

# The Effects of Paid Family Leave on Corporate Social Responsibility

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## Abstract

**Purpose** - The objective of this research is to investigate how lowering labor market frictions for female workers affects corporate social responsibility (CSR).

**Design/methodology/approach** - We utilize the staggered adoption of state-level Paid Family Leave (PFL) acts in the U.S. These acts provide significant flexibility for female employees by mandating paid leave for a family or medical events. Our study is based on a sample of 30,027 publicly traded firms in the U.S. from 1991 to 2012. We employ a difference-in-differences research design, considering treated firms as those headquartered in states that enacted PFL laws.

**Findings** - We find that there is a significant increase in the firms' CSR performance following the adoption of the PFL, suggesting that lowering the labor market frictions for female workers encourages firms to invest in CSR initiatives.

**Research implications or Originality** - This study informs policy makers that PFL enables firms to reduce costly employee turnover and results in an increase in CSR performance.

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**Keywords:** Corporate Social Responsibility, Difference-in-Differences, Paid Family Leave

**JEL Classifications:** A30, I30, M14

## 1. Introduction

We investigate the effects of weakening labor market frictions for female workforces on corporate social responsibility (CSR). Alleviating frictions is an investment in a work environment that facilitates women's career ambitions, which is posited to be a key factor for the growth of the female talent pool essential to affect firms' incentives to engage in CSR activities. However, it may not have any effect on firms' CSR performance if existing frictions are already minimal, or if firms are already achieving commendable CSR outcomes. In addition, the cost of lowering these frictions might be prohibitively high. Therefore, it is an empirical question which effect dominates.

To identify whether the benefits outweigh the costs, we exploit the staggered adoption of state-level paid family leave (PFL) laws in the U.S. between 2002 and 2012. These state laws mandate that employees are entitled to paid leave for a family or medical event (Bennett et al., 2020). These laws, by providing flexibility for women in their labor market decision, pro-

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vide an exogenous variation in the female talent group. Byker (2016) provides evidence that the participation of females in the labor force increased following the enactment of laws in California and New Jersey, and Ruhm (1998) shows similar results using European data.

Our sample consists of 30,027 publicly traded firms from 1991 to 2012. Utilizing the implementation of state-level PFL laws, we use a difference-in-differences research design where treated firms are those headquartered in states that pass PFL laws and control firms are not. We find significant increases in CSR performance subsequent to the adoption of PFL. This result suggests that lowering the labor market frictions for female workers by the implementation of PFL laws encourages firms to invest in CSR initiatives by building a culture and work environment supportive of female worker's career aspirations.

This study contributes to the literature of CSR. In particular, our research sheds light on an unexplored antecedent of CSR by showing the positive impact of offering paid leave benefits. We also contribute to the recent literature on the effects of PFL on corporate strategies. Through highlighting the positive effect of PFL on CSR performance, our findings contribute to the ongoing discussion concerning the adoption of PFL laws in the U.S.

## II. Data and Empirical Design

### 1. Data and Sample

Our empirical tests use the staggered passage of PFL laws in the U.S. to examine the effect of facilitating the participation of female workforces on CSR performance. For these tests, we merge Compustat with the Kinder, Lydenberg, and Domini (KLD) database. Compustat contains accounting information and additional firm-level information for U.S. public companies. The KLD database has annual ratings of companies' social and environmental performance from 1991 onward. Specifically, strengths and concerns are measured to evaluate positive and negative aspects of corporate actions towards stakeholders. KLD ratings are widely used in CSR studies (see Chatterji et al., 2016). Using these databases, we obtain a final sample of 30,027 firm-year observations from 1991 to 2012.

### 2. Empirical Model

We follow Bertrand and Mullainathan's (2003) application of the difference-in-differences methodology in the presence of state-level staggered treatments. Specifically, we estimate the following Ordinary Least Squares (OLS) regression:

$$KLD_{it} = \alpha_i + \alpha_t + \beta \times PFL_{st} + \gamma X_{it} + \epsilon_{it}, \quad (1)$$

where  $i$  indexes firms;  $t$  indexes years; and  $s$  indexes states of location, respectively.  $\alpha_i$  are firm fixed effects and  $\alpha_t$  are year fixed effects.  $KLD$ , the number of KLD strengths, captures the firm's CSR performance. We use alternative measures of CSR performance — the number of KLD concerns ( $KLD\_concerns$ ) and the number of KLD strengths net of the number of

KLD concerns ( $KLD_{net}$ ).  $PFL$  is a dummy variable that equals one if a firm is headquartered in a state with a paid family leave law in place by year  $t$ .

$X$  is the vector of variables, which includes  $Size$ ,  $ROA$ ,  $Tobin's Q$ ,  $Leverage$ , and  $Cash$ , to control for factors that may affect firms' incentives to invest in CSR following prior research (Flammer and Kacperczyk, 2019).  $Size$  is the natural logarithm of the book value of total assets and return on assets ( $ROA$ ) is the ratio of operating income before depreciation to the book value of total assets.  $Tobin's Q$  is the ratio of the market value of total assets to the book value of total assets.  $Leverage$  is the ratio of debt to the book value of total assets.  $Cash$  is the ratio of cash and short-term investments to the book value of total assets.  $\varepsilon$  is the error term. All variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to mitigate the impact of outliers. The definitions of all variables are provided in Appendix A. We cluster standard errors by the state of headquarter (Peterson, 2009). <Table 1> reports the descriptive statistics for the main variables used in this study. About 13,6% of firm-years in our sample are headquartered in a state with a PFL law in place.

**Table 1. Descriptive Statistics**

Variables	N	Mean	SD	p25	p50	p75
<i>KLD</i>	30,027	1.328	2.157	0.000	0.000	2.000
<i>PFL</i>	30,027	0.136	0.342	0.000	0.000	0.000
<i>Size</i>	30,027	7.379	1.728	6.108	7.284	8.468
<i>ROA</i>	30,027	0.107	0.128	0.052	0.114	0.173
<i>Tobin's Q</i>	30,027	1.916	1.304	1.095	1.447	2.194
<i>Leverage</i>	30,027	0.215	0.199	0.041	0.183	0.326
<i>Cash</i>	30,027	0.168	0.199	0.028	0.086	0.235

Note: This table presents descriptive statistics. The sample consists of 30,027 firm-year observations from 1991 to 2012. Variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles of their empirical distribution. Variable definitions are in Appendix A.

The coefficient of interest is  $\beta$ , which measures the effect of the staggered adoption of PFL laws on firms' CSR performance. We predict  $\beta$  to be positive and significant when the dependent variable is  $KLD$  or  $KLD_{net}$ . On the contrary, we expect  $\beta$  to be significantly negative when  $KLD_{concerns}$  is used as a dependent variable.

### III. Results

#### 1. Main Results

The main results are presented in columns (1) – (3) of <Table 2>. In column (1), the dependent variable is the number of KLD strengths. As expected, the coefficient on  $PFL$  (0.291) is positive and significant at the 1% level ( $t$ -statistic = 2.77). This implies that the staggered adoption of state-level PFL laws leads to a significant increase in CSR performance. When we use

the number of KLD concerns (*KLD\_concerns*) as the dependent variable in column (2), the coefficient on *PFL* (-0.224) is significantly negative at the 1% level (*t*-statistic = -5.29), implying that the state-level PFL laws lead to a decrease in KLD concerns. In column (3), when *KLD\_net* is used as a dependent variable, we also find the significantly positive coefficient on *PFL*. Overall, our analyses suggest that CSR performance of treated firms improves after the implementation of PFL laws relative to that of control firms.

**Table 2. Main Results**

Variables	Dependent Variable		
	<i>KLD</i> (1)	<i>KLD_Concerns</i> (2)	<i>KLD_Net</i> (3)
<i>PFL</i>	0.291*** (2.77)	-0.224*** (-5.29)	0.516*** (3.85)
<i>Size</i>	0.135 (1.67)	0.125** (2.12)	0.01 (0.08)
<i>ROA</i>	0.043 (0.25)	-0.198* (-1.72)	0.241 (1.25)
<i>Tobin's Q</i>	-0.014 (-0.76)	-0.009 (-0.64)	-0.005 (-0.21)
<i>Leverage</i>	0.223 (1.35)	0.128 (1.44)	0.095 (0.48)
<i>Cash</i>	0.507*** (2.97)	0.188 (1.61)	0.319 (1.38)
Firm fixed ef	Included	Included	Included
Year fixed ef	Included	Included	Included
Observations	30,027	30,027	30,027
R <sup>2</sup>	0.761	0.714	0.662

Note: This table presents the effect of state-level paid family leave (PFL) laws on corporate social responsibility (CSR). *PFL* is a dummy variable equal to one if a firm is headquartered in a state with a PFL law in place and zero otherwise. *KLD* is the number of KLD strengths while *KLD\_Concerns* is the number of KLD concerns. *KLD\_Net* is the number of KLD strengths net of the number of KLD concerns. Variable definitions are provided in Appendix A. In parentheses are *t*-statistics computed based on standard errors clustered at the state level. All regressions include firm and year fixed effects. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% levels, respectively.

## 2. KLD Components

The KLD database comprises around 80 indicators across seven key domains: community, corporate governance, employee relations, environment, diversity, human rights, and product. Among these domains, our primary focus lies in the areas of community, corporate governance, employee relations, and environment areas. In Panel A of (Table 3), we use the number of KLD strengths and KLD concerns in the community and corporate governance categories

as the dependent variables. The coefficients on *PFL* are significantly positive in columns (1) and (3) when considering the number of KLD strengths. However, when examining the number of KLD concerns in columns (2) and (4), the coefficients on *PFL* are insignificant. This implies that the staggered adoption of state-level PFL laws is associated with a noteworthy enhancement in CSR performance with respect to community and corporate governance aspects. This progress is primarily driven by the rise in the positive aspects within the community or corporate governance component, including activities like charitable giving, support for housing, volunteer programs, and transparency strength.

Shifting to Panel B of (Table 3), the dependent variables denote the number of KLD strengths and KLD concerns in the employee relations and environment categories. In columns (1) and (3), we observe significantly positive coefficients on *PFL*. Conversely, when utilizing the number of KLD concerns within the employee relations and environment categories as the dependent variables in column (2) and (4), the coefficients on *PFL* are significantly negative. This indicates that the implementation of state-level PFL laws triggers an increase in KLD strengths while concurrently leading to a reduction in KLD concerns with respect to employee relations and environment dimensions. Beyond its impact on the favorable aspects of CSR similar to the effect on the community and corporate governance aspects, the implementation of PFL also exhibits a significant effect in mitigating the concerns within employee relations and environment components, including health and safety concern, hazardous waste, regulatory problems, and substantial emissions.

**Table 3.** KLD Components

Variable	Community		Corporate Governance	
	<i>COM_Strength</i>	<i>COM_Concerns</i>	<i>CGOV_Strength</i>	<i>CGOV_Concerns</i>
	(1)	(2)	(3)	(4)
<i>PFL</i>	0.058*** (3.62)	-0.017 (-1.42)	0.025** (2.04)	0.010 (0.73)
<i>Size</i>	0.021* (1.97)	0.006 (0.67)	-0.008 (-0.63)	0.081*** (5.14)
<i>ROA</i>	-0.012 (-0.29)	0.055** (2.25)	0.028 (0.74)	-0.055 (-0.70)
<i>Tobin's Q</i>	-0.009** (-2.13)	-0.003 (-1.16)	-0.006 (-1.46)	-0.003 (-0.47)
<i>Leverage</i>	0.094** (2.05)	0.007 (0.32)	-0.028 (-0.85)	0.003 (0.05)
<i>Cash</i>	0.038 (1.65)	-0.017 (-1.07)	0.082** (2.06)	-0.025 (-0.64)
Firm fixed effects	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included
Observations	30,027	30,027	30,027	30,027
R <sup>2</sup>	0.667	0.532	0.443	0.535

Panel B: Employee Relations and Environment

Variable	Employee Relations		Environment	
	<i>EMP_Strength</i>	<i>EMP_Concerns</i>	<i>ENV_Strength</i>	<i>ENV_Concerns</i>
	(1)	(2)	(3)	(4)
<i>PFL</i>	0.105*	-0.145***	0.059**	-0.060**
	(1.91)	(-4.93)	(2.07)	(-2.34)
<i>Size</i>	0.075***	0.022	-0.017	0.077***
	(3.19)	(0.96)	(-0.67)	(2.75)
<i>ROA</i>	0.030	-0.253***	0.022	0.006
	(0.44)	(-4.79)	(0.45)	(0.16)
<i>Tobin's Q</i>	-0.002	0.003	-0.013	0.005
	(-0.28)	(0.71)	(-1.67)	(0.99)
<i>Leverage</i>	-0.049	0.104	0.089	0.001
	(-0.94)	(1.61)	(1.51)	(0.03)
<i>Cash</i>	0.037	0.193***	0.217***	-0.005
	(0.50)	(4.02)	(4.34)	(-0.16)
Firm fixed effects	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included
Observations	30,027	30,027	30,027	30,027
R <sup>2</sup>	0.549	0.546	0.550	0.793

Note: This table presents the effect of state-level paid family leave (PFL) laws on the components of corporate social responsibility (CSR). Panel A provides the results for the community and corporate governance components and Panel B shows the results for the employee relations and environment components. *PFL* is a dummy variable equal to one if a firm is headquartered in a state with a PFL law in place and zero otherwise. Variable definitions are provided in Appendix A. In parentheses are *t*-statistics computed based on standard errors clustered at the state level. All regressions include firm and year fixed effects. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% levels, respectively.

#### IV. Conclusion

In this paper, we examine the impact of introducing flexibility for female workers on CSR. We achieve this by studying how providing paid leave benefits affects firms' incentives to invest in CSR strategies using a large sample of publicly traded firms from 1991 to 2012. Exploiting the staggered adoption of state-level PFL laws in the U.S., we provide evidence consistent with PFL having a net positive effect on CSR performance. The difference-in-differences methodology supports a causal interpretation of our findings. We find that CSR performance of treated firms improves post-PFL adoption compared to that of control firms. This suggests that providing paid leave benefits, as a commitment to fostering a supportive work environment, is presumably a key element contributing to the expansion of the female talent pool, which subsequently affects CSR performance.

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## Appendix A. Variable Definitions

Variable	Definition
<i>KLD</i>	The number of KLD strengths.
<i>KLD_Concerns</i>	The number of KLD concerns.
<i>KLD_Net</i>	The number of KLD strengths net of the number of KLD concerns.
<i>COM_Strength</i>	The number of KLD strengths in community category.
<i>COM_Concerns</i>	The number of KLD concerns in community category.
<i>CGOV_Strength</i>	The number of KLD strengths in corporate governance category.
<i>CGOV_Concerns</i>	The number of KLD concerns in corporate governance category.
<i>EMP_Strength</i>	The number of KLD strengths in employee relations category.
<i>EMP_Concerns</i>	The number of KLD concerns in employee relations category.
<i>ENV_Strength</i>	The number of KLD strengths in environment category.
<i>ENV_Concerns</i>	The number of KLD concerns in environment category.
<i>PFL</i>	One if a firm is headquartered in a state with a paid family leave law in place and zero otherwise.
<i>Size</i>	The natural logarithm of the book value of total assets.
<i>ROA</i>	The ratio of operating income before depreciation to the book value of total assets.
<i>Tobin's Q</i>	The ratio of the market value of total assets to the book value of total assets.
<i>Leverage</i>	The ratio of debt to the book value of total assets.
<i>Cash</i>	The ratio of cash and short-term investments to the book value of total assets.