

# Board's tenure and the pay gap

Manthos D. Delis  
Audencia Business School

Iftekhar Hasan  
Fordham University, Bank of Finland and University of Sydney

Maria Iosifidi  
Montpellier Business School

Panagiotis N. Politsidis  
Audencia Business School

Coordinates of the authors: Delis is at Audencia Business School, 8 Route de la Jonelière, 44300 Nantes, France; email: [mdelis@audencia.com](mailto:mdelis@audencia.com). Hasan is at Fordham University, Bank of Finland and the University of Sydney, 45 Columbus Avenue, Room 511, New York, NY 10023; email: [ihasan@fordham.edu](mailto:ihasan@fordham.edu). Iosifidi is at Montpellier Business School, 2300 Av. des Moulins, 34080 Montpellier, France; email: [m.iosifidi@montpellier-bs.com](mailto:m.iosifidi@montpellier-bs.com). Politsidis is at Audencia Business School, 8 Route de la Jonelière, 44300 Nantes, France; email: [ppolitsidis@audencia.com](mailto:ppolitsidis@audencia.com).

# Board's tenure and the pay gap

## Abstract

This paper highlights the important role of director tenure for shaping within-firm wage disparity. By examining more than 2,700 US firms during the 1996-2019 period, we document that greater time in the role for executive directors raises within-firm wage disparity through an increase in the average director compensation and a decrease in the average employee salary. We find that this effect is contingent on directors' social values, as we observe lower disparities in boards where directors have cultural backgrounds that promote altruism. Finally, we point to the moderating role of the compensation committee, the level of industry competition and the strength of corporate governance.

**Keywords:** Within-firm wage disparity, Director tenure, Executive compensation, Employee salary.

**JEL classification:** G13, G14, J31, L25, M52

## **1. Introduction**

Rising within-firm wage inequality is constantly receiving attention in media, policy makers as well as academic circles, with a number of studies aiming to uncover its association with firm performance and profitability (see Kale, Reis and Venkateswaran, 2009; Faleye, Reis, and Venkateswaran 2013; Shin, Kang, Hyun, and Kim 2015; Mueller, Ouimet and Simintzi, 2017a,b; Rouen, 2020), worker productivity (see Bandiera, Barankay and Rasul, 2007; Charness and Kuhn, 2007), shareholder voting behavior (see Crawford, Nelson, and Rountree 2018), credit supply (see Moser, Saidi, Wirth and Wolter, 2020) and market competition (see Gartenberg and Wulf, 2020).

In this paper, we shift attention to an alternative and thus far overlooked factor shaping pay disparities within firms, that of director tenure in the board. According to Deloitte, “many investors are increasingly pressuring companies to refresh their boards, that is, bring on new board members.” Moreover, “some companies have committed to keep average director tenure at or below a specified level, assuring that effective, long-tenured directors can remain on the board so long as the average tenure remains reasonable by bringing on newer directors.” In light of these pressures, a natural question is how can long director tenure become detrimental to firms operations and culture? One way could be by giving rise to disparities between executive compensation and employee salary. This paper examines this premise.

We do so by tracking the average director tenure in more than 2,700 firms over the 1996-2019 period and identifying its impact on the evolution of within-firm wage disparity. We find that longer time in the director’s role in the board significantly and economically raises pay disparity within the firm. Importantly, this aggravating effect materializes through both components of wage disparity, as longer director tenure increases the average compensation of directors and decreases the average salary of company employees. This effect is over and above

any effect exerted by other relevant board-level characteristics and firm-level traits and persists in a battery of robustness tests and sensitivity exercises.

We further find director tenure does not automatically fuel within-firm wage disparity. By considering the directors' social preferences, we observe that boards consisted of directors with more positive attitudes toward altruism are associated with lower pay disparities. This, besides being a more stringent identification method, highlights the role played by deep-rooted social values in directors' decision-making (including policies on director compensation and employee salaries).

Our study further concerns the identification of the relevant mechanisms through which director tenure materializes to growing wage disparity. Among them, we observe that weak representation of directors in the compensation committee magnifies the aggravating effect of director tenure. Hence, the formation of more populous committees and the inclusion of independent directors can act as a remedy to rising disparities. Furthermore, this effect is less pronounced in better-governed firms and profitable firms, since in these firms there is more competition for managerial talent and thus, the endurance of directors should be based on talent considerations more than anything else (see Mueller, Ouimet and Simintzi, 2017b).

Finally, we document the role of market power and corporate governance practices. By considering different measures of industry concentration, namely the Herfindahl-Hirschmann index (HHI), the sum of market shares of the largest five firms in the industry and the Lerner index (see Aghion, Bloom, Blundell, Griffith and Howitt, 2005; Giroud and Mueller, 2011; Mueller, Ouimet and Simintzi, 2017b) as well as a measure for the strength of the firm's corporate governance (the presence of independent directors in the board), we find that greater industry competition and stronger corporate governance are mitigating factors for the aggravating effect of director tenure on within-firm wage disparity.

The rest of the paper is structured as follows: Section 2 describes our dataset and empirical methodology, Section 3 examines the effect of director tenure on within-firm wage disparity, Section 4 identifies the relevant mechanisms and Section 5 concludes.

## **2. Data and Empirical Methodology**

In this section, we present our data and discuss our main variables.

### *2.1. Within-firm wage disparity measure*

Our data comes from three different sources. Data on firms' executive compensation and firm directors' characteristics come from ExecuComp and we further complement our directors' characteristics with data from BoardEx. Data on firms' financial characteristics come from Compustat. We calculate wage disparity as the natural logarithm of the ratio of the average director compensation and the average employee salary (see Mueller, Ouimet and Simintzi, 2017; Bloom, Ohlmacher and Tello-Trillo, 2018; Moser, Saidi, Wirth and Wolter, 2021). To calculate the former, we sum the total compensation (salary and bonus) for each director in the board and divide by the number of directors. Similarly, for the latter, we divide the total expense for employee salaries by the number of employees (excluding the number of directors in the board).

However, a distinctive feature of data in Compustat is the limited number of observations for the firms' total expenses for employee salaries. To overcome this constraint, we follow Ashraf and Galor (2013) and generate predicted values of the firm's total employee expenses using total operating expenses, thereby exploiting the strongly positive correlation between the two types of expenses. In specific, we regress the natural logarithm of total expenses for employee salaries on the natural logarithm of total operating expenses. This enables us to examine the effect of director tenure on within-firm wage disparity for a much

larger sample of firms (increasing by approximately seven times our initial firm-year observations).

A similar method is adopted by Ashraf and Galor (2013), who exploit the explanatory power of migratory distance to overcome similar data limitations for constructing a country-level genetic diversity measure. In particular, they use the strong ability of prehistoric migratory distance from East Africa in explaining observed genetic diversity to generate predicted values of genetic diversity (using migratory distance) for all countries of the world, including those for which diversity data are currently unavailable.

We further calculate alternative wage disparity measures by replacing the average director compensation (salary and bonus) in the numerator with a) the salary compensation of the directors, b) the total compensation of the directors as reported in SEC filings (including in addition to total compensation, items such as stock awards, option awards, non-equity incentive plan compensation, change in pension value and non-qualified deferred compensation earnings, and all other compensation), or c) the total direct compensation of the directors (including in addition to total compensation, restricted stock grants, LTI, and all other compensation). We use these alternative measures in sensitivity exercises.

After cleaning up some data with missing observations for the main variables employed in our analysis, we are left with a sample with a maximum of 34,440 observations from 2,723 firms during the period 1996 through 2019; our baseline specification includes 33,747 observations from 2,676 firms. We provide variable definitions and sources in Table A1 of the Internet Appendix and basic descriptive statistics in Table 1. Furthermore, Table A2 presents results from the regression of total employee expenses on total operating expenses at the firm-year level.

[Insert Table 1 about here]

## 2.1. Empirical model and key variables

The baseline form of our empirical model is:

$$Wage\ disparity_{it} = a_0 + a_1 Time\ in\ role_{it} + a_2 Controls_{it} + u_{it} \quad (1)$$

The outcome variable *Wage disparity* is the ratio of the average total compensation (salary and bonus) of the directors in the board of firm  $i$  during year  $t$  to the average salary of all firm employees. The vector  $a_0$  denotes different types of fixed effects described later, *Controls* is a vector of control variables of dimension  $i$ , and  $u$  is a stochastic disturbance. *Time in role* for each company is the average time (natural logarithm of years) in the current position of the directors in the board.

The main coefficient of interest in Equation (1) is  $a_1$ , which indicates the effect of director tenure in the board on within-firm wage disparity. Since both our response variable and main explanatory variable (*Wage disparity* and *Time in role* respectively) are in logarithmic form, the coefficient  $a_1$  shows the percentage response of the former to a one percentage increase in the latter. We expect  $a_1$  to be positive if wage disparity increases in response to greater director tenure in the board. By construction, *Wage disparity* reflects the relative importance of average board compensation relative to average employee salary. Importantly, to further identify how *Time in role* affects the drivers of *Wage disparity* we consider specifications where the dependent variable is each of the components of our wage disparity measure: the average compensation of directors in the board and the average employee salary; the latter component is further decomposed into the total expense for the salaries of firm employees and the number of firm employees.

## 2.2. Identification, controls, and fixed effects.

A key aim of our empirical analysis is to explore the easing effect of director tenure on wage disparity within the firm. We are less concerned with simultaneity and reverse causality because board composition (and consequently director tenure) is determined before the setting of the firm's budget for board compensation and overall staff expense. In our setting, the key problem is omitted-variable bias, especially when considering the disparity of the directors' compensation vis-à-vis that of the firm employees. To reduce the omitted-variable bias, we control for a number of variables that might affect board compensation and/or firm employee expense and consequently the relation between the two.

The first and obvious group of control variables relates to board attributes. We experiment with many board characteristics available in ExecuComp and BoardEx databases, but we resort to the ones most commonly used in the studies explaining within-firm wage dynamics and corporate performance (see, e.g., Bebchuk, Cremers and Peyer, 2011; Peters and Wagner, 2014; Mueller, Ouimet and Simintzi, 2017a; 2017b). More specifically, we include a number of CEO-related characteristics, such as the CEO's time in role (*Time in role (CEO)*), gender (*Male CEO*) and dual status (*CEO and chairman*).

We further control for the status, connections and number of directors in the board by considering the percentage of independent directors in the board (*Independent director ratio*), the percentage of directors who sit in other boards (*Interlocked directors*), the percentage of male directors who sit in other boards, which there are female directors (*Male directors with connections*), the total number of directors and their average age (*Number of directors* and *Director age* respectively). We also consider the fraction of directors participating in the compensation committee (*Compensation committee directors*) and their average tenure in the committee (*Compensation committee tenure*), as well as the percentage of company shares owned by the directors in the board (*Director ownership*).



Finally, we complement our controls with measures of gender diversity, namely the Blau index and the Shannon index of diversity, which measure how equally male and female directors are represented on the board (see, e.g., Campbell and Mínguez-Vera, 2008; Joecks, Pull and Vetter, 2013) or the ratio of female directors to male directors (see, e.g., Adams and Ferreira, 2009; Gul, Srinidhi and Ng, 2011; Srinidhi, Gul and Tsui, 2011; Adams and Mehran, 2012; Ahern and Dittmar, 2012). We do not include all these characteristics at once due to their high pair-wise correlation, but rather divide them equally between our baseline regression and alternative specifications.

The second group relates to firms' financial characteristics. Consistent with related studies (e.g., Adams and Ferreira, 2009; Mueller, Ouimet and Simintzi, 2017b; Rouen, 2020), we control in our baseline specification for firm size (*Firm size*), firm return on assets (*Firm ROA*), firm debt-to-assets ratio (*Firm debt*), firm tangible assets to total assets (*Firm tangibility*), firm market-to-book value ratio (*Firm Tobin's Q*) and firm sales growth (*Firm sales*). We extend our set of firm-level control variables in sensitivity exercises: among them, we distinguish the firm's return on equity, the capital expenditures and the number of shares held by institutional investors to the total number of shares outstanding.

To maintain a high level of variation in *Time in role*, we initially consider a specification with a very simple set of fixed effects – namely, year- and firm-level effects – allowing us to estimate the coefficient on our board gender diversity measures for the largest number of firm-year observations in our sample. These effects complement our board- and firm-level characteristics and allow us to control for general firm-side explanations of our findings (such as differences in firms' financial soundness and corporate governance). We however adopt more restrictive fixed effects in subsequent specifications.

In this regard, through the fielding of firm's state and firm's industry fixed effects we control for time-invariant characteristics in the firm's state and industry respectively.

Moreover, the inclusion of firm's state  $\times$  year effects controls for time-varying forces stemming from the macroeconomic environment in the firm's state, thereby saturating the effect of our gender diversity measures on *Wage disparity* from any state-level socioeconomic and political effects on within-firm wage disparity and dynamics.<sup>1</sup> The regression still yields results on the main coefficient of interest because there are multiple state-year observations within a year. On the same line, the inclusion of firm's industry  $\times$  year effects isolates any within-year developments that affect all firms in the same industry and are not absorbed by our remaining set of fixed effects.

### **3. The effect of director tenure on within-firm wage disparity**

#### *3.1. Baseline results*

Table 2 reports our baseline results. We cluster standard errors by firm to account for within-firm residual correlation. In line with our discussion in Section 3, we consider different fixed effects in our model specifications. Column 1 presents the most parsimonious specification that includes year and firm fixed effects. In column 2, we introduce state fixed effects to control for time-invariant macroeconomic and conditions in the company's state. We further add industry fixed effects in column 3 to account for time-invariant conditions at the industry-level. In column 4 we introduce state  $\times$  year fixed effects to control for time-varying changes in the macroeconomic and general economic environment. Our last specification is the most demanding, as it further includes industry  $\times$  year fixed effects to control for within-year developments in the company's industry.

[Insert Table 2 about here]

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<sup>1</sup> These are state factors affecting all firms within a state. Several studies examine such macro effects on within-firm disparity and inequality (e.g., Barth, Bryson, Davis and Freeman, 2016; Bloom, Guvenen, Smith and von Wachter, 2018; and the associated references), and in this study these effects are fully controlled for via the fixed effects.

Across all specifications, the coefficient on *Time in role* is positive and statistically significant ranging between 0.113 and 0.119. We use column 3 as our baseline specification, as the set of fixed effects included in the given specification captures the effect of director tenure on wage disparity and we obtain identification from the maximum number of firms in our sample. The main coefficient of interest  $\alpha_1$  shows that a one percentage increase in *Time in role* increases *Wage disparity* by an economically significant 11.7%. Therefore, we can infer that an increase in the time that directors hold their current roles in a company's board substantially increases the level of wage disparity within the company.

In Table 3, we replicate our preferred specification considering alternative within-firm wage disparity measures. In columns 1-3, we replace the numerator in our baseline wage disparity measure with alternative measures of average director compensation, namely the average salary director compensation (column 1), the average direct compensation (column 2) and the average compensation as reported in the SEC filings (column 3). Finally, in column 4, we replace the denominator in our baseline wage disparity measure with the average expense for employee salaries (including the directors in the board). Across all specifications, the response of the alternative within-firm wage disparity measures is similar to (and even stronger than) that of our baseline measure.

In Table A2 of the Appendix, we examine the sensitivity of our estimates to the set of our board- and firm-level controls by sequentially augmenting our baseline specification with additional characteristics relating to the composition, connections and certain attributes of the board of directors and alternative measures of the firm's profitability and financial strategy. These variables should exhibit a strong correlation with our baseline set of fixed effects and control variables, to the extent that these variables change slowly over time. Nonetheless, results from this exercise confirm our baseline estimates on the effect of director tenure on wage disparity.

In Appendix Table A3, we run a seemingly unrelated regression (SUR) model that accounts for the simultaneous evolution of our board-level characteristics. In this setting, we estimate a system of regressions, where in addition to *Wage disparity*, different board characteristics, namely *Year in position (CEO)*, *Male CEO*, *Director ownership*, *Blau index* and our director tenure measure (*Time in role*) are regressed on the same set of regressors in our baseline equation (including the *Wage disparity*). Results in Appendix Table A3 confirm the robustness of our baseline OLS estimates.<sup>2</sup>

Finally, Appendix Table A4 confirms the insensitivity of our inferences to the type of standard error clustering used. In this respect, in columns 1-3 we cluster standard errors by year, state and industry respectively. We adopt a more demanding clustering in subsequent specifications as standard errors are clustered by firm *and* year, and by firm *and* state *and* year (columns 4 and 5).

The size and magnitude of the estimated coefficients on the control variables in Tables 2-3 are generally in line with expectations and the prior studies of Faleye, Reis and Venkateswaran (2013) and Rouen (2020). In particular, within-firm wage disparity increases with the CEO's tenure and directors' ownership share and decreases with greater board gender diversity and the presence of independent directors. The behaviour of the firm-level characteristics is also largely as anticipated. In this regard, larger and more leveraged firms with higher sales growth are associated with rising wage disparity.

### 3.2 *The effect of director tenure on the components of wage disparity*

Having established the aggravating effect of director tenure on within-firm wage disparity we further identify the direction of this effect by looking at the components of this pay gap, namely

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<sup>2</sup> For expositional purposes, we only report estimates from the regressions where the dependent variable is *Wage disparity*. The estimates from the other equations in the model are available on request.

the average compensation of the board of directors and the average employee salary (*Average board compensation* and *Average staff expense* respectively). We do so in Table 5, where we estimate our preferred specification calculate standardized coefficients; this enables us to further illustrate the importance of director tenure vis-à-vis the rest of the explanatory variables.

[Insert Table 4 about here]

Estimates from column 1 show the strong explanatory power of *Director tenure* over all remaining board-level characteristics and most firm-level controls, with the exception of firm size and sales growth. Importantly, as the next two specifications reveal, this effect is materialized through an increase in the average compensation of directors (column 2) and a simultaneous reduction in the average salary of company employees (column 3). As far as the latter is concerned, columns 4 and 5 show that the decrease in *Average staff expense* is driven because the increase in the overall expense for employee salaries (*Total staff expense*) is not large enough to match the relatively greater increase in the number of company employees (*Number of employees*).

### 3.3 Identification from individual's social preferences

An additional strategy to identify the effect of director tenure is to look at the individual's social preferences. Such preferences, formed at the population-level, are largely determined by geographic or cultural variables and are assumed to drive individual decision making (see, e.g., Weber, 1930; Hofstede, 2001; Barro, 2003; Alesina and Giuliano, 2013; Alesina, Algan, Cahuc and Giuliano, 2015; Galor and Özak, 2016). If the board of directors consists of individuals with certain social preferences, then decision-making (including policies on director compensation and employee salaries) might be influenced by these characteristics. For example, altruistic behaviour aiming at increasing common rather than individualistic welfare, is more likely to contribute towards lower wage disparities.

To examine this contingency, we consider the individual's attitude towards altruism by assigning to each director a value of altruism based on director's nationality of Falk, Becker, Dohker, Enke, Huffman and Sunde (2018). By averaging this measure across all directors in the board, we get the average attitude towards altruism within the company's board. If this is a credible mechanism for reducing within-firm wage disparity, we expect that the aggravating effect of *Time in role* on *Wage disparity* is ameliorated, or even reversed, in boards with high values of altruism.

Moreover, if even after disentangling the differential effect of this social value, greater director tenure continues to increase wage disparity (i.e., the main term of *Time in role* is positive and statistically significant), this should be attributed to an attempt of maintaining and even promoting the status quo. We introduce this exogenous social value indicator into our model and conduct a double-differences regression, by interacting our board altruism measure with director tenure (i.e.,  $Time\ in\ role \times Average\ board\ altruism$ ). The results, reported in Table 5, essentially provide an even more stringent identification method, implying that in more (less) altruistic boards, our results must be less (more) potent.

[Insert Table 5 about here]

We first consider the implications for wage disparity: estimates in column 1 reveal that the aggravating effect of *Time in role* on *Wage disparity* is reversed for boards with more positive attitudes toward altruism (the negative and statistically significant interaction term). Moreover, greater altruism exerts a meaningful effect on the components of wage disparity: an increase in *Time in role* in boards with higher altruism results in a decrease in *Average board compensation* (column 2) and a rise in *Average staff expense* (column 3). Importantly, the coefficient on the main term of *Time in role* confirms our previous findings that director tenure raises within-firm wage disparity by increasing the director's average compensation and decreasing the average expense for employee salaries. Taken together, results from this

exercise show that director tenure does not automatically contribute to greater within-firm wage disparities but it is contingent on the deep-rooted social values of the directors in charge.

#### **4. Mechanisms**

In this section we build on our results and identify the mechanisms that enable director tenure to shape the level of within-firm wage disparity. These potential mechanisms include CEO turnovers and director participation in the compensation committee, as well as specific firm traits and industry conditions. To analyze their differential effect we consider the interactions of our director tenure measure with relevant characteristics.

##### *4.1 CEO turnovers*

CEO turnovers are found to systematically affect executive compensation (see Kaplan and Minton, 2012; Jenter and Kannan, 2015). As such, a change in the CEO can cause a shift away from the company's current policy on executive compensation and employee salary. We examine this premise in Table 6, where we interact our director tenure measure with an indicator for a CEO turnover (see Peters and Wagner, 2014; Jenter and Kannan, 2015). Results from column 1 reveal that the replacement of CEO does not exert a differential effect on within-firm wage disparity (non-significant coefficient on *Years in position*  $\times$  *CEO turnover*). However if the CEO turnover results in a smaller board size, it contributes to growing wage disparity for a given level of director tenure (positive and statistically significant double interaction in specification 2). This is not surprising, as the choice on the new CEO is often governed by, among other, the need to continue the current corporate policies.

[Insert Table 6 about here]

Due to this endogeneity in the appointment of the new CEO, in the subsequent specifications we further distinguish between forced and non-forced CEO turnovers, since CEOs in industries

characterized by more uncertain business conditions are more likely to be dismissed (see Peters and Wagner, 2014). Hence, forced turnovers constitute an exogenous change relative to board-driven changes which can be guided by considerations to continue certain corporate policies (including those relating to salaries and compensation). Estimates in column 3 provide clear evidence that a forced CEO change alleviates the aggravating effect of *Time in role* on *Wage disparity* (coefficients on double interaction and main term respectively). Moreover, as results from specification 4 suggest, the alleviating effect of forced CEO turnovers is mainly evident in cases where the change in the CEO is accompanied by a decrease in the board's size.

#### 4.2 Compensation committee

Our next exercise considers the composition of the compensation committee, as previous studies document a connection between certain characteristics of the compensation committee and some aspect of CEO compensation levels or excess compensation (see, e.g., Daily, Johnson, Ellstrand and Dalton, 1998; Core, Holthausen and Larcker, 1999; Anderson and Bizjak, 2003; Vafeas, 2003; Bugeja, Matolcsy and Spiropoulos, 2015). In fact, compensation committees often actively intervene in setting compensation in a way which is in the interests of the board and CEOs (see Defeo, Lambert and Larcker, 1989; Dechow, Huson and Sloan, 1994; Gaver and Gaver, 1998). However, we hypothesize that this intervention is not feasible when more directors participate in the compensation committee, especially if these directors are independent.

Estimates from column 1 show that higher participation rate in the compensation committee exerts an easing effect on wage disparity for a given level of director tenure (the negative and statistically significant coefficient on *Time in role*  $\times$  *Compensation committee directors*); moreover, as column 2 suggests, this is further evident when more independent directors are included in the committee. In contrast to the composition of the compensation



committee, the members' tenure in the committee does not seem to interact with director tenure in reducing wage disparity (the non-statistically significant coefficient on the interaction term in column 3).

#### 4.3. Firm performance

In our next exercise we examine possible heterogeneities in the effect of director tenure on wage disparity with regards to different firm types and characteristics. Firms with greater pay inequality are on average larger and have higher valuations and stronger operating performance (see Mueller, Ouimet and Simintzi, 2017a; 2017b). We hypothesize that director tenure would be more efficient in reducing wage disparity in these firms, as the pay gap is already at a relatively high level. To test this, in Table 8 we consider the interaction of *Time in role* with a number of relevant firm characteristics.

[Insert Table 8 about here]

Starting from column 1, we observe that the aggravating effect of director tenure on wage disparity is ameliorated for larger firms. In specific, a 1% increase in *Time in role* reduces *Wage disparity* by 6.8% in larger firms (coefficient on *Time in role*  $\times$  *High firm size*), thereby reversing by approximately 43% the generic increase attributed to director tenure and reflected in the coefficient of the main term of *Time in role*. We further observe that this reduction is contingent on firm profitability.

Estimates from column 2 show that greater return on assets reverses the (exacerbating) effect of director tenure: a 1% increase in *Time in role* in more profitable firms causes *Wage disparity* to drop by 5.5% (coefficient on double interaction). This in turn, represents a 38% reversal in the increase in *Wage disparity* due to growing *Time in role*. Finally, estimates from specification 3 point to no differential effect exerted by the company's market valuation (coefficient on the interaction term).

#### 4.4. Industry competition and board independence

This section examines the differential role of industry competition and board independence. Within-firm wage disparities are shown to be greater for better-governed firms and firms operating in more competitive industries (see Mueller, Ouimet and Simintzi, 2017b); arguably in these firms there should be more margin for reduction in the level of wage disparity. Furthermore, in these firms there is more competition for managerial talent and thus, the endurance of directors should be based on talent considerations more than anything else.

To examine if our results are different in more competitive industries, we distinguish between firms located in the bottom tercile of our sample based on measures of industry concentration. Our measures of industry concentration are the Herfindahl-Hirschmann index (HHI), top five concentration ratio, i.e., the sum of market shares of the largest five firms in the industry and the Lerner index (see Aghion, Bloom, Blundell, Griffith and Howitt, 2005; Giroud and Mueller, 2011; Mueller, Ouimet and Simintzi, 2017b). By construction, lower (higher) values indicate greater (smaller) competition in the given industry. Estimates from specifications 1-3 confirm the differential role of industry competition: the negative and statistically significant coefficients on the double interaction terms indicate that the exacerbating effect of *Time in role* on *Wage disparity* is less potent in firms in more competitive industries.

[Insert Table 9 about here]

We consequently examine whether director tenure is less efficient in increasing wage disparity in firms with strong corporate governance as reflected by their degree of board independence. Results in column 4 show that greater board independence reverses by approximately one third the aggravating effect of director tenure on wage disparity (coefficients on double interaction term and main term respectively). Overall, the results in

Table 9 suggest that greater industry competition and stronger corporate governance are mitigating factors for the aggravating effect of director tenure on within-firm wage disparity.

## **5. Conclusions**

In this paper we examine how the average director tenure in the company board affects within-firm wage disparity. By considering more than 2,700 U.S. firms over the 1996-2019 period, we provide evidence that longer time in the director's role in the board significantly and economically raises pay disparity within the firm. In specific, a one percentage increase in average director tenure increases wage disparity by 11.7%. Importantly, this aggravating effect materializes through both components of wage disparity, as longer director tenure increases the average compensation of directors and decreases the average salary of company employees. This effect is over and above any effect exerted by other relevant board-level characteristics and firm-level traits and persists in a battery of robustness tests and sensitivity exercises.

Nevertheless, director tenure does not automatically fuel within-firm wage disparity: we find that pay disparities are lower in boards consisted of directors with more positive attitudes toward altruism. Therefore, our analysis highlights the role played by deep-rooted social values, in driving directors' decision-making (including policies on director compensation and employee salaries).

By building on our findings, we identify the relevant mechanisms through which director tenure materializes to growing wage disparity. Among them, we observe that weak representation of directors in the compensation committee magnifies the aggravating effect of director tenure. Hence, the formation of more populous committees and the inclusion of independent directors can act as a remedy to rising disparities. Interestingly, this effect is less pronounced in better-governed firms and profitable firms, since in these firms there is more competition for managerial talent and thus, the endurance of directors should be based on talent

considerations more than anything else. Finally, we document that greater industry competition and stronger corporate governance operate as mitigating factors for the aggravating effect of director tenure on within-firm wage disparity.

Our results are an important first step on understanding director and staff compensation policies in companies where directors have become an establishment. Considering that these policies ultimate influence hiring policies and important extension of our examination concerns the implications for attracting and/or retaining talented personnel. This is a subject for future research.

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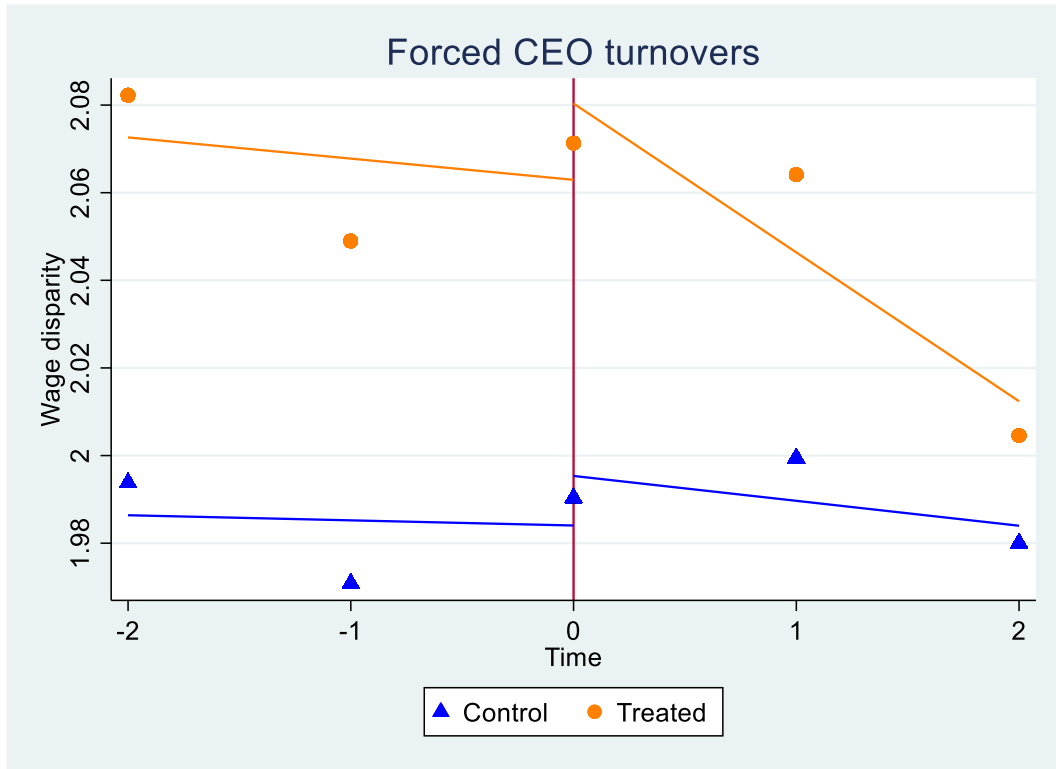
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**Figure 1. Average wage disparity before and after forced CEO turnovers**

The figure reports the average value of *Wage disparity* (i.e., the natural logarithm of the ratio of the average total compensation of the directors in the board (Salary + Bonus) and the average salary of the firm employees in a  $(-2, +2)$  window around each forced CEO turnover. Forced CEO turnover refers to a forced (non-voluntary) change in the firm's CEO (see Peters and Wagner, 2014). The blue line reports the average *Wage disparity* for the subsample of firms with no forced CEO turnover (control group) and the orange line reports the average *Wage disparity* for the subsample of borrowers with a forced CEO turnover (treated group).



**Table 1. Summary statistics**

The table reports summary statistics (number of observations, mean, standard deviation, minimum and maximum values) for all variables used in the estimations of the main text. All variables are defined in Table A1.

	Obs.	Mean	Std. dev	Min.	Max.
Wage disparity	33,716	1.96	0.90	-0.67	4.36
Wage disparity (direct)	33,678	3.05	1.09	-2.26	7.86
Wage disparity (salary)	33,716	1.70	0.84	-2.21	4.36
Wage disparity (SEC)	19,986	3.22	1.06	-0.51	7.40
Wage disparity (unadjusted)	33,716	1.96	0.89	-0.68	4.35
Average board compensation	33,716	6.25	0.53	4.05	9.37
Average staff expense	33,716	4.29	0.79	1.45	8.16
Total staff expense (initial)	2,541	6.40	1.56	-0.01	10.57
Operating expenses	33,716	7.13	1.54	1.10	12.68
Total staff expense (fitted)	33,716	5.98	1.52	0.03	11.46
Number of employees	33,716	1.69	1.59	-5.52	7.55
Time in role	33,716	1.61	0.48	0.00	3.19
Time in role (years)	33,716	5.57	2.62	1.00	24.40
Time in role (CEO)	33,716	1.39	0.80	0.00	3.33
Director ownership	33,716	0.46	1.31	0.00	38.00
Blau index	33,716	0.11	0.16	0.00	0.50
Independent director ratio	33,716	0.23	0.31	0.00	0.93
Firm size	33,716	7.36	1.62	2.70	11.91
Firm ROA	33,716	0.09	0.10	-0.67	0.45
Firm debt	33,716	0.24	0.21	0.00	3.68
Firm tangibility	33,716	0.29	0.23	0.00	0.91
Firm Tobin's Q	33,716	1.09	1.13	0.02	23.29
Firm sales growth	33,716	0.12	0.27	-0.60	2.52

**Table 2. Baseline results**

The table reports coefficients and t-statistics [in brackets]. The dependent variable is *Wage disparity* and all variables are defined in Table A1. Estimation method is OLS with standard errors clustered by firm. The lower part of the table reports the set of fixed effects in each specification. Specification (1) is the baseline specification, where the explanatory variable of interest is *Time in role* (i.e., the average time [natural logarithm of years] in the current position of the directors in the board), control variables are different board and accounting characteristics (at the firm-year-level) and fixed effects are at the firm-level and at the year-level. Specification (2) replicates specification (1) by adding firm's state by year and firm's industry by year fixed effects. In specification (3), *Time in role* is interacted with *Forced CEO turnover*, i.e., a binary variable equal to one for a forced CEO turnover, and zero otherwise (as defined by Peters and Wagner, 2014). In specification (4), *Time in role* is interacted with *Board altruism*, i.e., the average value of altruism of directors in the board (as defined by Falk, Becker, Dohker, Enke, Huffman and Sunde, 2018). The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)
Time in role	0.114*** [9.230]	0.115*** [9.132]	0.130*** [9.459]	0.103*** [8.053]
Time in role (CEO)	0.022*** [4.724]	0.022*** [4.720]	0.021*** [4.531]	0.022*** [4.414]
Male CEO	-0.009 [-0.372]	-0.007 [-0.292]	-0.008 [-0.314]	-0.002 [-0.062]
Director ownership	0.021*** [4.899]	0.020*** [4.650]	0.022*** [4.833]	0.013*** [2.733]
Blau index	-0.127*** [-3.913]	-0.122*** [-3.819]	-0.127*** [-3.839]	-0.119*** [-3.537]
Independent director ratio	-0.052*** [-4.397]	-0.053*** [-4.550]	-0.058*** [-4.809]	-0.078*** [-6.067]
Firm size	0.072*** [6.236]	0.074*** [6.020]	0.067*** [5.223]	0.059*** [4.020]
Firm ROA	0.016 [0.446]	-0.022 [-0.615]	0.027 [0.657]	0.013 [0.298]
Firm debt	0.227*** [4.047]	0.198*** [3.502]	0.198*** [3.120]	0.158** [2.359]
Firm tangibility	0.164** [2.268]	0.168** [2.370]	0.159** [2.053]	0.176** [2.092]
Firm Tobin's Q	0.003 [0.540]	0.001 [0.302]	0.003 [0.603]	0.003 [0.579]
Firm sales	-0.063*** [-4.668]	-0.048*** [-3.377]	-0.068*** [-4.646]	-0.049*** [-3.150]
Forced CEO turnover			0.116** [2.031]	
Time in role × Forced CEO turnover			-0.089** [-2.441]	
Board altruism				0.124 [0.656]
Time in role × Average board altruism				-0.649*** [-2.665]
Constant	1.177*** [12.167]	1.164*** [11.559]	1.182*** [11.008]	1.406*** [11.551]
Observations	33,716	32,918	30,172	25,135
Adj. R-squared	0.840	0.847	0.843	0.856
Year effects	Y	Y	Y	Y
Firm effects	Y	Y	Y	Y
State × year effects	N	Y	N	N
Industry × year effects	N	Y	N	N

**Table 3. Standardized coefficients: Components of wage disparity**

The table reports standardized coefficients and t-statistics [in brackets]. The dependent variable is denoted in the second line of the table and all variables are defined in Table A1. Estimation method is OLS with standard errors clustered by firm. All specifications include year and firm fixed effects. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1) Wage disparity	(2) Average board compensation	(3) Average staff expense	(4) Total staff expense	(5) Number of employees
Time in role	0.061*** [9.230]	0.086*** [10.518]	-0.011* [-1.921]	0.016*** [5.667]	0.021*** [6.253]
Time in role (CEO)	0.019*** [4.724]	0.023*** [4.205]	-0.007** [-2.178]	0.001 [0.825]	0.005** [2.466]
Male CEO	-0.002 [-0.372]	0.003 [0.525]	0.004 [0.996]	0.003 [1.141]	0.001 [0.246]
Director ownership	0.030*** [4.899]	0.040*** [4.212]	-0.007 [-1.600]	-0.001 [-0.382]	0.003 [0.945]
Blau index	-0.023*** [-3.913]	-0.039*** [-5.465]	0.000 [0.003]	-0.005** [-1.997]	-0.005* [-1.694]
Independent director ratio	-0.018*** [-4.397]	-0.029*** [-5.823]	0.001 [0.241]	-0.003** [-2.172]	-0.004* [-1.908]
Firm size	0.131*** [6.236]	0.308*** [13.216]	0.058*** [2.989]	0.700*** [70.472]	0.639*** [53.347]
Firm ROA	0.004 [0.446]	0.009 [0.835]	0.002 [0.241]	-0.018*** [-4.847]	-0.018*** [-3.978]
Firm debt	0.025*** [4.047]	0.045*** [6.201]	0.002 [0.336]	0.027*** [9.684]	0.025*** [7.652]
Firm tangibility	0.042** [2.268]	-0.026 [-1.346]	-0.065*** [-3.724]	0.027*** [2.680]	0.058*** [4.781]
Firm Tobin's Q	0.003 [0.540]	0.007 [0.900]	0.001 [0.167]	0.036*** [11.862]	0.034*** [9.663]
Firm sales	-0.019*** [-4.668]	-0.007 [-1.526]	0.017*** [4.308]	0.016*** [7.955]	0.007*** [2.780]
Constant	0.000*** [6.093]	0.000*** [6.195]	0.000*** [5.979]	0.000*** [14.428]	0.000*** [29.584]
Observations	33,716	33,716	33,716	33,716	33,716
Adj. R-squared	0.840	0.728	0.906	0.975	0.966
Fixed effects	Y	Y	Y	Y	Y

**Table 4. Mechanisms**

The table reports coefficients and t-statistics [in brackets]. The dependent variable is *Wage disparity* and all variables are defined in Table A1. Estimation method is OLS with standard errors clustered by firm. In specification (1), *Time in role* is interacted with *Compensation committee directors*, i.e., the ratio of the number of directors participating in the compensation committee to the total number of directors in the board. In specification (2), *Time in role* is interacted with *High firm size*, i.e., a binary variable equal to one if the firm's total assets (*Firm size*) is in the top tercile of our sample and equal to zero if it is in the bottom tercile. In specification (3), *High firm size* is a binary variable equal to one if the firm's number of employees (*Number of firm employees*) is in the top tercile of our sample and equal to zero if it is in the bottom tercile. In specification (4), *Time in role* is interacted with *High firm profitability*, i.e., a binary variable equal to one if the firm's return on assets (*Firm ROA*) is in the top tercile of our sample and zero if it is in the bottom tercile. In specification (5), *Time in role* is interacted with *High firm valuation*, i.e., a binary variable equal to one if the firm's Tobin's Q (*Firm Tobin's Q*) is in the top tercile of our sample and equal to zero if it is in the bottom tercile. In specification (6), *Time in role* is interacted with *High independent director ratio*, i.e., a binary variable equal to one if the value of *Independent director ratio* is in the top tercile of our sample and zero if it is in the bottom tercile. All specifications include year and firm fixed effects. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Time in role	0.144*** [6.212]	0.179*** [9.364]	0.160*** [8.542]	0.084*** [4.578]	0.142*** [8.570]	0.110*** [8.314]
Time in role × Compensation committee directors	-0.057** [-2.372]					
Time in role × High firm size		-0.130*** [-5.114]				
Time in role × High firm size			-0.100*** [-3.960]			
Time in role × High firm profitability				0.066*** [2.848]		
Time in role × High firm valuation					-0.038* [-1.779]	
Time in role × High independent director ratio						0.062*** [3.745]
Observations	24,483	21,644	22,130	22,120	22,111	31,477
Adj. R-squared	0.858	0.847	0.880	0.836	0.852	0.844

## Internet Appendix

### **Abstract**

This Appendix is intended for online use only. The first section includes information on the definition of the variables. The second section reports (i) estimates from specifications with different controls, (ii) results from SUR estimations, (iii) results from alternative specifications and (iv) estimates from specifications with alternative wage disparity measures.

**Table A1. Variable definitions and sources**

Variable	Description	Source
<i>A. Dependent variables in main specifications</i>		
Wage disparity	The ratio of the average total compensation of the directors in the board (Salary + Bonus) to the average salary of the firm employees. The average salary of the firm employees is the sum of the employees' salaries (excluding the directors' compensation) divided by the number of employees (excluding the number of directors in the board). The variable is in natural logarithmic form.	Execucomp; Compustat
Wage disparity (salary)	The ratio of the average total salary compensation of the directors in the board (Salary excluding Bonus) to the average salary of firm employees. The average salary of the firm employees is defined in the definition of <i>Wage disparity</i> . The variable is in natural logarithmic form.	Execucomp; Compustat
Wage disparity (direct)	The ratio of the average total direct compensation of the directors in the board (Salary + Bonus + Restricted Stock Grants + LTI + Other Annual Compensation) to the average salary of firm employees. The average salary of the firm employees is defined in the definition of <i>Wage disparity</i> . The variable is in natural logarithmic form.	Execucomp; Compustat
Wage disparity (SEC)	The ratio of the average total compensation of the directors in the board as reported in SEC filings (Salary + Bonus + Stock Awards + Option Awards + Non-equity Incentive Plan Compensation + Change in Pension Value and Non-qualified Deferred Compensation Earnings + Other Annual Compensation) to the average salary of firm employees. The average salary of the firm employees is defined in the definition of <i>Wage disparity</i> . The variable is in natural logarithmic form.	Execucomp; Compustat
Wage disparity (unadjusted)	The ratio of the average total compensation of the directors in the board (Salary + Bonus) to the average salary of the firm employees. The average salary of the firm employees is the sum of the employees' salaries (including the directors' compensation) divided by the number of employees (including the number of directors in the board). The variable is in natural logarithmic form.	Execucomp; Compustat
Average board compensation	The average total compensation of the directors in the board. The average total compensation of the directors in the board is the sum of the directors' salaries and the directors' bonuses divided by the number of directors. The variable is in natural logarithmic form.	Execucomp
Average staff expense	The average salary of the firm employees. The average salary of the firm employees is the sum the employees' salaries (excluding the directors' compensation) divided by the number of employees (excluding the number of directors in the board). The variable is in natural logarithmic form.	Compustat
Total staff expense (initial)	The total salary (in USD million) of the firm employees (excluding the directors' compensation). The variable is in natural logarithmic form.	Compustat
Operating expenses	The total firm operating expenses (in USD million). The variable is in natural logarithmic form.	Compustat
Total staff expense	The fitted values from the regression of <i>Total staff expense (initial)</i> on <i>Operating expenses</i> .	Own calculations
Number of employees	The number of the firm employees (excluding the number of directors in the board). The variable is in natural logarithmic form.	Compustat
<i>B. Explanatory variables: Board characteristics</i>		
Time in role	The average time (in years) in the current position of the directors in the board. The variable is in natural logarithmic form.	Execucomp
Time in role (CEO)	The average time (in years) in the current position of the. The variable is in natural logarithmic form.	Execucomp
Male CEO	A binary variable equal to one if the CEO is male, and zero otherwise.	Execucomp
Male CEO and chair	A binary variable equal to one if the CEO and board chair is male, and zero otherwise.	Execucomp
Ownership share	The average ownership (percentage of total company shares owned) of the directors in the board.	Execucomp
Blau index	The Blau index of diversity. The index is equal to one minus the sum of the squared percentage of directors in each gender category. There are in total two gender categories: male and female. The index assumes values between 0 (only male or	Execucomp

	only female directors) and 0.5 (equal number of male and female directors); see Blau (1977).	
Shannon index	The Shannon index of diversity. The index is equal to the negative sum of the product of the percentage of directors in each gender category with the natural logarithm of this percentage. There are in total two gender categories: male and female. The index assumes values between 0 (only male or only female directors) and 0.69 (equal number of male and female directors); see Shannon (1948).	Execucomp
Independent director ratio	The ratio of the number of independent directors in the board to the total number of directors in the board.	BoardEx
Interlocked directors	The fraction of directors in the board who sit in other boards.	Execucomp
Male directors in boards with connections	The fraction of male directors in the board who sit in other boards, which there are female directors (see Adams and Ferreira, 2009).	Execucomp; own estimations
Director age	The average age (in years) of the directors in the board.	Execucomp
Number of directors	The number of directors in the board.	Execucomp
CEO and chair	A binary variable equal to one if the CEO is also the chair of the board.	Execucomp
CEO turnover	A binary variable equal to one for a CEO turnover, and zero otherwise. The variable <i>Forced CEO turnover</i> is the equivalent variable if the CEO turnover is forced.	Peters and Wagner (2014) Jenter and Kanaan (2015)
Deviation in board compensation	The standard deviation of the total compensation of the directors in the board.	Execucomp
Compensation committee directors	The ratio of the number of directors participating in the compensation committee to the total number of directors in the board.	BoardEx
Compensation committee independent directors	The ratio of the number of independent directors participating in the compensation committee to the total number of directors in the board.	BoardEx
Compensation committee tenure	The average number of years that directors participate in the compensation committee.	BoardEx
Average board altruism	The average value of altruism of the directors in the board as defined and calculated by Falk, Becker, Dohker, Enke, Huffman and Sunde (2018). Altruism is measured through a combination of one qualitative and one quantitative item, both of which are related to donations. The qualitative question asked respondents how willing they would be to give to good causes without expecting anything in return on an 11-point scale. The quantitative scenario depicted a situation in which the respondent unexpectedly received 1,000 euros and asked them to state how much of this amount they would donate.	Falk, Becker, Dohker, Enke, Huffman and Sunde (2018)

#### C. Explanatory variables: Firm characteristics

Firm size	The total firm assets. The variable is in natural logarithmic form.	Compustat
Firm ROA	The return on total firm assets.	Compustat
Firm debt	The firm debt to total assets ratio.	Compustat
Firm tangibility	The ratio of firm tangible assets to total assets.	Compustat
Firm Tobin's Q	The ratio of firm market value to book value.	Compustat
Firm sales	The firm sales growth.	Compustat
Firm ROE	The return on firm equity (common/ordinary).	Compustat
Firm CapEx	The ratio of firm capital expenditures to total assets.	Compustat
Firm institutional ownership	The number of firm shares owned by institutional investors to the total number of shares outstanding.	SEC Form 13F

#### D. Explanatory variables: Industry characteristics

HHI	The Herfindahl-Hirschmann index of the firm's industry. The index is calculated as the sum of squared market shares in a given industry in a given year.	Compustat
Lerner index	The Lerner index of the firm's industry. The index at the firm-year level is calculated as operating profits minus depreciation, provisions, and financial costs divided by sales.	Compustat
Top-5 concentration	The sum of market shares of the largest five firms of the firm's industry.	Compustat



**Table A2. Different controls**

The table reports standardized coefficients and t-statistics [in brackets] for the baseline results reported in Table 2. The dependent variable is *Wage disparity* and all variables are defined in Table A1. Estimation method is OLS with standard errors clustered by firm. All specifications include year, firm and state fixed effects. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
Time in role	0.109*** [8.516]	0.089*** [7.800]	0.104*** [7.758]	0.122*** [8.949]	0.080*** [6.082]
Time in role (CEO)	0.021*** [4.503]	0.014*** [3.484]	0.021*** [4.052]	0.023*** [4.668]	0.013*** [2.841]
Male CEO	-0.011 [-0.423]	-0.006 [-0.261]	0.001 [0.052]	0.004 [0.138]	0.017 [0.619]
Director ownership	0.020*** [4.683]	0.019*** [5.340]	0.014*** [2.904]	0.017*** [3.248]	0.010** [2.272]
Blau index	-0.125*** [-3.848]	-0.065** [-2.233]	-0.105*** [-3.107]	-0.104*** [-2.997]	-0.059* [-1.843]
Independent director ratio	-0.053*** [-4.448]	-0.005 [-0.424]	-0.072*** [-5.653]	-0.073*** [-5.579]	-0.017 [-1.304]
Firm size	0.072*** [6.131]	0.070*** [6.241]	0.062*** [3.952]	0.025* [1.667]	0.036** [2.319]
Firm ROA	0.017 [0.456]	0.012 [0.345]	-0.010 [-0.217]	-0.022 [-0.431]	-0.020 [-0.375]
Firm debt	0.230*** [4.097]	0.132** [2.577]	0.149** [2.219]	0.194*** [2.648]	0.065 [0.946]
Firm tangibility	0.160** [2.233]	0.199*** [2.882]	0.143 [1.631]	0.219*** [2.587]	0.169** [2.061]
Firm Tobin's Q	0.002 [0.460]	0.004 [0.849]	0.003 [0.599]	-0.003 [-0.580]	-0.003 [-0.638]
Firm sales	-0.063*** [-4.696]	-0.063*** [-4.896]	-0.044*** [-2.771]	-0.065*** [-3.905]	-0.059*** [-3.725]
Directors with connections	0.014 [1.186]				0.022 [1.590]
Director age	0.002* [1.881]				0.003* [1.782]
Deviation in board compensation		0.043*** [7.925]			0.038*** [6.225]
Number of directors		-0.053*** [-17.711]			-0.062*** [-16.432]
Interlocked directors		-0.181 [-1.598]			-0.202 [-0.966]
CEO and chairman			0.013 [1.244]		0.024** [2.298]
Compensation committee directors			0.003 [1.161]		0.003 [1.088]
Compensation committee tenure			-0.001 [-0.219]		0.001 [0.398]
Firm ROE				0.007 [0.668]	0.011 [1.132]
Firm CapEx				-0.113 [-0.750]	-0.058 [-0.384]
Firm institutional ownership				-0.743 [-0.524]	-1.600 [-0.947]
Constant	1.064*** [9.282]	1.393*** [15.240]	1.205*** [9.315]	1.454*** [12.052]	1.521*** [10.544]
Observations	33,513	33,702	24,483	22,483	19,999
Adj. R-squared	0.841	0.872	0.857	0.864	0.899
Fixed effects	Y	Y	Y	Y	Y

**Table A3. Seemingly unrelated regressions**

The table reports coefficients and t-statistics [in brackets]. The dependent variable is *Wage disparity* and all variables are defined in Table A1. Estimation method is FGLS. Different specifications include a system of regression equations to control for the simultaneous causality of board-, wage- and firm-related characteristics (only the estimates from the regression where the dependent variable is *Wage disparity* are reported). In each regression, the set of regressors is the same as in the regression for *Wage disparity* (including *Wage disparity* and excluding the variable that acts as regressand in the respective equation). In specification (1), two regression equations are estimated, where the dependent variable is *Wage disparity* and *Time in role* respectively. In specification (2), three regression equations are estimated, where the dependent variable is *Wage disparity*, *Time in role* and *Year in position (CEO)* respectively. In specification (3), four regression equations are estimated, where the dependent variable is *Wage disparity*, *Time in role*, *Year in position (CEO)* and *Male CEO* respectively. In specification (4), five regression equations are estimated, where the dependent variable is *Wage disparity*, *Time in role*, *Year in position (CEO)*, *Male CEO* and *Director ownership* respectively. In specification (5), six regression equations are estimated, where the dependent variable is *Wage disparity*, *Time in role*, *Year in position (CEO)*, *Male CEO*, *Director ownership* and *Blau index* respectively. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
Time in role	0.153*** (12.259)	0.132*** (10.573)	0.131*** (10.539)	0.131*** (10.541)	0.133*** (10.648)
Time in role (CEO)	-0.020*** (-2.792)	-0.011 (-1.544)	-0.011 (-1.469)	-0.011 (-1.490)	-0.011 (-1.525)
Male CEO	-0.052* (-1.864)	-0.054* (-1.907)	-0.109*** (-3.877)	-0.109*** (-3.877)	-0.089*** (-3.177)
Director ownership	-0.000 (-0.053)	-0.000 (-0.040)	-0.000 (-0.040)	0.000 (0.122)	0.000 (0.099)
Blau index	0.075** (2.479)	0.071** (2.362)	0.054* (1.784)	0.054* (1.783)	0.111*** (3.683)
Independent director ratio	0.076*** (4.943)	0.077*** (4.979)	0.078*** (5.021)	0.078*** (5.026)	0.078*** (5.050)
Firm size	0.088*** (27.072)	0.089*** (27.307)	0.089*** (27.296)	0.089*** (27.321)	0.089*** (27.261)
Firm ROA	0.154*** (6.277)	0.152*** (6.189)	0.153*** (6.233)	0.153*** (6.239)	0.154*** (6.278)
Firm debt	1.809*** (36.851)	1.813*** (36.937)	1.814*** (36.953)	1.814*** (36.954)	1.812*** (36.915)
Firm tangibility	-0.143*** (-6.592)	-0.140*** (-6.483)	-0.140*** (-6.482)	-0.140*** (-6.479)	-0.140*** (-6.485)
Firm Tobin's Q	-0.092*** (-21.126)	-0.091*** (-21.004)	-0.091*** (-21.037)	-0.091*** (-21.051)	-0.092*** (-21.217)
Firm sales	-0.172*** (-9.714)	-0.175*** (-9.872)	-0.174*** (-9.850)	-0.174*** (-9.846)	-0.173*** (-9.750)
Constant	1.082*** (28.106)	1.099*** (28.528)	1.154*** (29.967)	1.153*** (29.949)	1.128*** (29.290)
Observations	33,716	33,716	33,716	33,716	33,716
Adj. R-squared	0.085	0.086	0.085	0.085	0.085

**Table A4. Different clustering of standard errors**

The table reports coefficients and t-statistics [in brackets]. The dependent variable is *Wage disparity* and all variables are defined in Table A1. Estimation method is OLS. The lower part of the table denotes the type of standard error clustering (F&Y refers to Firm *and* Year, F&S&Y refers to Firm *and* State *and* Year,). All specifications include year, firm and state fixed effects. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)
Time in role	0.114*** [7.574]	0.113*** [9.831]	0.114*** [7.314]	0.114*** [6.481]	0.113*** [6.725]
Time in role (CEO)	0.022*** [7.768]	0.022*** [4.897]	0.022*** [3.940]	0.022*** [5.174]	0.022*** [5.229]
Male CEO	-0.009 [-0.670]	-0.010 [-0.480]	-0.009 [-0.290]	-0.009 [-0.384]	-0.010 [-0.508]
Director ownership	0.021*** [4.839]	0.020*** [6.034]	0.021*** [5.353]	0.021*** [3.838]	0.020*** [4.488]
Blau index	-0.127*** [-5.410]	-0.126*** [-4.209]	-0.127*** [-4.676]	-0.127*** [-3.603]	-0.126*** [-3.889]
Independent director ratio	-0.052*** [-3.712]	-0.052*** [-5.010]	-0.052*** [-5.958]	-0.052*** [-3.224]	-0.052*** [-3.517]
Firm size	0.072*** [6.025]	0.072*** [6.711]	0.072*** [6.310]	0.072*** [4.684]	0.072*** [4.873]
Firm ROA	0.016 [0.599]	0.018 [0.537]	0.016 [0.460]	0.016 [0.398]	0.018 [0.469]
Firm debt	0.227*** [4.148]	0.229*** [5.294]	0.224*** [3.717]	0.227*** [3.309]	0.229*** [3.974]
Firm tangibility	0.164*** [3.780]	0.174* [1.964]	0.164* [1.987]	0.164** [2.152]	0.174* [1.929]
Firm Tobin's Q	0.003 [0.838]	0.002 [0.402]	0.003 [0.426]	0.003 [0.510]	0.002 [0.388]
Firm sales	-0.063*** [-3.101]	-0.063*** [-4.170]	-0.064*** [-3.194]	-0.063*** [-2.965]	-0.063*** [-2.805]
Constant	1.177*** [15.313]	1.168*** [11.165]	1.180*** [10.614]	1.177*** [10.378]	1.168*** [9.731]
Observations	33,716	33,044	33,709	33,716	33,044
Adj. R-squared	0.840	0.840	0.840	0.840	0.840
Fixed effects	Y	Y	Y	Y	Y
Clustering	Year	State	Industry	F&Y	F&S&Y

**Table A5. Alternative measures of within-firm wage disparity**

The table reports coefficients and t-statistics [in brackets]. The dependent variable is denoted in the second line of the table and all variables are defined in Table A1. Estimation method is OLS with standard errors clustered by firm. In specification (1), *Wage disparity* is replaced as dependent variable by *Wage disparity (salary)*, i.e., the ratio of the average total salary compensation of the directors in the board to the average salary of the firm employees. In specification (2), *Wage disparity* is replaced as dependent variable by *Wage disparity (direct)*, i.e., the ratio of the average total direct compensation of the directors in the board to the average salary of the firm employees. In specification (3), *Wage disparity* is replaced as dependent variable by *Wage disparity (SEC)*, i.e., the ratio of the average total compensation of the directors in the board as reported in SEC filings to the average salary of the firm employees. In specification (4), *Wage disparity* is replaced as dependent variable by *Wage disparity (unadjusted)*, i.e., the ratio of the average total compensation of the directors in the board to the average salary of the firm employees (including the directors in the board). All specifications include year and firm fixed effects. The \*, \*\*, and \*\*\* marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1) Wage disparity (salary)	(2) Wage disparity (direct)	(3) Wage disparity (SEC)	(4) Wage disparity (unadjusted)
Time in role	0.126*** [11.719]	0.121*** [7.982]	0.140*** [8.915]	0.113*** [9.177]
Time in role (CEO)	0.030*** [8.205]	0.013** [2.381]	-0.005 [-0.800]	0.021*** [4.722]
Male CEO	-0.035 [-1.524]	-0.033 [-1.146]	-0.040 [-1.351]	-0.009 [-0.372]
Director ownership	0.013*** [3.838]	-0.007 [-1.104]	-0.012** [-2.102]	0.021*** [4.896]
Blau index	-0.083*** [-3.091]	-0.136*** [-3.788]	-0.101** [-2.572]	-0.126*** [-3.914]
Independent director ratio	-0.043*** [-4.369]	-0.075*** [-5.197]	-0.068*** [-4.537]	-0.052*** [-4.378]
Firm size	0.090*** [8.954]	0.189*** [9.563]	0.194*** [13.500]	0.069*** [5.939]
Firm ROA	0.007 [0.215]	-0.105** [-2.216]	-0.254*** [-5.772]	0.016 [0.450]
Firm debt	0.120*** [2.622]	0.414*** [5.274]	0.738*** [10.325]	0.218*** [3.900]
Firm tangibility	0.247*** [3.687]	0.290*** [2.672]	0.064 [0.707]	0.159** [2.205]
Firm Tobin's Q	0.003 [0.625]	0.033*** [6.130]	0.023*** [3.556]	0.002 [0.492]
Firm sales	-0.070*** [-5.818]	0.005 [0.234]	0.058*** [2.966]	-0.063*** [-4.709]
Constant	0.764*** [9.118]	1.500*** [9.154]	1.414*** [12.118]	1.203*** [12.460]
Observations	33,716	19,900	33,678	33,716
Adj. R-squared	0.887	0.862	0.780	0.840
Fixed effects	Y	Y	Y	Y