

Investment opportunities, corporate governance quality, and firm performance in the UAE

Investment opportunities
in the UAE

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Abstract

Purpose – This paper examines the influence of investment opportunities on firm performance and evaluates corporate governance practices in the United Arab Emirates (UAE) to determine whether corporate governance quality moderates that influence.

Design/methodology/approach – A fixed-effects regression was employed to examine the influence of investment opportunities on firm performance and the role of corporate governance quality as a moderator for all listed firms on the Abu Dhabi Stock Exchange (ADX) and the Dubai Financial Market (DFM). We examined 501 firm-year observations for the period when the corporate governance code in the UAE was coming into force, from 2008 to 2012.

Findings – The regression results indicate that investment opportunities have a negative influence on firm performance. The corporate governance index used here shows that the level of corporate governance practiced in the UAE is weak. We also find that strong corporate governance ameliorates the negative influence of investment opportunities, which supports our hypotheses. The sub-indices of corporate governance that matter the most for moderating investment opportunities are board functioning and ethics.

Practical implications – The results of this paper reflect the need to examine corporate governance in the context of the external environment represented by investment opportunities in our study. The findings could raise awareness of the importance of strong corporate governance practices, not only to directly improve firm performance but also through its influence on external variables. Legislators, regulators and other interested parties could use these results to examine practices in the UAE following the implementation of the corporate governance code.

Originality/value – This study contributes to the literature by evaluating the role that corporate governance quality and its components could play in firm performance and indirectly moderating other external factors (such as investment opportunities).

Keywords Corporate governance quality, Investment opportunities, Firm performance, The UAE

Paper type Research paper

1. Introduction

Following the global financial crisis, it was generally realized that weak corporate governance can have potential macroeconomic, long-term and distributional consequences (Claessens and Yurtoglu, 2013). Companies have massive exposure to each other and to the external environment because their corporate governance is connected to their strategies, which are impacted by their external environment in a tight mesh of interconnecting factors (Al-Gamrh *et al.*, 2018; Hutchinson and Gul, 2004). The board of directors plays a vital role in a successful corporate governance system (Adawi and Rwegasira, 2011) and in the functioning and profitability of a company (Dzingai and Fakoya, 2017).



Growth is desirable for companies and for any country's economy as a whole. Using contracting theory, previous studies suggest that there is a negative influence of investment opportunities on firm performance (Baker, 1993; Gul, 1999). Firms for which more investment opportunities are available tend to spend more to take advantage of them. These firms incur greater costs, including higher monitoring costs, higher compensation, more use of stock options, and the additional cost of using alternative accounting performance measures (Anderson *et al.*, 1993; Bushman *et al.*, 1996; Gaver and Gaver, 1993; Skinner, 1993; Smith and Watts, 1992).

The quality of corporate governance that mitigates this negative influence is based on the assumption from agency theory that corporate governance reduces agency costs (Jensen and Meckling, 1976). There is greater information asymmetry for firms that have greater investment opportunities because managers have information on the value of future projects that is not available for shareholders (Ali *et al.*, 2018). This information asymmetry can be reduced by the presence of strong corporate governance. This study examines how the negative influence of investment opportunities on firm performance can be mitigated by the implementation of good corporate governance practices.

Previous studies that focus on the direct relationship between corporate governance and firm performance find mixed results (Abdullah *et al.*, 2014; Aebi *et al.*, 2012; Owusu and Weir, 2016; Peni and Vähämaa, 2012). Some find a negative impact of corporate governance variables on performance (Aebi *et al.*, 2012; Beltratti and Stulz, 2012; Erkens *et al.*, 2012), which contradicts agency theory. However, these studies limit themselves to examining the direct impact of corporate governance variables.

However, corporate governance is more clearly seen in its indirect effects (Hutchinson and Gul, 2004; Rabi *et al.*, 2010). Some previous studies have separately examined the interaction of corporate governance variables and not the quality of corporate governance as a complete system that could affect different companies differently. In fact, the interactions found between individual corporate governance variables imply that they are not independently determined (Gillan *et al.*, 2003). Empirical evidence has shown that the interdependence of several corporate governance variables can result in better control of agency problems (Agrawal and Knoeber, 1996; Bekiris and Doukakis, 2011). Lan and Li (2007) indicate that corporate governance can be examined more effectively as an entire system because individual variables may affect each other.

Therefore, we examine the moderating role of corporate governance quality in the relationship between investment opportunities and firm performance in the UAE, an emerging market with a high rate of investment opportunities. Dubai was ranked as having the highest construction growth in the world before the financial crisis (Langdon, 2008), when its growth was interrupted. The UAE Minister of the Economy indicated that the lack of corporate governance was a major failure that contributed to the UAE's financial crisis (AMEinfo, 2010), similar to what was reported by the US Financial Crisis Inquiry Committee (FCIC, 2011).

This article makes three major contributions. First, it evaluates the corporate governance practices of the listed firms on the Abu Dhabi Stock Exchange (ADX) and the Dubai Financial Market (DFM) over the critical five-year period of 2008–2012, the introduction of the corporate governance code to the UAE. Second, it highlights the important influence of investment opportunities on firm performance, a topic that has not been well studied globally (Sardo and Serrasqueiro, 2018).

Third, this article integrates a review of corporate governance quality and its components, namely, disclosure, board composition, and ethics, as a moderator for the relationship between investment opportunities and firm performance. The empirical undertaken here test expands our understanding of how investment opportunities influence firm performance and how this influence is affected by corporate governance quality and its components. The remainder of the paper is organized as follows. Section 2 reviews corporate governance in the

UAE. In [Section 3](#), a literature review is conducted, and hypotheses are developed. Following this, the research design and data collection are presented in [Section 4](#). [Section 5](#) reports the results, and [Section 6](#) concludes the study.

2. Corporate governance in the UAE

The UAE exhibits a growing economy and is developing into a financial and commercial hub for its region. Stock markets in the UAE were only established in 2000. To build trust in them and to gain investors' confidence, the government produced targeted legislation, including regulations for corporate governance. To meet this need, the UAE Securities and Commodities Authority (SCA) introduced its Corporate Governance Code in 2009, which applies to all listed firms on the ADX and the DFM; this code came into force in April 2010. The Corporate Governance Code is based on the high standards of international corporate governance. It consists of 16 main articles that cover all aspects of corporate governance in a firm. These articles are summarized in [Table 1](#).

Article number	Function
1	Gives the definitions for the code, including clarification of its terms
2	Appoints the SCA as official regulator of corporate governance for listed firms and indicates the scope of application of the code, including all listed firms with the exception of foreign, government-owned and financial companies
3	Sets the method for appointing boards of directors. For example, one-third of the board members shall be independent, and the chief executive officer (CEO) and the chairman of the board should be different individuals
4	Defines the authority of the chairman of the board of directors
5	Lists the duties and responsibilities of the board of directors, oriented toward the main aim of creating wealth and working in the shareholders' interests
6	Requires the board to form directly affiliated board committees and explains the role of these committees, including the audit, remuneration and nomination committees and the methods of their establishment
7	Discusses the remuneration of the board. The article clarifies that board members' remuneration should not exceed 10% of the corporation's net profits
8	Sets out the rules of the internal control system and explains the objectives and powers for internal audits. The internal control system should be independent and report directly to the board of directors, and the main elements that should be covered by the system and the importance of disclosures are covered
9	Describes the audit committee and explains the process of forming such a committee, along with its duties and responsibilities
10	Imposes the requirements for external audit and the procedures for auditor appointment
11	Discusses the rights of the board of directors to delegate authority. Explains the power of the board of directors to delegate a board member or firm executive to handle certain administrative issues
12	Outlines shareholders' rights, such as the right to distribute dividends and attend and vote in the general assembly meetings, taking part in deliberations and granting access to the firm's financial reporting
13	Explains the code of conduct and urges firms to implement environmental and social policy toward local society
14	Requires all listed firms to issue a corporate governance report that details adherence to the requirements of the SCA, including any violations of the code during the previous financial year
15	States the administrative penalties that could be imposed on firms that violate the code, including suspension or delisting or a financial penalty
16	Sets April 30, 2010, as date that the code comes into effect for listed firms

Table 1.
Summary of the UAE
corporate
governance code

3. Literature review and hypothesis development

The theoretical framework of this study is based on two main theories. Hussain *et al.* (2018) acknowledge the need for more than one theory to be used for corporate governance research. This study brings Agency Theory and Contracting Theory to bear.

Agency Theory provides an explanation of the relationships among principals and agents in economic resources, where the principals are the shareholders, and the agents are the managers who control the resources of the firm (Jensen and Meckling, 1976). It draws attention to the fact that managers have more information than shareholders because they have more control over firm operations, which make it difficult for shareholders to monitor them effectively (Adams, 1994). Therefore, because the agents/managers have additional information on economic resources, they may tend to maximize their own interests at the expense of those of their principals (Dzingai and Fakoya, 2017; Hussain *et al.*, 2018).

Corporate governance mechanisms are used in most shareholding organizations to manage conflicts that might occur between managers and shareholders. Corporate governance can create effective monitoring and mitigate any opportunistic behaviors by the management that might hurt minority shareholders (Al-Jaifi *et al.*, 2017). However, the arrangements that are necessary to mitigate agency costs may also have other high costs, namely, direct costs could be incurred in the design, execution, and enforcement of contracts between conflicting parties with different interests (Fama and Jensen, 1983). Loss might accrue to principals when they seek to impose absolute monitoring of agents or where agents must guarantee to principals that there is no divergence in their interests (Jensen and Meckling, 1976).

Further, Agency Theory considers agency costs to be a driver of maintaining certain quality of corporate governance. Such costs are associated with divergent agency problems or information asymmetry. For instance, in Agency Theory, information asymmetry is more frequent in firms with greater investment opportunities (Hutchinson and Gul, 2004). Previous studies have found that such firms must respond to more related issues, such as consideration of the best use to make of stock options and the addition of compensation levels, which might increase monitoring costs and the incentive to adopt other accounting measures of performance and reporting (Gaver and Gaver, 1993; Smith and Watts, 1992). Gillan *et al.* (2003) argue that greater discretion in project selection could be accompanied by management action to take advantage of greater opportunities, which could make board monitoring more beneficial for high-growth industries or those that have additional investment opportunities.

Ali *et al.* (2018) suggest that the difficulty of monitoring management varies in companies with different levels of investment opportunities. Other studies argue that the cost of monitoring is greater for companies with greater investment opportunities because these companies have large communication costs and information acquisition (Chen, 2015; Coles *et al.*, 2008; Monem, 2013).

Taking another view on governance and investment opportunity, using Contracting Theory, Smith and Watts (1992) propose that investment opportunities can contribute significantly to the determination of corporate governance and financial policies. They indicate that environmental factors could influence several aspects of corporate governance. Contracting Theory is derived from a combination of particular models with analyses and perceptions of the ways in which companies generally construct contracts, and this provides a way to forecast relationships between investment opportunities and variables of corporate policies (Baker, 1993). Furthermore, Hutchinson and Gul (2004) suggest that Contracting Theory indicates a negative relationship between investment opportunity and firm performance. Therefore, we develop the following hypothesis

- H1. There is a negative relationship between investment opportunities and firm performance.

Corporate governance controls are intended to encourage management to achieve the objectives that can maximize shareholders' wealth and limit activities that might reduce the wealth of shareholders (Hutchinson and Gul, 2004). It is also suggested that managers could act contrary to owners' interests in the absence of such controls (Fama and Jensen, 1983). These considerations indicate the potential importance of the governance system and its possible moderating relationship with firm performance. Corporate governance helps advance and stabilize firm performance and ensures accountability and transparency (Faruqi *et al.*, 2019).

Therefore, firms with good corporate governance quality may receive better monitoring, and the shareholder–manager conflict of interests may be mitigated, which in turn can reduce agency costs (Dittmar and Mahrt-Smith, 2007; Masulis *et al.*, 2007). Shareholders in firms with high investment opportunities may prefer strong governance mechanisms to ensure their survival. Strong corporate governance could decrease the information asymmetry that may arise in firms with high growth as a result of possession by managers of private information on the value of future projects that is not available to shareholders (Ali *et al.*, 2018).

Firms with more investment opportunities tend to spend more to take advantage of them, which reflects negatively on firm performance. Previous studies have indicated that firms with greater investment opportunities have higher monitoring costs, pay higher compensation, and incur a variety of other higher costs as assessed by alternative accounting performance measures (Anderson *et al.*, 1993; Bushman *et al.*, 1996; Gaver and Gaver, 1993; Skinner, 1993; Smith and Watts, 1992; Sun *et al.*, 2014). However, corporate governance, according to Agency Theory, moderates the negative relationship, as monitoring and incentives are major governance functions that can lower agency costs and information asymmetry.

Investment opportunities worldwide were affected by the exogenous shocks of the global financial crisis. Some studies have indicated that corporate governance is a better tool to explain variations in firm performance indirectly through a firm's organizational environment. Three such studies in particular have suggested that the level of investment opportunities is an important organizational and environmental variable (Chen *et al.*, 2010; Hutchinson and Gul, 2004). Thus, it is posited in some research that the negative relationship between investment opportunities and firm performance is moderated by corporate governance (Baker, 1993; Gul, 1999).

The negative relationship between corporate governance and firm performance has been questioned (Bhagat and Black, 2002; Sanjai Bhagat and Bolton, 2008). The theoretical models of Hutchinson and Gul (2004) suggest the existence of a negative relationship between investment opportunities and firm performance and that some corporate governance variables act as a moderator. This posits that the negative impact of growth options on performance is attenuated where corporate governance is stronger. Hutchinson and Gul (2004) anticipate that the negative relationship weakens when the tested corporate governance variables have a greater effect on firms with higher investment opportunities that are difficult to monitor.

Other studies that consider related variables include those of Al-Gamrh *et al.* (2018), Chen *et al.* (2010), Sun *et al.* (2014), and Hutchinson and Gul (2006). Hutchinson and Gul (2006) examine Australian firms and demonstrate that the combination of option plans and opportunities for investment are associated with increasing financial performance. Their results show a positive relationship between firm investment opportunities and firm performance but only in the presence of the option plans; otherwise, this association is negative. Chen *et al.* (2010) also investigate other variables, such as external financing needs and opportunities for investment. They report a positive effect of external financing needs on the influence of corporate governance on firm value. Sun *et al.* (2014) find that the implementation of the Sarbanes–Oxley Act mitigates the impact of independence on the relationship between investment opportunities and firm performance.

Studies that examine the influence of investment opportunities on firm performance are scarce (Sardo and Serrasqueiro, 2018) and none take the quality of corporate governance into consideration, although it is often suggested that corporate governance should be studied as a system (Agrawal and Knoeber, 1996; Bekiris and Doukakis, 2011; Gillan *et al.*, 2003; Lan and Li, 2007). Therefore, this study constructs the following hypothesis:

- H2. Corporate governance quality has a positively moderating role in the relationship between investment opportunities and firm performance.

4. Research methodology

4.1 Data collection

Unlike previous studies, which concentrate on cross-sectional data or data on selected corporate governance variables (Adawi and Rwegasira, 2010; Aljifri and Moustafa, 2007; Arouri *et al.*, 2014; Hussainey and Aljifri, 2012), we employed a firm-level panel of all listed firms on the Abu Dhabi Stock Exchange (ADX) and the Dubai Financial Market (DFM) from 2008 to 2012. Both markets have an average of 128 firms listed each year. We excluded firms with unavailable data, and our final data set was made up of 501 firm-year observations as can be seen in Table 2. Financial firms were included because they account for around 50% of the firm-year observations and played a vital role in the crisis. Other studies in this area also include financial firms, including Demsetz and Villalonga (2001), Al-Gamrh *et al.* (2020), Al-Gamrh *et al.* (2018), and Coles *et al.* (2008). To the best of our knowledge, our data set is one of the largest corporate governance sets that have been reviewed for the Middle East region.

The descriptive data for the sample firms are given in Table 2, organized by year and stock market. Only firms with data available for all variables were included in the analysis. Corporate governance data was hand-collected from companies' annual reports and the websites of the stock markets, and the balance-sheet and income-statement items were mostly obtained from Datastream and Thomson Worldscope. Other financial data, such as beta and market return were collected from Gulfbase.

4.2 Measurement of variables and model specifications

4.2.1 *Corporate governance quality.* To measure corporate governance quality, we used the index developed by Al-Gamrh *et al.* (2018), the first comprehensive index to evaluate the quality of corporate governance developed for use in the UAE. The original version of this index was developed by Leal and Carvalhal-da-Silva (2007) to evaluate two developing economies, Brazil and Chile. A modified version of the index was used by Garay and González (2008) for Venezuela. Al-Gamrh's index was modified to take into consideration the environment of the UAE and its code of corporate governance. The items were updated with reference to UAE regulations and the code of corporate governance. Tsamenyi and Uddin (2008) urge emerging countries to take the specific needs of individual countries into consideration when weighing corporate governance reforms.

Years	Population		Unavailable data		Final sample		Total
	ADX	DFM	ADX	DFM	ADX	DFM	
2012	66	57	9	13	57	44	101
2011	67	61	11	17	56	44	100
2010	64	65	7	21	57	44	101
2009	67	66	10	22	57	44	101
2008	65	65	11	21	54	44	98
Total	329	314	48	94	281	220	501

Table 2.
Sample distribution

The index includes 14 items, covering three main categories: board composition and functioning, ethics, and conflicts of interest and disclosure. Each question for the index is a dummy that can be answered with either a yes or a no. Corporate governance indices are an effective tool for evaluating corporate governance in emerging economies, particularly because companies in these countries do not attract as much attention from global governance rating agencies. Several studies use corporate governance indices in emerging markets, including Kohli and Saha (2008), Siagian *et al.* (2013) and Elghuweel *et al.* (2017).

4.2.2 Independent and control variables. Investment opportunities are defined as the market-to-book value of equity at the end of the year (Adam and Goyal, 2008). Because the size of the firm can affect investment opportunities and firm performance, we controlled for firm size, measured as log of total assets. We also included beta to control for risk and leverage, calculated as total debt divided by total assets.

4.2.3 Regression models. To test the hypotheses, we used fixed-effect models as suggested by the Hausman test. In addition, Baddeley and Barrowclough (2009) and Wooldridge (2010) discuss the importance of taking account of the individual unique factors of panel data observations that are constant over time and cannot be assumed to be independently distributed among times. To attain the objectives of this study, two regression models were created. The first tested the direct influence of investment opportunities on firm performance.

The second tested the moderating effects of corporate governance quality on the relationship between investment opportunity and firm performance.

$$\begin{aligned} \text{Perf}_{it} = & \beta_0 + \beta_1 \text{SIZE}_{it} + \beta_2 \text{RISK}_{it} + \beta_3 \text{LVRG}_{it} + \beta_4 \text{INVST}_{it} + \beta_5 \text{CG}_{it} \\ & + \beta_6 \text{Year dummies} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Perf}_{it} = & \beta_0 + \beta_1 \text{SIZE}_{it} + \beta_2 \text{RISK}_{it} + \beta_3 \text{LVRG}_{it} + \beta_4 \text{INVST}_{it} + \beta_5 \text{CG}_{it} \\ & + \beta_6 (\text{INVST} \times \text{CG})_{it} + \beta_7 \text{Year dummies} + \varepsilon_{it} \end{aligned} \quad (2)$$

where Perf represents the return on assets (ROA) of firm i at time t , SIZE is the logarithm of total assets, RISK is the firm's beta, LVRG is total debt divided by total assets, INVST is the market to book value of the company, and CG corporate governance, measured by a 14-item index.

5. Empirical results

5.1 Descriptive statistics

The descriptive statistics of the variables are reported in Table 3. The current study gives a panel data analysis of 501 firm-year observations for 2008–2012. Table 3 presents the summary statistics of the complete 501 firm-year observations. Firm performance, as measured by ROA, varied from as low as -44.35% to a maximum of 29.18% , a mean of 1.94% . This mean score is similar to those reported by Al-Tamimi and Charif (2011) for 38 Emirates banks in 1996–2005 and Hassan and Halbouni (2013), who examined data from 95 listed Emirates firms for 2008.

Investment opportunities (INVST), represented by market to book value, vary from a low of 0.01% to a high of 61.24% , with a mean value of 2.45% . The mean scores found were similar to the means reported by Arouri *et al.* (2014), who studied 58 GCC banks for the year 2010. The average leverage (LVRG) was 16.28% , with a range from 0 to 78.64% , indicating that some firms are highly leveraged, and others had no leverage. These statistics were consistent with the findings of Switzer and Tang (2009). Values for CG varied from a highest

Table 3.
Summary statistics

VARIABLES	N	Mean	SD	Minimum	Maximum
ROA	501	1.943	7.447	-44.35	29.18
INVST	501	2.451	5.112	0.0100	61.24
LEVERAGE	501	16.28	17.92	0	78.64
CG	501	7.954	2.741	1	13
SIZE	501	6.398	0.861	4.258	8.489
RISK	501	0.496	0.550	-0.252	2.242
Number of firms	101	101	101	101	101

Note(s): Performance is represented by the ROA of the firm; INVST is the market to book value of the company; CG is corporate governance, as measured the corporate governance index; SIZE is the logarithm of total assets' RISK is the firm's beta; and LEVERAGE is total debt divided by total assets

score of 13 to the lowest of 1, with a mean of 7.95. The corporate governance statistics are discussed in the next section.

5.2 Descriptive statistics of corporate governance

The quality of corporate governance in the UAE has recently shown dramatic improvements. Table 4 shows what proportion of listed companies meet measures of corporate governance by year. The corporate governance code was introduced in 2007 and entered into force in 2010. It should be noted that the overall values for sub-indices of disclosure and board functioning in the data show an increase from 2008 to 2011. This increase slowed or the values maintained their level in 2012, which may be because firms judged the regulations to be lax or the penalties for non-compliance to be low. Ahmed Haji and Mubaraq (2015) also find that some Malaysian firms did not comply with certain basic mandatory requirements of the Malaysian corporate governance code. The board of directors became more independence as time passed, and more board committees were created. It can also be seen that some companies have retained CEO duality, although the code requires the CEO and chair of the board for all companies to be different individuals. The sub-index of ethics and conflict of interest showed a dramatic jump after the implementation of the corporate governance code. However, the level then decreased in 2012. This shows that companies only respond to regulations, without prioritizing environmental and social issues.

5.3 Correlation analysis

The Pearson and Spearman correlations are commonly used to check for multicollinearity. Table 5 shows a Pearson correlation matrix for the data, indicating that there is no high correlation score among the examined variables. We also used the variance inflation factor (VIF) test and find no evidence of multicollinearity among our main variables.

5.4 Regression results and discussions

According to contracting theory, investment opportunities may have a negative influence on firm performance. We ran a fixed-effects regression to estimate the direct effects and the interaction models for investment opportunities. We used the Wooldridge test for autocorrelation and the Pesaran's test of cross-sectional independence and found presence of these two issues. Therefore, we ran a robust regression using Driscoll-Kraay standard errors to avoid any autocorrelation or cross-sectional dependence (Hoechle, 2007), and we found the results shown in Table 6. In Model 1, the results indicated that investment opportunities (INVST) were negatively related to firm performance at a 1% significance level. High investment opportunities, as hypothesized, negatively influenced firm performance.

Questions/Years	2008	2009	2010	2011	2012
<i>Disclosure</i>	67.45%	68.70%	71.82%	76.32%	76.15%
(1) Is there information in the company's annual report, website, or public disclosure documents on potential conflicts of interest, such as related-party transactions? (Annual reports were checked for a section on related-party transactions.)	89.60%	91.60%	90.70%	95.30%	98.10%
(2) Does the company specify in its annual reports or through other means sanctions against management in the case of violations of corporate governance regulations? (Annual reports and other means were checked for reports on any sanctions.)	0.00%	0.00%	4.70%	8.40%	3.70%
(3) Does the company produce its legally required financial reports by the required date? (It was checked whether the company had published its legally required reports by March 31 of the given year, which is the legal limit date.)	93.40%	90.70%	92.50%	91.60%	95.30%
(4) Does the company use an international accounting standard, such as the IFRS?	83.00%	93.50%	96.30%	95.30%	95.30%
(5) Does the company use the services of one of the leading global auditing firms? (It was verified whether the company uses one of the Big Four auditing firms.)	80.20%	78.50%	81.30%	83.20%	81.30%
(6) Does the company disclose on a website or in its annual report the compensation information for its CEO and board members? (It was verified whether any compensation information was disclosed in any data source.)	58.50%	57.90%	65.40%	84.10%	83.20%
<i>Board composition and functioning</i>	49.10%	57.00%	67.28%	79.43%	79.93%
(7) Are the chairman of the board and the CEO different persons? (It was verified whether the name of the chairman and CEO were different.)	75.50%	82.20%	85.00%	88.80%	90.70%
(8) Does the company feature monitoring committees, such as a compensation and/or nominations and/or audit committee? (It was determined whether the company had one or all of these committees.)	7.50%	19.6 %	43.0 %	76.6 %	77.6 %
(9) Is the board clearly made up of outside and possibly independent directors? (It was verified whether at least one-third of the board members were independent.)	33.20%	43.00%	56.10%	65.40%	66.40%
(10) Is the size of the board from five to nine members, as recommended by international best practices? (It was verified whether the board consisted of more than four and less than ten board members.)	80.20%	83.20%	85.00%	86.90%	85.00%
<i>Ethics and conflicts of interest</i>	2.13%	5.58%	16.35%	48.60%	42.30%
(11) Is the company free of SCA penalties and/or fines for governance malpractice or other securities law violations over the last year? (It was determined whether the company had paid a fine to the SCA in the given year.)	0.00%	3.70%	15.90%	51.40%	43.90%
(12) Is there an internal audit system in place in the company? (It was examined whether the firm had an internal audit unit in operation during the year.)	1.90%	6.50%	36.40%	64.50%	64.50%

Table 4.
Corporate governance
quality ($N = 535$)
(continued)

Table 4.

Questions/Years	2008	2009	2010	2011	2012
(13) Does the firm have any human and social development programs? (The social development activities of the firm were investigated.)	1.90%	2.80%	2.80%	26.20%	20.60%
(14) Does the firm use environmentally friendly materials or does it make any positive contribution to the environment? (It was seen whether the firm contributed in any way to the protection of the environment.)	4.70%	9.30%	10.30%	52.30%	40.20%

Table 5.
Sample correlations

	ROA	INVST	CG	LEVG	SIZE	RISK	VIF
ROA	1						
INVST	-0.2171**	1					1.22
CG	0.1335**	-0.2358**	1				1.08
LVRG	-0.2208**	0.2437**	-0.0406	1			1.22
SIZE	0.0464	-0.1943**	0.0638	0.2681**	1		1.26
RISK	-0.2240**	-0.1380**	0.1603**	0.2056**	0.3595**	1	1.20

Note(s): ** Correlation is significant at the 0.01 level (two-tailed), * correlation is significant at the 0.05 level (two-tailed)

Table 6.
Results direct and interaction models using fixed-effects models

Variables	Fixed-effects models with Driscoll–Kraay standard errors	
	Model (1) ROA	Model (2) ROA
INVST	-0.344*** (-3.046)	-1.113*** (-6.423)
CG	0.468*** (5.019)	0.280*** (3.501)
INVEST*CG		0.145*** (4.733)
LEVERAGE	-0.292*** (-5.936)	-0.300*** (-6.425)
SIZE	11.096** (2.177)	10.612** (2.170)
RISK	1.117*** (4.992)	1.123*** (3.794)
Constant	-64.485** (-2.040)	-60.311** (-1.992)
Observations	501	501
R-squared	0.581	0.588
Adj R-square	0.464	0.473
Year FE	YES	YES
Number of firms	101	101

Firms with such opportunities carry greater risk and therefore have high capital costs and low performance. This result supports [Hypothesis 1](#), that there is a negative relationship between investment opportunities and firm performance.

Performance is represented by the ROA of the firm; INVST is the market to book value of the company; CG is corporate governance, measured the corporate governance index; SIZE is the logarithm of total assets; RISK is the firm's beta; and LEVERAGE is the total debt divided by total assets.

Previous studies have found that higher compensation and monitoring costs are associated with higher growth ([Anderson et al., 1993](#); [Gaver and Gaver, 1993](#); [Sun et al., 2014](#)). Firms with greater investment opportunities spend more resources on such opportunities, which are possible failures that would reflect negatively on the firms' performance.

Such firms also exhibit more information asymmetry because managers have more undisclosed information on future projects which is not available to shareholders or the public ([Ali et al., 2018](#)). [Aggarwal and Samwick \(2006\)](#) found no over-investment by firms based on the assumption that managers may have private benefits but provided evidence of under-investing by managers due to private costs of investment.

In [Table 6](#), the results for the interaction of corporate governance quality with investment opportunities and ROA from Models 2 are shown. It was assumed that the stronger the system of corporate governance was, the better the firm was monitored. Verification of the belief that strong corporate governance systems positively moderate the relationship between the independent variables and firm performance was attempted.

The results indicated that corporate governance quality positively moderated the relationship between investment opportunities and firm performance. Thus, the negative influence of investment opportunities on performance was adjusted by proper corporate governance quality. This result implies that good corporate governance systems can play a significant role in reducing the cost of monitoring large investment opportunities that enhance the performance of the firm. In other words, firms with large investment opportunities increase their profitability only if they have strong corporate governance. It would be logical to conclude that the quality of corporate governance helps firms with large investment opportunities to monitor their investment activities more effectively.

This result was consistent with agency theory and in line with [Ali et al. \(2018\)](#), who argue that firms with more investment opportunities suffer from worse information asymmetry and are in greater need of governance control ([Hutchinson and Gul, 2004](#)). [Hutchinson and Gul \(2004\)](#) find that greater levels of executive independence and remuneration weaken the negative association between growth and firm performance. Our findings support and extend their results, providing evidence that the quality of corporate governance as a complete system can play a more efficient role and positively moderate the relationship between investment opportunity and performance. The results in [Table 6](#) show that corporate governance quality mitigates the negative impact of investment opportunities.

6. Additional analysis

The study went further, analyzing which part of corporate governance matters more and how the components of the corporate governance index (disclosure, board composition, and ethics) influence firm performance and the relationship between investment opportunities and firm performance. For that reason, we ran a regression for each sub-index of the corporate governance index, as seen in [Table 7](#). The influence of disclosure alone directly influences firm performance, and no direct significant influence of board functioning and ethics.

The calculation of interaction influence shows that board functioning and ethics mitigate the negative influence of investment opportunities. This means that stronger boards can positively monitor management to make better investment decisions that enhance

Variables	Fixed-effects with Driscoll and Kraay's standard errors	
	Model (1)	Model (2)
	ROA	ROA
INVST	-0.347*** (-3.103)	-0.609** (-2.354)
Disclosure	1.791** (2.265)	1.958*** (2.858)
Board	0.374 (1.287)	-0.048 (-0.154)
Ethics	0.030 (0.097)	-0.479*** (-4.393)
INVST*Disclosure		-0.011 (-0.180)
INVST*Ethics		0.407* (1.898)
INVST*Board		0.222*** (3.192)
Leverage	-0.287*** (-6.240)	-0.286*** (-7.225)
Size	10.100* (1.883)	9.348** (2.196)
Risk	1.058*** (5.425)	1.238*** (15.202)
Constant	-63.535** (-2.075)	-59.060** (-2.404)
Observations	501	501
R-squared	0.58	0.60
Year FE	YES	YES
Number of Panel	101	101

Table 7.
Results direct and interaction models using fixed effects models (CG sub-indices)

profitability. [Dzingai and Fakoya \(2017\)](#) argue that board functions are very important elements, which can enhance firm performance and that monitoring the effectiveness of the board is crucial. Agency theory explains the separation of management and ownership and the importance of the board's role of monitoring managers ([Jensen and Meckling, 1976](#)). The results of this study also support the proposition that better ethics for a company improves the negative influence of investment opportunities on its performance. [Lins, Servaes, and Tamayo \(2017\)](#) find that firms with strong social capital experience high profitability and growth. However, this disclosure is not significant when it comes to monitoring the company's growth.

Performance is represented by the ROA of the firm; INVST is the market to book value of the company; SIZE is the logarithm of total assets; RISK is the firm's beta; and LEVERAGE is the total debt divided by total assets. DIS, BOARD, and ETHICS are the three components/sub-indices of CG.

7. Conclusion

Following the global financial crisis, many academic and legal bodies concentrated on the issue of corporate governance and the role it plays in preventing unexpected shocks. This study focused on the influence of the quality of corporate governance in an emerging market, the UAE. Growth is an important factor for such an economy and for many companies in it as well, and growth was disrupted by the 2008 financial crisis. This study examined the role of corporate governance in moderating the influence of investment opportunities on firm performance. This study evaluated the quality of corporate governance for firms listed on the

ADX and DFM and explored the indirect influence of corporate governance on those firms' performance.

The direct relationship between investment opportunities and firm performance was found to be as hypothesized. The influence of investment opportunities on firm performance was negatively significant. This result is in line with the conjecture of Contracting Theory, supporting the contention that the more investment opportunities that a firm has, the more it costs to maintain opportunities, which reduces performance.

It was found that firms with good corporate governance can evade the negative influence of investment opportunities on firm performance. This study provides evidence that the quality of corporate governance plays an important, although indirect, role, mitigating external factors that could influence firm performance. The results of this study may be useful to managers who seek to enhance their firm performance through corporate governance. The findings could lead to increased awareness of the importance of strong corporate governance practices, not only for direct improvement of firm performance but also indirectly, through external factors. The results of the study can be a useful source for legislators, regulators, and other interested parties in the UAE following the implementation of the corporate governance code. The index results clarify the items that need more enforcement and the items that have improved. Future studies may wish to investigate more additional relationships between external factors that could be affected by corporate governance. These variables may include financing related variables such as share repurchase and cost of equity or image related variables such as corporate social responsibility and tax avoidance. This research can also be expanded to other emerging markets and larger data sets.

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