National institutional systems as antecedents of female board representation: an empirical study

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ABSTRACT

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Research Question/Issue: How are national institutional systems related to the proportion of women found on corporate boards of directors of companies listed in particular countries? Which particular types of national institutions play the most important role? We explore cross-country variation in the pattern of female representation on corporate boards and evaluate the extent to which it is associated with the nature of national institutional systems as captured in five frameworks each of which emphasises the importance of a distinct type of national institutions. Our analysis includes 38 countries and covers the years 2001-2007

Research Findings/Insights: Our findings show that as much as half of the variation in the presence of women on corporate boards across countries is attributable to national institutional systems and that culturally and legally-oriented institutional systems appear to play the most significant role in shaping board diversity.

Theoretical/Academic Implications: Our study suggests that country-level institutions, previously neglected in studies of board diversity, play an important role in shaping the prevalence of women on corporate boards and that these need to be more fully incorporated in future research on board diversity.

Practitioner/Policy Implications: The importance of national institutional systems for board diversity suggests that policy levers of a regulatory nature and national cultural characteristics are important elements in driving corporate board diversity and offer distinct opportunities for tailoring a mix of corporate governance interventions that suit the particular institutional nature of a given country.

Key words: Corporate Governance, Corporate Board diversity, Board Demography, Institutional Theory

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INTRODUCTION

The role played by national business environments for a range of corporate behaviours has long been of interest to Corporate Governance scholarship (Jackson & Deeg, 2008; Parboteeah, Hoegl & Cullen, 2008). National institutional factors have been identified as shaping a wide variety of business behaviours including entry strategies (Brouthers, 2002), diversification (Lee, Peng & Lee, 2008), innovation (Lundvall, Johnson, Anderson & Dalum, 2002), and corporate governance practices (Denis & McConnell, 2003). Although comparative, cross-national, research has addressed a wide range of phenomena, it has not, with some notable exceptions (e.g. Leksell & Lindgren, 1982; Terjesen & Singh, 2008), contributed significantly to research on corporate boards of directors. While a substantial and growing body of research has focused on corporate governance systems and their development internationally (Aguilera, 2005; Denis & McConnell, 2003; Khanna, Kogan & Palepu, 2006), such research has tended to focus on systemic issues such as evaluating the extent of convergence/divergence in practice internationally, rather than on questions concerned with boards of directors or their composition (Aguilera, 2005; Denis & McConnell, 2003; Fligstein & Freeland, 1995).

In recognition of their strategic importance, research concerned with boards of directors has proliferated in recent years. Within this, a considerable stream of research concerning the demographic aspects of boards of directors has emerged with a particular emphasis on the gender balance of boards of directors (Hillman, Cannella & Harris, 2002; Hillman, Shropshire & Cannella, 2007; Singh, 2007; Terjesen, Sealy & Singh, 2009). In this article, we explore cross-country variation in the pattern of female representation on corporate boards and examine the potential for it to be associated with national institutional

systems as captured in five distinct frameworks. Research on the institutional features of countries has shown that particular institutional characteristics, such as the nature of welfare, education and financial systems, and legal, regulatory, and political processes, tend to exhibit complementarities such that countries typically exhibit a set, or "bundle", of mutually reinforcing institutional characteristics (Jackson & Deeg, 2008). Moreover, research has suggested that groups of countries exist that each share a distinctive bundle of institutional features (Aguilera & Jackson, 2003). Together, these distinctive bundles of institutional features and those countries that are associated with them constitute "institutional systems" and prior research has identified a variety of these systems that stem from the particular disciplinary orientation of the institutional analysis. For example, economically-oriented institutional analysis has identified distinct varieties of capitalism (Hall & Soskice, 2001) and national business systems (Whitley, 1992; 1999), while political/legal institutional research has identified distinct legal systems (La Porta, Lopez-de-Silanes, Shleifer & Vishny 1998) and systems of corporate governance (Weimer & Pape, 1999), and sociological research has identified systems of national culture (Gupta, Hanges & Dorfman, 2002). Our analysis examines both the overall predictive power of particular institutional systems in respect of the variation across countries in the prevalence of women on corporate boards, and whether support is provided for hypothesised differences between the clusters of countries within each national institutional system and the proportion of women on corporate boards.

Through this analysis, we make two significant contributions. First, we extend and complement earlier analyses of the factors associated with greater prevalence of women on corporate boards of directors to encompass macro-level influences and processes. Given the presence of a significant debate concerning the mix of policies and practices necessary to promote women's participation on corporate boards, our analysis is able to shed light on the relevance of national institutional systems to this debate. Second, we apply the analysis of the

influences of national institutional systems to encompass the domain of board demography. In so doing, we contribute to the development of the emerging literature that addresses a comparative analysis of country institutions for business behaviours and outcomes and contribute to the project of "gendering" comparative institutional analysis (Estevez-Abe, 2005, 2006; Mandel & Shalev, 2009).

The next section reviews existing literature relating to women on corporate boards (WOCBs). We then outline alternative conceptions of national institutional systems and develop hypotheses regarding how these influence the prevalence of WOCBs. We then discuss our empirical methods and report our findings. Subsequently, we discuss the importance of these, for both the literatures on board demography and comparative institutional analysis. A final section concludes.

PRIOR RESEARCH ON WOCBs

A large body of research has focused on WOCBs. In the most recent comprehensive review of this research, Terjesen et al. (2009) identify over 400 published references on the topic, including 180 articles in academic journals and books. Terjesen et al. (2009) classify extant research according to its level of analysis: micro (relating to individual directors), meso (relating to boards or firms/organisations), and macro (relating to the industry/wider environment within which boards and organisations are situated). Within this, the vast majority of existing scholarship focuses on analysis at the micro or meso levels, with relatively little research addressing macro-level issues.

At the micro level, a large amount of research has analysed the characteristics of WOCBs and has attempted to explore their experiences of involvement in boards of directors (Talmud & Izraeli, 1999; Terjesen et al., 2009). Much of this research has identified the formal educational attainment and experiential characteristics that women need to obtain

board positions. Burke (1997), Sheridan (2002) and Singh and Vinnicombe (2004) surveyed female board directors in Canada, Australia and the UK respectively and higher education attainment in the form of university degrees were prevalent amongst the female directors in all three countries as well as extensive business experience. In a similar vein, Bilimoria and Piderit (1994) conclude that even though women possess sufficient educational qualifications and relevant professional experience "…they continue to be blocked in their rise to the top" (Bilimoria & Piderit, 1994: 1471) suggesting that even if women attain the formal and professional prerequisites for board directorships, they face a number of organisational barriers en route to board directorships, including opaque recruitment processes, insufficient career development opportunities and lower remuneration (Singh & Vinnicombe, 2004). Sheridan (2002) in her research on Australian female board directors' experiences concluded that as well as relevant and professional experience, the women's contact network was crucial in securing their board positions.

At the meso level, a considerable amount of research has described the prevalence of WOCBs, often by undertaking a "census" of the boards of companies listed on local stock exchanges, and sought to understand these by reference to organisational characteristics (Terjesen et al., 2009). Many studies have examined the prevalence of WOCBs within particular country settings including the UK (Conyon & Mallin, 1997; Sealy, Singh &Vinnicombe, 2007; Singh & Vinnicombe, 2004, 2006; Singh, Vinnicombe & Johnson, 2001), the US (Adams and Flynn, 2005; Arfken, Bellar & Helms, 2004; Farrell & Hersch, 2005; Peterson & Philpot, 2007; Soares, Carter & Combopiano, 2009), Canada (Burke, 1997, 1999), Switzerland (Ruigrok, Peck & Tacheva, 2007), Australia (Kang, Cheng & Gray, 2007; Ross-Smith & Bridge, 2008; Sheridan, 2002), New Zealand (McGregor, 2003), Denmark (Rose, 2007), Israel (Talmud & Izraeli, 1999), and Spain (Campbell & Minguez-Vera, 2008; De Anca, 2008). Looking across the available evidence suggests that there is a striking degree

of variation in the proportion of board directors who are women in a given country, ranging from less than one percent in Switzerland (Ruigrok et al., 2007) to just over 15% in the US (Soares et al., 2009), suggesting that a given number of companies could have more than 100 times more female directors in the United States than in Switzerland.

A second important strand of meso-level research has examined the organisation-level antecedents of WOCBs. Singh and Vinnicombe (2004), mirroring earlier findings in the US, UK and Canada, show that even among the largest 100 UK companies, the very largest companies are twice as likely to have a female director as the smaller companies, suggesting that firm size plays a significant role in influencing board diversity. There is also strong evidence that where women and minorities are present on corporate boards they are far more likely to be found in non-executive (outside) positions and may be less likely to be represented on key board committees (Bilimoria & Piderit, 1994; Conyon & Mallin, 1997; Daily, Certo & Dalton, 1999), indicating that the structure of corporate boards, and particularly the balance between executive and non-executive directors, influences board diversity. Other correlates of board diversity have attracted less clear support from earlier evidence. For example, Singh and Vinnicombe (2004), in contrast to the findings of Burke (1999), find no significant pattern in the link between board size and the presence of a female director.

At the macro-level, research has been more limited, but has examined the importance of a firm's industry environment for the prevalence of WOCBs and, more recently, upon some of the cross-country influences on WOCBs. A number of studies have highlighted the importance of a firm's business activity or industry in shaping the presence of women at board level (Hillman et al., 2007; Singh et al., 2001; Burke, 1999; Nelson & Levesque, 2007). Pfeffer (1973) shows that the institutional environment significantly influenced the composition of hospital boards, and Hillman, Cannella & Paetzolds'(2000) study of the

composition of boards in the US airline industry showed that as the institutional regulatory environment changed, so too did the composition of the board "…to reflect the shift in resource needs confronting the firm" (Hillman et al., 2000: 252). Similarly, Burke (1999) demonstrates that there are significant differences across industries in the pattern of board diversity with conglomerates having significantly more diverse boards than oil/gas and mining/minerals companies.

Regarding country-level antecedents of WOCBs, a small number of studies have begun to explore issues relating to the importance of institutional factors for the presence of WOCBs. Public policy environments have attracted particular attention, especially in light of the commitments of some governments to greater female representation on corporate boards (De Anca, 2008; Hoel, 2008). In a related vein, Esping-Andersen (1990) evaluates the role of institutional welfare provisions in promoting female work force participation across western economies. He notes the distinctive role the state has played in Scandinavian countries, in particular in Sweden and Norway, where maternity leave has ensured that women are able to actively pursue professional career and skills development outside the home. This is an essential first step for women wishing to acquire the necessary skills and competencies required to pursue executive ambitions. More recently, Terjesen and Singh (2008) evaluated women's share of the corporate board seats in an international perspective and detailed the prevalence of women corporate board directors across a broad range of countries finding that a greater presence of WOCBs was found in countries with greater prevalence of women in senior official and management positions.

To summarize, extant research has identified a wide range of explanations regarding why such a small proportion of company directorships are occupied by women in many countries. Most research has argued that women are discriminated against in the appointment processes for board positions, or that women may lack the necessary competencies, networks

or desire to pursue board appointments. More recently, research has begun to address more structural barriers to greater female participation on corporate boards, which operate in particular industry or country environments. However, as yet, very little systematic research has been undertaken that sheds light on the particular nature of these structural impediments to higher proportions of women on corporate boards and it is to this deficit that we address our analysis.

COUNTRY INSTITUTIONS AND WOCBs

In this section, we develop the argument that national institutional systems play a substantial role in shaping the demography, particularly in respect of gender, of the board of directors of companies active in particular countries. Research in an international comparative institutional tradition has proliferated in recent years and has drawn together contributions from the political sciences, economics, sociology, and management studies (Hall & Soskice, 2001; La Porta et al., 1998; Whitley, 1999). In recognition of the "bundled", or inter-dependent, nature of many institutional phenomena, the development of national institutional systems in the form of typologies, taxonomies and classifications of countries with shared institutional characteristics has been central to extant scholarship (La Porta et al., 1998; Weimer and Pape, 1999; Whitley, 1999). In this study, we draw upon five of the most widely cited systems of national institutions and examine both the strength of the association between these frameworks and the cross-national pattern of WOCBs and hypothesised relationships between clusters of countries within each framework and the prevalence of WOCBs. The five national institutional systems we draw upon differ principally in respect of the emphasis placed upon specific types of institutions. For example, economic institutions are emphasised in both Hall and Soskice's (2001) Varieties of Capitalism approach and Whitley's (1992, 1999) National Business Systems theory, legal/regulatory institutions are

central to La Porta et al.'s (1998) and Weimer and Pape's (1999) institutional systems, and systems of national culture are core to Gupta et al.'s (2002) country clusters. In the remainder of this section, we provide a brief overview of each system of national institutions and develop testable hypotheses regarding the differences between clusters of countries within each system that we expect to play an important role in shaping the prevalence of WOCBs.

National Economic Systems

Varieties of Capitalism (VOC) & WOCBs. Hall and Soskice (2001) are concerned with economic institutions and conceptualise a framework of institutional comparison based on an actor centred approach, which sees developed economies divided into two principal categories depending on their national pattern of institutions: the coordinated market economy (CME), and the liberal market economy (LME). They argue that firms as actors must engage with a variety of institutions in their pursuit of corporate strategy and profitability, including labour relations, industry collaboration and coordination and education. The degree to which economic institutions are subjected to market coordination (LMEs) versus non-market coordination (CMEs) and, by extension, how these two distinct forms of economic systems create institutional complementarities within a given country impacts on the country's competitive positioning (Jackson & Deeg, 2008). Hall and Soskice (2001) highlight Germany, Switzerland and Belgium as examples of coordinated market economies (CME). These countries are hallmarked by strong labour relations, extensive vocational training programmes and strong business networks. The US, the UK and Australia on the other hand, are seen as the archetypical liberal market economies (LME) where the

market plays a determining role in balancing industrial relations, commerce is largely contractually based and extensive industry collaborations are replaced by competition.

Recently, a strand of scholarship has begun the project of "gendering the VOC" approach by exploring the implications of economic systems and their institutional characteristics for gender inequality (Estevez-Abe, 2005, 2006; Mandel & Shalev, 2009; Soskice, 2005). Of particular importance within this research are the characteristics of labour market institutions, and specifically those that influence the patterns of skill investments made by individuals (Estevez-Abe, 2005, 2006; Mandel and Shalev, 2009). Estevez-Abe (2005, 2006) argues that the institutional characteristics of CMEs are not conducive to female managerial ambitions because of the character of their "skill regimes". In CMEs, skill regimes are characterised by "institutions that make long-term mutual commitments between employers and workers credible….much stronger employment protection legislation and more generous unemployment benefits which make specific skill investments more viable, [and] close cooperation between unions and employers [that] sustain a robust vocational training in secondary schools" (Estevez-Abe, 2005:189). In contrast, in LMEs skill regimes lack many of those strong institutions and are, thus, more strongly oriented to the development of general skills, including most "certified general education—including high school diploma, BA, MBA, and a license to practice medicine or law" (Estevez-Abe, 2005:190). The implication of this view at the aggregate, country, level is that, perhaps paradoxically given their strong record on other aspects of gender equality (such as those reflected in benefits systems), CMEs are less likely to develop women with the skills necessary to compete for board positions because "the emphasis in coordinated economies on specific skills is more appropriate to the male model of full-time continuous employment, these economies are likely to exclude women from many sectors of employment" (Mandel & Shalev, 2009:165). Moreover, women's predicament is further exacerbated by maternity

leave, and other social, policies. Whilst maternity policies are designed to safeguard women's jobs during child rearing and offer women the chance to continue work once the child is of a certain age, employers incur significant costs in covering for maternity absences such as hiring temporary staff. This reinforces the diminished return on investment to the firm, which again results in firms preferring to hire and invest in male employees, thereby perpetuating rather than addressing the disadvantageous position women may find themselves in.

H1: There is a larger share of women on the corporate board of directors in liberal market economies than in coordinated market economies.

National Business Systems & WOCBs. The National Business Systems perspective (NBS henceforth) (Whitley, 1992, 1999) emphasises the economic aspects of institutions and, like Hall and Soskice's (2001) varieties of capitalism (VOC), proposes that clusters of countries exist that share a number of common economic institutional characteristics. The common focus on economic institutions means that the VOC and NBS perspectives share a number of features (Jackson & Deeg, 2006, 2008). At the same time, the NBS framework proposes a greater number of clusters of countries that is based upon a focus on a greater range of national institutions than that encompassed in the VOC approach and, in particular, with a greater emphasis on diversity in the systems of ownership control and sectoral and inter-sectoral coordination between companies (Jackson and Deeg, 2006). Hence, while the VOC approach classifies Ireland and the UK as LMEs, in contrast to typical CMEs such as Germany and Norway, because of their similar configuration of financial, skills and welfare systems, the NBS approach sees Ireland as a collaborative system, along with Norway and Germany, in light of similarities in the ownership of companies and in the patterns of sectoral and inter-sectoral coordination. While the differences between the VOC and NBS approaches

are to a substantial extent differences of degree, rather than differences of a fundamental nature, given the prevalence of both frameworks in corporate governance research (Aguilera & Jackson, 2003; Hall & Gingerich, 2009; Jackson & Deeg, 2006; Pedersen & Thomsen, 1999) we felt it important to assess whether the subtle distinctions inherent in the two frameworks were significant in the context of corporate board demography. Whitley (1992, 1999) identifies six distinct national business systems, reflecting the degree to which various elements of national economic systems are represented in particular countries: Fragmented, Coordinated Industrial District, Compartmentalised, State Organised, Collaborative and Highly Coordinated national business systems. Central to our discussion is the identification and differentiation between distinct approaches to talent and leadership development, employment and career progression and the impact these differences have on top management recruitment. The collaborative business system relies on cooperative working relationships between owners of the firm, providers of capital and other business partners, such as industry associations and chambers of commerce. These industry alliances and interest organisations are in the main male dominated and do therefore not represent a relevant way in which women may derive the contacts and networks necessary for executive leadership positions (Welter, 2006) . The systems which centre on coordination, such as the coordinated industrial district and the highly coordinated economy seek to "establish long term connections with their core workforce and develop distinctive patterns of skill and job organisation" (Whitley, 1992:16). The general employment characteristics associated with these countries are a long term commitment to the firm/employer on part of the employee, segmentation of employees between a core and a peripheral work force, with the peripheral workforce often consisting predominantly of women, an emphasis on firm specific skills and the institutionalisation of organisational careers (Whitley, 1992; Houseman and Abraham, 1993). These factors result in promotions based on seniority within companies and a top

management team with a high degree of firm specific skills (Aguilera & Jackson, 2003; Whitley, 1992). Such a system is likely to disadvantage women who are less likely to invest in firm specific skills given that their employment trajectory is more likely to encompass career breaks to raise children and the investment in firm specific skills takes longer to recuperate and offers less flexibility in career advancement terms (Shire & Gottschall, 2007).

Career progression in compartmentalised countries, by comparison, relies on market forces, lower levels of firm specific skills, considerable movement between firms and industries. Countries classified as compartmentalised are, according to Whitley (1992) more likely to recruit executive management from outside the firm and to place more emphasis on university degrees and generic skills with an associated merit rather than seniority-based remuneration and promotion structure. As women are more likely to invest in generic skills and develop transferable managerial competencies which is compatible with a family life (Shire & Gottschall, 2007; Webb, 2009) women are more likely to acquire senior executive positions in compartmentalised economies. In state-organised business systems the founding families and their allies are often able to retain considerable control as the state typically provides subsidised credit to these firms (Whitley, 1992). Johannisson and Huse (2000) found that where familial relations were central to firm management, women were more likely to take on executive management roles. We therefore propose that:

H2: There is a larger share of women on corporate boards of directors in countries classified as Compartmentalised, and State-Organised than in countries classified as Collaborative, Fragmented, Coordinated Industrial Districts or Highly Coordinated economies.

National Legal Systems

Legal Origin & WOCBs. Having discussed the possible relevance of national economic systems for the prevalence of WOCBs, we now turn to the likely impacts of legal and regulatory national systems that have been central to political science research on country institutions. La Porta et al. (1998) ground their framework of national institutions within country legal heritages. Constructing a data set of 27 countries, the authors determine legal heritage for each country based on established legal distinctions developed by Reynolds and Flores (1989). Reynolds and Flores (1989) consider differences across countries with regards to national judicial heritage, with particular foci on the distinction between common law and civil law. The legal families identified are: English, German, French and Scandinavian-origin. Countries classified as having a legal structure based on the English common law are put in the English-Origin Countries, whilst countries based on the civil law heritage are allocated to the French, German and Scandinavian-origin clusters, depending on the particular institutional features of the country. Regulative institutions at the national level have been found to play a role in the managerial employment opportunities women are afforded (Parboteeah et al., 2008). Botero, Djankov, La Porta, Lopez-de-Silanes and Shleifer (2004) investigated the role played by labour regulation across 85 countries, including the role regulative heritage played in encouraging female labour force participation. The authors concluded that where extensive employment protection laws were in place women's work force participation rates were higher compared to men, and the authors observed that "In broad terms, common and civil law traditions utilize different strategies for dealing with market failure: the former relying on contract and private litigation and the latter on direct supervision of markets by government. Under this theory, the historical origin of a country's law shapes its regulation of labour and other markets" (Botero et al., 2004:1340). Civil law

countries traditionally have more extensive employment protection laws and better legislation covering social and welfare policies that are designed to safeguard and promote women's pursuit of professional careers outside the home (Botero et al., 2004). In Common Law countries, market forces are more dominant; employment contracts tend to be more flexible and welfare legislation concerned with engendering a work-life balance that allows women to pursue professional careers and have family commitments is less extensive (Botero et al., 2004). In contrast to the argument put forth in support of hypothesis one, the argument we extend here suggests that civil law countries, many of whom are also CMEs, tend to have a higher rate of female labour force participation which enables women to build the necessary professional experience and professional ties which affords them the opportunity to ascend the corporate ladder (ibid). This argument is justified on the basis that the legal framework we evaluate here is focused on legislative heritage rather than broader institutional facets, and *ceteris paribus,* civil-law legislation is designed to be beneficial to women. Therefore we suggest that:

H3: There is a smaller share of women on the corporate board of directors in countries classified as English-Origin legal systems than in countries with French, German and Scandinavian-origin legal systems.

Corporate Governance & WOCBs. Patterns of corporate board demography have been shown to be substantially influenced by the prevailing national corporate governance practices (Aguilera & Jackson, 2003; Ruigrok et al., 2007). Weimer and Pape (1999) synthesise a framework that revolves around eight corporate governance characteristics as follows: the prevailing concept of the firm; the board system; the stakeholders that have the ability to influence managerial decision making; the equity market's importance in the

national economy; the prevalence for a market for corporate control, corporate ownership concentration, the strength of a link between managerial performance and pay and time scale involved in economic relationships. Weimer and Pape (1999) argue that distinct geographic regions will exhibit similar bundles of these eight features, and they identify four clusters of national corporate governance, a Japanese, a Germanic, a Latin and Anglo-Saxon system of corporate governance. The literature that investigates the salience of corporate governance practices for corporate board demography, shows that that where more concentrated forms of share ownership prevail, companies tend to have more female corporate board directors (Ruigrok et al., 2007). Concentrated share ownership is a central feature of the Germanic and Latin systems of corporate governance. From a stakeholder perspective, where family connections and patriarchal ownership structures dominate, women are more frequently accorded board directorships (Branson, 2007; Johannisson & Huse, 2000; Sheridan & Milgate, 2005). Broad stakeholder engagement and concentrated forms of ownership are hallmarks of the Latin origin and the Germanic origin corporate governance framework (Weimer & Pape, 1999). The notable exception to these research findings is Japan. Japan is known for highly concentrated ownership (Yafeh, 2000). Historically, Japanese boards are heavily insider dominated. Board directors are in the main drawn from a select group of highly committed managers forming part of the core workforce where women are broadly absent, as women are in the main assigned to the peripheral workforce (Aguilera, 2005; Houseman & Abraham, 1993; Miyajima, 2009; Whitley, 1992)

Broader stakeholder engagement and better governance are also arguments used in favour of the dual tiered board structure which is common in Germanic origin countries and permissible in Latin origin countries (Huse, Nielsen & Hagen, 2009; Levinson, 2001; Weimer & Pape, 1999). Employee representatives are likely to be more diverse, and in particular women have often been found to be more prevalent among employee board

directorships. Although an employee wields different powers to the executive and non-executive directors, they are considered full board members (Cotton, Vollrath, Froggatt, Lengnick-Hall & Jennings, 1988). We therefore suggest:

H4: There is a larger share of women corporate board directors in countries classified as Germanic and Latin than in countries classified as Japanese or Anglo-Saxon.

National Cultural Systems

Cultural clusters & WOCBs. Research has established that national culture is an important factor defining women's role in society more broadly, but also that country cultures help shape corporate board demography (Adams & Flynn, 2005; Burke & Mattis, 2000; Hofstede, 1983). Research concerned with national culture has established that such cultures are multifaceted with Hofstede's pioneering research identifying five dimensions to national culture and the more recent, and more comprehensive, Global Leadership and Organizational Behaviour Effectiveness (GLOBE) project identifying nine dimensions of national culture, some of which map closely onto Hofstede's original dimensions. While both Hofstede's work and the GLOBE project are concerned with exploring the dimensionality of national culture, they stop short of providing a typology of countries that have similar patterns of cultural institutions. Gupta et al. (2002) analyse national cultures using data from the GLOBE project and construct a framework which shows that national cultures, though consisting of a set of distinct dimensions, also share significant similarities across particular geographic regions. Gupta et al. (2002) show that clusters of countries have common cultural characteristics, and in total they identify 10 such geographic cultural clusters. Of particular interest to our study is the degree to which culturally held attitudes to gender may impact on women's executive career opportunities and ambitions. In particular, following Parboteeah et al. (2008) we focus

on how different patterns within four of the nine aspects of national culture identified in the GLOBE research (gender differentiation, assertiveness, uncertainty avoidance and power distance) that are present in particular groups of countries play a role in shaping corporate board demography. Gender differentiation is the degree to which men and women are viewed differently in a given society. Where gender differentiation is lower, women are more likely to assume senior positions of authority (Javidan & House, 2001). The Nordic European and Eastern European cultural clusters have lower levels of gender differentiation (Bakacsi, Takács, Karácsonyi & Imrek, 2002; Szabo, Brodbeck, Den Hartog, Reber, Weibler & Wurder, 2002), whilst the Anglo cultural cluster score higher (Ashkanasy, Trevor-Roberts & Earnshaw, 2002), as do the Latin and Asian cultural clusters (Gupta et al., 2002). The assertiveness category in the GLOBE framework is not dissimilar to the Masculinity element articulated by Hofstede (1983). Assertiveness refers to elements of aggression and confrontation in social relationships. Assertive societies are deemed to be characterised by more masculine values and norms with an emphasis on toughness and material possessions (Parboteeah et al., 2008), suggesting societal attitudes linked to more traditional gender stereotype roles. The Germanic cultural cluster scores high on assertiveness (Szabo et al., 2002). Uncertainty avoidance refers to a nation's reliance on well established social norms to cope with unpredictability. Bilimoria and Piderit (1994) stated that companies were occasionally reluctant to take on women directors as there was perceived risk and uncertainty in appointing them, hence countries that score high on uncertainty avoidance are expected to have fewer female board directors. The Eastern European cultural cluster is particularly associated with low uncertainty avoidance (Bakacsi et al., 2002). Finally, the concept of power distance captures the degree to which a country accepts and recognises that power is unequally distributed in society. Hierarchies, patriarchal control and gender inequalities are often associated with countries that are considered to have high power distance. Women are

often accorded positions at the bottom of the career ladder and are expected to adhere to more traditional female gender roles (Parboteeah et al., 2008), suggesting women are less likely to hold positions of power in such societies. The Germanic and Latin European cultural clusters are associated with high levels of power distance.

H5: There is a smaller share of women on the corporate board of directors in countries classified as Anglo, Germanic, Latin European, Latin American, Sub-Saharan, Confucian Asian and Southern Asian cultures than in countries classified as Nordic European or Eastern European cultures.

METHODS

Sample

Our analysis focuses on exploring the extent to which variation between countries in the prevalence of women on corporate boards of directors can be explained by corresponding variations in their institutional environments. It follows from these objectives that our analysis requires that there are corporations, i.e. companies that adopt the corporate form, and that these companies have boards or a comparable highest corporate decision making body. Notwithstanding these constraints, our sample encompasses all the major continents including Europe (including almost all of Western Europe, many countries of the former Eastern Bloc, and Southern Europe including Greece and Turkey), Australasia, Africa, Asia (including key economies such as Japan, China, Hong Kong, Singapore, India and Malaysia), Latin America (including Brazil, Mexico, Argentina and Chile), and the United States and Canada. Notwithstanding this, the constraints described above did limit the number of countries included from Africa, the Middle East, and parts of Asia. In total 38 countries were included in our analysis, and the sample covers the years 2001-2007.

Dependent Variable

Following earlier WOCB research, our dependent variable is the percentage of women on corporate boards in a given country/year and is calculated according to methods similar to those followed by Arfken et al. (2004) and Terjesen and Singh (2008) in that we draw upon a range of primary and secondary sources and focus on the largest listed companies in a given country. Given our approach of examining the composition of the boards of the largest listed companies for as many companies for which reliable estimates could be identified, a primary issue relates to the variation in stock market depth across countries and, hence in the number of firm-level observations available upon which to base an estimate of the overall prevalence of WOCBs in a given country. For example, while there are thousands of listed companies in the United States, and hundreds in many European countries, many countries have fewer (<30) large listed companies. Our approach to dealing with this issue was fourfold. First, we sought to use as much information as possible in deriving our estimates of the proportion of WOCBs – i.e. to use the full range of listed companies for countries where that was available. Second, we imposed a lower bound of 10 on the number of companies per country that we required to provide an estimate for that country in order to eliminate possibly spurious estimates based on very small numbers of companies. Third, we attempted wherever possible to triangulate our estimate with estimates available in a range of secondary sources described below. Fourth, we undertook a range of robustness tests that imposed different thresholds for the number of company observations used in the analysis to ensure that our findings were robust to this decision.

For many countries we aggregated from the firm to the country level using board data from company annual reports as compiled by BoardEx, a commercially available database of the largest listed companies in a wide range of countries, which has been used in earlier academic research (Singh, 2007). For other countries, we collected data directly from

corporate annual reports. For example, using Latin Trade's list of Top 500 companies in Latin America by Net Sales, we identified companies for Argentina, Brazil, Chile and Mexico, the largest Latin American trading economies. Given the difference in the size and scale of the Latin American trading economies this meant that for some countries we included all the companies on the Latin Trade 500 list e.g. Argentina, whilst for other countries like Mexico, we included the 65 companies that had a corporate board based in Mexico, however we did not include large companies that were incorporated in Mexico but which were under the auspice of the parent company board which was based overseas. In addition to this firm level data, we used data from a variety of other sources including the European Commission, Spencer Stuart Board Indices, Catalyst, the Australian Equal Opportunities for Women in the Workplace Agency (EOWA), Business Women's Association South Africa and Globe Women. Where this process provided us with multiple estimates of the prevalence of women on boards within a particular country, we elected to adopt the estimate that was generated using the largest sample of firm observations since we viewed this as providing the most robust and reliable estimate. From these sources we identified how many board seats each corporation had and how many of these seats were occupied by women. We then aggregated this to the national level by calculating how many board seats the largest publicly listed companies had between them in total, and then we calculated how many of these seats were held by women. We then divided the total number of board positions held by women by the total number of board seats available and arrived at a percentage share of board seats held by women for a given country.

Independent variables

Our approach involves generating a set of independent variables that encapsulate the distribution of countries across each of the five national institutional systems discussed

above. This was done on the basis of an extensive review of the literature concerned with comparative institutional analysis. For four of the five systems of national institutions we draw upon, the authors attribute countries to clusters in such a way as to make construction of our independent variables straightforward (Gupta et al., 2002; Hall & Soskice, 2001; La Porta et al., 1998; Weimer & Pape, 1999). Only in the case of NBS was additional research required in order to attribute particular countries to the classifications described in the conceptualisation of country institutional systems. Where possible, we supplemented this with an examination of key indicator variables highlighted in the frameworks that we drew from databases constructed by the OECD and World Bank. Drawing upon multiple sources enables us to triangulate our attribution of particular countries to categories described in the NBS approach and so give us greater confidence in the robustness of this process of attribution. Table 1, below, describes the attribution of countries to particular clusters within each national institutional system.

Insert table 1 about here

Having attributed as far as possible countries to clusters within the national institutional systems, we constructed a family of dummy variables for each system that encapsulated the grouping of countries within particular clusters. For example, in the case of Hall and Soskice's (2001) economic framework varieties of capitalism, we created three variables labelled "Liberal Market Economy", "Coordinated Market Economy", and "Other Economies". Each variable takes a value of one if a given country is attributed to that cluster, and zero otherwise. In a similar manner, we created a family of dummy variables that capture the clusters of national economic systems encompassed in the NBS approach (Whitley, 1999), the national legal systems identified in La Porta et al. (1998), the clusters of national

systems of corporate governance proposed in Weimer and Pape (1999) and the cultural clusters identified in Gupta et al. (2002). In each case, we also created an additional variable "Other" to which any country not included in the authors' data set was ascribed. In the case of the cultural clusters, identified in Gupta et al. (2002), the Arab culture was excluded from our analysis due to the lack of sufficient data for Arab countries.

Control variables

In order to reflect the possibility that the composition of boards of directors has changed over time independent of the nature of the prevailing national institutional systems, we created a set of dummy variables, one for each year encompassed by our dataset, which take a value of one if a given observation is attributable to that year, and zero otherwise.

FINDINGS

In this section, we discuss the findings of our empirical analysis. We begin by providing a descriptive overview of the prevalence of women on corporate boards. This descriptive overview is presented in table 2, below. Consistent with the observations of earlier research, the prevalence of women on corporate boards (as reflected in the percentage of directorships held by female directors) varies very substantially across countries (Burke, 1999; Burke & Mattis, 2000; Conyon & Mallin, 1997; Singh et al., 2001, 2004; Terjesen & Singh, 2008). At one end of the spectrum, 30% or more of directorships are occupied by female directors in Norway, Bulgaria, Finland and Latvia, while, at the other, female directors are almost entirely absent from boardrooms in Japan, Singapore, Egypt and Chile.

Insert table 2 about here

Before reporting our regression results, we present the descriptive statistics, and correlation coefficients for our data. Given the mutual exclusivity of the classification of countries to particular clusters within each national institutional system, our analysis is very unlikely to encounter multicolinearity. As expected given this mutual exclusivity, there are negative correlations between the clusters within a given system of national institutions. Perhaps most interesting is the pattern of correlation between particular clusters of different national institutional systems. Very high positive correlations were found between membership of the Liberal Market Economy cluster, the Anglo-Saxon corporate governance cluster and the Anglo cultural cluster. A similarly high correlation was found between involvement in the coordinated market economy and in the Germanic system of governance cluster. Since Japan is the only country in these categories, correlations of 1 were found between Confucian Asian cultures, the Japanese system of governance and the highly coordinated economy cluster. Other high correlations were seen where they would be expected such as the correlation between Germanic cultural cluster and the Germanic law cluster, and between the Anglo-Saxon cultural cluster and the Anglo-Saxon legal system cluster. Given the variety present in the fundamental precepts of these alternative conceptions of national institutions, the pattern of correlations identified is strongly suggestive of significant interdependencies between elements of national institutional systems. However, in other areas, the correlations are quite low, indicating that there is also a significant degree of heterogeneity across different conceptions of the prevailing national institutional systems.

Insert table 3 about here

Turning to our regression analysis, our initial results are reported in table 4. In order to avoid the dummy variable trap, it is necessary to omit one cluster from each of our national

institutional systems (Hair, Anderson, Tatham & Black, 1998). The "Other economies" cluster was omitted from the Varieties of Capitalism framework, in order to retain both the LME and CME clusters. In the analysis of systems of legal/regulatory, corporate governance and cultural institutions, we omitted the Germanic cluster as this was closest to the mean for the dependent variable. The compartmentalised cluster was omitted from the NBS model as this included the US and the UK the two largest developed trading economies in the sample, where the largest share of board seats available to women would be found. In considering our results, the interest lies principally in two aspects. First, the explanatory power of each model provides an insight into the overall importance of a particular national institutional system for the prevalence of women on a country's boards. Given that the number of clusters identified within the each institutional framework varies, the focus is appropriately with the adjusted R-squared statistic. Second, the statistical significance of particular clusters of countries within each framework provides an insight into the particular institutional characteristics that are conducive, or otherwise, to greater female representation on corporate boards.

We report two sets of regression results that differ according to the sample analysed. The first set of results, models 1-6 reported in table 4, outline the findings of explaining the variance across countries and time in the prevalence of women on corporate boards where the sample is the maximum permitted given the breadth of our database and the range of countries identified in the conceptual discussions of national institutional systems (described in table 1). Model 1 provides a baseline by exploring the relationship between the prevalence of women on corporate boards and time alone. Overall, this model explains approximately 13% of the variance between countries and time in the level of female representation on corporate boards. Furthermore, and consistent with recent evidence, our results show that the proportion of directorships held by female directors has grown quite substantially in recent years. Specifically, we estimate that the percentage of women on boards has grown by nearly

6% in the period 2000-2007. Relative to the average initial level of board diversity in our sample of approximately 6%, this is a substantial change. Models 2-6 examine the explanatory power and pattern of significance of each of the five systems of national institutions discussed above in turn. Respectively, models 2-6 explore the relevance for female board representation of economic institutions (models 2 and 5), legal/regulatory institutions (models 3 and 4) and cultural institutions (model 6).

Model two explores the relevance for WOCBs of national economic systems as reflected in the VOC approach (Hall & Soskice, 2001), and the model finds that the share of female corporate board directors is higher in both coordinated market economies (Model 2: $t=1.05$, $p<0.01$) and in liberal market economies (Model 2: $t=1.10$, $p<0.01$) than in other economies, but that there is no statistically significant difference between LMEs and CMEs in respect of the prevalence of WOCBs. The adjusted R^2 for this model is 15.9%, suggesting that national economic institutions, thus conceptualised, add about 8% to the overall explanatory power of the base model. Model 3 examines the importance of national legal institutions for WOCBs. The analysis shows that countries with legal frameworks that are characterised as being English Origin (Model 3: $t=0.80$, $p<0.01$) and Scandinavian Origin (Model 3: $t=0.93$, $p<0.01$) have a significantly greater percentage of WOCBs than countries with either French or Germanic legal heritages. Regarding the addition to the overall explanatory power of the base model provided by including national legal systems, we find that the adjusted R^2 for model 3 is 51.9%, a very substantial increase relative to the base model, suggesting that national legal institutions are, overall, very important for WOCBs. Model 4 evaluates the role of corporate governance systems in shaping the extent of WOCBs. Countries classified to the Latin (Model 4: $t=0.96$, $p<0.01$) and Japanese (Model 4: $t=3.14$, $p<0.05$) corporate governance systems were found to have a significantly lower percentage of women on their boards compared with both the Anglo-Saxon and German systems of

corporate governance. Regarding the overall contribution of national systems of corporate governance to the explanatory power of the model, model 4's adjusted R-Squared is 32.5%, suggesting that systems of corporate governance play a modest role in shaping WOCBs. Model 5 evaluates the significance of national economic systems as seen in the NBS framework and reveals that countries in both the Co-ordinated Industrial Districts (Model 5: $t=1.24$, $p<0.01$) and Highly Co-ordinated (Model 5: $t=3.12$, $p<0.05$) clusters have significantly lower proportions of women on their boards than countries classified to the other clusters. Finally, model 6 explores the relevance of national cultural institutions for WOCBs. The coefficients for the Anglo cluster (Model 6: $t=0.79$, $p<0.01$) of countries along with the Nordic European (Model 6: $t=0.96$, $p<0.01$), Eastern European (Model 6: $t=0.96$, $p<0.01$) and Sub-Saharan (Model 6: $t=1.34$, $p<0.01$) were positive and statistically significant suggesting that these clusters have significantly greater percentages of women on their boards than the Germanic European cluster of countries. The South Asian, Latin Europe and Confucian Asian clusters had a lower proportion of WOCBs than the Germanic European cluster, however only the Confucian Asia result was marginally significant at the 10% level. The overall contribution of introducing cultural clusters to the base model led to an increase in the adjusted R-Squared to 47.4%, suggesting that cultural institutions are also a very important influences on WOCBs. Comparing the additions to the explanatory power, models 2-6 range from an R-squared of 21% to 54%. The largest increments to explanatory power were related to the inclusion of national legal systems and national cultures, suggesting that the relatively legally and culturally-oriented institutional systems have more to offer in explaining board diversity than the economically-oriented national institutional systems or systems of corporate governance.

Insert table 4 about here

Reflecting the variation in the breadth of countries encompassed by the national institutional systems, the number of observations varies very significantly across the models presented in table 4. Consequently, both the relative predictive ability of the frameworks and the substantive conclusions concerning the clusters of countries most associated with higher proportions of WOCBs may simply be an artefact of the variation in the sample across the models. Therefore, in order to test the findings reported above for robustness, we undertook a second phase of analysis that focused on a common sample of countries/years that were available for all of the national institutional systems. These results are presented in models 7-11 in table 5. Given the need for commonality across all five frameworks, this reduces the number of observations considerably and reduces the range of categories of some institutional systems present in our analysis. Specifically, focusing on the set of countries which are present in each institutional system eliminates the Eastern European, Latin American, South Asian, and Sub-Saharan cultural clusters from our analysis.

Substantively, the results are very similar to those discussed above. For example, concerning the explanatory power of the models, the overall contributions made by adding national cultural clusters and national legal systems remain higher than the additional explanatory power obtained by adding national economic institutions or systems of corporate governance. Hence, we find further evidence that among the breadth of national institutional systems, cultural and legal systems play the most significant role in shaping the prevalence of women on boards. Concerning the particular clusters of countries captured in the specific national institutional systems, the findings regarding models 7-11 are strongly resonant with those discussed above. Specifically, Scandinavian and English legal systems, Anglo-Saxon and Germanic systems of corporate governance, and Nordic European and Anglo-Saxon

cultures are most conducive to high levels of female representation on corporate boards. In contrast, women are substantially less prevalent on corporate boards in Latin and Japanese governance systems, and in Latin and Confucian cultures.

Insert table 5 about here

The final robustness test to be completed concerned ensuring the inclusion of Norway had not unduly skewed the results, given the legislative requirement for female corporate board representation in Norway. Consequently, the regressions presented in Model 1-6 were re-run absent the Norwegian data. The results conformed to those presented in table 4 and are therefore not reported here. This test confirmed that the inclusion of Norway in the analysis did not impact our analysis. Regarding the findings with respect to particular institutional configurations, Scandinavian legal systems, Anglo-Saxon and Germanic modes of corporate governance, and Nordic cultures are found to be most conducive to the presence of higher percentages of women on corporate boards.

Reflecting upon the results presented in tables 4 and 5 in light of our hypotheses suggests that we find some support for many of the hypothesised relationships. Specifically, we find some support for hypothesis 1 in that, controlling for variation across models in sample size, liberal market economies have a ratio of women on corporate boards approximately two percentage points greater than that seen in coordinated market economies. The evidence also supports hypothesis 2 to a substantial degree with highly coordinated and coordinated industrial district economies exhibiting significantly fewer women on their boards than other types of economy. In respect of hypothesis 3, results are mixed. While, consistent with hypothesis 3, we find that countries with Scandinavian legal systems to have significantly higher percentages of women on their boards, we, in contrast to hypothesis 3,

find that countries with English-origin legal systems have a higher prevalence of WOCBs than countries with French and German origin legal systems. Results in respect of hypothesis 4 are also mixed with support for a higher proportion of WOCBs in countries with Germanic systems of corporate governance relative to other systems and a significantly lower rate of WOCBs among countries with Japanese corporate governance. At the same time, countries with Latin systems of corporate governance had a lower percentage of WOCBs than those with Anglo-Saxon corporate governance, contrary to hypothesis 4. Finally, hypothesis 5 attracted strong support with greater proportions of WOCBs being found in Nordic and Eastern-European cultural clusters than elsewhere.

DISCUSSION

In this study, we have examined the role played by national institutional systems in explaining cross-country variation in the prevalence of WOCBs. In order to address this question, we have compared the predictive power and substantive implications of five existing frameworks of national institutional systems that emphasise the importance of economic, legal/regulatory, corporate governance and cultural institutions. These frameworks encapsulate a variety of national institutional characteristics and provide a means to distinguish between the salience of different aspects of country institutional systems in shaping board demography. Our findings show that as much as half of the variation across countries in the presence of women on corporate boards is attributable to institutional factors and that, overall, legal and cultural institutions appear to play the most significant role in shaping the prevalence of women on corporate boards. Our analysis makes an important contribution to the Corporate Governance literature, which has called for further analysis of how country level institutional systems influence and explain a variety of interest-group level phenomenon (Redding, 2005), and to research concerned with WOCBs, where it has been

observed that "the field would benefit from further international studies" (Terjesen et al., 2009: 333). This study is among the first to systematically assess the explanatory power of institutional influences on WOCBs and, through this, we significantly extend the literature on board demography. Our analysis complements existing research on WOCBs by showing that not only do processes that shape board demography work at the firm and industry level, but there are also a set of processes related to a country's institutional environment that play an important role in shaping the prevalence of women on boards and that contribute significant structural barriers to, or facilitators of, the presence of WOCBs. This suggests that research concerning board demography should now pay greater attention to macro-level influences and the relationship between these and meso- and micro-level influences associated with industry pressures, firm characteristics and internal firm processes of director selection and retention.

Beyond exploring the broad macro-level relevance of national institutional systems for WOCBs, our analysis of the variation within each system, and between clusters of countries with similar underlying institutional characteristics, also found support for a number of hypothesised relationships. We identified some weak support for hypothesis one in that, having controlled for variations across models in sampling, Liberal Market Economies have a higher proportion of women on their boards than do Coordinated Market Economies by around two percentage points. However, our evidence in respect of hypothesis three was contrary to our expectations. Specifically, we found that countries in the Germanic and French clusters as classified by La Porta et al. (1998) had a lower proportion of women on their boards in spite of greater legislative safeguards designed to assure women's employment rights and professional career opportunities. One possible explanation may lie in the competing contentions presented in hypothesis one and hypothesis three; although legislation may be designed to protect women's employment rights, it is possible that the

effectiveness of employment protection law may also rely on putting in place appropriate incentives for companies to engage female employees. If firms operating in CMEs and civil-law countries are not adequately compensated for the loss of human capital investment and skills associated with women taking career breaks, the firms will be more inclined to hire and invest in male employees who are more likely to have a sustained and uninterrupted career trajectory in the knowledge that the law would force them to invest in similar ways for male and female employees. A substantive finding from this analysis, irrespective of the particular contention of the hypothesis posed is the finding that legal/regulatory institutional systems add considerable explanatory power to our model. Whilst our starting premise rested on the assumption that legislation designed to safeguard women's employment opportunities and rights would increase the share of women board directors, in fact what may be the case is that women prevail to a larger degree on corporate boards in countries where the legal institutional system is based on market forces. In fact, it has been suggested that the regulative incentives provided for by strong equal opportunities legislation might require affirmative action initiatives such as that introduced in Norway. Although the introduction of a mandate that all corporate boards have a minimum of 40% of the seats occupied by women was highly controversial, it was successful in increasing the prevalence of women on corporate boards dramatically.

Country culture was found to play an important role in shaping WOCBs, with countries classified as belonging either to the Scandinavian or Eastern European cultural cluster having more corporate board seats occupied by women than the countries classified in the Latin European, Confucian Asia or South Asia cluster. National culture is therefore an important factor in shaping corporate board demography. The GLOBE framework highlighted the cultural advantages afforded women in, amongst others, Scandinavian countries. This finding perhaps further serves to underline the importance of national

legislation in changing the gender composition of corporate boards. Since national cultures are slow to change, consequently nations with a cultural heritage might have to consider more radical options like affirmative action to redress the gender imbalance in the corporate board room. Spain, a Latin European country, with low female board participation has done just so (Toomey, 2008), and introduced a clause in their national corporate governance code which stipulates a "balanced presence of women and men" by 2015 (De Anca, 2007).

Regarding the implications of our research for research in comparative capitalisms, our findings suggest that this strand of research has the capacity to contribute significantly to our understanding of gender-related phenomena and also to issues concerned with board composition. As in the case of the economic performance of nations, our findings suggest that no one form of capitalism is most conducive to a greater presence of WOCB but that both LMEs and CMEs have a higher prevalence of women on boards than other countries. Equally, the findings for the NBS approach demonstrate that co-ordinated economic systems tend to have significantly fewer WOCBs. At the same time, the project of creating more nuanced and descriptively valid frameworks that reflect the particular configurations of institutional features present in particular groups of countries appears to contribute relatively little to our understanding relative to the primary distinction between LMEs and CMEs made in the VOC approach.

Our analysis indicates that future research concerned with the relevance of institutional environments for both aspects of boards of directors in general, and the participation of women in boards in particular, might provide further valuable insights. Our analysis has confined itself to a focus on board gender diversity, but future work could extend this to other aspects of boards and their activities. Since, as our research shows, multiple levels of analysis are necessary in order to fully appreciate the drivers of female participation on corporate boards, future research should also attempt to assess the relative importance of

these multiple levels of analysis. We have identified important country-level phenomena, but it is also important to recognise that institutional and other effects operate at the level of the industry, firm and within intra-firm processes. Future research could profitably explore these influences.

Finally, some limitations of this study suggest valuable future research opportunities. Some of these relate to the sample of countries we were able to analyse and some with the level of analysis. Our analysis was constrained by the availability of publicly accessible data concerning the make up of boards in many countries, future work could attempt to overcome this limitation as better data become available for more African, Middle Eastern, and Asian countries. This would add considerable variety to the pattern of institutional environments present in future work and help to establish the robustness of our findings. Work that sampled companies other than the largest listed companies would also provide for distinctive insights. Future research could also go beyond the national institutional systems encompassed in our study, and explore the underlying components of the broad clusters of institutions explored here. This would help to address Allen's (2004) observation that one shortcoming of the Varieties of Capitalism approach to analysing institutional context is the assumption that firm behaviour is identical across institutionally different countries. Whitley (1998) also notes that Hall and Soskice's (2001) framework could benefit from deeper firm level probing to better evaluate how the particulars of internationalisation and economic activity impact on firm behaviour.

Lastly, because our analysis occurs at the country level, it is unable to evaluate the extent to which the role of country institutions for WOCBs might vary with some firm and/or industry characteristics. One particularly interesting potential avenue for future research concerns the difference between MNCs and their domestic counterparts. MNCs are distinct in that they establish a physical presence in at least one other country. Recent debates on the

relevance of institutional context for MNCs have taken a very interesting turn, suggesting that MNCs make up a meta-institutional field (Kostova, Roth & Dacin, 2008) which transgresses industry and country borders. Instead, MNCs "are becoming, it is argued, increasingly disconnected from national institutional systems" (Kostova et al., 2008: 998). In other words, the national institutional context of the MNCs' country-of-origin would be a less significant factor in shaping the gender-profile of MNCs' corporate boards. Further research into the international character of corporate board composition has shown that a number of women board directors are foreign nationals, suggesting that cross-fertilisation of the institutional environment may be taking place (Singh & Vinnicombe, 2004). Given the complex nature of institutional environment and the debate on women corporate board directors, the firm level behaviour of companies in different institutional settings with regards to this question may offer interesting areas of future research.

CONCLUSION

In this study, we examine the role played by national institutional systems in explaining cross-country variation in the prevalence of women on corporate boards of directors. We do so with reference to five frameworks of national institutional systems. We include two economically-oriented institutional frameworks as captured by Hall and Soskice (2001) varieties of capitalism and Whitley's (1992; 1999) national business systems, we further include two frameworks that encompass corporate governance and legislative institutional systems as reflected in Weimer and Pape (1999) and La Porta et al.'s (1998) frameworks respectively and finally one framework which centres on institutional systems related to national cultural characteristics (Gupta et al., 2002). Our findings show that as much as half of the variation across countries in the presence of women on corporate boards

is attributable to institutional factors and that legal institutions appear to play the most significant role in shaping board diversity.

Our study has some notable practical implications. We found that legislative heritage was a particularly important driver in shaping corporate board demography. However, at the same time where countries had introduced welfare provisions to encourage women to balance a professional career with care responsibilities these countries had fewer women board directors. This suggests that affirmative action initiatives like those adopted by Norway, and subsequently Spain may have an important role to play in creating more gender balanced boards. Although Norway's decision to introduce affirmative action in this area was controversial at the time, it has radically altered the face of Norway's corporate boards and set an example to other countries. A second, but related finding was the view that national culture plays an important role in female board ascension. The Scandinavian and Eastern European cluster of countries had the largest share of female board directors, yet Norway was still forced to implement drastic measures to redress the gender balance in Norwegian boardrooms. Where a given national culture is less open to high-profile commercial roles for women, legislative initiatives may be a particularly effective lever in ensuring the best talent is represented on the corporate board of directors, irrespective of gender.

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TABLE 1

: The classification of countries to institutional systems

Table 1: Typologies of National Business Environments

Hall and Soskice (2001)		Whitley (1991, 1999)		La Porta et al., (1998)		Weimar & Pape (1999)		Gupta et al., (2002)	
Grouping	*Countries*	*Grouping*	*Countries*	*Grouping*	*Countries*	*Grouping*	*Countries*	*Grouping*	*Countries*
Liberal Market Economies	United States	Fragmented Business System	Argentina	English-Origin Countries	Australia	Anglo-Saxon Countries	United States	Anglo Cultures	United Kingdom
	United Kingdom		Brazil		Canada		United Kingdom		United States
	Ireland		Chile		Hong Kong		Canada		Australia
	Canada		Denmark		India		Australia		South Africa
	Australia		Mexico		Ireland	Germanic Countries	Germany		Canada
	New Zealand		Poland		Israel		Netherlands		New Zealand
Coordinated Market Economies	Japan		South Africa		Kenya		Switzerland		Ireland
	Netherlands		Hong Kong		Malaysia		Sweden	Latin European Cultures	Israel
	Belgium		Turkey		New Zealand		Austria		Italy
	Denmark		Portugal		Nigeria		Denmark		Portugal
	Sweden	Coordinated Industrial District	Italy		Pakistan		Norway		Spain
	Finland		Belgium		Singapore		Finland		France
	Germany	Compartmentalised Business Systems	Australia		South Africa	Latin Countries	France	Nordic European Cultures	Finland
	Switzerland		Canada		Sri Lanka		Italy		Sweden
	Norway		Cyprus		Thailand		Spain		Denmark
	Austria		Netherlands		United Kingdom		Belgium	Germanic European Cultures	Germany
Other countries	Israel		New Zealand		United States	Japan	Japan		Austria
	Singapore		UK		Zimbabwe				Switzerland
	Taiwan		US	French-Origin Countries	Argentina				Netherlands
	SKorea		Spain		Belgium			Eastern European Cultures	Hungary
	France	State Organised Business Systems	Bulgaria		Brazil				Russia
	Italy		China		Chile				Kazakhstan
	Spain		Egypt		Columbia				Albania
			France		Ecuador				Poland
			Greece		Egypt				Greece
			Hungary		France				Slovenia
			Malaysia		Greece				Georgia
			Russia		Indonesia			Latin American Cultures	Costa Rica
			Czech Republic		Italy				Venezuela
		Collaborative Business Systems	Austria		Jordan				Ecuador
			Finland		Mexico				Mexico
			Germany		Netherlands				El Salvador
			Ireland		Peru				Columbia
			Israel		Philippines				Guatemala
			Norway		Portugal				Bolivia
			Switzerland		Spain				Brazil
			Sweden		Turkey				Argentina
		Highly Coordinated Business Systems	Japan		Uruguay			Sub-Saharan African Cultures	Namibia
					Venezuaela				Zambia
				German-Origin Countries	Austria				Zimbabwe
					Germany				Nigeria
					Japan			Arab Cultures	Qatar
					South Korea				Morocco
					Switzerland				Turkey
					Taiwan				Egypt
				Scandinavian Origin Countries	Denmark				Kuwait
					Finland			Southern Asian Cultures	India
					Norway				Indonesia
					Sweden				Philippines
									Malaysia
									Thailand
									Iran
								Confuscian Cultures	Taiwan
									China
									Hong Kong
									Japan
									South Korea
									Singapore

TABLE 2

Cross-country variation in the percentage of board seats held by female directors

Percentage number of female board directors 2006			
Country	Female board directors %	Country	Female board directors %
Argentina	6.52%*	Latvia	21.00%
Australia	10.90%	Lichtenstein	8.33%
Austria	6.00%	Lithuania	17.00%
Belgium	5.78%	Luxembourg	1.00%
Brazil	8.73%*	Malaysia	4.00%
Bulgaria	21.00%	Malta	4.00%
Canada	8.70%	Mexico	3.35%*
Chile	1.01%*	Netherlands	4.88%
China	12.50%	New Zealand	7.13%
Cyprus	7.00%	Norway	32.00%
Czech Republic	8.00%	Poland	10.00%
Denmark	12.71%	Portugal	7.00%
Egypt	1.00%	Romania	13.00%
Estonia	15.00%	Russia	3.13%
Finland	19.00%	Singapore	0.00%
France	6.98%	Slovak Republic	10.00%
Germany	6.46%	Slovenia	21.00%
Greece	6.31%	South Africa	11.50%
Hong Kong	5.88%	Spain	4.38%
Hungary	14.00%	Sweden	17.37%
Iceland	6.00%	Switzerland	6.37%
India	3.86%	Turkey	7.00%
Ireland	4.04%	UK	8.10%
Israel	13.36%	Ukraine	16.67
Italy	2.63%	US	15.12%
Japan	0.00%		

*BoardEx provided the data for the following countries: Australia, Belgium, China, Denmark, Egypt, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Lichtenstein, Malaysia, Netherlands, New Zealand, Russia, Singapore, Spain, Sweden, Switzerland, UK and Ukraine. The following countries rely on numbers from the European Commission: Austria, Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Hungary, Iceland, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovak Republic, Slovenia and Turkey. Numbers for India, Norway, Argentina, Brazil, Chile and Mexico come from our own self-extracted dataset. Spencer Stuart provided data for the following countries; Canada and South Africa. Catalyst provided numbers for the US. * Latest number is from 2005*

TABLE 3

Descriptive statistics and correlation coefficients

	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1. % Women on the board	7.74	5.54	-																									
2. Liberal Market Economy	.16	.37	.52	-																								
3. Coordinated Market Economy	.22	.42	.08	-.23	-																							
4. English La Porta	.28	.45	-.05	.70	-.33	-																						
5. French La Porta	.27	.44	-.37	-.27	-.09	-.38	-																					
6. German La Porta	.09	.29	-.13	-.14	.60	-.20	-.19	-																				
7. Scandinavian La Porta	.09	.28	.32	-.14	.58	-.19	-.19	-.10	-																			
8. Anglo-Saxon Weimar and Pape	.11	.31	.13	.80	-.19	.57	-.21	-.11	-.11	-																		
9. Germanic Weimar and Pape	.17	.38	.16	-.20	.86	-.29	-.15	.45	.67	-.16	-																	
10. Latin Weimar and Pape	.09	.28	-.19	-.14	.02	-.19	.51	-.10	-.09	-.11	-.14	-																
11. Japanese Weimar and Pape	.03	.16	-.15	-.07	.31	-.10	-.10	.52	-.05	-.06	-.08	-.05	-															
12. Collaborative	.17	.38	.15	-.05	.58	-.03	-.28	.45	.47	-.16	.70	-.14	-.08	-														
13. Compartmentalized	.20	.40	.00	.74	-.13	.48	-.05	-.16	-.15	.71	-.08	.04	-.08	-.22	-													
14. Co-ordinated Industrial District	.04	.20	-.16	-.09	.14	-.13	.35	-.07	-.07	-.07	-.10	.69	-.04	-.10	-.10	-												
15. Fragmented	.22	.41	-.16	-.23	-.16	-.08	.40	-.17	.02	-.19	-.10	-.16	-.09	-.24	-.26	-.11	-											
16. State Organized	.15	.36	-.01	-.18	-.22	-.16	.07	-.13	-.13	-.15	-.19	.09	-.07	-.19	-.21	-.09	-.22	-										
17. Highly Coordinated	.03	.16	-.15	-.07	.31	-.10	-.10	.52	-.05	-.06	-.08	-.05	1.00	-.08	-.08	-.04	-.09	-.07	-									
18. Anglo Cultures (GLOBE)	.16	.37	.05	1.000	-.23	.70	-.27	-.14	-.14	.80	-.20	-.14	-.07	-.05	.74	-.09	-.23	-.18	-.07	-								
19. Latin Europe (GLOBE)	.11	.31	-.15	-.15	-.19	-.06	.40	-.11	-.11	-.12	-.16	.64	-.06	.03	.00	.27	-.02	.05	-.06	-.15	-							
20. Nordic Europe (GLOBE)	.06	.25	.25	-.12	.50	-.16	-.16	-.08	.86	-.09	.58	-.08	-.04	.34	-.13	-.06	.07	-.11	-.04	-.12	-.09	-						
21. German Europe (GLOBE)	.09	.28	-.11	-.14	.58	-.19	-.01	.70	-.09	-.11	.67	-.09	-.05	.47	.04	-.07	-.16	-.13	-.05	-.14	-.11	-.08	-					
22. Eastern Europe (GLOBE)	.09	.29	.09	-.14	-.17	-.20	-.02	-.10	-.10	-.11	-.15	-.10	-.05	-.15	-.16	-.07	.01	.42	-.05	-.14	-.11	-.08	-.10	-				
23. Latin American (GLOBE)	.06	.25	-.16	-.12	-.14	-.16	.44	-.08	-.08	-.09	-.12	-.08	-.04	-.12	-.13	-.06	.50	-.11	-.04	-.12	-.09	-.07	-.08	-.08	-			
24. South Asia (GLOBE)	.03	.18	-.15	-.08	-.10	.29	-.11	-.06	-.06	-.06	-.08	-.06	-.03	-.08	-.09	-.04	-.10	.18	-.03	-.08	-.06	-.05	-.06	-.06	-.05	-		
25. Confuscian Asia (GLOBE)	.09	.28	-.21	-.14	.07	.11	-.19	.24	-.09	-.11	-.14	-.09	.54	-.14	-.15	-.07	.00	.09	.54	-.14	-.11	-.08	-.09	-.10	-.08	-.06	-	
26. Arab (GLOBE)	.01	.09	-.03	-.04	-.05	-.06	.15	-.03	-.03	-.03	-.04	-.03	-.02	-.04	-.04	-.02	-.05	.22	-.02	-.04	-.03	-.02	-.03	-.03	-.02	-.02	-.03	-
27. Sub-Sarahan Africa (GLOBE)	.03	.16	.05	-.07	-.09	.27	-.10	-.05	-.05	-.06	-.08	-.05	-.03	-.08	-.08	-.04	.32	-.07	-.03	-.07	-.06	-.04	-.05	-.05	-.04	-.03	-.05	-.02

N = 257

Correlation > |.11| are significant at p = .05

TABLE 4
Regression results (Dependent variable: Percentage women on the corporate board of directors)

	Dependent Variable = Percentage women on corporate boards					
	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**	**Model (5)**	**Model (6)**
Independent variables						
CONSTANT	5.28	2.62	3.19	7.02	5.75	3.50
	(0.86)	(1.26)	(0.88)	(1.10)	(0.82)	(0.89)
2001	0.49	0.50	0.58	0.74	0.22	-0.07
	(1.42)	(1.51)	(0.92)	(1.53)	(1.22)	(1.02)
2002	1.37	1.86	1.34	1.25	1.13	1.39
	(1.38)	(1.48)	(0.89)	(1.49)	(1.21)	(1.00)
2003	3.51	2.43	1.74	2.05	1.87	2.29
	(1.21)**	(1.44)	(0.86)*	(1.44)	(1.13)	(0.94)*
2004	3.25	2.51	2.10	2.78	2.45	2.32
	(1.17)**	(1.39)	(0.84)*	(1.41)	(1.08)*	(0.91)*
2005	4.11	3.82	3.07	3.83	3.48	3.01
	(1.18)**	(1.46)**	(0.86)**	(1.44)**	(1.11)**	(0.95)**
2006	5.13	4.62	3.85	4.54	4.23	3.44
	(1.19)**	(1.41)**	(0.087)**	(1.44)**	(1.12)**	(0.95)**
2007	5.88	6.00	5.02	6.14	4.72	4.65
	(1.27)**	(1.54)**	(0.95)**	(1.57)**	(1.21)**	(0.99)**
Liberal Market Economy		3.58				
		(1.10)**				
Coordinated Market Economy		3.64				
		(1.05)**				
Other Economies						
English Origin Law La Porta et al.			3.23			
			(0.80)**			
French Origin Law La Porta et al.			-0.49			
			(0.79)			
Germanic Origin Law La Porta et al						
Scandinavian Origin Law La Porta et al			8.36			
			(0.93)**			
Germanic Law Weimar and Pape						
Latin Law Weimar and Pape				-5.21		
				(0.96)**		
Anglo-Saxon Law Weimar and Pape				0.82		
				(0.93)		
Japanese Law Weimar and Pape				-7.96		
				(3.14)*		
Fragmented					-1.09	
					(0.82)	
Coordinated Industrial District					-4.25	
					(1.24)**	
Compartmentalized						
State Organised					1.28	
					(0.99)	
Collaborative					1.49	
					(0.81)	
Highly coordinated					-6.52	
					(3.12)*	
Anglo Globe						3.18
						(0.79)**
Latin Europe Globe						-0.48
						(0.86)
Germanic Europe Globe						
Nordic Europe Globe						7.59
						(0.96)**
Eastern Europe Globe						4.99
						(0.97)**
Latin America Globe						0.09
						(1.08)
South Asia Globe						-2.13
						(1.50)
Confucian Asia Globe						-4.21
						(2.47)
Sub-Saharan Globe						3.78
						(1.34)**
R-Squared	13.1%	21.1%	54.4%	38.0%	25.7%	51.7%
R-Squared Adjusted	10.7%	15.9%	51.9%	32.5%	21.2%	47.4%
Δ in R-Squared relative to model (1)		8.0%	41.3%	24.9%	12.6%	38.6%
No. of Observations	257	144	194	124	210	185

Notes: t-values are provided in parenthesis, significance levels: †p<0.10; * p<0.05; ** p<0.01; ***p<.001. Variable definitions: Liberal Market Economy, Coordinated Market Economy and Other use dummy variables 1 or 0 to indicate which category Hall and Soskice (2001) assigned to each country. English origin law, French origin law, Germanic origin law and Scandinavian origin law apply a dummy variable of 1 or 0 to indicate country classification as applied by La Porta et al. (1999). Latin law, Anglo-Saxon law, Germanic law and Japanese law use the same dummy variable for ascribing categories as defined by Weimar and Pape (1999). Reflecting Whitley (1999) Fragmented, Coordinated Industrial District, Compartmentalised, State Organised, Collaborative and Highly coordinated business systems were applied to the country set by the authors of this article based on research as outlined in the methods section. Dummy variables of 1 and 0 were used.

TABLE 5

Regression results (Dependent variable: Percentage women on the corporate board of directors)

	Dependent Variable = Percentage women on corporate boards				
	Model (7)	**Model (8)**	**Model (9)**	**Model (10)**	**Model (11)**
Independent variables					
CONSTANT	1.80	3.22	6.82	7.02	3.65
	(1.17)	(0.85)	(1.02)	(0.98)	(0.80)
2001	0.73	0.57	0.28	-0.52	0.32
	(1.47)	(1.05)	(1.44)	(1.55)	(1.03)
2002	1.20	1.04	0.77	0.14	0.79
	(1.43)	(1.02)	(1.40)	(1.50)	(1.00)
2003	1.97	1.70	1.51	0.81	1.45
	(1.37)	-(0.98)	(1.34)	(1.44)	(0.96)
2004	2.14	2.08	2.16	1.49	2.10
	(1.35)	(0.96)*	(1.31)	(1.41)	(0.94)*
2005	3.41	3.14	2.95	2.25	2.89
	(1.37)*	(0.98)**	(1.34)*	(1.44)	(0.93)**
2006	3.47	3.20	3.01	2.31	2.95
	(1.37)*	(0.98)**	(1.34)*	(1.44)	(0.96)**
2007	6.50	5.95	6.04	5.21	5.71
	(1.44)**	(1.03)**	(1.45)**	(1.51)**	(1.01)**
Liberal Market Economy	6.26				
	(1.03)**				
Coordinated Market Economy	4.40				
	(0.96)**				
Other Economies					
English Origin Law La Porta et al.		5.02			
		(0.75)**			
French Origin Law La Porta et al.		-0.92			
		(0.76)			
Germanic Origin Law La Porta et al					
Scandinavian Origin Law La Porta et al		7.79			
		(0.84)**			
Germanic Law Weimar and Pape					
Latin Law Weimar and Pape			-4.68		
			(0.93)**		
Anglo-Saxon Law Weimar and Pape			1.52		
			(0.84)		
Japanese Law Weimar and Pape			-7.45		
			(2.76)**		
Fragmented				2.08	
				(1.54)	
Coordinated Industrial District				-5.98	
				(1.54)**	
Compartmentalized					
State Organised				-1.69	
				(1.54)	
Collaborative				0.91	
				(0.91)	
Highly coordinated				-7.32	
				(2.97)*	
Anglo Globe					4.73
					(0.69)**
Latin Europe Globe					-1.45
					(0.75)
Germanic Europe Globe					
Nordic Europe Globe					7.55
					(0.78)**
Eastern Europe Globe					
Latin America Globe					
South Asia Globe					
Confucian Asia Globe					-4.25
					(2.01)*
Sub-Saharan Globe					
R-Squared	37.5%	68.5%	41.7%	33.3%	70.2%
R-Squared Adjusted	31.9%	65.4%	35.9%	25.1%	66.9%
△in R-Squared relative to model (1)		31.1%	4.2%	-4.2%	32.8%
No. of Observations	110	110	110	110	110

Notes: t-values are provided in parenthesis, significance levels: †p<0.10; * p<0.05; ** p<0.01; ***p<.001.Variable definitions: Liberal Market Economy, Coordinated Market Economy and Other use dummy variables 1 or 0 to indicate which category Hall and Soskice (2001) assigned to each country. English origin law, French origin law, Germanic origin law and Scandinavian origin law apply a dummy variable of 1 or 0 to indicate country classification as applied by La Porta et al. (1999). Latin law, Anglo-Saxon law, Germanic law and Japanese law use the same dummy variable for ascribing categories as defined by Weimar and Pape (1999). Reflecting Whitley (1999) Fragmented, Coordinated Industrial District, Compartmentalised, State Organised, Collaborative and Highly coordinated business systems were applied to the country set by the authors of this article based on research as outlined in the methods section. Dummy variables of 1 and 0 were used