crisis period, and therefore that this effect may be time dependent. Despite all of the previous literature that has shown significant evidence of the dividend value effect, it may not be an invalidation of the EMH due to this time dependency, as this effect cannot be exploited to attain abnormal risk-adjusted returns if it does not persist into the future (Malkiel, 2003).

These findings, however, are contradicted by the findings of Fakir (2013), who specifically tested the performance of high dividend yield portfolios over a 9-year holding period, beginning in 2004 and ending in 2012, and therefore including the financial crisis period. Firstly, Fakir separated the 160 biggest shares on the JSE (based on market capitalisation) into high and low dividend yield portfolios. Over the holding period, the high yield portfolio

returned 1.78 times more than the low yield portfolio, although this was not found to be statistically significant. In a second test, the returns on the 10 highest dividend yielding stocks were compared to those of the JSE Top 40 Index (used as the market proxy). Here, the top 10 stocks outperformed the market proxy by a statistically significant 1.45 times, after the top 10 portfolio was adjusted for risk and taxes. This provided more strong evidence of the potential that a value investment strategy, based solely on dividend yields, has on the JSE.

A comprehensive study of value and momentum effects for the JSE was undertaken by Van Heerden and Van Rensburg (2015) for the period 1994 to 2011 and this study included price-to-earnings (P/E), price-to-book(P/B), price-to-cash flow (P/CF) and price-to-sales (P/S), as well as dividend yield (D/Y), as value indicators. Van Heerden and Van Rensburg (2015) found that value factors were found to be the most significant in explaining the cross section of returns on the JSE. The cash flow to price ratio followed by the book value to market ratio were found to best capture the value effect. In contrast to other studies (Cubbin et al., 2006, Strugnell et al., 2011), the price earnings ratio was not found to be as significant. Van Heerden and Van Rensburg tested two sub-periods, 1994 to 2002 and 2003 to 2011. Although the dividend yield was not significant for the first sub-period as well as the whole period 1994-2011, the results for the second period of 2003-2011 indicate that dividend yield was very close to being significant indicator of value (t-statistic of 1.999). The latter period includes some overlap with the period analysed for this study, which was 2006-2015.

Conclusions

Due to the results of several seminal studies that have focused on value investing (Basiewicz & Auret, 2009; Fama & French, 1992 and 1998), it would be difficult to refute the claim that value investing has historically been able to attain abnormal equity market returns, both internationally and in the South African, emerging market context. This evidence also suggests that the EMH may not hold, at least to some degree. The value premium often survives adjustment for transaction costs, risk, taxes and has tended to persist over time (Basiewicz & Auret, 2009). This means that it is difficult to argue that the EMH holds, even by Jensen (1978) and Malkiel's (2003) definitions.

Globally, the literature appears to suggest that the most significant value investment screen has been based on the book/market ratio (Auret & Sinclair, 2006; Fama & French, 1998). The evidence concerning the dividend yield screen is less convincing, especially within South Africa. Many studies, however, have found evidence that implementing a high dividend yield strategy has led to significant, risk-adjusted outperformance (Fakir, 2013; Wolmarans, 2004). It is against the backdrop of this research literature that this study evaluates dividend yield investing strategy on the JSE.

3. Research Methodology

Research Question

The research question is as follows: Can an individual investor outperform the JSE market (an investible proxy for the market) in the long run, after adjusting for risk, taxes and transaction costs, by following a value investing strategy focused solely on investing in shares with a high dividend yield?

Hypothesis

H₀: The compound annual return on the high dividend yield portfolio \leq the compound annual return on the ALSI TRI, after appropriate adjustments

H₁: The compound annual return on the high dividend yield portfolio $>$ the compound annual return on the ALSI TRI, after appropriate adjustments

In testing this hypothesis, this study has combined the methodologies employed by Fakir (2013) and Muller & Ward (2013). This involves measuring cumulative returns and wealth relatives and assuming the reinvestment of dividends.

A 10-year time period, starting on 1 January 2006 and ending on 31 December 2015, has been selected. This is in accordance with the suggestions made by Rousseau and Van Rensburg (2003) that value investing is a long-term strategy, and that outperformance tends to improve as the investment period is increased. This time period also includes the financial crisis; therefore allowing the opportunity to analyse the performance of a dividend yield value investing strategy before, during and after a major financial crisis. This may offer evidence to either help refute or strengthen any time-dependency argument, especially that put forth by Kruger and Toerien (2014).

The value portfolio was made up of the 30 highest dividend-yielding stocks on the JSE, from a pool of the 160 largest stocks, as measured by market capitalisation ("market cap"). The study was limited to this group as they make up the All Share Index, representing roughly 99% of the JSE's market cap. Shares that fall outside of this range also exhibit far greater illiquidity (Muller & Ward, 2013), and data for these companies is far more difficult to come by and often less precise. In addition, Real Estate Investment Trusts [REITs] were excluded from the universe of JSE stocks. This is due to the fact that REITs are characterised by unusually high dividend yields, as they are exempt from paying income taxes on earnings that are immediately distributed to shareholders in South Africa. This means that, in the case of REITs, high dividend yields are not necessarily an indicator of value.

In order to monitor long-term performance, this study did not follow a rebalancing strategy each year. This is in line with the general premise that value investing is a long-term strategy. Renowned value investors such as Walter Shloss and Seth Klarman have referred to a holding period of 4 to 6 years.

The decision to include 30 companies in the value portfolio was based on the study done by Bradfield and Kgomari (2004), which found that a minimum of 30 shares is required to achieve diversification for the JSE, due to the effects of single-stock concentration on the market.

The JSE All Share Total Return Index was chosen as the appropriate market proxy upon which to benchmark the value portfolio's performance. This is particularly relevant because of the high dividend nature of this investment strategy, necessitating the comparison of total returns. As noted by Tweedy Browne Company LLC (2014), "the return from dividends has been a significant contributor to the total returns produced by equity securities."

Finally, there are several different methods in which dividend yields can be calculated. For the purposes of this study, dividend yield has been calculated as follows:

Formula 1

$$\text{Dividend Yield} = \frac{\text{Dividends Per Share Paid over the Previous 12 month Period}}{\text{Share Price at Year End}}$$

This measure of dividend yield has been selected as it considers the most recent dividends that have been paid, regardless of financial year. It was therefore believed to be the best dividend yield measure in describing the cash generative ability of a firm. Non-normal (i.e. special) dividends were not included in dividends per share, as they are non-recurring.

Data Collection

All data was obtained from the Bloomberg information terminal. This included the dividends paid, market capitalisation, sector description and year-end closing prices of all shares listed on the JSE on the 31st of December 2005. In addition to this, the daily ALSI TRI value, yearly risk-free rate (R186); annual dividends paid and daily closing prices of the shares in the value portfolio from 2006-2015 were obtained.

In order to avoid a survivorship bias, any companies where subsequent corporate action has taken place (e.g. an acquisition, delisting, liquidation etc.) were included in this universe, representing the information that an individual investor would have had access to on 31 December 2005.

Procedure and Data Analysis

This section will outline the procedure and the data analysis that was followed in order to test the hypothesis.

Portfolio Construction

Using the data described above, the population of all stocks listed on the JSE were ranked (in descending order) according to their market cap on 31/12/2005. Any stocks falling outside of the top 160 largest were then eliminated from the sample. Using sector information, all stocks forming part of the Industry Classification Benchmark (ICB) Real Estate sector were then excluded from this sample of 160 stocks.

Using formula 1, the dividend yield for each of these stocks on 31/12/2005 was then calculated, and all stocks were ranked according to this measure. The 30 highest dividend yielding of these stocks were then included in the value portfolio. The companies making up this portfolio are set out in Table 1.

Table 1: Composition of Value Portfolio on 31 December 2005

Companies forming part of the value portfolio, with associated dividend yields on 31/12/2005								
1	REAL AFRICA HOLDINGS	19.80%	11	ARCELORMITTAL	6.17%	21	JD GROUP LTD	4.58%
2	EVRAZ HIGHVELD STEEL	17.45%	12	CLIENTELE LIFE	5.92%	22	STANDARD BANK GROUP	4.50%
3	SUPER GROUP LTD	16.27%	13	BRAIT SE	5.59%	23	SASFIN HOLDINGS	4.42%
4	CORONATION	9.09%	14	CITY LODGE HOTELS	5.49%	24	EDGARS	4.18%
5	E MEDIA HOLDINGS	7.91%	15	RMB HOLDINGS LTD	5.45%	25	CADIZ HOLDINGS	4.16%
6	DORBYL LTD	7.84%	16	NAMPAK LTD	4.96%	26	BIDVEST GROUP	3.88%
7	AVI LTD	6.60%	17	MMI HOLDINGS LTD	4.68%	27	MUTUAL & FEDERAL	3.87%
8	GLENRAND MIB LTD	6.38%	18	INVICTA HOLDINGS	4.64%	28	DISTELL GROUP	3.84%
9	BARNARD JACOBS	6.35%	19	ALEXANDER FORBES	4.62%	29	MR PRICE GROUP	3.80%
10	MUSTEK LTD	6.19%	20	OCEANA GROUP LTD	4.62%	30	PICK'N PAY HOLDINGS	3.77%

Portfolio Return Calculation

An initial investment of R1 000 000 was assumed, and all stocks were equally-weighted in the portfolio, according to their price on 31/12/2005. For all transactions in this test, total costs (brokerage costs, transaction taxes etc.) of 0.86% of the transaction value were assumed. This was based on the total costs of performing an equity transaction through the Standard Bank (2016) Share Trading platform.

Where a company in the sample ceased trading during the holding period, their last closing price before they ceased trading was used as a proxy for the cash payment received by the shareholder during that year, in keeping with the methodology applied by Muller & Ward (2013). Total cash payments received per year were therefore the sum of all distributions received on the portfolio and these cash payments.

The annual distribution received was calculated based on the number of shares of each company held in the portfolio at the beginning of each calendar year. These payments were then re-invested into the portfolio on the final day of each calendar year in the study, and the individual holdings of each company re-calculated. Again, these purchases were equally-weighted (based on the number of shares in the portfolio that were still trading), based on the closing share prices on each respective date.

Daily returns throughout the study were calculated as the weighted-average of the returns on each stock that was still trading, based on their value as a proportion of the total portfolio value.

Finally the compound annual growth rate [CAGR] and annual, total and cumulative returns were calculated on the portfolio, using the following formulas:

Formula 2

$$\text{Portfolio Return}(r) = \frac{\text{Value}(t+1) - \text{Value}(t) + \text{Dividend Received}}{\text{Value}(t)} \times 100$$

Formula 3

$$\text{CWI}_n = \text{WI}_0 (1+\text{HPR}_1) (1+\text{HPR}_2) \dots (1+\text{HPR}_n)$$

CWI_n is the cumulative wealth index and WI_0 is the beginning wealth index. HPR is the holding period return for each period. This study uses a starting wealth index of R1m for the Value Portfolio and the ALSI TRI benchmark portfolio.

Formula 4

$$\text{Compound Annual Growth Rate} = \left(\left(\frac{\text{End Value}}{\text{Beginning Value}} \right)^{\frac{1}{n}} - 1 \right) \times 100$$

Portfolio Risk Calculation

Using the calculated daily portfolio returns, the daily standard deviations for each individual year, and for the entire period of the study, were computed. The following formula was used:

Formula 5

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum(x - \mu)^2}{n - 1}}$$

These values were then converted to match their respective time periods using the following formula:

Formula 6

$$\text{Period } \sigma = \text{Daily } \sigma \times \sqrt{\text{Trading Days in Period}}$$

Benchmark Return and Risk Calculation

Using the daily ALSI TRI values that were obtained, the CAGR and daily, annual, total and cumulative returns were calculated on the benchmark for the period starting on 01/01/2006 and ending on 31/12/2015. This was done using formulas 2, 3 and 4. Using the calculated daily benchmark returns, the daily standard deviations for each individual year, and for the entire period of the study, were computed (formula 5).

Formula 6 was again used to convert these daily values to match their respective time periods.

Calculation of Annual Sharpe Ratios

Annual and total portfolio and benchmark Sharpe ratios were also calculated using the Sharpe Ratio, which measures a portfolio's excess return in relation to a portfolio's standard deviation. This enables the determination of a risk-adjusted return and the Sharpe ratio has become the standard measure of a portfolio's return relative to its level of risk as indicated by the volatility of returns.

Formula 7

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

This study also followed the graphical time-series approach used by Muller & Ward (2013), so that the cumulative return index of each portfolio is plotted over the test period in order to present a visual comparison between the two portfolios.

Limitations of the Study

There are, however, several limitations associated with this study, which are set out below:

- The results may be overly dependent on the starting date. In order to evaluate long-term performance, the study measured the relative performances of a portfolio of high dividend yield shares constructed on a single date and the ALSI TRI which may solve one drawback of a rebalancing strategy by creating a disadvantage of an over-dependence on the starting date²⁹. It is submitted that the results of this study need to be evaluated with the results of other studies on the use of high dividend yield strategies.
- The effects of both dividend tax and capital gains tax have been ignored. However, these taxes would impact both the value portfolio and the benchmark portfolio. It may be argued that the relative tax effects would probably not be material for the findings of this study, particularly over the longer term.
- The assumption that the final closing price of shares that ceased trading can be used as a proxy for the payment received by shareholders may be unrealistic.
- Dividends to determine the portfolio return was included on the final day of each year and this may impact on relative volatilities for the portfolio in relation to the ALSI TRI which includes dividends on each payment date.
- The results of this study could have been impacted by factors other than just the differences between dividend yields, which are not considered. This could have either positively or negatively biased the relationship found between dividend yields and future stock returns.
- The inclusion of the financial crisis in the period studied may have introduced a bias to the results, which therefore may mean that the dividend yield-stock return relationship found may not be indicative of normal JSE conditions.

4. Results

The results are firstly analysed in terms of the cumulative returns of the Value Portfolio in relation to the ALSI TRI. Thereafter, the results are set out in terms of comparing the compound annual returns, standard deviations and Sharpe ratios of the Value Portfolio as compared to the ALSI TRI.

Figure 1 presents the cumulative returns of investing in the Value Portfolio in relation to investing in the ALSI TRI over the period January 2006 to 31 December 2015. This simply tracks the investment of R1m in either the Value Portfolio or the ALSI TRI on 1 January 2006, which factors in movements in share prices and the reinvestment of dividends.

The Value Portfolio of high dividend yield companies would have resulted in a final cumulative total amount of R5.134m as compared to a final cumulative total amount of R3.74m by investing in the ALSI TRI benchmark portfolio.

²⁹ However, the portfolio of high dividend yield shares tracked the ALSI TRI closely for most of the period January 2006 to January 2012 (see Figure 1), which is suggestive that the results of this study are not overly dependent on the starting date.

Figure 1: Cumulative returns of investing in the Value Portfolio and the ALSI TRI

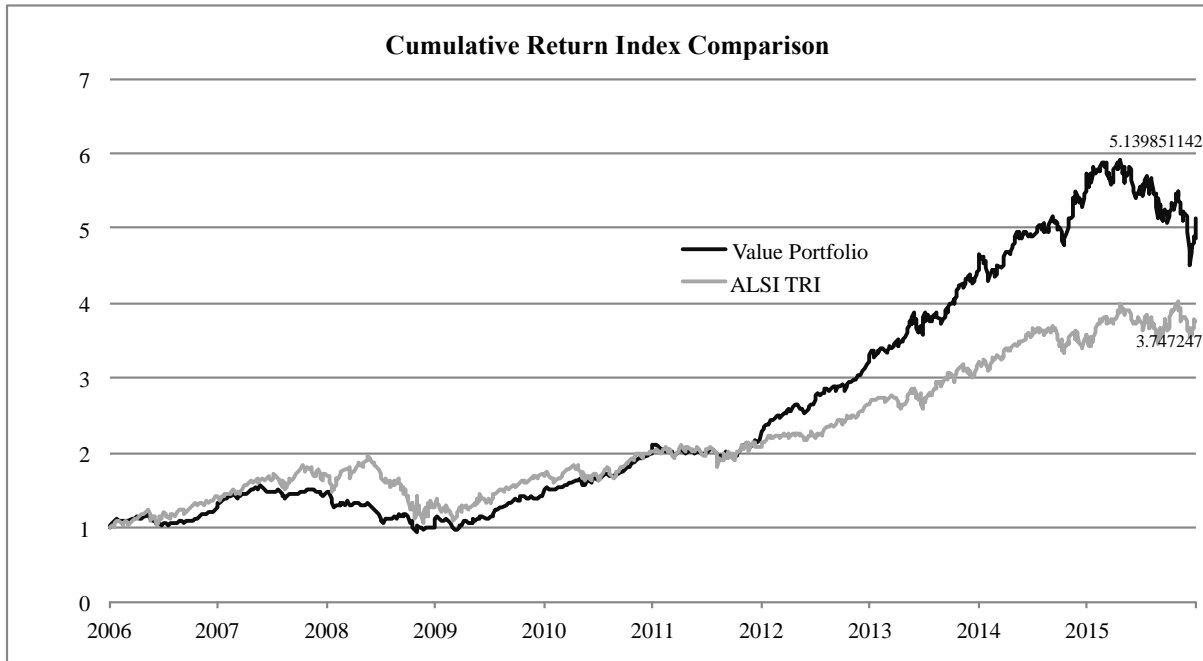


Figure 1 demonstrates that the value portfolio underperformed although it roughly tracked the return of the benchmark ALSI TRI until the beginning of 2012, when the Value Portfolio started to significantly outperform the ALSI TRI. This adds weight to Graham's (1949) belief that value investing is a long-term strategy, and provides some confirmation to the results of Rousseau and Van Rensburg (2003) which found that the value portfolio's outperformance increased as the holding period increased. Figure 1 also indicates that in 2015, the value portfolio dramatically underperformed the benchmark ALSI TRI. Figure 1 is also consistent with the premise that a value portfolio may underperform the benchmark for a significant period of time.

An analysis of Figure 1 also provides some support to the findings of Kruger and Toerien (2014) who suggested that dividend yields did not have any significant power to predict future stock returns during the financial crisis. This study indicates that the return on the Value Portfolio tracked the return on the ALSI TRI during 2008 and 2009, the main years of the financial crisis. It did, however, meaningfully outperform on a risk-adjusted basis.

Prior to the financial crisis (2006 & 2007), the value portfolio underperformed, but once again it outperformed on a risk-adjusted basis. These pre-financial crisis findings, however, are fairly inconclusive as only 2 years were studied. The relative underperformance may also be a result of the value portfolio being constructed so recently, meaning that the value effect had not yet taken place.

Post the financial crisis, however, the value portfolio outperformed significantly (as shown in Figure 1), except in the final year of the study. This provides some evidence of the dividend yield value effect, especially in the post-financial crisis period for the JSE.

An analysis of compound annual returns, standard deviations, annual returns, annualised standard deviations and the annual Sharpe ratios is set out in Table 2. The Value Portfolio

of high dividend yield companies was able to outperform the ALSI TRI over the period 2006 to 2015 at a significantly lower level of risk as indicated by relative standard deviations and Sharpe ratios.

Table 2: Annual returns, compound returns, standard deviations, Sharpe ratios and cumulative wealth indices (CWI)

Year	VALUE PORTFOLIO			JSE ALSI TRI PORTFOLIO			Difference Value - ALSI
	Return	Period σ	Sharpe ratio	Return	Period σ	Sharpe ratio	
2006	32.27%	12.47%	1.99	41.23%	21.91%	1.54	-8.96%
2007	12.56%	9.57%	0.47	21.98%	19.20%	0.72	-9.42%
2008	-25.33%	18.73%	(1.73)	-26.77%	42.16%	(0.80)	1.44%
2009	35.60%	13.71%	1.94	36.43%	25.18%	1.09	-0.84%
2010	39.19%	9.94%	3.11	17.73%	16.85%	0.56	21.46%
2011	9.47%	9.69%	0.10	3.27%	18.58%	(0.28)	6.20%
2012	44.31%	8.17%	4.54	25.92%	11.39%	1.64	18.39%
2013	39.57%	12.32%	2.54	18.10%	14.61%	0.68	21.47%
2014	24.06%	11.48%	1.40	13.73%	12.80%	0.45	10.32%
2015	-10.44%	16.90%	(1.20)	5.56%	16.70%	(0.37)	-16.01%
Average	20.12%	12.30%	1.32	15.72%	19.94%	0.52	4.41%
CAGR	17.47%		0.60	14.09%		0.20	3.38%
Daily σ		0.81%			1.36%		
Annualised σ		12.78%			21.38%		
CWI₂₀₁₅	513.98%			373.65%			
Relative CWI	1.38						

The value portfolio only managed to outperform the benchmark in 6 of the 10 years, on an absolute basis. When it did outperform, however, it often did so by a large amount. On a total basis, the value portfolio outperformed substantially, recording a cumulative wealth index (CWI) of 513.98% as compared to 373.65% over the 10-year period. The CWI measures the return as a multiple of a R1 initial investment and compounds returns over the 10-year period. We assumed an initial investment of R1m and the value portfolio resulted in an additional return of R1.4m over the period. The relative CWI was 1.38 (513.98%/373.65%) so that the Value Portfolio resulted in a 38% increase in value over the period.

The compound annual return (geometric mean) is 17.47% for the Value Portfolio and 14.09% for the benchmark ALSI TRI index resulting in an outperformance of 3.38% per year over the 10-year period on a compound return basis. The return for the Value Portfolio was 4.14% higher per year on an arithmetic average basis.

Furthermore, the Value Portfolio exhibited less risk than the market proxy, as measured by standard deviation. The daily standard deviation for the Value Portfolio was 0.81% whilst the ALSI TRI indicated a daily volatility of 1.36%. On an annualised basis, the standard deviation of the Value Portfolio is 12.78% as compared to 21.38% for the ALSI TRI.

The Sharpe ratios support the premise that the risk adjusted return for the Value Portfolio is greater than the ALSI TRI benchmark. The Sharpe ratio over the period and measured on the basis of the compound annual returns was found to be 0.60 for the Value Portfolio as compared to 0.20 for the ALSI TRI benchmark.

The lower standard deviation is in direct contradiction of the suggestions made by Fama & French (1992) that the increased returns offered by value portfolios are merely compensation for taking on increased risk. It also supports the results of Graham and Uliana (2001), who found that the value portfolio was less risky. Over the entire period, the benchmark's standard deviation was 1.67 times higher than that of the Value Portfolio.

The value portfolio managed to outperform in 7 of the 10 years, after an adjustment for risk, as evidenced by its higher Sharpe ratios.

In order to obtain a visual impression of the relative volatilities and to obtain further assurance in regard to the data, Figure 2 presents volatilities of the Value Portfolio and the ALSI TRI by plotting the daily returns of the portfolio and the ALSI TRI benchmark.

Figure 2: Relative share returns of the Value Portfolio and the ALSI TRI

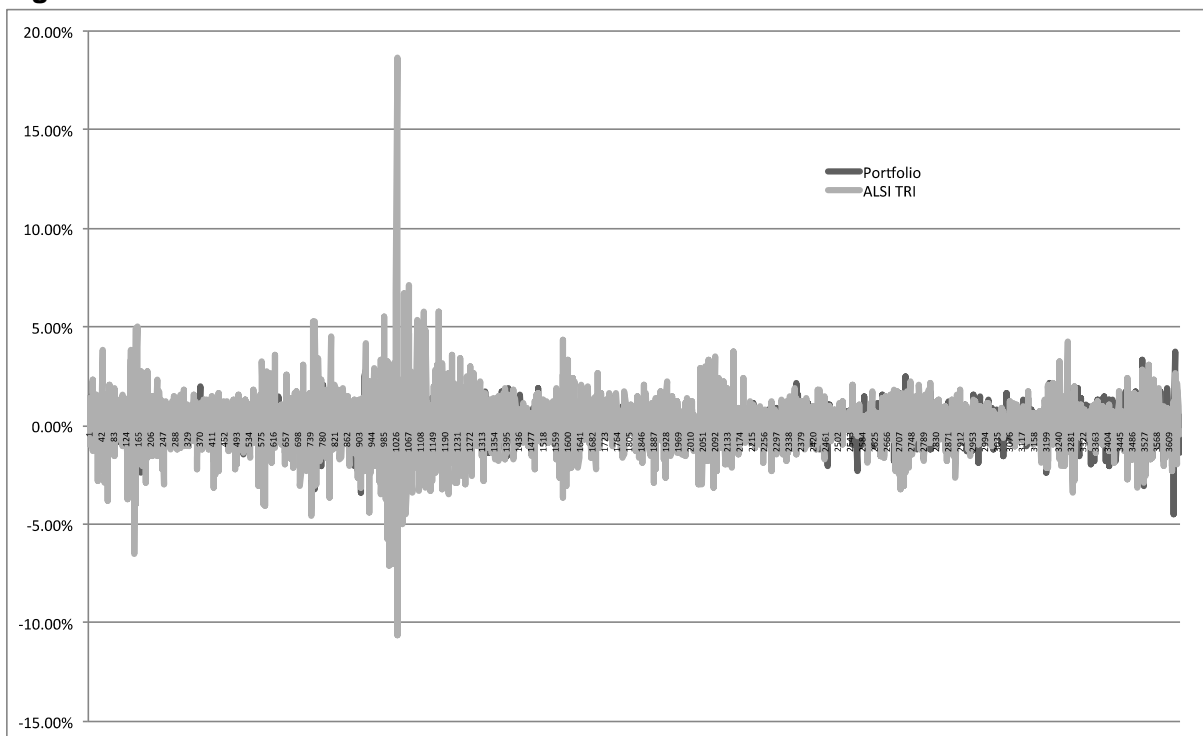


Figure 2 indicates that the volatilities of returns of the Value Portfolio, except in the period, were dominated by the volatilities of the returns of the ALSI TRI. The higher returns for the Value Portfolio was supported by a lower level of volatility of returns, Figure 2 is a visual presentation of the daily returns that support the results set out in Table 2.

The maximum daily drawdown for the Value Portfolio was -5.92% over the period. In contrast, the maximum daily drawdown for the ALSI TRI benchmark portfolio was -10.64%

Figure 3 presents the cumulative returns assuming a R1 investment in each share of the Value Portfolio. The scale has been capped to a max 10x of the initial investment in order to obtain a clearer depiction of the relative returns. In fact CML (Coronation Fund Managers) managed to achieve a height of 20x the initial investment prior to falling back to 10x the initial investment. The value portfolio is highly dependent on the performance of a few

5. Conclusions

Summary and Implications

Graham and Dodd (1934), introduced the concept of *value investing* to the world in 1934. Academic research has focused on the ability of value investing to earn abnormal risk-adjusted returns, as well as measuring the effectiveness of various value screens. The literature provides evidence both for and against the value effect - internationally, in the emerging market context, and even on the JSE itself. The majority of research studies, however, suggest that the value effect does exist, and that the most effective indicator of a value stock is a high book/market ratio. There is, however, convincing literature to suggest that the value effect persists when value stocks are screened on a dividend yield basis.

This study therefore sets out to test the effectiveness of the dividend yield value screen on the JSE, where value investing, especially relating to dividend yields, is relatively less well researched. It did so by testing the ability of a portfolio of high dividend yielding shares to outperform the ALSI TRI, after adjusting for risk and transaction costs, over the most recent 10 calendar years. This time frame included a global financial crisis, therefore offering the opportunity to also study the time-dependency of any dividend yield value effect.

The results showed that the high dividend yield (value) portfolio outperformed the chosen benchmark by 1.38 times over the study period on the basis of the cumulative wealth index and by 3.33% per year on an annual compound return basis. The value portfolio failed to convincingly outperform its benchmark (on an absolute basis) before and during the financial crisis. After risk adjustment, however, the value portfolio tended to outperform before, during and after the crisis – giving evidence that it may not be time dependent.

Importantly, these findings present a possible further invalidation of the EMH, at least in its semi-strong form. The higher returns of the Value Portfolio were matched by a significantly lower risk as indicated by a lower standard deviation. As the dividend yield effect also survived adjustment for risk, this study suggests that it is not just an indicator of risk factors that are not captured by the CAPM (Fama & French, 1992). In addition to this, it appears to not be time-dependent and may present a profitable trading strategy, even after adjustment for transaction costs. This study therefore suggests that the JSE is not an efficient market, even by Jensen (1978) and Malkiel's (2003) definitions. Importantly, however, this study did not consider taxes for either holding the benchmark or the Value Portfolio.

Fama & French (1992) suggest that the higher returns of following such value investing strategies as investing in low market to book ratio companies is due to risk factors not captured by CAPM. In contrast, Thaler & De Bondt (1985) are of the view that the higher returns from value investing relate to behavioural factors (thereby implying that markets are not efficient). The interesting aspect from the results of our study is that the higher returns of the value portfolio are not matched by higher risks as indicated by the relative volatility of returns. This may point to the latter behavioural explanation for the higher returns from investing a portfolio of high dividend yield shares.

Most importantly, however, this study provides evidence that value investing, and more specifically, a value investing strategy based solely on dividend yields, may work in the long term on the JSE. Due to the simplicity of this investment strategy, it provides the opportunity

for the individual investor to obtain abnormal risk-adjusted returns on the JSE. However, the lower risk of the Value Portfolio may also be due to constraints in regard to the liquidity of the underlying shares. As the study focused on daily returns, low levels of volatility for a few companies may have resulted in a downward effect on the volatility of returns for the Value Portfolio.

Opportunities for Further Research

Avenues for future research include studying the effects on taxes on relative returns. Furthermore, the relative liquidities of individual listings should be evaluated. Although, this may not be a major consideration for small investors, institutions will be highly affected by a lack of relative liquidity. This study selected 30 high dividend yield companies at 31 December 2005 and tracked the performance of these shares over a period of 10 years. It would be relevant to apply an annual rebalancing of the portfolio to evaluate whether this may result in higher returns over the same period. Future research involving an out of sample testing of a high dividend yield investing strategy would add further credence to the results of this study. Although, the objective of this study was to evaluate performance over the long-term of holding a portfolio of high dividend yield shares, future research studies could include rolling periods over a few years and which require to hold each portfolio for a period of 4 to 6 years.

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**MAF 05: The Fight Against Poverty:
Review of the Applicability of the Grameen Bank Model in
South Africa**

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ABSTRACT

This paper reviews the Grameen Bank model by looking at its implementation in Bangladesh and the key success factors in its alleviation of poverty. The analysis reveals that well trained staff, a group-based lending program and no need for collateral were contributing success factors of the model. The practicality of replicating the model is reviewed, with specific focus on South Africa. The results show that the spirit of Ubuntu and the practices of stokvels in South Africa have similar characteristics to those that are employed in the Grameen Bank model. The paper concludes by suggesting that the model be further considered for possible implementation in South Africa to assist alleviating poverty.

1. INTRODUCTION

The existence of poverty in society suggests that there are challenges to eradicate it and in South Africa this is noticeably true. With slow economic growth as well as high unemployment and poverty levels, South Africa needs a sustainable solution to combat poverty and empower the poor. However, without employment opportunities the poor must find other sources of income to raise themselves out of poverty such as entrepreneurship, social grants or other expensive forms of credit from moneylenders. Traditionally, the cost of credit available to the poor is so high that it often keeps them trapped in poverty (Yunus et al. 2010). Social grants place a burden on the government and taxpayers especially, if the percentage of the population that lives in poverty is high. Following from this it would seem that sustainable income-earning structures require an initial financial investment that is likely to be beyond the financial capabilities of people living in poverty.

Severe poverty in Bangladesh is what led the Grameen Bank, founded by Professor Muhammad Yunus, to develop a model that seeks to eradicate poverty. This paper seeks to identify the factors that contributed to the success of this model followed by an analysis of successful replications in other countries in an attempt to determine whether the Grameen Bank model could practically be applied to combat poverty in South Africa.

Section two provides a background of the Grameen Bank and its operations. Section three explains the success factors identified within Bangladesh. Section four discusses other instances in which the model was replicated and section five deals with the practicality of the Grameen Bank model in South Africa. This final section assesses the South African culture of Ubuntu and the use of stokvels, and gives a brief analyses of the already available system of microfinance in order to provide practical recommendations on the applicability of the Grameen Bank model in South Africa.

2. BACKGROUND

The Grameen Bank initially started as a research project of Professor Muhammad Yunus in Chittagong, Bangladesh in 1976 in which he sought to test whether poor people were creditworthy for small unsecured loans (Dowla 2006). Professor Yunus tested the hypothesis that providing the poor with affordable financial assistance would create productive employment without the assistance of an external party (Sarker 2001). After seven years of experimentation, with assistance from the Nationalised Commercial Banks and eventually becoming a project of the Central Bank of Bangladesh, the Grameen Bank was formally established in 1983 as a specialised bank with its own licence to deal exclusively with the poor (Dowla 2006).

The objective of the Grameen Bank is to provide microloans to the poor who are defined as individuals that own assets to the value of less than half an acre of cultivatable land (Dowla 2006). The poor are unable to access affordable credit from conventional banks as they have no credit histories, do not have any collateral to offer or cannot fill out the required paperwork owing to high illiteracy rates (Yunus et al. 2010). By providing the necessary capital, the Grameen Bank created the opportunity for entrepreneurs to start businesses that buy and sell goods on the free market allowing them to generate income to repay the loan and use the excess to pay daily living expenses (Hulme 2008). The Grameen Bank offers loans averaging US\$100 and in 2006 the Grameen Bank was jointly awarded a Nobel Peace Prize along with

its founder Professor Yunus “for their efforts to create social and economic development” using an inclusive approach at the lowest income bracket of the economy (Nobelprize.org 2015) in Bangladesh and abroad in other replications of the model.

Sarker (2001) described the organisational structure used by the Grameen Bank to comprise several levels in the form of a hierarchy. At the top level is the head office in Dhaka, which supervises the organisation as a whole and makes the broad general management decisions. The next level comprises the zone offices, which form the pinnacle of the field operations. Zone offices supervise, monitor and audit around 10 to 15 area offices each which are themselves responsible for monitoring and coordinating 10 to 15 branches each. The branches oversee and coordinate around 120 to 150 centres in 15 to 22 villages. Each centre hosts an average of 8 groups and provides a meeting space for training and weekly payment collections (Sarker 2001).

The Grameen Bank currently provides four interest-bearing loans including an income-generating (general) loan at 20%, a housing loan at 8%, a student loan at 5% and a struggling member loan (or beggar loan) at 0% per annum (Grameen Bank 2015b). The struggling member program is intended to provide beggars on the streets with capital to purchase items to sell, gradually teaching them entrepreneurial skills while encouraging them to join a Grameen Bank centre (Hulme 2008).

Members are also required to pay a once-off deposit of about 5% of the initial loan amount into a group fund. This deposit, known as a group tax, serves to provide finance to the Grameen Bank for general operations and to the group members in case of any emergency. This deposit is not recoverable from the Grameen Bank when members discontinue the banking services. The Grameen Bank never writes off any loans but rather chooses to restructure the terms to meet the needs of the individual at risk of defaulting (Hussain et al. 2001).

The Grameen Bank also embraces the social business model devised by Professor Yunus of “a self-sustaining company that sells goods or services and repays its owners’ investments, but whose primary purpose is to serve society and improve the lot of the poor” (Yunus et al., 2010, p.309). It is through these social businesses that the Grameen Bank ideology is implemented and the model for micro-financing is used to create tailored and area-specific solutions to the financing needs for the poor. Examples of social businesses include partnerships such as Grameen Phone, Grameen Veolia and Grameen Danone.

As of April 2015, the Grameen Bank has cumulatively disbursed around US\$17 million of which US\$15.5 million has been repaid, a repayment rate of over 98% since inception. Total membership during April 2015 amounted to 8,673,233 members of which 96% are women (Grameen Bank 2015a).

3. KEY SUCCESS FACTORS

A number of critical success factors have been identified in the literature, namely: 1) the group-based lending approach, 2) not requiring collateral, 3) well trained and incentivised staff, and 4) the relationships between the key role players in the organisation (Boysen & Sahlberg, 2008). This section will explain and analyse each success factor.

3.1 Group-based lending

The first and most common of the success factors identified is the group-based lending approach. Members are required to form groups of five people on average with no relatives or people from the same household being permitted to join the same group (Sarker 2001). Groups are male or female only.

The Grameen Bank provides the group with training in literacy, entrepreneurial skills and finance and initially only provides loans to two of the members. After an observation period of 6-8 weeks two more members receive loans. Whilst not formally jointly liable for the loans, members are allowed to assist the other members of their group if they are unable to make repayments. This forms a collective responsibility amongst the members of the group for individual loans.

The Grameen Bank did implement a policy of not furthering additional credit to any individual member if they were members of a group with a defaulting member. Whilst this policy succeeded in creating collective responsibility, it is not implemented in practice (Boysen & Sahlberg 2008). Because members assumed a mutual accountability for the loans, they were careful when screening group partners as they were under the impression that defaulters could potentially spoil opportunities for the rest of the members (Hussain et al. 2001).

The group-based approach therefore forms a key component of the Grameen Bank model as it increases the efficiency of the Grameen Bank's delivery system by maximising contact between the bank and the members. This increased level of contact also places the Grameen Bank in a unique position to make use of a cost-effective monitoring tool that provides the bank with an in-depth knowledge of their members and facilitates preventative steps to mitigate the risk of default (Boysen & Sahlberg, 2008). The shared group dynamic also assists the Grameen Bank in encouraging meaningful participation from the members.

3.2 No collateral

In order to mitigate the risk of unsecured lending, the Grameen Bank instituted less conventional means of security with the group-based lending approach. The group-based lending system replaced physical capital with social collateral, such as peer pressure and peer monitoring (Dowla 2006). Not requiring collateral is an important feature of the Grameen Bank model because its aim is to assist those stuck in poverty who, by virtue of their circumstances, are not able to better their living standards and do not have any material possessions to offer as security for a loan.

3.3 Staff are well trained and incentivised

The staff members of the Grameen Bank are well trained, patriotic and highly motivated. They played a key role in furthering the social agenda of the bank. The importance of well-trained, highly motivated, dedicated and loyal staff is apparent for any type of business. However, it is particularly important for the operation of the Grameen Bank model, as often staff members will be performing hard work in remote and very poor locations whilst receiving little compensation. The nature of the work that the Grameen Bank model aims to perform is not likely to result in the ability to compensate staff with high salaries, which emphasises the importance of the staff believing in the goals of the Grameen Bank model. Therefore, carefully designed incentive systems and other forms of motivation such as recognition for the work

performed by the staff forms a crucial part of maintaining a strong workforce. The Grameen Bank has demonstrated that this level of commitment is attainable.

A well designed incentive system contributed towards employees actively promoting the Grameen Bank and its services (Mamun 2012). At the start of their employment, staff are informed of the importance of “hard work, staying in the rural areas, honesty, and sincerity” (Sarker, 2001, p.11). Sarker (2001) described how applicants underwent an extensive on-site training programme after which only those applicants that were truly committed to the purpose of the Grameen Bank obtained employment. This commitment translated into a highly motivated, reliable and hard-working workforce to which the Grameen Bank owes much of its success (Sarker 2001).

The Grameen Bank typically hires young graduates who had not yet grown accustomed to the traditional banking practices followed by older employees (Hulme & Moore 2006). A lack of alternative employment opportunities may potentially contribute to the young employees adopting a more risk-averse and loyal behaviour towards the Grameen Bank with the additional benefit of dissuading any potential corruption. Hiring young graduates also assisted the Grameen Bank in sustaining their practice of challenging the conventional wisdom of banking entrenched in older bankers by replacing it with innovative thinking from the graduates (Sarker 2001).

Furthermore, Sarker (2001) noted that the staff motivation was maintained through informal rewards such as recognition of work, pride in the social objectives of the Grameen Bank, international recognition (such as the Nobel Peace Prize) and a sense of belonging or identity.

3.4 Relationships

The relationships between the various stakeholders and the Grameen Bank can be split into three main categories namely: member-to-member, bank-to-member and bank-to-staff.

Member-to-member relationships are formed because members are part of the same group or social programmes and share a common identity as a Grameen Bank participant. Group interaction and networking provides members with opportunities and knowledge that may not have been available otherwise, which also adds to the value derived from joining the Grameen family (Boysen & Sahlberg, 2008).

Bank-to-member relations form the cornerstone of the Grameen Bank’s culture and strategy. This relationship focuses on an in-depth knowledge of the members that is achieved through maintaining close relationships throughout the loan period. The relationship between the group and the centre is crucial in ensuring assigned tasks are carried out as needed (Sarker 2001). The Grameen Bank focuses solely on their members and their needs to form a relationship with its members based on trust, whilst encouraging each party to fulfil their obligations (Dowla 2006).

Lastly, the bank-to-staff relationship is cultivated from the onset of the extensive training program undergone by staff applicants mentioned earlier. The Grameen Bank instils a great sense of pride amongst Grameen Bank employees as well as a genuine care for the poor, partly as a result of the intense training program, but also due to the moral boost from global recognition of the bank’s work (Dowla 2006).

The social relationship element of the Grameen Bank model can therefore be seen as a crucial element in winning the loyalty and participation of as many stakeholders as possible in the

fight against poverty. With this high level of involvement the Grameen Bank model can reach far beyond the confines of its membership to improve the lives of non-member or potentially even entire communities.

4. REPLICATIONS ACROSS THE WORLD

Numerous countries including Australia, the United States of America (USA) as well as countries in Europe, Asia, Africa and South America, have applied the Grameen Bank model with varying levels of success. A brief summary of some of these applications is as follows:

- In Norway, success was found in using the Grameen Bank model with the Norwegian Women Network Bank. The Norwegian Women Bank first started in the Lofoten fishing industry and now has over 200 members (Grameen Bank 2015b).
- In India, CASHPOR, a “network of Asia-Pacific Grameen replications” (Hussain et al., 2001, p.35), successfully implemented the Grameen model as a network institution. CASHPOR’s main objective is to teach the necessary skills required to replicate the model on a large scale throughout Asia in a financially viable manner.
- In China, the Funding the Poor Cooperative (FPC) was the first microfinance institution. Launched by the Rural Development Institute (RDI) of the Chinese Academy of Social Sciences (CASS) it now operates as a non-governmental organization servicing 16 000 active borrowers using the Grameen Bank model, and achieving a 95% repayment rate using the Grameen Bank model (Hussain et al., 2001) .

These replications show that the Grameen Bank model can be successfully applied in different countries regardless of their socio-cultural differences.

Whilst the model could be successfully applied in Europe, it would not be without obstacles. One barrier in western culture is individualism which conflicts with the operation of a peer group lending system (Hussain et al. 2001). This is supported by the findings of Gould (2010) who described the difference between a collectivist and an individualist society. In a collectivist society “the group’s welfare is part of an individual member’s self-identify and reputation within his or her community” (Gould, 2010, p.4) and the individual’s mindset is that the well-being of the group supersedes personal interests (Gould 2010). Individualists are more solitary in their pursuit to satisfy personal needs. Individualists may be more opposed to cooperation in the group setting and are more likely to strictly guard financial information. This distinction is important when attempting to replicate the model in a western culture as the model was developed in a collectivist society (Gould 2010).

In the USA, the first attempt for the Grameen Bank model was in Arkansas in the late 1980’s (Gould 2010). In an attempt to recreate the social ties necessary for the group-based system, a six-week training program was enforced and participants were split into groups. However, this level of familiarity was insufficient and the bank was unable to achieve a repayment rate higher than 70 percent owing to a lack of ‘social cohesion’ (Gould 2010). Gould (2010) concluded that while the model might not have been the most appropriate for micro-lending in the USA it could still be utilized after making adjustments to the underlying cultural basis of the model.

Notwithstanding, Grameen America (2015) has subsequently been successfully implemented. Grameen America (2015) uses the group-based approach and assists members in setting up businesses such as hair salons, pet grooming, cleaning services, food carts and flower shops.

In the 2013 financial year, 26 300 members were granted loans in seven cities creating just under 57 000 jobs. The financial information provided by Grameen America (2015) indicates that the majority of income generated is from grants and donations. However, program income (the income generated from the interest charged on loans) has been steadily increasing from 11.5% of total expenses in 2010 to 24% in 2013 showing increasing sustainability of the organization (Grameen America 2015).

5. PRACTICABILITY OF THE GRAMEEN BANK MODEL IN SOUTH AFRICA

As of July 2015, little research has been performed on organisations using the Grameen Bank model in African countries, with the exception of the Grameen Foundation that operates predominantly in Northern Africa. South Africa is an example of a country that could potentially benefit from the use of the Grameen Bank model and it is the aim of this section to determine whether implementation would be feasible.

Compared to Bangladesh (population of 159 million people), South Africa is a smaller country with a population of 54 million people (Statistics South Africa 2015). Both countries have high levels of poverty with 31.5% of Bangladesh's and 53.8% of South Africa's population living below the poverty line (The World Bank 2015).

With a Gini coefficient of 65³⁰, income distribution inequality in South Africa is amongst the highest in the world. This equates to around 53.8% of the country's wealth being in the hands of the top (richest) 10% of the population and only 1.1% of the wealth in the bottom (poorest) 10% of the population (Kiersz 2014). Furthermore, the official unemployment rate in South Africa, using the broad economic definition, is at 35.8% (Business Tech 2015). This rate is significantly higher than 4.3% in Bangladesh (Trading Economics 2015).

A lack of employment opportunities and poor income distribution has been a cause for major strife in South Africa, resulting in numerous labour strikes that severely impact local industry. Added to this is the high level of crime and corruption in South Africa. There is a need for a suitable and sustainable model that can assist the creation of jobs to alleviate poverty. As of July 2015, there is little economic and financial support available to the poorest people in South Africa from the formal financial institutions. As such the poor must turn to alternative self-help sources of finance for survival. An example of this is a stokvel (Moliea 2007).

The Grameen Bank model has shown to assist various countries in combatting poverty to some extent. Certain factors, such as Ubuntu and stokvels, and the similarities they share with the Grameen Bank model as it is applied in Bangladesh, indicate that the model could be successfully implemented in South Africa. This section will proceed by explaining and discussing each factor in turn and conclude on the practicality of adopting a similar approach in South Africa to that of the Grameen Bank. Furthermore, a brief financial analysis will be performed to assess whether the performance of the Grameen Bank in Bangladesh, when compared to banks in South Africa, indicates that the Grameen Bank model will be commercially viable.

³⁰ The Gini coefficient is a statistical economic measure that illustrates the equality of the distribution of income in a country. A zero coefficient indicates that perfect equality in income distribution exists and vice versa. Therefore, a Gini coefficient of 65 indicates that South Africa's income is poorly distributed.

5.1 Ubuntu

For any organisation wanting to commence operations in a foreign country, the local tradition and culture should inform the policy and procedures of that organisation to allow for a sustainable practice to be established. Ubuntu is said to underlie the ethical and moral principles of the majority of indigenous African cultures (Gade 2012). A sound understanding of Ubuntu would therefore seem crucial to any business operating in South Africa.

When asking the question 'What is Ubuntu?' Gade (2012) found two potential definitions, namely: 1) "the moral quality of a person" and 2) "a phenomenon according to which persons are interconnected" (Gade, 2012, p.487). For this paper the second definition will be focused on for the purposes of informing the discussion, although, it is important to note that Ubuntu potentially influences behaviour on both a personal level and a community level.

Mangaliso (2001) discussed using Ubuntu from a management perspective to build a sustainable competitive advantage and noted the following about the various aspects of Ubuntu:

- Relationships with others: A symbiotic relationship exists among members of a community that is driven by a strong sense of interdependence and a suppression of self-interest. This places a strong emphasis on synergistic teamwork and the understanding that people working together in a team can accomplish more than if they had been working as individuals. The phrase 'umuntu ngumuntu ngabantu' (roughly translated as 'a person is a person is a person through others') (Gade 2012) emphasises the importance of relationships amongst members of a community as it is through these relationships that African people identify themselves.
- Communication: Under Ubuntu the social aspect of communication is emphasised. Unity and understanding as well as forming and reinforcing relationships are regarded more important than the efficiency of communication.
- Decision Making: In contrast to the Western approach to decision-making, which is very linear, under Ubuntu the process is more circular. Strong emphasis is placed on ensuring that all voices are heard and the decision with the most support is chosen even if it may not be the most rational or correct choice.

A society that embraces Ubuntu can be interpreted to represent a collectivist society. Aspects of the Grameen Bank model can therefore be interpreted to closely resemble the key aspects of Ubuntu. The group-based lending approach would facilitate social interaction between the members and provide a platform from which meaningful communication could take place between the prospective bank and its members. Trust and solid relationships are important aspects of both Ubuntu and the Grameen Bank Model. Similarly, if the members were to own a portion of the bank that would be sufficient to allow control, the members could ensure that decisions are made according to the views and needs of the members themselves, much as is done in Bangladesh. It could therefore be suggested that Ubuntu and the Grameen Bank model would complement each other if adopted by an organisation in South Africa.

5.2 Stokvels

There is already a practice adopted by the poor in South Africa that shares some characteristics with the Grameen Bank model. This practice, locally known as stokvels, is

strongly underpinned by the principles of Ubuntu and to some extent caters to the financial needs of the poor in South Africa (Verhoef 2001) but without the Grameen poverty lifting vision.

A stokvel is an informal voluntary saving organisation in which members of a community will band together and agree to contribute a fixed amount into a fund that can be used for various purposes. The stokvels in South Africa are most commonly used for subsistence purposes such as funding day-to-day living expenditure or large events (Verhoef 2008) rather than as a source of finance for microenterprise, which is more common in other countries and is practiced by foreign nationals in South Africa (Arko-Achemfuor 2012).

Stokvels exist partially because the poor do not have access to credit or other banking services from formal banking institutions because they cannot provide collateral or establish a credit history due to irregular income patterns (Moliea 2007). While access to credit is an important factor influencing individuals to join a stokvel it is not the only reason, as other incentives to join exist that are, in some cases, seen as more important. The literature identified the following incentives to join a stokvel:

- Members of stokvels are forced to save a fixed amount on a regular basis. It was noted that individuals find it easier to default on their obligations with formal institutions, as the repercussions are seen as less severe than those they would face if they defaulted on a stokvel payment. High levels of peer pressure, through economic and social sanction, result in very low default rates. Members see this in a positive light, as they had no choice but to save for their future (Verhoef 2008).
- Perhaps among the most important incentives to join are social in nature. Stokvels provide members with a chance to expand social connections, exchange business ideas and survival strategies, or obtain advice from fellow members (Moliea 2007).
- For women, membership in a stokvel provides them with a certain level of status and support. Women in South Africa are most commonly in charge of maintaining the household with limited income while their husbands are either away working or not seen as reliable. Stokvels provide them a means with which they can support their families and improve their households (Verhoef 2001).
- Many individuals, especially those that are illiterate, find the formal financial institutions impersonal and intimidating. Stokvels offer a form of savings that the members are better able to understand and relate to as they are receiving money from people in their community that they know and trust and in turn will contribute to assist those people in the future (Verhoef 2001).
- Hosting stokvel gatherings (social occasions at which contributions are collected and pay-outs made) provides the host with an income earning opportunity through the sale of food and refreshments or by charging a nominal entrance fee. Hosting opportunities are rotated between members, or even non-members (Verhoef 2001).
- Stokvels offer access to credit without the need for collateral or a credit history as they are based on trust between members that are already familiar with each other. An individual seeking to join a stokvel is to some extent screened to ensure that they are trustworthy and an upstanding member of the community (Moliea 2007).

While stokvels and the Grameen Bank model do have rather different aims, one to cope with poverty, the other to get people out of poverty, the two models do share many similar features. The group system and peer pressure is common to both as well as the emphasis on building

solid relationships. Physical collateral is not required and membership and lending is based on trust. However the Grameen Bank model provides members with training and advice that, along with the regular meetings and a sense of unity with the bank, could potentially align with the social incentives that increase stokvel membership. This social interaction may also assist the potential organisation in overcoming the impersonal and intimidating perception given off by other financial institutions. Lastly, the practice of forced saving observed in stokvels is similar to the savings required by the Grameen Bank model on a weekly basis.

A key point to note is that stokvels in South Africa focus primarily on funding subsistence expenditure whereas the Grameen Bank model focuses on providing capital to establish microenterprises. This key difference shows that there is a large gap between funding subsistence expenditure and traditional financial capital streams (most of which are inaccessible to the poor) that the Grameen Bank model could fill.

Next, microfinance in South Africa will be discussed to assess whether any existing financial institutions are providing services that may bridge the gap and whether the Grameen Bank model would be able to sustainably operate in the South African low-income market.

5.3 Microfinance in South Africa

Commercial banks have acknowledged the importance of stokvels in South Africa by offering special accounts to facilitate the safekeeping of stokvel funds, offer multiple signatory rights and good returns on the invested funds but do not formalise the stokvels themselves (First National Bank 2015). Furthermore, there are few programs or products provided by the formal banking sector that are similar to stokvels. The most similar product available to the poor takes the form of microfinance which is described as the provision of savings and credit to low-income individuals on a small scale that is targeted at improving the well-being of the poor (Moliea 2007).

While the intentions of microfinance institutions (MFIs) are similar to those of stokvels and the Grameen Bank model in that they aim to provide credit to low income earners, certain challenges exist that may prevent typical commercial microfinance providers from attaining success. Moliea (2007) noted one such challenge is that microfinance organisations are argued to be unsustainable without the aid of donations or subsidies. This concern for sustainability arises from the tendency of poor individuals to use the financing for subsistence expenditure rather than on forming income-earning structures to repay the loans, which makes it difficult for the banks to establish reliable revenue streams.

Another issue raised is that MFIs often exist to offer a product rather than focus on the requirements of the customers. This results in MFIs “offering highly standardised products to a market which is perceived homogenous, but which in reality is highly variable in its constituency” (Moliea, 2007, p.15). Other challenges such as a lack of collateral, the high cost of setting up branches in remote locations and high risk also restrict the ability of MFIs to cater for the poor from a commercial standpoint.

Many aspects of the challenges faced by traditional microfinance providers are similar to those that shaped the Grameen Bank model. The organisational structure of the Grameen Bank allows it to access remote locations at relatively low costs and the lack of collateral and high risk is compensated for by social capital created through group based lending and peer pressure. The Grameen Bank model was also developed with the needs of the poor in mind

resulting in operations and services offered being designed to achieve a specific purpose rather than to sell a product.

Capitec Bank (Capitec) is an example of a South African bank that has attempted to access the lower-income target market through microfinance and has achieved a relatively high level of success quickly grounding itself as one of the major banks in South Africa's well-established banking industry. This success could be attributed to Capitec adopting an approach that focuses foremost on the needs of their target market rather than on establishing an acceptable risk profile through effective internal controls. This resulted in simplified financial products, such as microloans or savings accounts, that the poor are better able to understand and a relative ease of use of these products (McNulty 2009). Capitec provides the closest and most appropriate comparison of an institution that caters to a similar target market to that of the Grameen Bank model.

The analysis of Ubuntu, stokvels and microfinance in South Africa above suggests that the Grameen Bank model has a high chance of being implemented successfully. The Grameen Bank model fits in with the cultural elements of Ubuntu and closely resembles the characteristics of stokvels, but has clearer poverty alleviation goals and might better benefit South African society if it can be successfully introduced. Microfinance institutions in South Africa are not able to access a large portion of the low-income bracket and as such there is a large gap in the market in which an organisation adopting the Grameen Bank model can operate and expand. Therefore, it would appear that it would be feasible to adopt the Grameen Bank model in South Africa.

6. CONCLUSION AND RECOMMENDATIONS

Poverty is a vicious cycle of "low income, low savings, low investment and low income" (Sarker, 2001, p.5). Without access to credit and other financial support the people stuck in poverty have very few options at their disposal with regards to improving their standard of living or even for basic survival. In South Africa, unemployment and poverty levels are high resulting in an increased strain on the taxpaying population.

This paper has found that the Grameen Bank model is a powerful tool for alleviating poverty in many environments, including both developing and developed countries. The key success factors of the Grameen Bank model identified from the application in Bangladesh are sufficiently similar to the culture of Ubuntu and the incentives that individuals have to join stokvels in South Africa that it is likely that the Grameen Bank model will be able to garner support and acceptance with the poor South Africans. If the Grameen Bank model were to be replicated in South Africa the findings of this paper suggest that it will provide an innovative solution that can be utilised to reduce poverty. Following from this, the Grameen Bank model can focus on providing the capital for establishing income-earning structures and would therefore not compete with the service provided by stokvels that primarily focuses on funding subsistence expenditure.

Further research by means of interviewing and holding panel discussions with relevant stakeholders is recommended in an attempt to further understand the relevant limitations for implementation. Further, financial ratio analysis of the financial results of the Grameen Bank and comparison against Capitec Bank would provide further insight into capital adequacy, interest margins and relevant costs to income.

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