

THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE MECHANISMS AND THE PERFORMANCE OF SAUDI LISTED FIRMS

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Abstract

This paper gauges, both qualitatively and quantitatively, the pertinent variables to corporate governance practices and their relationship to business productivity in the context of the Kingdom of Saudi Arabia. This study was conducted in response to the limited literature in this context. A new code of corporate governance was issued by the Saudi Arabian Capital Market Authority as a direct consequence of the 2006 stock market crash; in 2010, the code was made mandatory for listed firms. Rigorous empirical studies are practical not only for Saudi Arabia and its policy makers but also potentially for solving global investment issues and ensuring security. This study found two variables to have a significant negative relation: chief executive officer turnover and independent board members. Thus, greater rates of chief executive officer turnover are associated with negative firm performance. In addition, independent board directors' negative value was found to be very close to zero and significant only at the 10% level. Consequently, some caution is required when considering this result.

Keywords: Corporate Governance, Firm Performance, Saudi Arabia, Stock Market

JEL Classification: G10, G30, G34, L25

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1. INTRODUCTION

There appears to be a limited emphasis on the Saudi board of directors, its subcommittees, the legal system and their effects on firm performance (Falgi, 2009). This paper intends to focus on this gap in the literature by analysing internal corporate governance mechanisms and firm characteristics and their impact on the Saudi stock market.

Many regulations and market laws have yet to be implemented effectively (World Bank, 2009). Therefore, it is important to evaluate corporate governance mechanisms and their impact on Saudi firm performance, to enable policy makers to establish the consequences and effectiveness of corporate governance policies.

The performance of listed firms in Saudi Arabia has been erratic and fluctuating. In 2010, 25% of listed firms were deemed to be negative performers based on their return on equity (ROE), 20% were deemed to be negative performers based on their return on assets (ROA). This poor performance has been attributed to various factors, such as the regressive implementation of company strategies as well as corporate governance (Peng et al., 2003; AlSaeed, 2006).

Kim (2010) states that good corporate governance can boost investments and further develop the stock market, which benefits macroeconomic growth. Good corporate governance attracts and facilitates investments, as it sends a

secure and safe message to investors with respect to the risks involved in investment (Heenetigala and Armstrong, 2011).

There has been increased growth in the number of listed firms in Saudi Arabia due to the privatisation initiative led by the government. The number of listed firms distributed across various industries with different ownership structures and concentrations increased from 75 in 2000 to over 170 in 2015. In addition, there has been further interest in foreign investment due to its stability and with the opening of the Saudi stock market to foreign investment in 2015. Indeed, Tadawul is the only exchange in Saudi Arabia in which stocks can be traded.

It was only after 2005 that corporate governance concepts were deployed in Saudi Arabia, when the Capital Market Authority (CMA) began to pay closer attention to Saudi firm performance. Subsequently, the 2006 stock market crash necessitated a much-needed appraisal. There were increasing calls for the need of corporate governance and effective regulation and practices, particularly transparency, reporting and accountability (CMA, 2006). Since then, corporate governance received an increased emphasis and focus from academic interest to support from the Saudi government. Corporate governance is currently a fundamental focus in Saudi Arabian business environment. The CMA established the Corporate Governance Code in 2006, which acted as

a guideline. In 2010, it was made mandatory, which included the obligation for firms to explain any deviations from the Corporate Governance Code.

The board of directors and the audit committees are primary internal defence lines that ensure good corporate governance practices and protection for firm shareholders and stakeholders. The board of directors are responsible for overall strategic running of the company, and the audit committee monitors and ensures the financial integrity of policies and activities.

Al-Twaijry et al. (2002) found that the audit committees in Saudi Arabia include vague job descriptions and that their roles are often blurry. They were deemed to be set up in a regressive manner in terms of their inadequate independence, lack of expertise and limited implementation of objectives. Further reforms and stringent regulations were deemed crucial to rectify this and to improve the effectiveness and professionalism of the audit committee. Al-Moataz (2003) investigated Saudi audit committees by evaluating against best practices; the study reiterated similar concerns in terms of their responsibilities, lack of professional qualifications and independence.

The current literature on Saudi corporate governance and its relation to firm performances is sparse, partly due to the lack of available data. This study aims to perform a comprehensive investigation into the corporate governance mechanisms used in Saudi Arabia. This will, in turn contribute towards the limited literature on the Saudi market. This study employs a wide range of key corporate governance mechanisms used widely in the established empirical literature, and the findings would be beneficial to Saudi policy makers and investors.

Many existing literature have demonstrated that various features of corporate governance could potentially enhance the performance of firms (Baysinger and Butler, 1985). This study aims to gauge the effectiveness and relationship of these corporate governance variables on Saudi listed firm performance. This study also expands on the limited literature, especially in the context of issuing new regulations, either from international bodies for banks, such as Basel, or local authorities, such as the CMA. This study expands on similar studies, like that of Bauer et al. (2009), by testing the variables related to corporate governance. The increased availability of data ensures potentially greater nuance in this field of study.

Improved corporate governance is an emerging phenomenon in developing economies and has been interpreted negatively in certain contexts in terms of restrictions. This has been noted in different regions and business models (Al-Motairy, 2003). Corporate governance deployment in Saudi Arabia is still at a developing stage; hence, further evolution and modifications are anticipated and required.

This study used various corporate governance mechanisms that are widely used and are of interest to investors in terms of analysis and evaluation. This is much more expedient than the utilisation of self-constructed governance measures. This study utilised corporate governance variables that cover a wider range of categories that represent governance compared to other studies. For example, the Governance Index (G Index) used by Gompers et al.

(2003) has been used in many studies; however, this index is based on shareholder rights and takeover protection only (Bauer et al., 2009). The main advantage of the G Index is its inclusion of many governance mechanisms and its effects in one index (Bohren and Odegaard 2003; Black et al., 2006). However, there appear to be no studies that investigate all the variables and mechanisms identified in this study.

Thus, this study aims to be a comprehensive study that considers detailed variables with respect to corporate governance to help explain returns. Many studies have measured various organisational aspects on corporate governance enforcement and its impact on performance, including company size, structure, directors' salaries and compensation, along with other variables that relate to corporate governance that could potentially enhance the performance of firms (Baysinger and Butler, 1985).

This paper is organised as follows. Section 2 reviews certain existing literature on corporate governance and firm performance and discusses the various corporate governance mechanisms employed in this paper to investigate market performance. Section 3 discusses the data and outlines the methodology of this study and Section 4 provides the analysis and evaluates the results; finally, Section 5 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A plethora of studies have explored both corporate governance and firm performance (Berle and Means, 1932; Jensen and Meckling, 1976; Demsetz and Lehn, 1985; Claessens et al., 2000; Berglof and Claessens, 2004; Dockery et al., 2012). Most of the corporate governance research originates from the pioneering thesis of Berle and Means (1932), in which the authors argued that the separation of ownership and the control of firms gives too much control and power to the managers of large corporations. This is made worse by diffused ownership structures. Owners were argued to have difficulty in controlling the managers employed to run day-to-day business. There is an inherent conflict of interest between owners and managers in this agency model, and it was viewed that managers did not have the same interests as shareholders. Rather than distributing profits back to shareholders, managers often prefer to re-invest profits or, in more extreme cases, pursue their own personal privileges and perks. Managers were viewed as a self-perpetuating oligarchy who were no longer accountable to the owners they were supposed to represent. Berle and Means argued that such an issue can be detrimental for firms and have negative economic and social effects. In their research, the focus on corporate governance as a specific strand of literature was born, and the separation of ownership and control is now commonly referred to as the agency theory.

Most studies have focused on very specific corporate governance issues, such as ownership structure, board of director composition and chief executive officer (CEO) pay, and gauged any relationships of these factors with firm performance. Indexes have also been created to study multiple variables as an alternative

methodology, such as the G Index of Gompers et al. (2003); however, there appear to be some caveats. For example, the G Index is built on only one facet of corporate governance (i.e., takeover provisions) and measures the balance of power between shareholders and management (Bauer et al., 2009). Furthermore, in Saudi Arabia, takeovers do not occur as frequently as they do in developed economies; hence, this methodology may be considered inappropriate for application in the Saudi market.

There are two main models of corporate governance: the market model and the control model (Lin et al., 2006). The market model is used in countries like the United States (US) and the United Kingdom (UK), where there are highly liquid markets with dispersed shareholders and where investors have no prior relation to listed firms (Coombes and Watson, 2001). In such markets, corporate governance emphasises the need for the board structure to be a separate objective body that acts independently of other firm management (Gregory and Simmelkjaer, 2002). The control model is more commonly used in places like Europe, Asia and Latin America, where there appears to be no clear separation of ownership and control rights, where shareholding is more concentrated and where owners hold seats on the board (La Porta et al., 2000; and Lin et al., 2006). Klapper and Love (2004) investigated 500 companies from 25 emerging markets and found corporate governance at a company level appears to be of paramount importance in emerging markets, which have poor investor protection. The study posits stronger institutional settings can act to substitute for company level corporate governance.

Durnev and Kim (2005) studied legal framework on the corporate governance practices of 859 companies from 27 countries and concluded that ownership structure, investment opportunities and the requirement for external finance all impact corporate governance quality. Companies with greater competence in governance were found to have greater value, measured using Tobin's Q ratio. Some studies have gauged the theory of the linking effects of corporate governance and dividend policies with performance. The results provide significant evidence towards corporate governance effect on Tobin's Q ratio and ROA (Bebczuk, 2005; Das et al., 2004).

Further, some studies have examined the extent to which ownership structure affects firm performance. The importance of corporate governance can be highlighted in scenarios in which there are conflicts of interest between managers and shareholders or between large controlling shareholders and small shareholders. In these scenarios, managers or the large shareholders are only entitled to a small share of the company's net revenue; however, they have full appropriation of resources (Bebczuk, 2005). Insiders of the firm are most likely to maximise their utility of both pecuniary and non-pecuniary benefits, even while the rest of the firm's shareholders do not. Such benefits are the result of the amount of power and influence managers and large shareholders have in companies' decision-making processes (La Porta et al., 2000; Claessens et al., 1999; 2001). These anomalies can be counterbalanced by implementing and enforcing good corporate governance in a

setting with an effective legal and regulatory environment. These mechanisms discourage any harmful activity by insiders and, if committed, can be brought in front of regulatory bodies and legal action may be pursued. The separation of firm cash flows and control rights might negatively impact small shareholders and the valuation of a firm. Jensen and Meckling (1976), Johnson et al. (2000) and Morck et al. (1988) argued that incentive effects of concentrated ownership can have potential benefits for firm performance and value.

Studies have consistently investigated the governance nexus (i.e., relationship between corporate governance and performance) directly or indirectly at an international level using cross-country firms (Claessens et al., 1999; La Porta et al., 2002) and country-specific data (Gompers et al., 2003; Black et al., 2006). Most literature has displayed the beneficial effects of corporate governance on both firms and the economy as a whole.

2.1. Board Size

Certain literature has investigated whether board size facilitates greater company efficiency. Generally, it has been found that smaller boards are more effective than larger ones. Yermack (1996) found that a smaller sized board is more effective in the US; this is corroborated by the results of other studies (Ahmed et al., 2006). Eisenberg et al. (1998) studied board size in small- and mid-sized companies and found smaller boards to be more effective. Further, Huther (1997) and De Andres et al. (2005) found larger board sizes to have a negative effect on firm performance. Mustafa (2006) and Chan and Li (2008) also found poor performance in firms with larger boards, as larger boards can suffer from poor coordination, communication and flexibility. Moreover, larger firms can become ineffective, lose their aims and become dominated by board CEOs (Jensen, 1993). In addition, Jensen (1993) suggested that small board sizes are associated with better monitoring function. Similarly, Lipton and Lorsch (1992) claimed board functions become less effective when boards become larger in size, and they recommended an ideal board size of 8-9 members. They also argued that any potential benefits from more board members would be offset from slower decision-making processes. In contrast, other studies (Bhagat and Black, 2002; Beiner et al., 2004; Limpaphayom and Connelly, 2006) failed to find any significant relationship between the size of the board of directors and performance of firms. A recent study of the Malaysian stock market by Zabri et al. (2016) found ROA to have a weak negative relation with board size, but when measured using ROE there were no significant relationship. Fernandez (2015) investigated the relationship between board size and the performance of firms from 7 European markets. The author based the hypothesis on the literature review and theory and hypothesised firm size to have a positive relation to board size. Furthermore, after an optimal board size it was hypothesised to affect firm performance negatively. The study found no significant evidence to support the hypotheses. Therefore, hypothesis H1 in this paper is as follows.

H1: Board size has a positive relation with firm performance (Saudi board size relative to other markets, are small with an average of 8 members on the board of directors)⁶.

2.2. Non-Executive and Independent Board Directors

Jensen and Meckling (1976) argued that boards with a higher number of external or non-executive directors may be able to mitigate agency issues by enabling boards to be more independent in scrutinising and controlling firm management behaviour. However, there are mixed findings from studies that have investigated the relation between board composition (i.e., the proportion of non-executive and/or independent directors) and firm performance. Rhoades et al. (2000), Dehaene et al. (2001), Othman (2003) and Lefort and Urzúa (2008) found that non-executive directors have a positive effect on performance of firms. Kamardin (2009) displayed a significant relation between non-executive directors and firm performance, as measured by the ROA. However, Coles et al. (2001) demonstrated external directors to have a negative effect on the performance of firms. Similarly, Erickson et al. (2005) showed negative relationship between increased board independence and the value of firms. Guo and Kumara (2012) investigated the Sri Lankan stock market and found a small negative relationship of non-executive directors with firm value. Some studies (Bhagat and Black, 2002; De Andres et al., 2005) resulted in no significant relation between the composition of boards and firm value. Bhagat and Bolton (2013) found mixed results over different time periods in their sample between 1998 - 2007 of the relation between board independence and operating performance. Pre-2002 displayed a significant negative relation and post 2002 displayed a significant positive relation. Rahman et al., (2015) proposes a similar pre- and post- Malaysian code of corporate governance study of the relation between board independence and firm performance. They hypothesised a positive association of the proportion of non-executive directors; although they did not carry out an empirical investigation to test their hypotheses. Liu et al., (2014) studied independent board directors in China and found it to have a positive impact on the operating performance of firms. Knyazeva et al., (2013) also found a positive relation between board independence and operating performance as well as firm value.

This study benefits from existing data on both non-executive directors and independent directors (also known as outside directors) in Saudi Arabia. However, the difference between the two in the Saudi market can be subtle, as both are meant to be impartial and work for the benefit of all stakeholders. Independent board members are no longer considered independent if they hold more than 5% of the issued shares of the firm, are representatives of another person who holds 5% or more of total shares, are related to any other people on the board or other executives, have held their position in the firm or any of the firm's entities in the last 2 years, are board members of another

company or have held a position in any affiliated companies in the last 2 years. Non-executive directors do not have a full-time management role in firms and receive no salary⁷. The two hypotheses tested in this context are as follows.

H2: Non-executive directors have a positive relation with firm performance.

H3: The total number of independent directors has a positive relation with firm performance.

2.3. CEO Duality

The board of directors is generally led by chairman whose roles involve running meetings, overseeing the processes of recruiting and the dismissal of CEOs, and evaluating CEO compensation (Jensen, 1993). The chairman should be independent to perform his or her leadership role objectively. The CEO may have self-interests; therefore, conflict in interests may arise (Fama and Jensen, 1983; Jensen, 1993). It is practical to have the chairman and CEO positions separate to reduce any dominating influence over the board of directors (Van Den Berghe and Levrau, 2004) and achieve an appropriate balance of power to make management more accountable and to improve the independent decisions made by the board without management influence (OECD, 2004).

Jensen and Meckling (1976) posited there is a high likelihood of CEOs who also hold the chairman position to adopt strategies for personal gain, which could impinge on the maximisation of shareholder wealth and inevitably have a detrimental impact on the firm. Mallette (1992) also argued that this duality leads to greater instances of conflicts of interest, as the CEO sets the board meeting agendas and has powers to influence selection of board directors. The study concluded CEO duality hinders board ability to monitor executives effectively.

However, there have also been mixed results on this issue of duality and CEOs. Shrivastav and Kalsie (2016), Peng et al., (2009), Coles et al. (2001), Bhagat and Bolton (2008), Feng et al. (2005) and Mustafa (2006) found a significantly negative relation between CEO duality and firm performance. However, Schmid and Zimmermann (2008) and Wan and Ong (2005) did not find any significant differences between firms with or without CEO duality. Moscu, on the other hand, (2015) found a positive relation between CEO duality and performance in Romanian firms. In light of the above, hypothesis H4 is as follows.

H4: CEO duality has a negative relation with firm performance.

2.4. Audit Committee Size

Audit committee size is viewed as a characteristic of the effectiveness of the audit committee as a corporate governance mechanism (Cadbury Committee, 1992). Corporate governance reports, such as the Corporate Governance Regulation (CMA, 2006), propose a minimum of three members on an audit committee. Braiotta (2000) and Karamanou and Vafeas (2005) state that large audit committees have better organisational abilities and authority as

⁶ See descriptive statistics of this paper

⁷ CMA Corporate Governance Regulations (2006). <http://www.cma.org.sa/En/Documents/CORPORATE%20GOVERNANCE.pdf>

well as a wide knowledge base. However, Karamanou and Vafeas (2005) argue that, if audit committees are too large, they can become ineffective. Processes and responsibilities may become lost, and, ultimately, committees may fail to quickly and accurately complete the tasks they are supposed to do. Aldamena et al. (2012) found smaller audit committees with greater experience relate positively to firm performance. Thus, hypothesis H5 is as follows.

H5: Audit committee size has a positive relation with firm performance.

2.5. Management Share Ownership

Jensen and Meckling (1976) view management ownership of shares to be a good mechanism that aligns management interests to that of shareholders. However, Shleifer and Vishny (1997) and Khan et al. (2011) show that high management ownership can help poorly performing managers hold their posts, thus lowering the effectiveness of governance and promoting the inefficient use of the market for corporate control.

The effect of the ownership of shares by management on firm performance has displayed mixed results. A positive relation has been found in developed countries such as the US and Japan (Morck et al., 1988; Hiraki et al., 2003) and in certain developing countries like the Czech Republic, Slovenia and Malaysia (Claessens, 1997; Claessens et al., 1999; and Amran and Ahmad, 2013). However, a study of Korean firms by Baek et al. (2004) found that higher management ownership in terms of the concentration of shares led to greater equity losses during the 1997 financial crisis in Korea. This supports the study by Joh (2003), which also found a negative relation between management ownership and company performance in Korea. Bos et al., (2011) found mixed results according to concentration levels of management ownership of shares in the UK. Management ownership of less than 5% displayed a maximisation of firm wealth. Ownership levels between 5% and 15% displayed a negative relation to firm performance and ownership stakes above 15% displayed a positive effect on share value.

This study uses two mechanisms to investigate the impact of management share ownership: the total number of shares owned by top executives and the total number of CEO shares. Thus, the following two hypotheses were tested.

H6: The total number of shares owned by managers has a positive relation with firm performance.

H7: The total number of CEO shares has a positive relation with firm performance.

2.6. CEO Turnover

CEO turnover is an important variable that describes the replacement of CEOs due to their poor performance. Many studies have found an inverse

relation between firm performance and CEO turnover (Coughlan and Schmidt, 1985; Conyon and Florou, 2002 and Jenter and Kanaan, 2015).

Friedman and Singh (1989) argued that, although firm performance is a major factor that affects CEO turnover, other factors are important and cannot be overlooked, such as whether the existing CEO is closer to retirement age, whether CEO departure is voluntary and whether the replacement CEO was found beforehand.

Volpin (2002) and Gibson (2003) argued that CEO turnover is higher in firms with good governance systems and found that the likelihood of CEO turnover increases with poor prior stock returns. This implies that the board of directors looks after the rights of shareholders (Weisbach 1988; Furtado and Rozeff, 1987). On the other hand, Rachpradit et al. (2012) found no association between the probability of CEO turnover and firm performance. However, it has been argued that CEO turnover is crucial for the development of firms (Chang and Wong, 2004). Thus, hypothesis H8 is as follows.

H8: CEO turnover in Saudi Arabia has a negative relation with firm performance.

3. DATA AND METHODOLOGY

This paper focuses on corporate governance mechanisms in Saudi Arabian listed firms utilising the maximum available data at the time of download from January 2007 to December 2014. In total, 169 listed firms from the Saudi stock market were used in this sample. The data was obtained from various sources, including Tadawul, Mubasher and the Saudi CMA. The study measured firm performance using stock returns.

Al-Matari et al. (2012) suggested that certain corporate governance mechanisms could affect the performance of firms, such as CEO duality, board composition, board size and audit committee size. This study includes additional variables that have not been previously investigated, including management ownership of shares and CEO turnover.

The aim of this paper is to study the relation between listed firm performance and corporate governance mechanisms measured through independent variables using regression models. This study adds additional corporate governance mechanisms to the Fama and French (1993) three-factor model to capture the relation between corporate governance and firm performance in the Saudi market. Different regression models were used to study the chosen governance variables. Since we used the monthly cross-sectional time-series data of 169 companies (from January 2007 to December 2014), we used longitudinal data regression (i.e., panel data) and employed random-effects generalised least squares (GLS) regression to estimate the regressions.

Equation (1) shows Fama and French (1993) three-factor model.

$$R_{pt} - R_{ft} = \alpha_p + \beta_1[R_{mt} - R_{ft}] + \beta_2[SMB] + \beta_3[HML] + \mu_{pt} \quad (1)$$

Where:

R_{pt} = the return on the portfolio or stock p at time t;

R_{ft} = the return on the risk-free asset at time t;

α_p = the intercept of the model for the portfolio or stock p;

β_1 = the systematic risk of the portfolio or stock p;

R_{mt} = the return of the market portfolio at time t ;
 SMB = the small-minus-big estimates of the size of the stock;
 β_2 = the measure's exposure to the stock size;
 HML = the high-minus-low estimates of the book-to-market ratio of stocks; and

β_3 = the measure's exposure to stocks with a high book-to-market ratio.

Equation (2) describes our model to investigate the effects of corporate governance (CG) mechanisms on Saudi listed stocks.

$$R_{pt} - R_{ft} = \alpha_p + \beta_1[R_{mt} - R_{ft}] + \beta_2[SMB] + \beta_3[HML] + \beta_4[CG \text{ VARIABLE}] + \mu_{pt} \quad (2)$$

Where:

R_{pt} , R_{ft} , α_p , $\beta_1 R_{mt}$, SMB, β_2 , HML, and β_3 are the same as in Equation (1);

CG variable = the various corporate governance mechanisms;

β_4 = the measure's exposure to the corporate governance variable on firm performance; and

μ_{pt} = the error term at time t .

The various corporate governance variable employed in this study are as follows:

- Board size (i.e., the total number of directors on the board of directors);
- Non-executive directors (i.e., the total number of non-executive directors on the board of directors);
- Independent directors (i.e., the total number of independent directors on the board of directors)
- CEO duality (i.e., when the chairman and CEO positions are held by the same person; the variable is equal to 1 if CEO duality exists and 0 otherwise);
- Audit committee size (i.e., the total number of members on the audit committee);
- Total number of shares owned (i.e., the total number of shares owned by directors);
- CEO ownership of the firm's shares (i.e., the number of shares owned by the CEO);
- CEO turnover (i.e., the change in CEO; the variable is equal to 1 if the CEO changes and 0 otherwise).

To execute the methodology, the small-minus-big (SMB) and high-minus-low (HML) estimates from Equations (1) and (2) were calculated. First, the firm size (i.e., the firm's market equity) was calculated, which is the price multiplied by the number of shares. Then, the book-to-market equity (i.e., the ratio of a firm's book value of common stock to its market value) was calculated. Both variables have been argued to have explanatory power in terms of market returns and consider the effects of certain variables, such as leverage and the price to earnings ratio on firms' returns (Fama and French, 1993).

The size variable (i.e., the SMB) and the book-to-market equity variable (i.e., the HML) are mimicking portfolios that are obtained by creating six portfolios that copy the underlying risk factors associated with firm size and book-to-market equity. This was done by first calculating the median and splitting the Saudi stocks into two portfolios by size (as small [S] or big [B]). Then, the Saudi stocks were sorted into three book-to-market equity portfolios using the following breakpoints: 30% (low [L]), 40% (middle [M]) and 30% (high [H]). It has been argued that the book-to-market equity has more explanatory power for returns than the size of firms; thus, it was split into three groups instead of two. Then, six portfolios were constructed from the two size portfolios and the three book-to-market portfolios: S/L, S/M, S/H, B/L, B/M and B/H. The S/L portfolio includes small stocks that are also present in low book-to-market portfolios, and the B/M portfolio includes big stocks that are also present in middle

book-to-market portfolios. The monthly value-weighted returns from the six portfolios were calculated from month to month (Fama and French, 1993).

SMB considers the risks faced by firms due to their size. Small-stock portfolios (S/L, S/M and S/H) and big-stock portfolios (B/L, B/M and B/H) differ by size; therefore, SMB represents the difference between the returns of small- and big-stock portfolios with approximately the same weighted average book-to-market equity. This allows for differentiation of the effects of returns from small and big stocks and for the separation of the impact on returns from differences in the book-to-market equity. The book-to-market factor (i.e., HML) replicates the risk factors for returns related to the book-to-market equity. HML represents the difference between the two-high book-to-market portfolios (i.e., S/H and B/H) and the two-low book-to-market portfolios (i.e., S/L and B/L) in terms of the simple average monthly return. HML represents the return of the high and low book-to-equity portfolios with about the same weighted average size. Therefore, the difference between the two returns should be free from the effects of size on the returns and focuses on the difference in returns between high and low book-to-market equity firms.

3.1. Descriptive Statistics

Table 1 displays the descriptive statistics for all the variables. The standard deviations of 8 of the 12 variables are much larger than the mean. This indicates that the data is spread widely or that the mean does not represent the data. Calculating the median for each variable is a more appropriate measure since the median has similar values to the mean.

Saudi boards have an average of 8 members, which is regarded as a small board globally, with a minimum of 4 and maximum of 13 members. The average number of non-executive directors is 4, which is half of the average board size. Non-executives on the board range from a minimum of 0 to a maximum of 11 members. Similarly, on average, there are 4 independent board directors, with a minimum of 0 and a maximum of 11 members. The average audit committee size is 3 members, with a minimum of 1 and a maximum of 7 members. The standard deviation values for board size, non-executive directors, independent directors and audit committee size are all much smaller than the means, suggesting that the data here is distributed closer to the mean values.

In Saudi Arabia, only 8 of the 169 firms in this sample had CEO duality, with an average value of 0.035. CEO turnover had an average value of 0.152. The total number of shares owned by managers and CEOs had mean values of 38,359,000 and 691,543, respectively.

Table 1. Descriptive Statistics

Variable	Mean	Median	Minimum	Maximum	Standard Deviation
Rp-Rf	0.363	-0.231	-66.021	396.171	13.800
SMB	-1.001	-1.773	-16.878	16.092	5.914
HML	-2.344	-1.947	-17.101	6.279	4.372
Rm-Rf	-0.186	1.281	-26.379	20.332	7.359
Board Size	8.450	9	4	13	1.624
Non-Executive Director	4.377	4	0	11	2.437
Independent Board Directors	4.258	4	0	11	1.941
CEO Duality	0.035	0	0	1	0.184
Audit Committee Size	3.355	3	1	7	0.678
Total Number of Shares Owned	38,359,000	2,161,490	0	6,039,000,000	318,011,000
Number of CEO Shares	691,543	1,000	0	36,401,000	3,071,100
CEO Turnover	0.152	0	0	1	0.359

Table 1 provides descriptive statistics on all the variables and corporate governance mechanisms

4. RESULTS AND DISCUSSION

4.1. Correlation analysis

Table 2 displays the 8 independent variables: board size, non-executive directors, independent board directors, CEO duality, audit committee size, total number of shares owned, CEO shares and CEO turnover. None of these variables had significant associations or correlations with the dependent variable Rp-Rf. However, significant positive and negative correlations existed between the independent variables (Table 2). For example, the independent variable representing CEOs number of shares was shown to have significant positive and negative associations with six of the other independent variables. Similarly, CEO duality was shown to have significant negative associations with three other independent variables.

4.2. Regression Analysis

Table 3 shows the Fama and French model, which explains the cross-section of returns in the Saudi stock market between January 2007 and December 2014, as displayed by the significance of the variables. Furthermore, most of the corporate governance variables included in the analysis have no significant impact, except for CEO turnover and independent board directors. R-Sq, the percentage of variability in the dependent variable determined by the independent variables, was found to be at 32–34%, which is an expected result. Three other aspects of each model were analysed: the signs of the coefficients, the values of the correlations between all the variables and the significance of these correlations. If the sign is positive, the independent variable displays a positive relation with firm performance; if the sign is negative, then the relation is negative.

Board size displayed a negative coefficient of -0.029; however, it is not significant. The P-value of the corresponding coefficient equals 0.619, which is much greater than $\alpha = 0.05$; thus, the null hypothesis ($H_0: \beta = 0$) was not rejected at the 5% level of significance. Therefore, Saudi board size has no significant impact on Saudi firm performance. In the study by Al-Matari et al. (2012), board size also displayed a negative relation as predicted, but it was also insignificant. Kamardin (2009) stated that this non-significant relation in the Saudi stock market could be caused by the overwhelming influence and power of CEOs. However, Fallatah and Dickins (2012) separately studied optimal board size and found a

significant positive relation with firm value, measured through the Tobin's Q ratio. Ghabayen (2012) found no significant relation between board size and firm performance using ROA as their performance measure.

The number of non-executive directors, as a corporate governance mechanism, has a small negative coefficient of -0.050, but it is not significant. The corresponding P-value is 0.195, which is greater than $\alpha = 0.05$; thus, we could not reject the null hypothesis ($H_0: \beta = 0$) at the 5% level of significance. The number of non-executive directors on the board has no significant relation with stock performance. Al-Matari et al. (2012) looked at board composition of non-executive directors and found a similar negative relation, although it was also not significant.

Independent board directors also displayed a negative relation, but it is only significant at the 10% level. The corresponding P-value equals 0.089, which is less than 0.1, so we rejected the null hypothesis at the 10% level of significance. However, the result was in opposition to this study's prediction in H3. It is worth highlighting that, although the correlation estimate has a negative value, it is still very close to zero and only significant at the 10% level. Therefore, some caution is required when drawing conclusions from this result. Fallatah and Dickins (2012) focused on board independence as part of an index and also found its negative relation to firm value; thus, the findings of this study are supported by that of Fallatah and Dickins (2012).

Ghabayen (2012) investigated Saudi board composition as a ratio of independent to non-independent directors' and its effect on firm performance. The study displayed a negative and significant relation between board composition and firm performance. This negative relation implies that an increasing number of independent directors on the board have a negative impact on the performance of firms. While this result concurs with the results of this study, caution is required before concrete conclusions are drawn. This result can be benefitted by further extensions of study and even testing for causality.

CEO duality has a positive coefficient of 0.638, however, it is not significant with a P-value of 0.240. Thus, these results do not allow for the rejection of the null hypothesis. Further, CEO duality has no significant impact on stock performance, even with a positive coefficient. Al-Matari et al. (2012) found a negative relation in terms of CEO duality, as they hypothesised. Although we found a positive relation, the results were not significant.

Table 2. Correlation Analysis

	Rp-Rf	SMB	HML	Rm-Rf	Board Size	Non-Executive Directors	Independent Board Directors	CEO Duality	Audit Committee Size	Total Number of Shares Owned	Number of CEO Shares	CEO Turnover
Rp-Rf	1											
SMB	0.336*** (0.000)	1										
HML	-0.158*** (0.000)	-0.441*** (0.000)	1									
Rm-Rf	0.516*** (0.000)	0.215*** (0.000)	-0.102*** (0.000)	1								
Board Size	0.001 (0.916)	0.002 (0.822)	0.001 (0.905)	0.009 (0.318)	1							
Non-Executive Directors	-0.014 (0.133)	0.018** (0.048)	-0.006 (0.515)	-0.017* (0.061)	0.337*** (0.000)	1						
Independent Board Directors	-0.017* (0.065)	0.011 (0.218)	-0.003 (0.725)	-0.016* (0.073)	0.406*** (0.000)	-0.014 (0.114)	1					
CEO Duality	0.006 (0.493)	-0.004 (0.690)	0.001 (0.870)	-0.001 (0.894)	-0.118*** (0.000)	-0.058*** (0.000)	-0.133*** (0.000)	1				
Audit Committee Size	0.002 (0.855)	-0.010 (0.271)	0.004 (0.682)	0.014 (0.105)	0.254*** (0.000)	0.139*** (0.000)	0.124*** (0.000)	-0.034*** (0.000)	1			
Total Number of Shares Owned	0.006 (0.558)	0.008 (0.390)	-0.001 (0.925)	0.010 (0.263)	0.023** (0.012)	-0.045*** (0.000)	-0.034*** (0.000)	-0.019** (0.042)	-0.003 (0.735)	1		
Number of CEO Shares	0.004 (0.665)	0.002 (0.797)	-0.005 (0.599)	-0.001 (0.939)	0.031*** (0.001)	-0.035*** (0.000)	-0.056*** (0.000)	0.148*** (0.000)	-0.042*** (0.000)	0.087*** (0.000)	1	
CEO Turnover	-0.006 (0.483)	0.003 (0.760)	0.012 (0.168)	0.027*** (0.002)	0.062*** (0.000)	0.044*** (0.000)	0.073*** (0.000)	-0.054*** (0.000)	-0.013 (0.161)	-0.037*** (0.000)	-0.062*** (0.000)	1

Table 2 provides the correlation results for all the variables. The standard errors are in parentheses, and asterisks *, ** and *** indicate significance at 10%, 5% and 1%, respectively.

Table 3. Regression Results

Corporate Governance Mechanism	Alpha	Rm-Rf (Beta 1)	SMB (Beta 2)	HML (Beta 3)	CG Mechanism (Beta 4)	R-Sq
Three-Factor Model	.779*** (.188)	.921*** (.015)	.545*** (.020)	-.105*** (.025)	-	0.32
Board Size	.943* (.504)	.917*** (.014)	.493*** (.019)	-.082*** (.024)	-.029 (.058)	0.34
Non-Executive Directors	.898*** (.204)	.928*** (.014)	.498*** (.019)	-.087*** (.024)	-.050 (.038)	0.34
Independent Board of Directors	1.069*** (.242)	.924*** (.014)	.503*** (.019)	-.081*** (.024)	-.083* (.049)	0.34
CEO Duality	.669*** (.116)	.919*** (.014)	.494*** (.019)	-.085*** (.024)	.638 (.543)	0.34
Audit Committee Size	.888* (.472)	.919*** (.014)	.483*** (.019)	-.079*** (.024)	-.060 (.137)	0.34
Total Number of Shares Owned	.688*** (.121)	.929*** (.015)	.484*** (.020)	-.095*** (.025)	-0.000 0.000	0.33
Number of CEO Shares	.739*** (.122)	.927*** (.015)	.531*** (.020)	-.096*** (.025)	0.000 0.000	0.33
CEO Turnover	.766*** (.122)	.923*** (.014)	.476*** (.019)	-.086*** (.024)	-.678*** (.261)	0.33

Table 3 displays the results of Fama and French's three-factor model of regression. It also displays the regression results for the fourth corporate governance variable, which is included in Fama and French's original three-factor model, for 169 listed firms on the Saudi stock exchange between January 2007 and December 2014. The model is as follows:

$$R_{pt} - R_{ft} = \alpha_p + \beta_1[R_{mt} - R_{ft}] + \beta_2[SMB] + \beta_3[HML] + \beta_4[CG \text{ VARIABLE}] + \mu_{pt}$$

where, $R_{pt} - R_{ft}$ is the excess return of stock p at time t over the one-month US T-bill rate. $R_{mt} - R_{ft}$ is the excess market return of the Tadawul All Share Index (TASI) at time t ; α_p and β_1 are coefficients that estimate overperformance and systematic risk, respectively. β_2 estimates stock exposure to the small-minus-big (SMB) factor, and β_3 estimates stock exposure to firms with a high book-to-market ratio (HML). β_4 estimates the impact of the CG variable on stock performance, while μ_{pt} is the error term. The standard errors are in parentheses, and asterisks *, ** and *** indicate significance at 10%, 5% and 1%, respectively.

The size of the audit committee has a very small negative coefficient of -0.060 and is not significant. The P-value equals 0.662, which is higher than 0.05. Therefore, we could not reject the null hypothesis and concluded that firms' audit committee size has no significant relation with performance of firms. Al-Matari et al. (2012) found a significant negative effect of audit committee size on firm performance. This study found a very small negative correlation, but it was not significant. Since we used a larger data set and a longer time series, this could imply certain positive changes occurring in the structure of the Saudi market. Similarly, Ghabayen (2012) found a negative coefficient for audit committee size, although its relation to firm performance was not significant.

The total number of shares owned by board members had no significant relation with stock performance, with a P-value of 0.863. Therefore, we could not reject the null hypothesis and concluded that the number of shares owned by management has no significant association with firm performance. The number of shares owned by CEOs also has no significant relation with stock performance, with a P-value of 0.611; thus, we could not reject the null hypothesis. Fallatah and Dickins (2012) displayed that insider ownership does not have any relation with firm performance and does not impact the relation between Saudi corporate governance and firm value; this is consistent with our results. However, Fallatah and Dickins (2012) studied individual corporate governance characteristics separately and found a negative effect of executive stock ownership on firm value. Furthermore, when the authors studied director stock ownership guidelines, they found that it has a significant positive impact on firm value.

The variable of CEO turnover as a corporate governance mechanism was employed. It displayed a negative coefficient of -0.678 with a P-value of 0.009, which is less than 0.01 and is therefore significant at the 1% level; thus, we rejected the null hypothesis. This indicates greater CEO turnover is associated with negatively performing firms. This is intuitive, as a change in CEOs sends a negative signal to investors and stock market participants, which, in turn, is likely to influence negative stock returns of firms that may have already been underperforming. Although this study finds a significant relation of CEO turnover with firm performance, it does not shed light on the causality directions of the variables i.e. whether CEO turnover causes firm performance or firm performance causes CEO turnover. This study can be extended to further delve deeper and wider with additional econometric tests and models that can also be used for the other variables.

5. CONCLUSION

This comprehensive study analysed pertinent variables to deduce any relation with firm performance. The study was conducted in response to the rather limited academic literature on the implementation of corporate governance principles and its impact on Saudi firm performance. This area of study is an evolving one, and the future trajectory of corporate governance in Saudi Arabia remains uncertain.

A statistical analysis was conducted using correlation and regression models to gauge the

relationship between the chosen variables and firm performance. CEO turnover showed a negative correlation; greater CEO turnover is related with negative performance. Plausible reasons for this may be the resulting low confidence of the market and investors in the firm as well as the rather implicit suggestion that the company is not being led efficiently. The study also found that independent board directors had a negative impact on firm performance; however, this effect had a very small negative value close to zero that was only significant at the 10% level. Therefore, some caution is required when interpreting this result.

Although not all available data show the other variables to have a significant relation with business performance, this could change in the future as Saudi Arabia expedites more corporate governance practices and as its economic paradigm and model begin to echo those of developed economies. Corporate governance is a relatively new phenomenon in the context of Saudi Arabia; hence, it is still evolving.

Although it is beyond the scope of this study, it would be interesting to investigate whether the current corporate governance model, which essentially emanates from the West, is suitable for use in developing countries, which have different political models, economic models and business cultures. Perhaps a more viable model that adheres to the epistemological and ontological frameworks used in Saudi businesses could be established.

This study has found two corporate governance mechanisms to have a significant relation with firm performance. An extension of this study can be made by further econometric tests such as causality studies that shed light on the direction and causes which were outside of the main aims of this investigation. It is promising that as time passes, increased adherence to good corporate governance with more data being available with greater focus on the Saudi market will lead to many more studies.

Despite certain limitations, this study provides a meaningful contribution to Saudi corporate governance regulators to assess the current relation and effectiveness of recent policies on the performance of the Saudi stock market. It will help forge future policy decisions and areas for focus as well as evaluate current practices. It can also help potentially solve global investment issues and ensure security. There are also benefits to investors in Saudi market in particular the large number of retail investors. It will also benefit foreign investors and institutions as this study sheds some light on the performance of the Saudi stock market and corporate governance mechanisms. Furthermore, company directors and managers can benefit too by evaluating their performance relative to the market with specific objectivity in relation to implementation of corporate governance mechanisms and its relation perceived by outside investors and shareholders.

This study was conducted in response to the rather limited literature available in relation to the Kingdom of Saudi Arabia. Its minimum aim is to contribute to and help fill this gap by conducting a comprehensive study of the current corporate governance mechanism and determine the existence of any significant relation with stock market performance.

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