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The monitoring role of female directors over accounting quality

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The monitoring role of female directors over accounting quality

Abstract

Recent research in accounting suggests female directors exert more stringent monitoring over the financial reporting process than their male counterparts. However, an emerging literature in finance and economics provides mixed findings and questions whether females in leadership roles significantly differ from their male counterparts. Building on this literature, we re-examine the link between the presence of female directors, gender biases, and financial statements quality. Using a large sample of UK firms we find that a larger percentage of women among independent directors is significantly associated with lower earnings management practices. However, we show that this relation disappears if we focus on firms that do not discriminate against women in the access to directorships. Finally, we provide evidence that gender biases are associated with lower earnings quality. We interpret our results as consistent with (1) prior evidence that males and females do not differ substantially when performing the same role in highly specialized positions, and with (2) discrimination being an important factor explaining the association between female directors and accounting quality.

Keywords: *Gender diversity, board of directors, accounting quality, earnings management, corporate governance.*

JEL codes: M41, G34, J16, J71

1. Introduction

The role and effectiveness of women in corporate boards has garnered increased attention. This growing interest stems from the acknowledgment that women have been historically underrepresented in high profile jobs. This is the case of corporate directorships (Bilimoria and Piderit, 1994; Westphal and Stern, 2006, 2007), positions in biomedical research (Wenneras and Wold, 1997), or in leading symphony orchestras (Goldin and Rouse, 2000).

Recent regulations echo the concern that discrimination may exist in accessing directorships, leading to inefficient utilization of the talent pool. Thus, they recommend increasing the number of female directors in corporate boards. A number of these legislations explicitly argue that gender diversity improves board effectiveness. However, an emerging literature questions the view that female directors behave differently than their male counterparts (see, e.g., Adams and Funk, 2012; Sila et al., 2016), and asks for further research into the role of women on boards that can disentangle the confounding effect of discrimination.

Consistent with the existence of confounding factors, the evidence linking the presence of female directors with various measures of firm value, risk or performance is generally mixed (Ahern and Dittmar, 2012; Carter et al., 2003, 2010; Erhardt et al., 2003; Gul et al., 2011; Rose, 2007; Sila et al. 2016), with a number of studies indicating that female directors behave differently than their male counterparts particularly in terms of risk-aversion (e.g., Levi et al., 2014) or dividend payout policies (Chen et al. 2017), and suggesting lower performance in firms with greater board diversity (Adams and Ferreira, 2009). However, the literature studying gender diversity and financial reporting quality systematically reports positive consequences. We contribute to this area by developing and testing alternative explanations for this positive link

between accounting quality and women on corporate boards, building on the advances in the recent literature in economics and finance.

The aforementioned prior work in accounting generally argues that differences in behavior across male and female CEOs, CFOs, or directors exist, concluding that females are better monitors than males (Barua et al., 2010; Clatworthy and Peel, 2013; Krishnan and Parsons, 2008; Peni and Vahamaa, 2010; Srinidhi et al., 2011). The support for this prediction comes from different strands of literature that suggest that, in the general population, females differ from males. These strands of literature include behavioral studies (women being more risk averse, less overconfident, and exhibiting more independent thinking), ethics (women being more ethical), and organizational theory (women improving deliberations and promoting communication).¹

Against this backdrop, an emerging literature asks the question of whether these differences found in the general population can be extrapolated to leadership positions. Some recent research appears to suggest so. For example, the work of Levi et al. (2010, 2014) suggests that firms with female CEOs and more female directors engage in less aggressive acquisitions, as measured by their lower propensity to initiate acquisition bids, and lower size of the bid premiums, while the work of Faccio et al. (2016) provides evidence that firms managed by female CEOs have less volatile earnings, lower leverage and engage in lower overall corporate risk-taking. In related research, Huang and Kisgen (2013) study financial and investment decisions and conclude that male CEOs undertake more acquisitions and issue more debt than female CEOs, concluding that male CEOs exhibit overconfidence in corporate decision-making relative to female CEOs. In contrast to this literature that suggests gender differences also apply to leadership positions, the early work of Eagly and Johnson (1990) shows that women and men

¹ See, e.g., Agnew et al. (2003), Barber and Odean (2001), Beyer (1990), Gneezy et al. (2003), Lundeberg et al. (1994), Nosek et al. (2009).

who perform the same organizational role tend to behave in a similar way. Croson and Gneezy (2009), in their literature review, argue that gender differences in preferences including risk taking and overconfidence do not apply to women in managerial positions and Gneezy et al. (2009) show that gender differences are driven by social aspects and not predetermined. In related work, Deaves et al. (2009) show that in the specialized fields of economics, finance and business, men are not more overconfident than females, and argue that women in these disciplines may be different from those in the general population.² The work of Sila et al. (2016), building on the arguments and findings in Deaves et al. (2009) also fails to find evidence of lower risk taking in firms with greater female board representation, while Bugeja et al. (2012) fail to find differences in CEO compensation across genders, which they interpret as consistent with women not being differently risk-averse or less willing to accept performance-based compensation relative to men. Finally, Adams and Funk (2012, p. 221) analyze whether ‘*women in leadership positions are different from “typical” women in the population,*’ and conclude that women in leadership positions do not satisfy gender stereotypes. Indeed, they show that female directors are more risk loving than their male colleagues, a finding that contradicts common rhetoric on gender differences in risk-taking. This finding is revisited and confirmed by Adams and Rangunathan (2015), who study risk-taking in the banking industry during the crisis and show that, conditional on being in the finance industry, women are not more risk-averse than men.

Given the above discussion, gender differences may not apply to leadership roles.

However, even if gender differences do not exist in leadership positions, we expect that discrimination against women *can* create an association between the monitoring role of the board

² Similarly, the work of Sapienza et al. (2009) suggests that inherent biological differences between males and females, such as testosterone levels, influence the likelihood of entering the finance field, but that amongst those with high testosterone, whether male or female, no observable differences exist in risk aversion. The more general evidence in Hyde et al. (2008) indicates that differences in math and science abilities between genders are trivial.

and the presence of female directors. Albeit the literature in this area is scarce, there is prior evidence consistent with gender discrimination in accessing directorships (Bilimoria and Piderit, 1994; Farrel and Hersch, 2005). For example, Sila et al. (2016) show that female directors are more likely to be appointed if they replace another female, and less likely to be appointed to boards that have a greater pre-existent proportion of females. This is consistent with gender biases (as under no discrimination, these variables should not explain appointments). Consistent but indirect evidence is presented also by studies that systematically report the unexpectedly high number of firms with either no females or with a single female on their boards (see, e.g., Srinidhi et al., 2011; Gul et al., 2011). If better governed firms are less likely to discriminate, and higher quality boards positively influence financial statements quality,³ gender biases may create a positive association between gender diversity and accounting quality.

Thus, we expect that absent discrimination, there should be no association between gender diversity in corporate boards and accounting quality. Second, we expect that if a gender effect exists, it is driven by discrimination against women. Our predictions are consistent with the previously discussed work that suggests that once the process of female directors' appointment is controlled for, male and female directors behave similarly in leadership roles.

To test our predictions, we use a large UK sample for the period 2003-2012 and study the links between board gender diversity and earnings management. Our analyses yield the following key findings. First, we find that, similar to their male counterparts, the influence of female directors over the monitoring process hinges crucially on whether they are independent. We find that firms with a larger percentage of women among independent directors show

³See, e.g., Armstrong et al. (2014), Beekes et al. (2004), García Lara et al. (2009), Klein (2002), Peasnell et al. (2005), and Xie et al. (2003).

improved accounting numbers. We do not find this result in firms with a larger percentage of women among executive directors. In our second set of tests, we separately study discriminating *versus* non-discriminating firms. In non-discriminating firms, we find that the presence of female independent directors is not associated with better accounting numbers. Consistent with this finding, we also show that financial reporting is of lower quality in discriminating firms. Overall, our evidence supports the predictions that, first, absent discrimination, males and females in leadership roles behave similarly and, second, that discrimination in the access to directorships mediates the relation between female directors and accounting quality. Our results are consistent with Rose (2007), and particularly, with Sila et al. (2016) and challenge prior work in accounting. In particular, our results suggest that controlling for gender biases in board appointment procedures is important to understand the economic effects of female directors.

We contribute to prior literature by providing new evidence that adds to the increasingly accepted view that women in high profile jobs perform their duties similarly than their male counterparts. We also contribute to the literature by providing a review of how gender biases may impact on the effectiveness of female directors' monitoring that has testable implications for future research. The main implication of our results is that prior evidence of a positive female contribution to board monitoring effectiveness must be interpreted with caution, as it might be driven by discrimination against women in the access to corporate board seats. Our results certainly invite to reconsider some of the prior extant evidence, and are consistent with the work of Eagly and Johnson (1990), Croson and Gneezy (2009), Adams and Funk (2012), Adams and Raganathan (2015), and Sila et al. (2016) who show that observed behavioral differences across genders do not apply to high profile positions.

2. Female directors and the monitoring role of the board

Corporate governance encompasses all the processes and mechanisms that guarantee firms are managed in the interests of their stakeholders. The board of directors is at the centre of this decision-making and control system (Fama and Jensen, 1983; Young, 2000). Next, we discuss the expected association between female directors and accounting quality both in the absence and in the presence of gender biases in the appointment of directors.

2.1. Female directors and accounting quality in the absence of discrimination

Against an agency theory backdrop, corporate governance provisions are beneficial if they decrease agency costs. Consequently, one way through which the presence of women directors can contribute to increase firm value is through improvements in the monitoring effectiveness of the board. To study if female directors perform this monitoring role differently than their male counterparts, we focus on the financial reporting system, as it is expected to improve significantly through better monitoring. Directors' influence is predicted to hinge crucially on whether they have (1) sufficient knowledge to understand how managerial decisions influence accounting numbers; and (2) incentives to monitor management (Beekes et al., 2004).

Characteristics of directors' functional backgrounds, such as financial expertise or tenure can be more intuitively linked to their knowledge and ability to understand how managerial decisions affect accounting numbers and therefore, to the detection of managerial attempts to manage earnings. However, purely demographic attributes such as gender or race are less clearly associated with directors' knowledge, especially regarding the financial reporting system. With respect to the incentives to monitor, these are linked to whether the director is independent. Independence, as defined in corporate governance codes, is unlikely to systematically differ

across genders.⁴ Despite this, several recent studies suggest gender diversity on the board may influence a number of firm outcomes (e.g., Levi et al., 2014; Faccio et al., 2016), including accounting quality (Srinidhi et al., 2011). However, consistent with the aforementioned lack of arguments on gender differences in knowledge and incentives, a growing body of research questions that gender differences found in the general population can be extrapolated to leadership positions or to positions in the specialized fields of economics, finance and business (Adams and Funk, 2012; Adams and Raganathan, 2015; Bugeja et al., 2012; Deaves et al., 2009; Eagly and Johnson, 1990; Gneezy et al., 2009; Sila et al., 2016).

This discussion leads us to our first prediction. We expect that, if we take as constant directors' skills and knowledge, their decisions related to the financial reporting process will be equal regardless of their gender and only explained by differences in incentives. And thus, absent discrimination, we expect that gender diversity on the board has no impact on accounting quality.

An ample literature shows that independent directors positively influence accounting quality (e.g., Armstrong et al., 2014; Klein, 2002; Peasnell et al., 2005; Xie et al. 2003). Consistent with this literature, if male and female directors behave similarly and there is no discrimination, only the proportion of independent directors (of any gender) should influence accruals quality.⁵ However, the process of hiring a new board member is not gender neutral (Farrel and Hersch, 2005), and prior work suggests that there is discrimination against women, tokenism and stereotyping. As argued by Mateos de Cabo et al. (2011) the effects of female

⁴ Corporate governance codes generally link directors' independence to whether the director (1) is or has been an employee of the firm, (2) maintains or has maintained in the past business relations with the firm, (3) receives additional compensation from the firm, apart from the director's fee, (4) has family ties with any interested party to the firm, or (5) represents a significant shareholder.

⁵ This prediction is consistent with Eagly and Johnson (1990), Croson and Gneezy (2009), and Rose (2007), who shows that in boards with low diversity, members of the board that are unlike the majority are socialized to think and act like the majority.

directors cannot be properly measured without controlling for gender biases (discrimination). Next, we describe how these biases likely impact on board monitoring.

2.2. Female directors and accounting quality in the presence of discrimination

Prior work suggests that there are gender biases in the appointment of directors (Bilimoria and Piderit, 1994; Farrel and Hersch, 2005), and that recruitment processes favor men and are not based only on the grounds of the candidate's skills. Even controlling for experience and education, men have more probabilities of being elected for board membership. Also, there is evidence that women directors are not paid equally for doing the same work (Kulich et al., 2011), and that they are more likely to be appointed if they substitute another woman (e.g., Sila et al., 2016). If recruitment processes are gender biased, an association may exist between firms with a larger percentage of women serving on the board and the quality of accounting numbers.

Discrimination may lead to a positive association between the presence of female independent directors and the quality of accounting numbers through at least three channels. First, biases against women might create a better (larger) pool of available female candidates for directorships, permitting firms that do not discriminate to choose the most talented candidates, who would positively influence accounting quality. Second, given the barriers that women have to overcome to become directors, the ones that succeed could be better prepared and likely to exert greater effort than their male counterparts. This greater effort can be partly explained by higher reputational concerns and being subject to greater scrutiny (Lee and James, 2007). Adams and Ferreira (2009) report that women directors have better attendance records to board meetings (consistent with women exerting greater effort), and that CEO tenure is shorter in firms with more female directors, which they interpret as underperforming CEOs being removed from their

positions quicker in these firms (consistent with increased monitoring by female directors).

Finally and perhaps more likely, the presence of female directors may be a proxy for the quality of the firm governance structure. Better governed firms are likely to have better nomination systems/committees that choose directors according to merit and against objective criteria (e.g., Hutchinson et al., 2015). If better governed firms provide higher quality accounting numbers (Armstrong et al., 2014) and do not discriminate in the appointment of directors, this would lead to a positive association between the percentage of female independent directors and accounting quality. However, this association would not necessarily imply causality; it would be the result of firms with a larger percentage of female directors having also other governance provisions that improve the financial reporting process. The findings of Chen et al. (2017) support this plausible relevance of corporate governance mechanisms, as they report gender diversity effects only in firms with weak governance.

The alternative view also has some merit, and given discrimination, female directors may in fact be worse monitors if, for example, they have less expertise (Ahern and Dittmar, 2012) or lower incentives to monitor (Westphal and Stern, 2007). Research on resource dependence and institutional theories shows that board selection procedures are not gender neutral and that firms increase the percentage of female directors to match the demographic characteristics of their employees, in a search for legitimacy or to meet regulators' and societal expectations (Blum et al., 1994; Farrel and Hersch, 2005; Hillman et al., 2007; Grosvold and Brammer, 2011). Also indicative of this institutional role is that female directors are less influential and are paid less (Zelechowski and Bilimoria, 2004; Bilimoria and Piderit, 2007). When hiring female directors is an affirmative action and not a search for value, this might lead to inefficient hiring (Holzer and Neumark, 1999, 2000). For example, Ahern and Dittmar (2012) and Matsa and Miller (2013)

show that the introduction of mandated gender quotas on boards can have negative effects on firm value and performance. Thus, ultimately, the effect of discrimination on accounting quality is an empirical question of interest.

3. Methods and data

Gender biases in the appointment of directors may affect the association between female directors and the quality of monitoring. Overall, we expect that discrimination leads to lower accounting quality. Also, we expect that once we control for the confounding effects of these gender biases, women directors perform their monitoring role similarly than their male counterparts. Next, we describe the tests conducted to understand the links between female directors, gender biases and monitoring (as measured by accounting quality).

3.1. Main model (without controls for gender biases)

To test our predictions, we regress a measure of accounting quality (*ABS_DAX*) on the percentage of women among independent directors and controls. The model is as follows:

$$\begin{aligned} ABS_DAX_{j,t} = & \alpha + \beta_1 Fem_in_NED_{j,t} + \beta_2 NED_{j,t} + \beta_3 BSizeDum_{j,t} + \\ & + \beta_4 Dir.Qualifications_{j,t} + \beta_5 Dir.Appointments_{j,t} + \beta_6 ROA_{j,t} + \\ & + \beta_7 FirmSize_{j,t} + \beta_8 MTB_{j,t} + \beta_9 LossDummy_{j,t} + \\ & + \beta_{10} SmallProfit_{j,t} + \beta_{11} DivPayOut_{j,t} + \sum Year_t + u_{j,t} \end{aligned} \quad (1)$$

Where *ABS_DAX* is the absolute value of discretionary accruals estimated using the Dechow et al. (1995) model. Larger values of *ABS_DAX* indicate more pronounced earnings management practices and lower accounting quality. *Fem_in_NED* is the percentage of women among independent directors. The main coefficient of interest is β_1 . Absent discrimination, we expect β_1 to be insignificant. However, if gender biases exist, β_1 will be significant. Model (1) is estimated

using ordinary least squares. In the spirit of Petersen (2009), and to control for heteroskedasticity and cross-sectional dependence problems, we cluster the standard errors at the firm level. We do not cluster at the year level as the model incorporates year indicator variables.

To better understand whether it is gender that matters, or whether it is the role of the director as independent or executive, we additionally estimate model (1) using three alternative main explanatory variables: a) the % of female independent directors over all directors (independent or executives), b) the % of female directors over all directors, and c) the % of female executive directors over all directors. Our expectation is that, given that only independent directors have incentives to monitor, the presence of female executive directors will not be associated with lower earnings management. To the extent however that females are inherently different (for example, more ethical) and alter board dynamics, the presence of females on the board, irrespective of their role, would impact accounting quality.

Controls include the following corporate governance characteristics: (1) *NED*, the number of independent directors over the total number of directors; and (2) *BSizeDum*, a dummy variable taking the value of 1 if board size is between 5 and 12 directors, 0 otherwise. Consistent with prior evidence (Armstrong et al., 2014; Klein, 2002), we expect that firms with a larger percentage of independent directors will present lower absolute discretionary accruals. We also expect that monitoring will suffer in firms with unusually small or large boards (Financial Reporting Council, 2008; Higgs, 2003), leading to greater earnings management. We also control for the qualifications and networks of board members by including (3) *Dir. Qualifications*, which controls for directors' skills and knowledge and is defined as the average number of qualifications at undergraduate level and above for all the members of the board; and (4) *Dir. Appointments*, which controls for the number of other board seats held by firm directors, and is

defined as the mean number of other board appointments of the members of the Board. By including these controls, we ensure that it is not directors' differential skills and abilities that may drive our findings.

We also control for: profitability as measured by firm return-on-assets (*ROA*), as poor performance is one of the main drivers of manipulation, and, as shown in Kothari et al. (2005) is likely to drive discretionary accruals; Firm size as measured by *Total Assets* (a proxy for political pressures, which are expected to be greater for large, more visible firms as argued in Watts and Zimmerman, 1986); the market-to-book ratio (*MTB*), as Skinner and Sloan (2002) show that growth firms have additional incentives to conceal poor performance, and McNichols (2000) argue that one should control for growth in discretionary accruals model to capture actual discretionary behavior; *Loss_Dummy*, a dummy variable identifying firms with losses, as prior work, starting with Beaver (1966), shows that firms in distress manipulate accounting reports, and also detecting earnings management for firms with losses, especially if they are close to financial distress (Beneish, 1997) can be more complicated; *SmallProfit*, a dummy variable identifying firms with very small profits (less than one per cent of total assets), which is a potential sign of earnings manipulation, as shown by Burgstahler and Dichev (1997) and Hansen (2010); and the dividend pay-out ratio (dividend policies also create pressures for accounting manipulation, as shown by Daniel et al., 2008). Finally, we incorporate year dummies (*Year*).

3.1.1. Analysis of firms that do not discriminate in the access to directorships

As we describe at length in Section 2, we expect that the association between accounting quality and gender board diversity is influenced by the existence of discrimination against current and future female directors. To study the effect of gender biases we proceed as follows. We use three

simple strategies to identify firms that do not discriminate against women in the access to board seats. With these strategies, we create three sub-samples (I, II and III) where we expect gender biases to be less pronounced. Absent gender biases, male and female directors are chosen based on merit and therefore, they are expected to be similar in their knowledge and incentives, and thus, to behave similarly. Using these samples, we can test in a cleaner setting whether, absent discrimination, female directors behave differently than male directors.

The first identification strategy that we use is naïve, in the sense that we identify as non-discriminating all firms that have a female director at least once during our sample period (discriminating firms are then those firms that never have a female director throughout the entire sample period). This means that within the subsample of non-discriminating firms we have a number of firms for which in *some* years they have female directors, and in *some* years they have not. We label this identification strategy as sample I, and it is our least restrictive strategy. As a second naïve strategy, we follow a similar approach, but applied at the firm-year level instead of at the firm level, and identify as non-discriminating firm-year observations with at least one female director. This strategy is labeled as sample II and means that a single firm could be classified as discriminating in some years (when the firm has no female directors) and as non-discriminating in other years (when the firm has female directors.)

Admittedly, strategies I and II could be misclassifying some firms that discriminate (and for example, incur in tokenism) as non-discriminating. We address this concern with our third strategy, and also, in additional tests where we focus on cases where the firm has only one female director on the board. In our final identification strategy, we model the decision to appoint women directors to obtain an *ex-ante* probability of female presence on the board, which we can then compare to actual female presence. To build our model we follow Blum et al.

(1994), Hillman et al. (2007) and Srinidhi et al. (2011), who find that the main organizational predictors of women on corporate boards are firm and board size as well as industry membership. Hillman et al. (2007) follow the work of Meyer and Rowan (1977) in arguing that ‘*larger and more visible organizations experience more pressure to conform to societal expectations*’ (p. 944). Given societal pressures to increase the number of female directors, they expect larger firms to appoint more women directors than smaller firms. Regarding industry type, they argue that firms with a larger percentage of female employees will find that including female directors contributes to increase the legitimacy of the board’s decisions before the eyes of the employees. Consequently, they expect firms with a larger percentage of female employees to be more likely to hire female directors. Industry characteristics are thus particularly important, as prior research shows that specific skills intensity occupations across sectors are associated with board diversity (Adams and Kirchmaier, 2016). We use the following logit model:

$$\begin{aligned} Women_{j,t} = & \alpha + \beta_1 FirmSize_{j,t} + \beta_2 BoardSize_{j,t} + \beta_3 FemaleEmployment_{j,t} + \\ & + \beta_4 Reg_{j,t} + \beta_5 FirmAge_{j,t} + \beta_6 MTB_{j,t} + \beta_7 ROA_{j,t} + \\ & + \beta_8 Ret_{j,t} + \beta_9 ConcentrationRatio_{j,t} + \sum Year_t + u_{j,t} \end{aligned} \quad (2)$$

where *Women* is a dummy variable that takes value one if there is at least one woman (independent or executive) on the board of directors and zero otherwise, *FirmSize* is the natural logarithm of market capitalization, *BoardSize* is the number of directors on the board (larger boards are more likely to include women),⁶ *FemaleEmployment* is the percentage of female employees in each industry/year, as reported by the UK Statistics Authority, *Reg* is a dummy variable identifying regulated industries, which are more likely to include women for political/visibility issues. Following Hillman et al. (2007) we include as additional control

⁶ Model (1) includes a dummy variable to control for board size (*BSizeDum*). In model (2), following Hillman et al. (2007), we use a continuous variable. Both the percentage of female directors and *BSizeDum* have low firm-level variation, thus, the inclusion of *BSizeDum* in model (2) lowers variation in our independent variables. However, as a robustness test, we use *BSizeDum* in models (1) and (2) and repeat the main analyses. Our inferences are unchanged.

variables: (i) a proxy for organizational age, (ii) the market-to-book ratio, (iii) accounting and non-accounting based proxies for performance (ROA and the market rate of return), as the literature on ‘the glass cliff’ shows that less profitable firms are more likely to hire females for their management teams (Haslam and Ryan, 2008; Ryan and Haslam, 2005, 2007), (iv) the industry concentration ratio, and (v) dummy variables to account for year effects.⁷

Using model (2) we estimate the firm-year probability of female board presence. In our third identification strategy, we consider non-discriminating observations those with at least one woman sitting on the board and also those observations without female directors but with a low probability of having women on the board given their characteristics. This means that some firm-year observations without female directors are classified as non-discriminating in sample III.⁸

3.1.2. Accruals quality proxy

We use a widely accepted and extensively used measure of earnings management (the absolute value of discretionary accruals), as a proxy for accounting quality. We use accruals models to estimate discretionary accruals. Dechow et al. (2010: 351) argue that the ‘*use of these models has become the accepted methodology in accounting to capture discretion.*’ These models assume that the normal level of accruals for a given firm is determined by changes in the operational activities of the firm (changes in sales, which will lead to different levels of basic working

⁷ In additional analyses, we add industry fixed effects (FE) to model (2). However, several of the explanatory variables in model (2), based on Hillman et al. (2007), capture industry characteristics, and thus, the inclusion of industry FE weakens our approach. Regardless, if we estimate models (2) and (1) using industry FE in model (1), our main inferences remain unchanged, although the construction of sample III is slightly different and model (2) underestimates the probability of having female directors, leading to a sample III closer to sample I than the one reported in our main tests.

⁸ First, we classify as non-discriminating firms with a) no female directors and b) a low probability of having women on the board ($\leq 10\%$). This choice identifies a small number of non-discriminating firms, and, thus, minimizes the probability of type II error. Our inferences are not altered if we increase this cut-off point by 25%. As we increase it, the sample of non-discriminating firms increases substantially, which creates concerns of misclassifying firms. This is because the median probability is relatively low (27%).

capital accruals such as accounts payables or receivables), and by the level of property, plant and equipment needed to carry out the operations (that will lead to a certain level of long term accruals such as depreciation). Lower absolute values of discretionary accruals indicate a more transparent financial reporting system and more useful accounting numbers for stakeholders.

We define discretionary accruals (*DAX*) as the prediction error of the modified Jones (1991) model proposed by Dechow et al. (1995). We calculate *DAX* using a two-stage approach. First, we use the standard Jones (1991) model as applied in cross-section to total accruals (*TACC*). We measure *TACC* as the change in non-cash working capital plus depreciation and amortization. We then regress *TACC* on the change in sales, and gross property, plant and equipment for each NACE2 2-digit industry-year, using all available data, but imposing the restriction of at least six observations per industry-year combination. The model is as follows:

$$\frac{TACC_{j,t}}{TA_{j,t-1}} = \alpha_{j,t} \left[\frac{1}{TA_{j,t-1}} \right] + \beta_{j,t} \left[\frac{\Delta REV_{j,t}}{TA_{j,t-1}} \right] + \gamma_{j,t} \left[\frac{PPE_{j,t}}{TA_{j,t-1}} \right] + \varepsilon_{j,t} \quad (3)$$

where *TA* is total assets, ΔREV is change in total sales and *PPE* is gross property plant and equipment. In the second stage, we use the industry-year ordinary least square parameter estimates from equation (3) to partition *TACC* into discretionary (*DAX*) and non-discretionary accruals. Non-discretionary accruals are the predicted part of *TACC*, while *DAX* are the residuals resulting from this regression. Hence, for each firm *j*, we calculate *DAX* as follows:

$$DAX_{j,t} = \frac{TACC_{j,t}}{TA_{j,t-1}} - \left(\hat{\alpha}_{j,t} \left[\frac{1}{TA_{j,t-1}} \right] + \hat{\beta}_{j,t} \left[\frac{\Delta REV_{j,t} - \Delta AR_{j,t}}{TA_{j,t-1}} \right] + \hat{\gamma}_{j,t} \left[\frac{PPE_{j,t}}{TA_{j,t-1}} \right] \right) \quad (4)$$

where $\hat{\alpha}$, $\hat{\beta}$, $\hat{\gamma}$ are the fitted coefficients from equation (3) and ΔAR is the change in accounts receivable. We use the absolute value of *DAX* (*ABS_DAX*) as our measure of earnings quality.

Larger values of *ABS_DAX* indicate poorer earnings quality. Our inferences are also identical if we subtract change in receivables from the first stage and use those coefficients in model (4).

As discussed by Armstrong et al. (2010), Dechow et al. (2010) and Owens et al. (2016) one common concern with accruals models is that if there are intra-industry differences in the accruals generating process, Jones-type models may classify these differences (driven by firm-specific fundamental) as discretionary accruals, inflating the probability of finding cases of earnings management. To control for this possible measurement error, we include in Model (1) a wide set of explanatory variables that are expected to capture these intra-industry differences in economic fundamentals.

3.2. Sample and data

We collect data on board of directors' characteristics of UK firms for the period 2003-2012 from BoardEx. The UK is an Anglo-American country with a business environment comparable to the US in terms of investor protection, legal tradition, and quality of accounting numbers (Leuz et al., 2003), although differences exist with respect to the depth of capital markets and also, liability exposure (Khurana and Raman, 2004). The UK provides an interesting setting for our tests, as it has a rich corporate governance tradition. Indeed, the Cadbury Report of 1992 is one of the earliest corporate governance codes issued in the world, and the first UK corporate governance regulation recommending an increase in the number of women directors is the Higgs (2003) report, issued over a decade later and marking the beginning of our sample.

We merge these data with BvD Osiris accounting and stock prices information. We remove the top and bottom percentile of market returns, earnings, accruals and discretionary accruals. This leads to a final sample of 4,785 firm-year observations. This is a large fraction of the non-

financial firms listed in the main market of the London Stock Exchange. Our sample is substantially larger and includes smaller companies than prior work on corporate governance characteristics of UK firms, which constrains the sample to FTSE 100 firms (Conyon and Peck, 1998; Ryan and Haslam, 2005; Singh and Vinnicombe, 2004) or to firms with December fiscal-year ends (Beekes et al., 2004).

Insert Table 1 about here

Table 1 Panel A contains sample descriptive statistics. The average percentage of women sitting on boards is as low as 5.8%, while the median at three decimal digits is zero. The percentage of women among independent directors is also very low (5.6%, and the median is also zero).⁹ Table 1 Panel B shows that a significant proportion of firms have at least one female director, and this percentage has been increasing over time as depicted in Table 1 Panel B (from a minimum of 28% in 2004 to a maximum of 38% in 2012). These results are in line with previous research that also denounces the high degree of homogeneity in UK corporate elites (Conyon and Mallin 1997; Brammer et al., 2007). This also confirms that firm size appears to be an important determinant of the female presence on boards, as Singh and Vinnicombe (2004), who focus on the FTSE 100 firms, find that 61% of their sample firms had at least one woman on their boards. An important and interesting differential feature of our UK sample is that, while in prior US work (see, e.g., Srinidhi et al., 2011) women directors are almost all independent, in our sample, 37% of female directors are executives. That only 63% of women directors are independent in the UK (versus 95% in the US) indicates that both recruitment processes and the role played by female directors in the UK and in the US seems to be different. It also allows us to

⁹ There are 42 firm-year observations without independent directors. In our tests, we set the value of *Fem_in_NED* for these observations equal to zero. If we exclude these observations, results are qualitatively identical.

examine the different links with the quality of the financial reporting system of female independent directors *versus* female executive directors, a novel analysis in this literature.

The average percentage of non-executive directors is 53%, and the average number of directors is 6.6, also in line with previous work on UK boards (Peasnell et al., 2005). Accruals are on average negative, capturing the effect of depreciation and amortization, consistent with prior research. Finally, the mean absolute discretionary accruals represent an 8% of total assets, which is in line with prior research (for example, 7.7% in Klein, 2002).

4. Main results

Table 2 contains the correlation matrix. We find a significantly negative correlation between discretionary accruals and the percentage of non-executive directors. We also observe a significant negative correlation between *ABS_DAX* and: (1) the percentage of independent female directors among total board members (*Fem_in_board*), and (2) the percentage of women among independent directors (*Fem_in_NED*). Also, as predicted, *Fem_in_board* and *Fem_in_NED* are positively associated with *Size* and *BoardSize*, indicating that larger firms and firms with larger boards are more likely to include female directors in their boardrooms.

Insert Table 2 about here

In our first set of tests, we analyze the relation between earnings management and the percentage of women among independent directors, without considering the moderating effects of discrimination. This replicates much of the prior research in accounting. Table 3, column (a), contains the results of the estimation of model (1). The coefficient on *Fem_in_NED* is negative and significant (coeff=-0.019, *t*-stat= -1.80). As a robustness check, we also look at the

association between female independent directors over all directors and accounting quality. We also find a negative and significant relation (see Column (b), where $\text{coeff} = -0.039$, $t\text{-stat} = -2.20$).

To fully understand the links between gender diversity and accounting quality, in Table 3 we also report the results of estimating the main model considering as explanatory variables the percentage of women among all directors, and the percentage of women executive directors among all directors. To the extent that female directors are inherently different and, independent on their role, shift board dynamics in a way that enhances board monitoring ability, we should observe similar evidence when we consider these alternative variables. This definition of female presence also permits more direct comparisons with prior literature, as it is consistent with the work of Srinidhi et al. (2011) that, given limitations to the number of executive directors in their sample, focus their main tests on the presence of female directors (of any type).

When we analyze the relation between the percentage of women on the board and earnings quality, without considering whether these women are executive or independent, we fail to find any relation (Column (c)). Similarly, when we consider only the presence of female executive directors, we do not find any effect on earnings quality (Column (d)). This is consistent with only independent directors having incentives to monitor senior managers, and suggests that controlling for the role of directors is important in gender-based studies of female presence on boards of directors. This evidence also suggests that female directors are not inherently different from their male counterparts and that when given the same job, they behave similarly.

Insert Table 3 about here

Regarding the control variables, we find a significantly negative relation between *ABS_DAX* and the percentage of independent directors sitting on the board (*NED*). This is consistent with prior evidence showing that independent directors improve the quality of

earnings. We also find negative coefficients on *BSizeDum* and on *Dir.Qualifications* consistent with firms with too large or too small boards or with less qualified directors managing earnings more pronouncedly. This is in line with the recommendations in most governance codes and with the views in the academic literature (e.g., Jensen, 1993).

In our second set of tests, we consider the role of gender discrimination. To do so, we replicate the main test (Table 3, Column (a)), but using three sub-samples of firms for which we do not expect discrimination against women in the access to directorships. We do not expect to find an association between female directors and accounting quality for these subsets of firms.

To create the subsamples of non-discriminating firms, we use the previously explained strategies. Strategy I and II are straightforward to implement, as we identify as non-discriminating those firms that have a female at least in one year during the sample period (sample I); and then, as those firm-year observations when there is a female director on the board (sample II). For our strategy III, we estimate model (2), a logit model where the presence of at least one female director is regressed on firm and board size, whether the firm operates in an industry where most employees are women, and controls. According to Hillman et al. (2007) these three characteristics are the main determinants of the presence of women on boards.¹⁰ The results from estimating model (2) are presented in Table 4. As expected, firm size, board size and female employment have odds ratios above one (1.15, 1.27 and 23.99, respectively), and the coefficients are significant. Regarding the control variables, it is interesting to note that the coefficient on market return is significantly negative. This is consistent with the ‘glass cliff’

¹⁰ We acknowledge there might be other characteristics of top management team composition and dynamics that we do not consider in our study and that could be important to understand board composition. This is an important avenue for future research, which should link the literature on corporate governance and accounting with the literature on top management team composition and team work at the upper echelons of organizations. For reviews of these streams of literature see Carpenter et al. (2004), Forbes and Milliken (1999), and Joshi and Roh (2009).

phenomenon (Haslam and Ryan, 2008; Ryan and Haslam, 2005, 2007), whereby women have a greater probability to be appointed to relevant positions in poorly performing firms. The results are not sensitive to the exclusion of any of the variables. In addition, and given the large number of explanatory variables, we ran OLS regressions to calculate variance inflation factors to be certain that results are not affected by multicollinearity. The variance inflation factors are always smaller than 4. Prior research suggests that values below 10 discard multicollinearity problems.

Insert Table 4 about here

Next, we turn to the analyses of our three subsamples. Panel A of Table 5 contains descriptive statistics for the variable *Fem_in_NED* as well as for other key board characteristics, by sub-sample. For sample I (II), we identify 2,225 (1,552) non-discriminating firm-year observations, which account for 46% (32%) of our total sample. There is wide cross-sectional variation in *Fem_in_NED*, and even for these non-discriminating firms, the percentage of women among independent directors is quite low. We present, by subsample, a test of the differences in average board characteristics. As can be seen, systematically, firms considered as non-discriminating (Non-Discr) have higher quality corporate governance than firms considered as discriminating (Discr). In particular, discriminating firms have lower board independence, a lower number of highly qualified directors, and directors on their boards are appointed to a lower number of additional board seats. They also have, by construction, lower gender diversity. Indeed, *Fem_in_NED* is zero in the discriminating samples, indicating the absence of independent female director in those firms.

Table 5 Panel B contains details on the time-series distribution of firms classified as non-discriminating and also, of average earnings quality as measured by *ABS_DAX*, where higher levels of *ABS_DAX* indicate lower accounting quality. Strikingly, out of the 30 differences

reported, 22 are negative, indicating that average *ABS_DAX* are greater in the discriminating firms (i.e., discriminating firms have lower quality earnings), and only 2 are positive. Overall, the descriptive evidence reported in Panels A and B of Table 5 strongly suggests that discriminating firms have both lower quality corporate governance and lower quality earnings.

Insert Tables 5 and 6 about here

Panel C of Table 5 contains the estimation of model (1) for the three sub-samples of non-discriminating observations. In all three cases, the coefficient on *Fem_in_NED* is not significant at conventional levels (coeff= -0.002, *t*-stat= -0.14; coeff= -0.015, *t*-stat= -1.03 and coeff= -0.018, *t*-stat= -1.30, for sample I, II and III). It is noteworthy that the coefficient of the percentage of independent directors (*NED*) is negative and significant in all three cases, as expected. However, this coefficient is not significant for the discriminating samples, which are also presented in Table 5, for full comparability. This is consistent with the descriptive evidence that already suggested that differences exist between discriminating and non-discriminating firms, and also, that our simple identification strategies split sample firms along important corporate governance characteristics and effects, suggesting that gender biases may indeed have important effects in the association between governance and accounting quality.

In our final analysis, we focus on the non-discriminating samples and replicate the results of Table 5 Panel C using *Fem_perct* as our independent variable of interest. This is consistent with prior accounting research that does not consider the different roles of female directors (e.g., Srinidhi et al. 2011). To the extent that overall female presence improves monitoring, the effects of using this proxy could be stronger than the ones obtained for *Fem_in_NED*. The results from this test are presented in Table 6. *Fem_perct* is not significant in any of the three subsamples, while *NED* remains negative and significant. The evidence reported in Tables 5 and 6 questions

the findings in prior research, as once the focus is on non-discriminating firms, the association between female directors and accounting quality disappears. Our evidence is consistent with the work of Sila et al. (2016) who also fails to find evidence of female presence being associated with risk-taking, once they implement related strategies to account for endogeneity concerns.

Overall, the results are consistent with the positive association between firms with greater female presence and accounting quality being driven by discrimination against women in the access to corporate board seats. The results are also consistent with our expectation that better governed firms provide better quality accounting numbers and also hire more women directors. Finally, they are also consistent with female directors, *per se*, not exerting better monitoring over the financial reporting process, in line with the work of Eagly and Johnson (1990), Croson and Gneezy (2009), Gneezy et al. (2009) and Adams and Funk (2012) who argue that observed behavioral differences across genders do not apply to high profile positions.

4.1. Gender biases and earnings quality

In our first test we show a positive association between the presence of independent female directors and earnings quality (as shown in Table 3). We interpret this as evidence of discrimination because this association disappears once we focus on non-discriminating subsamples (Tables 5 and 6). To further substantiate this claim, we look directly at the potential negative consequences of gender biases. In particular, we identify two settings where biases are likely present: 1) situations of obvious gender discrimination, where firms have no women on the board while having a high *ex-ante* probability of having female directors; and 2) situations where tokenism is likely to take place, where firms have exactly one female on the board while having

a low *ex-ante* probability of having female directors. If gender biases lead to sub-optimal appointments, higher levels of earnings management would be expected for these firms.

To capture gender biases, we first define *GenderBias_Disc*, which takes the value of 1 if the firm does not have a female director, but it has an extremely high probability of having female directors (above percentile 95); zero otherwise. *GenderBias_Disc* captures situations in which a firm would be predicted to have female directors, but none are present, potentially signaling the existence of gender biases in the appointment of directors. We use model (2) to predict the probability of female board presence. Second, we look at a different gender bias-related problem: potential tokenism. Tokens can be defined as groups that, within a given organization, are underrepresented (Kanter, 1977). Even with the increase in the number of women in top executive positions in the last decades, relatively recent research still considers women managers as tokens (Daily et al., 1999). To study this issue, we focus on the set of firms that have at least one female director (by construction, firms without women directors cannot suffer this problem). As noted in Adams and Ferreira (2009, p. 291) the presence of only one female director is usually regarded as evidence of tokenism. We create *GenderBias_Tokenism*, which takes the value of 1 if the firm has only one female director on the board and a low probability of having a female director; zero otherwise. The intuition behind this proxy is that in firms with a low probability of having female directors and with exactly one female director, this female director could be a token director.

Insert Tables 7 and 8 about here

The results from the first analysis, for the full sample, are presented in Table 7. Consistent with our expectations, we find a positive and significant coefficient on *GenderBias_Disc* (coeff=0.056, *t*-stat=1.89), indicating that gender discrimination is associated with greater

earnings management, and thus, lower earnings quality. The results from our second analysis are presented in Table 8. We define *GenderBias_Tokenism* using two different thresholds: when the probability of having a female director is in the lowest quartile of the distribution (*GenderBias_Tokenism25*) and when the probability of having a female director is below the median (*GenderBias_Tokenism50*). We find a positive and significant *GenderBias_Tokenism* in both cases, indicating that; overall, gender discrimination is associated with greater earnings management. Across all model specifications, we still find a negative and significant coefficient on *NED*, consistent with the prior findings and theory. Overall, the evidence reported in Tables 7 and 8 supports our predictions and is consistent with discrimination in board selection processes potentially leading to sub-optimal monitoring.

5. Robustness tests

5.1. Heckman (1979) two stage approach

As a robustness check, we implement a Heckman (1979) two stage approach where we first model the decision to hire a woman director, and then, estimate the relation between *ABS_DAX* and *Fem_in_NED*. After controlling in the first stage for the determinants of the appointment of female directors, we expect that, in the second stage, we will not find a relation between *ABS_DAX* and *Fem_in_NED*. To model the decision to appoint women directors we use model (2). In the second stage we introduce the inverse of the Mills ratio obtained from model (2) into model (1). Among the explanatory variables in the first stage we include the overall percentage of female employees at all levels of the organization. This variable is expected to affect the hiring of female directors (Hillman et al., 2007), and is excluded from the second stage, as it is not expected to affect the dependent variable in the second stage (discretionary accruals). This

exclusion restriction is the one followed by Srinidhi et al. (2011), who also implement this approach to control for endogeneity. The results of the second stage are in line with our previous tests, in that female directors play no different role than male directors in monitoring the financial reporting process. The coefficient on *Fem_in_NED* is not significant at conventional levels (coeff=-0.013, *z*-stat= -1.14). The coefficient on the inverse of the Mills' ratio is significant (coeff= 0.024, *z*-stat= 4.02). This is consistent with our theoretical development. Regarding the rest of controls, the results are in line with those reported in Table 3. In particular, the percentage of independent directors is, as expected, significantly negative (coeff=-0.027, *z*-stat=-1.79), return on assets is negative and significant (coeff=-0.100, *z*-stat=-5.35) and the market to book ratio is positive and significant (coeff=0.005, *z*-stat=3.30). Regarding the results from the first stage, they are extremely similar to those reported in Table 4.¹¹

5.2. *Alternative sample*

In our main tests the sample starts in 2003. This is the year of issuance of the Higgs (2003) report. We do not believe that the Higgs report is a strong affirmative policy. However, we cannot discard completely that it led to the hiring of inexperienced or inadequate women to board positions. This was the case of the Norwegian law on gender quotas for directors, a very strong affirmative policy, that as shown by Ahern and Dittmar (2012) led to suboptimal hiring. The hiring of inexperienced women to boards of directors could be a contributing factor leading to our findings of no effect of women over the quality of accounting numbers. If this was the case in the UK, it would not be clear whether our findings would also hold in an institutional framework without affirmative actions. Given this, and as a robustness test, we replicate our

¹¹ We use a Logit estimation in Table 4. For the Heckman first stage we use a Probit estimation. The only minor differences between the results of the first stage and the results from Table 4 arise because of the different estimation methods and do not affect the inferences.

main findings using a sample prior to the issuance of the Higgs report. In particular, we focus on the period 1997-2002. For this period, we follow exactly the same data collection processes as in our main tests, but with the particularity that we use information on board characteristics from the Manifest database, and financial statements information from DataStream.¹² This alternative sample contains 2,411 firm-year observations. The average number of yearly observations is in line with that of the main sample, and the descriptive statistics are, for most of the variables considered, remarkably similar, albeit the average percentage of females on boards is lower during that period, at 18%. Using this new sample, in unreported tests, we are able to replicate all of the main results, and inferences are not altered. The only difference with the main results is that, given that the new sample is almost half of the one that we use in the main tests, the subsamples in Table 5 are quite small (around 500 observations) and the significance levels of some of the control variables are substantially reduced. Finally, we also obtain very similar results when using the Heckman (1979) two stage approach.

6. Summary and conclusions

We examine whether female directors improve the monitoring role of the board over the financial reporting system. In particular, we study whether a larger percentage of women among independent directors contributes to improving the quality of accounting numbers, and whether this relation is moderated by gender discrimination in the access to corporate board seats. We build our work against the background of recent research that suggests that gender differences in performance that are present in the general population do not exist in high profile jobs (Croson and Gneezy, 2009; Gneezy et al., 2009; Adams and Funk, 2012; Sila et al., 2016). If males and

¹²We use Manifest because of constraints in the access to the data in these early years in BoardEx.

females behave similarly in high profile jobs, under no discrimination, the presence of women should have no effect over the monitoring exerted by corporate boards. However, prior evidence suggests that discrimination exists, and thus, we hypothesize that biases in the procedures leading to directors' nomination and appointment can affect the association between the presence of female directors and accounting quality.

Using a large sample of UK quoted companies, we show that the influence of female directors over the monitoring of the financial reporting process hinges crucially on whether they are independent. We show that the presence of executive women directors on the board of directors is not significantly associated with better quality accounting numbers, while the presence of independent women directors is. In a second set of tests, we use several simple strategies to control for the effects of gender biases in the access to board seats and fail to find evidence consistent with larger percentages of women among independent directors being significantly associated with improved accounting numbers. These results are consistent with the view that gender differences in preferences do not apply to women in top management positions. This is consistent with Sila et al. (2016), who study firm risk-taking and also fail to find evidence that female directors behave differently than male directors once endogeneity concerns are properly dealt with. Overall, the presence of independent directors appears to be the key characteristic to ameliorate the financial reporting process, regardless of gender.

While our evidence does not speak directly to the recent regulatory emphasis on imposing gender quotas, it suggests gender discrimination is correlated with worse firm outcomes, as measured by greater earnings management. It is certainly an important avenue for future research to provide further evidence on what diversity mixes most benefit firms and the economy overall.

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TABLE 1: Descriptive Evidence

Panel A: Descriptive statistics of main variables

Variable definition	Variable	Mean	p25	Median	p75	Std. Dev.	Min.	Max.
Natural log of market cap.	<i>FirmSize</i>	10.878	9.199	10.391	12.428	2.335	4.012	18.267
Return on assets	<i>ROA</i>	-0.015	-0.047	0.033	0.074	0.168	-0.838	0.300
Market return	<i>Ret</i>	0.091	-0.333	-0.003	0.347	0.630	-0.884	3.390
Total accruals	<i>Tacc</i>	-0.054	-0.100	-0.044	-0.002	0.111	-0.556	0.456
Absolute discretionary accruals	<i>Abs_DAX</i>	0.080	0.022	0.052	0.107	0.083	0.000	0.489
% of non-executive directors	<i>NED</i>	0.532	0.429	0.538	0.667	0.159	0.000	1.000
Board size	<i>BoardSize</i>	6.609	5.000	6.000	8.000	2.297	2.000	19.000
Directors' Qualifications	<i>Dir. Qualifications</i>	1.510	1.000	1.500	2.000	0.674	0.000	5.400
Directors' Appointments	<i>Dir. Appointments</i>	2.813	1.778	2.500	3.571	1.426	1.000	14.750
Number of Female directors	<i>Fem_tot</i>	0.421	0.000	0.000	1.000	0.698	0.000	4.000
N. of independent female	<i>Fem_in</i>	0.264	0.000	0.000	0.000	0.558	0.000	4.000
N. of executive female directors	<i>Fem_ex</i>	0.157	0.000	0.000	0.000	0.422	0.000	4.000
% of women on the board	<i>Fem_percent</i>	0.058	0.000	0.000	0.125	0.097	0.000	0.600
% of independent female	<i>Fem_in_board</i>	0.033	0.000	0.000	0.000	0.069	0.000	0.444
% of executive female directors	<i>Fem_ex_board</i>	0.025	0.000	0.000	0.000	0.071	0.000	0.600
% of women among independent	<i>Fem_in_NED</i>	0.056	0.000	0.000	0.000	0.121	0.000	1.000
Total Assets	<i>Size</i>	1.176	0.013	0.049	0.323	4.744	0.000	77.320
Market to book ratio	<i>Market-to-book</i>	1.143	0.413	0.744	1.310	1.507	0.006	29.538
Dummy firms with losses	<i>Loss_Dummy</i>	0.342	0.000	0.000	1.000	0.475	0.000	1.000
Dummy very small profit	<i>Small_Profits</i>	0.041	0.000	0.000	0.000	0.198	0.000	1.000
Dividend payout ratio	<i>Div_Payout</i>	0.202	0.000	0.000	0.408	4.350	-156	105
Female Employment	<i>FemaleEmployment</i>	0.315	0.236	0.276	0.439	0.128	0.106	0.799
Firm Age	<i>Firm age</i>	28.585	7.000	15.000	36.000	31.699	1.000	199
Concentration Ratio	<i>CR</i>	0.060	0.001	0.006	0.040	0.141	0.000	0.996

TABLE 1 (CONTINUED)

Panel B: Proportion of UK firms with at least one woman on their boardrooms.

The sample consists of 4,785 firm-year observations for the period 2003 – 2012. *FirmSize* is the natural logarithm of Market Capitalization. *ROA* is Return on assets. *Ret* is the rate of return over the fiscal year. *Tacc* is total accruals deflated by lagged total assets. We calculate total accruals as $\Delta(CA-CASH)-\Delta(CL-STDEBT)-(DA)$, where *CA* is total current assets, *CASH* is total cash and equivalents, *CL* is total current liabilities, *STDEBT* is total short term debt, *DA* is total depreciation, amortization and depletion. *Abs_DAX* is the absolute value of discretionary accruals, calculated as the residual of the modified version of the Jones (1991) accruals model (Dechow et al. 1995), as applied to total accruals. *Ned* is the percentage of non-executive directors on the board. *BoardSize* is the size of the board of directors. *Dir. Qualifications* is the average number of qualifications at undergraduate level and above for all the directors. *Dir. Appointments* is the average number of companies that a director serves. *Fem_percent* is the percentage of women on the board. *Fem_in_board* is the percentage of women independent directors among the total number of directors. *Fem_ex_board* is the percentage of women executive directors among the total number of directors. *Fem_in_NED* is the percentage of women among independent directors. *Total assets* is total assets, the *market to book ratio* is the market capitalization of the firm divided by total assets. *Loss_Dummy* is a dummy variable taking the value of 1 if the firm reported a loss in the current year, and zero otherwise. *Small_Profit* is a dummy variable taking the value of 1 if the firm reports very small profits (less than one percent of total assets). *Female employment* is the % of female employees in a given industry over the total number of employees in the industry, as reported by United Kingdom Statistics Authority. *Firm age* is the number of years since the firm's IPO. *The concentration ratio* is firm sales divided by total sales of the whole industry where the firm operates. We take industries at the NACE2 two-digits level.

TABLE 2
Correlation Matrix

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)
(a) <i>FirmSize</i>	1.00																			
(b) <i>ROA</i>	0.37	1.00																		
(c) <i>Ret</i>	0.14	0.17	1.00																	
(d) <i>TACC</i>	0.07	0.24	0.07	1.00																
(e) <i>Abs_DAX</i>	-0.20	-0.23	-0.01	-0.24	1.00															
(f) <i>NED</i>	0.41	0.06	-0.01	0.00	-0.09	1.00														
(g) <i>BoardSize</i>	0.71	0.23	0.04	0.04	-0.13	0.28	1.00													
(h) <i>Fem_percent</i>	0.18	0.07	0.00	-0.01	-0.05	0.07	0.16	1.00												
(i) <i>Fem_in_board</i>	0.37	0.09	-0.01	-0.01	-0.08	0.26	0.29	0.68	1.00											
(j) <i>Fem_ex_board</i>	-0.11	0.01	0.01	0.00	0.02	-0.16	-0.07	0.70	-0.04	1.00										
(k) <i>Fem_in_NED</i>	0.30	0.06	-0.01	-0.01	-0.06	0.16	0.24	0.66	0.96	-0.03	1.00									
(l) <i>Qualifications</i>	0.41	-0.01	0.02	0.01	-0.06	0.36	0.30	0.09	0.20	-0.07	0.15	1.00								
(m) <i>Appointments</i>	0.37	0.05	0.00	-0.01	-0.07	0.40	0.19	0.08	0.18	-0.07	0.13	0.31	1.00							
(n) <i>Total Assets</i>	0.53	0.12	0.02	0.01	-0.08	0.25	0.47	0.15	0.25	-0.05	0.19	0.30	0.27	1.00						
(o) <i>Market-to-book</i>	0.10	-0.13	0.19	0.07	0.08	0.01	0.00	-0.02	-0.02	-0.01	-0.02	0.13	-0.01	-0.03	1.00					
(p) <i>Loss_Dummy</i>	-0.39	-0.71	-0.18	-0.21	0.20	-0.06	-0.24	-0.07	-0.09	0.00	-0.07	-0.02	-0.06	-0.14	0.07	1.00				
(q) <i>Small_Profits</i>	-0.03	0.02	-0.02	0.03	-0.03	-0.01	-0.03	0.01	0.00	0.01	0.00	-0.06	0.01	-0.01	-0.07	-0.15	1.00			
(r) <i>Div_Payout</i>	0.03	0.03	0.01	0.01	-0.02	0.01	0.01	0.01	0.02	-0.01	0.02	0.01	0.02	0.01	0.00	-0.12	0.17	1.00		
(s) <i>FemEmployment</i>	-0.08	0.00	-0.05	-0.03	-0.05	-0.02	-0.07	0.14	0.08	0.12	0.09	-0.16	-0.05	-0.10	-0.01	0.00	0.04	0.02	1.00	
(t) <i>Firm age</i>	0.24	0.19	0.03	0.05	-0.14	0.12	0.20	0.03	0.13	-0.08	0.11	0.10	0.05	0.08	-0.13	-0.20	0.02	0.00	-0.13	1.00
(u) <i>Conc. Ratio</i>	0.60	0.18	0.02	0.01	-0.13	0.29	0.50	0.15	0.26	-0.05	0.20	0.32	0.29	0.56	-0.04	-0.20	-0.02	0.01	-0.06	0.14

The sample consists of 4,785 firm-year observations for the period 2003 – 2012. All variables are as defined in Table 1. Bold numbers indicate significance at the 10% level or better.

TABLE 3

Regressions of absolute value of discretionary accruals on female participation on the board and controls

	Expected Sign	(a)	(b)	(c)	(d)
<i>Fem_in_NED</i> (% women among indep. directors)	-	-0.019* (-1.80)			
<i>Fem_in_board</i> (% women indep. over total board)	-		-0.039** (-2.20)		
<i>Fem_percent</i> (% women over total board members)	?			-0.012 (-0.87)	
<i>Fem_ex_board</i> (% women execs. over total board)	?				0.011 (0.51)
<i>NED</i> (% of indep. Direc.)	-	-0.020* (-1.95)	-0.018* (-1.76)	-0.021** (-2.07)	-0.020** (-1.99)
<i>BSizeDum</i>	-	-0.008** (-2.05)	-0.008** (-2.03)	-0.008** (-2.11)	-0.008** (-2.17)
<i>Dir. Qualifications</i>	-	-0.004* (-1.78)	-0.004* (-1.76)	-0.004* (-1.83)	-0.004* (-1.86)
<i>Dir. Appointments</i>	-	-0.001 (-1.20)	-0.001 (-1.18)	-0.001 (-1.22)	-0.001 (-1.24)
<i>ROA</i>	?	-0.082*** (-5.35)	-0.082*** (-5.33)	-0.082*** (-5.34)	-0.082*** (-5.37)
<i>Size</i>	?	-0.000 (-0.86)	-0.000 (-0.74)	-0.000 (-0.98)	-0.000 (-1.08)
<i>Market-to-Book</i>	+	0.003** (2.47)	0.003** (2.46)	0.003** (2.48)	0.003** (2.51)
<i>Loss_Dummy</i>	+	0.012*** (2.83)	0.012*** (2.82)	0.012*** (2.86)	0.012*** (2.86)
<i>Small_Profits</i>	+	-0.007 (-1.24)	-0.007 (-1.24)	-0.007 (-1.23)	-0.007 (-1.25)
<i>Div_Payout</i>	?	-0.000 (-0.05)	-0.000 (-0.04)	-0.000 (-0.07)	-0.000 (-0.07)
<i>Constant</i>		0.092*** (11.70)	0.091*** (11.53)	0.092*** (11.82)	0.091*** (11.67)
Observations		4,785	4,785	4,785	4,785
R-squared		0.074	0.074	0.073	0.073

The sample consists of 4,785 firm-year observations for the period 2003-2012. We calculate discretionary accruals as the absolute value of the residuals of the modified version of the Jones (1991) accruals model (Dechow *et al.* 1995), as applied to total accruals. *NED* is the percentage of non-executive directors on the board. *BSizeDum* is a dummy variable taking the value of 1 if the board size is between 5 and 12 members. *Fem_percent* is the percentage of women on the board. *Fem_in_board* is the percentage of women independent directors among the total number of directors. *Fem_ex_board* is the percentage of women executive directors among the total number of directors. *Fem_in_NED* is the percentage of women among independent directors. Controls include profitability (ROA), size (total assets), the market to book ratio, a dummy variable identifying firms with losses (*Loss_Dummy*), a dummy variable identifying firms with very small profits (less than one percent of total assets) (*Small_Profits*), the dividend pay-out ratio (*Div_Payout*), the average number of board members' qualifications (*Dir. Qualifications*) and other board appointments (*Dir. Appointments*) and year dummies. ***, **, and * represent 1%, 5%, and 10% significance, respectively.

TABLE 4
Logit model: Probability of hiring female board members

Dependent variable: 0/1 (At least one woman director)			
	<i>Expected Sign</i>	<i>Coefficient (Z-Stat)</i>	<i>Odds ratio</i>
<i>Firm Size</i>	+	0.139*** (5.74)	1.149***
<i>Board Size</i>	+	0.236*** (10.92)	1.267***
<i>Female Employment</i>	+	3.177*** (11.97)	23.986***
<i>Regulated</i>	+	-0.005 (-0.03)	0.995
<i>Firm age</i>	?	-0.000 (-0.39)	1.000
<i>Market to book ratio</i>	?	-0.048* (-1.74)	0.953*
<i>ROA</i>	-	0.018 (0.073)	1.018
<i>Market Return</i>	-	-0.120* (-1.69)	0.887*
<i>Concentration Ratio</i>	?	0.815*** (2.72)	2.258***
<i>Constant</i>		-5.125*** (-18.45)	0.006***
<i>Observations</i>		4,785	4,785
<i>Year FE</i>		YES	YES

The sample consists of 4,785 firm-year observations for the period 2003-2012. *Firm Size* is the natural logarithm of market capitalization. *Board Size* is the number of board members. *Female Employment* is the percentage of female employees in each industry/year, as reported by the UK Statistics Authority. *Regulated* is whether the firm pertains to a regulated industry. *Firm age* is the age of the firm measured from the IPO date. The market to book ratio is the market capitalization of the firm divided by total assets. *ROA* is return on assets. *Market return* is the rate of return of the firm over the fiscal year. *Concentration ratio* is firm sales divided by the total sales of the whole industry where the firm operates. ***, **, and * represent 1%, 5%, and 10% significance, respectively.

TABLE 5

Panel A: Comparison of Board characteristics for three subsamples of firms that do not discriminate against women in the appointment of directors versus rest of the sample

	Sample I			Sample II			Sample III		
	Non-Discr.	Discr.	<i>diff.</i>	Non-Discr.	Discr.	<i>diff.</i>	Non-Discr.	Discr.	<i>diff.</i>
<i>Fem_in_NED</i>	0.121	0.000	0.121	0.173	0.000	0.173	0.156	0.000	0.156
<i>Fem_in_board</i>	0.071	0.000	0.071	0.102	0.000	0.102	0.092	0.000	0.092
<i>Fem_percent</i>	0.126	0.000	0.126	0.180	0.000	0.180	0.162	0.000	0.162
<i>Fem_ex_board</i>	0.054	0.000	0.054	0.078	0.000	0.078	0.070	0.000	0.070
<i>BSizeDum</i>	0.876	0.780	0.096	0.880	0.798	0.082	0.804	0.836	-0.032
<i>NED</i>	0.557	0.510	0.047	0.563	0.517	0.046	0.550	0.522	0.028
<i>Dir. Qualifications</i>	1.603	1.430	0.173	1.647	1.444	0.203	1.615	1.451	0.163
<i>Dir. Appointments</i>	3.012	2.639	0.373	3.060	2.694	0.366	3.000	2.707	0.293
<i>Observations</i>	2,225	2,560		1,552	3,233		1,721	3,064	

Panel B: Firm time-series distribution by sample and descriptive evidence of absolute value of discretionary accruals by discriminating and non-discriminating samples I, II and III.

FYR	Sample I				Sample II				Sample III			
	% of Non-Discr. firms	ABS_DAX			% of Non-Discr. firms	ABS_DAX			% of Non-Discr. firms	ABS_DAX		
		Non-Discr.	Discr.	<i>diff.</i>		Non-Discr.	Discr.	<i>diff.</i>		Non-Discr.	Discr.	<i>diff.</i>
2003	47.10	0.079	0.077	0.00	30.80	0.086	0.074	0.01	35.51	0.091	0.071	0.02
2004	44.04	0.070	0.103	-0.03	27.83	0.072	0.094	-0.02	35.47	0.088	0.088	0.00
2005	47.12	0.077	0.093	-0.02	30.09	0.078	0.088	-0.01	37.17	0.078	0.089	-0.01
2006	48.17	0.071	0.094	-0.02	32.93	0.071	0.088	-0.02	35.57	0.071	0.089	-0.02
2007	44.96	0.080	0.093	-0.01	29.60	0.076	0.092	-0.02	33.60	0.079	0.091	-0.01
2008	47.34	0.072	0.089	-0.02	32.81	0.075	0.084	-0.01	35.47	0.082	0.080	0.00
2009	46.74	0.069	0.078	-0.01	31.80	0.073	0.074	0.00	35.29	0.076	0.072	0.00
2010	46.72	0.068	0.082	-0.01	34.12	0.071	0.078	-0.01	36.47	0.074	0.076	0.00
2011	46.15	0.063	0.085	-0.02	37.03	0.058	0.085	-0.03	38.28	0.061	0.083	-0.02
2012	45.79	0.054	0.083	-0.03	38.42	0.056	0.078	-0.02	38.95	0.059	0.077	-0.02

The sample consists of 4,785 firm-year observations for the period 2003 – 2012. All variables are as defined in Table 1. Bold numbers indicate significant difference at the 5 percent level or better.

TABLE 5

Panel C: Regressions of absolute value of discretionary accruals on *Fem_in_NED* (% of women among independent directors) and controls for two different samples of firms that do not discriminate against women in the access to directorships

	Sample I		Sample II		Sample III	
	Non-Discr.	Discr.	Non-Discr.	Discr.	Non-Discr.	Discr.
<i>Fem_in_NED</i>	-0.002 (-0.14)		-0.015 (-1.03)		-0.018 (-1.30)	
<i>NED (% of indep. Direc.)</i>	-0.033** (-2.21)	-0.008 (-0.55)	-0.039** (-2.13)	-0.011 (-0.90)	-0.034* (-1.91)	-0.011 (-0.84)
<i>BSizeDum</i>	-0.006 (-1.07)	-0.006 (-1.22)	-0.006 (-0.82)	-0.007 (-1.56)	-0.013** (-2.00)	-0.002 (-0.40)
<i>Dir. Qualifications</i>	-0.006* (-1.66)	-0.002 (-0.60)	-0.005 (-1.04)	-0.003 (-1.11)	-0.001 (-0.35)	-0.005* (-1.73)
<i>Dir. Appointments</i>	-0.001 (-0.80)	-0.001 (-0.34)	-0.001 (-0.56)	-0.001 (-0.74)	-0.003 (-1.53)	-0.000 (-0.10)
<i>ROA</i>	-0.110*** (-4.16)	-0.065*** (-3.48)	-0.110*** (-3.52)	-0.075*** (-4.37)	-0.091*** (-3.23)	-0.078*** (-4.35)
<i>Size</i>	0.000 (0.61)	-0.000** (-2.23)	0.000 (0.54)	-0.000*** (-3.51)	-0.000 (-0.18)	-0.000*** (-3.51)
<i>Market-to-Book</i>	0.006*** (4.10)	0.002 (1.14)	0.005*** (2.82)	0.003* (1.73)	0.003 (1.30)	0.003* (1.87)
<i>Loss_Dummy</i>	0.008 (1.27)	0.013** (2.31)	0.009 (1.19)	0.012** (2.33)	0.010 (1.40)	0.012** (2.34)
<i>Small_Profits</i>	-0.017*** (-3.08)	0.003 (0.35)	-0.015** (-2.17)	-0.003 (-0.45)	-0.016** (-2.20)	-0.001 (-0.16)
<i>Div_Payout</i>	-0.000 (-1.27)	0.000 (0.16)	-0.000 (-0.93)	0.000 (0.13)	-0.000 (-0.77)	0.000 (0.10)
<i>Constant</i>	0.10*** (8.47)	0.077*** (7.17)	0.113*** (7.23)	0.080*** (8.75)	0.119*** (8.18)	0.073*** (8.01)
Observations	2,225	2,560	1,552	3,233	1,721	3,064
R-squared	0.105	0.053	0.105	0.065	0.105	0.066
Year FE	YES	YES	YES	YES	YES	YES

The sample consists of 4,785 firm-year observations for the period 2003-2012. Non-Discriminating (Non-Discr.) sample I consists of all firms that have at least one female director in their board during the considered sample period; if firms never have a female director during the sample period they are classified as discriminating (Discr.). Non-Discriminating (Non-Discr.) sample II consists of firm-year observations where there is a female director on the board; otherwise observations are classified as discriminating (Discr.). Non-Discriminating (Non-Discr.) sample III consists of all firm-year observations where there are female

directors on the board plus firm-year observations where there are no females on the board but the ex-ante probability of hiring a female director is low; otherwise firm-year observations are classified as discriminating (Discr.). We calculate discretionary accruals (*ABS_DAX*) as the absolute value of the residuals of the modified version of the Jones (1991) accruals model (Dechow *et al.* 1995), as applied to total accruals. *NED* is the percentage of non-executive directors on the board. *BSizeDum* is a dummy variable taking the value of 1 if the board size is between 5 and 12 members. *Fem_in_NED* is the percentage of women among independent directors. Controls include the average number of board members' qualifications (Dir. Qualifications) and other board appointments (Dir. Appointments), profitability (ROA), size (total assets), the market to book ratio, a dummy variable identifying firms with losses (Loss_Dummy), a dummy variable identifying firms with very small profits (less than one percent of total assets) (Small_Profits), the dividend pay-out ratio (Div_Payout), and year dummies. ***, **, and * represent 1%, 5%, and 10% significance, respectively.

TABLE 6

Regressions of absolute value of discretionary accruals on *Fem_percent* (% of women among total directors) and controls for two different samples of firms that do not discriminate against women in the access to directorships

	Sample I Non-Discriminating	Sample II Non-Discriminating	Sample III Non-Discriminating
<i>Fem_percent</i>	0.024 (1.43)	0.011 (0.41)	-0.008 (-0.33)
<i>NED</i> (% of indep. Direc.)	-0.032** (-2.11)	-0.041** (-2.16)	-0.037** (-2.04)
<i>BSizeDum</i>	-0.006 (-1.00)	-0.006 (-0.78)	-0.014** (-2.12)
<i>Dir. Qualifications</i>	-0.006* (-1.73)	-0.005 (-1.10)	-0.002 (-0.42)
<i>Dir. Appointments</i>	-0.001 (-0.79)	-0.001 (-0.59)	-0.003 (-1.54)
<i>ROA</i>	-0.111*** (-4.18)	-0.108*** (-3.46)	-0.089*** (-3.17)
<i>Size</i>	0.000 (0.58)	0.000 (0.64)	-0.000 (-0.21)
<i>Market-to-Book</i>	0.006*** (4.05)	0.005*** (2.83)	0.003 (1.33)
<i>Loss_Dummy</i>	0.008 (1.25)	0.009 (1.20)	0.011 (1.44)
<i>Small_Profits</i>	-0.017*** (-3.17)	-0.015** (-2.19)	-0.016** (-2.20)
<i>Div_Payout</i>	-0.000 (-1.28)	-0.000 (-0.99)	-0.000 (-0.82)
<i>Constant</i>	0.098*** (8.13)	0.110*** (6.47)	0.121*** (7.94)
Observations	2,225	1,552	1,721
R-squared	0.106	0.104	0.104
Year FE	YES	YES	YES

The sample consists of 4,785 firm-year observations for the period 2003-2012. Non-Discriminating sample I consists of all firms that have at least one female director in their board during the considered sample period; if firms never have a female director during the sample period they are classified as discriminating. Non-Discriminating sample II consists of firm-year observations where there is a female director on the board; otherwise observations are classified as discriminating. Non-Discriminating sample III consists of all firm-year observations where there are female directors on the board plus firm-year observations where there are no females on the board but the ex-ante probability of hiring a female director is low; otherwise firm-year observations are classified as discriminating. We calculate discretionary accruals (*ABS_DAX*) as the absolute value of the residuals of the modified version of the Jones (1991) accruals model (Dechow *et al.* 1995), as applied to total accruals. *NED* is the percentage of non-executive directors on the board. *BSizeDum* is a dummy variable taking the value of 1 if the board size is between 5 and 12 members. *Fem_in_NED* is the percentage of women among independent directors. Controls include the average number of board members' qualifications (*Dir. Qualifications*) and other board appointments (*Dir. Appointments*), profitability (*ROA*), *Size* (total assets), the market to book ratio, a dummy variable identifying firms with losses (*Loss_Dummy*), a dummy variable identifying firms with very small profits (less than one percent of total assets) (*Small_Profits*), the dividend pay-out ratio (*Div_Payout*), and year dummies. ***, **, and * represent 1%, 5%, and 10% significance, respectively.

TABLE 7

Regressions of absolute value of discretionary accruals on NED (% of independent directors), *Fem_in_NED* (% of women among independent directors) and controls for *Discrimination*

	<i>Expected sign</i>	<i>Coeff. (t-stat)</i>
<i>Fem_in_NED</i>	-	-0.020* (-1.89)
<i>GenderBias_Disc</i>	+	0.056* (1.89)
<i>GenderBias_Disc*NED</i>	-	-0.115*** (-2.93)
<i>NED (% of indep. Direc.)</i>	-	-0.019* (-1.85)
<i>BSizeDum</i>	-	-0.008** (-2.04)
<i>Dir. Qualifications</i>	-	-0.004* (-1.79)
<i>Dir. Appointments</i>	-	-0.001 (-1.15)
<i>ROA</i>	?	-0.082*** (-5.37)
<i>Size</i>	?	-0.000 (-0.76)
<i>Market-to-Book</i>	+	0.003** (2.45)
<i>Loss_Dummy</i>	+	0.012*** (2.77)
<i>Small_Profits</i>	+	-0.007 (-1.27)
<i>Div_Payout</i>	?	-0.000 (-0.05)
<i>Constant</i>		0.092*** (11.66)
Observations		4,785
R-squared		0.074
Year FE		YES

The sample covers the period 2003-2012. We calculate discretionary accruals as the absolute value of the residuals of the modified version of the Jones (1991) accruals model (Dechow *et al.* 1995), as applied to total accruals. *NED* is the percentage of non-executive directors on the board. *GenderBias_Disc* is a dummy variable taking the value of 1 if a firm has a high probability of hiring a female—probability above the 95th percentile—and has no women on the board. *BSizeDum* is a dummy variable taking the value of 1 if the board size is between 5 and 12 members. *Fem_in_NED* is the percentage of women among independent directors. Controls include the average number of board members' qualifications (Dir. Qualifications) and other board appointments (Dir. Appointments), profitability (ROA), size (total assets), the market to book ratio, a dummy variable identifying firms with losses (Loss_Dummy), a dummy variable identifying firms with very small profits (less than one percent of total assets) (Small_Profits), the dividend pay-out ratio (Div_Payout), and year dummies. ***, **, and * represent 1%, 5%, and 10% significance, respectively.

TABLE 8

Regressions of absolute value of discretionary accruals on *Fem_in_NED* (% of women among independent directors) and controls for *Tokenism* amongst firms with females

	<i>Firms with at least one woman director</i>	
	<i>Coeff. (t-stat)</i>	
<i>Fem_in_NED</i>	-0.013 (-0.93)	-0.009 (-0.63)
<i>GenderBias_Tokenism25</i>	0.014** (2.16)	
<i>GenderBias_Tokenism50</i>		0.013*** (2.84)
<i>NED</i> (% of indep. Direc.)	-0.034* (-1.82)	-0.035* (-1.91)
<i>BSizeDum</i>	-0.002 (-0.26)	-0.004 (-0.60)
<i>Dir. Qualifications</i>	-0.004 (-0.88)	-0.003 (-0.69)
<i>Dir. Appointments</i>	-0.001 (-0.58)	-0.001 (-0.45)
<i>ROA</i>	-0.103*** (-3.26)	-0.102*** (-3.22)
<i>Size</i>	0.000 (0.92)	0.000 (1.05)
<i>Market-to-Book</i>	0.005*** (2.59)	0.005*** (2.82)
<i>Loss_Dummy</i>	0.008 (1.10)	0.008 (1.10)
<i>Small_Profits</i>	-0.015** (-2.12)	-0.015** (-2.22)
<i>Div_Payout</i>	-0.000 (-0.82)	-0.000 (-0.81)
<i>Constant</i>	0.102*** (6.44)	0.099*** (6.26)
Observations	1,552	1,552
R-squared	0.110	0.111
Year FE	YES	YES

The sample covers the period 2003-2012. We calculate discretionary accruals as the absolute value of the residuals of the modified version of the Jones (1991) accruals model (Dechow *et al.* 1995), as applied to total accruals. *NED* is the percentage of non-executive directors on the board. *GenderBias_Tokenism25(50)* is a dummy variable taking the value of 1 if a firm has a low probability of hiring a female—probability below the lowest 25th (50th) percentile within the group of firms with at least one female—and has only one female on the board. *BSizeDum* is a dummy variable taking the value of 1 if the board size is between 5 and 12 members. *Fem_in_NED* is the percentage of women among independent directors. Controls include the average number of board members' qualifications (Dir. Qualifications) and other board appointments (Dir. Appointments), profitability (ROA), size (total assets), the market to book ratio, a dummy variable identifying firms with losses (Loss_Dummy), a dummy variable identifying firms with very small profits (less than one percent of total assets) (Small_Profits), the dividend pay-out ratio (Div_Payout), and year dummies. ***, **, and * represent 1%, 5%, and 10% significance, respectively.