Board Diversity, Corporate Governance, Corporate Performance and Executive Pay

ABSTRACT

Departing from previous studies, this paper investigates the impact of corporate board diversity on corporate performance and executive pay within the context of MENA countries. Our sample includes a balanced panel of 600 firm-year observations, consisting of 100 individual firms drawn from 5 Middle Eastern countries (Egypt, Jordan, Oman, Saudi Arabia and United Arab of Emirates) over the 2009–2014 period. The findings are three-fold. First, board diversity, as measured by director gender and nationality, has a positive effect on corporate financial performance. Second, the relationship between board diversity and corporate performance is stronger in better-governed firms than their poorly-governed counterparts. Finally, board diversity, as measured by director gender, ethnicity and nationality, enhances the pay-for-performance sensitivity, but not the actual executive pay. Our results suggest that decisions about board diversity are not merely influenced by moral values; they arise because of the cost-benefit considerations of what diversity can bring to the firm. The findings are robust to controlling for different alternatives of board diversity measures, corporate governance proxies, corporate outcomes and types of endogeneities.

KEY WORDS: economics and finance; financial and governance reforms; corporate governance; corporate board diversity; corporate performance; executive pay; MENA countries

1. INTRODUCTION

The events of the Arab Spring seemed to have ushered in a new era in which there is an increasing demand for change throughout the region. Young people, especially women, want to play a greater role in society, with better economic opportunities. In addition, modern women in MENA countries are generally younger, better educated, and have fewer children than previously (Chamlou, 2008; Hegland, 2018; Jamali et al., 2007; Salloum et al., 2017; World Bank, 2013). Moreover, most MENA countries have made significant progress toward improving access to education and healthcare, as well as enhancing gender equality (Salloum et al., 2017). According to the United Nations Development Programme (UNDP) (2010), MENA countries have made the world's fastest progress in human development since 1970. However, this investment in human development is not yet reflected in higher rates of female participation in political governance and leadership, senior management positions and on corporate boards in particular, but in the labour force in general. This is widely known as '*a gender equality paradox*' (Hegland, 2018; Jamali et al., 2007; Metcalfe, 2007; World Bank, 2013).

Economic, financial, governance, political and social reforms are being pursued worldwide (Bussiere & Mulder, 2000; Gupta et al., 2005; Swamy & Dharani, 2018). Recent corporate scandals have directed more attention to CG and EP mechanisms (Hasan et al. 2014; Ullah et al., 2018a), especially on the importance of board of directors in terms of their roles, effectiveness, composition and diversity (Carter et al., 2003, 2010; Yamori et al., 2017). It is worth noting, however, that the extent to which such contemporary economic, financial, governance and social (e.g., education) reforms influence a number of key corporate outcomes are rarely investigated (Salloum et al., 2017). Consequently, in this paper, our objective is to extend the existing literature by examining the extent to which contemporary economic, financial and social reforms that are often aimed at enhancing

governance and diversity of major corporations have influenced corporate outcomes in such conservative institutional contexts. Specifically, we seek to contribute to the extant corporate governance (CG) literature in four main ways, by investigating whether: (i) corporate board diversity, as measured by gender, ethnicity and nationality, affects corporate financial performance; (ii) CG quality moderates the relationship between corporate board diversity and corporate financial performance; (iii) corporate board diversity influences executive pay (EP); and (iv) corporate board diversity moderates the pay-for-performance sensitivity (PPS), using a sample of firms operating in a number of Middle East and North African (MENA) countries. The analysis draws on a multi-theoretical perspective that incorporates insights from agency, resource dependence and social identity theories.

Board of directors is one of the top decision-making sub-groups in modern organisations (Dale-Olsen et al., 2013; Luckerath-Rovers, 2013; Mahadeo et al., 2012; Ntim, 2015; Roberson & Park, 2007; Yamori et al., 2017). Corporate boards possess the responsibility for making strategic decisions regarding mergers and acquisitions, hiring, firing, compensating and promoting executives, amongst others (Abdullah, 2014; Jensen, 1993; Ntim et al., 2017). In addition, corporate boards can help modern organisations to connect better with the external environment, which can facilitate access to resources, such as finance and business contracts (Estélyi & Nisar, 2016; Wellalage & Locke, 2013).

Meanwhile, existing CG codes and reforms have focused mainly on the composition of the board of directors (e.g., size, independence and diversity), as an influential tool, which can help enhance CG standards (Adams & Ferreira, 2009; Carter et al., 2003, 2010; Ntim, 2015; Ullah et al., 2018a). Observably, board diversity may be pursued for two main reasons: economic and/or social reasons. First and economically, the extant literature suggests that appointing female, ethnic minority and foreign nationals to corporate boards may not only improve board diversity and bring different expertise, ideas, talents, skills, work ethic,

backgrounds and experience to boardrooms (Carter et al., 2003, 2010; Gyapong et al., 2016; Ntim, 2015; Salloum et al., 2017; Ullah et al., 2018a), but also may enhance board independence and monitoring (Baranchuk & Dybvig, 2009; Jamail et al., 2007). Second and socially, board diversity incorporates social equity or equal opportunities (Carter et al. 2003; Gyapong et al., 2016; Terjesen et al., 2009, 2015). Thus, appointing female, ethnic minority and foreign directors may help in building more inclusive and fair business institutions that better reflect the constituencies of existing stakeholders (Jamali et al., 2007; Terjesen et al., 2009, 2015; Terjesen & Sealy, 2016).

Therefore, diversifying corporate boards on the basis of gender, ethnicity and nationality, has recently become a key global policy issue (Adams & Ferreira, 2009; Gyapong et al., 2016; Mahadeo et al., 2012; Ullah et al., 2018a). Indeed, a large number of countries around the world, especially in Europe, have recently implemented some form of affirmative action in order to address it (Ullah et al., 2018a). In this case, Scandinavian countries have shown a significant interest in passing 'hard (enforceable in a law court)' national laws that specify quotas for the number of female director representation on publicly traded firms and/or state-owned enterprises (Rose, 2007; Terjesen et al., 2015). For example, Norway, Finland and Iceland passed laws in 2003, 2005 and 2010, respectively, requiring 40% of corporate board members to be female. The European Commission also requires all publicly traded EU firms to have a minimum of 40% women on their boards (European Union 2012). Similar 'hard' or 'soft (best practice guidance)' affirmative policies and laws exist in other developed countries, such as Australia, Belgium, Canada, France, Germany, Ireland, Israel, Italy, Japan, Netherlands, Spain and Sweden. Developing countries have also recognised the importance of having diverse corporate boards. Accordingly, these developing countries have also either passed a similar 'hard' national law that set quotas for women directors or issued CG codes that require the appointment of a certain percentage of women

into corporate boards (Terjesen et al., 2015). Kenya, for instance, passed a law in 2010 requiring 33% of the directors of state-owned enterprises to be women. Similarly, Brazil, India, Malawi, Nigeria and South Africa have issued codes of good governance that include board gender representation recommendations. Of closer relevance to our study, MENA countries, including highly conservative ones, such as Bahrain, Kuwait, Qatar, Saudi, Tunisia and UAE have started similar reforms of empowering women and enhancing their representation at senior management levels (Salloum et al., 2017). Furthermore, a number of previous studies have argued that the association between board diversity and firm value may not just be influenced by organisation-level variations (Baysinger & Butler, 1985; Baysinger & Hoskisson, 1990), but also by differences in country-level regulatory and institutional structures (Byron & Post, 2016; Grosvold et al., 2016; Van der Walt & Ingley, 2003). Thus, country-level institutional factors may influence the direction and the strength of the relationship between board diversity and corporate outcomes (Byron & Post, 2016; Estélyi & Nisar, 2016; Salloum et al., 2017).

However, most of the previous studies that have investigated the association among board diversity, CG, corporate performance and EP have been conducted in developed countries like Australia, Denmark, UK and US, which have relatively similar institutional contexts (Adams and Ferreira, 2009; Carter et al., 2003; Carter et al., 2010; Rose, 2007; Liu et al., 2017), with only a limited number of studies investigating emerging markets in general (Gyapong et al., 2016; Liu et al., 2014; Mahadeo et al., 2012; Ntim, 2015), but MENA countries in particular (Salloum et al., 2017).

Furthermore, most of the studies conducted in developed countries are concerned with: (i) board diversity on the basis of gender (Burges & Tharenou, 2002; Erhardt et al., 2003) to the relative neglect of the effects of ethnicity and nationality in particular (Estélyi & Nisar, 2016; Gyapong et al., 2016; Ntim, 2015) and/or (ii) corporate performance (Abdullah,

2014; Luckerath-Rovers 2013), and thus ignoring the effect of board diversity on EP (Carter et al., 2010). Hence, there is scarcity of empirical studies investigating the impact of corporate board diversity on EP, and thus this study provides a timely contribution to the extant literature. Noticeably, the Middle East remains one of the few regions, where the role of board diversity has been acutely under-researched (Hasan et al., 2014; Piesse et al., 2012; Salloum et al., 2017). Discernibly and as will be expatiated later on, we focus on MENA countries because the economic, political, legal, cultural and CG structures in such countries differ from those of other regions, and thus implies that the generalisability of their results for the MENA region is arguably limited (Hasan et al., 2014; Jamali et al., 2007; Metcalfe, 2007; Salloum et al., 2017; Samaha et al., 2012).

Consequently, this study seeks to examine the relationship among board diversity, CG, firm value and EP in MENA countries, and thereby making a number of new contributions, as well as extensions to the extant literature. First, the study offers new evidence on the effect of board diversity (i.e., ethnicity, gender and nationality) on firm value in MENA countries. Second, we provide the first evidence on the moderating effect of CG quality on the board diversity–performance nexus in MENA countries. Third, we contribute to the literature by providing the first evidence on the effect of board diversity on EP in MENA countries. Finally, the study contributes to the extant literature by examining for the first time, the moderating effect of board diversity on the PPS in MENA countries.

The rest of the paper is structured as follows. First, we provide a brief overview of board diversity, CG, EP and the MENA corporate context. Second, we document the existing theoretical and empirical literature on the impact of corporate board diversity on corporate performance and EP. Third, we introduce the research design. We then report the empirical analyses and discuss the empirical findings. Finally, we present a brief summary and concluding remarks.

2. BOARD DIVERSITY, CG, EP AND THE MENA CORPORATE CONTEXT

The MENA region has recognised the importance of diversifying corporate boards in order to improve corporate outcomes (Jamali et al., 2007; Loukil & Yousfi, 2016; Salloum et al., 2017). In the Arab world, the 2010 Arab spring has particularly orchestrated a wave of economic, financial, governance and social changes, even in highly conservative and religious countries (Acemoglu et al., 2017; Hodler, 2018; Merrill, 2017; Salloum et al., 2017). For example, Saudi Arabia, a highly conservative Islamic country, has in an unprecedented manner, recently extended a number of major economic, financial, governance, political and social rights and freedoms to women, such as banking, driving, political (e.g., to stand and be elected as political office holders), executive (e.g., to be appointed as directors) and voting rights, amongst others (Kamrava, 2012; Merrill, 2017; Salloum et al., 2017)

For example and in a cross-country study, Terjesen and Singh (2008) find that boards' gender diversity is influenced by macro-level economic, environmental, political and social factors. Thus, specific national contextual factors, such as social norms, legal framework and structure of the economy may have a powerful influence on the incentives, preferences, opportunities and the ability of women to participate in work and politics (Metcalfe, 2007; Salloum et al., 2017; Ullah et al., 2018a; World Bank, 2013).

Meanwhile, MENA countries have inherited cultural practices, traditions, customs and beliefs that have impacted negatively on women's development and instead ensured continuous dominance of men (Jamali et al., 2007; Hegland, 2018; Metcalfe, 2007; Salloum et al., 2017; World Bank, 2013). According to Chamlou (2008), the World Values Survey 1999-2004 shows that both men's and women's perceptions of working women are less positive in the MENA region than elsewhere. The variation in male and female perception of

working women also is far wider in the MENA region. Men's less favourable attitude toward working women may affect women's participation in the labour force, especially because women usually have to obtain permission from their husbands before they can participate in the labour force in most Middle East countries (Hegland, 2018).

Noticeably, religion has played a significant role in the evolution of customs, social norms and laws in the MENA region (Hegland, 2018; Salloum et al., 2017; Syed & Van Buren, 2014; World Bank, 2013). In Muslim-majority countries, culture and religion are mutually reinforcing (Metcalfe, 2007; Syed & Van Buren, 2014). Within Islam, both women and men have equal rights for work and compensation (Hegland, 2018; Syed & Van Buren, 2014), and Islam equally binds both women and men to seek education as a religious duty (Ibn Majah, 1952). Islam also allows women to operate their own business (Hassan, 1994), and recognises a woman's economic rights (Hussain, 1987). However, much of the Islamic impetus for gender equality in educational, economic and employment rights has been modified because of the influence of pre-existing Arab attitudes, customs and traditions (Hussain, 1987; Lewis, 1995; Mernissi, 1991: Salloum et al., 2017). Women in many Muslim-majority countries still face relatively higher gender discrimination than women in the West, because of the narrow interpretation of Islamic female modesty and gender segregation (Hegland, 2018; Syed et al., 2005; Syed & Van Buren, 2014).

In addition, most listed companies in MENA countries have highly concentrated shareholding structures, with dominance of the state and family controls (Al-Bassam et al., 2015; Hasan et al., 2014; Jamali et al., 2007; Piesse et al., 2012). Smith (2009) documents that 75% of the region's companies are controlled by families. Powerful families in the MENA region tend to actively shape the board of directors by choosing one of their own inner circle (a close relative or senior manager) to be appointed to the board, so the family continues to influence and control the decision-making process (Jamali et al., 2007: Salloum

et al., 2017). A better overall governance environment and investment climate, with greater emphasis on qualifications and meritocracy, would have a positive impact on women's opportunity to compete for jobs (Salloum et al., 2017). Conversely, increased levels of corruption, poor governance and weak rule of law in MENA societies may negatively impact women's participation in the workforce, and their opportunities for appointment to top management positions and boardrooms, because preference might be given to those (men) with connections (Chamlou, 2008). Most MENA countries began to introduce economic and governance reforms in the mid-1990s, aiming for more market-driven, open and diversified economies; this was well after the collapse of oil prices in the mid-1980s (Al-Bassam et al., 2015; Piesse et al., 2012; World Bank, 2007). More recently, corporations in MENA countries have started to attract a significant number of foreign equity investors, many of which are holding companies listed on stock exchanges with stricter listing requirements than existing standards on MENA stock exchanges (Jamali et al., 2007; World Bank, 2007). Thus, it is expected that foreign investors may influence the composition of the board of directors, for example, by calling for diversification of the board to include female, ethnic minority and foreign members (Estélyi & Nisar, 2016; Jamali et al. 2007; Salloum et al., 2017). It has been argued that such diversity within MENA corporate boards can impact positively on CG, performance and EP. Consequently, we seek to contribute to the literature by examining the relationship among board diversity, CG, performance and EP in MENA countries.

3. THEORETICAL FRAMEWORK

The main functions of the board of directors are to: (i) control and monitor managers; (ii) provide advice to managers; (iii) monitor organisational compliance with applicable rules and legislation; and (iv) connect the organisation to the external environment (Abdullah 2014; Jensen 1993). The board diversity–corporate performance nexus could not be explored

through a single theory because there is no one single theory can sufficiently explain such a complex relationship (Gyapong et al., 2016; Salloum et al., 2017). One reason is that most single theories suffer from a number of limitations, such as lack of specificity (legitimacy), excessive focus of financial stakeholders (resource dependence and stakeholder theories), high levels of distrust and abuse of managerial power (agency, optimal contracting and managerial power theories), and high levels of managerial trust (stewardship) (e.g., Ntim et al., 2015a, b, 2017; Salloum et al., 2017), amongst others, such that they are unable to fully explain complex relationships on their own. However, their explanatory power can be enhanced when they are combined (Ntim et al., 2012; Ntim, 2015), and thus a multiple theoretical perspective is adopted in our study. Discernibly, past studies have employed a number of different theories to investigate the association between board diversity and performance, including agency, resource dependence and social psychology theories. The arguments driven by these theories suggest that the gender, ethnic and nationality diversity of board members such that it may have a negative, positive or no impact firm value (Campbell & Minguez-Vera, 2008; Carter et al., 2010; Estélyi & Nisar, 2016; Ntim, 2015; Salloum et al., 2017).

First, agency theory suggests that more diversified boards are more independent and better able to perform their monitoring function (Abdullah, 2014; Adams & Ferreira, 2009; Carter et al., 2003; Van der Walt & Ingley, 2003). Females, foreigners and ethnic minorities, as sub-groups, are more coordinated and effective in their monitoring role (Adams & Ferrira, 2009; Gul et al., 2011; Gyapong et al., 2016), and thus the appointment of women, foreign and different ethnic directors reduces the extent of agency conflict (Ntim et al., 2012; Xiao & Zahoo, 2014) and enhances firm value (Estélyi & Nisar, 2016; Ntim, 2015). Corporate board diversity enhances the decision-making process by adding various ideas, skills, backgrounds, perspectives and business knowledge (Baranchuk & Dybvig, 2009; Luckerath-Rovers, 2013),

increasing the board's ability to deal with different opportunities and challenges in the organisational external environment (Ntim, 2015).

On the other hand, agency theory argues that qualified women directors tend to hold multiple directorships (Sealy et al., 2008). This 'director busyness' has a negative impact on their ability to provide their monitoring and advisory roles, increasing agency problems and thereby reducing firm value (Falato et al., 2014; Faleye et al., 2011; Field et al., 2013). Women and ethnic minorities may lack the necessary level of skills, qualifications and experience required for directorship (Terjesen et al., 2009). Women, compared to men, may have lower levels of investment in education and work experience (Tharenou et al., 1994). Thus, the monitoring and advisory roles of the board will be affected negatively by the appointment of women and ethnic minorities, and consequently the firm value will decrease (Gyapong et al., 2016).

Second, resource dependence theory argues that corporate board diversity enhances the organisation's connections with its stakeholders, such as customers and suppliers, and may improve its reputation and value (Mahadeo et al., 2012; Wellalage & Locke, 2013) and increases board legitimacy (Carter et al., 2003; Liu et al., 2014; Salloum et al., 2017; Wang et al., 2014). This legitimacy is associated with gaining stakeholders' appreciation, increased capital inflows, investment opportunities, government support and community acceptance (Loukil & Yousfi 2016; Mahadeo et al., 2011). Consequently, this will be positively associated with increase in firm value (Gyapong et al., 2016; Ntim, 2015). Estélyi and Nisar (2016) and Miletkov et al. (2014) also suggest that foreign directors can bring differing perspectives and contacts to the board, as well as can facilitate access to different national and international markets that can enhance geographic and product diversification, and thereby firm performance.

The social identity theory argues that more diversified boards, with different backgrounds, ideas and perceptions, have a heterogeneous working environment which includes a number of sub-groups based on gender, race or nationality. Thus, board diversity may increase communication problems and thereby degrade the board's decision-making process and increase organisational and operational risk (Carter et al., 2010; Delias et al., 2016; Salloum et al., 2017; Westphal & Milton, 2000). Westphal and Milton (2000) argue that demographic diversity weakens the social cohesion in boardrooms. Thus, majority viewpoints will dominate board decisions and individual directors will be unable to influence the boards. Similarly, Campbell and Minguez-Vera (2008) suggest that the appointment of women directors introduces conflicting viewpoints and unnecessary critical thinking that delays and negatively impacts the decision-making process.

The association between good CG practice and EP can be interpreted from two main perspectives of agency theory: optimal contracting theory (OCT) and managerial power hypothesis (MPH) (Bebchuk et al., 2002; Bebchuk & Fried, 2004; Edmans & Gabaix, 2009; Liu et al., 2017). OCT argues that independent corporate boards construct EP schemes after arms-length negotiations with executives. Therefore, corporate boards can enhance a firm's value by linking executive performance to the EP package (Conyon, 2014; Edmans & Gabaix, 2009). Consequently, OCT suggests that because executives are less involved in determining their own pay, there is a positive and/or strong association between EP and their performance (Liu et al., 2017; Van Essen et al., 2015). Thus, OCT assumes that more diversified boards have an essential impact on the effectiveness of the board of directors, since they are able to constrain managers from expropriating shareholders' wealth by enhancing the controlling and monitoring role of the board (Adams & Ferreira, 2009; Gul et al., 2011; Gyapong et al., 2016; Ntim, 2015), as well as by bringing diverse talents,

backgrounds, ideas, knowledge and experience to the board (Abdullah, 2014; Adams & Ferreira, 2009; Carter et al., 2003).

In contrast, MPH suggests that close negotiations between a weak/dependent board and strong executives may lead to the foundation of an inefficient EP contract that can increase agency problems (Bebchuk et al., 2002; Bebchuk & Fried, 2004). Thus, MPH proposes a negative and/or weak link between EP and performance, because of strong interference from executives in setting their own incentive schemes (Liu et al., 2017; Van Essen et al., 2015).

4. HYPOTHESES DEVELOPMENT

In this part of the study, we discuss our four main hypotheses relating to the impact of corporate board diversity on corporate financial performance and EP.

Corporate Board Diversity and Corporate Financial Performance

In line with the inconsistency in the theoretical literature on the expected impact of board diversity on corporate performance, previous studies have similarly offered mixed empirical evidence (e.g., Carter et al., 2003, 2010; Dale-Olsen et al., 2013; Salloum et al., 2017; Ujunwa, 2012). The first group of studies has reported a positive impact of board heterogeneity on performance. In a developing country context, Abdullah (2014), Mahadeo et al. (2012), Ntim (2015), and Wellalage and Locke (2013) document a positive association between diversed boards and firm value in Mauritius, Malaysia, Sri Lanka and South Africa, respectively. For example, Gyapong *et al*. (2016), using data from 245 South African listed firms from 2008-2013, find a positive and significant effect of both gender and ethnic diversity on firm value. Salloum et al. (2017), support a positive impact of women and ethnic minority group members on Middle Eastern SMEs' financial performance.

On the other hand, another group of studies has found a negative effect of board diversity on corporate performance (e.g., Dale-Olsen et al., 2013; Ujunwa, 2012). The results of these studies suggest that not only women and ethnic minorities have a token status on the board but they may also have financial consequences for the organisation, resulting in a negative impact on firm value (Ntim, 2015). Adams and Ferreira (2009), investigating the impact of female directors on board inputs and corporate outcomes in a sample of 1,939 firms for 1998-2003, find that gender diversity has a negative impact on performance, which further suggests that assigning gender quotas may have a negative impact on performance in better governed firms. Salloum et al. (2017) report that Western ethnic minority members have a negative effect on firm performance, because these board members may be appointed for different reasons related to regional and international board reputation legitimacy, and personal business agendas, as well as links to the external corporate environment. Using a sample of FTSE firms, Estélyi and Nisar (2016) find that boards containing diverse nationalities are positively and significantly associated with shareholder heterogeneity, the firm's international market operations and operating performance.

A third set of empirical studies (e.g., Gregory-Smith et al., 2014; Rose, 2007) has documented no link between board diversity and corporate financial performance. For example, Carter et al. (2010) examine the relation between appointment of women and ethnic minority members of the board and board committees and financial performance for a sample of 641 US firms for the five-year period from 1998 to 2002. They document no significant impact of diversified boards and performance, which supports the contingency explanation that board gender and ethnic diversity have different effects on performance under different circumstances at different times.

Most developing countries, including the MENA region, have adopted a set of CG guidelines that have been inspired by the OECD's CG principles (Egyptian CG code 2006;

Jordanian CG code 2012). These principles place greater emphasis on issues relating to corporate board composition (such as board size, independence and diversity), as well as the construction and functions of board committees (e.g., audit, compensation and nomination committees) in enhancing board effectiveness. For example, the Jordanian CG code 2012, which is based on the "comply-or-explain" principle, recommends that the structure of the board of directors should take into consideration a balanced mix of age, gender and experience in order to achieve its roles and responsibilities. The 2016 Egyptian CG code (i.e., the latest) (amended version of the 2006 and 2011 CG Guides) suggests that firms should follow the international standards regarding board diversity and not be biased against gender or ethnicity when appointing directors. Thus, based on these arguments and mixed results, the first hypothesis is as follows:

Hypothesis 1 There is an association between board diversity on the basis of gender, ethnicity and nationality, and financial performance.

Although, the association between board diversity and corporate performance may be affected by organisation-level heterogeneities (Baysinger & Butler, 1985; Baysinger & Hoskisson, 1990), it is probably also affected by variation in country-level regulations, CG reforms and institutional features (Byron & Post, 2016; Grosvold et al, 2016; Ntim, 2015; Ullah et al., 2018a). Firms might use their internal CG mechanisms (e.g., board characteristics and shareholding structure mechanisms) to compensate for a poor legal environment and enhance investors' protection in aligning managers' and shareholders' interests (Klapper & Love, 2004; Shleifer & Wolfenzon, 2002), thereby improving corporate performance (Castrillo et al., 2010; Yermack, 1996). Gul et al. (2011) suggest that board diversity substitutes other CG measures in monitoring firms. Therefore, board diversity's

positive impact on corporate performance is more probably observable in weakly governed firms (Adams & Ferreira, 2009; Gul et al., 2011). Because, in well governed firms, the extra monitoring provided by diversified boards may lead to negative effects on corporate performance (Adams & Ferreira, 2009; Gul et al. 2011). For example, Adams and Ferreira (2007) argue that the CEO is less likely to communicate with boards that provide higher monitoring intensity. On the other hand, Gyapong et al. (2016) suggest that developing countries, compared to developed countries, have weaker investor protection and a weaker external regulatory environment. Thus, the additional monitoring function performed by female directors is of more value in firms with strong CG mechanisms. This is supported by the findings of Miletkov et al. (2014), which suggest that, in countries with lower levels of investor protection, the presence of foreign directors is associated with positive impact on operating performance.

Using empirical evidence from the US, Adams and Ferreira (2009) and Gul et al. (2011) find that board gender diversity is strongly associated with corporate financial performance and stock price informativeness for firms with weak governance. This means that gender-diverse boards might act as a substitute mechanism for weak CG. However, in the South African context, Gyapong et al. (2016) find that the additional monitoring function performed by minority ethnic directors is more value-relevant than that performed by female directors in better governed firms.

Developing countries, including the MENA region, are characterised by concentrated shareholding that is dominated by families and governments (Jamali et al., 2007; Piesse et al., 2012; Samaha et al., 2012). Furthermore, these countries have a weak external corporate regulatory environment, weak legal enforcement, and inadequate external discipline by the market for corporate control (Khalil & Ozkan, 2016; La Porta et al., 2000; Ntim et al., 2012). Accordingly, these features participate in reducing shareholders' rights and increasing agency

problems (Gyapong et al., 2016). Given the previous theoretical and empirical literature, the second hypothesis is as follows:

Hypothesis 2 The strength of the association between board diversity based on gender, nationality and ethnic minority directors, and financial performance is stronger (weaker) in better-governed (poorly-governed) firms.

The Association between Board Diversity and Executive Pay

Agency theory argues that board members monitor managers on behalf of stockholders (Jensen & Meckling, 1976) to align the interests of managers with those of shareholders (Estélyi & Nisar, 2016; Fama & Jensen, 1983; Ullah et al., 2018a). The monitoring role of directors includes, for example, hiring and firing top managers and determining EP (Monks & Minow, 1995). EP, indeed, is highly influenced by the efficiency of the board's control and monitoring (Conyon & He 2011; Ntim et al., 2017).

Accordingly, OCT suggests that managers' payment is associated with their efforts to ensure that directors and executives behave in the interest of shareholders (Adams & Ferreira, 2009; Liu et al., 2017). Thus, better governed firms (with more diversified boards) are less likely to overpay their executives (Stulz, 1988). In contrast, MPH suggests that EP packages are set by opportunistic corporate executives in firms with weak CG structures (Bebchuk et al., 2002; Bebchuck & Fried, 2004; Liu et al., 2017). Accordingly, MPH proposes that women and minority ethnic board members are perceived as tokens (Abdullah, 2014; Adams & Ferreira, 2009) and are appointed to boards mainly for symbolic reasons (Carter et al., 2003; Gyapong et al., 2016; Terjesen et al., 2009, 2015). Thus, corporate executives can influence the decisions of more diversified boards, especially those relating to the structure and level of EP. Westphal and Zajac (1995) find evidence that CEOs are more likely to

attempt to influence the hiring of directors who have similar demographic characteristics to themselves. They also document that in firms, where CEOs and directors share similar demographic attributes, CEOs are more likely to be awarded higher salaries.

Although a number of prior studies have documented the positive association between board diversity and corporate performance (e.g., Carter et al., 2003; Gyapong et al., 2016; Liu et al., 2017; Luckerath-Rovers, 2013; Ntim, 2015), studies investigating the impact of corporate board diversity on EP are rare, and thus this study provides a timely contribution to the extant literature. For example, Adams and Ferreira (2009) document that directors on gender-diversified boards receive comparatively more equity-based compensation, which provides more performance-based incentives, while they have found no statistical evidence for the impact of board gender diversity on CEO compensation. They argue that the absence of the relationship between a high percentage of female directors on boards and CEOs' pay is consistent with lower representation of women in compensation committees. Given the previous theoretical and empirical literature, the third hypothesis is as follows:

Hypothesis 3 There is an association between board diversity based on gender, nationality and ethnic minority directors, and executive pay.

Both internal CG mechanisms (as monitoring mechanisms) and EP contracts (for alignment of interests) can be used by modern organisations to limit the implications of agency conflict (Chen et al., 2015; Liu et al., 2017; Ntim et al., 2015a, 2015b). A number of previous studies have recognised the importance of controlling for a comprehensive number of internal CG variables (e.g., board characteristics and shareholding structure mechanisms) when investigating the association between EP and firm performance (e.g., Newton, 2015; Liu et al., 2017; Ntim et al., 2015a, b). A major limitation of these studies is that they

undermine possible endogeneity concerns of simultaneous use of both CG mechanisms and EP to mitigate agency problems (Chen et al., 2015; Ntim et al., 2015a, b). Thus, this study conducts regression analysis containing interaction terms between performance measures (i.e., Tobin's Q) and gender, nationality and ethnicity board diversity variables.

Many scholars have documented the importance of the boardroom monitoring role in enhancing the link between EP and corporate performance (e.g., Adams & Ferreira, 2009; Conyon & He, 2011; Liu et al., 2017; Vieito, 2012). For example, Conyon and He (2011), using 1,342 publicly listed Chinese firms from 2001 to 2005, find evidence that firms with more independent directors on the board have a higher pay-for-performance link. Adams and Ferreira (2009) document that directors on gender-diversed boards receive comparatively more equity-based compensation, which provides more performance-based incentives. They also cite empirical evidence from the US that, in boards with more female directors, poor stock return performance increases the likelihood of CEO turnover. In addition, Vieito (2012) finds that smaller differences in the total compensation gap between CEO and vice-presidents (VPs) are associated with better performance in US firms managed by a female CEO. Given the previous theoretical and empirical literature, the fourth hypothesis is as follows:

Hypothesis 4 Board diversity moderates the association between executive pay and performance, with the pay-for-performance sensitivity being stronger (weaker) in firms with more diversed (less diversed) boards.

5. RESEARCH DESIGN

Our sample is based on 494 non-financial corporations listed on the national stock exchanges of Egypt, Jordan, Oman, Saudi Arabia (SA) and United Arab of Emirates (UAE) (143, 121, 71, 112, and 47, respectively), with data for the years 2009 to 2014, as of 31 December 2014.

Because traditional manual content analysis consumes a considerable amount of time and effort, and in line with similar past disclosure studies (Barako *et al*., 2006; Anifowose *et al*., 2017), we collected data on 600 firm year observations from 100 corporations, employing the widely used stratified sampling technique based on firm size and industry in each country[1]. Financial and utility firms are excluded from the sample selection due to their different capital structure and regulatory issues (Gyapong et al., 2016; Ntim, 2015). CG variables (i.e., board characteristics and shareholding structure mechanisms) were collected from the sampled firms' annual reports and capital markets websites. Financial and accounting variables were collected from the *Datastream* database. Finally, country-level data, including GDP and Control of Corruption Index, were collected from the website of the World Bank, while the Inflation Index came from the International Monetary Fund's website.

Two criteria have been used in order to include corporations in the final sample: the accessibility of an organisation's CG data for the six-year period from 2009 to 2014; and the availability of financial data for the same time period. These criteria have been used for the following reasons. First, it helps in satisfying the requirements for a balanced panel data analysis (Carter et al., 2003; Yermack, 1996). This panel data structure is characterised by its ability to provide a greater degree of freedom, lower multicollinearity among examined variables (Gujarati, 2003; Wooldridge, 2010), opportunity to examine whether the link between board diversity and corporate outcomes holds over time (Carter *et al.*, 2003, 2010; Ntim, 2015; Ntim *et al*., 2012) and opportunity to compare the findings with those of previous studies (Adams & Ferreira, 2009; Gyapong et al., 2016; Ntim, 2015). *DataStream* provides full data for corporate financial performance. However, financial reports do not identify executives' compensation for the whole sample (600 firm-year observations). It provides data for 534 firm-year observations. Thus, the study employs firm-year observations

that could be identified for the executives' compensation in order to test Hypothesis 3 and Hypothesis 4.

The relationship between board characteristics, corporate performance and EP is jointly and dynamically determined (Guest, 2009). Therefore, a number of endogenous problems emerge as a result of possible omitted variables that can concurrently impact both the appointment of women, ethnic minority and foreign directors, and corporate performance and EP (Adams & Ferreira, 2009). In addition, endogenous problems may arise form organisational specific characteristics, such as financial leverage, challenges, opportunities and managerial skills, which change overtime (Adams & Ferreira, 2009; Carter et al., 2010; Guest, 2009; Ntim et al., 2012). Thus, and given the panel nature of the data, as well as in line with previous studies (e.g., Adams & Ferreira, 2009; Carter et al., 2010; Guest, 2009; Gyapong et al., 2016; Ntim, 2015; Salloum et al., 2017), our study estimates a fixed-effects regression model in order to control for possible omitted variables and unobserved organisation-specific heterogeneities.[2] The fixed-effects regression model employed is specified as follows:

$$Q_{it} / ROA_{it} = \alpha_{it} + \lambda Diversity_{it} + \sum_{i=1}^{n} \beta_i CONTROLS_{it} + \delta_{it} + \varepsilon_{it} \quad (1)$$

Where Q_{it} is Tobin's Q for firm *i* at time *t* and *ROA* is return on assets for firm *i* at time *t*; $Diversity_{it}$ refers to *DIV*, *DIVG*, *DIVE*, or *DIVN*; Controls stands for *BRDS*, *UBL*, *BSH*, *GSH*, *ISH*, *LNTS*, *LV*, *AGE*, *BIG4*, *GRTH*, *CCI*, *INFL*, *GDP*, *DIND*, *DYER*; and δ is the fixed-effects of a vector of the mean differences of all time-variant variables.

For the purpose of examining the moderating effect of the strength of CG on the relation between different board diversity measures and firm value (Q) and accounting returns (ROA), the study uses the CG Index (*MCGI*). The *MCGI* follows a checklist developed by the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (*ISAR*), organised by United Nations Conference Trade and

Development (UNCTAD, 2006). This checklist ("UNCTAD *ISAR benchmark*") for good practice in CG disclosure is based on five sections used to construct five sub-indices: (i) shareholding structure and exercise of control rights (*OSH*); (ii) financial transparency (*TCY*); (iii) auditing (*AUD*); (iv) corporate responsibility and compliance (*RTY*); and (v) board and management structure and process (*BMS*). The *MCGI* is constructed by awarding a value of 1 if each of the 51 CG provisions is disclosed, and 0 otherwise. With this binary scoring scheme a firm's total disclosure score in a particular firm-year can vary between 0 (perfect non-compliance and non-disclosure) and 100% (perfect compliance and disclosure), with higher index levels indicating better compliance and disclosure. Following Gyapong et al. (2016), the *MCGI* is interacted with each board diversity measure in different regression estimates of the following fixed-effects regression model:

$$Q_{it} / ROA_{it} = \alpha_{it} + \lambda Diversity_{it} + \gamma MCGI_{it} + \eta Diversity_{it} * MCGI_{it} + \sum_{i=1}^{n} \beta_i CONTROLS_{it} + \delta_{it} + \varepsilon_{it} \quad (2)$$

The effect of different diversity measures on EP is examined using the following fixed-effects regression model:

$$EPAY_{it} = \alpha_{it} + \lambda Diversity_{it} + \sum_{i=1}^{n} \beta_i CONTROLS_{it} + \delta_{it} + \varepsilon_{it} \quad (3)$$

Where $EPAY_{it}$ is the natural log of total cash -based pay (base salary, performance bonus, pension contribution and others) of all executives scaled by the total number of executives for firm *i* at time *t*; $Diversity_{it}$ refers to *DIV*, *DIVG*, *DIVE*, or *DIVN*; *MCGI* denotes CG disclosure; Controls stands for *BRDS*, *UBL*, *BSH*, *GSH*, *ISH*, *LNTS*, *LV*, *AGE*, *BIG4*, *GRTH*, *CCI*, *INFL*, *GDP*, *DIND*, *DYER*; and δ is the fixed-effects of a vector of the mean differences of all time-variant variables.

To examine the moderating effect of different diversity variables on the association between EP and performance, we modify Adams and Ferreira's (2009) model and add to it

the interaction effect, as well as our control variables, and hence our fixed-effects regression model is expressed as follows:

$$EPAY_{it} = \alpha_{it} + \varphi Q_{it} + \lambda Diversity_{it} + \eta Q_{it} * Diversity_{it} + \sum_{i=1}^{n} \beta_i CONTROLS_{it} + \delta_{it} + \varepsilon_{it} \quad (4)$$

Where $EPAY_{it}$ is the natural log of total cash-based pay (base salary, performance bonus, pension contribution and others) of all executives scaled by the total number of executives for firm *i* at time *t*; Q_{it} is Tobin's Q for firm *i* at time *t*; $Diversity_{it}$ refers to *DIV*, *DIVG*, *DIVE*, or *DIVN*; *MCGI* denotes CG disclosure; *Q*EPAY* refers to the interaction variable between *Q* and *EPAY*; Controls stands for *BRDS*, *UBL*, *BSH*, *GSH*, *ISH*, *LNTS*, *LV*, *AGE*, *BIG4*, *GRTH*, *CCI*, *INFL*, *GDP*, *DIND*, *DYER*; and δ is the fixed effect of a vector of the mean differences of all time-variant variables.

Measurements

This section presents the dependent, independent and control variables of the study. Table 1 contains a full definition of these variables.

[Insert table 1 about here]

Dependent Variables

The current study selects financial performance and EP as the dependent variables. Financial performance is measured using Tobin's Q and ROA, as market- and accounting-based firm value measures, respectively, for the following reasons. First, Tobin's Q has been used to measure market performance/long-term firm value, while ROA measures accounting return/short-term financial performance (Gyapong et al., 2016). Carter et al. (2010) and Estélyi and Nisar (2016) argue that market performance (Tobin's Q) shows the wealth position of both shareholders and creditors (firm value). It also refers to the market behaviour of a security or asset, reflecting external perceptions and expectations of an organisation's future or long-term value (Thaler, 2004) and predicting the firm's ability to gain future cash

flows and investment opportunities (Carter et al., 2010). On the other hand, ROA, as a measure of accounting returns, reflects past or short-term financial performance and illustrates how efficiently the organisation utilises its assets and investments to generate earnings (Estélyi & Nisar, 2016). Second, they have been commonly used in literature to measure financial performance (e.g., Adams & Ferreira, 2009; Carter et al., 2010; Estélyi & Nisar, 2016; Ntim, 2015), allowing for comparing our findings with those of previous studies.

Executive compensation (*EPAY*) is measured using the natural log of all executives' cash compensation (e.g., salary, bonus and other benefits) scaled by the total number of executives in a financial year to get an estimate of the average EP. The use of cash compensation is consistent with previous research (e.g., Conyon & He, 2011; Firth et al., 2007).

Independent Variables

Literature employs different measures of board diversity (e.g., age, race, gender, educational background, experience and professional qualifications); the current study uses gender, nationality and ethnic diversity for two reasons. First, these three measures can be observed and calculated easily (Carter et al., 2010; Gyapong et al., 2016; Miletkov et al., 2014). Second, they have been widely investigated (Carter et al., 2003; Estélyi & Nisar, 2016; Ntim, 2015), and therefore, can permit us to compare our results with those of previous studies that also employed these measures.

Following Adams and Ferreira (2009), Gyapong et al. (2016), Liu et al. (2014) and Ntim (2015), board diversity is measured using percentage of women, ethnic minority and foreign directors on the board of directors (*DIV*). The main independent variable is divided into the following sub-measures: board diversity on the basis of gender (*DIVG*); board

diversity on the basis of ethnicity (*DIVE*); and board diversity on the basis of nationality (*DIVN*).

Control Variables

Consistent with previous studies (e.g., Carter et al., 2003, 2010; Chamlou, 2008; Dale-Olsen et al., 2013; Hasan et al., 2014; Ntim, 2015; Salloum et al., 2017), the current study controls for possible omitted variables bias by including a number of control variables. The study controls for CG mechanisms that have been examined in previous studies: board characteristics (e.g., board size and unitary board leadership) and shareholding structure mechanisms (e.g., block, government, and institutional shareholding). Our study also controls for firm-level variables that could be related to firm's outcome such as firm size, sales growth, leverage, age and audit quality; and country-level variables such as control of corruption, inflation and GDP growth (Delis et al., 2016; Miletkov et al., 2014). Finally, some scholars argue that firm performance and EP may be affected by industry type and time (e.g., Ntim, 2015; Roberson & Park, 2007). Therefore, we include industry dummies (*DIND*) for the eight industries: (i) basic materials, (ii) oil and gas, (iii) consumer goods, (iv) consumer services, (v) health care, (vi) industrials, (vii) technology and (viii) telecoms; and year dummies (*DYER*) for the financial years from 2009 to 2014.

6. EMPIRICAL ANALYSIS AND DISCUSSION

Descriptive Statistics

Table 2 shows the detailed descriptive statistics of the study's dependent, independent and control variables. Panel *A* reveals the wide variation of different measures of corporate outcomes. For example, Tobin's Q (*Q*) ranges from 0.08 to 9.07, with an average (standard deviation) of 1.38 (0.98), which means firm values display wide variation which is consistent

with previous studies (e.g., Delis et al., 2016; Salloum et al., 2017). Furthermore, accounting returns (ROA) ranges from –32.09% to 31.03%, and has a mean (median) of 6.56% (6.11%) and standard deviation of 7.76%. The average EP records a minimum of $4413.14, maximum of $3,887,360, mean of $309,054.20 and median of $134,712.24. Similarly this means that the *EPAY* is highly varied among firms listed in MENA countries. Panel *B* illustrates that board diversity based on gender, nationality and ethnicity (*DIV*) has widespread variation ranging from 0% to 76.92%, and averaging of 14.08%. With regard to gender board diversity (*DIVG*), the ethnic board diversity (*DIVE*) and nationality board diversity (*DIVN*) results range from 0% to 37.50%, 66.67% and 72.73%, with an average of 2.71%, 5.20% and 11.40%, respectively. The findings document that on average the boards of directors in the MENA region firms are dominated by Arab males. This low representation of women, foreigners and non-Arab directors on board rooms is in line with evidence coming from most developing countries (e.g., Mahadeo et al., 2012; Loukil & Yousfi, 2015; Salloum et al., 2017).

[Insert table 2 about here]

Moreover, the descriptive statistics for CG variables are illustrated in panel *C*. Board size (*BRDS*) with an average of 8.52 board members ranges between a minimum of four and a maximum of 19. Panel *C* also shows that unitary board leadership (*UBL*) is not common among sampled firms with average of 21% and median of 0%. Shareholding structure mechanisms also display an adequate variation, where block shareholding (*BSH*), government shareholding (*GSH*) and institutional shareholding (*ISH*) range from 5%, 0% and 0% to 98.92%, 98.67% and 98.92% with an average of 55.89%, 16.15% and 34.01%, respectively. Shareholding statistics are consistent with previous studies conducted in MENA countries (e.g., Al-Janadi et al., 2013; Samaha et al., 2012). Similarly, the descriptive statistics for firm

control variables and country control variables, which are illustrated in Panels *D* and *E*, respectively, display wide variation.

Table 3 presents the correlation matrix (including both Pearson's parametric and Spearman's non-parametric bivariate coefficients) among different corporate outcomes variables, independent and control variables. The correlation analysis (i.e., Person's parametric correlation coefficients only) reveals that Tobin's Q positively and significantly correlates with the percentage of female directors on the board. Additionally, it shows that *ROA* has a positive significant correlation with all board diversity measures (*DIV, DIVG, DIVE, and DIVN*). *EPAY* has a positive correlation with *DIV* and *DIVN*, while it has a negative significant correlation with *DIVG*. In general, the results of the correlation matrix suggest that different board diversity measures have a significant impact on various corporate outcomes.

[Insert table 3 about here]

Multivariate Regression Analyses

Fixed-effects regression results of the impact of different board diversity measures on corporate financial performance, as measured by firm value (Tobin's *Q*) and accounting returns (*ROA*), are reported in Table 4. First, to determine the impact of board diversity (*DIV*) on corporate performance, the study runs *Q* on *DIV* and control variables in Model 1; while, Model 5 documents the results of regressing *ROA* on *DIV* and control variables. These models show that diversified boards have a positive and significant impact on both firm value (*Q*) at 5% level and accounting returns (*ROA*) at 1% level. These findings provide support for Hypothesis 1 and are in line with previous studies that have investigated the impact of board diversity on *Q* and/or *ROA* (e.g., Erhardt et al., 2003; Ntim, 2015; Salloum et al., 2017; Wellalage and Locke, 2013). This evidence is consistent with the theoretical predictions of agency theory (Abdullah, 2014; Adams & Ferreira, 2009; Carter et al., 2003; Van der Walt &

Ingley, 2003) and resource dependence theory (Loukil & Yousfi, 2016; Mahadeo et al., 2011; Salloum et al., 2017), suggesting that board diversity based on gender, ethnic and nationality enhances board independence and monitoring function, and helps companies to gain legitimacy, contacts and investment opportunities. Diversified boards also provide expertise, knowledge and opinions that improve decision making effectiveness and hence financial performance.

[Insert table 4 about here]

Second, Models 2 and 6 illustrate that board diversity measured on the basis of gender (*DIVG*) similarly has a positive and significant effect on firm value (*Q*) at 1% level and accounting returns (*ROA*) at 5% level, providing further support for Hypothesis1 and similar findings of previous studies (e.g., Adams & Ferreira, 2009; Gyapong et al., 2016; Luckerath-Rovers, 2013; Ntim, 2015; Salloum et al., 2017; Terjesen et al., 2015; Wellalage & Locke, 2013). These findings are consistent with the theoretical predictions of agency theory that female directors are more likely to provide better monitoring function compared to male directors (Adams & Ferreira, 2009), and resource dependence theory, which predicts that appointing female directors can improve firm legitimacy and provides firms with more capital inflows, investment opportunities, government support and community acceptance (Loukil & Yousfi, 2016; Mahadeo et al., 2011)

Third, to examine the effect of ethnic minority board members (non-Arab) on firm value (*Q*) and accounting returns (*ROA*), the study regresses *DIVE* on *Q* and *ROA* by re-estimating equation (1). The results reported in Models 3 and 7 indicate that board diversity measured on the basis of ethnicity (*DIVE*) has an insignificant impact on firm value (*Q*) and accounting returns (*ROA*). The results are in line with previous studies that have documented no relationship between appointing ethnic minority directors and different measures of corporate financial performance (Carter et al. 2010). Fourth, equation (1) was re-estimated by

regressing *DIVN* on firm value (Q) and accounting returns (*ROA*) including control variables, in order to examine the impact of appointing foreign directors on corporate financial performance. Findings stated in Model 4 document no relationship between national board diversity and firm value *Q*, while the positive significant impact of foreign directors on accounting returns is illustrated in Model 8 at 10% level. This finding supports Hypothesis 1 and in line with resource dependence theory and previous studies which have suggested that appointing directors with diverse nationalities brings different perspectives and contacts to the board and facilitates access to different national and international markets that enhance the geographic and product diversification, and thereby improves corporate financial performance (Estélyi & Nisar, 2016; Mahadeo et al., 2011; Miletkov et al., 2014). Finally, with regard to control variables, results reported in Models 1 to 4 show that institutional shareholding and auditor size have a positive and significant impact on firm market value, while block shareholding and inflation have a negative and significant effect on firm market value. On the other hand and with reference to the results reported in Models 5 to 8, there is a positive and significant association between firm size, age, sales growth and accounting returns (*ROA*). However, the results indicate that firms with unitary board leadership, high leverage and listed in countries with high *GDP* have lower *ROA*.

Table 5 shows the fixed-effects regression results of the moderating effect of CG strength on the association between different diversity measures and firm value (*Q*) and accounting returns (*ROA*). We run *Q* and *ROA* separately on different board diversity measures, *MCGI*, interaction of different diversity measures and *MCGI*, and control variables. With reference to the interaction variables, the evidence generally indicates significant positive relationship between interaction variables (*Diversity*MCGI*) and *Q* and *ROA* in Models 1, 2, 5 and 6, which appear to be consistent with *Hypothesis 2*. The results of the interaction variables indicate statistically significant and positive effect of the interaction

variables on *Q* and *ROA* for *DIV* and *DIVG* which indicates that, in well-governed firms, the increased monitoring effort provided by highly diversified boards and diversified boards on the basis of gender impact firm market value (*Q*) and accounting returns (*ROA*) positively. Accordingly, the results are consistent with those of Gyapong et al. (2016), which suggest that board diversity complements other CG measures in monitoring firms especially in developing countries with weak external corporate regulatory environment, weak legal enforcement and inadequate external discipline by the market for corporate control.

[Insert table 5 about here]

Models 1 to 4 in Table 6 show the fixed-effects regression results of the influence of different diversity measures on EP. The findings reported in Models 1 to 4 suggest that different measures of board diversity (*DIV, DIVG, DIVE* and *DIVN*) have no significant impact on EP. These results do not support Hypothesis 3, but are consistent with findings of Adams and Ferreira (2009) that document that gender diversified boards are less likely to impact CEO pay due to lower representation of female directors in compensation committees. With regard to control variables, Models 1 to 4 document that inflation impact EP negatively and significantly, while unitary board leadership, firm size and *GDP* have a positive and significant relationship with *EP*.

[Insert table 6 about here]

Models 6 to 9 in Table 6 present the fixed-effects regression results of the moderating effect of different measures of diversity on the relationship between EP and performance. Model 5 shows the fixed-effects regression results of the *EPAY* on corporate performance (*Q*) and control variables in order to determine the PPS. The results suggest that there is a positive and significant association between corporate performance and EP in MENA countries. This result is consistent with *OCT* which argues that, as executives are less involved in determining their own pay, a positive and strong association exists between EP

and performance. The results reported in Models 6 to 9 show that the coefficients of *Q* on *EPAY* are positive and statistically significant. Crucially, it is clearly observable from the results that the PPS has noticeably improved, suggesting that board diversity based on gender, ethnic minority and nationality moderate the PPS. The coefficient of *Q* has increased from .058 (.025) in Model 5 to .064 (.030), .070 (.014), .078 (.009) and .064 (.019) in Models 6 to 9, respectively, supporting Hypothesis 4. This means that the *PPS* being stronger in firms with greater gender, ethnicity and nationality diversed boards. The findings are in line with predictions of *OCT* that board diversity can enhance firm value by linking EP to performance (Conyon, 2014; Edmans and Gabaix, 2009).

Robustness Checks

We conduct a number of additional analyses in order to test the robustness of our findings. First, we examine the relationship between corporate financial performance and the number of female directors within boardrooms.[3] Results reported in Models 1 to 6 in Table 7 show that appointing one female director (*GEN_1*) has a positive and significant impact on firm value (*Q*) (.341 (.004)). This finding supports that one woman appointed to corporate boards increases firm legitimacy, public image and shareholders' representation (Jamali *et al*. 2007; Loukil & Yousfi 2016). However, increasing the number of female directors to more than two (*GEN_3*) have a positive and significant impact on accounting returns (*ROA*) which supports the critical mass theory.

[Insert table 7 about here]

Second and following literature (e.g., Faleye et al., 2011; Gul et al., 2011; Liu et al., 2014; Ntim, 2015), the association between board diversity and financial performance was re-investigated using market-to-book (*MTB*) and return on equity (*ROE*) as alternative market value and accounting return measures, respectively. The results in Models 7 and 8 in Table 7

illustrate that, board diversity has a positive and significant relationship with *MTB and ROE*, respectively. Third, we investigate the non-linear relationship between board diversity and corporate performance. Our results support a probable concave relationship between *DIV, Q and ROA*, and consistent with findings of Gyapone et al. (2016) and Roberson and Park (2007).

Fourth, following Carter *et al.* (2003, 2010), Gyapong *et al*. (2016) and Louki and Yousfi (2016), we employ alternative measures of board diversity. Our results reported in Models 1 to 4 in Table 8 are fairly robust to the use of the number of diversified directors (*DIV_NO*) or board diversity dummy measure (*DIV_DU*), instead of percentage of diversified directors on the board (*DIV*). Fifth, following Ntim (2015) and Salloum et al. (2017), a one year lag between board diversity and firm performance (*Q* and *ROA*) was introduced. Our findings are largely robust when estimating a lagged board diversity. Finally, we apply the two-stage least squares (*2SLS*) technique (Beiner et al., 2006; Carter et al., 2003, 2010; Ullah et al., 2018b).[4] Overall, the robustness analyses indicate that our results are fairly robust to alternative checks.

[Insert table 8 about here]

7. SUMMARY AND CONCLUSION

Although a number of previous studies have investigated the extent to which corporate board diversity affects financial performance and EP in different countries around the world, such evidence in MENA countries is under-researched. This might have been justified in the past, as in most MENA countries; there was a rare opportunity for women to be appointed into corporate boards. Recent reforms pursued in different MENA countries have, however, witnessed a gradual increase in women's presence on corporate boards. Consequently, we have examined the effect of corporate board diversity on both corporate performance and EP. Hence, we contribute to the literature by ascertaining whether: (i) corporate board diversity,

as measured by gender, ethnicity and nationality, affects corporate financial performance; (ii) CG quality moderates the relationship between corporate board diversity and corporate financial performance; (iii) corporate board diversity influences EP; and (iv) corporate board diversity moderates the PPS.

We find a wide variation of board diversity on the basis of gender, nationality and ethnicity, ranging from 0% to 76.92%, with an average of 14.08%. This indicates that most boards of MENA listed firms are dominated by Arab males. Empirically, we detect a positive and significant impact of diversed boards, based on gender, nationality and ethnicity, on corporate financial performance. In particular, appointing female directors improves firm market value and accounting returns, while foreign directors have a positive and significant effect on firm accounting returns. Third, we find empirical evidence that shows that CG quality has a moderating effect on the link between board diversity and corporate financial performance. This implies that the positive impact of board diversity on corporate financial performance is more observable in better governed firms. Finally, our evidence shows that board diversity has a moderating effect on the PPS, but not actual EP.

Our research has a number of important implications for board diversity literature. First, although most studies have investigated the impact of board diversity on corporate financial performance (Campbell and Minguez-Vera, 2008; Carter *et al*., 2006, 2010; Luckerath-Rovers, 2013; Gyapong *et al*., 2015; Ntim, 2015), a limited number have examined the association between board diversity and EP (e.g., Adams and Ferreira, 2009; Vieito, 2012). Our research findings shed light on the impact of corporate board diversity on different aspects of corporate outcomes, including financial performance, EP and PPS. Second, our research offers new critical insights on the impact of board diversity based on gender, ethnicity and nationality on corporate outcomes. While, the majority of previous studies have investigated the impact of board gender diversity on corporate outcomes (Carter

et al., 2010; Ntim, 2015), our results suggest that ethnic, national and gender diversity are dissimilar phenomena, and they will impact corporate outcomes in different ways (Carter et al., 2010; Gyapong et al., 2016; Ntim, 2015). Finally, our study differentiates itself for most previous studies investigating the association between corporate board diversity, and financial performance and EP (Adams and Ferreira, 2009; Carter et al., 2003; Carter et al., 2010; Rose, 2007), by examining a sample of MENA countries.

Our findings have several practical implications. First, the under-representation of women on corporate boards in MENA countries is influenced by the glass ceiling hypothesis (Jamali et al., 2007; Loukil & Yousfi, 2015), and hence, governments in developing countries should issue regulations and/or recommendations, in line with international CG best practices, in order to address the weak representation of women in top management and corporate board level positions. Our results suggest that decisions about board diversity are not merely influenced by moral values; they arise because of the cost-benefit considerations of what diversity can bring to the firm. Second, our evidence encourages firms in developing countries to employ female, ethnicity minority and foreign directors in order to enhance corporate financial performance and PPS.

Although our results are robust, their limitations need to be clearly acknowledged. First and like all archival research of this nature, the proxies for board diversity, CG, performance and EP may or may not reflect what happens in practice. Second and due to the hand-collection of data, the final sample used was relatively small. Thus, future studies might use a larger sample with a view to further enhancing the generalisability of their results. Third, future studies may offer new insights by conducting in-depth case studies based on interviews and other qualitative approaches to research. Finally, given the unavailability of data on different features of boards of directors, this study focused on ethnicity, gender and nationality aspects of board diversity. As more data becomes available, future studies may

offer new insights by examining how other aspects of board diversity that may have a significant impact on corporate outcomes, such as educational background, age, experience and professional qualifications. Future studies can also examine the impact of board diversity on different corporate outcomes, such as earnings management, corporate social responsibility and corporate disclosures.

ENDNOTES

1. The choice of the selected five countries is to satisfy three main criteria. First, in order to ensure data availability and sample homogeneity, some filtering rules were applied. Accordingly, some countries were excluded from the sample. For example, Bahrain and Qatar were dropped because their firms capital markets include mostly financial and investment corporations. Countries with non-active stock markets (such as, Iraq and Libya) and did not issue governance code (such as, Kuwait) were excluded. Second, the selected countries should reflect the diversity in MENA countries in order to support the generalisation of the results. Specifically, from a capital perspective, whereas Saudi Arabia and the UAE are net capital exporting countries, Egypt and Jordan are considered net capital importing countries (Piesse et al., 2012). Oman was the first country in the MENA region to issue its national governance code in 2002. The final selected five countries account for over 58% of the MENA stock market capitalization in 2014. Finally, the selected countries share a number a common characteristics: (i) they are all have similar accounting, governance, and legal systems which are derived from the Anglo–Saxon system; and (ii) they have similar cultural characteristics (e.g., a strong hierarchical social structure, importance of personal relationships, religion, accountability and trust), corporate law and shareholding structures (concentrated shareholding dominated by the state and powerful families); thereby permitting comparability of governance and corporate reporting quality among firms and across countries.
2. In order to determine the suitable panel estimation technique (Gujarati, 2003; Wooldridge, 2010), we first conduct the Breusch and Pagan (1980) LM test. The result of the test rejects the null hypothesis of the existence of zero variance across entities. Thus, OLS is inappropriate technique to test the hypothesis. Second, we test whether the individual effects are correlated with the repressors by performing Hausman (1978) test and the findings reject the null hypothesis, supporting the appropriateness of the fixed-effects model for the study.
3. Following, Gyapong et al. (2016), Liu et al. (2014) and Salloum et al. (2017), equation (1) was re-estimated using the following dummies; *GEN_1* refers to a dummy variable equal to 1 if a firm has one female director on the board, otherwise 0; *GEN_2* refers to a dummy variable equal to 1 if a firm has two female directors on the board, otherwise 0; *GEN_3* refers to a dummy variable equal to 1 if a firm has three or more female directors on the board, otherwise 0.
4. To make sure that the 2SLS research design is appropriate, and in line with Beiner et al. (2006), we first carry out Durbin-Wu-Hausman exogeneity test to determine whether *DIV* is endogenously associated with *Q* and *ROA*. Applied to equation (1), the test rejects the null hypothesis of exogeneity, and therefore we conclude that the 2SLS technique may be appropriate. In the first stage, we conjecture that *DIV* will be determined by all the control (exogenous) variables specified in equation (1). In the second stage, we utilise the predicted portion of *DIV* as an instrument for *DIV* and re-estimate equation (1).

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Table 1. Summary of variables and measures

Variables	Definition	Source/Datastream code
Organizational outcomes/dependent variables		
Q	Ratio of total assets minus book value of equity plus market value (mv) of equity to total assets in a financial year.	*(wc02999- wc03501 + wc03451* + mv)/ wc02999
ROA	Percentage of operating profit to total assets in a financial year.	*wc01250/ wc02999*
EPAY	Natural log of total cash (salary, performance bonus, pension contribution and others)-based pay of all executives scaled by the total number of executives in a financial year.	*Annual report*
Board diversity/Independent variables		
DIV	The percentage of the total number of women, ethnic minority, and foreign directors to the total number of board directors.	*Annual report*
DIVG	The percentage of women directors to the total number of board directors.	*Annual report*
DIVE	The percentage of ethnic minority (non-Arab) directors to the total number of board directors	*Annual report*
DIVN	The percentage of non-national directors to the total number of board directors.	*Annual report*
Control variables: Firm level		
BRDS	Natural log of the total number of directors on the board of a company.	*Annual report*
UBL	A dummy variable that takes the value of 1 if the roles of chairperson and CEO of firm are combined at the end of its financial year, 0 otherwise.	*Annual report*
BSH	Percentage of shares held by shareholders with at least 5% of the total firm shareholdings.	*Annual report*
GSH	Percentage of shares held by government.	*Annual report*

ISH	Percentage of shares held by institutions.	*Annual report*
LNTS	Natural log of the total sales of a firm.	*wc01001*
LV	Percentage of total debt to total assets in a financial year	*wc03255/ wc02999*
AGE	Natural log of the total number of years since a company was established.	*Annual report*
BIG4	A dummy variable that takes the value of 1 if a firm is audited by a big four audit firm (PricewaterhouseCoopers, Deloitte & Touche, Ernst & Young, and KPMG), 0 otherwise.	*Annual report*
GRTH	Percentage of current year's sales minus previous year's sales scaled by previous year's sales.	*(wc02999* - wc02999)/ wc02999
DYER	Dummies for the years 2009 to 2014 inclusive.	
DIND	Dummies for each of the eight main industries: basic materials, oil and gas, industrials, customer goods, customer services, health care, technology, and telecommunication.	
Control variables: Country		
CORP	Control of corruption	*World Bank*
INFL	Inflation, average consumer prices	*International Monetary Fund*
GDP	Natural log of gross domestic product (current US$).	*World Bank*

Table 2. Summary of descriptive statistics of all variables for all sampled firms

Variables	Mean	Median	STD	Minimum	Maximum
Panel A: Dependent variables					
Q	1.38	1.18	0.98	0.08	9.07
ROA %	6.56	6.11	7.76	-32.09	31.03
EPAY ($)	309054.20	134712.24	450282.80	4413.14	3887360
Panel B: Independent variables					
DIV%	14.08	0	20.17	0	76.92
DIVG%	2.71	0	6.61	0	37.50
DIVE%	5.20	0	12.78	0	66.67
DIVN%	11.40	0	19.34	0	72.73
Panel C: Corporate Governance variables					
BRDS	8.52	9	2.59	4	19
UBL%	21	0	40.9	0	100
BSH%	55.89	59.49	23.39	5	98.92
GSH%	16.15	3.29	24.60	0	98.67
ISH%	34.01	27.45	27.50	0	98.92
Panel D: Firm control variables					
LNTS ($000)	933074.41	91199.22	2466268.62	171.83	16536233.87
LV%	20.38	17.99	17.65	0	69.75
AGE	21.84	20	10.06	1	47
BIG4%	59	100	49.30	0	100
GRTH%	9.06	6.01	45.46	-92.59	594.06
Panel E: Country control variables					
CORP%	59.31	60.77	16.19	27.96	87.56
INFL%	179.70	149.43	59.92	110.50	316.99
GDP ($m)	265136.31	244774.61	228668.68	23818.32	746248.53

Table 1 fully defines all the variables used.

Table 3. Pearson and Spearman correlation matrices of all variables

	Q	ROA	EPAY	DIV	DIVG	DIVE	DIVN	BRDS	DUAL	BSH	GSH	ISH	LNTA	LV	AGE	BIG4	GRTH	CORP	INFN	GDP
Q	1	.343***	.197***	.039	.105***	-.025	.007	.008	-.048	.056	-.092**	.048	.095**	-.056	-.123***	.009	.066	-.199***	-.297***	.111***
ROA	.306***	1	.247***	.197**	.135***	.152***	.172***	.077*	-.012	.238***	.137***	.156***	.270***	-.169***	-.077*	.174***	.290***	-0.003	-0.025	-.088**
EPAY	.154***	.210***	1	.047	-.071	.071	.102**	.298***	-.415***	.005	.434***	-.109**	.738***	.215***	-.158***	.574***	.274***	.131***	.099**	.555***
DIV	.054	.189***	.083*	1	.431***	.615***	.881***	.130***	-.029	.253***	.017	.392***	.129***	.048	-.234***	.206***	.065	-0.002	0.040	-.160***
DIVG	.106***	.120***	-.096**	.306**	1	.027	.023	.276***	.311***	.124***	.167***	.071*	.004	-.138***	-.063	.018	-.018	-.199***	.134***	-.148***
DIVE	-.012	.148***	.064	.664**	.030	1	.700***	-.119***	-.244***	.269***	-.097**	.367***	.100**	.132***	-.157***	.233***	-.016	0.053	0.002	-.126***
DIVN	.028	.161***	.114***	.945**	-.005	.694***	1	.024	-.179***	.239***	-.083**	.412***	.149***	.127***	-.236***	.232***	.084**	.106***	-0.020	-.121***
BRDS	-.043	.086**	.313***	.121**	.274***	-.074*	.041	1	.243***	-.098**	.273***	-.101**	.310***	.016	-.005	.150***	.099**	-.221***	.083**	0.080*
DUAL	-.039	.001	-.411***	-.124**	.279***	-.236***	-.212***	.249***	1	-.017	-.023	-.067*	-.148***	-.087**	.067	-.296***	.013	-.379***	.121***	-.232***
BSH	.032	.258***	-.018	.258**	.099**	.269***	.241***	-.067	-.018	1	.220***	.490***	.183***	.037	-.113***	.178***	.067	-0.006	.300***	-.126***
GSH	-.077*	.046	.323***	-.114**	.077*	-.123***	-.152***	.167***	-.027	.328***	1	-.311***	.491***	-.009	.114***	.350***	.050	0.013	.313***	.181***
ISH	.057	.165***	-.140***	.456**	.089**	.370***	.453***	-.090**	-.069*	.538***	-.409***	1	-.059	.062	-.183***	.128***	.034	0.021	.126***	-.258***
LNTA	.099**	.247***	.733***	.157**	-.007	.116***	.165***	.301***	-.151***	.221***	.442***	-.056	1	.364***	-.100**	.533***	.214***	-0.023	.144***	.440***
LV	-.026	-.209***	.210***	.063	-.137***	.144***	.112***	.026	-.080**	.057	-.053	.062	.352***	1	-.226***	.225***	.036	0.012	-0.030	0.076*
AGE	-.127***	-0.030	-.247***	-.240**	-.042	-.117***	-.230***	-.030	.117***	-0.070*	.053	-.168***	-.201***	-.282***	1	-.088**	-.081**	.091**	.206***	0.051
BIG4	.008	.158***	.566***	.222**	.026	.235***	.226***	.135***	-.296***	.200***	.238***	.113***	.525***	.212***	-.123***	1	.104**	.087**	.109***	.230***
GRTH	.068*	.274***	.251***	.071	-.016	-.017	.080**	.094**	.012	.094**	.029	.051	.230***	.047	-.121***	.110***	1	-.116***	0.065	.158***
CORP	-.152***	-.031	.269***	-.035	-.253***	-.005	0.044	-.230***	-.460***	-.069*	.021	-.081**	0.048	.014	.020	.121***	-.086**	1	.081**	-.151***
INFN	-.297***	-.081**	.134***	-.052	.109***	-.089**	-.085**	.184***	.160***	.240***	.282***	.056	.186***	.004	.184***	.098**	.068*	-0.069*	1	.095**
GDP	.067	-.066	.528***	-.138**	-.101**	-.139***	-.113***	.122***	-.159***	-.102**	.211***	-.216***	.460***	.086**	-.039	.230***	.177***	-0.053	.338***	1

The bottom half of the table contains Person's parametric correlation coefficients, whereas the upper right half of the table shows Spearman's non-parametric correlation coefficients.
*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Table 1 fully defines all the variables used.

Table 4. Fixed-effect regression of the relationship between corporate board diversity and corporate financial performance

	Q				ROA			
Indep. variables	1	2	3	4	5	6	7	8
DIV	.884**				.088***			
	(.049)				(.005)			
DIVG		3.949***				.151**		
		(.000)				(.049)		
DIVE			-1.582				-.001	
			(.132)				(.985)	
DIVN				-.101				.072*
				(.863)				(.081)
CG variables:								
BRDS	-.279	-.340	-.102	-.249	-.008	-.008	-.004	-.004
	(.476)	(.382)	(.798)	(.527)	(.783)	(.772)	(.875)	(.873)
UBL	-.142	-.142	-.149	-.148	-.045***	-.045***	-0.045***	-.046***
	(.364)	(.361)	(.342)	(.348)	(.000)	(.000)	(.000)	(.000)
BSH	-1.589***	-1.644***	-1.669***	-1.587***	.016	.015	.017	.019
	(.001)	(.001)	(.001)	(.001)	(.632)	(.671)	(.627)	(.584)
GSH	.854	.883	1.147	1.003	.039	.049	.053	.046
	(.271)	(.249)	(.140)	(.197)	(.474)	(.372)	(.336)	(.397)
ISH	1.163***	1.173***	1.234***	1.189***	.038	.040	.041	.039
	(.010)	(.009)	(.006)	(.009)	(.225)	(.205)	(.201)	(.217)
Firm control variables								
LNTS	-.007	-.011	-.005	-.002	.027***	.027***	.027***	.027***
	(.923)	(.876)	(.946)	(.973)	(.000)	(.000)	(.000)	(.000)
LV	.178	.153	.035	.113	-.098***	-.103***	-.104***	-.100***
	(.601)	(.649)	(.919)	(.742)	(.000)	(.000)	(.000)	(.000)
AGE	.406	.407*	.466*	.387	.070***	.069***	.068***	.068***
	(.101)	(.097)	(.063)	(.119)	(.000)	(.000)	(.000)	(.000)
BIG4	.363***	.333***	.349***	.359***	-.004	-.005	-.004	-.003
	(.000)	(.001)	(.001)	(.000)	(.586)	(.466)	(.561)	(.636)
GRTH	-.043	-.032	-.054	-.046	.019***	.020***	.019***	.019***
	(.437)	(.565)	(.327)	(.402)	(.000)	(.000)	(.000)	(.000)
Country control variables								
CORP	-1.045*	-1.005*	-1.091*	-1.029*	.051	.053	.052	.053
	(.075)	(.084)	(.063)	(.081)	(.219)	(.198)	(.208)	(.201)
INFL	-.302**	-.298**	-.331**	-.307**	-.017*	-.017*	-.018*	-.017*
	(.025)	(.026)	(.015)	(.023)	(.071)	(.070)	(.066)	(.070)
GDP	.091	.104	.120	.118	-.082***	-.080***	-.080***	-.082***
	(.672)	(.625)	(.576)	(.583)	(.000)	(.000)	(.000)	(.000)
DIND	Included	Included	Included	Included	Included	Included	Included	Included
DYER	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-.315	-.459	-1.326	-.962	1.676***	1.634***	1.616***	1.649***
F-value	2.89***	3.64***	2.88***	2.60***	10.49***	10.13***	9.77***	10.05***
Adjusted R^2	74.88	75.37	74.87	74.68	80.44	80.28	80.12	80.25
No. of observations	600	600	600	600	600	600	600	600

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Table 1 fully defines all the variables used.

Table 5. Corporate board diversity, corporate financial performance and moderating effect of governance

	Q				ROA			
Indep. variables	1	2	3	4	5	6	7	8
DIV	.930**				.086***			
	(.036)				(.006)			
DIVG		3.999***				.149*		
		(.000)				(0.051)		
DIVE			-1.355				-.007	
			(0.658)				(.899)	
DIVN				-0.026				.070*
				(0.963)				(.089)
MCGI	-2.806***	-2.792***	-2.491***	-2.639***	.059	.066	.074	.063
	(.000)	(.000)	(.002)	(.001)	(.292)	(.236)	(.190)	(.259)
Interaction variable								
BDI* MCGI	1.430**	7.090***	-1.967	-.260	.112**	.217*	-.044	.072
	(.050)	(.000)	(.103)	(.772)	(.031)	(.091)	(.611)	(.257)
Firm Control Variables								
BRDS	-.421	-.459	-.236	-.381	-.004	-.003	.002	-.002
	(.280)	(.234)	(.555)	(.330)	(.888)	(.906)	(.935)	(.946)
UBL	-.222	-.221	-.214	-.217	-.044***	-.044***	-.043***	-.044***
	(.156)	(.153)	(.173)	(.169)	(0.000)	(0.000)	(0.000)	(0.000)
BSH	-1.634***	-1.746***	-1.734***	-1.669***	.021	.016	.017	.022
	(0.001)	(0.000)	(0.000)	(0.001)	(.544)	(.638)	(.620)	(.531)
GSH	.721	.778	1.068	.927	.041	.051	.059	.049
	(.349)	(.303)	(.167)	(.229)	(.457)	(.347)	(.286)	(.372)
ISH	1.095**	1.150***	1.210***	1.167***	.037	.041	.043	.039
	(.014)	(0.009)	(0.007)	(.009)	(.247)	(.193)	(.181)	(.224)
Firm Control Variables								
LNTS	.003	-.003	.004	.007	.027***	.027***	.027***	.027***
	(.970)	(.967)	(.954)	(.918)	(.000)	(.000)	(.000)	(.000)
LV	.237	.204	.090	.152	-.099***	-.104***	-.107***	-.102***
	(.484)	(.539)	(.790)	(.654)	(.000)	(.000)	(.000)	(.000)
AGE	.338	.348	.423*	.349	.069***	.069***	.071***	.068***
	(.168)	(.150)	(.090)	(.156)	(.000)	(.000)	(.000)	(.000)
BIG4	.392***	.359***	.376***	.385***	-.004	-.006	-.005	-.004
	(.000)	(.000)	(.000)	(.000)	(.527)	(.420)	(.473)	(.549)
GRTH	-.041	-.032	-.051	-.045	.019***	.019***	.019***	.019***
	(.458)	(.548)	(.349)	(.417)	(.000)	(.000)	(.000)	(.000)
Country Control Variables:								
CORP	-.385	-.348	-.474	-.403	.037	.037	.034	.037
	(.527)	(.563)	(.438)	(.510)	(.394)	(.388)	(.433)	(.394)
INFN	-.264**	-.275**	-.293**	-.275**	-.017*	-.018*	-.019**	-.018
	(.048)	(.037)	(.029)	(.041)	(.061)	(.052)	(.049)	(.061)
GDP	.496**	.513**	.495**	.513**	-.091***	-.090***	-.091***	-.091***
	(.040)	(.032)	(.041)	(.035)	(.000)	(.000)	(.000)	(.000)
DIND	Included	Included	Included	Included	Included	Included	Included	Included
DYER	Included	Included	Included	Included	Included	Included	Included	Included
CONSTANT	-9.195	-9.469*	-9.702*	-9.731*	1.882***	1.852***	1.845***	1.865***
F-value	3.53***	4.41***	3.44***	3.25***	9.63***	9.48***	9.26***	9.34***
Adjusted R^2	75.41	76.00	75.35	75.22	80.34	80.26	80.16	80.20
No. of observations	600	600	600	600	600	600	600	600

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Table 1 fully defines all the variables used.

Table 6. Executive pay, performance and moderating effect of board diversity

	EPAY								
Indep. variables	1	2	3	4	5	6	7	8	9
Q					.058**	.064**	.070**	.078***	.068**
					(.025)	(.030)	(.014)	(.009)	(.019)
DIV	.110					.160			
	(.687)					(.647)			
DIVG		1.101					2.525**		
		(.113)					(.048)		
DIVE			-.018					.660	
			(.969)					(.302)	
DIVN				.129					.302
				(.697)					(.443)
Interaction variable									
Q*DIV						-.058	-.852	-.410	-.106
						(.642)	(.119)	(.187)	(.436)
CG control variables									
BRDS	-.076	-.080	-.072	-.074	-.071	-.080	-.057	-.111	-.085
	(.749)	(.733)	(.765)	(.754)	(.764)	(.735)	(.810)	(.645)	(.720)
UBL	.340***	.330***	.342***	.342***	.362***	.365***	.355***	.362***	.368***
	(.003)	(.004)	(.003)	(.003)	(.001)	(.001)	(.002)	(.001)	(.001)
BSH	-.187	-.204	-.190	-.183	-.094	-.090	-.128	-.085	-.079
	(.512)	(.473)	(.507)	(.520)	(.742)	(.753)	(.655)	(.769)	(.783)
GSH	-.285	-.300	-.265	-.280	-.315	-.323	-.293	-.308	-.330
	(.526)	(.502)	(.556)	(.533)	(.479)	(.471)	(.511)	(.491)	(.461)
ISH	-.202	-.205	-.195	-.200	-.255	-.263	-.235	-.279	-.272
	(.440)	(.432)	(.456)	(.443)	(.329)	(.316)	(.368)	(.288)	(.300)
Firm control variables									
LNTS	.196***	.196***	.196***	.196***	.195***	.197***	.195***	.196***	.198***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
LV	.254	.255	.246	.255	.241	.237	.220	.269	.239
	.207	(.202)	(.224)	(.206)	(.227)	(.240)	(.271)	(.183)	(.233)
AGE	-.024	-.025	-.024	-.025	-.044	-.045	-.043	-.062	-.048
	(.865)	(.860)	(.869)	(.862)	(.754)	(.748)	(.760)	(.664)	(.734)
BIG4	.089	.080	.089	.091	.070	.069	.063	.067	.070
	(.114)	(.159)	(.115)	(.109)	(.216)	(.223)	(.268)	(.242)	(.222)
GRTH	.013	.017	.013	.012	.016	.015	.019	.015	.014
	(.693)	(.599)	(.700)	(.707)	(.615)	(.641)	(.552)	(.642)	(.668)
Firm control variables									
CORP	.187	.203	.188	.189	.243	.227	.242	.243	.227
	(.589)	(.558)	(.588)	(.584)	(.482)	(.513)	(.483)	(.483)	(.512)
INFN	-.265***	-.267***	-.268***	-.266***	-.259**	-.259**	-.283***	-.256**	-.260**
	(.009)	(.009)	(.009)	(.009)	(.011)	(.011)	(.006)	(.012)	(.011)
GDP	.616***	.618***	.620***	.617***	.615***	.616***	.632***	.613***	.615***
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
DIND	Included	Included	Included	Included	Included	Included	Included	Included	Included
DYER	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-5.518*	-5.545*	-5.601*	-5.533*	-5.547*	-5.569*	-5.994**	-5.415*	-5.574*
F-value	8.55***	8.77***	8.54***	8.55***	9.00***	7.86***	8.16***	7.98***	7.90***
Adjusted R^2	94.05	94.08	94.04	94.05	94.11	94.09	94.14	94.11	94.10
No. of obs.	534	534	534	534	534	534	534	534	534

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Table 1 fully defines all the variables used.

Table 7. Sensitivity analyses of the relationship between corporate board diversity and corporate financial performance (Part I)

	Q			ROA			MTB	ROE	Q	ROA
Ind. Var.	1	2	3	4	5	6	7	8	9	10
DIV							9.768**	.161*	.802*	.086***
							(.028)	(.059)	(.075)	(.006)
DIV^2									1.408*	.205***
									(.059)	(.000)
GEN_1	.341***			.012						
	(.004)			(.165)						
GEN_2		.015			-.010					
		(.922)			(.349)					
GEN_3			.183			.034*				
			(.460)			(.053)				
CG control variables										
BRDS	-.325	-.247	-.278	-.007	-.006	-.010	1.314	-.014	-.219	-.000
	(.406)	(.530)	(.482)	(.797)	(.837)	(.721)	(.736)	(.850)	(.577)	(.996)
UBL	-.165	-.149	-.129	-.046***	-.045***	-.042***	-1.748	-.065**	-.145	-.045***
	(.290)	(.344)	(.420)	(.000)	(.000)	(.000)	(.262)	(.028)	(.356)	(0.000)
BSH	-1.585***	-1.584***	-1.607***	.017	.017	.013	4.565	.000	-1.594***	.015
	(.001)	(.001)	(.001)	(.625)	(.627)	(.712)	(.347)	(.988)	(.001)	(.651)
GSH	.960	.994	.989	.052	.053	.052	7.437	.201	.939	.045
	(.212)	(.200)	(.202)	(.344)	(.335)	(.340)	(.335)	(.172)	(.224)	(.404)
ISH	1.220***	1.184***	1.213***	.042	.043	.045	6.373	-1.019	1.187***	.041***
	(.007)	(.009)	(.007)	(.188)	(.176)	(.154)	(.154)	(.824)	(.008)	(.194)
Firm control variables										
LNTS	-.006	-.002	-.005	.027***	.027***	.027***	-.464	.025*	-.011	.026***
	(.932)	(.976)	(.942)	(.000)	(.000)	(.000)	(.495)	(.056)	(.873)	(.000)
LV	.207	.116	.124	-.101***	-.102***	-.103***	6.110*	-.242***	.187	-.094***
	(.542)	(.734)	(.715)	(.000)	(.000)	(.000)	(.072)	(.000)	(.585)	(.000)
AGE	.370	.387	.403	.068***	.068***	.071	2.689	.009	.403	.070***
	(.133)	(.119)	(.105)	(.000)	(.000)	(.000)	(.274)	(.843)	(.104)	(.000)
BIG4	.337***	.360***	.364***	-.005	-.004	-.003	2.211**	.008	.356***	-.005
	(.001)	(.000)	(.000)	(.490)	(.583)	(.630)	.026	(.667)	(.000)	(.495)
GRTH	-.037	-.047	-.044	.019***	.019***	.020***	.718	.051***	-.046	.019***
	(.497)	(.398)	(.429)	(.000)	(.000)	(.000)	(.192)	(.000)	(.409)	(.000)
Country control variables										
CORP	-.924	-1.030*	-1.051*	.056	.053	.048	11.084*	.236**	-1.028*	.052
	(.115)	(.081)	(.075)	(.178)	(.197)	(.245)	(.058)	(.034)	(.080)	(.200)
INFN	-.279**	-.305**	-.325**	-.017*	-.019**	-.021	.804	-.048*	-.310**	-.018*
	(.038)	(.027)	(.018)	(.081)	(.048)	(.030)	(.548)	(.062)	(.022)	(.054)
GDP	.101	.116	.117	-.080***	-.080***	-.080***	-2.730	-.054	.112	-.080***
	(.634)	(.591)	(.587)	(.000)	(.000)	(.000)	(.201)	(.185)	(.600)	(.000)
DIND	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
DYER	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-.449	-.915	-.850	1.632***	1.616***	1.629***	50.098	1.150	-.909	1.617***
F-value	3.24***	2.60***	2.64***	9.95***	9.85***	10.11***	2.26***	5.30***	2.87***	11.21***
Adjusted R^2	75.11	74.68	74.71	80.20	80.16	80.28	77.31	71.46	74.86	80.75
No. of obs.	600	600	600	600	600	600	600	600	600	600

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Variables are defined as follows: square the percentage of the total number of women, ethnic minority and foreign directors to the total number of board directors (DIV^2); A dummy variable equal to 1 if a firm has one woman director on the board (GEN_1); A dummy variable equal to 1 if a firm has two woman directors on the board (GEN_2); A dummy variable equal to 1 if a firm has more than two woman directors on the board (GEN_3); market-to-book (MTB) and return on equity (ROE). Table 1 fully defines all the variables used.

Table 8. Sensitivity analyses of the relationship between corporate board diversity and corporate financial performance (Part II)

	Q	ROA	Q	ROA	Q lagged	ROA lagged	Q 2SLS	ROA 2SLS
Independent variables	1	2	3	4	5	6	7	8
DIV					1.145**	.077*	3.681*	2.539***
					(.036)	(.076)	(.059)	(.000)
DIV_NO	.075*	.009***						
	(.067)	(.005)						
DIV_DUM			.251*	.007**				
			(.070)	(.046)				
CG control variables								
BRDS	-.332	-.015	-.344	-.002	.284	.058*	.098	-.243***
	(.401)	(.588)	(.384)	(.948)	(.492)	(.079)	(.903)	(.000)
UBL	-.139	-.044***	-.145	-.045***	-.207	-.010	-.355	.097***
	(.376)	(.000)	(.354)	(.000)	(222)	(.440)	(.371)	(.001)
BSH	-1.615***	.013	-1.542***	.016	.556	-.000	-1.691***	.091**
	(.001)	(.705)	(.002)	(.649)	(.279)	(.996)	(.001)	(.013)
GSH	.964	.049	.835	.057	.697	.010	.981	.061
	(.213)	(.365)	(.283)	(.297)	(.419)	(.886)	(.205)	(.260)
ISH	1.213***	.044	1.117**	.043	.427	-.050	2.320	-.741***
	(.007)	(.164)	(.013)	(.181)	(.382)	(.192)	(.279)	(.000)
Firm control variables								
LNTS	-.006	.027***	.005	.027***	.074	-.009*	.059	-.015
	(.925)	(.000)	(.937)	(.000)	(.278)	(.098)	(.647)	(.100)
LV	.155	-.099***	.127	-.104***	.159	-.004	-.194	.112**
	(.649)	(.000)	(.709)	.000	(.220)	(.686)	(.776)	(.020)
AGE	.406	.070***	.393	.068***	-.081*	.004	.223	.181***
	(.101)	.000	(.112)	(.000)	(.058)	(.248)	(.660)	(.000)
BIG4	.364***	-.004	.366***	-.004	.067	.001	.492*	-.095***
	(.000)	(.609)	(.000)	(.545)	(.157)	(.732)	(.060)	(.000)
GRTH	-.044	.019***	-.042	.019***	.006	.006	-.032	.009**
	(.431)	.000	.443	(.000)	(.906)	(.171)	(.582)	(.026)
Country Control variables								
CORP	-1.066*	.048	-1.040*	.053	-.062	.009	-1.262*	.214***
	(.070)	(.248)	(.077)	(.204)	(.643)	(.411)	(.060)	(.000)
INFN	-310**	-.018	-.263*	-.019*	-.000	.001	-.350**	.012
	(.022)	(.058)	(.055)	(.052)	(.994)	(.796)	(.049)	(.345)
GDP	.099	-.082***	.056	-.078***	.021	-.001	-.515	.550***
	(.644)	.000	(.796)	(.000)	(.268)	(.408)	(.683)	(.000)
DIND	Included	Included	Included	Included	Included	Included	Included	Included
DYER	Included	Included	Included	Included	Included	Included	Included	Included
Constant	-.386	1.683***	.556	1.575***	-1.073	.068	1.551	-.085
F-value	2.79***	10.50***	2.85***	9.82***	1.93**	1.13	2.80***	10.54***
Adjusted R^2	74.81	80.45	79.59	80.15	80.35	79.42	74.73	80.16
No. of observations	600	600	600	600	600	600	600	600

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. Variables are defined as follows: the number of women, ethnic minority and foreign directors on the board (DIV_NO) and dummy variable equal 1 if the firm has one women, ethnic minority or foreign director and 0 otherwise (DIVG_DU). Table 1 fully defines all the variables used.