Antecedents of Voluntary Corporate Governance Disclosure: A Post-2007/08 Financial Crisis Evidence from the Influential UK Combined Code

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Abstract

Purpose: This study investigates the level of compliance with, and disclosure of, good corporate governance (CG) practices among UK publicly listed firms, and consequently ascertains whether board characteristics and ownership structure variables can explain observable differences in the extent of voluntary CG compliance and disclosure practices**.**

Design/Methodology/Approach: The study uses one of the largest datasets to-date on compliance and disclosure of CG practices from 2008 to 2013 containing 120 CG provisions drawn from the 2010 UK Combined Code relating to 100 UK listed firms to conduct multiple regression analyses of the determinants of voluntary CG disclosures. A number of additional estimations, including two stage least squares, fixed-effects and lagged structures, are conducted in order to test the robustness of the findings.

Findings: The results suggest that there is a substantial variation in the levels of compliance with, and disclosure of, good CG practices among the sampled UK firms. We also find that firms with larger board size, more independent outside directors and greater director diversity tend to disclose more CG information voluntarily, whereas the level of voluntary CG compliance and disclosure is insignificantly related to the existence of a separate CG committee and institutional ownership. Additionally, the results indicate that block ownership and managerial ownership impact negatively on voluntary CG compliance and disclosure practices. The findings are fairly robust across a number of econometric models that sufficiently address various endogeneity problems and alternative CG indices. Overall, the findings are generally consistent with the predictions of neo-institutional theory.

Originality/Value: This paper extends, as well as contributes to the extant CG literature by offering new evidence on compliance with, and disclosure of, good CG recommendations contained in the 2010 UK Combined Code following the 2007/08 global financial crisis. This paper also advances the existing literature by offering new insights from a neo-institutional theoretical perspective of the impact of board and ownership mechanisms on voluntary CG compliance and disclosure practices.

Keywords: Corporate governance; Board and ownership mechanisms; Comply or explain; Neo-institutional theory; UK Combined Code

1. Introduction

This study seeks to extend, as well as contribute to the extant literature by: (i) investigating why and how UK listed firms may voluntarily comply with, and disclose information relating to CG recommendations contained in the influential 2010 UK Combined Code; and (ii) consequently examining whether ownership and board characteristics can explain observable differences in CG compliance and disclosure practices with specific focus on providing new empirical insights following the 2007/08 global financial crisis. Our analysis is informed by a neo-institutional theoretical perspective.

The last decade has witnessed an increased interest in the extent of voluntary CG compliance and disclosure practices (Conyon & Mallin, 1997; Elshandidy & Neri, 2015; Melis et al., 2015; Ntim et al., 2012b, Pass, 2006; Waweru, 2014). Whilst varied justifications have been provided to explain why firms may voluntarily disclose information relating to their CG practices (Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Ntim, 2015; Al-Bassam et al., 2016; Ntim et al., 2016), recent theoretical advancements indicate that institutional context and theory can explain the considerable growth in the issuance and/or adoption of codes of CG practices around the world (Adegbite, 2015; Zattoni & Cuomo, 2008; Al-Bassam & Ntim, 2016). Particularly, and from neo-institutional theoretical perspective, institutional forces (e.g., political, social and economic institutions) can influence the spread and/or the imposition of business norms/practices on firms (DiMaggio & Powell, 1983, 1991; Scott, 2001). These institutional forces have generally been suggested to be driven by two main reasons: efficiency ('substantive management') and legitimation ('symbolic management') (Adegbite, 2015; Aguilera & Cuervo-Cazurra, 2004). Observably, neo-institutional theoretical perspective has been employed by prior studies in explaining the institutional forces, which can facilitate or constrain the diffusion of corporate practices at the national-level of analysis, including the adoption of international financial reporting standards (Maroun & Van-Zijl, 2015), CG standards (Adegbite, 2015; Zattoni & Cuomo, 2008) and CSR practices (Ntim & Soobaroyen, 2013). By contrast, neo-institutional theoretical perspective has rarely been employed towards explaining the rapid adoption of good CG standards at the firm-level of analysis. Arguably, this limits current understanding of institutional forces that may be able to explain the rapid proliferation of good CG standards at the firm level.

Accordingly, this study aims to extend, as well as contribute to the current literature by applying neo-institutional theoretical perspective to explain differences in CG practices and with specific focus on the efficiency and legitimation implications of neo-institutional theory. The neo-institutional (efficiency view) perspective proposes that institutional pressures (i.e., coercive, mimetic and normative pressures) can force economic entities to compete strongly to gain access to critical resources which can maximise the wealth of shareholders (Adegbite, 2015; Zattoni & Cuomo, 2008). Hence, committing to high levels of accountability/transparency in the form of

engaging in increased voluntary[1] CG disclosure can allow firms to gain access to crucial resources by improving their reputation and goodwill (Pfeffer & Salancik, 1978). Additionally, greater engagement in voluntary CG disclosures can improve the performance of economic entities by reducing the conflict of interest between management and owners through improvement in the flow of information between them (Jensen & Meckling, 1976; Fama & Jensen, 1983).

Similarly, the legitimation view of neo-institutional theory proposes that coercive pressures can force corporations to behave according to socially accepted standards/conventions. This is because conforming to such socially expected and accepted standards/conventions can improve legitimacy of a company's operations and also enhance its social acceptance (Duff, 2015; Suchman, 1995). Therefore, committing to good CG practices can be one way by which corporate goals may be aligned with those of the larger society, and that can in turn help legitimise corporate operations via improved corporate image and reputation. Furthermore, the need to keep good relationships with powerful corporate stakeholders (Pfeffer & Salancik, 1978), and thus improving corporate reputation and image, can compel economic entities to conform to or voluntarily mimic socially expected and accepted standards/conventions (Mizruchi & Fein, 1999). For instance, greater commitment to good governance standards in the form of engaging in greater CG disclosures may improve the legitimacy of firms by gaining the support of influential stakeholders, including shareholders and governments, who are central to the ability of corporations to maintain sustainable operations (Zattoni & Cuomo, 2008).

Due to various reasons underlying corporate disclosure behaviour, previous research has investigated the extent, motives and antecedents of voluntary disclosure practices (Cooke, 1992; Botosan, 1997; Barako et al., 2006). However, the existing voluntary disclosure literature has a number of observable weaknesses. First, despite the importance of good CG practices and the considerable amount of CG reforms that have been pursued worldwide (Aguilera & Cuervo-Cazurra, 2004), existing voluntary disclosure literature is primarily focused on investigating general financial disclosures (Allegrini & Greco, 2013; Cheng & Courtenay, 2006), social and environmental disclosures (Cuadrado-Ballesteros et al., 2015; Grougiou et al., 2016; Reverte, 2009) and risk disclosures (Cabedo & Tirado, 2004; Elshandidy & Neri, 2015; Ntim et al., 2013). In contrast, studies examining why and how public corporations may voluntarily comply with and disclose information about their CG practices are scarce (Adegbite, 2015; Pass, 2006; Bozec & Bozec, 2007).

Second, the few studies that have examined voluntary disclosure of CG practices are impaired in that they measure compliance indirectly through a survey (Adegbite, 2015; Conyon, 1994; Conyon & Mallin, 1997)/subjective analysts ratings (Patel et al., 2002; Hussainey & Al-Najjar, 2012) or investigate a small number of CG provisions (Arcot et al., 2010; Padgett & Shabbir, 2005), and thereby arguably limiting the generalisability of their findings. Third, despite increasing theoretical

[1] It should be noted that the term 'voluntary disclosure' used in this paper refers to the voluntary CG compliance/disclosure regime that has been popularised by the UK's 1992 Cadbury Report in contrast to the 'comply or else' (mandatory) CG compliance and disclosure regime, which has been advocated by the US Sarbanes-Oxley Act. Thus, the operationalisation of the 'voluntary disclosure' terminology in this case is different from the traditional understanding of reporting over and above mandatory disclosure requirements.

and empirical suggestions that relying on a neo-institutional theoretical perspective can help in explaining the varied reasons often underlying corporate voluntary disclosures (Ntim et al., 2013b), existing studies are either mainly descriptive (Patel et al., 2002; Waweru, 2014) or have used this theory to examine institutional forces that influence adoption of CG standards mainly at a national level of analysis (Adegbite, 2015; Judge et al., 2010; Zattoni & Cuomo, 2008). In contrast, studies employed neo-institutional theoretical perspectives to examine issues relating to the adoption of good CG standards at the firm level are rare. Arguably, this impedes our ability to fully understand and explain the different managerial motives for voluntary CG disclosures.

Fourth, notwithstanding increasing suggestions that poor CG practices partly contributed to the 2007/08 global financial crisis (FRC, 2010a, b, 2012a, b), there seems to be generally inadequate empirical evidence and serious academic reflections on its effects on CG and disclosure practices (Ferri & Maber, 2013; Ntim et al., 2013). Finally, despite the theoretical and empirical indications that corporate decisions, such as disclosure is mainly a function of top management and ownership structure (Ntim et al., 2012a), existing literature have largely examined how general firm attributes (e.g., size, leverage and liquidity) can influence voluntary disclosure of CG practices (Cooke. 1992; Patel et al., 2002; Waweru, 2014). This also limits current understanding of the extent to which corporate board and ownership characteristics can affect voluntary disclosure of CG practices.

Given the apparent weaknesses of the extant literature, we seek to examine voluntary CG disclosure behaviour among listed UK corporations. The UK offers a particularly interesting context to conduct the current study for the following reasons. First, since 1992, the UK has been in the leading position of pursuing global CG reforms (e.g., Cadbury Report, 1992; Greenbury Report, 1995; Hampel Report, 1998; Turnbull Report, 1999; Higgs Report, 2003; Smith Report, 2003; FRC, 2010a, b, 2012a, b). For example, the influential 1992 Cadbury Report, which promoted the concept of voluntary CG compliance regime ('comply or explain'), has been adopted by almost every country in the world. As will be discussed further and since 1992, over 30 good CG guides have been produced and consolidated into the 'Combined Code'. Thus, a study of this nature will have important implications not just for the UK, but also for CG reforms that have been pursued around the world. Second, apart from pursuing influential CG reforms, public corporations have relatively dispersed ownership structure, suggesting that voluntary compliance regime ('comply or explain') may be appropriate (MacNeil & Li, 2006). Third, the UK has a fairly strong track record of applying and imposing corporate regulations with stronger level of shareholder activism. The market for corporate, capital, service, product and managerial control is also fairly strong. Arguably, these contextual characteristics render the UK a germane environment to examine voluntary CG disclosure behaviour.

In fact, it is somewhat an empirical anomaly that only a small number of previous studies have sought to investigate voluntary CG disclosures among UK listed corporations despite the powerful nature of its governance reforms with observable limitations (Conyon, 1994; Conyon & Mallin, 1997; Pass, 2006; Arcot et al., 2010; Hussainey & Al-Najjar, 2012; Mallin & Ow-Young, 2012;

Shrives & Brennan, 2015). For example, Conyon (1994) and Hussainey and Al-Najjar (2012) examine voluntary CG disclosures among UK firms by employing a survey and subjective analysts rankings, respectively. Similarly, Pass (2006) and Arcot et al. (2010) examine only a small number of CG provisions. Mallin and Ow-Yong (2012) only analyse small and medium size firms listed on the AIM (alternative investment market), whilst Shrives and Brennan (2015) focused only on analysing the quality of CG explanations for non-compliance with the recommendations of 2003 and 2010 codes among largest UK listed firms. Hence, this study aims to broaden the current understanding, as well as contribute to existing studies in several ways. First, we contribute to the extant literature by offering new evidence on compliance with, and disclosure of, good CG recommendations included in the 2010 UK Combined Code by constructing the most comprehensive CG compliance and disclosure index to-date, consisting of 120 CG provisions. Second, we advance the existing literature by providing evidence on the extent to which corporate board characteristics and ownership structure variables can explain observable changes in voluntary CG disclosures. Third, we contribute to existing literature by offering new insights from a neo-institutional theoretical perspective to interpret voluntary CG disclosure behaviours. Finally, we offer a timely new empirical insights relating to CG structures and disclosure practices following the 2007/08 global financial crisis.

Our evidence two-fold; first, our findings indicate that the level of compliance with, and disclosure of, good CG recommendations included in the 2010 Combined Code is generally high, but varies substantially among the sampled corporations. Second, we find that board size, the proportion of independent outside directors and board diversity are significantly and positively related to voluntary CG disclosures, whereas the presence of a separate CG committee and institutional ownership have a positive, but insignificant association with voluntary CG disclosures. Additionally, managerial and block ownership impact negatively on the levels of voluntary CG disclosures. Our findings are fairly robust across a number of econometric models that sufficiently address various endogeneity concerns and alternative CG indices. Overall, our findings are largely in line with the expectations of neo-institutional theoretical perspective.

The paper is organised as follows. The next section briefly considers CG disclosure policy reforms in the UK. The following sections present the theoretical framework, review the empirical literature and develop hypotheses, outline the research methodology, and discuss the findings of the paper. The concluding remarks of the paper are provided in the final section.

2. CG, Disclosure Policy Reforms and the UK Corporate Context

Policy-makers and shareholders became more concern about the need to improve and reform CG practices in the UK at the end of 1980s when several corporate scandals emerged (Waweru, 2014). This period was characterised by a weak link between corporate financial performance and executive directors' pay, limited role of auditors and rampant cases of expropriation of shareholders' wealth by opportunistic managers (Pye, 2000). In particular, a number of well-known corporate scandals,

including the failure of the Barings Bank, occurred (Waweru, 2014). These corporate scandals impaired significantly the confidence of investors and were imputed mainly to weak CG practices involving lack of accountability and transparency among senior corporate executives (Conyon & Mallin, 1997; Pass, 2006). Consequently, the Cadbury Committee was founded in 1991 with the aim of promoting high standards of CG by enhancing accountability and transparency practices in UK listed corporations. The Cadbury Committee issued its final report in 1992, which has been an influential driver for CG reforms that have been pursued in different countries worldwide (Aguilera & Cuervo-Cazurra, 2004). However, a notable limitation of the Cadbury Report is that it focused mainly on the financial aspects of CG and neglected other equally important aspects of governance, such as executive pay, risk management, and internal controls (Ntim et al., 2012a, b).

Therefore, the recommendations contained in the Cadbury Report have been reviewed and expanded by a number of predecessor reports (Greenbury, 1995; Hampel, 1998; Turnbull, 1999; Higgs, 2003; and Smith, 2003). For example and briefly, the 1995 Greenbury Report sought to address the thorny issue of remuneration practices among UK listed corporations with particular focus on improving the link between executive directors' pay and performance through increased disclosure of information relating to the pay of a company's executives. The 1998 Hampel Report consolidated the CG recommendations that were contained in the 1992 Cadbury and 1995 Greenbury Reports, permitting its Committee to issue the first UK Combined Code in 1998. The 1999 Turnbull Report sought to strengthen the crucial issue of internal controls and risk management among UK listed corporations. The 2003 Higgs Review focused on improving board independence by reviewing the role and effectiveness of independent outside directors. Similarly, the 2003 Smith Report focused on strengthening and reviewing the effectiveness of board subcommittees with specific focus on the role and effectiveness of audit committees. The recommendations of Higgs' and Smith's Reports were further consolidated with those of the 1998 Hampel's Report, leading to the issuance of the second version of the UK Combined Code in 2003. The Combined Code has since been revised almost every two years, notably in 2006, 2008, 2010, 2012 and 2014 (FRC, 2010a, b, 2012a, b). Table 1 summarises and compares the main recommendations contained in the different UK CG reforms that have been pursued over the last 20 years with specific focus on the 1992 Cadbury Report and 2010 the Combined Code.

Insert Table 1 about here

Table 1 shows that most of CG recommendations contained in the UK codes/reports aim at protecting the interests of shareholders. These CG recommendations cover five main areas: (i) board leadership; (ii) board effectiveness; (iii) board accountability; (iv) executive pay; and (v) relations with shareholders. The first two areas which relate to '*board leadership*' and '*effectiveness*' seek to enhance the monitoring power and the independence of corporate boards by requiring greater transparency regarding board practices, including separating CEO and chairperson positions and requiring the chairperson of a firm's board to be an independent director, amongst others. CG rules

relating to '*accountability*' seek to improve risk management and control by requiring greater transparency about risk evaluation, risk management policies, and the presence of sufficient internal control and audit systems aimed at determining and minimising managerial fraud. CG provisions relating to '*executive pay'* aim to enhance monitoring and control over executive pay by calling for higher disclosure and transparency about directors' pay, such as disclosing information about the components of executives' pay and remuneration policy. '*Relations with shareholders*' CG provisions seek to ensure that the top management team consider the view of shareholders by encouraging continuous engagement, dialogue, and communication by corporate boards with major shareholders regarding issues relating to governance, strategy and executive pay.

Additional to the focus of good CG practices contained in 1992 Cadbury Report and the 2010 Combined Code on protecting shareholder interests, there are other CG regulations that aim to protect the interests of stakeholders (e.g., 2002 Hermes-Principles and 2006 Companies-Act) by encouraging listed corporations to involve in more disclosure of information relating to stakeholder CG practices. Furthermore, and as previously explained, apart from sustained and extensive CG reforms that have been aimed at promoting high standards of CG in listed corporations, UK firms are relatively characterised by disperse ownership structure, where institutional shareholders play an important role in monitoring boards and top management (Hussainey& Al-Najjar, 2012). Thus, the features of: (i) disperse ownership structure; (ii) strong shareholder activism; (iii) a good track record of adopting and imposing corporate regulations; and (iv) active market for corporate, capital, service, product and managerial control (Ferri & Maber, 2013; Melis et al., 2015) have the capacity to encourage corporations to voluntarily comply with, and disclose information relating to their CG practices (MacNeil & Li, 2006; Mallin & Ow-Yong, 2012). This study, therefore, seeks to examine the extent to which UK listed firms voluntarily comply with, and disclose information relating to their CG practices and consequently, ascertain whether observable cross-sectional differences in such voluntary CG disclosures can be explained by ownership and board characteristics with specific focus on the period following the 2007/08 global financial crisis.

3. A Neo-Institutional Theoretical Perspective and CG Disclosure Practices

Although, the notion of "institution" has been viewed in diverse approaches (e.g., DiMaggio & Powell, 1991; Scott, 2001) it generally points out to norms and regulations that allow or pose restrictions on the behaviours of actors in order to make their social life more significant (Judge et al., 2010). The institutional theoretical framework is considered to be useful in explaining the influence of higher level environment on lower level institutions (DiMaggio & Powell, 1991).

The neo-institutional theoretical perspective suggested by Scott (2001) focuses on three levels of analysis, including societal institutions (it also refers to global institutions), institutional governance framework, and actors in institutional settings. The societal institutions provide the institutional context, where what is regarded to be acceptable means/models is proposed and enacted (Judge et al., 2010; Scott, 2001). Such institutions can affect lower level institutions by shaping, constraining,

and promoting structures at lower levels. At the middle level of model proposed by Scott is institutional governance structures, which consist of organisational fields (refer to corporations working in identical field, as indicated by providing services of similar nature) as well as of organisations themselves. The organisational level of analysis is also considered to be important, since corporations are diverse in size, complexity, structure and culture and they all impact, and are impacted by their institutional environments and organisational fields. Finally, actors in institutional settings are at the lowest level of the model proposed by Scott, comprising individuals/groups.

DiMaggio and Powell (1983, 1991) recognised three forms of institutional pressures within the bounds of neo-institutional theoretical framework. Briefly, the first type is "coercive or regulative", which refers to the existence of institutions that can compel and/or influence actors to comply with CG practices. In our case, it refers, for example, to pressures of regulations and laws emanating from London Stock Exchange (LSE) and Financial Reporting Council (FRC) to comply with and disclose information relating to CG practices. The second type is "cognitive or mimetic", which refers to the ability of actors to learn and copy the behaviour of other actors. This essentially suggests that a corporation might imitate others when complying with good CG practices. The final type of pressure is "normative", which refers to expected and accepted behaviours within a social system. This indicates that complying with good CG practices may become a norm after a while and every corporation will comply with the code of good CG practices. Scott (2001) suggests that each of these three types of institutional pressures affect and can be affected by the forces of diffusion and also by the enforcement of institutional values and practices. These forces and constraints interplay to create similarities in processes, procedures, thoughts, structures and actions within institutional framework ("institutional isomorphism").

Neo-institutional theoretical perspective has been employed by prior studies at the national-level to explain the antecedents, which simulate/constrain the diffusion of a several corporate practices, including the adoption of international accounting practices (Maroun & Van-Zijl, 2015), CSR practices (Ntim & Soobaroyen, 2013), CG legitimacy (Judge et al., 2010) and the compliance with the recommendations of CG codes/standards (Adegbite, 2015; Aguilera & Cuervo-Cazurra, 2004; Zattoni & Cuomo, 2008). However, this theory has hardly been employed at the firm-level to examine issues relating to CG practices. Hence, this study aims to extend, as well as contribute to the existing literature by employing neo-institutional ('efficiency and legitimation views') perspective to understand and explain differences (at the firm-level of analysis) in CG practices.

In this regard, and from economic perspective, institutional scholars argue that institutions are important in determining the forces, which encourage society's members (e.g., individuals, nations and companies) to get involve in profitable activities, including maximising shareholder wealth (Judge et al., 2010). Based on the economic approach of institutional theory, organisations primarily compete for resources ("economic efficiency") to maximise their self-interests. Therefore, and from efficiency-led perspective, neo-institutional theory proposes that institutional pressures (i.e., coercive, mimetic, and normative), can be a strategic attempt to gain competitive advantages. In this

case, involving in good CG can improve efficiency by gaining access to the critical resources (Pfeffer & Salancik, 1978). Additionally, committing to good CG practices can improve efficiency by reducing the agency/information asymmetry problems (Abdioglu et al., 2015; Jensen & Meckling, 1976).

In contrast, and from sociological perspective, Meyer and Rowan (1977) argue that corporations do not only aim to provide goods and services and make profit, they also have responsibilities towards the larger society. Organisations, based on sociological perspective, gain their authority to operate from the larger society and thus, they are also accountable to the larger society for their activities. In order for firms to survive, they need to legitimise their operation through conforming to socially expected and accepted standards/conventions (Suchman, 1995). Additionally, firms need not only to consider the rights of shareholders, but also the rights of the wider society (Ramanathan, 1976). According to DiMaggio and Powell (1983), the legitimacy and eventually the survival of firms can be threatened, if firms failed to conform to socially expected and accepted standards/conventions. Thus, from the sociological perspective, organisations not only strive to gain access to the critical resources, but they eventually desire to achieve social legitimacy and acceptance (Judge et al., 2010; Zattoni & Cuomo, 2008). Consistent with this perspective, CG system is deemed to be a crucial mechanism that ensures conforming to societal expectations. In particular, the legitimation-led perspective of neo-institutional theory suggests that firms need to commit to high levels of voluntary disclosure of information relating to stakeholder CG practices in order to legitimise their operations and survive (Reverte, 2009).

4. CG and Voluntary Disclosure: Literature Review and Hypotheses Development

A number of factors have been identified by prior studies, which can impact on engaging in good CG practices (e.g., Allegrini & Greco, 2013; Barako et al., 2006; Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Ntim et al. 2012b). This study draws from this literature and the UK corporate context to identify possible antecedents of voluntary compliance with and disclosure of, good CG practices. In paricular, this study explores the impact of firm-level CG quality in the form of board characteristics (i.e., board size, the proportion of independent outside directors, board diversity, and the existence of a separate CG committee) and ownership structre variables (i.e., managerial ownership, institutional ownership and block ownership) on voluntary CG compliance and disclosure practices among UK listed firms.

4.1. Corporate board characteristics

4.1.1 Corporate board size

Board size refers to the number of both inside and outside directors that serve on a corporate board. The efficiency view of neo-institutional theoretical framework proposes that larger boards are characterised by better decision-making and higher managerial monitoring (Ntim, 2015). This is because larger boards are less likely to be controlled by powerful chief executives in comparison

with smaller boards (Ntim & Soobaroyen, 2013), and as such, strategic decisions, including those relating to voluntary disclosure of CG practices can be scrutinised more effectively by larger boards. Therefore, since CG information becomes an important component of corporate voluntary disclosure, it is expected that corporations with larger boards are more likely to involve in increased disclosure of information relating to their CG practices compared with corporations with smaller boards. Similarly, and from a legitimisation neo-institutional theoretical perspective, larger boards considered to be more efficient in scrutinising and detecting opportunistic behaviours of managers (Zahra & Pearce, 1989). This due to that larger boards are often characterised by greater diversity in terms of experience, financial expertise, stakeholders' representation, as well as capabilities to solve problems, which can improve firm reputation and image (Ntim, 2015). The greater diversity of stakeholders linked to larger boards may also increase the need of corporations to voluntarily disclosure information relating to their CG practices, and thus larger boards are expected to voluntarily commit to greater CG disclosures than their smaller counterparts.

In contrast, Ciampi (2015) and John and Senbet (1998) advocate the view that smaller boards are more effective in scrutinising managerial opportunism, whereas larger boards are associated with coordination and communication problems among their members (Lipton & Lorsch, 1992) and thus, the implication of this is that as board's size increases, there is a greater possibility that managers' monitoring will decrease. Arguably, this can increase the possibility that larger boards may be controlled by powerful chief executives, and thus can influence adversely corporate voluntary disclosure behaviours, including those relating to CG practices.

Notwithstanding the conflicting theoretical literature, however, a clear majority of prior empirical literature find a positive link among board size and corporate disclosure practices (e.g., Allegrini & Greco, 2013; Barako et al., 2006; Ntim et al., 2012b). In contrast, there are other studies report that board size impacts negatively on corporate disclosure behaviour (e.g., Samaha et al., 2012). Other studies did not find any link between board size and corporate disclosure practices (e.g., Cheng & Courtenay, 2006). In the UK context, prior studies (Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012) find a positive link between board size and voluntary CG disclosure practices. In addition, the 2010 UK Combined Code indicates that the board should be of a sufficient size in order to ensure that it is able to operate effectively (FRC, 2010a; Higgs-Report, 2003), and therefore, it can be expected that board size may have an impact on voluntary CG compliance and disclosure practices. Thus, we propose the following hypothesis:

H1. Larger boards tend to engage in greater compliance with, and disclosure of, good CG practices than smaller boards.

4.1.2 Proportion of independent outside directors

From a neo-institutional (efficiency view) theoretical perspective, the appointment of independent outside directors is deemed to be one of the important governance mechanism that can facilitate effective monitoring of boards, and thereby help in reducing inherent agency problems between executives and shareholders (Fama & Jensen, 1983). Similarly, neo-institutional theory

(legitimation view) suggests that, the split of ownership from control may lead to increase the lack of trust between agents and owners, which may have negative implications for the legitimacy of managerial decisions (Adegbite, 2015). However, Ntim & Soobaroyen (2013) suggest that such legitimacy concerns can be minimised by appointing independent outside directors, who act as representative of different groups of stakeholders. Therefore, the presence of independent outside directors may not only enhance efficiency for shareholders by mitigating agency conflicts, but can also enhance legitimacy by taking into account the interests of different groups of stakeholder. Additionally, independent outside directors tend to bring greater diversity to corporate boards, including knowledge, skills and business contacts (Ntim & Soobaroyen, 2013). Thus, the appointment of independent outside directors can influence positively the level CG disclosure practices by putting greater pressure on corporate executives to be more transparent about their CG practices.

Empirically, the findings of empirical literature largely suggest a positive link among the presence of independent outside directors and CG disclosure practices. For instance, and in line with the findings of previous studies (Donnelly & Mulcahy, 2008; Samaha & Dahawy, 2011), Samaha et al. (2012) report a positive relationship between the proportions of outside executives and voluntary disclosure about CG practices. A limited number of evidence, however, suggest a negative relationship between the proportions of outside directors and corporate disclosure behaviour (e.g., Al-Moataz & Hussainey, 2014; Barako et al., 2006). With respect to the UK corporate context, Mallin and Ow-Yong (2012) report that the association between the proportion of outside directors and voluntary CG disclosure practices is positive. Additionally, the 2010 UK Combined Code (see Section b.1.2) suggests that at least half of corporate board should be independent outside directors. This implies that the Combined Code considers the presence of independent outside directors on corporate boards to be a good CG aspect, and therefore, can be expected to positively influence CG compliance and disclosure practices. Thus, we propose the following hypothesis:

H2. Boards with more independent outside directors tend to engage in greater compliance with, and disclosure of, good CG practices than those with less independent outside directors.

4.1.3 Corporate board diversity

The diversity of corporate board is deemed to be an important components that can influence its performance (Carter et al., 2010; Upadhyay & Zeng, 2014). Corporate board diversity can be defined using different attributes, such as gender, age, professional background and ethnic origin (Singh & Vinnicombe, 2004). Nevertheless, the majority of existing literature focused mainly on gender and ethnic diversity aspects of the board, as they are easily observable and thus easier to operationalise (Adams & Ferreira, 2009; Adegbite, 2015; Carter et al., 2010; Ntim, 2015; Upadhyay & Zeng, 2014). Therefore, this study focuses on these two aspects of board's diversity. From neo-institutional ('efficiency view') perspective, the presence of women and ethnic minorities on a firm's board may improve its performance/efficiency (Brammer et al., 2007; Upadhyay & Zeng, 2014), by linking the firm to its external environment and that may allow access to crucial resources (Ntim & Soobaroyen,

2013). Similarly, and From neo-institutional ('legitimation view') perspective, the presence of women and ethnic minorities on a firm's board may improve its legitimacy by providing better networks with influential stakeholders (Ntim & Soobaroyen, 2013). Furthermore, gender and ethnic diversity can enhance board independence from management by having members from diverse gender and ethnic origins (Barako & Brown, 2008), which can improve the ability of the board to effectively monitor self-serving managers from expropriating shareholder wealth (Carter et al., 2010; Upadhyay & Zeng, 2014). Thus, and given that the extent of voluntary CG compliance and disclosure practices is primarily determined by corporate executives and owners (Ntim & Soobaroyen, 2013), it is expected that more diverse boards can put greater pressure on senior managers (especially from female and ethnic minority members) to involve in greater compliance and disclosure of good CG practices than their less diverse counterparts.

Empirical studies examining the influence of board diversity on voluntary CG disclosure are generally rare (e.g., Barako & Brown, 2008; Brammer et al., 2007; Ntim & Soobaroyen, 2013), and thus offers a good opportunity to contribute to the extant literature. The results of these studies suggest that board diversity impacts positively on corporate disclosure practices. Within the European corporate context in general, and UK in particular, increasing attention is being paid towards improving the governance of large public corporations by encouraging greater involvement of women, and Black, Asian and Minority Ethnic (BAME) groups in top management. In particular, Section b.2 of 2010 UK Combined Code recommends that corporations should ensure that their boards are sufficiently diverse in a number of aspects that can impact on their effectiveness, including age, experience, skills, gender and ethnicity. Thus, board diversity is viewed as a positive CG aspect by the UK Combined Code, which can be expected to impact positively on voluntary CG disclosure. Hence, we propose the following hypothesis:

H3. Boards with more women and ethnic minorities tend to engage in greater compliance with, and disclosure of, good CG practices than those with less women and ethnic minorities.

4.1.4 The Existence of a separate CG committee

The 2010 UK Combined Code does not require UK listed firms to establish a separate CG committee to monitor whether they comply with the requirements of the recommended CG provisions contained in it. Consequently, it has been suggested that corporations that voluntarily establish a separate CG committee in order to closely monitor their compliance with the CG code are expected to involve in good governance practices and thus, voluntarily provide more information relating to their CG practices compared with their counterparts that do not have a separate CG committee (Ntim et al., 2012b). Therefore, it is predicted that corporations that have a separate CG committee to closely monitor their compliance are more likely to involve in good CG practices in order to enhance their legitimacy and also gain the support of key stakeholders, to access crucial resources, including capital and contacts.

Empirically, there are few studies that have examined the link among the existence of separate CG committees and voluntary CG compliance and disclosure practices, and therefore this makes it

an interesting area for investigation. Ntim et al. (2012a) find a positive link among the existence of a separate CG committees and the voluntary CG compliance and disclosure practices for listed corporations in South Africa. This study, therefore, expect that corporations that voluntarily establish separate CG committees to disclose engage in greater CG compliance and disclosure compared with their counterparts with no CG committees. Therefore, we propose the following hypothesis:

H4. Boards that set up a separate CG committee tend to engage in greater compliance with, and disclosure of good CG practices than those with no separate CG committees.

4.2. *Ownership structure mechanisms*

4.2.1 Managerial ownership

From neo-institutional (efficiency view) perspective, managerial ownership can help mitigate agency conflicts by aligning management interests with those of shareholders (Jensen & Meckling, 1976). Similarly, and from a legitimisation perspective, firms with high managerial ownership have limited pressure to demonstrate accountability and transparency to outsiders, including the general public (Khan et al., 2013). Consequently, firms with high managerial ownership are expected to invest less in CG activities because the costs of investing in such activities may exceed the expected benefits (Samaha et al., 2012), and therefore a limited need to voluntarily engage in increased disclosure of CG practices.

By contrary, it is argued that higher ownership by managers may not necessarily result in aligning management and shareholder interests, because managers may behave opportunistically by exploiting insider information to maximise their own benefits at the expense of other shareholders (Chen & Al-Najjar, 2012; McConnell & Servaes, 1990). Thus, as ownership by managers increases, there is a greater possibility that their monitoring will decrease, which may impact negatively on voluntary CG compliance and disclosure practices.

The findings of prior empirical studies support the argument that directors who own substantial portion of their firms' shares impact negatively on the level of voluntary disclosures (e.g., Khan et al., 2013). With respect to the UK context, prior empirical studies report that corporations with higher managerial ownership tend to disclose less information relating to their CG practices than their counterparts with lower managerial ownership (Hussainey & Al-Najjar, 2012). This leads us to propose the following hypothesis:

H5. Firms with lower managerial ownership tend to engage in greater compliance with, and disclosure of, good CG practices than those with higher managerial ownership.

4.2.2 Institutional ownership

It is suggested that institutional shareholder actively engage in promoting the fast diffusion of codes of good CG practices worldwide (Ntim et al., 2012b). From a neo-institutional (efficiency view) perspective, institutional shareholders play an active role in reducing agency conflicts in public corporations (Shleifer & Vishny, 1986). One reason is that institutional shareholders tend to have relatively higher ownership stakes than individual shareholders and therefore they inherently

have more incentives to monitor more closely managerial opportunistic behaviour than their smaller counterparts (Shleifer & Vishny, 1986). Additionally, neo-institutional (legitimation view) theory suggests that, institutional shareholders who have significant stakes in public corporations enjoy several advantages over small shareholders, including financial, information gathering and processing, knowledge, skills and expertise advantages (Ciampi, 2015). Thus, as powerful corporate stakeholders, institutional shareholders can exert more influence on a number of corporate decisions, including decisions on appointing directors and disclosure practices (Mallin & Ow-Yong, 2012). Therefore, the presence of institutional shareholders can impact positively on the voluntary CG compliance and disclosure practices.

Empirically, majority of prior studies report that corporations with higher institutional ownership tend to disclose more information relating to their CG practices than their counterparts with lower institutional ownership (e.g., Ntim et al., 2012b; Samaha et al. 2012). Nevertheless, few studies have also report no association between institutional ownership and the level of voluntary disclosures (Donnelly & Mulcahy, 2008). Within the UK corporate context, the findings of Hussainey and Al-Najjar (2012) and Mallin and Ow-Yong (2012) suggest that institutional shareholders is related positively to the voluntary CG disclosure. Similarly, 2010 Stewardship Code and 2010 UK Combined Code explicitly encourage institutional investors to actively engage in enhancing compliance with, and disclosure of, good CG practices among UK listed firms. This leads us to propose the following hypothesis:

H6. Firms with higher institutional ownership tend to engage in greater compliance with, and disclosure of, good CG practices than those with lower institutional ownership.

4.2.3 Block ownership

From neo-institutional (efficiency view) perspective, corporations with concentrated ownership are less likely to comply with good CG standards (Chen & Al-Najjar, 2012; Patel et al., 2002), because block-holders tend to have unrestricted access to insider information directly from managers rather than through corporate disclosure media, such as annual reports (Ntim & Soobaroyen, 2013). Concentrated ownership is, therefore, associated with less information asymmetry, which can mitigate agency problems (Reverte, 2009), and thus a reduced need for voluntary CG disclosures. In essence, block ownership can effectively serve as an alternative mechanism for good CG, including voluntary CG disclosure practices (Bozec & Bozec, 2007). Similarly, neo-institutional theory from a legitimisation perspective indicates that firms with concentrated ownership tend to have less external pressure to demonstrate public accountability (Ntim & Soobaroyen, 2013; Samaha et al., 2012), which can impact negatively on the level of voluntary CG disclosures. By contrast, greater information asymmetry and agency problems often associated with disperse ownership can be addressed by managerial commitment to engage in increased disclosure, including disclosing more information relating to their CG practices (Melis et al., 2015; Reverte, 2009). Thus, the theoretical expectation is that corporations with concentrated ownership structures are more likely disclose

information relating to their CG practices compared with their counterparts with dispersed ownership.

Empirically, the existing empirical evidence is largely consistent with the prediction that ownership concentration impacts negatively on voluntary CG disclosures. For instance, and consistent with the evidence provided by previous literature (Bozec & Bozec, 2007; Samaha & Dahawy, 2011), Samaha et al. (2012) find that higher ownership concentration is associated negatively with the disclosure of CG information among Egyptian listed firms. With reference to the UK corporate context, the findings Melis et al. (2015) indicate that ownership concentration impacts negatively on voluntary CG disclosure practices. Hence, we propose the following hypothesis:

H7. Firms with high block ownership tend to engage in less compliance with, and disclosure of, good CG practices than those with less block ownership.

5. Research Design

5.1. Data collection procedure

In order to investigate the voluntary CG compliance and disclosure among UK listed corporations, and consequently determine whether board characteristics and ownership structure variables can explain observable differences in in the extent to which the UK listed firms voluntarily engage in greater compliance with, and disclosure of, good CG practices, all non-financial listed corporations on the main market of LSE for years 2008-2013 were sampled. Since firm size and industry type (Cooke, 1992) are expected to affect CG compliance and disclosure practices, the selection of our final sample took into account firm size and industry distributions. There were a total of 612 non-financial listed firms[2] on the LSE as at the end of 31 December 2013. Listed firms have to meet three main specifications in order to be included to the study's final sample: (i) the annual reports of the listed corporations need to be available for the years from 2008 to 2013; (ii) a firm's financial and market performance data have to be available for all six years investigated; and (iv) the firm has to maintain continuous listing over the six years investigated.

The above three specifications were used for these reasons. First, consistent with prior literature (Ntim et al., 2012a, b), these specifications allowed conforming to the conditions of balanced panel data analysis. There are several benefits from using balanced panel data, including increasing degrees of freedom and reducing collinearity problem (Wooldridge, 2013). Second, combining time-

[2] First and in line with previous studies (Melis et al., 2015; Ntim & Soobaroyen, 2013), financials and utilities (685 corporations) are excluded in our sample for this study for two main reasons: (i) they have different capital structure; and (ii) they are subject to different regulations (Guest, 2009; Ntim et al., 2012a, b), which can impact differently on the level of their voluntary CG disclosures. Second, 319 corporations with missing annual reports/data/listed recently were also excluded, leaving us with 293 firms with full data. The classification of the remaining 293 corporations is as follows: basic-material consists of 27 (9%) corporations; consumer-goods consist of 36 (13%) corporations; consumer-service consists of 68 (23%) corporations; healthcare consists of 15 (5%) corporations; industrial consists of 102 (35%) corporations; oil & gas consist of 18 (6%) corporations; technology consist of 22 (7%) corporations; and telecommunication consist of 5 (2%) corporations. Third, because the number of observations from healthcare, oil & gas, and telecommunication industries was relatively small, the observations from these three industries were added to basic-material, consumer-services, and technology industries. In particular, corporations operating oil & gas industry were included in basic-material industry, corporations operating in healthcare industry were added to consumer-services industry, while corporations operating in the telecommunication industry were added to the technology industry. Finally, due to that collecting data manually from corporations' annual reports is considered to be a tedious work coupled with the extensive nature of the CG disclosure, ownership and board structures, and financial data required, a final balanced sample of 100 firms from 2008 to 2013 (i.e., resulting in a sample of 600 company-year observations) were stratifiedly sampled using both firm size and industry type. Specifically, the largest 10 corporations and the smallest 10 corporations were selected (i.e. 20 corporations from each of the main 5 industries) using market capitalisation.

series and cross-section data can allow ascertaining if the observable cross-sectional relationship among voluntary CG compliance/disclosure, board and ownership mechanisms also remains the same over time. Third, the sampling period starts in 2008, because the 2007/2008 financial crisis has increased debate surrounding the effectiveness of CG and disclosure practices and thus, the current study may offer insights on the extent to which the recent financial crisis has affected CG structures and disclosure practices among UK listed corporations. The sampling period ends in 2013 because it was the latest year for which the annual reports of listed corporations were published when the data collection started. Data relating to board characteristics, ownership structure variables and voluntary CG compliance and disclosure practices were collected manually from the annual reports of the examined sample. Those reports were downloaded from corporations' websites and *Perfect Information*, whereas the *DataStream* was used to collect the financial data.

5.2. Variables measurement and regression model

Table 2 summarises all variables used in conducting the empirical analyses of current study. First, and as presented in Table 2, our main dependent variable is a broad UK CG index (UKCGI), which contains 120 CG provisions covering five sections of the 2010 UK Combined Code: (i) board leadership (LSH); (ii) board effectiveness (ETIV); (iii) board accountability (ACNT); executive pay (REM); and (iv) relations with shareholders (RWS). We constructed our UKCGI by given "1" if any of the 120 CG provisions included in the UKCGI is disclosed and "0" otherwise.[3] Following this widely employed binary coding scheme, a firm's total disclosure score in a certain company-year may range between 0 and 120, which is expressed as a percentage ranging from 0% (perfect non-compliance and disclosure) to 100% (perfect compliance and disclosure) with higher index scoring suggesting better CG compliance and disclosure practices.[4]

We adopted an un-weighted coding scheme for several reasons. First, unlike the weighted coding scheme, this approach enables us to avoid making judgement to assign a particular provision because it assumes that all provisions are equally important (Botosan, 1997). This suggests that the un-weighted coding scheme enables us to avoid a situation where the same provision could be weighted differently by different user groups (Owusu-Ansah, 1998). Second, there is no agreed theoretical background on the weight that should be assigned to different CG provisions, and thus our decision to use the un-weighted coding scheme avoids making a bias judgment towards one or a

[3] For brevity, we do not provide the full list of 120 CG provisions examined, but will be made easily available on request. Specifically, the constructed UKCGI contains CG provisions from each of the 5 sub-indices, including 8, 37, 36, 22 and 17 CG provisions relating to board leadership, board effectiveness, board accountability, executive pay and relations with shareholders, respectively. For example: leadership (i.e., whether the chairperson is also the CEO "0" or not "1"); 'effectiveness' (i.e., whether the chairperson is either independent "1" or not "0"); 'accountability' (i.e., whether a firm has a risk management committee "1" or not "0"); 'remuneration' (i.e., whether disclosure is made about the remuneration policy "1" or not "0"); and 'relations with shareholders' (i.e., whether a board's members attend annual general meetings "1" or not "0").

[4] The content analysis for this study was performed by a single coder. However, to make sure that the reliability, validity and consistency of coding, in the first round of coding, a primary sample of 10 corporations (2 corporations from each of the main five industries) over the period 2008-2013 was coded. Coding categories and coded materials were critically discussed with two experienced coders and then in the second round any mistakes or inconsistencies identified independently by the two coders in the first round, were discussed and corrected. A further 10 firms were coded, but the two experienced coders independently did not identify any mistakes or inconsistencies with the coding procedure. This ensured near perfect correlation between the first and second stage coding and thus, high levels of consistency, reliability, and validity were achieved.

set of CG provisions as it is often the case with the use of weighted coding scheme (Barako et al., 2006). Third, the evidence provided by previous literature indicates that both weighted and un-weighted coding schemes lead to similar results, especially in cases, where the number of disclosure items is large (Barako et al., 2006). This is empirically supported in our study (i.e., Model 1 of Table 7), as we find that both schemes (i.e., using weighted or un-weighted index) lead to similar results. Finally, the use of binary scoring scheme is based on a rigorously developed theoretical and empirical literature (e.g., Barako et al. 2006; Collett & Hrasky, 2005; Khan et al. 2013; Ntim et al., 2012 a, b; Samaha et al. 2012), and therefore this can facilitate comparisons with those studies[5].

Insert Table 2 about here

Second, board and ownership mechanisms are our main independent variables. Board mechanisms, include corporate board size (BSE), the proportion of independent outside directors (IOE), board gender diversity (BDG), board ethnic diversity (BDE), board diversity based on both gender and ethnicity (BD), and the existence of a separate CG committee (PCGC), whereas ownership mechanisms include managerial ownership (MANO), institutional ownership (ISTO), and block ownership (BLKO). Finally, and in order to account for omitted variables bias, the study controls for several variables, including firm size (LTA), firm age (LAG), capital expenditure (CEX), sales growth (SG), gearing (GR), profitability (Q), industry (IDU) and year variables (YDU). For brevity purposes, this study has not developed specific hypotheses among each of the control variables and the UKCGI, however there is a well-established evidence, which indicates that these variables can impact on voluntary CG disclosures (Cooke, 1992; Mallin & Ow-Yong, 2012; Ntim et al., 2012b). Based on the above seven hypotheses, the following model is proposed and with the aim to be tested using the ordinary least square (OLS).

$$UKCGI_{it} = \alpha_0 + \beta_1 BSE_{it} + \beta_2 IOE_{it} + \beta_3 BD_{it} + B_4 PCGC_{it}$$
$$+ \beta_5 MANO_{it} + \beta_6 ISTO_{it} + \beta_7 BLKO_{it} + \sum_{i=1}^{n} \beta_i CONTS_{it} + \varepsilon_{it}$$

Where UKCGI is the UK CG compliance and disclosure index; BSE is board size; IOE is the proportion of independent outside directors; BD refers to board diversity based on both gender and ethnicity; PCGC is the existence of a separate CG committee; MANO refers to managerial ownership; ISTO is defined as institutional ownership; BLKO is block ownership; and CONTS points out to the set of variables being controlled, namely firm size (LTA), firm age (LAG), capital expenditure (CEX), sales growth (SG), gearing (GR), profitability (Q), five industry dummies (IDU), and six year dummies (YDU).

[5] The current study used Cronbach's alpha to examine the internal consistency of the constructed index. The Cronbach's alpha value for the five categories in the UKCGI is 0.88 indicating that the compliance and disclosure index employed in this study is a reliable measure of voluntary CG compliance and disclosure practices (Allegrini & Greco, 2013).

6. Empirical Findings

6.1. Descriptive analysis and bivariate correlations

Panel 'A' of Table 3 reports the descriptive analysis of data relating to the level of compliance with CG practices and its 5 sub-indices over the 6 years investigated (2008-2013). Crucially, the distribution of the UKCGI varies substantially, ranging from 20% (24 out from 120 provisions disclosed) to 94.17% (113 out from 120) with the mean (median) corporation complying with 61.73% (64.58%) of the 120 CG provisions investigated. Similarly, the distribution of the 5 UKCGI's sub-indices differs substantially. For example, the board leadership sub-index (LSH) ranges between 12.50% and 100%, with the average corporation complying with 79.35% of the 8 CG provisions examined. With respect to the other sub-indices of the UKCGI, overall the levels of CG compliance and disclosure practices among the UK investigated corporations vary substantially, implying that differences exist between the level of compliance and disclosure with the summary UKCGI and its 5 sub-indices. In general, it can be observed that in spite of the expectation that the development of the UK Combined Code will speed-up the adoption of good CG standards, there is still substantial variation in the governance practices among the UK publicly listed corporations. Although, this is in line with the evidence provided by previous studies (Hussainey & Al-Najjar, 2012; Mallin & Ow-Yong, 2012; Melis et al., 2015), it indicates that there is a substantial degree of variation regarding the importance that UK listed firms attach to compliance and disclosure of good governance practices.

Insert Table 3 about here

Further, Panels 'D' & 'E' of Table 3 present the descriptive analysis for all other variables. Overall, both Panels show wide variations for all the variables under examination. For example, board size (BSE) is between 3 and 18 with a median of 8 board members. Additionally, and similar to the findings of prior studies (Mallin & Ow-Yong, 2012; Veprauskaitė & Adams, 2013), institutional ownership (ISTO) and block ownership (BLKO) range from 3.07% to of 97.49%, 98.08% with a mean of 36.38% and 43.20% respectively. Board diversity (BD) based on both gender and ethnicity ranges between 0% and 50% with an average of 11.65%, suggesting that the average UK listed corporation's board is dominated by white males. Board ethnic diversity (BDE) is, observably, low ranging from 0%, to 25% with a median (mean) of 0% (1.37%). Evidence of low ethnic and gender diversity in UK boardrooms are largely consistent with those provided of prior UK empirical studies (Brammer et al., 2007; Singh &Vinnicombe, 2004).With reference to the remaining variables, including the proportion of independent outside directors (IOE), board gender diversity (BDG), managerial ownership (MANO), the existence of a separate CG committee (PCGC), and the control variables, the findings suggest that there is adequate variation in them. Thus, our findings suggest that our sample has been carefully chosen and thereby minimising any possibilities of sample selection bias.

To make further informative inferences about our data, the sample is divided into two groups: (i) corporations with high CG ranking (corporations having a UKCGI score higher than the mean/median value); and (ii) corporations with low CG ranking (corporations having a UKCGI score lower than the mean/median value). The results of the *t* test comparing the 'mean' and 'median' differences for the board/ownership and control variables are presented in Table 3 under columns 7 & 8. Overall, the findings suggest that there is a substantial variation in terms of the mean and median between the two groups. For instance, the mean is significantly different between corporations with high CG scores and those with low CG scores as follows: the presence of independent outside directors (17.12); board gender diversity (3.66); Board gender and ethnicity diversity (4.22); the existence of a separate CG committee (7.70); managerial ownership (-9.40); institutional ownership (-8.14); and block ownership (-17.81). The results imply that corporations with larger boards, more independent outside directors, more diverse boards, and which have a separate CG committee engage in greater compliance with, and disclosure of, CG practices. By contrary, corporations with concentrated ownership and high managerial and institutional ownership commit to low CG disclosures.

Table 4 reports the results of correlation matrices for all variables used in this study in order to examine the presence of multicollinearities among the variables. The coefficients of both Pearson's and Spearman's are provided as a robustness check and, noticeably, the direction and the magnitude of coefficients reported in both correlation matrices are fairly the same, indicating non-existence of serious non-normality problems. Further, the coefficients of both correlation matrices suggest that the levels of correlation among variables used in the current study are relatively weak, indicating non-existence of serious multicollinearity problems. Additionally, the values of Variance Inflation Factor (VIF), which is reported in Table 5, do not exceed 10, indicating that there is no serious multicollinearity problems (Field, 2009). We also examine the presence of heteroscedasticity in our model using Breusch-Pagan test and the p-value is 0.1779, indicating that heteroscedasticity is not present in our model.

Insert Table 4 about here

Overall, and as hypothesised, Table 4 suggests statistically significant association among the UKCGI and all other variables. In line with our predictions, board size (BSE), the proportion of independent outside directors (IOE), board diversity based on gender and ethnicity (BD), and the existence of a separate CG committee (PCGC) are positively associated with the UKCGI, whereas managerial (MANO) and block ownership (BLKO) are significantly and negatively associated with the UKCGI. However, the results suggest that corporations with higher institutional ownership (ISTO) tend to provide significantly less CG information, which is not in line with our hypothesis. In terms of the control variables, the evidence suggests that larger (LTA), older (LAG), profitable (Q), capital intensive (CEX) and highly geared (GR) corporations disclose more CG information

voluntarily, as hypothesised. However, the evidence that sales' growth (SG) has no significant association with CG compliance and disclosure practices is not consistent with our hypothesis.

6.2. Regression analysis

Table 5 presents the findings relating the antecedents of CG compliance and disclosure practices. Models 1, 2 and 3 report the findings of the OLS analysis of board characteristics and ownership structure variables without the control variables on the UKCGI. In Models 4 and 5 board characteristics and ownership mechanisms are regressed on the UKCGI by including control variables, respectively. Observably, the results reported in Model 6 generally indicate that the explanatory variables are significant in explaining cross-sectional differences in the levels of voluntary CG compliance and disclosure practices (UKCGI).

Insert Table 5 about here

With respect to board characteristics; first, board size (BSE) is positively and significantly linked to the UKCGI (0.095), thereby providing empirical support for H1. This is also consistent with the findings of Mallin and Ow-Yong (2012) and Ntim et al. (2012, a, b). The evidence is also in line with the expectations of neo-institutional (legitimation view) perspective, which suggest that larger boards are characterised by increasing stakeholder representation, and that can increase the need for voluntary disclosures in order to facilitate the attraction of crucial resources from powerful stakeholders. Additionally, neo-institutional (efficiency view) perspective suggests that larger boards are usually associated with greater monitoring on management activities, and that can impact positively on voluntary CG disclosure practices.

Second, the proportion of independent outside directors (IOE) is significantly and positively associated with the UKCGI (0.198); therefore H2 is empirically supported. This indicates that boards with more independent outside directors tend to disclose more information relating to their CG practices than those with less independent outside directors. Additionally, the positive and significant association between the proportitions of outside directors and voluntary CG compliance and disclosure practices provides empirical support to the findings of prior studies (Donnelly & Mulcahy, 2008; Mallin & Ow-Yong, 2012; Samaha et al., 2012). Theoretically ('efficiency and legitimation views'), the appointment of independent directors can impact positively on voluntary CG disclosures by ehancing corporate legitimacy and mitigating agency conflicts through incrased managerial monitoring.

Third, board gender and ethnicity diversity (BD) is significantly and positively associated with the UKCGI (0.117), and thus H3 is supported. Empirically, the our finding is consistent with that of Barako and Brown (2008) who report a significant positive link among board diversity and CG disclosure practices. The evidence is also in line with the predictions of neo-institutional ('efficiency and legitimation views') perspective, which proposes that diversified boards (i.e., have more women and ethnic monitories) may place more pressure on corporate executives to involve in good

governance practices in order to ehance corporate legitimacy, attract resources from powerful stakeholders and also improve the capability of corporate board to monitor management activities more effectively, and thereby can impact positively on voluntary CG disclosure practices.

Finally, the existence of a separate CG committee (PCGC) is found to have a positive, but insignificant association with the UKCGI (0.015), implying that H4 is not emperically supported. The evidence is also not consistent with the expectations of neo-institutional theory ('legitimation view'), which suggests that corporations that voluntarily set up a separate CG committees to closely monitor their compliance with governance rules and regulations are more likely to comply with good CG standards in order to improve their legitimacy and also obtain key stakeholders' support to gain access crucial resources. Empirically, the positive and insignificant association between PCGC and the UKCGI does not provide support for the results of Ntim et al. (2012b). However, the insignificant link among the PCGC and voluntary CG compliance and disclosure practices is not surprising, because only 8% of the sampled firms have a separate CG committee; this result in small cross-sectional variations of the PCGC among the examined firms.

With respect to ownership structure variables, the findings in Table 5 suggest that the ownership structure variables have mixed influence in explaining cross-sectional differences in the voluntary CG compliance and disclosure practices. Specifically, managerial ownership (MANO) is significantly and negatively associated with the UKCGI (-0.277), and thereby providing empirical support for H5. Similarly, block ownership (BLKO) is found to impact negatively on the UKCGI (-0.245) and thus H7 is empirically supported. These findings are consistent with the predictions of neo-institutional theory ('efficiency view'), which suggests that corporations with increased managerial ownership and block ownership are associated with less information asymmetry and agency problems, which can impact negatively on voluntary CG disclosure practices (Bozec & Bozec, 2007). Neo-institutional theory ('legitimation view') also suggests that, firms with concentrated ownership tend to have less external pressure to demonstrate public accountability (Ntim & Soobaroyen, 2013; Samaha et al., 2012), which can impact negatively on voluntary CG disclosures. Empirically, the negative association among managerial ownership (MANO), block ownership (BLKO), and the UKCGI provides support for similar findings of Bozec and Boze (2007), Hussainey and Al-Najjar (2012), Ntim et al. (2012 a, b) and Ntim and Soobaroyen (2013).

Institutional ownership (ISTO) is found to have a positive, but insignificant influence on the UKCGI (0.045); thus H6 is not empirically supported. Theoretically, the insignificant impact of institutional ownership on the UKCGI does not support the predictions of neo-institutional theory ('legitimation view), which indicates that corporations with higher institutional owneership have a greater need to demonstrate public accountability and transparency so as to legitimise their operations as well as gain access to critical resources. Empirically, the insignificant association between institutional ownership and the UKCGI is not consistent with the findings of Hussainey and Al-Najjar (2012), Barako et al. (2006), Mallin and Ow-Yong (2012), and Ntim et al. (2012b), who provide empirical evidence that institutional ownership is associated positively with corporate

voluntary disclosures. However, the insignificant impact of institutional ownership may due to that institutional investors are passive and ineffective in monitoring (Dong & Ozkan, 2008).

In terms of control variables, the coefficients on them in Model 6 of Table 5 generally significant, for example, capital expenditure (CEX) and gearing (GR) are significantly and positively associated with voluntary CG compliance and disclosure practices, providing empirical support to the results of Meek et al. (1995) and Ntim et al., (2012b). Discernibly, other control variables, including sales growth (SG) and profitability (Q) have insignificant relationship with voluntary CG compliance and disclosure practices. Our findings are consistent with the results of prior studies, which find no association between these two variables and voluntary CG disclosures (Mallin & Ow-Yong, 2012). The negative and significant coefficient on firm size (LTA) empirically support the results of Melis et al. (2015) and Waweru (2014) who report a negative association between firm size and voluntary CG disclosure. Finally, the negative and insignificant coefficient on firm age (LAG) is inconsistent with the findings of Haque et al., (2011), who report a positive and significant relationship between firm age and voluntary disclosure practices.

Generally, the findings of this study indicate that board characteristics and ownership mechanisms impact significantly on voluntary CG disclosure practices. However, in Model 6 we measured board diversity based only on the overall proportion of women and ethnic minorities on a corporate board. Therefore, it is possible that the association between board diversity and the UKCGI may differ if we re-estimate Model 6 by replacing board diversity based on gender and ethnicity with board gender (BDG) and board ethnicity (BDE), separately. As shown in Model 1 of Table 6, board gender diversity is found to impact positively on the UKCGI supporting the view that boards of diverse gender tend to put greater pressure of top management to engage in greater compliance and disclosure of CG practices in order enhance board's ability to monitor utility managers effectively (Carter et al., 2010). Additionally, the evidence contained in Model 1 of Table 6 shows that board ethnic diversity (BDE) is negatively associated with the UKCGI. Evidence of negative influence of BDE in the UK boardroom is largely consistent with their extremely low representation (1.37%, see Table 3) and this suggest that ethnic minorities have less influence over their boards' decisions, including CG disclosure (Carter et al., 2010; Cuadrado-Ballesteros et al., 2015)

Insert Table 6 about here

Our results indicate that the observed differences in our UKCGI can be justified by our board and ownership variables. However, the UKCGI consists of five sub-indices, including leadership (LSH), effectiveness (ETIV), accountability (ACNT), remuneration (REM) and relations with shareholders (RWS). Therefore, it is possible for the relationship between the board/ownership characteristics and the individual sub-indices to differ from that of the main UKCGI. We, therefore, re-estimate Model 6 by replacing the UKCGI with the five sub-indices and the findings are provided in models 2 to 6 in Table 6.

The coefficients on board size, the proportion of independent outside directors, board gender and ethnic diversity, and the existence of a separate CG committee (with exception of RWS sub-index) remain positively associated with the five sub-indices. Similarly, the coefficient on institutional ownership (with exception of LSH and REM sub-indices) remains positively associated with the rest three sub-indices. In contrast, the coefficient on managerial ownership (MANO) and block ownership (BLKO) remain significantly and negatively associated with the five sub-indices. Overall, the results provided in Models 2 to 6 of Table 6 offer further empirical support for the findings presented in Models 6 of Table 5.

6.3. Further analyses

To examine the robustness of the obtained findings, additional tests have been carried out. As have been explained, all 120 CG provision included in the UKCGI are equally weighted. However, because the number of CG provisions included in each of the five sub-indices differs, this lead to assigning different weights to our five sub-index: leadership (i.e., 8 CG provisions); effectiveness (i.e., 37 CG provisions); accountability (i.e., 36 CG provisions); executive pay (i.e., 22 CG provisions); and relations with shareholder (i.e., 17 CG provisions). Therefore, to ensure that our findings are not sensitive to the weight being assigned to the 5 sub-index, an alternative index, named "W-UKCGI" has been constructed in which each of the 5 sub-indices is awarded equal weight of 20%. The results for the weighted UKCGI are presented in Model 1 of Table 7. Observably, the findings stay almost the same as the results provided in model 6 of Table 5, and thus indicating that our results appear to be robust to whether a weighted or un-weighted CG disclosure index is used.

Insert Table 7 about here

Additionally, a number of previous studies suggest that some of corporate board characteristics (e.g., board size) and ownership structure variables (e.g., managerial, institutional and block ownership) have non-linear relationship with corporate voluntary disclosures (Sun et al., 2015; Guest, 2009; Morck et al., 1988). To identify the existence of non-linear relationship between board size, managerial, institutional, block ownership and the UKCGI, Model 6 in Table 5 has been re-estimated by adding the square root of board size, managerial, institutional and block ownership. The findings are reported in Model 2 of Table 7. With respect of board size, Model 2 exhibits that larger boards have a negative and significant relationship with the voluntary CG disclosure, indicating that there is a curvilinear relationship among board size and voluntary CG compliance and disclosure practices. This evidence also supports the findings of Guest (2009), who reported similar non-linear evidence.

Our findings presented in Models 2 of Table 7 relating to the ownership variables generally suggest the existence of non-linear associations between them and the UKCGI. For example, and with respect to managerial ownership, the evidence suggests that management becomes less

entrenched at higher levels of ownerships, but becomes more entrenched as ownership of management decreases. This result is consistent with the findings of Morck et al. (1988) who find that higher ownership by managers help to align their interests with those of owners and that improves corporate performance.

Similarly, and with respect to institutional ownership, the evidence suggests that there is non-linear relationship between institutional ownership and CG compliance and disclosure practices. additionally, the evidence contained in Model 2 of Table 7 suggests that block owners become more entrenched at higher levels of ownership, which is consistent with theoretical suggestions that concentrated ownership is associated with less information asymmetry, which can ultimately lead to a reduction in agency problems (Reverte, 2009), and thereby minimising the demand of providing more transparent information (Ntim & Soobaroyen, 2013).

In addition to the above robustness tests and in order to address potential endogeneity concerns that might emerge from simultaneous relationship among board characteristics, ownership structure variables and voluntary CG disclosure practices, a lagged structure model has been estimated, whereby the current year CG disclosure practices depend on the previous year's board and ownership mechanisms. The results reported in model 3 of Table 7 stay almost the same as the results provided previously in Model 6 of Table 5, suggesting that the findings are fairly robust to possible endogeneity issues that might emerge from simultaneous relationship among board characteristics, ownership structure variables and voluntary CG disclosures.

Additionally, CG mechanism and disclosures are generally 'sticky' over-time, and thus simply estimating a lagged structure may not be able to fully address the presence of any potential endogeneities. Therefore and to address the possible endogeneity concerns that may emerge from omitted variable bias, Two-Stage Least Squares (2SLS) model has been estimated. Following Beiner et al. (2006), a Durbin-Wu-Hausman test (DWH) has been conducted to examine whether an endogenous relationship between the UKCGI and board/ownership mechanisms exists. Applying Durbin-Wu test to Model 6 of Table 5, the test indicates the existence of endogeneity problems, and thereby implying that 2SLS regression analysis may be more suitable compared to the OLS approach. Therefore, and in line with prior literature (e.g., Beiner et al., 2006; Ntim et al., 2013), in the first stage, we conjectured that the CG mechanisms (i.e. board and ownership characteristics) are influenced by the eight control variables. In the second stage, the predicted values of the board and ownership characteristics are employed as instruments and re-estimated Model 6 of Table 5. Overall, the findings reported in model 4 of Table 7 remain essentially the same as those contained in model 6 of Table 5, and thus indicating that the findings appear to be robust to possible endogeneity issue that might emerge from omitted variable bias.

Finally, fixed-effect model has been estimated address possible firm-level heterogeneity. This model has been estimated because it has been suggested that there may be other unobserved firm-specific factors, which can impact on voluntary CG disclosure practices that our OLS approach may be unable to determine (Ntim et al., 2012a; Upadhyay & Zeng, 2014). To control for unobserved

firm-level characteristics, Model 6 of Table 5 has been re-estimated by including 99 dummies to represent 100 sampled firms. The findings shown in Model 5 of Table 7 remain generally the same, indicating that the findings of the study are fairly robust to the presence of any possible endogeneity issues that may emerge firm-specific heterogeneity.

7. Conclusions

Although several of previous studies have link the association among CG mechanisms and general voluntary disclosure practices over the past decades, studies examining how and to what extent board and ownership mechanisms impact on the level of compliance with, and disclosure of, CG practices included in the influential 2010 UK Combined Code are rare. Therefore, this paper investigates voluntary CG compliance and disclosure among firms listed in UK, and consequently examines whether the ownership and board characteristics can explain observable differences CG practices, with specific focus on the period following the 2007/08 global financial crisis.

In addition to proposing and applying a neo-institutional theoretical view to investigate the antecedents of voluntary CG compliance and disclosure, our results extend, as well as contribute to the extant studies by using one of the most extensive data-to-date on CG disclosures constituting 120 CG provisions extracted from the 2010 UK Combined Code, the study provide new evidence, which indicates that the CG practices vary substantially among the sampled firms. This implies that there is a substantial degree of variation among UK listed firms in relation to the importance that they attached to good CG practices.

The findings indicate that the level CG disclosure is high in corporations that have larger boards, more independent directors and more diversified boards, but low in corporations that have higher managerial ownership and block ownership. By contrary, the study finds no association between the existence of a separate CG committee, institutional ownership and voluntary CG compliance and disclosure practices. Overall, the results are generally in line with the efficiency and legitimation implications of our neo-institutional theoretical framework. The results are also generally the same across a number of econometric models that address different endogeneity concerns and alternative CG disclosure indices.

The findings of the study have a number of policy implications and suggest some recommendations for policy-makers, regulatory authorities and other countries. First, the findings of the study indicate the level of CG compliance and disclosure varies substantially among the UK listed firms. This provides UK policy-makers and regulatory authorities (e.g., LSE & FRC) with a strong motivation to find ways to strengthen enforcement further. One way to enhance CG compliance and disclosure is by establishing a compliance and enforcement committee. Further, more effective cooperation and coordination among the key regulatory and enforcement bodies can enhance legal enforcement, which in turn, can improve CG compliance and disclosure behaviour among listed firms. Second, UK firms with more women on their boards have higher levels of CG compliance and disclosure than those with less women on their boards (i.e., See Model 1 of Table 6),

suggesting that women have strong motivation to actively monitor CG standards, which in turn, seems to enhance CG practices within firms. This implies that the recommendations of ?????????????????????? 2010?? Which date???????????????????????????? Davies Report for more women on UK boards may be considered as positive CG development. However, we also find that firm-level voluntary CG disclosure is lower in firms with more ethnic minorities on their boards, which does not lend support to the prediction that board ethnic diversity increases board independence and effectiveness. The negative effect of ethnic minorities on voluntary CG compliance and disclosure may due to their extremely low representation (i.e. 1.37%, see Table 3), as many of the sampled firms have few non-white directors on their boards. This may encourage UK policy-makers and regulatory authorities to introduce new CG provisions which may promote the participation of non-white directors in UK boardrooms. Third, we find a statistically insignificant relationship between firm-level CG compliance and disclosure and institutional ownership. The insignificant effect of institutional shareholders indicates that institutional investors are not efficient in monitoring (Dong & Ozkan, 2008). Therefore, UK policy-makers and regulatory authorities may be encouraged to introduce new legislation that increases shareholder activism, particularly by institutional shareholders, to require listed firms to provide additional information on CG compliance Finally, our results may be relevant to other countries, since UK CG practices are suggested to have a significant influence on the development of CG codes of many countries around the world, thus, the findings of this paper can be generalised to other countries.

While the results of this study are robust and important, this study has a number of limitations that suggest a need for more research. First, this study employs un-weighted coding scheme, which regards all CG provisions included in the index to have equal importance, which may not be the case both in theory and practice. However, the use of un-weighted coding scheme is justified as follows: (i) the use of un-weighted coding avoids subjectivity in assigning weights to the disclosed items (Botosan, 1997); (ii) there is no agreed theoretical basis for assigning weights to different CG provisions (Barako et al., 2006); (iii) evidence from prior studies suggests that both weighted and un-weighted CG indices are similar in terms of results (Barako et al., 2006); and (iv) the binary scoring is adopted in our study to facilitate comparison with the results of past studies (e.g., Barako et al. 2006; Collett & Hrasky, 2005; Khan et al. 2013; Ntim et al., 2012 a, b; Samaha et al. 2012). Second, although our study relies mainly on annual reports to collect required data, using other sources of information, such as analyst reports and face-to-face interviews could assist in obtaining more detailed data. However, we use firms' annual reports because they are considered to be the most regular and reliable sources of information about CG (Botosan, 1997). Additionally, we use only annual reports in order to be consistent and to facilitate comparison with the results of prior studies (e.g. Elshandidy & Neri, 2015; Ntim, 2015; Padgett & Shabbir, 2005). Third, due to data limitations, the investigation in this study is limited to internal CG mechanisms that potential influence voluntary CG compliance and disclosure practices. As explained below, future studies may include both

external and internal CG mechanisms. Finally, endogeneity problems cannot be completely eliminated. However, this study follows existing literature (e.g. Beiner et al., 2006; Core et al., 2015; Gippel et al., 2015; Ntim et al., 2012 a, b; Schultz et al., 2010; Wintoki et al., 2012) by adopting different estimation methods to control for potential endogeneity problems, including estimating two stage least squares, fixed-effects and lagged structures.

The evidence provided in this paper offers potential theoretical and empirical insights for future studies. In terms of theoretical expansions, the evidence indicates that future studies can possibly enhance their theoretical grounds by relying on the insights provided by other closely related governance theories, including neo-institutional, public accountability and stewardship theories, when examining factors, which can influence CG compliance and disclosure practices. With respect to empirical insights and given the focus of this paper on the UK, the evidence offers potential avenues for future studies that can investigate the antecedents of CG compliance and disclosure in different international governance environments (i.e., developed and developing counties). This may help in developing a better understanding of antecedents of voluntary CG compliance and disclosure in different CG environments. Additionally, and as explained above, data employed in the current study is primarily gathered from firms' annual reports; however, annual reports can communicate mixed messages, as a result of that, future studies might collect data using qualitative approach, such as face-to-face interviews and case studies and this may allow providing a complete understanding of different drivers of voluntary CG compliance and disclosure. Also, the construction of a CG index may be improved by future studies in a number of ways: (i) by investigating whether the findings are sensitive or robust to different scoring schemes; and (ii) by surveying professional organisations about the weight and importance attached to CG provisions. This can help improve the reliability and validity of the constructed index. Finally, we mainly investigate the association between internal CG mechanisms and voluntary CG compliance and disclosure. As data become available, future studies can investigate the influence of external CG mechanisms (e.g. the market for corporate control), on CG compliance and disclosure.

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Table 1. A Comparison of UK Corporate Governance Codes Since 1992.

Corporate Governance Provisions	1992 Cadbury Report	2010 UK Combined Code	Other Relevant Reports
Board Leadership			
Board structure	Unitary board	Unitary board	Higgs Report 2003
Role duality	Split Chairperson and CEO	Split Chairperson and CEO	Combined Code 2003,2006 & 2008
Chairperson	No one person with power of decision	Chairman, of only one company, not executive or current CEO	Higgs Report 2003
Chairperson independence	Non-executive director	Independent non-executive directors	Combined Code 2003,2006 & 2008
Board meetings	Frequently/ Regularly	Frequently/ Regularly	Combined Code 2003,2006 & 2008
Senior director	Non-executive director	Independent non-executive director	Higgs Report 2003
Effectiveness			
Outside directors	3 at least	Majority of board members	Higgs Report & Combined code 2003,2006 & 2008
Independent outside directors	2 at least	At least half of the board	Higgs Report & Combined code 2003,2006 & 2008
Remuneration's committee composition	Majority are outside directors	Majority are independent outside directors	Higgs Report & Combined code 2003,2006 & 2008
Board, committees & individual evaluation	Not specified	Annual evaluation	Higgs Report & Combined code 2003,2006 & 2008
External evaluation	Not specified	At least every three years	Combined Code 2008
Directors insider share dealing	Not specified	Not specified	Specified in Criminal Justice Act 1993, Part V
Accountability			
Risk systems	Not specified	Risk management and internal control systems	Turnbull Report1999 & Smith Report 2003
Risk evaluation	Not specified	Covered	Turnbull Report1999
Risk management committee	Not specified	Composed of independent outside directors	Smith Report 2003
Internal audit	Establish internal audit function	Establish internal audit function	Smith Report 2003
Audit committee composition	At least 3 outside directors	At least 3 independent outside directors	Higgs Report & Combined Code 2003,2006 & 2008
Financial experience of audit committee members	Not specified	At least one member	Combined Code 2003,2006 & 2008
Remuneration			
Remuneration committee composition	Wholly or mainly of outside directors	Majority independent outside directors	Higgs Report & Combined code 2003
Disclosure of total directors' remuneration	Only chairman and highest-paid director	For all directors	Greenbury Report 1995
Disclosure of individual directors' remunerations	Only chairman and highest-paid director	For all directors	Greenbury Report 1995
Disclosure of directors' share ownership	Only chairman and highest-paid director	For all directors	Greenbury Report
Remuneration consultant	Not specified	Appointed by the remuneration committee	Specified in the Combined Code 2003,2006 & 2008
Say on pay	Not specified	Invite shareholders to approve all new long-term incentive schemes	Listing rules (L.R 9.4)
Relations with Shareholders			
Dialogue with shareholders	Regular meetings	Sufficient meetings	Combined Code 2003,2006 & 2008
Shareholder activism	Should be active	Enter dialogue based on the mutual understanding of objectives	Myners Report 2001 & Stewardship Code 2010/2012
Attendance of chairmen of board committees to AGM	Not specified	Should be available to answer shareholders' questions	Combined Code 2008
Obligation to society	Not specified	Not specified	Hermes principles, 2002 & CA 2006
Environment	Not specified	Not specified	Hermes principles, 2002 & CA 2006
Health and safety	Not specified	Not specified	Specified in CA 2006
Compliance	Listing rules Comply or explain	Listing rules Comply or explain	Combined Code 2003,2006 & 2008

Notes: collected from the Cadbury Report of 1992, the Combined Code of 2010 and the other named codes & reports.

Table 2. Variables Definition and Measurement.

Corporate governance disclosures variables—quality/level measure (compliance and disclosure index)	
UKCGI	CG compliance and disclosure index constituting 120 CG provisions extracted from the 2010 Combined Code which assigns a value of one if disclosure is made in the annual reports of firms and zero otherwise. This then is scaled to a value ranging between 0% and 100%.
LSH	Sub-index of UKCGI related to board's leadership consisting of 8 provisions that is awarded a value of one if disclosure is made in the annual reports of firms about each of the 8 provisions and zero otherwise. This then is scaled to a value ranging between 0% and 100%.
ETIV	Sub-index of UKCGI related to the effectiveness of corporate board consisting of 37 provisions that is awarded a value of one if disclosure is made in the annual reports of firms about each of the 37 provisions and zero otherwise. This then is scaled to a value ranging between 0% and 100%.
ACNT	Sub-index of UKCGI related to board's accountability consisting of 36 provisions that is awarded a value of one if disclosure is made in the annual reports of firms about each of the 36 provisions and zero otherwise. This then is scaled to a value ranging between 0% and 100%.
REM	Sub-index of UKCGI related to executive pay consisting of 22 provisions that is awarded a value of one if disclosure is made in the annual reports of firms about each of the 22 provisions and zero otherwise. This then is scaled to a value ranging between 0% and 100%.
RWS	Sub-index of UKCGI related to relations with shareholders consisting of 17 provisions that is awarded a value of one if disclosure is made in the annual reports of firms about each of the 17 provisions and zero otherwise. This then is scaled to a value ranging from 100% to 0%.
Board and Ownership Characteristics Variables	
BSE	Natural log of the number of inside and outside directors.
IOE	Number of independent outside directors divided by the number of corporate board members.
BDG	Number of women divided by the number of corporate board members.
BDE	Number of ethnic minority divided by the number of corporate board members.
BD	Number of women and ethnic minority divided by the number of corporate board members.
PCGC	1, if a corporation set up a separate CG committee, 0 otherwise.
MANO	Percentage of all directors' ownership to total firm ordinary shareholdings.
ISTO	Percentage of shares held by institutional shareholders to total firm ordinary shareholdings.
BLKO	Percentage of block ownership with at least 3% of the total firm ordinary shareholdings.
Control Variables	
LTA	Natural log of total assets of a firm.
LAG	Natural log of firm age in years.
CEX	Total capital expenditure divided by total assets.
SG	Sales of this year minus the sales of previous year to the sales of the previous year.
GR	Total debt divided by total assets.
Q	Book value of total assets minus the book value of equity plus market value of equity to the book value of total assets.
IDU	A dummy variable for each of the five industries: basic material and oil & gas (BM&OG), consumer goods (CGODS), consumer services and health care (CSER&HCARE), industrial (INDUSTR), and technology and communication (TECH&COMUN).
YDU	Dummy variables for the years 2008-2013.

Table 3. Summary Statistics.

Variables	Mean	Median	Std. Dev.	Min	Max	High – Low UKCGI Mean Diff.	High – Low UKCGI Median Diff.
Panel A: the UKCGI Based on All 600 Firm-Years							
UKCGI (%)	61.73	64.58	14.53	20.00	94.17	-	-
LSH (%)	79.35	87.50	18.02	12.50	100.0	-	-
ETIV (%)	59.01	64.86	18.33	13.51	91.89	-	-
ACNT (%)	52.94	52.78	12.86	11.11	97.22	-	-
REM (%)	77.58	81.82	15.00	4.55	100.0	-	-
RWS (%)	57.50	58.82	22.71	5.88	100.0	-	-
Panel B: Firms with High UKCGI							
UKCGI (%)	71.91	72.50	6.01	62.50	94.20	-	-
LSH (%)	75.36	75.00	16.89	13.00	100.0	-	-
ETIV (%)	52.55	56.76	17.01	13.51	83.78	-	-
ACNT (%)	48.41	50.00	10.82	11.11	75.00	-	-
REM (%)	74.38	77.27	12.42	40.91	90.91	-	-
RWS (%)	48.40	47.06	22.08	5.88	94.12	-	-
Panel C: Firms with Low UKCGI							
UKCGI (%)	47.77	50.83	10.69	20.0	61.67	-	-
LSH (%)	84.83	87.50	18.10	25.0	100.0	-	-
ETIV (%)	67.87	70.27	16.28	18.92	91.89	-	-
ACNT (%)	59.15	61.11	12.86	13.89	97.22	-	-
REM (%)	81.96	86.36	17.03	4.55	100.0	-	-
RWS (%)	69.98	64.71	16.91	35.29	100.0	-	-
Panel D: Independent (Board and Ownership Characteristics) Variables							
BSE	9.00	8.00	3.46	3.00	18.00	2.30^{***}	3.00^{***}
IOE (%)	59.11	60.00	17.66	10.00	92.86	17.12^{***}	19.23^{***}
BDG (%)	10.27	10.00	10.42	0.00	50.00	3.66^{***}	11.11^{***}
BDE (%)	1.37	0.00	3.98	0.00	25.00	0.56^{*}	0.00^{***}
BD (%)	11.65	11.11	11.40	0.00	50.00	4.22^{***}	7.45^{***}
PCGC (%)	14.33	0.00	35.07	0.00	100.0	7.70^{***}	0.00^{***}
MANO (%)	5.95	0.58	11.40	0.005	52.37	-9.40^{***}	-2.67^{***}
ISTO (%)	38.38	36.38	20.70	3.07	97.49	-8.14^{***}	-6.97^{***}
BLKO (%)	42.62	43.20	21.55	3.07	98.08	-17.81^{***}	-19.06^{***}
Panel E: Control Variables							
TA(£m)	177,43.64	431.25	418,59.28	0.983	274,507.71	$8,140.76^{**}$	$3,457.49^{***}$
AG	58.19	38.00	46.59	3.00	199.00	2.73	4.00
CEX (%)	4.99	3.70	4.14	0.42	14.73	0.26	0.65
SG (%)	7.61	5.65	18.60	-23.77	52.04	0.99	5.22
GR (%)	21.29	18.98	14.82	1.57	53.20	9.45^{***}	10.07^{***}
Q	0.54	0.56	0.23	0.01	1.66	0.10^{***}	0.15^{***}

Variables of the study are described as follows: the UK CG compliance and disclosure index (UKCGI); leadership sub-index (LSH); effectiveness sub-index (ETIV); accountability sub-index (ACNT); remuneration sub-index (REM); relations with shareholders sub-index (RWS); board size (BSE); the proportion of independent outside directors (IOE); board diversity based on gender (BDG); board ethnic diversity (BDE); board gender and ethnicity diversity (BD); existence of a separate CG committee (PCGC); managerial ownership (MANO); institutional ownership (ISTO); block ownership (BLKO); firm size (LTA); firm age (LAG); capital expenditure (CEX); sales growth (SG); Gearing (GR); and profitability (Q). The mean/median differences for the sampled corporations are presented in the last two columns. ***, **, and * imply significance of the mean and median differences between corporations with high CG ranking (i.e., corporations having a UKCGI score higher than 61.73% value); and (ii) corporations with low CG ranking (i.e., corporations having a UKCGI score lower than 61.73% value) at the 0.01, 0.05, and 0.10 levels respectively.

Table 4. Correlation Matrix.

Variable	UKCGI	BSE	IOE	BDG	BDE	BD	PCGC	MANO	ISTO	BLKO	LTA	LAG	CEX	SG	GR	Q
UKCGI		.487***	.532***	.337***	.252***	.367***	.173***	-.601***	-.258***	-.503***	.533***	.088**	.128***	.066	.317***	.251***
BSE	.444***		.519***	.314***	.340***	.381***	.157***	-.619***	-.313***	-.541***	.809***	.069*	.121***	.089**	.245***	.220***
IOE	.489***	.458***		.268***	.219***	.308***	..250***	-.684***	-.146***	-.367***	.700***	.113***	.261***	.044	.265***	.120***
BDG	.303***	.256***	.239***		.117***	.947***	.184***	-.348***	-.249***	-318***	.366***	.247***	.095**	-.014	.281***	.196***
BDE	.156***	.290***	.161***	.067		.403***	.004	-.197***	-.052	-.233***	.286***	-.050	.120***	.017	.010	-.038
BD	.332***	.335***	.275***	.938***	.410***		.165***	-.367***	-.255***	-.364***	.418***	.210***	.126***	-.007	.248***	.151***
PCGC	.157***	.144***	.233***	.170***	-.021	.148**		-.231***	-.047	-.081**	.211***	-.184***	.086*	-.046	.222***	.019
MANO	-.420***	-.361***	-.352***	-.037	-.027	-.043	.006		.159***	.466***	-.754***	-.121***	-.156***	-.036	-.355***	-.297***
ISTO	-.280***	-.266***	-.106**	-.218***	-.078*	-.225***	-.034	.025		.748***	-.260***	-.141***	.019	-.100**	-.182***	-.166***
BLKO	-.485***	-.517***	-.312***	-.291***	-.240***	-.349***	-.090**	.291***	.722***		-.531***	-.182***	.002	-.095**	-.252***	-.233***
LTA	.447***	.809***	.658***	.331***	.243***	.388***	.216***	-.446***	-.209***	-.493***		.149***	.189***	.128***	.306***	.268***
LAG	.100**	.096**	.128***	.227***	.001	.208***	-.173***	-.059	-.169***	-.202***	.173***		-.046	.010	.084*	.137***
CEX	.070*	.096**	.211***	.065	.108***	.097**	.018	-.028	.086**	.091**	.151**	-.047		.103**	.003	-.111***
SG	.022	.091**	.034	-.039	.020	-.029	-.026	.004	-.057	-.045	.109***	-.010	.102**		-.014	-.019
GR	.302**	.248***	.203***	.257***	-.017	.226***	.251***	-.220***	-.139***	-.216***	.288***	.001	-.033	-.020		.450***
Q	.250***	.190***	.094**	.127***	-.034	.104**	.011	-.256***	-.187***	-.207***	.251***	.087**	-.106***	-.051	.445***	

***, ** and * indicate that correlations among variables are significant at the 0.01, 0.05 and 0.10 levels (2-tailed) respectively. The bottom left side of the table presents the coefficients relating to Person's correlation, whilst the top right side of the table provides the coefficients relating to Spearman's correlation. Variables of the study are described as follows: the UK CG compliance and disclosure index (UKCGI); board size (BSE); the proportion of independent outside directors (IOE); board diversity based on gender (BDG); board ethnic diversity (BDE); board gender and ethnic diversity (BD); the existence of a separate CG committee (PCGC); managerial ownership (MANO); institutional ownership (ISTO); block ownership (BLKO); firm size (LTA); firm age (LAG); capital expenditure (CEX); sales growth (SG); Gearing (GR); and profitability (Q).

Table 5. Antecedents of Voluntary Compliance and Disclosure of Good CG Practices.

	Dependent variable						
Indep. Variables (*Model*)	UKCGI (1)	UKCGI (2)	UKCGI (3)	UKCGI (4)	UKCGI (5)	UKCGI (6)	VIF
Board Mechanisms							
BSE	0.104***	-	0.038***	0.130***	-	0.095***	3.697
	(.000)		(.007)	(.000)		(.000)	
IOE	0.238***	-	0.207***	0.198***	-	0.198***	2.093
	(.000)		(.000)	(.000)		(.000)	
BD	0.163***	-	0.178***	0.099**	-	0.117**	1.467
	(.000)		(.000)	(.049)		(.014)	
PCGC	0.006	-	0.006	0.004	-	0.015	1.309
	(.938)		(.707)	(.835)		(.366)	
Ownership Mechanisms							
MANO	-	-0.371***	-0.197***	-	-0.328***	-0.277***	1.403
		(.000)	(.000)		(.000)	(.000)	
ISTO	-	0.056	0.005	-	0.041	0.045	2.269
		(.123)	(.885)		(.260)	(.163)	
BLKO	-	-0.334***	-0.173***	-	-0.289***	-0.245***	3.510
		(.000)	(.000)		(.000)	(.000)	
Control variables							
LTA	-	-	-	-0.001	0.005**	-0.012***	3.905
				(.890)	(.049)	(.002)	
LAG	-	-	-	0.005	0.003	-0.004	1.297
				(.375)	(.631)	(.496)	
CEX	-	-	-	0.055	0.507***	0.381***	1.254
				(.671)	(.000)	(.002)	
SG	-	-	-	0.010	0.014	0.006	1.311
				(.752)	(.673)	(.831)	
GR	-	-	-	0.107***	0.122***	0.080**	1.541
				(.009)	(.002)	(.028)	
Q	-	-	-	0.003	0.007	-0.004	1.560
				(.917)	(.787)	(.868)	
IDU	-	-	-	YES	YES	YES	-
YDU	-	-	-	YES	YES	YES	-
Constant	0.246***	0.764***	0.491***	0.198***	0.583***	0.630***	-
Durbin-W.	1.782	1.807	1.904	1.914	1.883	1.965	-
F- value	75.988***	90.564***	63.239***	17.043***	20.639***	21.758***	-
Adj. R^2	0.340	0.322	0.443	0.374	0.417	0.485	-
N. Observations	600	600	600	600	600	600	-

P-values are between brackets. ***, ** and * indicate that the relationships are significant at the 0.01, 0.05 and 0.10 levels, respectively. Variables of the study are described as follows: the UK CG compliance and disclosure index (UKCGI); board size (BSE); the proportion of independent outside directors (IOE); board diversity based on gender and ethnicity (BD); the existence of a separate CG committee (PCGC); managerial ownership (MANO); institutional ownership (ISTO); block ownership (BLKO); firm size (LTA); firm age (LAG); capital expenditure (CEX); sales growth (SG); Gearing (GR); and profitability (Q).

Table 6. Antecedents of Voluntary Compliance and Disclosure of Good CG Practices.

	Dependent variables					
Indep. Variables	UKCGI	LSH	ETIV	ACNT	REM	RWS
(Model)	(1)	(2)	(3)	(4)	(5)	(6)
Board mechanisms						
BSE	0.104***	0.022	0.147***	0.060***	0.078***	0.133***
	(.000)	(.522)	(.000)	(.008)	(.000)	(.001)
IOE	0.201***	0.350***	0.345***	0.132***	0.127***	0.039
	(.000)	(.000)	(.000)	(.001)	(.000)	(.536)
BDG	0.176***	-	-	-	-	-
	(.001)					
BDE	-0.213*	-	-	-	-	-
	(.066)					
BD	-	0.193***	0.144**	0.065	0.132***	0.113
		(.010)	(.015)	(.193)	(.005)	(.182)
PCGC	0.009	0.010	0.054***	0.019	0.023	-0.079***
	(.591)	(.712)	(.009)	(.272)	(.151)	(.007)
Ownership mechanisms						
MANO	-0.264***	-0.320***	-0.264***	-0.141**	-0.405***	-0.410***
	(.000)	(.000)	(.000)	(.011)	(.000)	(.000)
ISTO	0.060*	-0.020	0.118***	0.010	-0.001	0.050
	(.064)	(.688)	(.004)	(.768)	(.981)	(.386)
BLKO	-0.260***	-0.231***	-0.349***	-0.178***	-0.246***	-0.167**
	(.000)	(.000)	(.000)	(.000)	(.000)	(.015)
Control variables						
LTA	-0.012***	-0.013**	-0.024***	-0.003	0.017***	0.004
	(.000)	(.035)	(.000)	(.460)	(.000)	(.592)
LAG	-0.005	-0.009	0.011*	-0.005	0.005	-0.043***
	(.399)	(.276)	(.099)	(.416)	(.392)	(.000)
CEX	0.392***	0.398**	0.571***	0.301**	0.137	0.443**
	(.001)	(.039)	(.000)	(.019)	(.249)	(.041)
SG	0.004	-0.006	-0.002	-0.011	-0.015	0.095*
	(.893)	(.892)	(.947)	(.720)	(.606)	(.069)
GR	0.070*	0.107*	0.035	0.043	0.066*	0.260***
	(.053)	(.064)	(.446)	(.258)	(.064)	(.000)
Q	-0.005	-0.041	-0.049	-0.002	0.030	0.063
	(.831)	(.319)	(.130)	(.930)	(.244)	(.173)
IDU	YES	YES	YES	YES	YES	YES
YDU	YES	YES	YES	YES	YES	YES
Constant	0.613***	1.006***	0.650***	0.468***	0.958***	0.324***
Durbin-W.	1.972	2.369	2.003	1.864	2.027	2.149
F- value	21.631***	9.320***	21.834***	12.203***	19.701***	15.332***
Adj. R^2	0.495	0.274	0.486	0.337	0.459	0.394
N. Observations	600	600	600	600	600	600

P-values are between brackets. ***, ** and * indicate that the relationships are significant at the 0.01, 0.05 and 0.10 levels, respectively. Variables of the study are described as follows: the UK CG compliance and disclosure index (UKCGI); leadership sub-index (LSH); effectiveness sub-index (ETIV); accountability sub-index (ACNT); remuneration sub-index (REM); relations with shareholders sub-index (RWS); board size (BSE); the proportion of independent outside directors (IOE); board diversity based on gender (BDG); board ethnic diversity (BDE); board gender and ethnic diversity (BD); the existence of a separate CG committee (PCGC); managerial ownership (MANO); institutional ownership (ISTO); block ownership (BLKO); firm size (LTA); firm age (LAG); capital expenditure (CEX); sales growth (SG); Gearing (GR); and profitability (Q).

Table 7. Robustness Analysis of Antecedents of Voluntary Compliance and Disclosure of Good CG Practices

(*Model*)	W-UKCGI (1)	Non-linearity (2)	Lagged-Effects (3)	2SLS (4)	Fixed-Effects (5)
Board Mechanisms					
BSE	0.079***	0.631***	0.110***	0.923***	0.099***
	(.000)	(.000)	(.008)	(.000)	(.000)
BSE^2	-	-0.136***	-		-
		(.000)			
IOE	0.199***	0.178***	0.299***	2.144***	0.227***
	(.000)	(.000)	(.000)	(.000)	(.000)
BD	0.130***	0.109**	0.121**	9.224***	0.164**
	(.008)	(.015)	(.020)	(.000)	(.000)
PCGC	0.002	0.004	0.020	0.060	0.009
	(.926)	(.800)	(.263)	(.511)	(.639)
Ownership Mechanisms					
MANO	-0.308***	-0.488***	-0.301***	-2.785***	-0.430***
	(.000)	(.002)	(.000)	(.000)	(.000)
$MANO^2$	-	0.764**	-	-	-
		(.042)			
ISTO	0.031	0.184	0.038	1.592***	0.002
	(.341)	(.185)	(.261)	(.000)	(.948)
$ISTO^2$	-	-0.204	-	-	-
		(.159)			
BLKO	-0.234***	0.471***	-0.258***	-0.616***	-0.102***
	(.000)	(.002)	(.000)	(.000)	(.004)
$BLKO^2$	-	-0.755***	-	-	-
		(.000)			
Control Variables					
LTA	-0.011***	0.004	-0.020***	-0.354***	-0.014***
	(.007)	(.271)	(.000)	(.000)	(.005)
LAG	-0.008	-0.011**	-0.005	-0.155***	-0.050***
	(.145)	(.024)	(.408)	(.000)	(.000)
CEX	0.370***	0.357***	0.309**	-2.842***	0.348***
	(.003)	(.001)	(.019)	(.000)	(.000)
SG	0.012	-0.019	0.017	0.507***	-0.008
	(.686)	(.458)	(.568)	(.000)	(.596)
GR	0.102***	0.093***	0.089**	1.044***	0.084**
	(.006)	(.004)	(.023)	(.000)	(.018)
Q	-0.007	-0.038	0.024	-0.690***	-0.031
	(.100)	(.110)	(.376)	(.000)	(.175)
IDU	YES	YES	YES	YES	YES
YDU	YES	YES	YES	YES	YES
Constant	0.681***	-0.296**	0.697***	3.637***	0.270***
Durbin-W.	2.059	1.855	1.910	1.965	1.959
F- value	21.041***	29.655***	25.325***	21.758***	49.885***
Adj. R^2	0.477	0.606	0.552	0.485	0.893
N. Observations	600	600	500	600	600

P-values are between brackets. ***, ** and * indicate that the relationships are significant at the 0.01, 0.05 and 0.10 levels, respectively. Variables of the study are described as follows: the UK CG compliance and disclosure index (UKCGI); board size (BSE); board size squared (BSE^2); the proportion of independent outside directors (IOE); board gender and ethnicity diversity (BD); the existence of a separate CG committee (PCGC); managerial ownership (MANO); managerial ownership squared ($MANO^2$); institutional ownership (ISTO); institutional ownership squared ($ISTO^2$); block ownership (BLKO); block ownership squared ($BLKO^2$); firm size (LTA); firm age (LAG); capital expenditure (CEX); sales growth (SG); Gearing (GR); and profitability (Q).