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Symbolic Management and the Glass Cliff: Evidence from the Boardroom Careers of Female and Male Directors

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This paper uses archival board data to demonstrate that women who take positions as directors of UK companies have shorter tenures than their male counterparts. The authors show that female directors face a much higher risk of dismissal as they approach nine years of service on the board, when their long service deprives them of the all-important classification as 'independent'. At this point, their position on the board becomes precarious. Male directors do not suffer the same increase in boardroom exit. This gender-specific difference is clearly shown to be linked to the independence status. It is argued that these observations are consistent with the notion that female directors are being used in the symbolic management of corporate governance and that, at nine years, when the cloak of independence disappears, women directors are then exposed to the biases that arise from role congruity issues.

Introduction

The Sex Discrimination Act became law in the UK in 1975. It was intended to eliminate labour market discrimination on the grounds of sex or marital status. In the year 2000, some 25 years after it came into force, only around 6% of board positions on FTSE 100 companies were held by women. By 2015, this had risen to 25%, but only after considerable government pressure.[1] The situation in the FTSE 250 and elsewhere is less encouraging. The analysis in this paper will show that the challenge facing women on UK boards is not only their under-representation, but also their subsequent experience once they are appointed to a board. Their position on the board is more precarious than that of their male counterparts. Women tend to experience briefer tenures as boardroom directors than men do.

This points to a possible additional source of discrimination over and above those already identified and described by the epithets 'glass ceiling' (Hymowitz and Schellhardt, 1986), where otherwise qualified women find it difficult to make the same career progress as males, or the 'glass escalator' (Williams, 1992), where even in female-dominated professions such as nursing and teaching males rise to the top jobs with relative ease. One further such discriminatory mechanism that has gained considerable attention and which highlights the often precarious nature of women's employment in senior positions is the 'glass cliff' (Ryan and Haslam, 2005). The glass cliff phenomenon occurs where women are more likely to be appointed to those boards that are contemporaneously experiencing periods of underperformance or other turmoil. Consequently, the career prospects of such appointees are more risky and more likely to result in early

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[1]See the BoardWatch website at http://www.boardsforum.co.uk/boardwatch.html.

failure. It is possible that, among other factors, this glass cliff phenomenon is contributing to the under-representation of women on boards.

There is an additional explanation of this short tenure of female directors, namely symbolic management. Westphal and Zajac (1994) outlined the concept of symbolic management in the context of executive incentive plans serving a symbolic role by publicly demonstrating a commitment to pay for performance, rather than arising from any particular intent to align executive incentives with shareholder interests. This explanation of symbolic management suggests that, in the interests of self-preservation, the board may take actions to be seen to comply with the expectations of institutional best practice. The appointment of a woman as an independent director enables the board to achieve two objectives. Such an action satisfies the call for increased gender diversity and, at the same time, can increase the proportion of independent outside directors. Appointments of this nature raise the possibility that at least some female participation in the boardroom reflects such symbolic management of corporate governance rather than a broad acceptance of the principle that gender diversity is good for business (Hoobler *et al.*, 2016).

A consequence of this perspective of woman directors being appointed as part of the symbolic management of the independence of the board is that, when these directors lose their independence under the UK Corporate Governance Code, which happens when the director 'has served on the board for more than nine years from the date of their first election' (FRC, 2014, B.1.1), they will have outlived their perceived usefulness and are likely to exit the board. Of course, both male and female directors are more liable to exit after crossing the institutionally determined nine-year service boundary. But for women it will be a more disruptive event if their presence on the board is disproportionately valued for their independence status. In that case, the 'explain' option, available under the UK's 'comply or explain' corporate governance regime (FRC, 2014), is less likely to be exercised for women in mitigation of longer board service.

This paper contributes to what will be seen below to be a growing literature (Bruckmuller *et al.*, 2014; Ryan and Haslam, 2007) that emphasizes the precarious nature of women directors' positions on company boards. We are able to investigate the interplay between institutional forces such as the UK Corporate Governance Code (FRC, 2014), the independence status of directors and board-level decision-making regarding the continuing service of directors.

In order to analyse these issues, we use a database that captures boardroom appointments in FTSE-All-Share companies between 1996 and 2010. This database offers an important advantage over the prior literature, namely it allows us to observe a large sample of female and male careers, as they play out in the boardroom. The next section of the paper reviews the literature in the area. We then introduce the data and methods used in the analysis, before presenting the results. The paper ends with a discussion of the implications for policy and theory.

Theoretical background

Glass cliff

The presence of labour market discrimination, i.e. the valuation in the labour market of personal characteristics such as gender or race that are unrelated to productivity in the job, has been analysed in depth by Becker (1957). Its persistence, of course, calls into question the efficacy of the market forces (Arrow, 1972) that should render such irrational labour market practices unprofitable. Standard explanations of the empirically observed persistence of labour market discrimination include: human capital (Mincer and Polachek, 1974); intergroup bias (Hewstone, Rubin and Willis, 2002); monopsony power (Manning, 2003; Ransom and Oaxaca, 2010); occupational segregation (Bergmann, 1974) – leading to the notion of a glass ceiling (Powell and Butterfield, 1994); part-time working (Main, 1988; Main and Reilly, 1992); and social role theory (Eagly, 1987).

Recently, attention has been given to the lack of progress of women in one particular area of the labour market – the relative absence of women in senior management positions. Explanations based on insufficient supply of talent have been questioned by empirical studies of boardroom appointments (Singh, Terjsen and Vinnicombe, 2008). While there remains an ongoing debate regarding the added productivity of gender diversity on company boards (Adams and Ferreira, 2009; Ahern and Dittmar, 2012; Desvaux, Devuillard-Hoellinger and Baumgarten, 2007; Hoobler *et al.*,

2016; Singh, Vinnicombe and Johnson, 2001), the evidence regarding restricted access to boardroom positions is well established (Farrell and Hersch, 2005; Gregory-Smith, Main and O'Reilly, 2014; Lyness and Heilman, 2006; Oakley, 2000).

Traditional perspectives describe how the operation of the labour market deprives women of desirable employment outcomes, such as promoted positions or higher wages (Kulich *et al*., 2011). The novelty of the glass-cliff model (Ryan and Haslam, 2005) is that it describes a situation where the odds are relatively favourable towards women candidates. But the appointment is to a position of seniority that is risky or tainted by recent experience of corporate underperformance and, consequently, precarious. The contrast is with the social role theory outcome of 'think manager, think male' (Eagly, 1987; Schein, 1973), where stereotypical beliefs about what makes a good manager are seen to coincide with stereotypical masculine traits. The difference in situations of crisis is that the response is to favour stereotypically female attributes, i.e. 'think crisis, think female' (Bruckmuller *et al*., 2014; Glass and Cook, 2016). The argument is not about the relative risk aversion of men vs. women – a topic that has attracted attention since the financial crisis of 2008 (Adams and Ragunathan, 2013). The glass-cliff argument is that women are being appointed to precarious boardroom positions, possibly as a way of signalling to shareholders that a radically different approach is now being adopted (Khurana, 2002; Ryan and Haslam, 2005). If such appointments are merely signals and women are not supported but, in fact, subjected to heightened scrutiny (Glass and Cook, 2016), they do indeed find themselves in a precarious position. Our argument is that, if women directors are appointed as a signal of independence, when that status is lost they will find themselves in a disproportionately precarious position. The glass-cliff analysis has subsequently been replicated, finding evidence of the effect in several empirical settings (Ashby, Ryan and Haslam, 2007; Bruckmuller and Branscombe, 2010; Glass and Cook, 2016; Haslam and Ryan, 2008; Haslam *et al*., 2010; Rink, Ryan and Stoker, 2012, 2013; Ryan *et al*., 2011). These arguments and studies are reviewed in Bruckmuller *et al*. (2014) and Ryan *et al*. (2016).

Recent support for the glass-cliff hypothesis comes from Mulcahy and Linehan (2014), who use DataStream data describing quoted companies between 2004 and 2006 to construct a matched sample of companies separated by whether or not they experienced a loss in the prior two periods before being non-loss making. Focusing on the gender diversity of the board, the authors then use a difference-in-differences estimator to test the hypothesis that troubled companies are more likely to increase their gender diversity after experiencing the initial loss.

Whereas these authors initially fail to establish a significant difference in behaviour between the groups, when they focus on target companies that experienced 'large' (above median) losses, then a significant effect does emerge, consistent with the glass cliff hypothesis.

The point of departure in this paper vis-à-vis the prior evidence on the glass cliff is that we have data that can track a large number of female and male careers over their lifetime in the boardroom. Using survival panel data methods, we are able to examine directly how the risk of exit facing female directors varies over their careers. Given, as we show later, that women have shorter careers than men, we use our data to focus on the dynamic evolution of female careers and provide additional evidence on the prevalence of the glass cliff phenomenon. The glass-cliff hypothesis tested here is:

> *H1*: The change in gender diversity on the board of initial loss firms is positively related to the severity of the loss.

Symbolic management

It has long been recognized that boards are aware of the importance of selecting members not only to work together internally as a team, but also to provide contacts and access to a wider community of stakeholders (Singh and Vinnicombe, 2004). Such a perspective goes beyond the reflex biases that come about under the homosocial reproduction that results from the 'think manager-think male' culture of Schein (1973) and which restrain hiring of female directors. As seen above in the discussion of the glass cliff, this can also lead to a 'think crisis, think female' reaction under certain circumstances (Glass and Cook, 2016; Ryan *et al*., 2011). But in such matters it is also possible that, with or without a crisis, there is an awareness that being seen to hire women as directors may advantage the company, either by relieving social pressure or by easing the company's access to resources and relationships with its stakeholders. This

symbolic management (Westphal and Zajac, 1998) or 'tokenism' (Kanter, 1977) regards the company as paying lip service to gender equality in hiring.

The area of impression management known as symbolic management (Fiss and Zajac, 2006; Zott and Huy, 2007), opens up the possibility of women being appointed to boards with an eye to the external signal that this provides, such as underlining the independence of these appointments. Institutional pressure (DiMaggio and Powell, 1983; Main *et al*., 2008; Meyer and Rowan, 1977; Scott, 2001), both regulatory in the form of Corporate Governance codes and normative through professional standards,[2] demands the appointment of independent directors. Women present a clear signal of both independence and diversity, and their appointment to the board may facilitate impression management to the advantage of the company.

Several studies (Hambrick, Werder and Zajac, 2008; Wade, Porac and Pollock, 1997; Westphal and Zajac, 1994, 1995, 1998) have demonstrated that there is a symbolic perspective in corporate governance that helps explain the actions of boards. There is a decoupling of the formal board structure and the appointments process, whereby certain appointments are made with an eye to the symbolism of that action. For example, following the financial crisis, there was much discussion of the advantages of having women directors on a board, and how things might have been different had there been more women on the boards of financial institutions pre-2008 (Adams and Ragunathan, 2013). In the context of the argument here, the key consideration is the appointment of women to boards as symbols of independence. For those women appointed as outside directors, the independence trait is crucial (Burgess and Tharenou, 2002; Hillman, Shropshire and Canella, 2007) in effecting the legitimacy gained by conforming to societal norms and expectations (Dowling and Pfeffer, 1975; Suchman, 1995). We will argue below that this is not as much the case for the appointment of male outside directors.

The independence trait or classification also plays a role in countering the tensions that arise owing to role congruity issues (Eagly, 1987; Eagly and Karau, 2002; Stryker and Macke, 1978). Role congruity theory predicts that women will be less likely than men to be selected as leaders, owing to the traits thought needed for a leadership role being incongruent with the gender stereotypes held regarding the traits possessed by women. Independence can be seen as an antidote, shielding women from the potential prejudice of fellow board directors who operate under such a stereotypical view of women, which is incongruent with the attributes thought to be required for the role of main-board director. However, once the communal attribute of independence is shed, the more agentic attributes (Bakan, 1966; Eagly, 1987; Rosette and Tost, 2010) of the long-serving director come into focus under a 'comply or explain' regime that requires an explanation of continuing service. It is possible, then, that the socio-typical male/female distinctions of assertiveness, aggressiveness, dominance, forcefulness and self-confidence (Eagly and Karau, 2002) tip the scales against women continuing to serve on the board – scales that no longer have the counterbalance of independence as a consideration.

The role congruity theory of bias against women holding senior leadership roles has received considerable support in laboratory studies (Eagly and Carli, 2003; Heilman and Eagly, 2008; Hoyt, 2012; Johnson *et al*., 2008; Paustian-Underdahl, Walker and Woehr, 2014; Ritter and Yoder, 2005). In the present context, the role congruity issue arises from the tension between stereotypical expectations of how women behave and how boardroom directors should behave (Chizema, Kamuriwo and Shinozawa, 2015; Eagly and Karau, 2002; Gabaldon *et al*., 2016). The communal nature of independence as validated by normative guidelines of the corporate governance codes (FRC, 2014) serves to mask the tension for just as long as the independence attribute is valid (Rosette and Tost, 2010), but role incongruence becomes more salient once this falls away (as it does for all non-executive directors at the nine-year tenure mark). It is as if, when the attribute of independence is lost, the female director finds herself in a different social role and one for which she is stereotypically mismatched. Some have characterized women as being in a gender double bind (Catalyst, 2007; Elsesser, 2016; Elsesser and Lever, 2011; Jamieson, 1995) – caught by both a descriptive bias (thinking women do not have what it takes to be a company board director) and a prescriptive bias (the belief that, as women, they should not possess the

[2]See GC100 (2013). The GC100 and Investor Group, which publishes these guidelines, is a representative body of the company lawyers and Company Secretaries from the FTSE 100 companies plus representatives of leading pension and investment firms.

characteristics necessary to be successful company board directors). While it is impossible to disentangle these two biases using archival data, the concept of the double bind does illustrate the potential for women directors to find themselves in a no-win situation and their positions at risk once the independence status is lost (Fine, 2005).

It follows that if, unlike men, women are appointed predominantly for their independence, they are more vulnerable once that perceived independence evaporates. The nine-year limit for service on a board as an independent director has been a convention since Cadbury (1992), although only formalized by Higgs (2003). Under the UK's 'comply or explain' approach to corporate governance (FRC, 2014), it is perfectly possible for directors to be kept on after their ninth year, whereas if their sole reason for being on the board is their 'independence', an exit at that point is more likely. Davies (2011) has made clear that women remain under-represented on UK boards. However, even when they are present, if that presence is owed to symbolic management of the type described here, women's tenure as directors can be expected to be foreshortened. Specifically, it will be foreshortened to the extent that their designation as 'independent' has a limited shelf life – nine years in the UK (FRC, 2014). Without the independence designation, women are exposed to the role incongruity biases that arise from stereotypical views as to the suitability of women for such senior leadership positions.

This suggests that the gender-difference in the hazard rate of board exit increases significantly once the attribute of independence is lost at the nine-year mark, when biases emerge owing to perceived role incongruity (Eagly, 1987; Stryker and Macke, 1978). Our second and third hypotheses are, therefore:

> *H2*: After nine years of board service, the hazard rate of board exit increases for female directors relative to male directors.
>
> *H3*: The increase in the relative hazard rate of board exit for women is associated with a loss of independence.

In summary, if women are systematically appointed to positions of greater risk, as under the glass-cliff hypothesis, then we would expect them to have shorter careers as they run into early career hazards. Equally, if female appointments are at least to some extent influenced by the consideration of the symbolic management of corporate governance, a complementary explanation appears – one that positions the glass cliff at the nine-year tenure mark of boardroom careers. This is particularly true if the appointment of women directors nevertheless leaves in place the biased stereotypes that create issues of role congruity for women inhabiting such social roles.

Data and research methods

Sample

Our data consist of the sample of UK listed companies in the FTSE All-Share Index between 1996 and 2010 as held by Manifest Information Services Ltd.[3] The Manifest data record the date of appointment of each director to the board and the date of resignation or departure from the board (as filed with Companies House). Additional detail on the personal characteristics of the directors and of the companies involved is also available through Manifest (Gregory-Smith and Main, 2015). Further company-specific data are derived from DataStream. In total, 1453 female directors and 23,134 male directors are observed across 979 companies over the period 1996–2010.

Measures used

Measures deployed to capture the attributes of each director include: 'Female', the dummy variable designating gender;[4] 'Age on appointment', the age in years of the director when appointed to the board; 'Executive', the dummy variable designating the director as an employee of the company, i.e. part of senior management; and 'Non-exec', the classification that includes all other directors, i.e. those who are not employees of the company. This last group can be further designated as 'Independent' or 'Non-independent'. In doing this, we use Manifest's classification of 'Independent', which is based on their own assessment (as a Proxy Voting Agency), but reflects the generally held

[3]This excludes 'Fledgling' companies and companies listed on 'AIM'.

[4]See Gregory *et al.* (2013) for a discussion of the now well-recognized fact that gender as a social construction is distinct from biological sex and not equivalent. We will purposefully use gender in the context of the current paper.

views of the institutional investor community that they advise. Manifest bases its classification on considerations such as whether the non-executive director in question is a former employee, has a business relationship or family ties with the company, is associated with a major shareholder in the company, has a cross directorship with executives of the company or has served on the board for in excess of nine years. This definition is applied on a consistent basis over the entire period of the study. 'Senior Director' (SNED) refers to those non-executive directors who have been identified by the company as the designated senior non-executive director. The SNED position is a channel through which major shareholders can communicate with the executive team, and the position is typically remunerated with a supplementary fee.[5] 'Tenure' records the years of service since first appointment to the board as either an executive or non-executive director. Finally, 'CEO' refers to those executive directors who attain the rank of chief executive officer in their boardroom career.

Descriptors of the company include 'Ln Firm Size', which is the natural logarithm of the company's turnover in that year. Performance is measured by: the market-based measure 'Total Shareholder Return' (TSR), which measures the gains to shareholders from dividend yield and share-price appreciation; the financial measure 'Return on Assets' (ROA), which measures earnings relative to the total assets of the company; and 'Price to Book' (PTOB), a performance measure akin to Tobin's Q, which measures the ratio of the company's stock market valuation of the company's shares to the accounting book value of equity, and gauges the market's estimate of its growth potential. 'Volatility' measures the uncertainty in the company's performance in the form of the average annual price movement to a high and low from a mean price for each year. The company's corporate governance arrangements are described by: 'Board Size', which records the total number of directors on the board in each year; and '% Non-execs' which provides the percentage of the board classified as non-executive in that year.

Data analysis

The initial analysis investigates the extent to which women have shorter boardroom careers than men. This is done both using simple descriptive statistics and in a linear regression model where the dependent variable is the length of boardroom service (in days). Then, the propensity to appoint women as non-executive directors, but not to award them senior director status, is analysed in a probit model. Next, following Mulcahy and Linehan (2014), a difference-in-differences model is used to analyse the glass-cliff effect, using data that extend over a larger sample of companies and a longer time-period than in their original analysis. The analysis culminates in using survival analysis to investigate the differential probability of continued service between male and female non-executive directors over their boardroom careers.

Results

Table 1 provides a summary of the differences between male and female careers in our sample. Women and men are different in several respects. As documented elsewhere (Gregory-Smith, Main and O'Reilly, 2014), women make up a small fraction of directors over the sample period in the UK, albeit women have been catching up with men in recent years. However, to our knowledge, Table 1 is the first to document the substantial difference in average boardroom career length ('Tenure') between men and women over this period. The mean duration of boardroom tenure for women in this simple analysis is 4.61 years, compared with 6.75 years for men (a statistically significant difference). Female non-executive directors are also less likely to be the identified as 'Senior Director'.

To be in compliance with the Code (FRC, 2014), over 50% of the board (excluding the Chair) must be independent. There is no formal penalty for non-compliance with the Code, but companies are required to explain their reasons for non-compliance to shareholders.[6] A common justification offered for retaining a non-independent

[5]In the later years of our sample, the director who is the SNED is also expected to be independent under the Code, hence the SNED is also known as the SID (Senior Independent Director). However, it is possible for Manifest to consider a 'SNED' or 'SID' as non-independent if they do not meet their criteria.

[6]In theory, a shareholder who is unhappy with the company's explanation for non-compliance can vote against the board at the AGM or, ultimately, sell their shares. Some form of explanation of non-compliance is required

Table 1. Female and male executive and non-executive directors on UK boards

	Women	Men	*p*-value
N	1,453	23,134	–
Exec	411	9,871	–
Non-exec	1,042	13,263	–
Tenure			
Mean	4.61	6.75	<0.01
SD	4.30	6.14	–
Median	3.68	5.27	–
% Survive until			
<3 years	41.70%	29.30%	<0.01
3–6 years	30.62%	27.28%	<0.01
6–9 years	17.27%	18.59%	0.18
>9 years	10.39%	24.82%	<0.01
Age on appointment	47.7	50.05	<0.01
Executive directors			
CEO	12.90%	22.82%	<0.01
Non-executive directors			
Independent	81.09%	60.80%	<0.01
Senior Director	5.75%	12.51%	<0.01

Notes:

- The sample consists of executive and non-executive directors serving on UK boards in the FTSE All-Share between 1996 and 2010. The time-series on each individual director is aggregated so that each row observation represents one director-career in the sample. Here, the count on Tenure continues if a director changes position within the firm (e.g. from executive to non-executive) or even between firms. We control for these changes in subsequent analysis.
- The percentages under the survival heading show the percentage of women (men) who survive until the respective length of time. Women are more likely to exit within three years, and men are more likely to survive over nine years. The *p*-values indicate the differences between the proportions are statistically significant (even after controlling for very different numbers of men and women in the sample).
- CEO refers to the percentage of female (male) executive directors who obtain the CEO position in their career. Independent and Senior Director refer to the percentage of female (male) non-executive directors who are classified as 'independent' and identified as the 'Senior non-executive director', respectively, for the majority of their career. Women are far less likely to be the CEO or the Senior non-executive director, but much more likely to be independent. Additionally, women are appointed at a younger age.

director on the board includes the importance of the accumulated experience or firm-specific human capital contributed to the board by the director. Table 1 shows that women are much more likely to be independent than men – a point we return to below.

as a condition of share-listing under the rules published by the UK Listing Authority.

Shorter board service for women

The finding of shorter board tenure for women is examined in greater detail in the ordinary least square analysis in Table 2. Consistent with Table 1, this analysis concludes that women who take boardroom positions have shorter completed careers. Column (1) shows that, in total, female directors are employed for an average of 781 fewer days (or just over two years) than male directors. The introduction of standard controls in column (2) – for directors' personal characteristics (position – executive or non-executive, and age on appointment), for the company's corporate governance (board size and % non-executive), for the company's characteristics (log of size and industry dummy variables) and for performance (volatility of performance, price-to-book ratio, return on assets and total shareholder return) does not diminish this gap. Whereas Table 1 and the results in columns (1) and (2) in Table 2 include the observed length of service of all directors in the sample (including those who are still active), column (3) drops all right-censored careers in our data – that is those who had not yet exited the board by the end of the sample period. This focuses the analysis on the completed length of a company directorships (measured in days) for those directors observed exiting company boards over the period 1996–2010. These are all completed spells or careers as a board director. Even after this adjustment, however, the gender difference remains (and in fact grows slightly). So it is not any difference in the tendency for a director to be right-censored or differences in the individual or company-level characteristics between women and men that explains the gap in average boardroom tenure.

There is yet one further dimension relating to timing of appointments that requires investigation. Mean tenure for male directors in our sample is higher than the median male tenure because there are some instances of male directors with very long tenure. To what extent the mean represents an 'average', then, is complicated by the fact that some of the long-serving male directors were appointed prior to the sample start date in 1996. This is a problem (known as left-truncation), because there will have been other male directors who were appointed at the same time, but exited prior to the sample start date. Had these directors been observed, our male average would be lower. One could take the view that *a priori* the female

Table 2. OLS analysis of executive and non-executive director tenure (days on board)

	(1)	(2)	(3)	(4)	(5)
Female	−781***	−959***	−1,030***	−235***	−170***
	(17.8)	(19.8)	(17.3)	(7.35)	(4.38)
Director-level controls					
Age on appointment		−549***	−524***	−9.11	8.44
		(21.1)	(17.9)	(0.75)	(0.65)
Age on appointment squared		4.57***	4.33***	−0.039	−0.15
		(18.5)	(15.5)	(0.33)	(1.19)
Executive		−784***	−892***	−210***	−259***
		(20.0)	(20.6)	(9.32)	(10.6)
Firm-level controls					
Ln Firm Size		−81.5***	−34.0***	−28.1***	14.4**
		(9.43)	(3.39)	(4.77)	(2.20)
TSR		320***	305***	144***	101***
		(21.2)	(19.0)	(13.6)	(9.23)
ROA		1,748***	1,785***	874***	805***
		(16.2)	(15.6)	(13.3)	(12.0)
PTOB		−5.45***	−5.52***	−3.13***	−3.15***
		(7.09)	(6.80)	(7.58)	(7.51)
Volatility		−1,019***	−894***	−159	−4.18
		(5.44)	(4.48)	(1.42)	(0.037)
Board Size		8.23	−9.39	−16.7***	−35.5***
		(1.43)	(1.47)	(4.26)	(8.31)
% Non-execs		−842***	−501***	40.5	126*
		(9.16)	(4.71)	(0.67)	(1.82)
Observations	24,587	20,501	16,360	14,296	10,465
Industry dummies	No	Yes	Yes	Yes	Yes
Right censoring control	No	No	Yes	No	Yes
Left censoring control	No	No	No	Yes	Yes
R-squared	0.007	0.237	0.227	0.067	0.066

Notes:
Robust *t*-statistics in parentheses. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.1$.
The table shows an OLS regression of the number of days by which women's careers are shorter than men's careers. As in Table 1, each observation is one career. Columns (4) and (5) show that roughly three-quarters of the raw difference is driven by directors who were appointed prior to 1996, the first full year in our sample. This is because long-serving directors are much more likely to be male than female, given the historical context of these appointments. Nevertheless, a significant difference between male and female directors remains after excluding these appointments.

average has an equal chance of being affected by left truncation, and so a comparison of the two averages remains informative. However, we suspect that we are missing more pre-sample short-tenured males than females, owing to the greater likelihood that the pre-sample appointment is male. Indeed, it is found that excluding the pre-sample appointments in columns (4) and (5) reduces the difference between male and female tenure by approximately three-quarters. Nevertheless, even after excluding pre-sample appointments, there remains an unexplained difference in the tenures of men and women of between 235 days in column (4) (which excludes careers already started before 1996) and 170 days in column (5) (which excludes all careers that are not completely observed from start to finish, thereby reducing the sample to only those whose careers are observed in their entirety from beginning to end). Even after all these controls, there remains an empirically and statistically significant difference in male vs. female boardroom careers. The survival analysis documented below, in Table 5, will control directly for these key features of the data.

The overwhelming majority of female directors are non-executives. Since the non-executive market could be viewed as quite distinct from the executive market, we restrict analysis from here onwards to non-executive directors only. Table 3 focuses on the status of non-executive appointments. It presents a probit estimation of the probability, based on observable characteristics, that a given non-executive appointment is classified as an 'independent' director or as the SNED. Again,

Table 3. Probit analysis of non-executive director independence; and of being the senior non-executive director

	Pr (Independent = 1)	Pr (Senior = 1)	Pr (Senior = 1)
Female	0.32***	−0.32***	−0.064
	(5.37)	(4.46)	(0.43)
Independent		0.29***	0.31***
		(8.08)	(8.29)
Female.Independent			−0.33*
			(1.96)
Director-level controls			
Age on appointment	0.15***	0.079***	0.080***
	(7.90)	(3.49)	(3.55)
Age on appointment squared	−0.0012***	−0.00060***	−0.00062***
	(6.91)	(2.80)	(2.87)
Firm-level controls			
Ln Firm Size	0.16***	0.016	0.017
	(17.2)	(1.60)	(1.63)
TSR	0.13***	0.024	0.024
	(9.80)	(1.48)	(1.46)
ROA	−0.11	−0.082	−0.083
	(0.78)	(0.59)	(0.60)
PTOB	0.00094	−0.0011	−0.0011
	(0.88)	(1.14)	(1.13)
Volatility	0.38*	0.17	0.17
	(1.71)	(0.77)	(0.78)
Board Size	−0.023***	−0.070***	−0.070***
	(3.73)	(9.84)	(9.86)
% Non-execs	−0.061	−1.32***	−1.32***
	(0.70)	(13.3)	(13.2)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Observations	12,036	12,036	12,036

Notes:
Robust *t*-statistics in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

- Probit model estimating the likelihood of observing an independent non-executive director (column 1) and the likelihood of observing a senior non-executive director (columns 2 and 3). Consistent with Table 1, a female non-executive director is more likely to be independent and less likely to be classified as the senior non-executive director. Additionally, the interaction term in column (3) indicates that a female independent director is less likely to be the senior non-executive director.
- As the Probit is a non-linear model, the precise marginal effects vary over the range of sample values. For illustrative purposes, the coefficient on 'Female' in column (1) gives rise to an 'average marginal effect' (Cameron and Trivedi, 2005) of 10.5%. This means, on average, being female raises the likelihood of that non-executive director being observed as independent by about ten percentage points, conditional on other observables. The results in column (3) indicate that male independent directors are almost twice as likely as female independent directors to be the senior non-executive director (14.6% vs 7.97%).

the differences between male and female directors are remarkably sharp. For example, the coefficient on 'Female' in column (1) gives rise to an average marginal effect (Cameron and Trivedi, 2005) of 10.5%. This means, on average, being female raises the likelihood of a non-executive director being observed as independent by about ten percentage points, conditional on other observables.[7] The estimates in column (2) describe the probability of a non-executive being appointed as SNED. Here there is a markedly negative impact of being female, with the probability being some ten percentage points lower for women than men. The final column of Table 3 uses an interaction

[7]To allow for the fact that the gender difference in independence may be a reflection of differing lengths of board tenure, the analysis in Table 3 has been repeated using independence status at the time of appointment. The results, available at: http://www.homepages.ed.ac.uk/mainbg/working_papers.htm, are qualitatively and quantitatively similar, thus strengthening our conclusion regarding the importance of independence status.

term between gender and independent status to demonstrate that independent male directors are almost twice as likely as independent female directors to be the SNED (14.6% vs. 7.97%).

The glass cliff

Having documented observed shorter boardroom tenures of female directors in our data, we consider the possibility that it is the greater risk that women face at the time of their appointment to their roles on company boards that causes their shorter careers. This is what we would expect as a result of the phenomenon of the glass cliff (Ryan and Haslam, 2005). Indeed, in our raw descriptives in Table 1, women can be seen to be more likely than men to exit the firm within the first three years (42% vs. 29%). The cleanest quantitative firm-level test of the glass cliff in the literature to date is the difference-in-differences approach presented in a recent paper by Mulcahy and Linehan (2014). We replicate the analysis of Mulcahy and Linehan (2014) and apply their method to our larger sample of UK companies.

Mulcahy and Linehan (2014) identify a 'loss sample' composed of those UK companies that experienced a financial loss (negative net income) in any of the years 2004–2006, subject to having reported a profit (positive net income) in the preceding two years. Each company in this 'loss sample' is then matched against the company in the same industry that is closest to it in terms of market capitalization, but which reported a profit not only in the focal 'loss year', but also in the two years prior to the loss year and in the two years subsequent (i.e. profit in five years in a row). To measure the difference in gender diversity Mulcahy and Linehan (2014) take the difference in the percentage of females (%FEM) on the board between $t+1$ and $t-1$, where t is the loss year. Two other measures of diversity, the Blau index (Blau, 1977) and the Shannon index (Shannon, 1948) are also computed in the same way.

By matching each loss company to a control company within a difference-in-differences design, it is possible under certain conditions[8] to identify any causal effect that a loss event has on subsequent gender diversity. The original Mulcahy and Linehan (2014) findings are reprinted in column (1) of Table 4, designated 'ML14', and in Panel A fail to establish the presence of a significant effect. In column (2) of Table 4, we replicate the Mulcahy and Linehan (2014) analysis, drawing on the same years (2004–2006) from our sample and then extend the analysis, in column (3), to the full range of focal years 1998–2009, using the full sample of companies in our data set.[9] In columns (2) and (3) of panel A in Table 4, we find no evidence that loss events increase gender diversity. This is consistent with Mulcahy and Linehan's (2014) first test.

Finding no significant effect (see column (1) in panel A of Table 4), Mulcahy and Linehan (2014) then turned to a second analysis that splits the loss sample at the median so as to identify separately the impact of a relatively large losses from small losses. This is done by running an OLS regression on the observed difference in gender diversity among these companies.[10] The original Mulcahy and Linehan (2014) results for this second analysis are reprinted in column (1) of panel B in Table 4. Under all three measures of diversity, a significant effect is found. However, in columns (2) and (3) of panel B in Table 4 we are unable to replicate the finding that the big-loss companies increase their gender diversity by more than the small-loss companies and by more than the profitable companies – even when we extend the analyses to draw on the full range of observations available in our sample.[11] These results are reported in column (3) of Table 4.

Taken together, we believe that a reasonable interpretation is that there is no support in our data for the view of companies responding to a loss event by appointing more women to their boards.

[8]For the difference-in-differences design to identify the causal effect, it requires the assumption that there are no pre-sample differences in the trend towards gender diversity between loss sample and the control sample. It is argued that this is a plausible assumption, given that both loss companies and control companies report profits in the prior two years.

[9]Our final focal year for a loss is 2009, as subsequent years of observation are necessary to perform the difference-in-differences analysis.

[10]The OLS regression also controls for the market return of each company, although this variable is not statistically significant.

[11]The small sample size in the original study and the absence of AIM and FTSE Fledgling companies from our sample may partially explain the difference in our results in panel B, as corporate governance adjustments can be stickier among larger firms (Brown, Beekes and Verhoeven, 2011).

Table 4. Difference-in-differences estimation of accounting loss on boardroom diversity: replication and extension of Mulcahy and Linehan (2014)

	(1)	(2)	(3)
	ML14	Replication	Extension
Panel A			
% FEM	0.009	0.014	0.000
$p>\|t\|$	(0.95)	(0.17)	(0.992)
Blau	0.014	0.018	−0.006
$p>\|t\|$	(0.31)	(0.77)	(0.58)
Shannon	0.024	0.023	−0.012
$p>\|t\|$	(0.24)	(0.64)	0.521
No. control baseline	138	124	478
No. control follow up	124	124	478
No. treated baseline	138	124	501
No. treated follow up	114	116	501
Panel B			
%FEM big-loss	0.028***	−0.003	−0.004
	(2.56)	(0.18)	(0.67)
Blau big-loss	0.037**	0.006	−0.013*
	(2.37)	(0.03)	(1.78)
Shannon big-loss	0.055**	0.007	−0.027*
	(2.25)	(0.21)	(1.91)
N	238	240	979

Notes:
Robust *t*-statistics in parentheses. $^{***}p<0.01$, $^{**}p<0.05$, $^{*}p<0.1$.

- In panel A, the estimated coefficients report the difference-in-differences parameter. Under certain assumptions, this parameter identifies the causal effect of the loss event on gender diversity. Coefficients in column (1) are obtained from columns (7) and (3) in Table 3 of Mulcahy and Linehan (2014) abbreviated as ML14 above.
- In panel A, the replication of Mulcahy and Linehan (2014) is given in column (2). Our results are consistent with theirs; that is, the loss-sample experiences no significant difference in the trend of female appointments. The same result is found in column (3) with the much larger sample of loss companies spanning the years available in our data set. Together, these results suggest that firms do not react immediately to a loss event by increasing gender diversity (however measured).
- In panel B, we are unable to replicate the finding of Mulcahy and Linehan (2014) that big-loss companies are more likely to increase gender diversity than small-loss or no-loss companies. The absence of an increase in gender diversity following a loss event is consistent with Mulcahy and Linehan's (2014) first experiment and the findings on our full sample as shown in column (3).

These results lead us to reject our first hypothesis (Hypothesis 1).

Survival analysis

We now turn to direct modelling of the duration of director careers. To this end, we adopt a survival model of director tenure (Kalbfleisch and Prentice, 1980), with the 'failure' event being a director's exit from the firm.[12] As alluded to in our discussion of Table 2, our sample contains left truncation, as some directors were appointed prior to the sample start date and also right censoring, as some directors remain in post at the end of the sample. Both these aspects of our data are controlled for in the Cox proportional hazards model (Cox, 1972).

If the glass-cliff effect on appointment were driving the observed shorter female director tenures in our data, we would expect to observe a high hazard of exit for female directors early in their tenure. The riskier conditions on appointment for female directors should be associated with a higher probability of exit in those early years. However, this is not what we observe. Column (1) of Table 5 reports the estimated coefficients of the impact of being female on exit, along with control variables to capture person and firm characteristics. Gender ('Female') is interacted with the year of exit ('$Female_2$' for female exiting in year two,'$Female_3$', and so on). In column (1) in Table 5, it can be seen that, when women reach nine years of tenure, they face a dramatic increase in their hazard rate. Indeed, the female-tenure at nine years is the only female-tenure interaction that is statistically significant. Women experience a large spike in their probability of exit around year nine that is not shared by male directors. This result is consistent with the raw data, where we find that, of those making it to year nine, 37% of women exit that year, while only 18% of men exit that year. This finding means that we cannot reject our second hypothesis (Hypothesis 2) that, after nine years of board service, the hazard rate of board exit increases for female directors relative to male directors.

Why the sudden increase in female exits around year nine? We suggest that this is, at least in part, due to the institutional framework in the UK. After nine years of service, the UK Corporate Governance Code (FRC, 2014) raises a question mark over the independence of non-executive directors. In Hypothesis 3, we hypothesized, consistent with the discussion of role-congruity theory above, that

[12]We are able to observe directors in different positions in the same firm. We are also able to observe the same director at different firms. Here, a director's tenure is firm specific; that is, we only reset the clock on a director's tenure when they leave the firm. A positional change inside the same firm does not count as an exit in our analysis.

Table 5. Survival analysis of non-executive directors: gender and independence

	(1)		(2)		(3)	
Age on appointment	−0.13***	(6.46)	−0.14***	(8.00)	−0.14***	(7.99)
Age on appointment squared	0.0014***	(7.10)	0.0014***	(8.62)	0.0014***	(8.60)
Ln Firm Size	−0.028***	(3.49)	−0.025***	(3.22)	−0.025***	(3.25)
TSR	−0.13***	(4.13)	−0.13***	(4.49)	−0.13***	(4.47)
Accumulated TSR	−0.16***	(9.41)	−0.16***	(10.2)	−0.16***	(10.2)
ROA	−0.66***	(8.44)	−0.66***	(8.24)	−0.66***	(8.23)
PTOB	0.000087	(0.71)	0.000092	(0.44)	0.000094	(0.45)
Volatility	−0.54***	(4.28)	−0.54***	(4.68)	−0.54***	(4.66)
Board Size	0.056***	(9.72)	0.056***	(11.0)	0.056***	(11.0)
% Non-execs	0.14*	(1.74)	0.15*	(1.89)	0.15*	(1.85)
No. Females on Board	0.081***	(4.89)	0.081***	(4.73)	0.080***	(4.67)
Female	−0.048	(0.47)	−0.012	(0.23)	−0.10	(0.95)
$Female_2$	−0.023	(0.13)				
$Female_3$	0.019	(0.11)				
$Female_4$	−0.12	(0.62)				
$Female_5$	−0.16	(0.80)				
$Female_6$	0.043	(0.21)				
$Female_7$	0.20	(0.92)				
$Female_8$	0.29	(1.28)				
$Female_9$	0.96***	(4.70)				
$Female_{10}$	−0.30	(1.02)				
Independent	0.083**	(2.48)	−0.071	(1.12)	−0.082	(1.25)
$Independent_2$			0.059	(0.57)	0.072	(0.68)
$Independent_3$			0.039	(0.39)	0.048	(0.48)
$Independent_4$			0.16	(1.53)	0.18*	(1.72)
$Independent_5$			−0.052	(0.51)	−0.031	(0.30)
$Independent_6$			0.17	(1.51)	0.18*	(1.66)
$Independent_7$			0.21*	(1.74)	0.20	(1.63)
$Independent_8$			0.26**	(2.21)	0.25**	(2.15)
$Independent_9$			0.36***	(3.02)	0.32***	(2.60)
$Independent_{10}$			0.39***	(4.30)	0.40***	(4.33)
Independent.Female					0.14	(0.88)
$Independent_2$.Female					−0.10	(0.50)
$Independent_3$.Female					−0.067	(0.34)
$Independent_4$.Female					−0.23	(1.04)
$Independent_5$.Female					−0.20	(0.89)
$Independent_6$.Female					−0.17	(0.73)
$Independent_7$.Female					0.22	(0.92)
$Independent_8$.Female					0.15	(0.57)
$Independent_9$.Female					0.86***	(3.32)
$Independent_{10}$.Female					−0.018	(0.051)
Observations	71,216		71,216		71,216	

Notes.
Robust z-statistics in parentheses. ***$p<0.01$, ** $p<0.05$, * $p<0.1$.

- The reported coefficients are estimated by a Cox proportional hazards model of non-executive careers. Positive coefficients raise the likelihood of exit. A one unit increase in the covariate leads to $e^{\beta x}$ increase in the hazard. For example, in column (1), being independent raises the hazard by 8% ($e^{0.083} \approx 1.084$).
- Our central interest is in the time-varying nature of being female and independent on the likelihood of exit. Following Cleves, Gould and Gutierrez (2004, p. 187) we use *stsplit* in Stata 13.1 to identify the time-varying effect. In column (1), being female instead of male more than doubles the likelihood of exit ($e^{0.96} \approx 2.61$) at nine years of service. In column (3), being female and independent instead of being male and independent doubles the likelihood of exit ($e^{0.86} \approx 2.36$) at the point of nine years of service.

this is the driving factor behind female exits. It can be seen from the analysis in Table 3 that women are much more likely to be independent non-executive directors and the loss of this independence may be associated with a major upturn in the hazard of their leaving the board.

To test this hypothesis, we investigate the possibility that the effect of losing independence

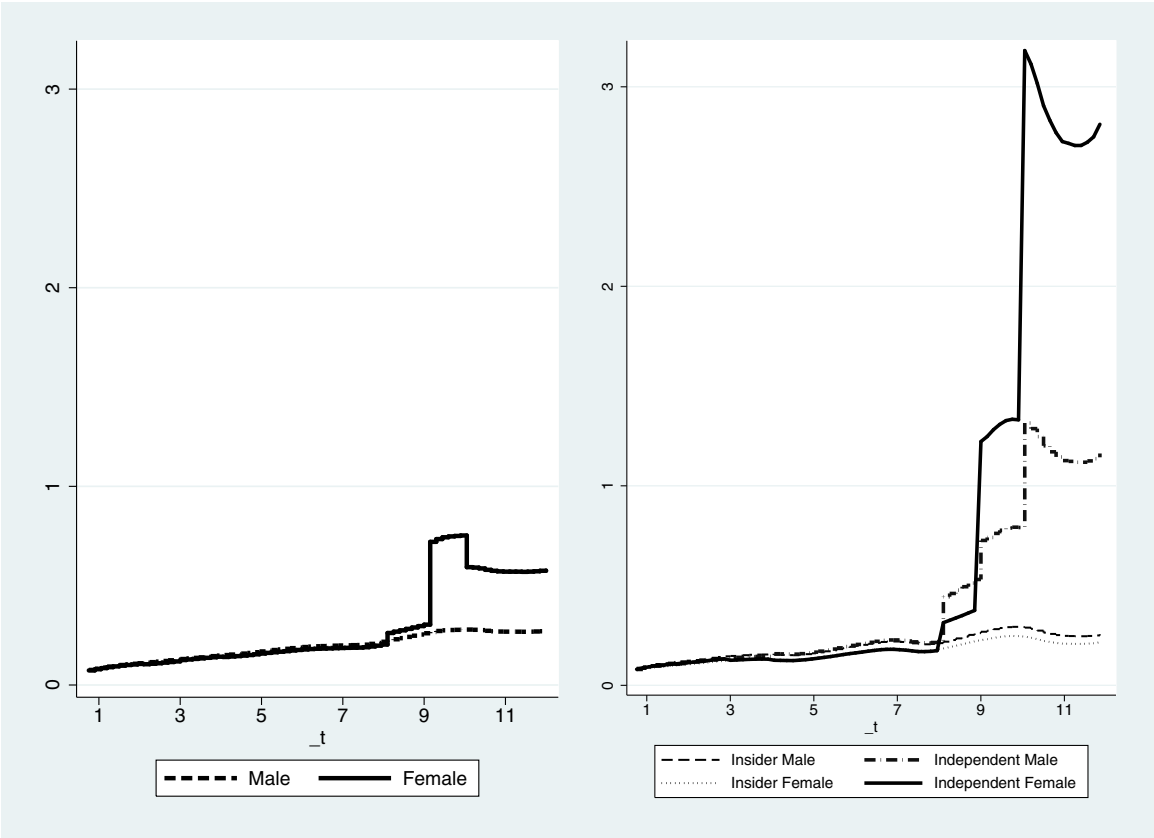

Figure 1. Predicted baseline hazard estimates for non-executive directors
Note: The graph on the left-hand side plots an estimate of the baseline hazard for female and male non-executive directors after stcurve in Stata 13.1, using the procedure described in (Cleves, Gould and Gutierrez, 2004). This captures the information embodied in the estimated coefficients in column (1) of Table 5. The hazards evolve similarly until the dramatic spike in the likelihood of female exit at year nine. The graph on the right-hand side plots separately the baseline hazards for female and male non-executive directors according to whether they are independent. This captures the information embodied in the estimated coefficients in column (3) of Table 5. It is revealing that the spike in the hazard at year nine occurs only for independent directors and is much more pronounced for female independent directors

after nine years could apply equally to men as to women, and what we observe for women may simply be a manifestation of a greater proportion of women originally being classified as independent on appointment. Column (2) in Table 5 allows an interaction between independence status and length of service ('Independent$_2$','Independent$_3$' and so on). It shows that the nine-year effect on independence status is certainly present when grouping both male and female directors together, but the gender-specific interactions in column (3) ('Independent$_2$.Female', 'Independent$_3$.Female' and so on) indicate that, while the effect is important for males, it is much more important for females (as shown by the positive coefficient of 0.86 on the interaction term between independence and female at year nine). The unconditional likelihood of exit at year nine is approximately 10%, so being female and independent increases this to approximately 28% (being male and independent increases the hazard from 10% to 13%). The cumulative effect on an estimate of the baseline hazard[13] is clear in Figure 1, where female independent directors experience a much higher risk of exiting the board at the nine-year mark (the nine-year independence effect) than do their equivalent male directors. These findings mean that we are unable to reject our third hypothesis (Hypothesis 3), namely that the increase in the relative hazard rate of board exit is associated with a loss of independence.

[13]This makes use of *stcurve* in Stata, as the Cox model itself does not estimate the baseline hazard.

Robustness tests

A wide range of robustness checks have been performed on the findings reported above. These are presented in Table A1 in the Appendix. The following tests are considered:

- allowing for the issue being one of age diversity (Ferrero-Ferrero, Fernandez-Izquierdo and Munoz-Torres, 2015) rather than independence as such by adding an interaction between age and independence status;
- allowing for the effect of cumulating years of experience on the board lest this be driving the result (Elstad and Ladegard, 2012);
- allowing for industry-specific effects on the importance of independence, given that women directors are not evenly distributed across industries (Adams and Ferreira, 2009);
- allowing that the percentage of females already on the board might suggest a different culture and hence different treatment of women directors (Terjesen, Sealy and Singh, 2009).

None of these additional experiments contradicts the finding that there is a sharp upward spike in the hazard of exiting the board that faces female directors after nine years of service, and that this is associated with their status as an independent director. We discuss the results of the robustness checks in further detail in the Appendix.

Discussion

Using a comprehensive sample of UK company boards over a long period, this paper has identified that women directors last a shorter time on UK boards than male directors do. This difference is not fully explained by differences in observable characteristics between women and men. Instead, women seem to suffer shorter careers simply because they are women. The glass cliff effect on appointment does not itself appear to be the reason why women experience these shorter careers. When we replicated the difference-in-differences approach of Mulcahy and Linehan (2014), we fail to find any significant effect that can be ascribed to the period preceding the time of appointment. We do, however, find evidence of a glass-cliff-type phenomenon further down the line.

The evidence that we find shows that women are liable to be at greater risk of leaving the board than men are, and especially after a period of nine years on the board (at which point they lose their independence in the eyes of UK corporate governance codes). In other words, it is largely the absence of long-serving female directors in our data that drives the differences in average tenure, not a greater volume of early exits of women. Furthermore, we find a strong association between a woman's tenure on a board and her status as an independent director. Our findings point to a process at work whereby women are less likely to be retained as company directors once their period of nine years is over. The results from the survival analysis suggest that this is directly related to the institutional arrangements in the UK whereby non-executive directors lose their independence status after they reach nine years of boardroom service. It would seem that this loss of independence status afflicts directors who are women to a greater extent than directors who are men.

It is worth emphasizing that, in the UK's 'comply or explain' corporate governance environment, exiting the board is not a required outcome following from a loss of independence. And is not a fate shared to nearly the same extent by men. This suggests that women are being deployed, in part, as a symbol of the independence of the company's corporate governance arrangements. In appointing a female non-executive director, companies seem to be placing particular emphasis on independence – and our results show that women are more likely to be classed as independent during their boardroom service. The use of female boardroom appointments to flag up the independence of the board is consistent with symbolic management (Westphal, 2010; Westphal and Zajac, 1994, 1995). It is the symbolism of that action and the status of independence that matters.

However, once that symbolic status disappears (in this case owing to the completion of nine-years' service on the board), the usefulness of the appointment also disappears. Compared with their male counterparts, it is relatively rare for a company to use its 'explain' option in the 'comply or explain' system (FRC, 2014) to hold on to longer-serving female directors. The independence trait plays a crucial role in effecting legitimacy for the board's actions (Burgess and Tharenou, 2002; Hillman, Shropshire and Canella, 2007) and, once it is gone, the director's usefulness diminishes. The female director is then exposed, and her continuing tenure on the board is at risk to an extent not

experienced by her male boardroom colleagues. This tension can arise from several sources. The one we have highlighted above is related to role incongruity (Eagly and Carli, 2003; Johnson *et al*., 2008) whereby, once the cloak of independence falls away, a woman director is exposed to the stereotypical expectations of what traits women possess and what traits boardroom directors should have. Exposed to these incongruent expectations, a woman is more likely to exit the board at this point.

Other explanations are possible, however, and we have not been able to rule these out using our archival data. For example, it may simply be the case that women have a greater propensity to choose to exit at this stage – perhaps to pursue alternative opportunities on other boards (although there was no evidence of this judged by movement to any of the 900 or so companies in the data). This underlines a further limitation of our analysis in that the precise mode of the director's exit is unobserved. Ideally, we would wish to be able to distinguish between tenures that end by choice of the director (voluntary) and those that end by the choice of the company (forced). Although we are able to condition the results above on a wide range of observables such as company performance, Gregory-Smith, Thompson and Wright (2009) note that company performance affects the hazards of the competing modes of exit differently, depending on length of service.

These considerations raise questions that underline some limitations in the current study. It cannot provide the depth of detail to understand fully the context of the decisions taking place when directors approach nine years of boardroom service. We have suggested that role congruity theory (Eagly, 1987) may explain the differential treatment between men and women when their independence status falls away, but this can only really be explored by a more qualitative research investigation, possibly using in-depth interviews with the key players (Roberts, McNulty and Stiles, 2005). There is also the related issue of causality, which in the current research design remains moot. Both of these considerations point to the potential of experimental or laboratory studies to shed light on the precise mechanisms at work in this context. In a discussion of work relating to the glass cliff, Bruckmuller *et al*. (2014) have recently reviewed the range of possibilities here. Making use of the conditions presented by a natural experiment, such as a change in regulations that imposes a change in the independence status of serving directors, is another possibility. But while Higgs (2003) formalized the nine-year guideline, it had been used in practice since Cadbury (1992), which pre-dates our data.

In terms of the policy implications of our findings, a recent policy document by the Financial Reporting Council (FRC, 2015) explicitly recognizes that staying on UK boards after nine years is an empirically significant phenomenon. In the context of the report's focus, succession at the top of UK companies, it portrays this as a problematic position-blocking phenomenon that may be impeding the refreshing of boardroom positions and hence inhibiting increased diversity:

> There has been some debate about the Code's reference to a nine years' tenure period for independent non-executives. This is the point at which length of service becomes a determining factor for boards and shareholders when considering independence. It is said that this has hindered the increase of women on boards, either because the period is too long, or because companies are not observing the Code and too many directors are serving greater than nine years. (FRC, 2015, p. 12)

The research results presented above provide evidence that the role of the nine-year term limitation is indeed undermining the diversity of the board (in that more women than men are clearly exiting at this stage). A policy change to oblige all directors to stand down at nine years would result in a greater turnover of positions and hence increased opportunity to appoint a more diverse board. However, not only would this represent a marked break with the UK traditional 'comply-or-explain' approach to corporate governance (Veldman and Willmott, 2016), but it would not necessarily get to the heart of the problem. Our previous work on board appointments in the UK (Gregory-Smith, Main and O'Reilly, 2014) confirmed the findings for the USA (Farrell and Hersch, 2005) that boards display a tendency to replace men with men and women with women. Our results here point to a possibly deeper issue than the lack of opportunity, in that the findings discussed above support the notion that, without the attribute of independence, female directors are not regarded equally with male directors. Policy would perhaps be better oriented towards tackling these issues head on, rather than redefining the corporate

governance guidelines that influence boardroom service.

Conclusion

In summary, while recent progress in appointing a greater number of women to UK boards can or may be applauded, our data would suggest that many of these appointments were used symbolically to signal greater independence, as well as to answer the call for greater diversity. These actions notwithstanding, there appears to remain a differential treatment of men and women directors. In particular, our findings point to a markedly different treatment of male vs. female outside directors once they reach nine years of service and lose their independence status. This effect is consistent with the holding of biased stereotypes regarding the role congruity of women in senior leadership positions. Whereas women serving as independent directors are seen as positively helpful from a symbolic management perspective (Fiss and Zajac, 2006; Westphal and Zajac, 1994, 1995, 1998), the world of a long-serving director, absent the status of independence, places women in a social role for which they are stereotyped as mismatched (Bakan, 1966; Eagly, 1987). This is evidenced by their systematic removal from boards after nine years of service. It could be argued that, in the interests of good corporate governance, there should be no outside directors serving beyond nine years. But true equality of treatment will not come until men and women are replaced with a similar propensity at the nine-year mark and there is a sweeping away of the residual role-incongruity stereotyping that seems to linger in UK boardrooms.

Appendix

Extending the analysis of the sensitivity of the results to age effects, column (1) in Table A1 introduces an interaction between age and director independence. The interaction term is significant, suggesting that older independent directors are less at risk than younger independent directors, other things being equal. To the extent that age proxies for experience (Elstad and Ladegard, 2012; Ferrero-Ferrero, Fernandez-Izquierdo and Munoz-Torres, 2015), this is consistent with the reasonable notion that, when deciding on the retention of non-executive directors, a company weighs up both director independence and accumulated experience.

To explore this further, we control for accumulated boardroom experience more directly in columns (2)–(4). We introduce two variables, the first counting executive years of service in-sample, but outside the company of interest, and the second doing the same, but for non-executive years of service. Of the two, it appears that non-executive years of service is the more relevant identifier of the experience that companies value in their non-executive directors, as only this variable has the effect of reducing the hazard of exit.

All our main specifications include a set of industry dummies, but in columns (3) and (4) we additionally control for the possibility that independence may have a different size effect across different industries (Adams and Ferreira, 2009) by introducing interaction terms between independence and industry sector. The omitted sector is Technology. Relative to this base, the results in column (3) indicate that being independent in the Financial sector or in the Consumer Service sector is more risky. Without more priors from theory, it is difficult to attribute too much to the differences between these industries but, importantly for our purposes, the spike in female hazard at year 9 remains unchanged by the inclusion of these interactions.

Column (4) introduces the percentage of women on the board by gender (Terjesen, Sealy and Singh, 2009), and it appears that being on a board with more females is less risky in terms of decreasing the general risk of exiting the board in any year. This effect is not changed if the director of interest is a woman. However, again, the spike in female hazard at nine years remains unchanged.

Overall, therefore, the results first discussed in Table 5 remain valid, even after being subjected to the above robustness checks.

Table A1. Robustness checks on Cox proportional hazards model

	(1)	(2)	(3)	(4)
Female	−0.045	−0.036	−0.042	−0.12
	(0.45)	(0.36)	(0.42)	(0.87)
$Female_2$	−0.044	−0.041	−0.040	−0.040
	(0.25)	(0.23)	(0.23)	(0.23)
$Female_3$	0.032	0.039	0.039	0.038
	(0.19)	(0.23)	(0.23)	(0.22)
$Female_4$	−0.040	−0.031	−0.029	−0.030
	(0.31)	(0.23)	(0.22)	(0.23)
$Female_8$	0.21	0.23	0.23	0.22
	(0.90)	(0.98)	(0.98)	(0.95)
$Female_9$	0.83***	0.85***	0.86***	0.85***
	(3.66)	(3.75)	(3.80)	(3.77)
$Female_{10}$	−0.23	−0.23	−0.21	−0.22
	(0.91)	(0.88)	(0.81)	(0.84)
Independent	0.97***	0.95***	0.81***	0.81***
	(5.55)	(5.46)	(4.24)	(4.26)
Independent.age	−0.017***	−0.016***	−0.017***	−0.017***
	(5.23)	(5.09)	(5.18)	(5.18)
Experience Exec		0.0024	0.0023	0.0022
		(1.12)	(1.05)	(1.03)
Experience Non-exec		−0.0015***	−0.0015***	−0.0015***
		(4.82)	(4.83)	(4.75)
% Female				−0.98**
				(2.39)
% Female.Female				0.56
				(0.97)
Industry interactions with independence				
Ind.Oil & Gas			0.067	0.069
			(0.35)	(0.36)
Ind.Basic Materials			0.26	0.26
			(1.60)	(1.58)
Ind.Industrials			0.18*	0.18*
			(1.74)	(1.75)
Ind.Consumer Goods			0.17	0.16
			(1.36)	(1.33)
Ind.Health Care			0.16	0.15
			(1.17)	(1.12)
Ind.Consumer Services			0.31***	0.30***
			(2.88)	(2.82)
Ind.Telecommunications			−0.31*	−0.31*
			(1.66)	(1.68)
Ind.Utilities			0.11	0.11
			(0.50)	(0.47)
Ind.Financials			0.14	0.15
			(1.45)	(1.50)
Controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Observations	66,739	66,739	66,739	66,739

z-statistics in parentheses. ***$p<0.01$, **$p<0.05$, *$p<0.1$.

Column (1) introduces an interaction between age and independence. Column (2) attempts to control for accumulated experience on the board by counting a running total of years of service (whether at this firm or another) separately for executive-years and non-executive-years. Column (3) introduces interactions between independence and the industry dummies. Column (4) controls for % of females already on the board (by gender).

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A Appendix