Like Daughter, Like Father:
How Women's Wages Change When CEOs Have Daughters

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Abstract

Drawing on research in sociology and economics suggesting that fathers' gender-related attitudes and behaviors are shaped by the gender of their children, we hypothesize that having daughters prompts male CEOs to implement wage policies that are more equitable to female employees. To test this hypothesis, we use a 12-year panel of Danish workforce data and an empirical specification with CEO–employee fixed effects, creating a quasi-experimental setting whereby the gender of a CEO's child is effectively exogenous. We observe that when a daughter was born to a male CEO, wages paid to the CEO's female employees rose relative to the wages paid to male employees. The effect was stronger for the first daughter, and stronger still if the first daughter was also the first child. The birth of a daughter to a male CEO particularly benefitted women who were more educated or who worked for smaller firms. These results have implications for our understanding not only of the origins of discrimination and the gender gap in wages but also of social preferences and the influence of managerial style on firm policies.

I. INTRODUCTION

Women have made significant progress over the last several decades toward reducing gender differences in education, labor market experience, and the industries and occupations in which they work (Goldin 2006; Goldin, Katz, and Kuzimenko 2006; Blau and Kahn 2007).[1] Despite these advances, "unequal pay for equal work" persists, with women's wages lagging an estimated 9% to 18% behind men's wages for comparable work (Blau and Kahn 2000; Bayard, Hellerstein, Neumark, and Troske 2003; Blau and Kahn 2006).

What explains this disparity? The literature proposes an array of factors, including, most notably, unobserved employee characteristics and employer discrimination. In particular, consistent with Becker's (1957) proposition that employers have a taste for discrimination, which they indulge in less competitive settings, Black and Strahan (2001) and Black and Brainerd (2004) use banking deregulation and the globalization of manufacturing to show that increased competition leads to a more equitable gender distribution of wages. However, this literature has not specifically analyzed the potential influence of a chief executive officer (CEO) on a firm's gender-related wage policies. We address that gap here. We argue that CEOs' concepts of fairness and attitudes about gender in the workplace will impact a firm's gender-related wage policies, and that these attitudes are influenced by the gender of CEOs' children. Specifically, based on research showing that daughters influence fathers to adopt more feminist attitudes and behaviors (Warner 1991; Washington 2008), we hypothesize that having daughters prompts male

[1] Women, however, remain greatly underrepresented in some occupations, including the senior and top executive ranks in the corporate and financial sectors (Bertrand and Hallock 2001; Dezső and Ross 2010; Bertrand, Goldin, and Katz 2010).

CEOs to implement wage policies that ultimately increase the wages of female employees *relative to those of male employees*. We find strong confirmatory evidence for this hypothesis using a comprehensive panel dataset on the employees, CEOs, and families of CEOs in Danish firms, and a research design that provides a quasi-experimental setting in which the *gender* of a CEO's child is effectively exogenous. (See Section III for more detail.)

The reasoning underlying our hypothesis is as follows. Scholars in management and economics have provided ample evidence that CEOs have a "style", that is, that CEO traits impact a wide array of corporate policies (Barnard 1938; Bertrand and Schoar 2003; Malmendier and Tate 2005, 2008), including those associated with wages (Bertrand and Mullainathan 1999, 2003; Bastos and Monteiro 2010; Cardoso and Winter-Ebmer 2010). In addition, like people generally, CEOs might consider the well-being of others when making decisions. In other words, CEOs may at times exhibit pro-social behavior (Fehr and List 2004), reflecting their concepts of fairness and their attitudes toward women's issues. A number of models of social preferences could be related to gender and, specifically, to the real or perceived inequitable treatment of women. In particular, CEOs might have a taste for discrimination against women (Becker 1957), might care about fairness in gender issues (Fehr and Schmidt 1999; Bolton and Ockenfels 2000), might be inclined to help the least well-off (Charness and Rabin 2002), or might identify more or less strongly with women (Akerlof and Kranton 2000; Chen and Li 2009). Thus, CEOs' preferences and attitudes toward women's issues might be salient in matters related to gender equity in the workplace and, in particular, women's wages relative to men's wages.

What would influence these preferences and attitudes? Research in sociology and economics points toward the gender of a CEO's children, among other factors. In an early and pioneering work, Warner (1991) argued that if parents care about the life experiences of their children or live vicariously through them, having daughters should make parents more sensitive to gender inequality and women's issues. This mechanism should be particularly relevant for men, who, unlike women, are unable to develop such sensitivity through identity and personal experience. In support of these hypotheses, Warner (1991) and Warner and Steel (1999) found that having daughters makes parents more likely to adopt feminist views and more supportive of policies designed to address gender equity. In a more recent study, Washington (2008) found evidence that having daughters influences U.S. legislators to vote more liberally on women's issues, especially reproductive rights.[2] It follows, then, that having a daughter will increase a male CEO's awareness of women's issues and prime a CEO's interest in fairness for women in the workplace. We would expect these male CEOs to be more attentive to gender equity – consciously or subconsciously – while managing their firms' gender-related wage policies. Thus, we hypothesize that when a daughter is born to a male CEO, wages paid to female employees in the CEO's firm will rise relative to wages paid to male employees.

There are only a few studies that investigate the effect of top managers on women's wages relative to men's wages. Bastos and Monteiro (2010) showed that manager fixed effects explain a significant amount of the variation in firms' wage policies, including the

[2] A range of parental decisions have been linked to child gender. Examples include labor supply and wages (Angrist and Evans 1998; Lundberg and Rose 2002), investment (Bogan 2010), marital stability (Dahl and Moretti 2004), and party affiliation (Oswald and Powdthavee 2010; Conley and Rauscher 2010). Research on family firms also investigates the impact of the gender of CEOs' children on CEO succession as well as other governance and performance attributes (Peréz-Gonzaléz 2006; Bennedsen, Nielsen, Peréz-Gonzaléz, and Wolfenzon 2007; Bertrand, Johnson, Samphantharak, and Schoar 2008).

gender distribution of firm-wide wages. Cardoso and Winter-Ebmer (2010) showed that female-led firms have more gender-equitable wage policies. These studies are, however, unable to address the usual concerns associated with endogenous managerial selection, whereby firms that seek to implement more-equitable wage policies might appoint CEOs whose attitudes are more attuned to women's issues, possibly as a result of the gender of their children.

In our research design, we used Denmark's Integrated Database for Labor Market Research to construct a matched employer–employee dataset that (i) contains wage and demographic information for the entire workforce employed in Denmark's private sector in 1995-2006, (ii) identifies each employee's employer and CEO, and (iii) contains information on each CEO's family structure, including the gender and age of a CEO's children. In our empirical specifications, we used CEO–employee fixed effects to account for unobservable firm, CEO, and employee heterogeneity, the last of which has been identified as a key determinant of wages and the gender wage gap (Abowd, Kramarz, and Margolis 1999; Blau and Kahn 2000). We also employed fixed effects for the total number of children a CEO has. Finally, we note that gender-related abortion is extremely rare in Denmark. As a consequence, we have a quasi-experimental setting in which the gender of a child is effectively exogenous even though the decision to have a child is in principle endogenous.

Using this fairly demanding empirical specification, we obtained the main result of our paper: Conditional on the number of children a CEO already has, the birth of a daughter to a male CEO resulted in a 1.3% increase in women's wages and a 0.8% increase in men's wages, thereby reducing the gender wage gap by approximately 0.5%.

We examined whether this effect differed according to daughters' rank order at birth and found that the birth of a *first* daughter to a male CEO resulted in a 1.4% increase in women's wages, and an approximately 0.8% decrease in the gender wage gap. If the first daughter was also a *first child*, the gender wage gap decreased by roughly 2.8%. The birth of the second daughter, on the other hand, did not result in a significant reduction in the gender wage gap. Thus, our results suggest that the first daughter "flips a switch" in the mind of a male CEO, causing him to attend more to equity in gender-related wage policies. Having additional daughters does not, however, prompt a CEO to continue raising the wages of female employees, as it were, to the point of reverse discrimination.

Evidence exists that children's educational attainment is determined, in part, by their parents' income, education, and aspirations for them (Haveman and Wolfe 1995; Solon 1999; Black and Devereaux 2010). Thus, CEOs may experience greater social identification with more-educated women or, more colloquially, may experience a kind of vicarious identification by implicitly likening their daughters to more-educated female employees. Consistent with this idea, we found that the wage effect caused by the birth of a daughter to a male CEO is stronger when employees are more educated. Specifically, the gender wage gap decreased by about 1% among the most educated employees and by 0.6% among the second-most educated employees. The wage gap reduction among the remaining employees was statistically insignificant.

Lastly, it is intuitive that the CEOs of small firms take a more direct role in their firms' wage policies than the CEOs of larger firms. In general, small firms may also be subject to less monitoring by outside investors, leaving CEOs with more opportunity to shape their companies' policies to reflect their personal biases. One would then expect the gender of a CEO's children to have a greater impact on wage policies in smaller firms. In fact, we found that the birth of a daughter to a male CEO resulted in a statistically significant decrease in the gender wage gap *only* in firms with 10-50 employees (which account for roughly one-third of our employee–year observations).

These results contribute to the literature on the gender wage gap, and particularly to the literature on discrimination. There are only a few studies that link firms' top managers to gender-related wage policies (Bastos and Monteiro 2010; Cardoso and Winter-Ebmer 2010) and similarly few that rely on experimental settings to provide evidence of the role of gender discrimination in the workplace (Neumark 1996; Goldin and Rouse 2000; Black and Strahan 2001). Using a quasi-experimental setting in which the gender of a CEO's child is effectively exogenous, we bridge these two lines of research and establish the first causal link between CEOs and the gender-related wage policies of their firms. Specifically, we provide evidence that having daughters prompts male CEOs to implement wage policies that ultimately increase the wages of female employees relative to the wages of male employees. More broadly, our paper contributes to the literature on how CEOs influence corporate policies, particularly the more recent line of research relying on exogenous shocks during CEOs' careers (Bennedsen et al. 2006; Schoar 2007; Malmendier and Tate 2009; Malmendier, Tate, and Yan 2010). Finally, despite extensive evidence from laboratory experiments in support of social preference models, it remains an open question how much these results apply outside the laboratory, particularly with regard to attitudes and behaviors in commercial settings and to important social issues like the gender gap in wages (Levitt and List 2007). Our paper provides robust, albeit indirect, evidence that, indeed, social preferences play an important role in economic life.

The rest of the paper is organized as follows. Section II describes the data and presents summary statistics. Section III describes our empirical approach. Section IV presents the results of the paper. Section V concludes.

II. DATA AND SUMMARY STATISTICS

We use Denmark's Integrated Database for Labor Market Research (most commonly referred to by its Danish acronym IDA) as the source of our data. The IDA contains demographic information on all firms, plants, and individuals in the Danish economy. The IDA is compiled by Statistics Denmark, a governmental agency, using the identification numbers assigned at birth to each Dane as part of maintaining Denmark's extensive social security system. The IDA notably includes detailed information about the family histories and wages of individuals and has been widely used for social science research.[3]

Our data are a panel of the 6,321 firms in private sector industries that had more than 10 employees in every year they were present in the data, from 1995-2006 (see below). We excluded firms in industries with a high degree of public sector involvement (e.g., schools, energy, renovation, etc.) and heavily regulated primary sector activities (e.g., farming, mining, fisheries, etc.) because the wage dynamics and autonomy of CEOs are quite different in such firms.

[3] See Albæk & Sørensen (1998), Sørensen & Sorenson (2007), Bennedsen et.al. (2007), and Dahl (2010) for other research using this database.

We used the IDA to identify the CEO based on employees' occupational ranks. If there was more than one person listed in the most highly ranked category, we assigned the CEO title to the person with the highest salary in this rank. By this method of classification, our data have 15,565 different CEOs, of which 1,619 are women. We excluded firms that had less than 10 employees in any year during their presence in the data because the occupation rank variable is incomplete for a large share of these smaller firms.

The IDA contains detailed information on the families of all individuals. We used this information to generate our main variables of interest: the gender, birth year, and number of children of the CEO. We also collected information on CEOs' ages. At the employee level, we collected data on wages (in 2010 kroner), gender, age, education, marital status, number of children and their ages, full time work status, firm tenure, and occupational rank (blue collar, white collar, management, and top management). Finally, at the firm level, we collected information on firm size and profitability. Table 1 provides summary statistics.

Insert Table I about here

Our data contain 834,885 employee-year observations for 256,332 unique female employees, and 1,910,765 employee-year observations for 477,870 unique male employees. Female employees earned, on average, 228,205 kroner (approximately $39,855) compared to an average of 290,686 kroner (approximately $50,777) for their male colleagues, resulting in a 21.5% unadjusted gender gap in wages. Both female and male employees were, on average, 38 years old and both had an average of 12 years of schooling. Roughly 63% of female employees and 59% of male employees were married. Slightly more women had children under 5 years old, but significantly more had children between 5 and 17 years old. Slightly fewer women than men had full-time positions, and there were only slight differences in the average tenure of female and male employees, which was about 4 years. Lastly, we note that the proportion of women employed in the blue collar, management, and top management ranks was smaller than the proportion of men in the same positions, while the proportion of women employed in the white collar ranks were higher. In particular, women occupied about 29% of the blue-collar positions, 45% of the white-collar positions, 26% of the management positions, and 13% of the top management positions.

Our data contain 3,183 CEO-year observations for 1,610 unique female CEOs, and 42,960 CEO-year observations for 13,946 unique male CEOs. Female CEOs were, on average, 41 years old, while male CEOs were on average 47 years old. In our sample, there were 91 births to female CEOs, of which 43 were daughters, and 1,175 births to male CEOs, of which 590 were daughters. As detailed below, the coefficients in our regressions – and thus our results – are identified based on these events. 28% of female CEOs had no children, 18% had only one child, 38% had two children, 15% had three children, and the rest had more than three children. About 11% of male CEOs had no children, 14% had one child, 49% had two children, 21% had three children, and the rest had more than three children. Female CEOs tended to manage smaller firms, with an average size of 27.5 employees, while male CEOs tended to manage slightly larger firms, with an average size of 34 employees. There were no differences in the profitability of firms managed by female and male CEOs.

In Table II, we report the wages of female and male employees broken down by employees' education level and by the size of the firms in which they work.

Insert Table II about here

At 11%, the gender gap in wages among employees with a primary school education is significantly smaller than the 22% gap among employees with a high school education, and the 18% gap among employees with a college/university education. Finally, we do not observe major differences in the gender gap in wages across firms of different sizes, which stands at 20% in small firms, and 23% in medium and large firms.

III. EMPIRICAL SPECIFICATION

An essential aspect of our approach involves accounting for unobservable attributes associated with firms, CEOs, and employees. We control for unobservable firm and CEO attributes using CEO fixed effects (with firm fixed effects effectively subsumed by CEO fixed effects) and we control for unobservable employee attributes using employee fixed effects. Combining these fixed effects yielded a set of CEO–employee fixed effects, which forms the basis of our panel data regressions. We also followed Washington (2008) and included fixed effects for CEOs' total number of children to separate the effect of having an additional daughter from the effects associated with overall family size.

As argued by Abowd et al. (1999) the specification using CEO-employee fixed effects (firm–employee fixed effects in their case) is the most robust statistical method, yielding consistent and unbiased estimators for the parameters of interest. In fact, even the drawback of this specification – namely that the coefficients are identified solely based on changes within CEO–employee matches – represents a strength in our case: Gender-related abortion is extremely rare in Denmark, and thus our data offer a quasi-experimental setting whereby the *gender* of a newborn child is effectively exogenous.

In summary, we estimated the following linear regression model:

$$Y_{ijt} = \alpha + \beta CEO\ Number\ of\ Daughters_{jt} \tag{1}$$

$$+ \beta_C C_{jt} + \beta_E E_{it} + \beta_F F_{ijt} + \gamma_C Children_{jt} + \gamma_R Rank_{it} + \varphi_{ij} + \varphi_t + \varepsilon_{ijt}$$

where Y_{ijt} is the natural log of real (2010 kroner) wages of employee i working for CEO j in year t and $CEO\ Number\ of\ Daughters_{jt}$ is the number of daughters of CEO j in year t. C_{jt}, E_{it}, and F_{ijt}, are vectors of observable characteristics for CEO j, Employee i, and the firm where CEO j and Employee i work in year t. $Children_{jt}$ and $Rank_{it}$ are fixed effects for, respectively, the total number of children of CEO j in period t and the occupational rank of Employee i in period t. φ_{ij} represent fixed effects for the match between employee i and CEO j, and φ_t are year fixed effects. ε_{ijt} is a random error associated with each observation.

The starting point of our empirical study is the coefficient β. Given the presence of fixed effect for the CEO-employee match and the CEO's total number of children, the coefficient β is identified from births of daughters to CEOs. Consequently, and conditional on having an additional child, β represents the effect of an additional daughter (as opposed to an additional son) to CEO j on employee i's wages. Our interest, however, is in the effect of daughters differentiated by the gender of the CEO and employee. Therefore, over the course of our analysis, we modify Equation (1) by splitting *CEO*

Number of Daughters$_{jt}$ into orthogonal categories in which, for example, (i) the CEO is male or female, (ii) the employee is male or female, or (iii) these categories interact.

We note that, except for CEO and employee age, employee tenure, and firm size and profitability, the coefficients on the control variables are also identified solely based on changes within the match between CEO and employee. Thus, workers whose education did not change throughout the sample period will not contribute to identifying the coefficient on the control for education, as this would be subsumed by the associated CEO–employee fixed effect.

Our estimates of the standard errors of each coefficient are robust to heteroskedasticity and arbitrary within- and across-panel correlation.

IV. RESULTS

IV.A. Base Case Analysis: The Effect of Daughters on Employee Wages

We present our main analysis in Table III. Column (1) reports the results of a regression of wages on *CEO Number of Daughters*, the control variables, and the fixed effects described above.

Insert Table III about here

All controls are highly significant and have signs in line with expectations. At the CEO level, we note that older CEOs tended to pay lower wages. At the employee level, older employees were compensated better. Education was associated with higher wages, as was marriage, although the effect was highly gender-specific as shown by the interaction term between marital status and the gender of the employee. Having children was associated with lower wages, particularly if the children were less than 5 years of age and if the employee was female, evidence of the well-known motherhood penalty. At the firm level, we see that larger and more profitable firms paid their employees higher wages.

More germane for our purposes, the coefficient on *CEO Number of Daughters* is positive and significant at the 1% level; the birth of a daughter to a CEO was associated with a 0.9% average increase in employee wages. In column (2), we split *CEO Number of Daughters* by the gender of the CEO. We see that male CEOs were more sensitive to the birth of daughters in that they tended to raise their employees' wages by 1%, compared to an increase of only 0.5% by female CEOs. In column (3) we split *CEO Number of Daughters* by the gender of the employee. We see that female employees benefitted more from the birth of a daughter to their CEO: their wages rose by 1.2% on average, compared to an increase of only 0.8% for male employees. Wald tests confirm that, in both cases, the coefficients are significantly different from each other.

Our hypothesis specifically relates to the birth of a daughter to a male CEO and its effect on the wages of female employees relative to the wages of male employees. Accordingly, in column (4), we split *CEO Number of Daughters* by both the gender of the CEO and the gender of the employee, for a total of four orthogonal categories. We see that the birth of a daughter to a female CEO did not have a statistically significant differential effect on the relative wages of female and male employees. By contrast, we see that the birth of a daughter to a male CEO resulted in a 1.3% increase in the wages of female employees and an increase of only 0.8% for male employees. A Wald test confirms that these effects are highly statistically different from one another. We thus have the main result of our paper: The birth of a daughter to a male CEO resulted in a gender wage gap reduction of approximately 0.5%. [We note that this percentage (1.3% – 0.8%) is an approximation because the base wages upon which these percentages are calculated are similar but not exactly the same.] We now unpack the contingencies that make this effect larger or smaller.

IV.B. Is the Daughter Effect Stronger for First Daughters and First-Born Children?

If the effect of having a daughter on the wages of female employees relative to the wages of male employees is a result of a change in the attitudes of (male) CEOs toward gender equity in wage policies, we would intuitively expect that the effect would be stronger for the first daughter than for subsequent daughters. In addition, recent research found that the first child increases parents' well-being but the second child does not (Kohler, Behrman, and Skytthe 2005), and that parents invest more in the parental care of their first children, an effect that is especially strong for wealthier and more educated fathers (Lawson and Mace 2009), such as the CEOs in our sample. It is thus possible that the first daughter effect is stronger still if she is also a first child.[4]

To examine the effect of the first daughter, we replicated the regression in column (4) of Table III for the sample of CEOs with no daughters and only one daughter. To examine the effect of the first daughter when she is also the first child we replicated the regression in column (4) from Table III for the sample of CEOs with no children and only one child. The effect of second daughters is based on the sample of CEOs with one or

[4] Prior research (Washington 2008; Oswald and Powdthavee 2010) points out that parents might follow endogenous family stopping rules, creating a form of reverse causality. Thus, CEOs with certain attitudes toward women's issues might stop having children after achieving a desired gender mix of their children. We note, however, that this is much less of an issue in our panel setting where we use CEO fixed effects that account for CEOs' attitudes and preferences for the gender mix of their children. Moreover, limiting our analysis to the birth of first-born daughters, as we do in this section, rules out endogenous family stopping as a mechanism underlying our results.

two daughters. The results are reported in Table IV, together with the results for the full sample. When the daughter born to a CEO was also the first daughter, female employees experienced a 1.4% increase in wages – more than double the increase experienced by male employees – and a 0.8% reduction in the gender wage gap. When the daughter was also the first child, the effect was significantly stronger. Female employees experienced a 3.2% increase in wages, an effect nearly 7 times larger than the one for male employees. In essence, the gender wage gap fell by about 2.8%. We observe that in the case of second daughters, female employees experienced a 1% increase in wages, compared to a 0.6% increase in the wages of male employees. However, these effects are not significantly different from one another. We conclude that the effect observed in the full sample was mostly driven by the birth of first daughters to male CEOs.

Insert Table IV about here

IV.C. Which Employees Benefit More? The Effect of Education

In what follows, we seek to understand whether some female employees might benefit more than others when their male CEO has a daughter. As argued above, a male CEO may identify more strongly with educated women or have aspirations that his daughter will attain a good education. We therefore expected that any change in the attitudes and behaviors of male CEOs toward gender-related wage policies would have a more pronounced effect on the wages of educated employees.

To test this hypothesis, we divided employees into three groups by their educational level: those with a primary school education (between 6 and 10 years of schooling), those with a high school/gymnasium education (between 11 and 13 years of schooling), and those with a college/university education (14 or more years of schooling). We then replicated column (4) from Table III for each educational group.

Table V reports the results, which are telling. Among employees with only a primary school education, the birth of a daughter to a male CEO had no differential effect on the relative wages of female and male employees. However, for employees with a high school/gymnasium education, we observe that the wages of female employees increased by 1.4% after the birth of a daughter to a male CEO, while wages for male employees increased by 0.8% – a statistically significant difference. In the case of employees with a college/university-level education, we observe an even stronger differential effect. The wages of female employees increased by 1.7% after the birth of a daughter to male CEOs, an increase that is almost twice as large as, and statistically significantly different from, the 0.8% increase experienced by male employees. Among the most highly educated employees, then, the gender wage gap decreased by about 1% as a result of the birth of a daughter to a male CEO. In contrast, we do not observe differential effects in any education group following the birth of daughters to *female* CEOs.

Insert Table V about here

IV.D. Which Employees Benefit More? The Effect of Firm Size

Our final analysis concerns how the effects we observe vary by firm size. We hypothesized that CEOs in smaller firms have more autonomy and discretion to influence their firms' pay structures. The influence of CEOs might be reduced in larger firms, where organizational structures and human resource systems are more established and solidified. To test this hypothesis, we divided the firms into three groups by the number of employees: those with 10 to 50 employees, those with 51 to 150 employees, and those with more than 150 employees. We then replicated column (4) from Table III for each group of firms. We report those results in Table VI.

The results are in line with our hypothesis. In small firms, female employees experienced a 1.5% wage increase after the birth of a daughter to a male CEO, while the wages of male employees did not change. These effects are significantly different from each other. As a result, the gender wage gap fell by roughly 1.5%. (Intriguingly, there was a similar but smaller effect from the birth of a daughter to a female CEO, resulting in an apparent decrease in the gender wage gap of about 1%. However, the differential impact on wages is not statistically significant in the Wald test of equality.) In medium-sized and large firms, in contrast, the relative wages of female and male employees did not change to a statistically significant degree.

Insert Table VI about here

V. CONCLUSION

What explains the gender gap in wages? This question has received a significant amount of attention across the social sciences and discrimination has been shown to be an important explanatory factor. Yet, this literature has not specifically analyzed the potential influence of the chief executive officer (CEO) on a firm's gender-related wage policies.

In this paper, we drew on research in sociology and economics showing that daughters induce fathers to adopt more feminist attitudes and behaviors (Warner 1991; Washington 2008) and hypothesized that having daughters prompts male CEOs to implement gender-related wage policies that are more favorable to female employees. We tested this hypothesis using a comprehensive panel dataset on Danish firms, their employees and CEOs, and their CEOs' families. We used fixed effects at the level of the match between CEO and employee, creating a quasi-experimental research design in which the gender of a CEO's child is effectively exogenous even if the child's birth is not. Our main result provides strong support for our hypothesis: Conditional on the number of children a CEO already has, the birth of a daughter to a male CEO resulted in an approximately 0.5% reduction of the gender wage gap. The effect was significantly stronger for the first daughter, resulting in a 0.8% reduction of the gender wage gap, compared to a statistically insignificant 0.4% reduction after the birth of a second daughter. In addition, if the first daughter was also the first child, the effect was stronger still, with the gender wage gap decreasing by roughly 2.8%.

We also observe that the birth of a daughter to a male CEO affected classes of employees differently. The most educated employees experienced a 1% decrease in the gender wage gap while the least educated employees experienced no effect, perhaps because CEOs experience a higher degree of social identification with more-educated women, who they believe their daughters are likely to resemble. Finally, we found that female employees in small firms experienced the greatest wage increase relative to their male colleagues, consistent with the idea that the CEOs of small firms have more autonomy in determining their firms' wage policies.

Our results have implications for the literature on the gender wage gap and the role played by discrimination as an underlying mechanism, as well as for the literatures on social preferences and CEOs' impact on corporate policies. Our results also raise important questions. If firms' gender-related wage policies are influenced by CEOs' attitudes toward women's issues, as our results seem to indicate, what other factors besides family experience might influence CEOs' attitudes? Could our results be linked to appropriate interventions that might similarly affect the attitudes of CEOs? We hope this research will spur interest in addressing these and other related questions.

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Table I
Summary Statistics

Employee-Year Level Variables	Female Employees		Male Employees	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**
Employee-Year Observations	834,885		1,910,765	
Dependent Variable				
Wages (ln; 2010 kroner)	12.338	0.6819	12.580	0.6991
Demographic Characteristics				
Age (ln)	3.635	0.2884	3.634	0.3149
Years of Education (ln)	2.460	0.2276	2.488	0.2275
Marital Status (Married = 1)	0.630	0.4829	0.590	0.4918
Children under 5 years	0.280	0.5775	0.261	0.5748
Children between 5 and 17 years	0.525	0.8223	0.446	0.7960
Employment Characteristics				
Full Time Status (Full Time = 1)	0.926	0.2611	0.957	0.2036
Years of Firm Tenure (ln)	1.306	0.9971	1.371	1.0081
Blue Collar Rank	0.694	0.4607	0.740	0.4387
White Collar Rank	0.217	0.4124	0.116	0.3204
Management Rank	0.070	0.2544	0.088	0.2840
Top Management Rank	0.019	0.1362	0.056	0.2291

Table I - Continued
Summary Statistics

CEO-Year Level Variables	**Female CEOs** Mean	**Female CEOs** Std. Dev.	**Male CEOs** Mean	**Male CEOs** Std. Dev.
CEO-Year Observations	3,183		42,960	
Demographic Characteristics				
Age (ln)	3.710	0.2841	3.852	0.2024
Number of Daughters	0.712	0.8286	0.955	0.8599
Daughter Births	0.014	0.1155	0.014	0.1164
Number of Children	1.449	1.1152	1.967	1.0106
Child Births	0.029	0.1667	0.027	0.1631
Distribution of Children				
Zero	0.280	0.4492	0.106	0.3080
One	0.175	0.3803	0.139	0.3464
Two	0.384	0.4865	0.493	0.5000
Three	0.145	0.3517	0.213	0.4095
Four	0.008	0.0883	0.041	0.1983
Five or more	0.008	0.0883	0.007	0.0855

Firm-Level Variables	**Female CEOs** Mean	**Female CEOs** Std. Dev.	**Male CEOs** Mean	**Male CEOs** Std. Dev.
Size (ln, number of employees)	3.314	0.7278	3.527	0.8307
Profitability (Profit/Sales)	0.033	0.1956	0.032	0.1493

The table presents summary statistics for the variables used in the analysis of employee wages. Statistics for employee-level variables are reported by employee gender and are computed for the respective sub-samples of employee-year observations. Statistics for CEO- and firm-level variables are reported by CEO gender and are computed for the respective sub-samples of CEO-year observations.

Table II
Employee Salaries
Gender, Education and Firm Size

	Female Employees		Male Employees	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**
By Education Level				
Primary School (6-10 years)	12.214	0.6756	12.331	0.7113
High-School (11-13 years)	12.320	0.6732	12.568	0.7035
College (13+ years)	12.535	0.6621	12.730	0.6464
By Firm Size				
Small (10-50 employees)	12.285	0.7281	12.511	0.7319
Medium (51-150 employees)	12.302	0.7078	12.560	0.7250
Large (151+ employees)	12.413	0.6079	12.670	0.6288

The table presents summary statistics for employee wages. Statistics are reported by employee gender, and then by CEO gender and number of daughters, education level, and firm size. Statistics are computed for the respective sub-samples of employee-year observations.

Table III
CEOs' Daughters and Women's Wages

	(1)	(2)	(3)	(4)
CEO Number of Daughters	0.009***			
	(0.001)			
By CEO Gender				
CEO Number of Daughters x Female CEO		0.005***		
		(0.0018)		
CEO Number of Daughters x Male CEO		0.010***		
		(0.0007)		
Wald Test for Equal Coefficients		6.86***		
(F-statistic and p-value)		(0.0088)		
By Employee Gender				
CEO Number of Daughters x Female Employee			0.012***	
			(0.0011)	
CEO Number of Daughters x Male Employee			0.008***	
			(0.0008)	
Wald Test for Equal Coefficients			11.84***	
(F-statistic and p-value)			(0.0006)	
By CEO x Employee Gender				
CEO Number of Daughters x Female CEO x Female Employee				0.004
				(0.0028)
CEO Number of Daughters x Female CEO x Male Employee				0.006
				(0.0023)
Wald Test for Equal Coefficients				0.15
(F-statistic and p-value)				(0.6952)
CEO Number of Daughters x Male CEO x Female Employee				0.013***
				(0.0011)
CEO Number of Daughters x Male CEO x Male Employee				0.008***
				(0.0008)
Wald Test for Equal Coefficients				14.98***
(F-statistic and p-value)				(0.0001)

Table III – continued
CEOs' Daughters and Women's Wages

	(1)	(2)	(3)	(4)
Employee Controls				
Age (ln)	3.082***	3.082***	3.082***	3.082***
	(0.0223)	(0.0223)	(0.0223)	(0.0223)
Years of Education (ln)	0.892***	0.892***	0.892***	0.892***
	(0.0125)	(0.0125)	(0.0125)	(0.0125)
Married	0.020***	0.020***	0.020***	0.020***
	(0.0020)	(0.0020)	(0.0020)	(0.0020)
Married x Female	-0.066***	-0.067***	-0.067***	-0.066***
	(0.0036)	(0.0036)	(0.0036)	(0.0036)
Children under 5	-0.023***	-0.023***	-0.023***	-0.023***
	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Children under 5 x Female	-0.093***	-0.093***	-0.093***	-0.093***
	(0.0022)	(0.0022)	(0.0022)	(0.0022)
Children between 5 and 17	-0.033***	-0.034***	-0.033***	-0.033***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Full Time	0.292***	0.292***	0.292***	0.292***
	(0.0026)	(0.0026)	(0.0026)	(0.0026)
Tenure	0.274***	0.274***	0.274***	0.274***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)
CEO Controls				
Age	0.292***	0.292***	0.292***	0.292***
	(0.0026)	(0.0026)	(0.0026)	(0.0026)
Firm Controls				
Firm Size	0.054***	0.054***	0.054***	0.054***
	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Firm Profitability	0.013***	0.013***	0.013***	0.013***
	(0.0015)	(0.0015)	(0.0015)	(0.0015)
Fixed Effects				
CEO-Employee	Y	Y	Y	Y
Number of Children (CEO)	Y	Y	Y	Y
Hierarchical Rank	Y	Y	Y	Y
Year	Y	Y	Y	Y
Observations	2,745,650	2,745,650	2,745,650	2,745,650
R^2	0.1920	0.1920	0.1920	0.1920

The table presents least squares regressions of employee wages on the number of daughters of the CEO, with fixed effects for the CEO-employee match, the CEO's total number of children, the employee's hierarchical rank, and year. In Columns (2) – (4), the effect of the number of daughters of the CEO is differentiated by, respectively, the CEO's gender, the employee's gender, and the gender of both the CEO and employee.. Robust standard errors are in parentheses. Wald tests for the equality of coefficients are presented in Columns (2) – (4). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table IV
CEOs' Daughters and Women's Wages
The Rank Order at Birth

	Full Sample	**First Daughter**	**First Daughter is First Child**	**Second Daughter**
By CEO x Employee Gender				
CEO Number of Daughters x	0.004	0.008	0.026	0.003
Female CEO x Female Employee	(0.0028)	(0.0066)	(0.0161)	(0.0052)
CEO Number of Daughters x	0.006	0.022***	0.061***	0.006
Female CEO x Male Employee	(0.0023)	(0.0058)	(0.0139)	(0.0041)
Wald Test for Equal Coefficients	0.15	2.47	3.00*	0.25
(F-statistic and p-value)	(0.6952)	(0.1161)	(0.0832)	(0.6171)
CEO Number of Daughters x	0.013***	0.014***	0.032***	0.010***
Male CEO x Female Employee	(0.0011)	(0.0025)	(0.0084)	(0.0031)
CEO Number of Daughters x	0.008***	0.006***	0.005	0.006***
Male CEO x Male Employee	(0.0008)	(0.0018)	(0.0058)	(0.0021)
Wald Test for Equal Coefficients	14.98***	6.90***	9.59***	1.39
(F-statistic and p-value)	(0.0001)	(0.0086)	(0.0020)	(0.2381)
Fixed Effects				
CEO-Employee	Y	Y	Y	Y
Number of Children (CEO)	Y	Y	Y	Y
Hierarchical Rank	Y	Y	Y	Y
Year	Y	Y	Y	Y
Observations	2,745,650	2,058,260	670,219	1,644,869
R^2	0.1920	0.1890	0.1869	0.1864

The table repeats the analysis in Table III for subsamples reflecting the rank order at birth of a CEO's daughters. The second column is limited to the subsample of firms with CEOs who have no or only one daughter. The third column is limited to the subsample of firms with CEOs who have no children or only one daughter. The fourth column is limited to the subsample of firms with CEOs who have one or two daughters. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table V
CEOs' Daughters and Women's Wages
The Education Level

	Full Sample	Primary School	High School/ Gymnasium	College/ University
By CEO x Employee Gender				
CEO Number of Daughters x	0.004	-0.002	0.003	0.014***
Female CEO x Female Employee	(0.0028)	(0.0058)	(0.0045)	(0.0043)
CEO Number of Daughters x	0.006	0.000	0.006	0.010***
Female CEO x Male Employee	(0.0023)	(0.0051)	(0.0046)	(0.0032)
Wald Test for Equal Coefficients	0.15	0.13	0.25	0.65
(F-statistic and p-value)	(0.6952)	(0.7234)	(0.6162)	(0.4206)
CEO Number of Daughters x	0.013***	0.010***	0.014***	0.017***
Male CEO x Female Employee	(0.0011)	(0.0021)	(0.0018)	(0.0022)
CEO Number of Daughters x	0.008***	0.009***	0.008***	0.008***
Male CEO x Male Employee	(0.0008)	(0.0016)	(0.0017)	(0.0012)
Wald Test for Equal Coefficients	14.98***	0.13	8.66***	14.15***
(F-statistic and p-value)	(0.0001)	(0.7173)	(0.0033)	(0.0002)
Fixed Effects				
CEO-Employee	Y	Y	Y	Y
Number of Children (CEO)	Y	Y	Y	Y
Hierarchical Rank	Y	Y	Y	Y
Year	Y	Y	Y	Y
Observations	2,745,650	796,997	819,641	1,129,012
R^2	0.1920	0.1844	0.1818	0.1635

The table repeats the analysis in Table III for employees with different levels of education. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table VI
CEOs' Daughters and Women's Wages
The Firm Size

	Full Sample	**Small Firms**	**Medium-Sized Firms**	**Large Firms**
By CEO x Employee Gender				
CEO Number of Daughters x	0.004	0.013**	0.011	-0.006
Female CEO x Female Employee	(0.0028)	(0.0059)	(0.0073)	(0.0036)
CEO Number of Daughters x	0.006	0.004	0.013***	0.000
Female CEO x Male Employee	(0.0023)	(0.0050)	(0.0045)	(0.0030)
Wald Test for Equal Coefficients	0.15	1.66	0.10	1.76
(F-statistic and p-value)	(0.6952)	(0.1971)	(0.7567)	(0.1845)
CEO Number of Daughters x	0.013***	0.015***	0.004	0.013***
Male CEO x Female Employee	(0.0011)	(0.0025)	(0.0025)	(0.0014)
CEO Number of Daughters x	0.008***	0.001	0.007***	0.012***
Male CEO x Male Employee	(0.0008)	(0.0019)	(0.0016)	(0.0010)
Wald Test for Equal Coefficients	14.98***	27.76***	1.35	0.33
(F-statistic and p-value)	(0.0001)	(0.0000)	(0.2456)	(0.5640)
Fixed Effects				
CEO-Employee	Y	Y	Y	Y
Number of Children (CEO)	Y	Y	Y	Y
Hierarchical Rank	Y	Y	Y	Y
Year	Y	Y	Y	Y
Observations	2,745,650	955,546	818,924	971,180
R^2	0.1920	0.2280	0.1637	0.1937

The table repeats the analysis in Table III for employees of firms of different sizes. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.