The effect of remuneration committees, directors' shareholding and institutional ownership on the remuneration of directors in the top 100 companies in South Africa

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A B S T R A C T

Executive directors' remuneration of leading South African companies often attracts the attention of the press, shareholders and unions. The research on which this article is based investigated whether executive directors' remuneration of the Top 100 companies listed on the Johannesburg Securities Exchange (JSE) is influenced by the implementation of certain corrective corporate governance measures. The remuneration of executive directors was regressed on a number of firm and corporate governance characteristics to determine whether these characteristics have an influence on executive directors' remuneration. It was found that corporate governance reforms relating to institutional ownership, the number of non-executive directors on the remuneration committee, shareholder voting on the remuneration policy and the number of remuneration committee meetings act as an effective governance tool to protect shareholders' interests with regard to some of the elements of executive directors' remuneration.

Key words: executive directors' remuneration, agency theory, corporate governance, remuneration committee, directors' shareholding, institutional ownership

Background

With the development of the modern corporation as we know it today, management and ownership were split. The alignment of the interests of management and

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ownership remains a controversial issue. The agency theory is one whereby a principal (the shareholders in this case) engage an agent (the directors), delegating decision-making authority to the directors. Consequently, agency theory focuses on the conflict which may arise between shareholders and directors due to the separation between ownership and control. Research found the directors' remuneration package to be an effective way of monitoring the directors (Jensen & Meckling 1976: 308).

Many researchers believe that excessive executive directors' remuneration was one of the factors which contributed to the recent global financial crisis (Crotty 2009: 564; INTOSAI 2010: 6). Before the financial crisis, the remuneration practices of financial institutions rewarded and encouraged excessive risk-taking by giving incentives for the volume of loans granted, rather than the long-term asset quality of the loans (INTOSAI 2010: 6).

Executive directors' remuneration of leading South African companies often attracts the attention of the press, shareholders and trade unions (Bonorchis & Crowley 2014; Slabbert 2014). Mergence Asset Managers recently conducted a study which calculated the average gap between executive remuneration and average wages across a sample of developed and developing countries. South Africa was ranked as the country with the 5th largest remuneration gap. This study also reported that a CEO earns an average of 140 times more than the average salaried employee. The problem is that executive remuneration is not always in line with company performance and that corrective measures need to be implemented (Preston 2014: 3–4).

Corporate governance mechanisms were introduced to control and strengthen the agency theory and provide shareholders with some assurance that directors will strive to achieve outcomes that are in the shareholder's interests (Shleifer & Vischny 1997).

Corporate governance codes

The US corporate governance system has evolved over a few decades. Corporate ownership in the US became dispersed as early as 1930, resulting in the agency theory. Individual share ownership continued to be the dominant form of share-ownership up until the 1980s. These individuals were rarely actively engaged in corporate governance and corporate boards were mainly made up of insiders. During the 1980s macro-economic growth slowed down and the US economy was under pressure. Institutional ownership came to the fore as shareholders of companies with hostile takeovers and pension funds investing in companies. These institutional investors began to participate in the affairs of the companies they had shares in and became active players in the corporate governance of companies. The need for corporate governance codes emerged in 1987 when the

Treadway Commission was introduced in the US and recommended, *inter alia,* that all companies should develop and enforce written codes of conduct. In the 1990s the trend towards greater shareholder influence continued but management wanted to protect their companies. Managers aligned themselves increasingly with the interests of shareholders through new forms of executive remuneration such as equity based remuneration and the creation of shareholder value. The collapse of Enron in 2001 caused a re-examination of corporate governance codes around the world. The Sarbanes Oxley legislation, whereby many corporate governance reforms were legislated, was introduced and this sharpened the differences between the US and UK approaches to corporate governance (Jackson 2010).

The UK experienced a wave of corporate failures in the 1980s, resulting in a lack of confidence in the quality of financial reporting and external auditors' ability to provide assurances on the financial conditions of the companies they reported on. Consequently, the Committee on the Financial Aspects of Corporate Governance was established in the UK in 1991, led by Sir Adrian Cadbury (later known as the Cadbury Committee). The Cadbury Committee issued recommendations of good corporate governance in a Code of Best Practice. The Cadbury Report would be used as a model for the development of corporate governance codes in various countries around the world, including South Africa. The UK adopted a voluntary approach to corporate governance, in contrast to the regulation-based corporate governance code in the US (Cheffins 2012: 17–22).

Re-entry into the global economy after 1994 created opportunities as well as challenges for South African companies. To be able to compete in the global economy, South African companies were compelled to implement improved corporate governance standards (Vaughn & Ryan 2006). In November 1994, the King code of corporate governance (King I) was issued by a committee of the Institute of Directors, chaired by Mervyn King. This code of compliance was based on the Cadbury Report, with necessary amendments for circumstances prevalent in South Africa. In 2002, a revised version of the report was issued, King II. In 2010, the Companies Act no. 71 of 2008 (Companies Act) and changes in international corporate governance led to a new report being issued, King III (IoD 2009: 4).

Theories supporting executive directors' remuneration

The theories underlying executive directors' remuneration are agency theory, stakeholder theory and legitimacy theory. Although it is agreed that corporate governance originated from agency theory, it has been argued that corporate governance has been influenced by system-orientated theories. Stakeholder theory

and legitimacy theory are examples of these system-orientated theories, which are meant to complement and not replace the agency theory. Stakeholder theory and legitimacy theory focus on the role of information and disclosure in the relationship between the company and the parties with which it interacts (Deegan 2009). This explains the use of appropriate corporate governance disclosures for executive remuneration and the adoption of widely accepted remuneration practices, such as the establishment of a remuneration committee (Liu & Taylor 2008: 60; Bender 2003: 207–208).

Problem statement

Against the background stated above, research was undertaken to determine whether executive directors' remuneration is influenced by certain corporate governance recommendations as well as firm characteristics.

Structure of the rest of the article

The rest of this article is structured as follows: firstly, an overview of corporate governance principles applicable to directors' remuneration as tested, is provided. This is followed by the research objective and limitations of the study. Next, a review of prior research and the development of hypotheses is presented. A discussion of the methodology follows including the sample selection and a presentation of the research model. The empirical results are then discussed, followed by the conclusion and suggestions for future research.

Corporate governance principles applicable and tested regarding directors' remuneration

Directors' remuneration

King III (IoD 2009: 30) requires that a company's remuneration policies should be aligned with its strategy and should create value for the company over the long-term. This remuneration policy has to be approved by the company's shareholders (IoD 2009: 31). Further, a remuneration report has to be included disclosing all benefits paid to each individual director (IoD 2009: 30). Annual bonuses granted should relate to performance and must be reviewed regularly to ensure that they are appropriate (PWC 2009: 85).

Since King III is grounded in the UK Cadbury Report (IoD 2009: 4), further guidance on directors' remuneration can be found in the UK Corporate Governance Code. This code stipulates that executive remuneration has to enhance the long-term success of the company (FRC 2012: 6). Schedule A of this code warns that the remuneration committee has to ensure that there is a balance between fixed and performance-related, and immediate and deferred remuneration (FRC 2012: 24).

Institutional ownership

The 'apply or explain' approach of King III, in terms of listed companies, is stronger if its implementation is overseen by parties with a vested interest in the market, particularly the institutional investor. Past experience has shown that failures in relation to governance can be attributed, in part, to an absence of active institutional investors. Institutional investors should be encouraged to vote and engage with companies (IoD 2009: 9).

The King Committee supports the suggestion of the Organisation for Economic Cooperation and Development that shareholders must be able to consult with each other on matters concerning basic shareholder rights. This will help to prevent abuse in the form of amalgamations, schemes of arrangement, takeovers, mergers and the disposal of the greater part of the assets of a company (IoD 2009: 9).

Non-executive directors on the board and committees

In terms of recommendations of King II and King III, boards of directors should be comprised of a majority of non-executive directors. King III further specifies that these directors should be independent of the company to enhance objectivity of decisions and views. The chairman of the board should be an independent non-executive director. The chairman and the chief executive officer should not be the same person. A lead independent director should be appointed if the chairman is not independent (IoD 2009: 24–25).

Since the 1980s, the inclusion of independent non-executive directors on corporate boards has received increasing attention (Fama & Jensen 1983). Two main arguments in support thereof are: firstly, independent non-executive directors provide advice to corporate boards on strategic decisions, which may improve the firm's economic and financial performance. Secondly, it leads to better monitoring of management decisions and activities by corporate boards (Chen & Jaggi 2000: 1–2).

Vote on remuneration policy

The Companies Act and King III give shareholders a greater voice in the remuneration policies and practices of a company. Every year, a non-binding advisory vote must be taken by the shareholders of the company at the annual general meeting in respect of the remuneration policy applicable for the following year (IoD 2009: 52). This approach is taken in order to give feedback to the directors on policy items related to remuneration, and not directly on pay levels (Ernst & Young 2013: 4). Section 66 (8) and (9) as well as section 30 (4), (5) and (6) of the Companies Act sets out the approval requirements and disclosure respectively, that affect executive directors' remuneration.

Legislation giving shareholders a voice is found in many countries. Of significance is the UK Executive Directors' Remuneration Report Regulations of 2002, which incorporated the 'say on pay' initiative. This initiative gave shareholders a mandatory non-binding vote on executive remuneration in the UK. It was introduced by the UK government as a result of outrage at the increasing levels of directors' remuneration. The initiative promotes shareholder involvement, giving shareholders more power and influence with regard to director remuneration (Conyon & Sadler 2010: 296).

In terms of a Discussion Paper issued by the UK Department for Business, Innovation and Skills in 2012, a proposal was made to replace the current advisory shareholder vote on executive remuneration with one which is binding in nature (Gajjar 2014: 104). Gajjar (2014) explored governance mechanisms and whether the binding shareholder vote is an effective tool to improve remuneration-setting processes. Due to the nature of the advisory vote, the board is not legally bound to act upon a conflict shown by shareholders when voting on directors' remuneration. Studies in the US and UK found that advisory votes did not show encouraging signs of curbing excessive pay (Gajjar 2014: 115).

Remuneration committee

The core of corporate governance is the relationship between a board of directors, the executive management team, the shareholders and other stakeholders. The correct management of this relationship is crucial in the field of remuneration (IoD 2013: 1). King III encourages the use of board committees (IoD 2009: 46), though it is important to understand that this delegation of function does not exempt the board of directors from its responsibilities and obligations. It remains the responsibility of the board to approve recommendations made by these board committees. Examples of board committees include (but are not limited to) audit, remuneration, nomination, and social and ethics committees (IoD 2009: 46).

Therefore, the remuneration committee plays a pivotal role in managing the quality of the remuneration information, disclosures and decisions of a company. The remuneration committee assists in building public trust and in making sustainable business decisions (IoD 2013: 4). This committee should comprise of a majority of non-executive directors (IoD 2009: 29). A function of independent non-executive directors is to strengthen the monitoring of the firm's management through good corporate governance (Basu, Hwang, Mitsudome & Weintrop 2007: 63).

Companies have a responsibility to compensate directors and executives with a fair remuneration. The remuneration committee is assigned to assist in the setting and administering of these remuneration policies (PWC 2009: 84). The remuneration committee should make recommendations to the board on the company's policy and structure for all forms of remuneration paid to the directors and senior management. This should be accompanied by the establishment of a formal and transparent procedure for developing remuneration policies (PWC 2009: 48–50).

The Greenbury Report on executive directors' remuneration makes recommendations in terms of the membership and qualifications of the non-executive directors on the remuneration committee. Firstly, other than being a shareholder of the company, no personal financial interest must be prevalent. Secondly, no cross-directorships between members and executive directors may exist that could result in their influencing one another's remuneration. Thirdly, the members of the remuneration committee should have a sound knowledge of the company and its executive directors, an ardent interest in its progress and a thorough understanding of the shareholders' concerns (Greenbury 1995: 19). Independence, in terms of King III, is a non-executive who is not a representative of a shareholder who can control or significantly influence management, who does not have a direct or indirect interest in the company, who is not employed in an executive capacity or who is the designated auditor or legal advisor, is not a professional advisor, is free from any business or other relationship which could interfere with the non-executive's ability to act in an independent manner nor receives remuneration contingent upon the performance of the company (IoD 2009: 36–37).

Research objective, scope and limitations

The objective of this study was to examine whether certain firm characteristics are an effective way of protecting shareholders' interests with respect to executive directors' remuneration. To achieve the objective, the remuneration of executive directors was regressed on a number of firm and corporate governance characteristics

to determine whether these characteristics have an influence on executive directors' remuneration.

The study had specific limitations. The assessment was limited to the annual reports of the Top 100 companies listed on the JSE for the period 2009 to 2012 as sourced from the INET McGregor BFA database. Specific market-based and accounting-based performance measures were used in the study. The measures were selected based on prior research. The usage of other performance measures could possibly have led to different results. The independence of independent directors was assumed as stated in the annual reports.

Prior research and hypothesis development

A wide range of research on executive remuneration was used during this study to identify factors that influence executive directors' remuneration.

Hypothesis development

Numerous prior studies (e.g. Clarkson, Walker & Nicholls 2011; Conyon & Sadler 2010) have investigated executive remuneration and found that executive remuneration can be influenced by certain firm and corporate governance characteristics. Clarkson et al. (2011: 63) investigated the sensitivity of executive remuneration in relation to firm performance and found that executive remuneration was sensitive to remuneration disclosure and the non-binding shareholders' vote. The factors that were examined in the study reported in this article include corporate governance characteristics specifically relating to the firm characteristics (institutional shareholding, directors' shareholding), remuneration committee (proportion of non-executive directors on the remuneration committee, vote on the remuneration policy), and certain control variables (company size, headline earnings per share, debt, profitability and growth). The related studies are identified in the sections below.

Ownership structure: Institutional ownership

A summary of the main findings of studies relevant to institutional ownership is presented in Table 1.

Table 1: Findings of studies relevant to institutional ownership

Authors	Country and number of companies tested	Findings	Link with the current study
Hartzell and Starks (2003)	US (1914 companies from the Standard & Poor's Execu-comp database)	Institutional ownership positively influences the pay-for-performance of executive director remuneration. Further, the study confirmed that institutions are effective in monitoring the agency theory between shareholders and managers.	Supports hypothesis 1.
Cheng and Firth (2005)	Hong Kong (2016 companies listed on the Hong Kong Stock Exchange)	The level of executive director remuneration was restrained by institutional shareholders.	Supports hypothesis 1.
Khan, Dharwadkar and Brandes (2005)	US (661 companies from the Standard & Poor's Execu-comp database and Thomson Financial Shareworld database)	Institutional ownership concentration of larger institutions does restrict the salaries, share options and total compensation of executive directors.	Supports hypothesis 1.
Ozkan (2007)	UK (414 firms from the FTSE All Share Index)	Institutional shareholders have a significant and negative impact on executive remuneration, confirming that institutional shareholders are an effective monitoring tool to reduce levels of executive remuneration.	Supports hypothesis 1.
Dong and Ozkan (2008)	UK (563 UK firms)	'Dedicated' or long-term institutional shareholders restrict executive remuneration.	Supports hypothesis 1.
Dharwadkar, Goranova, Brandes and Khan (2008)	US (623 US companies)	Large institutional owners assisted with monitoring of executive remuneration and evidence indicated that there were reduced levels of total compensation, increased pay-for-performance sensitivity and an influence on the pay mix.	Supports hypothesis 1.
Wahab and Rahman (2009)	Malaysia (434 Malaysian companies)	Firms that have political connections limit the effectiveness of institutional shareholder monitoring.	This is not in direct support of hypothesis 1 yet indicates a factor that limits the effectiveness of institutional shareholders.
Ozkan (2011)	UK (390 companies listed on the FTSE All Share Index)	Institutional and block holder ownership had a significant and negative impact on the total director and cash compensation. In addition, institutional ownership had a positive and significant impact on pay-performance sensitivity of option grants.	Supports hypothesis 1.

Source: Compiled by authors

Based on the studies listed in Table 1, there is evidence that institutional shareholders are effective observers to monitor the agency theory between shareholders and directors of a company by limiting executive directors' remuneration.

It is therefore expected that:

H1: Remuneration of executive directors will be lower for companies with higher levels of institutional ownership.

Ownership structure: Directors' shareholding

A summary of the main findings of studies relevant to directors' shareholding is presented in Table 2.

Table 2: Findings of studies relevant to directors' shareholding

Authors	Country and number of companies tested	Findings	Link with the current study
Khan et al. (2005)	US (661 companies from the Standard & Poor's Execu-comp database and Thomson Financial Shareworld database)	Directors who hold shares become risk averse and increase the level of salaries as compensation instead of share options. Directors' shareholding could compromise the monitoring effectiveness of institutional shareholders.	Supports hypothesis 2.
Cheng and Firth (2005)	Hong Kong (2016 companies listed on the Hong Kong Stock Exchange)	This research study proved that it is the trend in Hong Kong firms to reduce executive compensation in the case of directors' shareholding due to the receipt of large cash dividends.	This is not in direct support of hypothesis 2. Several Hong Kong firms are family-controlled and to avoid negative criticism about excessive director remuneration, tend to take moderate compensation.
Basu, Hwang, Mitsudome and Weintrop (2007)	Japan (174 Japanese companies)	Greater director shareholding resulted in increased directors' remuneration.	Supports hypothesis 2.
Ozkan (2011)	UK (390 UK non-financial firms from the FTSE All Share Index)	Shareholding by executive directors had a non-linear impact on total executive director remuneration whilst shareholding by non-executive directors had a negative effect on remuneration. Non-executive directors' shareholding is an effective monitoring tool.	Supports hypothesis 2.

Source: Compiled by authors

Based on the studies by Khan et al. (2005) and Basu et al. (2007), directors' shareholding increased the executive directors' remuneration.

It is therefore expected that:

H2: Remuneration of executive directors will be higher for companies with higher levels of directors' shareholding.

Non-executive directors on the remuneration committee

A summary of the main findings of studies relevant to non-executive directors on the remuneration committee is presented in Table 3.

Table 3: Findings of studies relevant to non-executive directors serving on the remuneration committee

Authors	Country and number of companies tested	Findings	Link with the current study
Hermalin and Weisbach (2003)	US (literature review)	A literature review was done to examine the correlation between board composition and company performance. In a summary of studies conducted to test this correlation, the results were insignificant and did not report that firm performance was enhanced by an increase in 'outside' directors on the board.	This is not in support of hypothesis 3 since the results were statistically insignificant.
Pukthuanthong, Talmor and Wallace (2004)	US (160 companies from the Standard & Poor's Execu-comp database)	As the proportion of independent, non-executive directors increases, executive remuneration decreases.	Supports hypothesis 3.
Cheng and Firth (2005)	Hong Kong (2016 companies listed on the Hong Kong Stock Exchange)	Non-executive directors do not limit executive director remuneration.	This is not in support of hypothesis 3 since the results were statistically insignificant.
Basu et al. (2007)	Japan (174 Japanese companies)	As the proportion of independent, non-executive directors increases, the average executive remuneration decreases.	Supports hypothesis 3.
Wong (2009)	Hong Kong (484 companies listed on the Hong Kong Main Board)	Independent, non-executive directors decreased directors' remuneration.	Supports hypothesis 3.
Cybinski and Windsor (2013)	Australia (143 companies listed on the ASX300)	This research study found that large companies' non-executive directors ensure that executive remuneration is aligned with firm performance. The above results were not consistently found in medium and small companies.	Although not in direct support of hypothesis 3, it does affect one of the control variables used in this study, namely firm performance.

Source: Compiled by authors

In summary, and based on the results of the research by Basu et al. (2007), Wong (2009), and Cybinski and Windsor (2013), as indicated in Table 3, it can be stated

that the presence of non-executive directors on the remuneration committee does limit executive directors' remuneration.

It is therefore expected that:

H3: Remuneration of executive directors will be lower for companies where the remuneration committee consists of a majority of non-executive members.

Shareholder vote on remuneration policy

A summary of the main findings of studies relevant to shareholder vote on the remuneration policy is presented in Table 4.

Table 4: Findings of studies relevant to shareholder vote on the remuneration policy

Authors	Country and number of companies tested	Findings	Link with the current study
Carter and Zamora (2008)	UK (41 companies listed on the FTSE 350 Index)	Shareholders use their votes to show disapproval over remuneration policies, but there is not a consistent response to the voting results.	Although not in direct support of hypothesis 4, it still indicates disapproval over executive remuneration.
Al-Issa (2009)	UK (266 companies listed on the FTSE 350 Index)	Shows evidence that shareholders use the advisory vote to limit executive remuneration or removal of the executive director.	Supports hypothesis 4.
Fels (2010)	Australia (literature review)	Literature review of studies where the use of a non-binding vote is not enough to mitigate excessive executive remuneration. Recommends that action should be taken based on the number of successive negative votes.	Although not in direct support of hypothesis 4, it still indicates disapproval over executive remuneration.
Conyon and Sadler (2010)	UK (1 958 UK companies)	Shareholders are prepared to show dissatisfaction by voting against director remuneration, but not to the extent of removing directors. The regression results indicate that executive remuneration is not curbed or altered by shareholder votes.	The current research evaluates the hypothesis whether executive director remuneration will be lower where shareholders vote on the remuneration policy.
Ferri and Maber (2013)	UK (600 companies)	Does not show a change in the level of executive remuneration since the implementation of the advisory vote.	Although not in direct support of hypothesis 4, it still indicates disapproval over executive remuneration.

Source: Compiled by authors

In summary, the studies listed in Table 4 show that shareholders are prepared to show their disapproval of the directors' remuneration by voting against it, but the regression results do not consistently show that directors' remuneration is constrained by it.

It is therefore expected that:

H4: Remuneration of executive directors will be lower for companies where the shareholders vote on the remuneration policy at the shareholder meeting.

Frequency of remuneration committee meetings

A summary of the main findings of studies relevant to frequency of remuneration committee meetings is presented in Table 5.

Table 5: Findings of studies relevant to frequency of remuneration committee meetings

Authors	Country and number of companies tested	Findings	Link with the current study
Vafeas (1999)	US (307 firms included in the Forbes compensation survey)	A negative and significant association between firm performance and the frequency of committee meetings.	Supports hypothesis 5.
Hahn and Lasfer (2007)	UK (150 companies listed on the London Stock Exchange)	A negative correlation between the frequency of meetings and executive remuneration.	Supports hypothesis 5.
Hoque, Islam and Azam (2013)	Australia (118 companies listed on the Australian Stock Exchange)	A positive correlation between the frequency of remuneration committee meetings and the company's performance.	Although not in direct support of hypothesis 5, firm performance is a control variable in this study which could affect the level of executive directors' remuneration.

Source: Compiled by authors

In summary, the prior research listed in Table 5 provides evidence that executive directors' remuneration will be lower as the frequency of remuneration committee meetings increases.

It is therefore expected that:

H5: Remuneration of executive directors will be lower for companies where more remuneration committee meetings are held.

Methodology

Sample and data

The sample selected was the Top 100 companies (based on market capitalisation as at 31 September 2012) listed on the JSE for the 2009 to 2012 reporting periods. These periods were included, because they are considered to cover a transition period for the implementation of the recommendations made by the King III report. The Top 100 are the largest companies and have the most significant trading activity on the JSE. These firms are also most likely to be concerned about their public image, including their corporate governance stance, and are most likely to have implemented remuneration reforms. The sample included only South African companies that had been listed for at least three years and had information available on the INET McGregor BFA database for the prescribed sample period. Table 6 summarises the sample selection process.

Data collection

Information regarding directors, remuneration paid, institutional and directors' shareholding, the remuneration committee and vote on remuneration policy was collected manually from the annual reports of companies for the years 2009 to 2012 as listed on the library function of the INET McGregor BFA database. Information regarding headline earnings per share, income, leverage and return on equity was collected from the financial ratio function on the INET McGregor BFA database. A summary of the sample selection process is provided in Table 6.

Table 6: Summary of sample selection process

Top 100 companies listed on the JSE on 31 September 2012	100
Less: Companies primarily listed on other exchanges (non-South African companies)	(14)
Companies listed for less than three years (listing date after 1 January 2009)	(9)
Companies where information not available on McGregor BFA for sample period	(7)
Final sample	70

Research model

The prediction found in the hypothesis is that executive directors' remuneration is influenced by various governance and firm characteristics. More specifically, lower

levels of remuneration are expected for companies with a higher level of institutional ownership, a higher percentage of non-executive directors on the remuneration committee, where shareholders vote on the remuneration policy of directors and where there is a greater frequency of remuneration committee meetings. On the other hand, higher levels of executive remuneration are expected for companies whose directors have higher levels of directors' shareholding.

An ordinary least squares (OLS) model was used to test the relationship between DREM (dependent variable) and the explanatory variables. The model is estimated as follows:

$$\text{DREM} = \beta_0 + \beta_1\text{SHAREI}_{jt} + \beta_2\text{SHARED}_{jt} + \beta_3\text{NEXR}_{jt} + \beta_4\text{VRPO}_{jt} + \beta_5\text{NRCM}_{jt} + \beta_6\text{SIZE}_{jt} + \beta_7\text{HEPS}_{jt} + \beta_8\text{DEBT}_{jt} + \beta_9\text{PROFIT}_{jt} + \beta_{10}\text{GROWTH}_{jt} + \beta_{11}\text{GROWTHS}_{jt} + \beta$$

Where:

DREM = Log of average executive directors' remuneration (Cheng & Firth 2005; Wong 2009). Executive directors' remuneration is comprised of the following: Gross remuneration of the executive directors (DREMG), bonuses awarded to directors (DREMB) and share options granted to executive directors (DREMS).

SHAREI = The number of shares owned by institutional shareholders divided by the total number of ordinary shares at year end.

SHARED = The number of shares owned by directors of the company divided by the total number of ordinary shares at year end.

NEXR = Non-executive directors on the remuneration committee, measured as the number of non-executive directors on the board divided by the size of the board.

VRPO = Vote on remuneration policy by shareholders. This is a dummy variable coded 1 if the shareholders vote on the remuneration policy in the shareholders meeting, and coded 0 if otherwise.

NRCM = Number of remuneration committee meetings held during a year.

SIZE = The size of the company, measured as the natural log of sales for the year.

HEPS = The headline earnings per share measured as earnings attributable to the operational and capital investment activities of the company.

DEBT	=	The leverage of the company, measured by the ratio of total debt to total assets at year end.
PROFIT	=	The profitability of the company, measured by the return on equity for the year.
GROWTH	=	The growth of the company, measured by the market-to-book value of equity at year end.
GROWTHS	=	The yearly proportional change in sales.
j and t	=	Company and time subscripts respectively.
ε	=	The regression residual.

Dependent variable

The dependent variable used in this article is the average remuneration of executive directors. To mitigate the impact of outliers, the log of average executive remuneration was used (Doucouliagos, Haman & Askary 2007; Wong 2009).

Executive directors' remuneration was further divided into three different components: salary and benefits (DREMG), annual performance bonus awards (DREMB) and share options granted (DREMS). Annual performance bonus is considered to be a short-term variable which is linked to accounting profits, generally over a one year period, while share options are considered to be a long-term component. Separate models were run to include salary and benefits, bonus, share options and total as dependent variables.

Independent variables

The ownership and governance variables used by Hartzell and Starks (2003), Cheng and Firth (2005), Khan et al. (2005), Ozkan (2007) and Ozkan (2011) were the number of shares owned by institutional shareholders divided by the total number of ordinary shares at year end (SHAREI).

Khan et al. (2005), Cheng and Firth (2005), Farber (2005), Basu et al. (2007) and Ozkan (2011) used the number of shares owned by directors of the company divided by the total number of ordinary shares at year end (SHARED).

Pukthuanthong et al. (2004), Cheng and Firth (2005), Basu et al. (2007), Wong (2009) and Cybinski and Windsor (2013) also used non-executive directors on the remuneration committee, measured as the number of non-executive directors on the board divided by the size of the board as a control variable (NEXR).

King III introduced another corporate governance measure whereby it is stipulated that shareholders should vote on the remuneration policy of remuneration paid to directors of the company, thus dummy variables were awarded to these factors coded 1 if the shareholders voted on the remuneration policy and coded 0 if no vote was cast (VPRO). This was used by Al-Issa (2009), Conyon and Sadler (2010), and Ferri and Maber (2013).

The remuneration committee should have sufficient scheduled meetings to discharge all its duties with a minimum of two meetings per year (NRCM). This was tested by listing the number of meetings held, as supported by Hahn and Lasfer (2007), and Hoque et al. (2013).

Control variables

The following control variables which could have an effect at the level of executive remuneration were used:

- *Company size (SIZE) (measured by log of sales)* (also used by Cheng and Firth (2005), Wong (2009), and Gregory-Smith (2012))
- *Profitability (PROFIT) (measured by return on equity)* (also used by Cheng and Firth (2005), Wong (2009) and Hoque et al. (2013))
- *Headline earnings per share (HEPS)* (as used by Main, Jackson, Pymm and Wright (2008))
- *Growth (GROWTH) (measured by market-to-book value of equit*y) (as used by Balachandran, Ferri and Maber (2007), Ferri and Maber (2013); Conyon and Sadler (2010) and Abeysekera (2012))
- *Growth of sales (GROWTHS) (measured by yearly proportional change in sale)* (as used by Cheng and Firth (2005), and Wong (2009))
- *Leverage (DEBT) (used as a control measure due to the monitoring effect of debtholders)* (as used by Cheng and Firth (2005), and Hoque et al. (2013))

Empirical results

Descriptive statistics

Descriptive statistics regarding the companies' dependent, independent and control variables were considered before calculating the regressions. The data were transformed to limit the skewness. The independent variables were therefore winsorized at the 1% and 99% percentiles. Square root transformations were performed for the headline earnings per share, profitability and debt variables. The

variable for growth has a severe negative-skew distribution and was transformed by ranking the observations. Stationarity is not a concern in the data as ratios were used. Table 7 presents the descriptive statistics for the raw data (Panel A) and the transformed variables (Panel B) for the years 2009 to 2012.

Table 7: Descriptive statistics (284 observations)

Panel A: Descriptive statistics for raw data years 2009 to 2012					
Variables	**Mean**	**Minimum**	**Maximum**	**Median**	**Std. Deviation**
DREMG (R'000)	4 854	578	72 133	3 802	5 134
DREMB (R'000)	2 852	0	27 372	1 559	3 801
DREMS (R'000)	2 371	0	70 507	941	5 199
SHAREI	0.262	0	0.9	0.22	0.209
SHARED	0.053	0	0.4	0.01	0.090
NEXR	0.743	0	1.0	0.75	0.231
VPRO	0.500	0	1.0	0.5	0.500
NRCM	3.962	2	10	4	1.263
SIZE (R'000)	44 612	740	1 191 345	17 158	11 147
HEPS	695	-1880	13772	371.8	1 207
DEBT	2.674	0	58.08	0.99	5.657
PROFIT	15.267	0.01	108.61	12.14	14.789
GROWTH GROWTHS	3.462 0.867	0 -1.531	42.96 2.451	2.18 12.14	3.99 4.073
Panel B: Descriptive statistics for transformed variables					
Variables	**Mean**	**Minimum**	**Maximum**	**Median**	**Std. Deviation**
HEPS(sqrt)	23.215	4.00	74	20.17	12.799
PROFIT (sqrt)	3.654	0.9	8.9	3.5	1.441
DEBT (sqrt)	0.371	0.1	1.2	0.99	0.2158

The amount of directors' remuneration granted was varied. The mean for gross remuneration awarded to executive directors was R4 854 000 and the minimum was R578 000 with a maximum of R72 133 000.

The mean for bonuses awarded to executive directors was R2 852 000, and the maximum was R27 372 000. The maximum value of share options awarded to executive directors was R70 507 000 and the mean was R2 371 000. The minimum for bonuses and share options granted was R0, indicating that some companies did not award share options to executive directors for the periods under review.

On average, institutional shareholders owned 26% of the shares, and directors owned 5% of the issued shares of the relevant companies. The average percentage of non-executive directors on the remuneration committee was 74%. Approximately 50% of the firms voted on the remuneration policy, as required by the King III report. This can be attributed to the fact that King III was only applicable for reporting years 2011 and 2012. An average of four remuneration committee meetings was held per year. The average income earned by the companies tested was R44 612 000. Headline earnings per share shows an average of 695 cents per share. The average leverage of the Top 100 companies tested was 2.674 of their assets. The average return on equity of 15% represents attractive levels of investment quality, which can be expected by the Top 100 companies on the JSE. The market-to-book value was 3.5 on average, indicating greater expected future gains because of perceived growth opportunities and competitive advantages of the Top 100 companies. The growth in sales had a mean of 87%, indicating a large percentage of sales growth over the period tested.

Correlations

Correlations are regarded to be amongst the most general and functional statistics. They indicate whether variables are positively or negatively related, as well as the relative strength of the relationship. The Pearson correlation was used to establish relationships between the data elements.

The assumptions underlying the regression model were tested for multi-collinearity by calculating a correlation matrix and a variance inflation factor (VIF) for each variable. All of the VIFs tested were below two. The tolerance factors are all well above 0.1 and 10 for VIFs, suggesting that multi-collinearity is not a problem when interpreting the regression results. Since no differences were found between the direction and significance levels of the correlations in respect of the profit, debt and growth variables for the raw data and transformed data, only the Pearson correlation coefficients for all the variables, using raw data, are provided in Table 8. Significance levels of 1% and 5% were considered to determine the relationship between dependent and independent variables. The data satisfied the assumptions of normality of residuals and homoscedasticity.

Dependent variables

A statistically significant positive correlation exists between DREMG and DREMS.

VPRO has a significantly positive correlation with DREMG, DREMB (at the 5% level) and DREMS (at the 1% level). There is also a significantly positive relationship between DREMG, DREMB, DREMS and the SIZE of the companies tested.

In addition, the analysis shows that there is a significantly positive relationship between DREMB, DREMS (at the 1% level) and HEPS. The analysis also shows that DREMS is significantly inversely associated at a 5% level with SHAREI. There is also a significant positive correlation between DREMS and DEBT and GROWTH at the 5% level.

Independent variables

SHAREI has a significant inverse correlation with SHARED. SHAREI also has a significant positive correlation with NEXR and SIZE. There is a significant inverse relationship at the 5% level between SHAREI and PROFIT. SHARED has a significant inverse correlation with NEXR, SIZE and DEBT. A significant positive relationship exists between SHARED and GROWTHS at the 1% level.

NEXR have a significant inverse correlation with NRCM at the 1% level. A significantly positive relationship exists between NEXR and SIZE. VPRO has a significant relationship to the SIZE (1% level), DEBT and GROWTH (5% level). The number of remuneration committee meetings (NRCM) is significantly related to SIZE, HEPS, DEBT and GROWTH.

Control variables

SIZE is significantly positively related to HEPS (1% level). HEPS is positively related to the PROFIT of the company. A significantly inverse relationship exists between DEBT, PROFIT and GROWTH. A significant positive relationship exists between PROFIT and GROWTH (1% level).

Table 8: Pearson correlation matrix

	DREMG	DREMB	DREMS	SHAREI	SHARED	NEXR	VPRO	NRCM	SIZE	HEPS	DEBT	PROFIT	GROWTH	GROWTHS
DREMG	1	-.005	.349**	.098	.-0.15	.072	.146*	.101	.472**	.114	-.012	.0.49	-.008	-.014
DREMB		1	.129	.125	-.006	0.68	.134*	.067	.254**	.183**	0.85	-0.40	-0.45	0.81
DREMS			1	-142*	-.017	.065	.205**	.056	.194**	.269**	.176*	0.84	.177*	-.044
SHAREI				1	-.162**	.270**	-.0.51	-.057	.161**	-.007	.036	-.0.37*	-.042	.033
SHARED					1	-.261**	-.102	-.018	-.323**	.078	-.010*	.068	-.041	.160**
NEXR						1	.022	-.274**	.195**	0.54	.072	.013	-.006	0.85
VPRO							1	.000	.231**	0.79	.123*	-.0.40	.144*	-.047
NRCM								1	.366**	.268**	.011*	.613	.142*	-.104
SIZE									1	.176**	.034	-.006	.052	.051
HEPS										1	0.14	.313**	.033	-0.14
DEBT											1	-148*	-.703**	-.0.06
PROFIT												1	.219**	0.07
GROWTH													1	0.38
GROWTHS														1
Notes ** Significant at the 0.01 level * Significant at the 0.05 level														

Regression analysis

Background

A regression analysis (as shown in Table 9) was conducted to determine whether the variation in DREM (and its different elements) can be explained by the independent and control variables. The main interest in Table 9 is the sign and the significance of the independent and control variables tested. The independent variables have a 20.9% explanatory power (adjusted R^2= 0.209, f= 7.047) of DREM. Looking at the different types of remuneration, the independent variables have a 25% explanatory power (adjusted R^2=.250 f=1.4) for DREMG and an 11.7% (adjusted R^2= 0.117, f= 3.319) for DREMB and 13% for DREMS (adjusted R^2= 0.130, f= 3.377).

Regression analysis in relation to the hypothesis stated

Institutional ownership

SHAREI has a significant relationship with DREM on the 1% level. SHAREI has an inverse significant relationship with DREMS (on the 5% level). Hypothesis 1 is therefore only supported for DREMS, but not for DREM, DREMG or DREMB. This is consistent with Hartzell and Starks (2003), Cheng and Firth (2005), Khan et al. (2005) and Ozkan's (2011) findings. Institutional ownership is effective because of their monitoring ability. Share-options are considered to be an effective way to address the agency theory (Shleifer &Vishney 1997).

Directors' shareholding

SHARED supports higher executive remuneration for DREM at the 1% level. Hypothesis 2 is therefore supported for DREM, but not for DREMG, DREMB & DREMS. This is consistent with the findings of Khan et al. (2005), Basu et al. (2007), and Ozkan (2011).

Non-executive directors on the remuneration committee

NCRM has a significant inverse relationship with DREM (on the 1% level). No significant relationship exists between the individual elements (DREMG, DREMB, & DREMS) and NCRM. This is consistent with Hypothesis 3 and the findings of Cheng and Firth (2005), Basu et al. (2007), and Cybinski and Windsor (2013).

The vote on the remuneration policy

VPRO is significantly inversely related with DREMG (on the 5% level), DREMB, DREMS and DREM (all on 1% level). Hypothesis 4 is therefore supported for all the elements of executive directors' remuneration and is consistent with the findings of Al-Issa (2009).

The number of remuneration committee meetings held

NRCM is significantly inversely related for DREM, but not for the individual elements (DREMG, DREMB 7 DREMS). Hypothesis 5 is therefore supported for DREM. This is consistent with Hahn and Lasfer's (2007) findings.

Explanation of directors' remuneration by independent and control variables

Total directors' remuneration

Total directors' remuneration is statistically significantly explained by the number of shares owned by institutional shareholders (SHAREI), the number of shares owned by directors (SHARED), the number of non-executive directors on the remuneration committee (NEXR), the size of the company (SIZE) and the headline earnings per share (HEPS).

Gross directors' remuneration

Gross directors' remuneration is statistically significantly explained at the 5% level by the vote on the remuneration policy by shareholders (VRPO). At the 1% level the size of the company (SIZE) and headline earnings per share (HEPS) significantly explain the variance in gross executive remuneration.

Bonuses

Bonuses is statistically significantly explained at the 5% level by the voting on the remuneration policy by shareholders (VRPO), the size of the company (SIZE), the leverage of the company (DEBT) and the headline earnings per share (HEPS) at the 1% level.

Share options granted

Share options granted is statistically significantly explained at the 5% level by the voting by shareholders on the remuneration policy (VPRO), the size of the

company (SIZE), the headline earnings per share (HEPS) and at the 5% level by the institutional shareholding (SHAREI), the leverage of the company (DEBT) and the growth of the company (GROWTH).

Table 9: Regression results

Variable	All elements	DREM (Total for DREMG, DREMB and DREMS)		DREMG (Basic salary and benefits)		DREMB (Bonuses)		DREMS (Share options granted)	
	Prediction	Coeffi-cients	p-value	Coeffi-cients	p-value	Coeffi-cients	p-value	Coeffi-cients	p-value
SHAREI	-	.005	.007**	.240	.101	.443	.057	-1.258	.042*
SHARED	+	.578	.000**	1.879	.803	1.436	.948	1.318	.810
NEXR	-	-.059	.001**	.124	.227	.228	.321	.670	.355
VPRO	-	-.210	.000**	-.520	.014*	-.358	.003**	-.335	.003**
NRCM	-	-.087	.004**	.078	.089	.097	.296	.072	.422
SIZE	+	.144	.000**	.271	.000**	.209	.000**	.145	.006**
HEPS[1] (sqrt)	+	.015	.000**	-.001	.004**	.000	.032*	.035	.000**
DEBT[1](sqrt)	-	.034	.090	.065	.616	.043	.006**	.064	.029*
PROFIT[1](sqrt)	+	-.037	.458	.078	.138	-.006	.060	-.073	.369
GROWTH	+	.006	.386	-0.15	.889	-.035	.726	.023	.011*
GROWTHS	+	.076	.735	-100	.682	.448	.279	-.004	.466
R-SQUARED		.241		.276		.158		.178	
ADJUSTED R-SQUARED		.209		.250		.117		.130	
N		287		284		245		205	
F		7.047		1.400		3.319		3.377	

Notes
** Significant at the 0.01 level
* Significant at the 0.05 level

The dependent variables are the average basic salary and benefits, bonuses, shares and total salaries.
The independent variables consist of the following:

(1) Shareholdings: The percentage shares owned by institutional shareholders (SHAREI), the percentage shares owned by directors of the company (SHARED)
(2) Remuneration committee characteristics: NEXR: (percentage of non-executive directors on the remuneration committee), VPRO: (vote on remuneration policy), GROWTH (market-to-book ratio), PROFIT (return on capital employed), DEBT (debt-to-assets ratio)
(3) Control variables: SIZE: (natural log of sales), HEPS: (the headline earnings per share), DEBT (debt-to-assets ratio), PROFIT (return on equity for the year), GROWTH (market-to-book ratio), GROWTHS (the yearly proportional change in sales)

[1] Transformed variables (sqrt = square root).

Additional analysis

To test the robustness of the results additional analysis was performed. The regression was re-tested by excluding the control variables of sales, headline earnings per share, leverage, return on equity, market-to-book value and change in sales. The results obtained were consistent with the original regression performed. In view of the fact that no differences were found between the original regression model and the one excluding the control variables, only the original regression analysis is included in Table 9.

Summary and conclusion

Excessive executive directors' remuneration remains a major concern for many stakeholders and it is one of the factors to blame for the global financial crisis (Crotty 2009; INTOSAI 2010). In response to these concerns various corporate governance reforms have been advocated.

In this study, by testing a sample from the Top 100 companies listed on the JSE for the period 2009 to 2012, the effect of the implementation of certain corporate governance reforms on executive directors' remuneration was tested. King III reports that the 'apply or explain approach' is stronger if the implementation is overseen by institutional investors. The findings in relation to hypothesis 1 indicate that institutional shareholding only has a monitoring effect on share options granted but not on bonuses and gross remuneration. On the other hand, in accordance with hypothesis 2, the results show that higher directors' shareholding has a positive impact on total executive directors' remuneration. King III indicated that the remuneration committee should comprise a majority of non-executive directors. The results for hypothesis 3 indicate that non-executive directors on the remuneration committee do reduce the total executive directors' remuneration. King III requires an advisory vote on remuneration policy, and the results of hypothesis 4 indicate that the vote on the remuneration policy does influence all the elements and total executive directors' remuneration. Hypothesis 5 indicates that the number of remuneration committee meetings held has an effect on the total executive directors' remuneration. King III further requires that annual bonuses granted should be linked to performance. The control variables tested found that bonuses granted are positively related to headline earnings per share, but not to the other performance indicators, such as return on equity or market-to-book value. It further indicates that total directors' remuneration can be statistically explained by institutional shareholding, directors' shareholding, non-executive directors' on the remuneration committee, size of the company and headline earnings per share.

It is suggested that future research could focus on linking the firm characteristics to the remuneration policy of the company, linking company performance to executive remuneration, and investigating the ideal structure of executive remuneration. The data could also be expanded to include more years since the King III implementation in order to test whether King III has had an effect on directors' remuneration.

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