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Does board composition affect the gender pay gap?

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ABSTRACT

By matching a unique firm-level gender pay gap (GPG) data with the corporate board- and firm- characteristics, we find that firms with the presence of foreign directors on board reduce the GPG of the firms in Britain. This result is more pronounced with the profitable firms, and with those that have less than 5,000 employees. The findings suggest that policymakers' emphasis on achieving diversity on the corporate board may also help improve equality in pay.

JEL Classification: G30; J31; J33

Keywords: Gender pay gap; Board nationality; British firms; Pay equality; Board governance

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1. Introduction

On average, women in the UK earn 17.9% lower than men.² A recent report estimates that UK's 15 million working women are losing out approximately £140 billion a year due to the unequal pay.³

Pay equality can be reinforced with a more diverse corporate board of directors. The function of the board of directors is to monitor the performance of the top management team and approve important corporate decisions. They focus on balancing the stakeholders' welfare, which conflicts with the management team's profit maximization goals. As a result, the board of directors would have a greater influence on firms' pay equality when the managerial power is relatively weak.

Recent research suggests that the presence of foreign directors on board improves firms' operating performance (Estélyi and Nisar, 2016). In this paper, we match a unique firm-level pay gap data with the corporate board- and firm-characteristics. Our objective is to explore the effect of the presence of foreign directors on board on the gender pay gap (GPG) of the firms in Britain. Identifying a link between these important issues would aid policymakers to enforce corporate board diversity initiatives aimed at diminishing GPG while ensuring equal pay for all.

We find that corporate boards with a higher presence of foreign directors help to reduce the GPG of the firms. This result is more pronounced with the firms that are highly profitable, and that have less than 5,000 employees. This new evidence adds to the literature on corporate board nationality diversity. In addition to corporate financial performance (Nielsen and Nielsen, 2013), corporate governance performance (Estélyi and Nisar, 2016) and corporate social performance, our study highlights the effect of corporate board nationality diversity on corporate pay equality.

²bit.ly/2KpHIKJ

³bit.ly/2SnC0WH

Moreover, apart from contributing to GPG literature (Healy and Ahamed, 2019), this study further acts as a guide to business scholars and practicing managers to initialise their international board formation policies and deciding on issues related to the inclusion of females on board (Matsa and Miller, 2011).

2. Data and methods

The Equality Act 2010 (Gender Pay Gap Information) Regulations 2017 mandates all firms with 250 or more employees in England, Wales and Scotland (not Northern Ireland) to publish GPG reports on each year, effective from on 6 April 2017 (henceforth as Transparency data). Over 10,000 firms published their first (second) report on 5th April 2018 (2019). This regulation requires firms to publish the difference in pay between male and female employees. In this paper, the pay differential indicator that we use is the “*average gender pay gap of the firm measured as the difference between the mean hourly rate of pay of male (A) full-pay relevant employees and that of female (B) full-pay relevant employees, expressed as a percentage of the mean hourly rate of pay of male (A) full pay relevant employees*”.⁴ It can be expressed as $\frac{(A-B)}{A} \times 100$.

To explore the effect of board composition on firm-level GPG, we matched Transparency data with the information on individual directors and firm-level characteristics from the FAME database for the year 2017-2018. First, we collect information on individual directors of each firm separately for the year 2017 and 2018. This information includes age, nationality, gender, occupation, and biography. We use this information to create a number of important corporate governance indicators. These indicators are the fraction of the directors on board who are foreign nationals (*ForeignDirector*); the fraction of female board members (*FemaleDirector*); the

⁴<http://www.legislation.gov.uk/ukdsi/2017/9780111152010>

logarithm of the average age of the directors on board (*Age of directors*); logarithm of the total number of directors on board (*Board size*); and the fraction of the directors on board who are non-executive (*Independent director*). We also created an indicator variable, *Female chief*: 1 if any firm has a female director who is either a chief executive/operating/financial officer.

Firm-level control variables are the logarithm of total assets (*Firm size*), sales growth of the firm (*Sales growth*), the logarithm of average remuneration per employee (*Average remuneration*), and return on assets of the firm (*Return-on-assets*). After matching *Transparency data* with the firm-level characteristics we have ended up with 11,145 firm observations.

Table 1 reports descriptive statistics. In our sample, the average of GPG is 14.9% with a minimum (maximum) GPG of -17.8% (53.9%), suggesting a wide pay gap among the firms in Britain.⁵ In this study, though we aim to explore the effect of numerous corporate governance indicators on GPG, our variable of interest is *ForeignDirector*. The average of *ForeignDirector* is 0.13 with a standard deviation of 0.24, suggesting a substantial variation among companies in terms of foreign nationals as the board of directors.⁶

To examine the relationship between *ForeignDirector* and the *GPG*, we run the following OLS regression:

$$GPG_{it} = \alpha + \beta ForeignDirector_{it} + \gamma FirmControl_{it} + \varepsilon_{it} \quad (1)$$

where *GPG* is the gender pay gap of the firm *i* in the year *t*; *ForeignDirector* is the fraction of foreign directors as discussed earlier. ε is the error term.

⁵ A negative value suggests an advantage in favour of females.

⁶ 47.3% of the foreign directors are from Europe; The remaining 31.4%, 13.8%, 5.3%, and 2.3% are from Americas, Asia, Oceania, and Africa, respectively.

3. Empirical results

Table 2 reports the results. The results in column 1 show that greater *ForeignDirector* is associated with a lower GPG.⁷ This result indicates that firms with a higher proportion of foreign nationals on the board composition help in lowering the GPG. This result is also economically important. On average, a one-standard-deviation increase in *ForeignDirector* (0.24) reduces the GPG by 0.54%, which is a reasonable effect given that the mean of GPG is 14.9%. To check the sensitivity of the results, we control for two digit standard industry classification in column 2 and year-industry effect in column 3. In both cases, the results of *ForeignDirector* remain unchanged.

This result coincides with the findings in previous literature. Studies in management team diversity suggest that diversity reduces individual biases and prejudices (Wiersema and Bantel, 1992). Great diversity among team members increases mutual monitoring (Kandel and Lazear, 1992) and promotes equality. Harjoto et al. (2019) found that board nationality diversity is positively associated with Corporate Social Performance. On the other hand, Hambrick et al. (1998) highlight that foreign directors can integrate and reconcile their diverse institutionally embedded experiences; they are better at solving the complex task and arriving at more innovative solutions (Horwitz and Horwitz, 2007). Consequently, the involvement of foreign directors on the board is likely to promote pay equality inside the firm and the cosmopolitan team are more capable of solving such problem comparing with a homogenous team.

Turning to the remaining corporate governance indicators, we find that the fraction of *FemaleDirector* is negative and significant at the 1% significance level. It suggests that firms with a higher proportion of women on board lower the GPG. Taking column 3, we find that if a firm has a higher fraction of independent directors, GPG goes up. Independent directors act superiorly

⁷ We also check the robustness employing median GPG as the dependent variable. The main results remain unchanged.

in advising and monitoring firms' financial performance (Kim et al., 2014, Zhu et al., 2016). However, their roles in monitoring firms' non-financial performance are insignificant (Harjoto et al., 2015). Therefore, increasing the number of an independent director on the board will reduce the board's focus on pay inequality.

Likewise, large firms, firms with higher sales growth and higher average remuneration worsen the GPG. Higher sales growth promote high average pay which, in turn, increase the gender pay gap (Bugeja et al., 2012). However, *Return-on-assets* has no significant effect on the pay gap.

On the other hand, Nielsen and Nielsen (2013) and Estélyi and Nisar (2016) both find that foreign directors positively contribute to firms' performance. Therefore, we interact *Return-on-assets* with *ForeignDirector* to explore whether the performance of firms has any influence on the relation between *ForeignDirector* and *GPG*. Table 3 reports the results⁸. In column 1, we find a negative and significant interaction effect, suggesting that profitable firms that have more foreign nationals on board reduce GPG significantly more.

To understand whether the employee size of these firms has any differing effect on the interaction term, we split the sample: *large-sized* (*extra-large-sized*) firms are those that have less (more) than 5,000 employees.⁹ Similar to column 1, we run two separate regressions. Columns 2 and 3 present the results. We find that the interaction term is negative and significant at 5% levels for the *large-sized*, but not for the *extra-large-sized* firms. It indicates that the higher the number of foreign nationals on the corporate board, the higher the reduction in GPG of the firms that are more profitable and that have less than 5,000 employees. As the size increases, the problem of

⁸ For brevity, all controls are included, but not reported.

⁹ Since UK has no clear boundary to categorise large and very large firms, we use the enterprise definition of France: <https://www.insee.fr/en/metadonnees/definition/c1035>

bureaucracy and inefficiency in communication become more evident in very large firms (Josefy et al., 2015). Therefore, the influence of foreign director on closing gender pay gap is expected to be significant in a longer term.

4. Conclusion

Matching firm-level GPG information with the corporate board- and firm-characteristics, we provide new evidence that firms with the presence of foreign directors on board help reducing GPG. This result is more pronounced for firms that are highly profitable and have less than 5,000 employees. Our findings add to the literature that more diversity in the corporate board is beneficial for lowering pay differentials between men and women. As working women in Britain are losing out in terms of wages, policymakers can tackle pay inequality with a concerted effort to have a more diverse corporate board.

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Table 1
Descriptive statistics

Variables	Mean	Median	Std. Dev	Min	Max	Observations
<i>Dependent variables</i>						
Gender pay gap	14.85	14.3	13.31	-17.8	53.9	11045
<i>Firm-specific characteristics</i>						
ForeignDirector	0.13	0	0.24	0	1	11045
FemaleDirector	0.23	0.2	0.21	0	1	11045
Age of directors	4.02	4.02	0.12	3.12	4.45	11045
Board size	1.7	1.61	0.57	0.69	3.53	11045
Female chief	0.08	0	0.27	0	1	11045
Independent director	0.01	0	0.05	0	0.33	11045
Firm size	10.88	10.71	1.66	7.6	16.11	11045
Sales growth	9.96	5.21	28.72	-51.26	183.36	11045
Average remuneration	3.46	3.45	0.56	2.1	4.9	11045
Return-on-assets	5.79	4.8	15.28	-55.14	58.75	11045

Table 2
The effect of board composition on gender pay gap of firms in Britain

Variables	Gender pay gap		
	(1)	(2)	(3)
ForeignDirector	-2.267*** [0.510]	-1.081** [0.508]	-1.086** [0.508]
FemaleDirector	-3.175*** [0.607]	-4.747*** [0.629]	-4.745*** [0.629]
Age of directors	-1.991** [0.960]	-1.277 [0.950]	-1.145 [1.058]
Board size	0.970*** [0.216]	-0.147 [0.235]	-0.151 [0.236]
Female chief	-0.102 [0.428]	-0.215 [0.415]	-0.206 [0.416]
Independent director	5.578** [2.603]	4.144* [2.458]	4.190* [2.465]
Firm size	0.535*** [0.082]	0.504*** [0.086]	0.503*** [0.086]
Sales growth	0.016*** [0.004]	0.009** [0.004]	0.009** [0.004]
Average remuneration	7.843*** [0.253]	6.956*** [0.296]	6.955*** [0.296]
Return-on-assets	-0.01 [0.008]	-0.012 [0.008]	-0.012 [0.008]
Constant	-10.863*** [3.955]	-6.616 [4.479]	-7.129 [4.829]
Observations	11,045	11,045	11,045
Adjusted R-squared	0.14	0.20	0.20
Two-digit industry classification fixed effects	No	Yes	Yes
Year fixed effects	No	No	Yes

Note: ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Robust standard errors in the brackets.

Table 2
The presence of a foreign director and gender pay gap: the role of profitability

Variables	Full-sample	Large-sized firms with less than 5,000 employees	Extra-large-sized firms with more than 5,000 employees
	(1)	(2)	(3)
ForeignDirector	-1.936*** [0.550]	-1.989*** [0.560]	-3.28 [3.282]
Return-on-assets	-0.002 [0.009]	0.0005 [0.009]	-0.066 [0.052]
ForeignDirector X Return-on-assets	-0.066** [0.034]	-0.067** [0.034]	-0.047 [0.280]
Constant	-11.104*** [3.954]	-11.825*** [4.036]	-26.676 [18.223]
Observations	11,045	10,627	418
All controls	Yes	Yes	Yes
Adjusted R-squared	0.14	0.15	0.08

Note: ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.