# Does investing in sound corporate governance pay? A South African study

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Despite increased recognition of the importance of sound corporate governance practices in emerging markets, previous researchers reported inconclusive evidence on the association between corporate governance and financial performance. Authors that predominantly focused on board-related variables might, however, have failed to reflect the complex nature of corporate governance. The financial performance measures employed in the majority of previous studies also ignored the potential risk-reducing benefits that sound corporate governance could hold for emerging market firms. The purpose of this article was thus to investigate the relationship between a comprehensive measure of corporate governance and the risk-adjusted performance of selected South African companies. A unique corporate governance database was compiled by conducting content analysis on the considered companies' annual reports over the period 2002 to 2010. Aspects related to nine corporate governance categories were taken into account. In addition to the accounting and market-based performance measures that were employed in previous studies, South African companies' risk-adjusted performance was also taken into account. The capital asset pricing model and the Fama-French three-factor model were employed to estimate risk-adjusted abnormal returns for four corporate governance-sorted portfolios. Both estimations revealed that the portfolio comprising of companies with the highest corporate governance scores managed to significantly outperform the market.

## Introduction

The German philosopher Arthur Schopenhauer (in Viviers, Bosch, Smit & Buijs, 2009) stated that "there are three steps in the revelation of any truth: Firstly, it is ridiculed; secondly, it is resisted and thirdly, it is considered self-evident". This statement is particularly apt in light of the increasing number of responsible investors who actively integrate environmental, social and corporate governance (ESG) considerations into their investment analyses and ownership practices.

Some investors base their investment decisions on the moral conviction that the effective deployment of capital can (partly) address their ESG concerns. In addition to a moral case for ESG compliance, other investors are considering the potential to align ESG considerations with financial returns. Such investors are interested in the financial materiality (also called the business case) of responsible investing (Investment Leaders Group, 2014).

Many global and local investors regard ESG management to be narrowly concerned with corporate governance. They hence tend to place more focus on corporate governance than environmental and social considerations (Van der Ahee & Schulschenk, 2013). This tendency might partly be ascribed to the publication of several corporate governance guidelines since the 1990s. Furthermore, while some corporate governance aspects (e.g. board composition) are relatively easy to measure, environmental and social aspects might be more difficult to appraise.

Corporate governance started to attract attention within an emerging market context in 1994 with the publication of the first King Report in South Africa. The country has a well-developed corporate governance framework that provides compliance guidance to board members, managers and accountants of locally listed firms. The King recommendations are, however, criticised by some local role-players for encouraging "tick-box" compliance practices (Heath, 2014). If a firm merely attempts to comply with the basic King recommendations, the benefits of effective corporate governance compliance might not be obtained. It is therefore essential to evaluate a firm's overall corporate governance position, rather than focusing only on the most visible aspects.

High compliance costs could also constrain firms from effectively implementing the King guidelines. Some investors might perceive corporate governance as an unnecessary expense that reduces their investee firms' ability to pursue profitable opportunities (Du Plessis, Hargovan & Bagaric, 2011). These investors should, however, realise that the failure to implement corporate governance practices could expose them to risks that might result in lower investment returns over the long run.

While South Africa offers abundant investment opportunities, various ESG-related challenges such as HIV/AIDS, water scarcity and a lack of board diversity should not be ignored (Department: National Treasury Republic of South Africa, 2011). The existence of a positive association between corporate governance and risk-adjusted share returns might encourage more investors to invest in locally-listed companies with high corporate governance compliance.

Extensive research has been conducted on the association between corporate governance and financial performance. Conflicting results were reported, reflecting positive, negative or no relationship between the considered variables. A possible reason for these inconsistent results is that researchers, especially in the emerging market context, typically applied one-dimensional (board-related) variables as a proxy for corporate governance. Such measures may be insufficient to reflect this concept's complex nature. Previous authors almost exclusively considered corporate governance disclosure and ignored the acceptability of firms' compliance practices. Furthermore, the majority of studies employed relatively simplistic accounting-based and non-risk adjusted market-based measures which failed to reflect the risk-reducing potential of sound corporate governance compliance.

The primary objective of this article was thus to investigate the relationship between a comprehensive measure of corporate governance and the risk-adjusted performance of selected companies that were listed on the Johannesburg Stock Exchange (JSE) over the period 2002-2010. This time frame encompasses a period of high economic growth, a global financial crisis and the subsequent local recession. By conducting this study in South Africa, it is possible to investigate both disclosure and acceptability dimensions of corporate governance, given the well-developed framework provided by the King Reports. This article is the first local study that examines the association between corporate governance and performance by employing a comprehensive corporate governance measure and risk-adjusted returns over an extended period of time.

Given the absence of comprehensive and standardised corporate governance data for the considered time period, the study's first secondary objective was to compile a unique corporate governance database based on the content analysis of the considered firms' published annual reports. The second secondary objective was to assess the relationship between corporate governance and selected accounting and market-based measures (which focus only on return and excludes risk) that were employed by previous researchers. The third secondary objective was to extend on previous studies by investigating the relationship between corporate governance and the risk-adjusted performance of the considered companies by employing both the capital asset pricing model (CAPM) and the Fama-French three-factor model.

The rest of the article is structured as follows: First, a discussion is provided on corporate governance as a criterion used by responsible investors. Thereafter, a summary of previous studies reporting on the relationship between corporate governance and financial performance are provided. The methodology is then described, followed by a discussion of the empirical findings. Finally, conclusions and recommendations, based on the identified limitations, are offered.

## Literature review and hypotheses development

The most widely used definition of corporate governance is the "system by which companies are directed and controlled" (Committee on the Financial Aspects of Corporate Governance, 1992). Corporate governance can also be defined as the manner in which finance suppliers assure themselves of getting a return on their investment (Shleifer & Vishny, 1997). The actions of managers and the implementation (or lack) of corporate governance mechanisms are likely to have an effect on a firm's investment, financing, distribution and operating decisions. The accountability of a company's managers to financial claimholders might be enhanced by having extensive corporate governance mechanisms in place. As a result, countries with efficient governance systems could also become preferred locations for companies to operate and invest in (Grandori, 2004).

South Africa is characterised by a well-developed corporate governance framework since the early 1990s. The King Report was revised in 2002, 2009 and 2016 to account for local statutory changes and global developments. The King Reports provide guidelines to JSE-listed firms regarding, inter alia, the role and responsibilities of directors, executive emolument and sustainability aspects.

In line with the "comply or explain" approach of the King II Report, the JSE Listing Requirements (JSE, 2005) oblige listed firms to disclose their compliance or explain non-compliance with the voluntary King II recommendations in their annual reports. This approach could, unfortunately, have resulted in "tick-box" compliance. In contrast, the King III Report follows an "apply or explain" approach that acknowledges that it is not a question of whether to comply or not, but rather to consider how the principles can be practically applied (Institute of Directors in Southern Africa (IoDSA), 2009).

South Africa's ESG-regulatory environment is rapidly evolving. In 2011, Regulation 28 of the Pensions Fund Act (No. 24 of 1956) was amended to promote the inclusion of ESG considerations in pension funds' investment analysis and ownership practices. Furthermore, the Code for Responsible Investing in South Africa (CRISA) was introduced in the same year to give guidance to institutional investors on how they should execute their investment analysis and ownership activities (IoDSA, 2011).

As mentioned in the introduction, responsible investors can base their investment decisions on a business case for corporate governance. A number of researchers considered this business case in emerging and developing markets and reported inconclusive evidence on the relationship between corporate governance and various performance measures. Table 1 provides a summary of selected previous studies.

**Table 1: Summary of corporate governance and financial performance studies**

| Author(s) and year | Country/ Countries | Corporate governance measure(s) | Performance measure(s) | Findings |
|---|---|---|---|---|
| Klapper & Love (2004) | 14 emerging markets (including South Africa) | CLSA corporate governance questionnaire | Return on Equity (ROE); Tobin's Q | Better corporate governance was correlated with better operating performance and market valuation. |
| Haniffa & Hudaib (2006) | Malaysia | Board-specific characteristics; shareholding | Return on assets (ROA); Tobin's Q | Positive relationships were reported. |
| Abdo & Fisher (2007) | South Africa | Self-composed governance index | Total share return (TSR); market-to-book value; price/earnings | Positive correlation between corporate governance and share returns. |
| Kyereboah-Coleman (2007) | Sample of listed firms from Ghana, Nigeria, Kenya and South Africa | Board variables | ROA; Tobin's Q | Mixed results were reported. |
| Imam & Malik (2007) | Bangladesh | Ownership structure | TSR; Tobin's Q | Positive relationships were noted. |
| Kajola (2008) | Nigeria | Board characteristics | ROE | Positive relationships were noted between ROE, board size and CEO status respectively. |
| Chi (2009) | Taiwan | Transparency and disclosure | Tobin's Q | Performance is positively associated with disclosure quality. |
| Ehikioya (2009) | Nigeria | Board characteristics | ROA; ROE; price-earnings; Tobin's Q | Negative associations were reported for performance, CEO duality and family members on board respectively. |
| Morey, Gottesman, Baker & Godridge (2009) | 21 emerging countries (including South Africa) | AllianceBernstein ratings | Tobin's Q; price-to-book ratio | Corporate governance improvements resulted in positive market valuations. |
| Ramdani & Van Witteloostuijn (2010) | Indonesia, Malaysia, South Korea and Thailand | Board independence; CEO/chair role duality | ROA | Relationship between corporate governance and firm performance was different across the conditional quantiles of the performance distribution. |
| Othman (2012) | 11 emerging African markets (including South Africa) | Board structure and process disclosure (BSPD) | ROE; Tobin's Q; market-to-book ratio | Influence of BSPD on performance was more pronounced for financial than non-financial Anglophone African firms. |
| Alhaji, Yusoff & Alkali (2012) | Malaysia | Board-specific characteristics | Earnings per share (EPS) | No significant relationship was noted. |
| Fallatah & Dickins (2012) | Saudi Arabia | Board aspects and share ownership | ROA; Tobin's Q; market value of equity | Corporate governance and ROA was unrelated; corporate governance and Tobin's Q was positively related. |
| Mollah, Al Farooque & Karim (2012) | Botswana | Board-related variables; ownership structure | ROA; ROE; Tobin's Q | No significant relationships were reported. |
| Ntim, Opong & Danbolt (2012) | South Africa | Disclosure based on 50 King II provisions | TSR, ROA and Tobin's Q | Good corporate governance disclosure practices were positively related to firm value. |
| Hassan & Halbouni (2013) | United Arab Emirates | Voluntary disclosure; board aspects; audit type | ROA; ROE; Tobin's Q | Voluntary disclosure, CEO duality and board size influenced accounting performance. |
| Velnampy (2013) | Sri Lanka | Board and committee characteristics | ROA; ROE | Corporate governance did not affect profitability. |
| Hörnmark (2015) | 23 emerging markets (including South Africa); results were compared with USA | MSCI ESG-portfolio; corporate governance score was mainly based on board-related aspects | CAPM was used for Brazil, Russia, India, China and South Africa (BRICs) countries; Fama-French three-factor model was applied for other countries | Insignificant positive alpha was reported for the South African portfolio. |
| Islam, Sathye & Hu (2015) | Bangladesh | Corporate governance compliance score (based on 99 corporate governance elements applicable to banks) | ROA; cost-to-income ratio (efficiency impact on performance) | No significant relationship was found between Bangladeshi banks' corporate governance practices and financial performance. |
| Pamburai, Chamisa, Abdulla & Smith (2015) | South Africa | Board-related variables | Economic value added (EVA); ROA; Tobin's Q | Board size was negatively related to EVA. A positive relationship was reported between Tobin's Q and the proportion of non-executive directors. A negative association was noted between the frequency of board meetings and ROA and Tobin's Q respectively. |

Source: Authors' compilation

Perusal of Table 1 reveals that many researchers focused only on board-related aspects. This tendency is not surprising, given that the directorate is regarded as the focal point of corporate governance. Board-related variables are also easy to quantify. A lack of standardised corporate governance data could furthermore have limited the comprehensiveness of preceding studies.

Previous researchers seemed to favour accounting-based ratios (such as ROA) or relatively unsophisticated market-based measures (such as TSR) when examining the relationship between corporate governance and financial performance. Inconclusive evidence was reported on the nature of this association. As far as could be determined, no previous researchers employed a multi-factor model to

estimate risk-adjusted abnormal returns for portfolios that were compiled based on a comprehensive analysis of JSE-listed firms' corporate governance compliance.

In light of the inconclusive evidence on the relationship between corporate governance and performance and to investigate whether the benefits of corporate governance compliance is perhaps reflected on a risk-adjusted basis, the following null hypotheses were formulated:

*$H_{01}$: There is no relationship between corporate governance and the ROA, ROE, EPS and TSR of selected JSE-listed companies.*

*$H_{02}$: There is no relationship between corporate governance and the risk-adjusted abnormal returns of selected JSE-listed companies.*

## Data collection

Secondary data were collected for companies that were listed in six JSE industries. Firms that were listed in the consumer goods, consumer services, industrials, technology, telecommunications and health care industries over the period 2002 to 2010 were considered. Table 2 provides a summary of the considered companies.

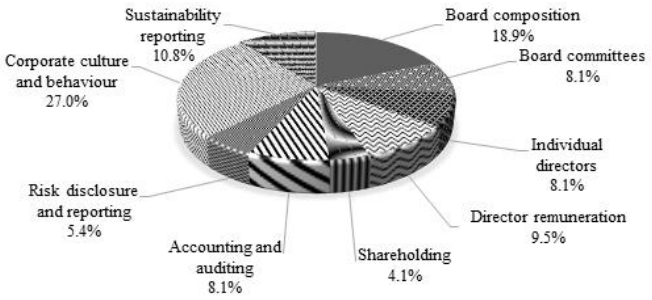


**Figure 1: Contribution of the corporate governance categories to the total CGS [(a)]**

(a) The 9 categories comprised 39 recommendations. Details could not be provided due to a confidentiality agreement.

Source: Researchers' compilation

**Table 2: Summary of the considered companies (% of total sample)**

| Year | Health care | Consumer goods | Consumer services | Technology | Telecoms | Industrials | Total |
|---|---|---|---|---|---|---|---|
| 2002 | 3.1 | 20.4 | 27.2 | 14.1 | 1.0 | 34.0 | **191** |
| 2003 | 3.1 | 20.3 | 27.6 | 14.1 | 0.5 | 34.4 | **192** |
| 2004 | 2.4 | 19.3 | 27.1 | 12.7 | 1.2 | 37.3 | **166** |
| 2005 | 1.9 | 20.5 | 25.5 | 13.7 | 1.2 | 37.3 | **161** |
| 2006 | 2.7 | 17.8 | 28.8 | 11.6 | 2.1 | 37.0 | **146** |
| 2007 | 2.8 | 19.9 | 25.5 | 12.8 | 2.1 | 36.9 | **141** |
| 2008 | 2.7 | 16.7 | 23.3 | 10.7 | 2.7 | 44.0 | **150** |
| 2009 | 3.3 | 16.6 | 23.2 | 10.6 | 2.6 | 43.7 | **151** |
| 2010 | 4.3 | 16.3 | 23.4 | 9.2 | 2.8 | 44.0 | **141** |

Source: Authors' compilation

To ensure enough data points for analysis purposes, the selected firms had to be listed for at least two years during the research period. In an attempt to limit survivorship bias, companies that delisted during the research period were also considered. Firms that were listed in the financials, basic materials and oil and gas industries were excluded due to the differing nature of their financial reporting and extensive regulation. No firms were listed in the utilities industry during the research period.

Since standardised corporate governance data were not readily available for JSE-listed firms for the period under review, the researchers compiled a unique database. A comprehensive corporate governance score (CGS) was determined for each of the firms for every year that they were listed during the research period. A refined version of the Public Investment Corporation (PIC) Corporate Governance Rating Matrix was employed for this purpose. The Centre for Corporate Governance in Africa designed this matrix on behalf of the PIC, one of the largest investment managers on the African continent. The comprehensive CGS employed in this study was deemed superior to the predominantly one-dimensional (board-related) measures used in the majority of previous studies (refer to Table 1). The refined instrument consisted of nine categories, as illustrated in Figure 1.

The research period ranged from 2002 (the year that the King II Report became effective) to 2010. This report's recommendations were thus applicable to JSE-listed firms for almost a decade. Although the King III Report came into effect on 1 March 2010, integrated reporting only became mandatory for all JSE-listed companies in 2011 (Global Sustainable Investment Alliance, 2012). Depending on a firm's financial year end (before or after 1 March 2010), some JSE-listed companies hence only started to comply with the King III guidelines after their 2010 financial year end. Many firms with a financial year end after 1 March 2010 furthermore aimed to comply with the King II guidelines for

the largest part of their 2010 financial year. For consistency sake, the recommendations of the King II Report were therefore applied for the entire period. The considered companies' annual reports were sourced from INET BFA (currently known as IRESS).

A list of key words was compiled for each category, based on the King II Report and applicable literature. These key words were used to conduct content analysis on the considered firms' annual reports. The reported corporate governance aspects were coded based on two dimensions, namely disclosure and acceptability. The focus of the disclosure dimension was on whether information related to the category under consideration was indicated/not indicated in an annual report. If evidence of information on a specific category was found, it was coded 1. The acceptability criteria centred on whether the disclosed aspect was in line with selected King II recommendations. If the disclosed aspect was deemed acceptable, it was coded 1; otherwise it was coded 0.

Annual CGSs were compiled for 230 companies (1 439 observations). The maximum CGS of 74 encompassed a maximum score of 39 for disclosure and 35 for acceptability. Acceptability criteria were not set for four corporate governance aspects (gender and race diversity, executive director remuneration and shareholding), since clear guidelines could not be determined. Care was taken to ensure that the coding was applied in the same manner for all the companies.

In line with previous researchers (refer to Table 1), the ROA, ROE and EPS accounting-based measures were employed. Proponents of these ratios argue that profitability ratios are less influenced by the speculative behaviour of investors than market-based measures (Joh, 2003). A possible drawback is that reported profit could be manipulated by managers, resulting in inaccurate accounting ratios. Proponents of market-based measures reason that these measures are less subject to managerial manipulation in well-regulated markets than accounting-based measures (Mulsow, 2011). The TSR measure (which does not reflect risk) was hence also employed. Dybvig and Warachka (2010) indicated that the relationship between Tobin's Q and firm performance is confounded by endogeneity. Based on their critique, this ratio was not considered.

In addition, risk-adjusted abnormal returns were also estimated. Although the single-factor CAPM is commonly used to estimate risk-adjusted returns for South African firms, this model is not necessarily adequate (Ward & Muller, 2012). Fama and French (1992) indicated that returns are not only based on market risk, but also on the spread in returns between small and large firms and value and growth shares respectively. Both the CAPM and Fama-French three-factor models were therefore used to make provision for risk and to control for the possibility that managers with poor compliance could inflate the other selected performance measures by engaging in risky activities. The following equations were used:

**Annual return on assets (ROA)** [(a)]: (1)

$$\frac{\text{Profit before interest and tax} - \text{total profits of extraordinary nature} - \text{taxation}}{\text{Total assets}} \text{ x } 100$$

**Annual return on equity (ROE)** [(a)] (2)

$$\frac{\text{Profit after tax}}{\text{Ordinary share capital} + \text{distributable reserves} + \text{non-distributable reserves} + \text{preference share capital} + \text{non-controlling interest}} \text{ x } 100$$

**Annual headline earnings per share (EPS)** [(a)] (3)

$$\frac{\text{Profit or loss attributable to ordinary shareholders of the parent firm*}}{\text{Weighted average number of ordinary shares issued}}$$

*Separately identifiable re-measurements (net of related tax and non-controlling interest) were excluded.

**Monthly total share return (TSR)** [(a)]: (4)

$$100 \text{ x } \left[\left(\frac{\text{Share price at month end} + \left(\sum_{t=0}^{n-1} \frac{\text{Final dividend per share at time } t}{12} \text{ x share price at time } t\right)}{\text{Share price at the beginning of the month}}\right) - 1\right]$$

The following data were required for risk-adjusted estimation purposes:

**Book value of ordinary shares (year $t$-1)** [(a)]: (5)

Ordinary share capital + non-distributable reserves + distributable reserves

**Size (year $t$-1)** [(a)]: (6)

Market capitalisation:
market price per share x number of ordinary shares issued

**Return on the market** [(b)]: FTSE/JSE All Share Index [(c)]

**Monthly risk-free rate** [(b)]: Exchange yield on the long-term R186 government bond [(d)]

(a) Data provided by INET BFA

(b) Data provided by the Bureau for Economic Research (BER, 2013)

(c) Previously employed by South African researchers (Ward & Muller, 2012; Van Rensburg & Robertson, 2003)

(d) Previously employed by South African researchers (Mlonzi, Kruger & Nthoesane, 2011)

The application of the estimation models entailed nine steps, as indicated in Table 3. Steps 1, 2 and 9 are applicable to both the CAPM and Fama-French three-factor model, whereas steps 3-8 are only applicable to the latter model.

**Table 3: Application of the CAPM and FAMA-French three-factor model**

| | |
|---|---|
| **Step 1** | The monthly risk-adjusted share returns (return on the $i^{th}$ share less the risk-free rate) were determined for each of the sample firms. |
| **Step 2** | The monthly market risk premiums were calculated. |
| **Step 3** | The small minus big (SMB) size aspect was determined by sorting the firms from large to small, based on their market capitalisation. In line with Fama and French (1992), firms with the lowest 25% of market capitalisation were defined as small; the top 25% of firms were defined as big. |
| **Step 4** | The monthly TSR was determined for each company in the small and big portfolios before calculating the average TSR for the big and small portfolios on a monthly basis. |
| **Step 5** | The average monthly TSR for the big firms was subtracted from the average monthly TSR for the small firms for each of the 108 months. The monthly differences were the SMB factor. |
| **Step 6** | The sample firms' book equity/market equity (BE/ME) ratios were calculated. To determine the high minus low (HML) aspect, the firms were sorted based on these ratios from high to low. In line with Fama and French (1995), the 30% of firms with the highest BE/ME ratio were included in the value portfolio (high), while the bottom 30% was defined as the growth portfolio (low). |
| **Step 7** | The monthly TSR was calculated for each of the firms in the high and low portfolios. The average TSR was then calculated on a monthly basis for the high and low portfolios respectively. |
| **Step 8** | The average TSR of the low portfolio was subtracted from the average TSR for the high portfolio for each of the considered months. These monthly differences were the HML factor. |
| **Step 9** | The CAPM and Fama-French three-factor model were used to estimate alpha and betas. |

Source: Researchers' compilation based on French (2013) and Fama and French (1995)

In this study, attention was given to whether the portfolio consisting of firms with the highest CGSs reported a positive alpha. For this purpose, corporate governance (CG) portfolios were constructed as follows: The entire dataset was considered on a monthly basis. All firms that had a CGS were considered for inclusion in the monthly portfolio (the annual CGS was used for the relevant 12 months). The firms were then ranked according to their CGSs and the $25^{th}$ and $75^{th}$ percentiles were calculated. All firms with a CGS within one of these quartiles were included in portfolio $CG_1$ (firms with low CGSs) or portfolio $CG_4$ (companies with high CGSs) respectively. Portfolios $CG_2$ and $CG_3$ respectively consisted of firms within quartiles 2 and 3. Risk-adjusted abnormal returns were estimated for each of these four portfolios on a monthly basis.

## Data analysis

Descriptive statistics were used to summarise the panel dataset. A fixed effects regression model that controls for omitted variables in panel data that are constant over the period of time and vary across the cross-sectional units was employed. The Breusch-Pagan test was used to control for heteroskedastic specification error. Multicollinearity was moderated by the sample size and the fit of the regression model. Acceptable tolerance values (> 0.2 - 0.3) were determined for the predictors.

## Results and discussion

The CGS descriptive statistics are provided in Table 4.

The annual mean and median CGS increased over the research period. This positive trend could be ascribed to enhanced awareness and knowledge among managers and directors regarding the practical application of the King II guidelines. Although the range decreased over time, some firms had very poor compliance (as reflected by the minimum scores below 30). Figure 2 provides details on the annual mean ROA and ROE profitability ratios.

**Table 4: Corporate governance scores**

| Years | Valid *n* | Mean | Median | Min (a) | Max (a) | Standard deviation (SD) |
|---|---|---|---|---|---|---|
| **2002** | 191 | 39 | 39 | 9 | 67 | 12 |
| **2003** | 192 | 45 | 47 | 10 | 69 | 12 |
| **2004** | 166 | 49 | 51 | 9 | 72 | 12 |
| **2005** | 161 | 51 | 53 | 13 | 71 | 12 |
| **2006** | 146 | 52 | 54 | 16 | 71 | 12 |
| **2007** | 141 | 52 | 56 | 16 | 70 | 12 |
| **2008** | 150 | 55 | 57 | 14 | 72 | 11 |
| **2009** | 151 | 57 | 59 | 21 | 72 | 10 |
| **2010** | 141 | 59 | 62 | 27 | 74 | 10 |

(a) The lowest and highest potential CGS was 0 and 74 respectively

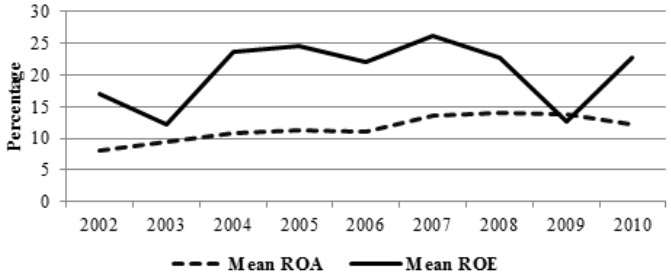


**Figure 2: Mean profitability ratios (%)**

Perusal of Figure 2 shows that the annual mean ROE values were higher than the corresponding ROA values (except for 2009), possibly owing to financial leverage. The decreasing trend in the mean ROA and ROE ratios between 2008 and 2009 were not surprising, since South Africa experienced a recession in the first semester of 2009. Figure 3 illustrates the trend in the mean annual EPS (nominal values; cents per share) and TSR (%) between 2002 and 2010.

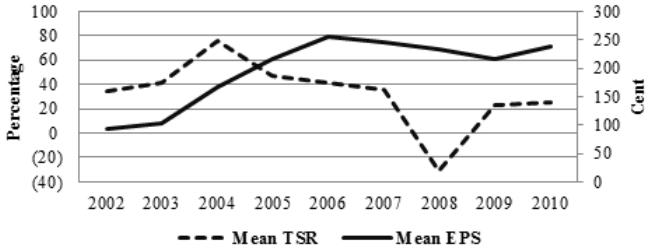


**Figure 3: Mean EPS (cent per share) and TSR (%) values**

As shown in Figure 3, the mean EPS ratio increased substantially from 2002 to 2006. Although steadily increasing EPS values could be ascribed to an improved financial position, inflation and changes in the number of ordinary shares would have a similar impact on this ratio. During 2007-2009, the mean EPS values decreased as a result of the global financial crisis and the local recession. The mean TSR values increased between 2002 and 2004, possibly as a result of South Africa's high economic growth during this period. Thereafter, the mean TSR values gradually decreased in the run-up to the global financial crisis.

Extreme performance values could be ascribed to abnormal profits/losses and small/zero denominators. Winsorising was used to adjust performance outliers. Values in excess of three standard deviations from the mean were classified as outliers and were replaced by a value equal to the mean ± three standard deviations. Regression analyses (refer to Table 5) were conducted on the winsorised dataset (1 417 annual CGS and performance observations for 227 firms).

In contrast to previous emerging market researchers (refer to Table 1) who reported a positive relationship between corporate governance and ROA and ROE respectively, no significant relationships were observed between the CGS and the investigated profitability ratios in this study.

The significant positive association between CGS and EPS could be interpreted as evidence of a link between sound corporate governance and financial performance. The EPS ratio, however, could be "inflated" by means of share buybacks, without improving actual performance. Share repurchases increased between 1999, when JSE-listed firms were initially allowed to buy back shares, and the late 2000s (Bester, Wesson & Hamman, 2010). In addition, the CGSs of firms could be artificially improved by window-dressing practices. Shareholders' scepticism about investee firms' corporate governance compliance practices and the reporting thereof might influence their investment decisions. The positive relationship between EPS and CGS should thus be interpreted with caution.

The negative association observed between CGS and TSR could appear unexpected, given that a well-functioning capital market requires a robust corporate governance framework that rewards shareholders for their monitoring of managers' actions (Organisation for Economic Co-operation and Development, 2012). Officer (2011), however, argued that firms with weak corporate governance are more likely to pay out cash dividends. Positive share price reactions to these dividend announcements would contribute towards an increase in TSR, providing a possible explanation for high TSRs reported by some badly governed firms.

**Table 5: Regression analysis results for CGS and EPS, ROA, ROE and TSR**

| **Preferred model** | | **Test for fixed effects (*F*)** | **Hausman test for random effects (*F*)** | **Fit of the model *F* (*df*)** |
|---|---|---|---|---|
| Fixed effects | | **18.46**$^{**}$ | **2 065.78**$^{**}$ | **18.62**$^{**}$ **(4, 1 099)** |
| **Regression coefficient** | | **Standard error** | ***t*-value** | **Pr > \|*t*\|** |
| **EPS** | **0.014**$^{**}$ | 0.002 | **7.323**$^{**}$ | 0.000 |
| **ROA** | -0.024 | 0.069 | -0.343 | 0.731 |
| **ROE** | 0.004 | 0.008 | 0.488 | 0.625 |
| **TSR** | **-1.933**$^{**}$ | 0.545 | **-3.547**$^{**}$ | 0.000 |
| **Breusch–Pagan test for heteroskedasticity (*BP*)** | | | ***t*-value adjusted for heteroskedasticity** | |
| **EPS** | **445.04**$^{**}$ | | **4.770**$^{**}$ | |
| **ROA** | | | -0.279 | |
| **ROE** | | | 0.406 | |
| **TSR** | | | **-3.741**$^{**}$ | |

$^{**}$ Significant at the 1% level * Significant at the 5% level

*R*-squared = 0.06; the quality of fit of the preferred fixed effects regression model was significant.

An alternative explanation for the negative relationship is related to shareholders' perceptions of corporate governance. The implementation of corporate governance mechanisms can be costly in terms of time and money allocated to such initiatives. If local investors regard (costly) initiatives as unnecessary, the share market might penalise firms with high CGSs. Possible mistrust in the accuracy of reporting practices could also result in low share prices and hence low TSRs for some of the considered firms with high CGSs.

When considering the negative association between CGS and TSR, it should also be taken into account that while the mean CGS gradually increased over the research period, the mean TSR fluctuated. Negative TSR values were furthermore reported during the height of the 2007/2008 global financial crisis. These contrasting trends make it difficult to determine whether the observed negative relationship was due to the market's lack of appreciation of corporate governance (or even penalisation for such initiatives), or rather due to the changes in the these two variables over the research period.

Regression analyses were also conducted where all variables were lagged for one year, and by considering inflation-adjusted EPS (to account for possible inflation-related distortion). The results remained consistent. Given that none of the measures reported so far were adjusted for risk, risk-adjusted abnormal returns (as denoted by Jensen's alpha) were estimated for four corporate governance portfolios by employing the CAPM and Fama-French three-factor model. The results of these estimations are provided in Tables 6 and 7.

**Table 6: CAPM estimation results**

| CG portfolio | Mean CGS | Mean TSR | Estimate of α | Estimate of β | *R*-squared | Standard error | *F*-value |
|---|---|---|---|---|---|---|---|
| **1: very low CGSs** | 35 | 4.140% | **1.757%**** | **0.586**** | 0.234 | 0.047 | **32.356**** |
| **2: low to average CGSs** | 49 | 0.385% | 0.606% | **0.486**** | 0.087 | 0.070 | **10.143**** |
| **3: moderate CGSs** | 56 | 1.463% | 0.654% | **0.759**** | 0.360 | 0.045 | **59.693**** |
| **4: high CGSs** | 64 | 2.450% | **1.250%**** | **0.580**** | 0.281 | 0.041 | **41.374**** |

** Significant at the 1% level * Significant at the 5% level

Degrees of freedom: 1; 106; the quality of fit of all models was significant.

Regression equation based on monthly data (*t*) for each of the four CG portfolios (*p*) (Lee, Lee & Lee, 2009):

$$\left(R_{pt} - R_{ft}\right) = \alpha_p + \beta_p \left(R_{mt} - R_{ft}\right) + \epsilon_p$$

Where: $R_{pt}$ is the return on portfolio *p* during month *t*; $R_{ft}$ is the monthly risk-free rate (as measured by the return on the R186); $R_{mt}$ is the monthly return on the FTSE/JSE All Share Index; $\alpha_p$ is the estimated risk-adjusted abnormal return generated by portfolio *p*; $\beta_p$ is the systematic risk of portfolio *p*; $\epsilon_p$ is the error term

The alphas of both portfolios $CG_1$ and $CG_4$ were positive and significant. The risk-adjusted abnormal return of portfolio $CG_1$ is considerably lower (approximately 2.4%) than its TSR. The mean TSR of portfolio $CG_1$ hence appear to be achieved at a high level of risk. In contrast, the mean TSR and alpha of portfolio $CG_4$ only differs by approximately 1.2 per cent, a sign that this portfolio exposed investors to relatively less risk than portfolio $CG_1$. Portfolios $CG_1$ and $CG_4$ had similar beta values, reflecting some unexpected results. Previous researchers (e.g. Strugnell, Gilbert & Kruger, 2011; Van Rensburg & Robertson, 2003) reported that the beta estimates of South African firms could be inversely related to their returns. The interpretation of beta values should thus be conducted with care within the South African corporate context (Erasmus, 2013).

As shown in Table 7, investors, who invested in the considered firms with the highest CGSs during the research period, earned a significant positive risk-adjusted abnormal return. Only one size-related beta was significant. A possible explanation is that the firms' sizes were already accounted for, since the FTSE/JSE All Share Index is weighted according to market capitalisation. The negative value/growth betas of portfolios $CG_3$ and $CG_4$ indicate that growth shares have outperformed value shares. Growth shares typically have above-average earnings growth. Such firms prefer to reinvest earnings to fund growth opportunities rather than to pay out dividends (Besley & Brigham, 2008). Growth firms could thus have more funds available to invest in corporate governance initiatives than their counterparts that pay out dividends.

Monthly equally-weighted portfolio returns were also determined, based on the average monthly share returns of the considered firms. When this alternative proxy for the market return was employed, the CAPM estimation indicated a positive, but not significant alpha for Portfolio $CG_4$, while a significant positive alpha was observed for portfolio $CG_1$. The Fama-French three-factor estimation indicated a significant positive alpha for portfolio $CG_4$, while an insignificant negative alpha was reported for portfolio $CG_1$.

**Table 7: Fama-French three-factor model estimation results**

| CG portfolio | Mean CGS | Mean TSR | Estimate of α | Estimate of $\beta_1$ | Estimate of $\beta_2$ | Estimate of $\beta_3$ | Adjusted *R*-squared | Standard error | *F*-value |
|---|---|---|---|---|---|---|---|---|---|
| **1: very low CGSs** | 35 | 4.140% | **1.061%**** | **0.593**** | -0.039 | **0.495**** | 0.448 | 0.040 | **29.952**** |
| **2: low to average CGSs** | 49 | 0.385% | **1.065%*** | **0.609**** | **0.712**** | -0.102 | 0.478 | 0.053 | **33.677**** |
| **3: moderate CGSs** | 56 | 1.463% | **0.993%*** | **0.768**** | 0.084 | **-0.220**** | 0.385 | 0.044 | **23.315**** |
| **4: high CGSs** | 64 | 2.450% | **1.595%**** | **0.572**** | -0.006 | **-0.254**** | 0.342 | 0.039 | **19.499**** |

** Significant at the 1% level * Significant at the 5% level

Degrees of freedom: 3; 104. The quality of fit of all models was significant.

Regression equation based on monthly data (*t*) for each of the four CG portfolios (*p*) (Fama & French, 1992):

$$\left(R_{pt} - R_{ft}\right) = \alpha_p + \beta_{p1} \left(R_{mt} - R_{ft}\right) + \beta_{p2}\text{SMB} + \beta_{p3}\text{HML} + \epsilon_p$$

Where: $R_{pt}$ is the return on portfolio *p* during month *t*; $R_{ft}$ is the monthly risk-free rate (as measured by the return on the R186); $R_{mt}$ is the monthly return on the FTSE/JSE All Share Index; $\alpha_p$ is the estimated risk-adjusted abnormal return generated by portfolio *p*; $\beta_{p1}$ is the systematic risk of portfolio *p*; $\beta_{p2}$ is the sensitivity of portfolio *p* to the size factor; $\beta_{p3}$ is the sensitivity of portfolio *p* to the value/growth factor; SMB is the size factor; HML is the value/growth factor; $\epsilon_p$ is the error term

Based on the reported results, both null hypotheses were rejected. The results indicated both positive (significant EPS and insignificant ROE) and negative (insignificant ROA and significant TSR) relationships between financial performance and corporate governance. Positive risk-adjusted abnormal returns were reported for the portfolio comprising the companies with the highest corporate governance scores by employing both the CAPM and the Fama-French three-factor model.

## Conclusions

In contrast to previous emerging market researchers who predominantly focused on board-related variables, comprehensive CGSs reflecting both disclosure and acceptability criteria were compiled for this study. A combination of different performance measures employed in previous studies was furthermore used to distinguish between different aspects of financial performance.

A significant positive relationship was observed between CGS and the accounting-based EPS ratio. It should, however, be noted that management has a degree of control over both EPS and the level of corporate governance compliance. The observed positive association might hence partially be attributed to the actions of managers. A statistically significant negative relationship was noted between CGS and the market-based TSR measure. This finding might be attributed to shareholders' scepticism regarding the true nature of some firms' compliance practices. A combination of high compliance costs and perceived window-dressing activities might have affected the market's perception of corporate governance compliance. The negative association might hence be ascribed to market perceptions related to "unnecessary, costly corporate governance expenses".

Since the mean TSRs were negatively affected during the crisis period while the CGSs continued to improve, it was difficult to infer whether the observed association was due to negative perceptions, or rather due to changes in the variables over time. Given Schopenhauer's statement that a concept (corporate governance) will first be ridiculed and resisted, before it will be accepted, the negative association might indicate that corporate governance is, to a certain extent, not yet properly understood or appreciated by some local corporate role-players.

To assess the potential risk reducing benefits of sound corporate governance compliance, the CAPM and Fama-French three-factor models were employed to estimate risk-adjusted abnormal share returns for four corporate governance-sorted portfolios. Both the CAPM and Fama-French three-factor model estimations indicated significant positive alphas for the portfolio containing firms with the highest CGSs. Although the portfolio of firms with the lowest CGSs also reported a significant positive alpha, there was a marked decline from the TSRs reported for these firms. These results highlight that the high TSRs reported by low CGS firms were achieved at the expense of exposing shareholders to a high degree of risk.

## Limitations and recommendations

Recommendations are offered to various stakeholders, including shareholders, managers, directors, the media and academics. More shareholders should come on board by realising and appreciating the possible benefits (as reflected by risk-adjusted returns) that are associated with acceptable corporate governance practices. Furthermore, the perceived business case for corporate governance might encourage the managers and directors of the considered companies to improve their corporate governance practices in future.

Enhanced education and training is required to further improve managers' and directors' understanding of corporate governance. In addition, the local media can encourage corporate governance discussions by reporting on corporate governance accomplishments and concerns. A combination of education, training and public dialogue could change the mind-sets of corporate role players. In future, shareholders, managers and directors might then regard sound corporate governance compliance as essential instead of being a mere obligation.

Recommendations for future research are based on two identified limitations. Firstly, companies that were listed in the basic materials, oil and gas and financials industries were excluded from the sample, due to their financial reporting and extent of regulation that differ from the considered industries. Future researchers might consider the relationship between the financial performance and corporate governance practices of such companies. Secondly, the researchers were interested in the recommendations of the King II Report. Future studies can employ the guidelines of the King III Report (which focuses on integrated reporting) to compile scores based on JSE-listed firms' environmental, social and corporate governance aspects. The relationship between such scores and the considered firms' financial performance can then be examined.

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