Boards of directors and gender diversity in UK companies

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Title: Board Gender Diversity and Performance in UK Companies

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Board Gender Diversity and Performance in UK Companies

Research Question/Issue: This paper explores whether gender diversity of United Kingdom (UK) company boards affects financial performance. The study involved a quantitative analysis of 450,000 UK companies (from Companies House in the UK) over the period 2001-2005.

Research Findings/Insights: The overview showed that around 25 per cent of UK directors were female and that only around 10 per cent of companies had a majority of female directors. Therefore, where women were present on boards, they were in the minority. If the progress observed between 2003 and 2005 continues, then gender balance in company directorships may be achieved by 2225 at the earliest. The analysis of board gender diversity and business growth suggests that there is a business cost to gender balance in terms of foregone growth.

Theoretical/Academic Implications: By focussing on quantitative measures and by taking the large scale overview, the study necessarily cannot answer some of the fundamental questions underlying these. These key issues include the role of women in such companies in terms of power and decision-making. It also does not comment upon the way in which gender diversity actually affects day-to-day board operation. Other different research would be needed to explore these issues.

Keywords: Corporate Governance, Boards, Gender Diversity, Performance, UK.

INTRODUCTION

In exploring the role of women on boards in UK companies, evidence about the relationship between board gender diversity and company performance is evaluated (Roper, 2006). This paper reports the use of a newly constructed database, based on data for all UK companies with more than three directors, to provide an overview of the position of women directors in UK limited companies and possible impacts on financial performance. This data provides a comprehensive picture of the position of women in UK business leadership. It also contributes to our understanding of progress and potentially the effects of achieving greater gender balance in the boardroom. The study complements other studies examining the position of women directors in the changing group of Financial Times Stock Exchange index (FTSE) 100 companies (Vinnicombe *et al.*, 2000; Singh *et al.*, 2001; Singh and Vinnicombe, 2003, 2004, 2005; Sealy *et al*, 2008; Terjesen *et al*, 2008), prior research on large companies in the UK (Conyon and Mallin, 1997) and various studies of women's presence on boards (Experian, 2007; Gavurin, 2007).

The analysis reviews whether any increase in gender diversity in business ownership and leadership has also boosted company growth. The correlation and regression analyses carried out by Erhardt et al, (2003) used both financial performance data (return on asset and investment) and the percentage of women and minorities on boards of directors from 1993-98. This indicated a positive association between financial indicators of company performance and diversity. Similarly, US companies in the Fortune 500 with higher gender-diversity in their leadership teams tend to have better financial performance,

although the evidence does not show a causal link between gender diversity and company performance. Like the Catalyst (2004) report, almost all previous studies of the effects that increased gender diversity have on business performance focus on larger US companies – apart from some notable examples, such as Campbell and Mínguez-Vera (2008) on Spain and Rose (2007) on Denmark. Our study provides some of the first UK evidence on this relationship for a very large group of UK companies. Here we do not provide detailed analysis of relationships and causality as these are beyond the scope of this study and are an aim of future research.

The remainder of the paper is organised as follows. The literature providing a background for reviewing board membership is discussed in the next section, followed by the methodology and findings. The analysis provides a general picture of the position of women directors in UK boards, both in cross-sectional and developmental terms and in 'sisterhood' companies, i.e. those with all female teams of directors, which are of specific interest in terms of female entrepreneurship and business leadership. The paper discusses more technical material on the effects of board gender diversity on company performance. The final section draws out some of the main conclusions and policy implications, and suggests some directions for future research and conceptual development.

COMPANY BOARDS, GENDER DIVERSITY, AND PERFORMANCE

There is a widely reported lack of disaggregated data reflecting diversity in the United Kingdom (Martin et al, 2008; Prowess, 2007). Where studies of the structure of companies are conducted, few consider the roles of people on boards and committees from a diversity perspective, although there is evidence of limited power for women on boards (Burgess and Tharenou, 2004). Despite increases doubling the numbers of female directors in FTSE 100 companies between 2000 and 2005, there were still only 10.5 per cent female directors overall by 2005 (Singh and Vinnicombe, 2005). Brammer et al, (2007) indicate that numbers are low overall but that there are more senior women in Retail, Utilities, Media and Banking, suggesting perhaps that close proximity to final consumers rather than female presence among the industry's workforce is more significant in shaping board diversity. It may be that board diversity is influenced by a company's external business environment to reflect corresponding diversity among its customers (Brammer et al., 2007). Indeed, in terms of countries with a good environment for women joining company boards, Terjesen and Singh (2008: 62) found these to be those , "with women in senior management levels, [and] smaller gender pay gaps."

This study builds on a first research paper (Martin et al., 2008), to extend the literature examining board structure from the perspective of financial and economic determinants (Markarian and Parbonetti, 2007; Boone *et al.*, 2007) by extending it to encompass the effects of board diversity. How does gender diversity at board level relate to performance of the company? Results so far are contradictory. Siciliano (1996) suggested that gender

diversity was associated positively with the organization's level of social performance but negatively with the level of funds raised. This was not supported by Carter et al (2003), in their examination of the relationship between board diversity and company value for *Fortune* 1000 companies, with diversity defined as the percentage of women and ethnic minority members on the board. After controlling for size, industry, and other corporate governance measures, significant positive relationships were found between the fraction of women or minorities on the board and company value. However, Rose (2007) did not find any significant link between company performance and female board representation in a Danish study, while Smith (2007) found that a high proportion of women in powerful positions had a positive influence on strategic opportunism, although the overall gender composition of boards had no influence on company-level entrepreneurship. Accordingly, and given our UK context, our first hypothesis is:

H1: Gender diversity on company boards will positively influence growth.

In terms of comparisons with other countries, Rose (2007) found slow progress in Denmark for female membership of boards of directors, comparable with that in the UK, with the debate focusing on whether a board should reflect the firm's stakeholders or be more in line with society in general. Grosvold et al. (2007) found more marked increases in board diversity in Norway than the United Kingdom, despite increases in both countries. Earlier, Daily et al. (1999), found that although female representation on corporate boards has increased between 1987 and 1997, few women were at CEO level and the number of female inside directors likely to succeed to CEO was 0.006 percent (i.e., representing no increase for that decade). Evidence from Finland suggests that

companies with a woman CEO may have higher profitability, to the extent of 10%, than those with with CEOs who are men (Kotiranta *et al*, 2007). Clearly, it would be of interest to explore whether such a correlation exists in other countries, such as the UK.

Also, while reviewing the boards of larger companies on the FTSE 100 or Fortune 500 lists, (see, for instance, Singh and Vinnicombe, 2005), provides useful indicators to assess trends in board diversity, given the prevalence of smaller companies, more wide-ranging studies are indicated. Huse (2004) suggests that the increased attention given to boards of directors in small and medium-sized companies is still fragmented. Although there are certainly more women on the boards of smaller companies than on larger company boards, there is little exploring the role and experience of such women and their relative influence. More regional studies of women on corporate boards might help to identify contextual differences related to location and sector. It might also help to capture the experiences of smaller companies regionally and to understand the nature of local resources for expanding the pool of women candidates for board seats (Adams and Flynn, 2005).

To address the aspects of this issue related to gender, a quantitative approach was adopted using data from the UK Companies House database. By taking a quantitative approach, an evidence base is provided to contribute to the development of appropriate policy and, therefore, of appropriate support mechanisms (see also Prowess, 2004). It will also help to address the lack of 'systematic and rigorous empirical documentation of women's boardroom contributions'. (Bilimoria, 2000: 27). This is particularly important given the

lack of a quantitative evidence base as a rationale for policy initiatives in this area, with 'relatively few studies of gender and company performance … most shy away from direct examination of quantitative performance measures, preferring instead to engage in … qualitative assessments of success' (Carter *et al.*, 2001, pp. 36-37

Gender parity on company boards is identified in regional and national policy as a way to address not only economic but also social imperatives. The business or economic case for improving the representation of women on company boards has been proposed in earlier studies (e.g. Bilimoria, 2000; Burke, 2000b; Carter *et al*, 2003). The social case is based on the need to improve the equality of representation on boards, but also might include the greater likelihood of women to start companies with ethical or social objectives and have gender balanced workforces (Fielden and Davidson, 2005). Furthermore, women-led firms are more likely to be concentrated in the growing services sector. Recent legislation, such as the Gender Equality Duty (EOC, April, 2007), signals the need for public sector organisations to demonstrate that they are addressing gender equality in the provision of services. This is the first study to take a large sample survey over time to review gender diversity on UK boards and explore whether there is a relationship between gender diversity and company growth. Here board gender diversity represents the number or the percentage of the board of directors of a company which is female. The results need to be interpreted against a range of qualitative perspectives but it represents a first step to support the evidence base for policy making in this area. Hence:

H2: Companies run entirely by women in fast-growth sectors such as services are likely to be a significant source of growth.

METHODOLOGY

The aims of the analysis were two fold. Firstly, we aimed to understand the recent development of female business leadership in the UK; and secondly, to consider the relationship between board gender-diversity and company performance.

Sample

Data was extracted from the FAME – version D (Financial Analysis Made Easy) database which provides electronic access to UK Companies House data. FAME covers both quoted and unquoted companies. It includes both the annual accounting returns made by companies as well as consolidated information on company directors derived from their Annual Returns. The data used here relates to all companies with registered operations in GB that had more than three directors. In 2005, there were 564,010 such companies in Great Britain with a total of 1.952m individual named directors.

Collating the sample was made more difficult by two issues – the lack of data on newer companies and the self-reporting nature of some of the data collected on FAME. First, under the provisions of the Companies Act 1985, new companies are not required to make an Annual Return which provides details of directors, until 28 days after the first anniversary of their incorporation. This means that details of directors in new companies may be unavailable for around 13 months after incorporation. In the 2005 sample, 12,890 of all companies had provided no information on their directors by April, of which 8968 were new companies, established in 2003 or subsequently.

Second, FAME provides a gender indicator in only around 70 per cent of cases so for the remaining 30 per cent of directors, attempts were made to identify gender using either salutary titles (e.g. Mrs, Ms etc.) recorded in company documentation, gendered name lists for first names, and a review of first names by a group of students from a range of cultural backgrounds. These approaches helped to classify around two-thirds of directors for whom the FAME database provided no gender indicator, however, around 2.5 per cent of directors remained unassigned by gender even after these processes. In 2005, of the 1.95m directors in GB companies, 71.4 per cent (1.394m) were male, 26.0 per cent (0.580m) were female and 2.5 per cent (0.049m) were unassigned by gender. Expressed as a proportion of those with certain gender, this implies that 73.3 per cent of directors were males and 26.7 per cent were females. Using this data on directors' gender and on the date at which directors were appointed and, where relevant, stepped down, it was possible to identify the number of male and female directors with certain gender in each year. This was used to measure gender diversity, i.e. the percentage of company directors of certain gender which were women, along with board size.

The process of analysis

In terms of company performance, FAME provides a number of potential indicators within the context of UK accounting regulations. For example, the provisions of the UK Companies Act 1985 (sections 246 and 246A) allow small and medium-sized companies to submit abbreviated accounts. Typically these exclude turnover and employment data but do provide information on total assets. An additional issue arises due to delays in registering accounts which, in the UK, can be up to two-years.

Company performance is represented here by the annual growth of sales, employment and assets between 2000 and 2005 with board gender-diversity and size relating to the same period. Use of these indicators is extended via the use of econometric modelling is used. Here control variables are included to capture other influences on company performance apart from board gender diversity. These include standard sectoral variables (the Herfindahl index of concentration and the Comanor-Wilson indicator of minimum efficient scale (MES) as well as a number of company level controls designed to reflect the ability of companies to meet their short-term and long-term debt commitments: the solvency ratio and the current ratio). Finally, two variables are included, designed to reflect the size (real assets) and age of the company (in years) both of which might be expected to be negative given earlier studies suggesting faster growth among smaller and younger companies (e.g. Storey, 1994; Barkham *et al*., 1996).

TAKE IN TABLE 1

Table 1 shows the number of UK companies in 2004 – the latest year for which complete information is available on the whole population of companies – for different quartiles of the distribution of board gender diversity. Of the 455,300 companies indicated for this year 220,000 had less than 25 per cent women directors; 194,000 had 25 to 50 per cent women directors; 26,800 had 50 to 75 per cent women directors; and 14,400 had more than 75 per cent women directors

RESULTS AND DISCUSSION

Board gender diversity and size of company

There were differences evident when the companies with less than 25 per cent and more than 75 per cent gender diversity were compared such that the percentage of women directors tends to be greater in smaller firms. Although 86.6 per cent of all companies were 'small' (a) where board gender diversity was more than 75 per cent, 97.1 per cent were small companies, and (b) where board gender diversity was less than 25 per cent, 78.7 per cent were small companies.

Also, while 22,600 of 'large' companies (i.e. those with assets of more than £11.4m) have less than 25% board gender diversity only 100 of 'large' companies have more than 75% board gender diversity.

More generally, 173,000 UK companies have less than 25 per cent board gender diversity and only 14,000 having board gender diversity of more than 75 per cent. In other words, for each 'small' company in the upper quartile of the distribution of board gender diversity we find 12.4 in the lower quartile; among 'large' companies this ratio rises to around 226:1.

In terms of sector the expected pattern emerged. Companies with high proportions of female directors were concentrated in service sectors. Of the 14,400 companies with more than 75 per cent board gender diversity, 4 per cent were in manufacturing but

around 70 per cent in business services or other services (Table 1). This meant for example that while manufacturing accounted for around 10.6 per cent of all companies it accounted for only 4.4 per cent of companies with board gender diversity of more than 75 per cent (Table 1).

In summary, companies with a predominantly male leadership dominate those with predominantly female leadership by around 10:1 particularly among larger companies. Also, female controlled companies are concentrated in the business and other services sectors rather than manufacturing and financial services sector.

Does board gender diversity have an impact on company growth?

TAKE IN TABLE 2

This section explores how board composition influences company growth. In Table 2 mean and median employment and sales growth rates in 2004 are shown for the groups of companies identified earlier in Table 1.

In terms of employment growth at least, it appears that average growth rates increase as gender diversity increases, which provides support for **H1**. This is true for all companies as well as those in each of the size categories.

The evidence for turnover growth is less straightforward, although again the fastest growing category of companies (represented by mean sales growth) are those in the upper quartile of the distribution of board gender diversity.

Sectoral growth comparisons are given in Table 3. In some cases here sample sizes are relatively small introducing some volatility into the figures. I 8 out of the 10 sectors, the fastest mean employment growth rates are among companies in the upper quartile of the distribution of board gender diversity although figures for sales growth are again more varied.

Bivariate growth comparisons provide a rather complex picture but suggest that for employment growth at least there is some suggestion of a positive effect from board gender diversity

TAKE IN TABLE 3

This section summarises some of the key results from Roper (2006) which focuses in more detail on the relationship between gender diversity and business performance in UK companies. The modelling approach adopted there is based on a simple linear performance equation relating the growth of companies i in period t (G_{it}), to a vector of industry control variables ($ICON_t$), lagged company-level controls ($FCON_{it-1}$), lagged board size ($BSIZE_{it-1}$), and gender diversity (DIV_{it-1})

$$Log\ (G_{it}) = \alpha_1\ ICON\ _t + \alpha_2\ FCON\ _{it-1} + \beta\ BSIZE\ _{it-1} + \delta\ DIV_{it-1} + \lambda\ DIV^2_{it-1} + \varepsilon_i$$

Panel data models of company growth including the board gender-diversity and board size variables are reported in Table 6 for the whole sample. In each case, the equations include fixed effects as suggested by the Hausman tests, and F-tests are reported for the joint significance of the industry and company-level control variables, and the two variables related to board gender-diversity

TAKE IN TABLE 6

In models estimated for all companies the board gender-diversity variables are with, one exception, individually significant, and are jointly significant for assets, sales and employment growth (Table 6). In each case the sign pattern of the gender diversity terms is consistent suggesting an inverted 'U'shape relationship between board gender-diversity and UK company growth.

Figure 2 plots these relationships over the feasible range of board gender-diversity (i.e. from 0 per cent female to 100 per cent female). The data provides strong support for the similarity attraction hypothesis suggesting that the company growth effects of board gender-diversity are strongest in situations where boards are predominantly male or predominantly female and weaker where there is gender balance (e.g. Hambrick *et al*., 1996; Knight *et al*., 1999).

TAKE IN FIGURE 2

As Figure 2 also suggests, the data provides strong support for the asymmetry of the growth effects of board gender-diversity as envisaged by Wharton and Baron (1987). In other words, moves away from gender-balance have differential performance effects depending on whether more male or female directors are recruited. For the whole group of UK companies, the strongest board gender-diversity contribution to performance occurs where gender diversity is high, or boards are composed predominantly of women. This finding is consistent across the asset, sales and employment growth models.

TAKE IN TABLE 3

Business leadership

In general terms then there is strong evidence that business leadership in the UK remains very male-dominated with this disparity remaining greatest in larger companies. Overall, the results suggest that for each company with a female majority on the board of directors there are ten companies with a male majority. Among larger companies this 10:1 ratio rises to a ratio of 226:1. Applying the analysis to the group of UK directors as individuals, around 28 per cent of directors are female, a slight rise from 27.8 per cent in 2002 (Figure 1). Hence around 1 in 4 directors are female but only 1 in 10 companies are female-owned. The implication is that the vast majority of female company directors remain in companies where they have minority status.

TAKE IN FIGURE 1

The Sisterhoods

Of special interest from a women's entrepreneurship and business leadership perspective is the group of companies where the team of directors are composed entirely of females, termed 'sisterhoods' (see, for example, Martin *et al*., 2008). There were 12, 622 sisterhoods in the UK in 2004. As might be expected from the pattern described above, sisterhoods were disproportionately concentrated in the 'small' company size category, with, 97 per cent having assets less than £2.8m in 2004 (compared to 86.6 per cent of all companies).

Conversely, only 0.8 per cent of sisterhoods had assets greater than £11.4m compared to 5.9 per cent of all companies. In terms of sector, 38.6 per cent of sisterhoods were in the business services sector compared to 34.3 per cent of all companies with 27.2 per cent of sisterhoods in other services compared to 19.4 per cent of all companies (Table 4).

TAKE IN TABLE 4

This profile, of course, reflects longstanding concerns that women owned and led companies tend to cluster in the service sectors and to be smaller than those run by males. Interestingly, however, these are exactly the areas of the UK and international economy which have grown most rapidly over recent years and seem likely to continue to grow in the future. Service sector growth, for example, has been one of the key factors in the

economic development of western economies over recent years, while writers such as Audretsch (2002) have stressed the disproportionate contribution of smaller companies to job growth and economic dynamism. Both trends are likely to be of disproportionate benefit to female owned enterprises – the sisterhoods – in the future.

TAKE IN TABLE 5

Growth data for the sisterhood companies is given in Table 5 and comparison to the growth data for all companies suggest a number of key points.

Overall, the sisterhood companies had faster mean employment growth (2.6 per cent pa) and mean sales growth (4.4 per cent) than all companies in 2004.

Mean employment and sales growth in the sisterhood companies was also larger both for small and medium sized companies in 2004, with slower sales growth among larger sisterhood companies.

Mean employment growth rates were higher among sisterhood companies in six of the ten sectors considered, with mean sales growth faster than average in only two sectors. Notably, sisterhood companies grew both sales and employment faster in manufacturing than all companies. This finding provides strong support for **H2**.

The relatively strong growth performance of sisterhood companies is positive, supporting other studies proposing the 'similarity-attraction' view, where homogenous teams are seen as more productive due to mutual attraction between team members with similar bio-demographic characteristics (e.g. Wiersma and Bantel, 1992). There is however an alternative perspective which is derived from cognitive resource diversity theories. These suggest 'value-in-diversity', emphasising the value of team heterogeneity in promoting creativity, innovation and problem solving (e.g. Nemeth, 1996).

CONCLUSIONS AND IMPLICATIONS

This study had two main aims, to explore both business leadership and business growth from the perspective of gender diversity. The analysis suggests continued disparities between men and women on UK company boards, with men still dominating boards across size and sector divides. While around 1in 4 of directors are female in UK companies, only around 1 in 10 companies in the UK are female controlled, suggesting that females are in the minority on the vast majority of company boards. This disparity is greatest for larger companies with only 1 in 226 large companies having a majority of female directors. The overall proportion of UK female directors has grown, but this has been at a slow rate such that it will be the year 2225 before gender balance in company directorships is achieved in the UK, if it continues! This extends other smaller scale studies based on the UK's largest companies, the FTSE (Vinnicombe *et al.*, 2000; Singh *et al.*, 2001; Singh and Vinnicombe, 2003, 2004, 2005) and support international studies that confirm similar trends, e.g. in Canada (Burke, 2000a) and the US (Mattis, 2000).

The 12, 600 sisterhood companies in the UK – those wholly owned and led by women - operate disproportionately in business services and other services but are found in all sectors, very often as smaller companies. These companies represent an interesting potential focus for future research, especially given the indications that growth is significant in these companies.

The analysis of board gender diversity and business growth suggests that such effects are significant and provide support for a similarity attraction hypothesis. In other words, there is a business cost to gender balance in terms of foregone growth. The study also stresses the importance of non-linearities and asymmetries in the relationship between board gender-diversity and company performance (Wharton and Baron, 1987). Indeed, there are theoretical concepts from other fields that could be applied to corporate governance theory to explain why women may operate in a strategically different way on company boards. Furthermore, given that some of these women directors (particularly in the case of the 'sisterhoods') are clearly business owner-directors – as opposed to appointed directors – these theories and concepts are particularly salient.

In future research, in order to develop such conceptual insight, it may be appropriate to use as a framework for analysis Elam's (2008) practice theory that builds upon earlier work by Bourdieu (1986) and others. Bourdieu's (1986) forms of capital comprise *economic* capital (such as assets and finance), *cultural* capital (essentially ideas, including 'institutionalised' cultural capital such as education), *social* capital (networks and other relationships), and *symbolic* capital (which Elam (2008) describes as 'legitimacy, social approval, prestige, status, symbolic power').

Therefore, in terms of *economic* capital, it is well established that women business owners tend to be undercapitalised (Marlow, 2006), A *cultural* capital explanation may be the suggestion that many women are not regarded by the men who appoint directors to have the 'right human capital' (Terjesen *et al*, 2008). And yet, in terms of *social* capital, women may not have access to men's social networks, (Carter and Shaw, 2006). Another explanation for having different growth strategies (themselves derived from ideas, or *cultural* capital) relates to cognitive biases, where the true level of risk is not perceived rather than "knowingly accept[ing] high levels of risks" (Simon et al, 2000), imply gender differences in the perception of risk. More recently, Marlow *et al* (2008) have drawn the conclusion that many women are rational in adopting a less risky development strategy.

Explanations relating to *symbolic* capital may be somewhat more elusive but could relate to the 'legitimacy' that is accorded to a woman business owner-director or appointed director by key stakeholders. Indeed, *symbolic* capital may influence the appointment process as we have indicated above in terms of how women's human capital (or Bourdieuian cultural capital) is perceived (Terjesen *et al*, 2008). This is a rigorous and well-established analytical framework for future research.

While based on the experiences of a very large group of UK companies, the analysis to date has a number of significant limitations. These relate to three specific aspects.

First, the nature of the data means that indicators of company performance are limited and omit profitability data as this is not recorded for the majority of smaller companies. The data is also limited in terms of its ability to reflect the full richness of Horowitz's (2005) integrative model of team performance. Second, the study focuses on gender diversity, and does not include other elements of bio-demographic diversity on boards (e.g. age of directors, ethnic diversity, etc.). Without data about skills or occupations, we are also unable to reflect job-related diversity via such factors as the functional expertise, education or organisational tenure of directors.

Third, and perhaps most significantly, the study indicates a strong need for qualitative research to underpin the findings, even related to size and sector. The sectoral evidence is again fragmented, with some studies (Brammer et al, 2007) suggesting that this is significant in terms of board gender diversity. There has been continued policy emphasis on start up companies and this might explain high female representation in very small companies. However, little has emerged to identify how women have become directors either in established companies or in larger businesses, especially in light of the reported 'glass ceiling' holding women back from senior roles and limiting 'corporate ascent' (Arfken *et al*, 2004; Burgess and Tharenou, 2004; Bourdieu, 1998) and the 'glass cliff' where women are given riskier tasks and are likely to be unsuccessful (Ryan and Haslam, 2007; Ryan *et al*, 2008), the latter being a body of work that applies social identity theory, another very practical and well-established conceptual framework for analysis. In terms of Government interventions to address a perceived market failure in the existence of sufficient numbers of women directors, there are two 'policy levers' which

policy-makers could consider. First, while encouraging more women to start businesses continues, supporting them to grow their businesses and perhaps take on other women directors is one means. Second, legislation to oblige companies to achieve gender balance on their boards has been implemented in Norway (Huse, 2007; Hoel, 2008; Warren-Smith *et al*, 2008), but could there be other regulatory mechanisms to encourage companies to appoint more women?

The role of the board and, its actual power in the companies, (especially for smaller companies where the owner-managers may have disproportionate effects), the frequency and significance of meetings etc would be useful in further evaluation (see also De Andres *et al*., 2005). Similarly, although male dominance is indicated, the study does not try to suggest the reasons for this, how women come to join boards of directors and their roles, power and 'voice' on the board.

How do women come to join boards of directors? Are these women appointed because of their track record and potential as competent managers or as mere token appointments in a traditional male dominated culture (Burgess and Tharenou, 2004)? Further research might explore this, taking into account the role of family membership, given the prevalence of family companies and the suggestions by Ruigrok et al., (2007) that women directors are more likely to be affiliated to company management through family ties. Generational differences in family companies are also relevant (Bammens *et al*, 2008). As well as the insights provided into cross-cultural differences in gender diversity on company boards provided by Terjesen and Singh (2008), Hillman *et al* (2007)'s study of

'organizational predictors of women on corporate boards' identified, 'certain industries (those with high female employment) and firms (those that are larger and more central in a network) with increased female representation in boardrooms' (p949). Although such country-specific cultural and organisational factors no doubt explain much of the gender differences in the composition of company boards, it is still likely that there are sociological, behavioural and cognitive (such as Bourdieu's (1986) *symbolic* capital) that have as much an influence on appointments.

And finally, when women do join boards of directors what is their role? Is this affected by gender? Much work remains in understanding the causal links between board gender-diversity and company performance at a more detailed organisational level given that company growth is more likely to be seen in companies with boards comprising single gender members. Given the potential influence of other board members, women may be disempowered from effective contribution to board actions and decision-making as they are in such small numbers on the board (Van der Walt and Ingley, 2003). Board members are socialised unconsciously to adopt the ideas, operational practices and views of the rest of the board (Rose, 2007) and gender-related boardroom dynamics may affect the contributions of women on corporate boards (Huse and Solberg, 2006). Indeed, it is clear that, behaviourally, company boards often operate as a virtual 'black box' (Huse, 2008). In smaller companies owner managers, CEOs and other directors may be less constrained by the types of organisational systems and structures operating in their larger counterparts and may, therefore, be able directly influence organizational processes (Daily and Dalton, 1993) suggesting potentially greater opportunities for female

directors. However, without further research to explore these issues effective, policies to support female directors are unlikely. And yet, in this paper, we have drawn upon a very large dataset of companies to provide not just a map of the current situation in the UK boardrooms. We have also provided a road map for research and conceptual development in this area, which aims to contribute to the development of a global theory of corporate governance.

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Table 1: Descriptive Data 2004: By Gender Diversity

	Percentage of Women Directors					Percentage of Women Directors				
	Less than 25 %	25% to 50%	50% to 75%	More than 75%	All Firms	Less than 25 %	25% to 50%	50% to 75%	More than 75%	All Firms
	000s	000s	000s	000s	000s	%	%	%	%	%
Firm Size										
Small (assets < £2.8m)	173.0	181.8	25.4	14.0	394.2	78.7	93.6	94.8	97.1	86.6
Medium (assets<11.4m)	24.3	8.6	1.1	0.3	34.3	11.1	4.4	4.0	2.2	7.5
Large (assets>£11.4m)	22.6	3.8	0.3	0.1	26.8	10.3	2.0	1.2	0.7	5.9
Total	219.9	194.2	26.8	14.4	455.3	100.0	100.0	100.0	100.0	100.0
Sector										
Primary	14.7	16.9	2.0	1.0	34.6	6.7	8.7	7.5	7.0	7.6
Manufacturing	28.1	18.0	1.6	0.6	48.3	12.7	9.3	6.0	4.4	10.6
Energy and Water	0.5	0.1	0.0	0.0	0.6	0.2	0.1	0.0	0.0	0.1
Construction	16.8	16.4	1.1	0.5	34.8	7.6	8.4	4.0	3.2	7.6
Wholesale, retail	26.1	25.5	2.6	1.5	55.7	11.8	13.1	9.7	10.2	12.2
Hotels, restaurants	4.5	4.2	0.6	0.4	9.7	2.0	2.2	2.2	2.9	2.1
Transport, communications	7.9	5.7	0.6	0.3	14.6	3.6	2.9	2.2	2.0	3.2
Financial services	10.0	3.6	0.4	0.2	14.2	4.5	1.9	1.4	1.4	3.1
Business services	75.6	67.9	7.7	5.2	156.5	34.3	34.9	28.7	35.8	34.3
Other services	36.2	36.2	10.3	4.8	87.5	16.4	18.6	38.2	33.2	19.2
Total	220.3	194.7	27.0	14.5	456.5	100.0	100.0	100.0	100.0	100.0

Notes: Figures related to UK limited firms with three or more directors trading in 2004. Sectors are defined as follows: primary SIC 1-14; manufacturing SIC 15-37; energy and water SIC 40-44; construction, SIC 45; wholesale, retail SIC 50; hotels and restaurants, SIC 55; transport and communications, SIC 60-64; financial services, SIC 65-67; business services, SIC 40-74; other services SIC 75-94.

Table 2: Employment and Sales Growth, 2004: By Gender Diversity and Firm Size

		Employment Growth					Sales Growth				
		% of female directors					% of female directors				
		Less than 25 %	25% to 50%	50% to 75%	More than 75%	All Firms	Less than 25 %	25% to 50%	50% to 75%	More than 75%	All Firms
		%	%	%	%	%	%	%	%	%	%
Firm Size											
Small (assets < £2.8m)	Mean	0.6	1.8	3.6	3.4	1.3	5.2	2.4	3.7	5.5	3.9
	Median	0.0	0.0	0.0	0.0	0.0	3.3	1.6	0.0	0.7	2.3
Medium (assets<11.4m)	Mean	-0.3	0.8	1.5	2.5	0.0	2.5	2.8	-0.8	-1.9	2.4
	Median	0.0	0.7	0.7	0.0	0.0	4.1	4.5	3.7	3.3	4.2
Large (assets>£11.4m)	Mean	-2.6	-1.7	2.7	-0.4	-2.4	1.5	0.9	3.4	1.4	1.5
	Median	0.0	0.0	0.3	0.0	0.0	3.9	3.7	4.9	4.6	3.9
All Firms		-0.6	1.2	3.2	3.1	0.0	3.9	2.4	3.4	5.2	3.4
		0.0	0.0	0.0	0.0	0.0	3.7	2.1	0.0	1.0	3.0

Notes: Figures related to UK limited firms with three or more directors trading in 2004.

Table 3: Employment and Sales Growth, 2004: By Gender Diversity and Sector

		Employment Growth					Sales Growth				
		% of female directors					% of female directors				
		%	%	%	%	%	%	%	%	%	%
Primary	Mean	0.8	1.5	6.6	7.3	1.5	7.5	2.2	4.3	4.8	4.9
	Median	0.0	0.0	0.0	0.0	0.0	4.8	2.3	1.9	1.9	3.5
Manufacturing	Mean	-4.2	-1.6	-1.4	0.5	-3.8	0.8	0.7	0.9	3.9	0.8
	Median	0.0	0.0	0.0	0.0	0.0	2.2	1.9	1.7	1.3	2.2
Energy and Water	Mean	-1.9	2.4	24.1	245.7	-1.1	6.8	7.1	29.9	62.8	7.3
	Median	0.0	0.0	0.0	245.7	0.0	3.8	5.6	10.6	21.4	4.2
Construction	Mean	-0.1	0.5	3.0	-1.5	0.0	4.9	3.9	2.5	4.5	4.4
	Median	0.8	0.0	0.0	0.0	0.0	6.8	5.2	5.2	3.4	6.2
Wholesale, retail	Mean	0.1	1.0	1.9	2.6	0.4	3.2	2.3	0.2	5.0	2.9
	Median	0.0	0.0	0.0	0.0	0.0	4.3	3.2	2.3	3.4	3.8
Hotels, restaurants	Mean	0.4	0.7	-0.5	2.1	0.5	5.2	5.0	3.9	3.2	5.0
	Median	0.0	0.0	0.0	0.0	0.0	3.1	3.7	4.2	3.3	3.4
Transport, communications	Mean	-1.0	1.7	3.7	-2.2	-0.3	4.0	2.4	2.8	5.8	3.6
	Median	0.0	0.0	0.0	0.0	0.0	4.7	3.5	3.0	6.4	4.4
Financial services	Mean	1.9	2.0	-1.9	5.4	1.9	4.9	2.9	-1.7	9.9	4.4
	Median	0.0	0.0	0.0	0.0	0.0	5.4	3.5	2.4	7.4	5.0
Business services	Mean	0.0	0.4	2.9	2.0	0.3	3.9	1.3	2.5	4.7	3.0
	Median	0.0	0.0	0.0	0.0	0.0	3.5	1.7	1.2	1.8	2.7
Other services	Mean	1.7	3.4	4.1	3.9	2.6	5.3	4.3	5.2	6.2	5.0
	Median	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0
Total	Mean	-0.6	1.2	3.1	3.2	0.0	3.9	2.4	3.5	5.3	3.4
	Median	0.0	0.0	0.0	0.0	0.0	3.6	2.0	0.0	0.6	2.9

Notes: Figures related to UK limited firms with three or more directors trading in 2004. Sectors are defined as follows: primary SIC 1-14; manufacturing SIC 15-37; energy and water SIC 40-44; construction, SIC 45; wholesale, retail SIC 50; hotels and restaurants, SIC 55; transport and communications, SIC 60-64; financial services, SIC 65-67; business services, SIC 40-74; other services SIC 75-94.

Table 4: UK Sisterhoods in 2004: By Size and Sector
(Number of firms)

	Firm Size			All Firms
	Small (assets £2.8m)	Medium (assets<£11.4m)	Large (assets>£11.4m)	
Primary	885	9	4	898
Manufacturing	591	19	4	614
Energy and Water	1	1		
Construction	426	15	4	445
Wholesale, retail	1,368	38	9	1,415
Hotels, restaurants	392	9	2	403
Transport, communications	274	5	2	281
Financial services	175	12	8	195
Business services	4,682	135	55	4,872
Other services	3,452	32	14	3,498
All Firms	12,246	274	102	12,622

Notes: Figures related to UK limited firms with three or more directors trading in 2004. Sectors are defined as follows: primary SIC 1-14; manufacturing SIC 15-37; energy and water SIC 40-44; construction, SIC 45; wholesale, retail SIC 50; hotels and restaurants, SIC 55; transport and communications, SIC 60-64; financial services, SIC 65-67; business services, SIC 40-74; other services SIC 75-94.

Table 5: Employment and Sales Growth of Sisterhoods, 2004

	Employment Growth		Sales Growth	
	Mean %	Median %	Mean %	Median %
Firm Size				
Small (assets < £2.8m)	2.4	0.0	4.5	0.0
Medium (assets<11.4m)	4.5	0.0	5.7	3.2
Large (assets>£11.4m)	1.0	0.0	-0.4	2.0
|				
Total	2.6	0.0	4.4	0.0
Sector				
Primary	1.0	0.0	17.8	0.0
Manufacturing	3.7	0.0	4.1	0.0
Energy and Water	na	na	na	na
Construction	2.2	0.0	-3.4	0.0
Wholesale, retail	2.4	0.0	-3.5	0.0
Hotels, restaurants	0.7	0.0	0.7	0.0
Transport, communications	-1.1	0.0	-3.5	0.0
Financial services	2.9	0.0	-5.1	0.0
Business services	3.7	0.0	-2.7	0.0
Other services	2.3	0.0	-0.6	0.0
Total	2.6	0.0	4.4	0.0

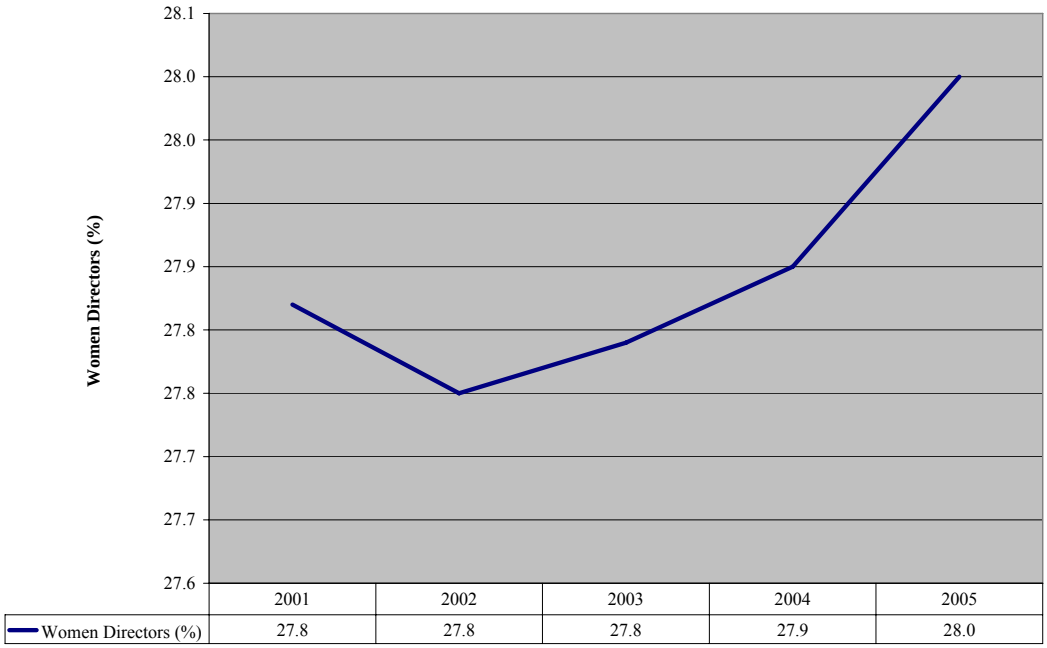
Notes: Figures related to UK limited firms with three or more directors trading in 2004. Sectors are defined as follows: primary SIC 1-14; manufacturing SIC 15-37; energy and water SIC 40-44; construction, SIC 45; wholesale, retail SIC 50; hotels and restaurants, SIC 55; transport and communications, SIC 60-64; financial services, SIC 65-67; business services, SIC 40-74; other services SIC 75-94. Figures exclude a small number of firms with outlying growth rates.

Table 6: Growth and Board Gender Diversity – All Firms

	Assets Growth		Sales Growth		Employment Growth	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
Industry/Region Controls						
Regional Unemployment	0.001	0.880	0.005	1.540	0.006	4.870
Herfindahl Index	0.000	1.260	-0.000	-1.690	-0.000	-0.350
CW MES Measure	-0.000	-0.110	-0.000	-2.260	-0.000	-3.620
Firm-level Controls						
Market Share (-1)	-0.030	-29.750	-0.006	-2.930	-0.001	-1.450
Current Ratio (-1)	0.000	2.210	0.003	11.490	0.000	1.520
Solvency Ratio (-1)	-0.000	-3.340	-0.003	-37.840	0.001	16.450
Real Assets (-1)	-0.000	-1.170	0.000	1.480	0.000	0.790
Number of directors (-1)	-0.003	-8.330	-0.001	-1.220	-0.003	-8.920
Diversity (% females)	-0.000	-1.590	-0.001	-2.910	-0.000	-1.720
Diversity Squared	0.000	2.450	0.000	3.140	0.000	2.470
Constant	0.042	8.270	0.108	6.470	-0.019	-2.730
Observations	1352219		461718		259820	
Firms	339545		143019		75839	
F (..)	100.19 ($\rho<0.000$)		147.93 ($\rho<0.000$)		42.55 ($\rho<0.000$)	
sigma_u	0.215		0.493		0.147	
sigma_e	0.312		0.575		0.177	
Rho	0.322		0.424		0.409	
Hausman test ($\chi^2(8)$)	1461.41 ($\rho<0.000$)		715.29 ($\rho<0.000$)		396.61 ($\rho<0.000$)	
F-test Ind/Region Controls	0.78 ($\rho=0.506$)		3.59 ($\rho=0.013$)		12.13 ($\rho=0.1092$)	
F-test Firm Controls	196.79 ($\rho=0.000$)		291.21 ($\rho=0.0000$)		75.47 ($\rho=0.0000$)	
F-test Gender terms	3.64 ($\rho=0.026$)		5.02 ($\rho=0.006$)		3.26 ($\rho=0.038$)	

Notes: Dependent variables defined, for example, as $\log(assets_t)$- $\log(assets_{t-1})$ reflecting annual growth. All models include fixed effects and cover the period 2001-2005 excluding some outliers. Table covers all firms with three or more directors.

Figure 1: Women Directors in UK Firms (% of total)



	2001	2002	2003	2004	2005
Women Directors (%)	27.8	27.8	27.8	27.9	28.0

Source: Authors' Company Accounts Database

Figure 2: Growth Impacts of Board Gender Diversity: All Firms