Private vs. Public: Firm Responses to New State Entitlement Programs

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Abstract

We study firm responses to newly introduced state-level family and medical leave programs ('state-FML'). Since 2017, six states have implemented state-FML, enabling private sector employees to take paid time off for their own or their relatives' sickness or care needs. To study whether firms curtail fringe benefits in response, we use 2009-2023 BLS firm-level data from the National Compensation Survey, event study, and difference-in-differences methods. We find that, in response to state-FML, particularly medium-sized firms reduce paid family leave benefits by five percentage points, personal leave by seven percentage points, and paid vacation days by four percentage points.

Keywords: FMLA, TDI, family leave, parental leave, medical leave, social insurance, entitlement programs, fringe benefits, crowding-out, National Compensation Survey

JEL classification: I12, I18, J22, J28, J32, J38, J88, H75

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1 Introduction

Whether or not public entitlement programs crowd out private, firm-provided fringe benefits is a core research question in economics. Under standard assumptions, economic theory would suggest that firms would reduce their voluntary provision of substitutive benefits, whereas the case for complementary benefits is less clear. Consequently, a rich economic literature empirically studies the question of crowding out and crowding in of private benefit provision through government programs, often in the context of U.S. employer-sponsored health insurance (Cutler and Gruber, 1996; Clemens, 2015). Further, research has identified Medicaid as a reason for the low take-up rates of private long-term care insurance (Sloan and Norton, 1997; Brown and Finkelstein, 2008; Braun et al., 2019) as well as a safety net for the low take-up rates of private disability insurance (Autor et al., 2014; Cabral and Cullen, 2019; Stepner, 2021; Cao et al., 2024).

This paper studies firm responses to new state-level entitlement programs. It uses high-quality, representative data from the Bureau of Labor Statistics (BLS) at the firm-job level. The National Compensation Survey (NCS) is the only representative database that provides a rich, granular picture of employer-provided fringe benefits at the firm level in the United States. We exploit this unique rotating panel from 2009 to 2023 to study whether and how firms alter their voluntary provision of family and medical leave (FML) benefits—as well as other non-mandated fringe benefits—in response to the introduction of state-level FML. To our knowledge, this is the first paper to investigate such interaction effects in the context of FML. Furthermore, the setting is unique because firm-provided benefits typically do not crowd out eligibility for state FML, unlike health insurance.

We do not find much evidence that firms scale back employer-provided group insurance plans for short-term disability insurance (STDI) or long-term disability insurance (LTDI) once states start to offer universal medical leave benefits. One explanation is the relatively low employer costs for these benefits ($0.04 for STDI and $0.07 for LTSI per hour worked). Firms may also use STDI and LTDI to attract qualified workers, and complementary STDI and LTDI may maximize worker productivity after health shocks (cf. Powell and Seabury, 2018).

By contrast, we find evidence that firms scale back voluntarily provided family leave benefits (-5 ppt), as well as paid personal (-7 ppt) and paid vacation (-4 ppt) days, after states introduce universal FMA programs. All these benefits are typically directly provided by firms, without going through commercial insurers, and are relatively expensive. Paid vacation days

cost the firm on average $1.24 per hour worked, and paid personal days $0.22 per hour worked. Studying the effect of heterogeneity reveals that medium-sized firms drive the crowding-out effects. Smaller firms usually do not offer these benefits in the first place, and larger firms may also be able to afford them after the introduction of public programs to retain qualified workers. There is even evidence that bigger firms, after introducing new FML entitlements, offer relatively inexpensive non-mandated group benefits such as LTDI or dental insurance at *higher* rates — a positive spillover phenomenon also found by other contemporaneous research (Cengiz et al., 2019; Maclean et al., 2024).

Our findings enrich the literature on crowding-out of private on-the-job benefits by public entitlement programs (see above) and the literature on interaction effects between social insurance programs (Fevang et al., 2017; Stepner, 2021). Research has shown that variation in one strand of public social insurance induces substitution effects with related strands of social insurance, for example, disability insurance and early retirement programs (Riphahn, 2004) or sick leave and unemployment insurance (Ahammer et al., 2024). Further, we contribute to the literatures on employer mandates (Summers, 1989; Gruber, 1994; Ruhm, 1998; Buchmueller et al., 2011; Maclean et al., 2024), paid family and parental leave (Lalive et al., 2014; Dahl et al., 2016; Bailey et al., 2019; Brenøe et al., 2023; Bana et al., 2023), U.S. sick leave (Gilleskie, 1998; Pichler et al., 2021; Cronin et al., 2022; Andersen et al., 2023) as well as "long-term sick leave" (Ziebarth, 2013) aka medical leave (Pichler and Ziebarth, 2024) aka temporary disability insurance (Campbell et al., 2019).

2 Paid Leave in the United States

FMLA. The Family and Medical Leave Act (FMLA) of 1993 is the only federal law about leave from work. It codifies rights for employees who have worked at least 1,250 hours per year in firms with 50 or more employees (cf. Waldfogel, 1999). FMLA ensures that employees can take *unpaid* leave for up to 12 weeks in case of pregnancy, own sickness, or sickness of a family member. However, because of the eligibility criteria, large parts of the U.S. workforce are not covered; almost half, according to some estimates (Jorgensen and Appelbaum, 2014). As a consequence, some states have passed additional state-level legislation, for example, the California Family Rights Act (CFRA), see Civil Rights Department (2024).

TDI and WC. In addition to FMLA, all states but Texas provide a mandate for Workers' Compensation (WC), see Cabral et al. (2022). WC covers *paid* leave due to *work-related* accidents or diseases (in addition to health care). Moreover, five states have longstanding experiences with Temporary Disability Insurance (TDI) for private sector employees: Rhode Island (since 1942), California (1946) New Jersey (1948), and New York (1949). In the 1960s, Puerto Rico and Hawaii followed. Depending on the state, TDI covers *work-unrelated* sick leave for up to 26 weeks (sickness) and 52 weeks (childbirth), typically from the second week of a work-disabling illness or maternity leave (Social Security Administration, 2016). All states operate separate state agencies that collect funding via payroll deductions and pay out benefits. In most states, unemployment agencies serve this function.

Employer Sick Pay Mandates. As of writing, 15 states and DC mandate that private sector employees must have the right to earn individual sick time credit, typically one hour of paid sick leave per 40 hours of work, where unused sick time accumulates and rolls over to the following year. Monitoring is relatively light. Doctors' notes are not required, and parents are eligible to take this type of short-term sick leave to care for their sick children. Maclean et al. (2024) provide causal evidence that the mandates had bite, and increased access to and use of sick leave.

State-Level Family and Medical Leave Programs

CA and NJ. California was the first state to implement a paid family program, effective 2004, via the *California Paid Family Leave Act*. The act codified paid leave to care for sick family members, that is, relatives and newborns.[1] New Jersey followed in 2009. However, as our data only started in 2009, both state-level provisions are not part of our identifying variation. Thus, we omit those states.

Identifying variation. States that passed Family and Medical Leave (FML) more recently and whose variation we exploit are: Rhode Island (2014), New York (2018), the District of Columbia

[1] The definition of a family member varies from state to state and usually also includes grandparents and grandchildren, see Table A1.

(2020), Washington (2020), Massachusetts (2021) and Connecticut (2022).[2] Table A1 lists all 13 + D.C. state-level FML provisions passed to date.

Benefits and funding. In the majority of states, FML provides benefits for up to 12 weeks. Private sector employees have to apply for the benefit at a state agency; benefits are typically capped from below and above and a share of the regular gross wage, ranging from 50% (NY) to 100% (OR). State-level FML is funded via payroll deductions of between 0.23 (NJ) and 1.2% (CO, MI, and RI) of the gross wage. The large majority of states levy the contribution rates on both employers and employees. Note that we use the benefit start date as the start of treatment; see Table A1.

3 National Compensation Survey (NCS)

The BLS has designed the NCS to provide a detailed picture of wage and non-wage compensation in the United States. The data are used to produce government statistics on a wide range of compensation and labor cost items and to adjust wages for federal employees officially.

The NCS is a rotating, nationally representative panel at the firm-job level where firms remain in the sample for three to five years. [3] We use the restricted access version, which includes county identifiers to match establishments with state-level mandates, see Section 2. Firms' human resource administrators provide all wage and non-wage benefits by type of job to the BLS field economists. Because the information uses firm-level administrative records, response error due to, for example, employees being unaware of their benefits, is minimized. Please see the NCS documentation for further details on sampling and the units of observation (Bureau of Labor Statistics, 2023). Henceforth, we use 'firm', 'employer,' and 'establishment' as synonyms.

This paper uses data from the end-of-March survey, as many fringe benefits are only surveyed at the end of the first quarter. That is, with event time defined as '0' for the March following the start of the benefit payout period, we leverage three full post-enactment years

[2] As Rhode Island and New York had already TDI programs that largely overlap with state-level FML benefits, we examine these two states separately. Former TDI states might also differ as they have had decades of experience with medical leave benefits. We routinely exclude them from our control group.

[3] Technically, the NCS is an establishment-level survey. We routinely use BLS-provided weights.

for three states (RI, NY, WA); two full post-enactment years for DC and MA; and one full post-enactment year for CT.

[Insert Table 1 about here]

Sample Selection. We leave the micro-data at the firm-job level and restrict the sample to private sector firms in non-traditional TDI states. Table 1 reports the summary statistics. In our main sample, we have 474,544 observations at the firm-job level for the years 2009-2023. Using the Consumer Price Index, we convert all monetary values to 2023 U.S. dollars.

Outcome Variables. Our main binary outcome variables measure family and medical leave benefits provided by firms. We hypothesize that firms reduce the provision of these benefits once states start their new FML programs. Specifically, before the introduction of the FML programs, 16% of jobs came with paid family leave and 38% of jobs came with short-term disability insurance (Table 1), where firms typically self-insure for the former and offer commercial insurance plans for the latter.

Furthermore, we examine firm responses to the provision of long-term disability insurance (36%), as well as other paid leave benefits, including paid personal leave (43%) and paid vacation days (77%), alongside policies that are easier to cut, such as dental plans (48

In robustness checks, we further study the total annual hours that employees in a particular job are on paid leave (156 hours per year, pre-treatment). Moreover, we test for whether employers reduce wages ($31.67), the number of works paid (1804), and check whether employees work fewer hours (1654) as a result of the new FML entitlement programs.

Covariates. Table 1 also lists job characteristics such as full-time work (75%) and unionization (8%). Further, we know the occupation and industry of each job. The three most common occupations are 'food preparation and serving,' 'production,' and 'transportation and material.' The three most common industries are 'retail,' 'manufacturing' as well as 'admin, support, and waste management.'

4 Empirical Approach

As states adopt FML at different times, we use staggered DD methods proposed by Callaway and Sant'Anna (2021) (CS). The CS DD estimator is robust to bias due to dynamics in treatment effects and heterogeneity in treatment effects across states.

Specifically, while the simple 2x2 DD design in equation (**??**) has solely one target parameter, the staggered CS DD, each treatment group (here state) is defined by its year of conversion g, produces $T-1$ event study parameters. The time average treatment effects are then: $ATT(g,t) = \mathbb{E}\left[Y_{i,t}(g) - Y_{i,t}(\infty) \mid G_i = g\right]$ where each $ATT(g,t)$ is the average treatment effect of being converted at period g, such that $t \geq g$. $\mathbb{E}\left[Y_{i,t}(\infty) \mid G_i = g\right]$ are untreated potential outcomes for each treatment group in each period, that is, unobserved counterfactuals. $ATT(g,t)$ is identified by comparing the expected change in outcomes for g between periods $g-1$ and t to that for the never-treated, $G_i = \infty$, at period t (Roth et al., 2023).

$$ATT(g,t) = \mathbb{E}\left[Y_{i,t} - Y_{i,g-1} \mid G_i = g\right] - \mathbb{E}\left[Y_{i,t} - Y_{i,g-1} \mid G_i = \infty\right] \tag{1}$$

which is estimated via the sample analogues:

$$\widehat{ATT(g,t)} = \frac{1}{N_g} \sum_{i:G_i=g} \left[Y_{i,t} - Y_{i,g-1}\right] - \frac{1}{N_{g'}} \sum_{i:G_i=g'} \left[Y_{i,t} - Y_{i,g-1}\right]$$

Note that we routinely drop all six states with TDI programs before 2009, see Section 3. We cluster standard errors ($\mu_{f,j,t}$) at the state-level (Bertrand et al., 2004).

5 Results

Impact on Firm-Provided Paid Family Leave and Short-Term Disability Insurance

Figure 1a and b show event studies for the two main non-mandated substitutive fringe benefits. *A priori*, a working hypothesis could be that firms cut back on these benefits once the state provides universal coverage for all private sector employees. Alternatively, one may hypothesize that firms keep or even expand those benefits (anticipating lower take-up) to attract or retain highly qualified workers.

As seen, there is not much evidence that firms cut back on "short-term disability (STDI)" policies; two years into the new programs, we can exclude reductions by 4ppt with 95% probability. One explanation for this finding could be that those policies are relatively inexpensive for firms; they cost about four cents per work hour (Pichler and Ziebarth, 2024). Another difference could be the names (medical leave vs. STDI), although the overlap in benefits is substantial.

[Insert Figure 1 and Table 2 about here]

However, we do find evidence that firms respond to new government entitlement programs for family leave by reducing their voluntarily offered paid family benefits. The reduction is large, 4.7ppt from a baseline of 15.6% of jobs that come with such benefits pre-reform, see column (1) of Table 2 for CS DD estimates on the Average Treatment Effect on the Treated (ATT).

Impact on Other Paid Leave Benefits

Figures 1c and d show event studies for two additional fringe benefits that are not mandated and substitutive, although a lot less generous than FML. Typically, state-level FMA provides up to 12 weeks of paid family leave and up to 24 weeks of medical leave, while paid personal leave (Figure 1c) and paid vacation (Figure 1d) usually just cover up to a dozen days per year. In contrast to medical leave, firms mostly self-insure and directly pay for these paid leave days. Also, because a high share of jobs come with paid personal leave (43%, Table 1) and vacation days (77%), labor costs sum to $1.24 per hour worked (Pichler and Ziebarth, 2024). Maybe as a result, Figures 1c and d show clear and linear, over time increasing, crowd-out effects for these two benefits. Full three years after the state-FML benefit payout has started, 15% fewer jobs come with paid personal leave, and 10% fewer jobs with paid vacation time. Average significant ATT effects over all post-reform years are -7ppt (paid personal leave) and -4ppt (vacation time).

Finally, Figures 1e and f show results for two complementary benefits, dental insurance and long-term disability insurance (LTDI). As seen, there is some suggestive evidence that firms reduced dental insurance offerings in year t+3. Still, average ATT effects are not statistically significant, neither for dental plans nor LTDI (columns (5) and (6) of Table 2). Similar effects can be found for medical and drug prescription plans in Appendix Figure B2.

Effect Heterogeneity

Figure 2 shows effect heterogeneity for all six outcomes, stratified by full vs. part-term jobs, unionized vs. non-unionized jobs, and firm size. The figure reports ATT point estimates along with 95% confidence intervals.

[Insert Figure 2 about here]

Regarding group STDI and LTDI policies, the findings show clear evidence for no crowding-in or out effects, except for suggestive crowding-in effects for LTDI among large firms (but significance vanishes when correcting for multiple hypothesis testing). Almost all point estimates for all subgroups are close to zero.

The case is different for family leave (Figure 2a), personal leave (Figure 2c), paid vacation (Figure 2d), and dental insurance (Figure 2e). Here we consistently find reductions for full-time and unionized jobs as well as in medium-sized firms. A likely explanation is that part-time jobs (baseline 6.4%) and small firms (baseline 10.1%), are substantially less likely to offer family leave and other fringe benefits in the first place.

While we find consistent evidence that medium-sized firms are driving the overall reduction in these benefits, there is also robust evidence that larger firms are even more likely to offer dental insurance or LTDI, which likely helps them differentiate themselves and attract qualified workers. This finding is consistent with recent evidence from Cengiz et al. (2019) and Maclean et al. (2024) who report similar positive spillover effects of tighter pay and benefit regulation on the likelihood of firms offering fringe benefits.

Robustness

Appendix Figure B1 shows event studies testing for further possible adjustment margins: wages (a), hours worked (c), and paid (d) as well as hours on paid leave (b). We do not find evidence for systematic adjustments on these margins.

6 Conclusion

We empirically assess whether new state-level entitlement programs crowd out non-mandated firm-provided benefits. Specifically, we use a representative BLS firm survey to test whether

newly introduced family and medical leave programs lead firms to reduce their use of substitute and complementary fringe benefits. Using staggered difference-in-difference models, we exploit variation from four states and D.C.

Our findings show no evidence that these new public social insurance programs crowd out relatively inexpensive short- and long-term disability insurance group policies. However, we find clear evidence that medium-sized firms, in particular, reduce their provision of paid personal leave and vacation days, as well as substitute family leave, when states start offering universal public programs and levy payroll taxes.

While overall access to family and medical leave has nevertheless increased, future research will provide more evidence on how utilization affects labor costs, hiring, and long-term labor market outcomes.

References

A Better Balance (2024). *Overview of paid sick time laws in the United States*. https://www.abetterbalance.org/resources/paid-leave-program-implementation-timelines/, retrieved August 23, 2024.

Ahammer, A., D. Grübl, and R. Winter-Ebmer (2024). The health externalities of downsizing. *Review of Economics and Statistics forthcoming*.

Andersen, M., J. C. Maclean, M. F. Pesko, and K. Simon (2023). Does paid sick leave encourage staying at home? evidence from the united states during a pandemic. *Health Economics 32*(6), 1256–1283.

Autor, D., M. Duggan, and J. Gruber (2014). Moral hazard and claims deterrence in private disability insurance. *American Economic Journal: Applied Economics 6*(4), 110–41.

Bailey, M. J., T. S. Byker, E. Patel, and S. Ramnath (2019). The long-term effects of California's 2004 Paid Family Leave Act on women's careers: Evidence from U.S. tax data. Technical report. NBER Working Paper 26416.

Bana, S., K. Bedard, M. Rossin-Slater, and J. Stearns (2023). Unequal use of social insurance benefits: The role of employers. *Journal of Econometrics 233*(2), 633–660.

Bertrand, M., E. Duflo, and M. Sendhil (2004). How much should we trust differences-in-differences estimates? *Quarterly Journal of Economics 119*(1), 249–275.

Braun, R. A., K. A. Kopecky, and T. Koreshkova (2019). Old, frail, and uninsured: Accounting for features of the US long-term care insurance market. *Econometrica 87*(3), 981–1019.

Brenøe, A. A., S. P. Canaan, N. A. Harmon, and H. N. Royer (2023). Is parental leave costly for firms and coworkers? *Journal of Labor Economics forthcoming*.

Brown, J. R. and A. Finkelstein (2008). The interaction of public and private insurance: Medicaid and the long-term care insurance market. *American Economic Review 98*(3), 1083–1102.

Buchmueller, T. C., J. DiNardo, and R. G. Valletta (2011). The effect of an employer health insurance mandate on health insurance coverage and the demand for labor: Evidence from hawaii. *American Economic Journal: Economic Policy 3*(4), 25–51.

Bureau of Labor Statistics (2023). *National Compensation Survey*. https://www.bls.gov/ebs/publications/september-2022-landing-page-employee-benefits-in-the-united-states-march-2022.htm, retrieved July 19, 2023.

Cabral, M., C. Cui, and M. Dworsky (2022). The demand for insurance and rationale for a mandate: Evidence from Workers' Compensation insurance. *American Economic Review 12*, 1621–1668.

Cabral, M. and M. R. Cullen (2019). Estimating the value of public insurance using complementary private insurance. *American Economic Journal: Economic Policy 11*(3), 88–129.

Callaway, B. and P. H. Sant'Anna (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics 225*(2), 200–230.

Campbell, Z., E. Chyn, and J. Hastings (2019). The impact of paid maternity leave: Evidence from Temporary Disability Insurance in Rhode Island. Technical report. mimeo.

Cao, Y., B. Fischer, J. Geyer, and N. R. Ziebarth (2024). Fundamentally reforming the DI system: Evidence from german cohorts. Working Paper 30812, National Bureau of Economic Research.

Cengiz, D., A. Dube, A. Lindner, and B. Zipperer (2019). The Effect of Minimum Wages on Low-Wage Jobs. *The Quarterly Journal of Economics 134*(3), 1405–1454.

Civil Rights Department (2024). *Family, Medical, and Pregnancy Disability Leave for Employees in California*. https://calcivilrights.ca.gov/family-medical-pregnancy-leave/, retrieved August 19, 2024.

Clemens, J. (2015). Regulatory redistribution in the market for health insurance. *American Economic Journal: Applied Economics 7*(2), 109–34.

Cronin, C. J., M. C. Harris, and N. R. Ziebarth (2022). The anatomy of U.S. sick leave schemes: Evidence from public school teachers. Working Paper 29956, National Bureau of Economic Research.

Cutler, D. M. and J. Gruber (1996). Does Public Insurance Crowd out Private Insurance?*. *The Quarterly Journal of Economics 111*(2), 391–430.

Dahl, G. B., K. V. Løken, M. Mogstad, and K. V. Salvanes (2016). What is the case for paid maternity leave? *Review of Economics and Statistics 98*(4), 655–670.

Fevang, E., I. Hardoy, and K. Røed (2017). Temporary disability and economic incentives. *The Economic Journal 127*(603), 1410–1432.

Gilleskie, D. B. (1998). A dynamic stochastic model of medical care use and work absence. *Econometrica 66*(1), 1–45.

Gruber, J. (1994). The incidence of mandated maternity benefits. *American Economic Review 84*(3), 622–641.

Jorgensen, H. and E. Appelbaum (2014). Expanding federal family and medical leave coverage: Who benefits from changes in eligibility requirements? CEPR Reports and Issue Briefs.

Lalive, R., A. Schlosser, A. Steinhauer, and J. Zweimüller (2014). Parental leave and mothers' careers: The relative importance of job protection and cash benefits. *The Review of Economic Studies 81*(1), 219–265.

Maclean, J. C., S. Pichler, and N. R. Ziebarth (2024). Mandated sick pay: Coverage, utilization, and crowding-in. *Journal of the European Economic Association forthcoming*.

National Partnership for Women and Families (2024). *Voters Show Bipartisan Support for Permanent Paid Sick Days and Paid Family and Medical Leave*. https://nationalpartnership.org/wp-content/uploads/2023/02/state-paid-family-leave-laws.pdf, retrieved August 23, 2024.

Pichler, S., K. Wen, and N. R. Ziebarth (2021). Positive health externalities of mandating paid sick leave. *Journal of Policy Analysis and Management 40*(3), 715–743.

Pichler, S. and N. R. Ziebarth (2024). Sick Leave and Medical Leave in the United States: A Categorization and Recent Trends. IZA Policy Papers 206, Institute of Labor Economics (IZA).

Powell, D. and S. Seabury (2018). Medical care spending and labor market outcomes: Evidence from workers' compensation reforms. *American Economic Review 108*(10), 2995–3027.

Riphahn, R. T. (2004). Employment protection and effort among German employees. *Economics Letters 85*, 353–357.

Roth, J., P. H. Sant'Anna, A. Bilinski, and J. Poe (2023). What's trending in difference-in-differences? a synthesis of the recent econometrics literature. *Journal of Econometrics 235*(2), 2218–2244.

Ruhm, C. J. (1998). The economic consequences of parental leave mandates: Lessons from Europe. *The Quarterly Journal of Economics 113*(1), 285–317.

Sloan, F. A. and E. C. Norton (1997). Adverse selection, bequests, crowding out, and private demand for insurance: evidence from the long-term care insurance market. *Journal of Risk and Uncertainty 15*, 201–219.

Social Security Administration (2016). *Annual Statistical Supplement: Temporary Disability Insurance Program Description and Legislative History*. https://www.ssa.gov/policy/docs/statcomps/supplement/2016/tempdisability.html, retrieved August 19, 2014.

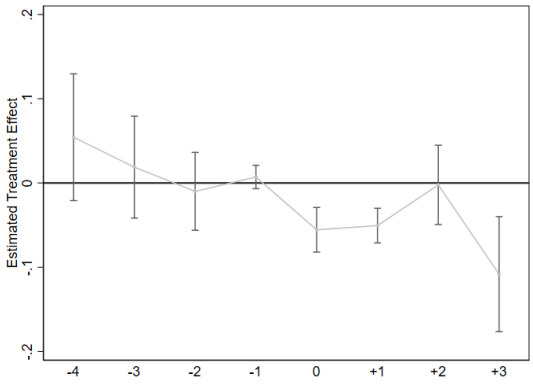
Stepner, M. (2021). The long-term externalities of short-term disability insurance. Technical report. mimo, https://files.michaelstepner.com/short_term_di_externalities.pdf, retrieved August 22, 2023.

Summers, L. H. (1989). Some simple economics of mandated benefits. *American Economic Review 79*(2), 177–183.

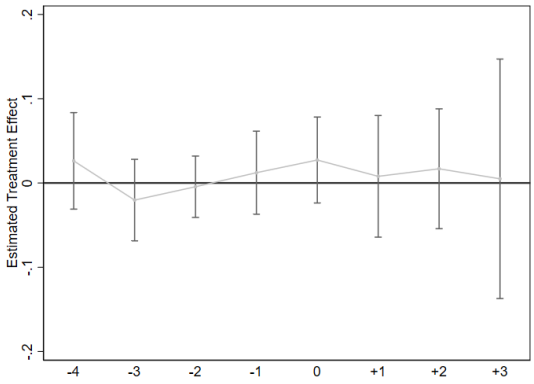
Waldfogel, J. (1999). The impact of the Family and Medical Leave Act. *Journal of Policy Analysis and Management 18*(2), 281–302.

Ziebarth, N. R. (2013). Long-term absenteeism and moral hazard—Evidence from a natural experiment. *Labour Economics 24*, 277–292.

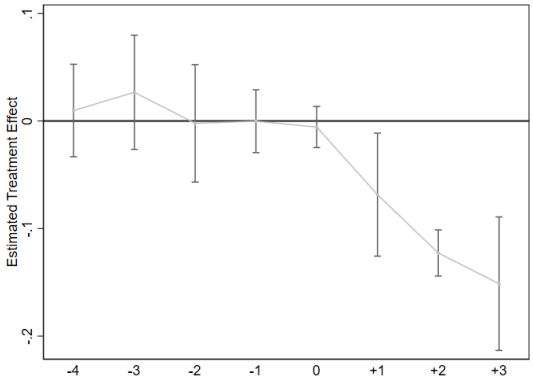
Figure 1: State-Level FML and Employer-Provided Benefits



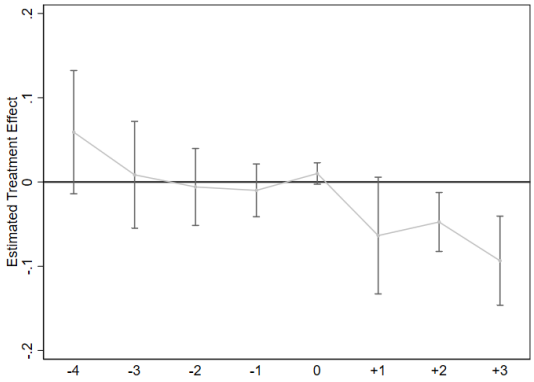
(a) Family leave



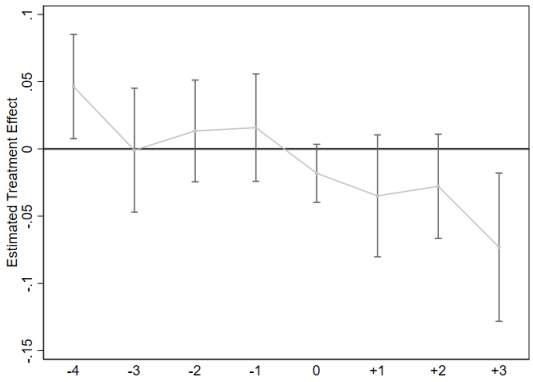
(b) Short-term disability insurance



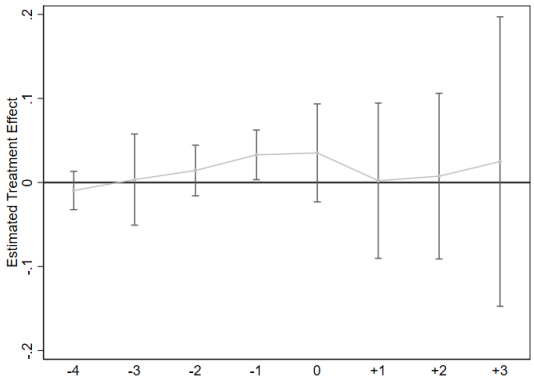
(c) Paid personal leave



(d) Paid vacation



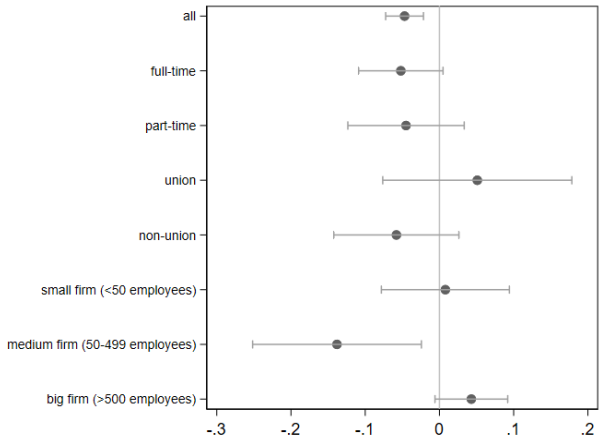
(e) Dental insurance



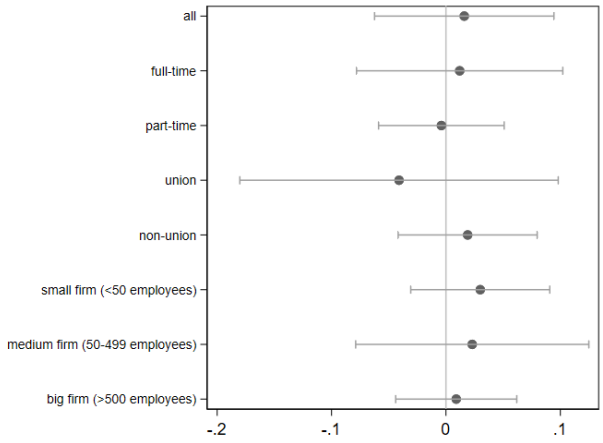
(f) Long-term disability insurance

Notes: NCS data from 2009-2023. All graphs show Callaway and Sant'Anna (2021) event studies. Standard errors are clustered at the state level and the gray bars depict 95% confidence intervals. For more information about the FML reforms, see Table A1.

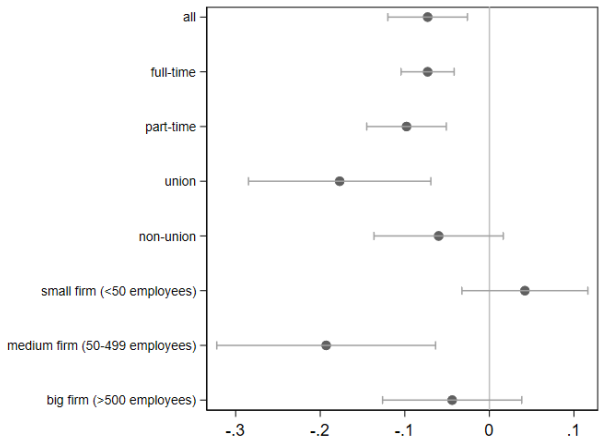
Figure 2: State-Level FML and Employer-Provided Benefits: Effect Heterogeneity



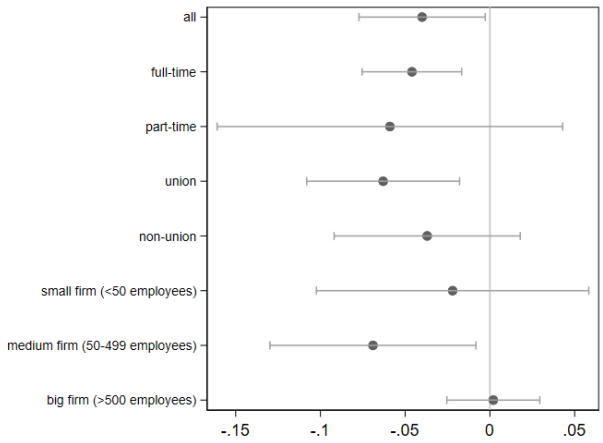
(a) Family leave



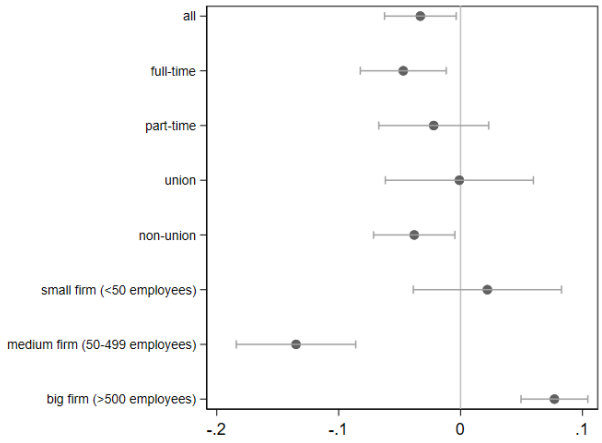
(b) Short-term disability insurance



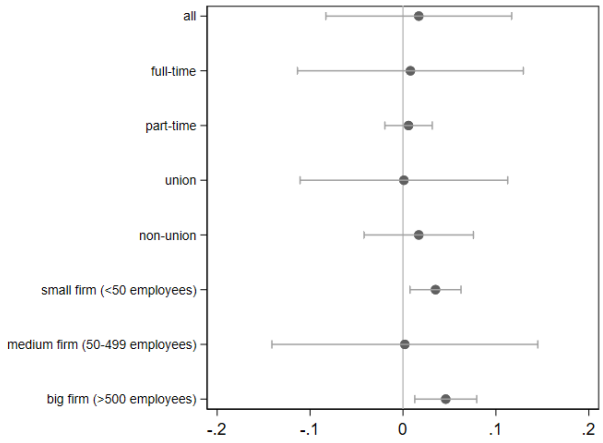
(c) Paid personal leave



(d) Paid vacation



(e) Dental insurance



(f) Long-term disability insurance

Notes: NCS data from 2009-2023. All graphs show Callaway and Sant'Anna (2021) event studies. Standard errors are clustered at the state level and the gray bars depict 95% confidence intervals. For more information about the FML reforms, see Table A1.

Table 1: Descriptive Statistics, National Compensation Survey (NCS)

	All	Treated States, pre-mandate	Control States
Main outcomes			
Family leave offered (binary)	0.146	0.156	0.142
Short term disability offered (binary)	0.369	0.381	0.366
Long term disability offered (binary)	0.344	0.361	0.340
Personal leave offered (binary)	0.407	0.433	0.402
Paid vacation offered (binary)	0.778	0.771	0.780
Dental insurance offered (binary)	0.418	0.485	0.407
Job characteristics			
Full-time employment (binary)	0.746	0.723	0.749
Part-time employment (binary)	0.254	0.277	0.251
Non-unionized (binary)	0.922	0.904	0.926
Unionized (binary)	0.0776	0.0956	0.0745
Hourly wage (in $2022)	26.76	31.67	25.85
Annual hours worked	1711.4	1654.5	1721.3
Annual hours paid	1853.1	1804.2	1861.3
Annual paid leave hours paid	146.8	156.1	145.0
Other fringe benefits			
Medical insurance offered (binary)	0.692	0.706	0.690
Prescription drug insurance offered (binary)	0.679	0.689	0.677
Sick leave offered (binary)	0.664	0.733	0.648
Main occupations (by share)			
Food preparation & serving	0.102	0.0946	0.103
Production	0.0860	0.0563	0.0912
Transportation & material	0.0851	0.0664	0.0881
Health practitioners & technicians	0.0645	0.0622	0.0651
Installation, maintenance, & repair	0.0457	0.0384	0.0471
Business & financial operations	0.0434	0.0532	0.0416
Management	0.0433	0.0556	0.0410
Construction & extraction	0.0423	0.0402	0.0426
Main industries (by share)			
Retail trade	0.133	0.126	0.135
Manufacturing	0.118	0.0950	0.121
Admin, support, waste mgmt; remed. services	0.0711	0.0673	0.0715
Professional, scientific, technical services	0.0678	0.0945	0.0633
Construction	0.0529	0.0517	0.0530
Finance & insurance	0.0509	0.0517	0.0509
Wholesale trade	0.0455	0.0391	0.0467
Transportation & wharehousing	0.0452	0.0341	0.0471
Firm size	691.6	873.3	638.9
Observations	474544	67365	400919

Notes: NCS data from 2009-2023 (Bureau of Labor Statistics, 2023). Data are yearly and at the firm-job level; they are weighted by BLS provided weights. Minimum and maximum values not available due to data confidentiality reasons. According to BLS' definition, "medical insurance" is health insurance without drug coverage.

Table 2: State-Level FML and Employer-Provided Benefits

Outcome	**Paid family leave**	**Short-term disability insurance**	**Paid personal leave**	**Paid vacation**	**Dental insurance**	**Long-term disability insurance**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Pretreatment mean: *(in treated localities)*	0.1555	0.3814	0.4334	0.7705	0.4847	0.3613
Panel A						
FML enacted	-0.047***	0.001	-0.073***	-0.040**	-0.006	0.016
	(0.013)	(0.051)	(0.024)	(0.019)	(0.049)	(0.042)
Year FE	X	X	X	X	X	X
State FE	X	X	X	X	X	X
Panel B						
FML enacted	-0.062***	0.040*	-0.048	-0.050**	-0.023	0.024
	(0.014)	(0.024)	(0.030)	(0.022)	(0.016)	(0.040)
Year FE	X	X	X	X	X	X
State FE	X	X	X	X	X	X
Employee + mandate controls	X	X	X	X	X	X

Source: NCS 2009-2022 (Bureau of Labor Statistics, 2023). FE=fixed-effects. Each column in each panel stands for one Callaway and Sant'Anna (2021) model accounting for possible biases due to treatment dynamics and heterogeneity; ***, **, and * = statistically different from zero at the 1%, 5%, and 10% level. All models are weighted using NCS weights provided by the BLS. Employee and mandate controls: unionized job and part-time employment as well as indicators for PTO and sick pay mandates. Standard errors clustered at the state level and reported in parentheses. All models have 474,544 firm-job observations. Sample omits all six TDI states (CA, NJ, NH, NY, RI, HI) and focuses on private sector firms only.

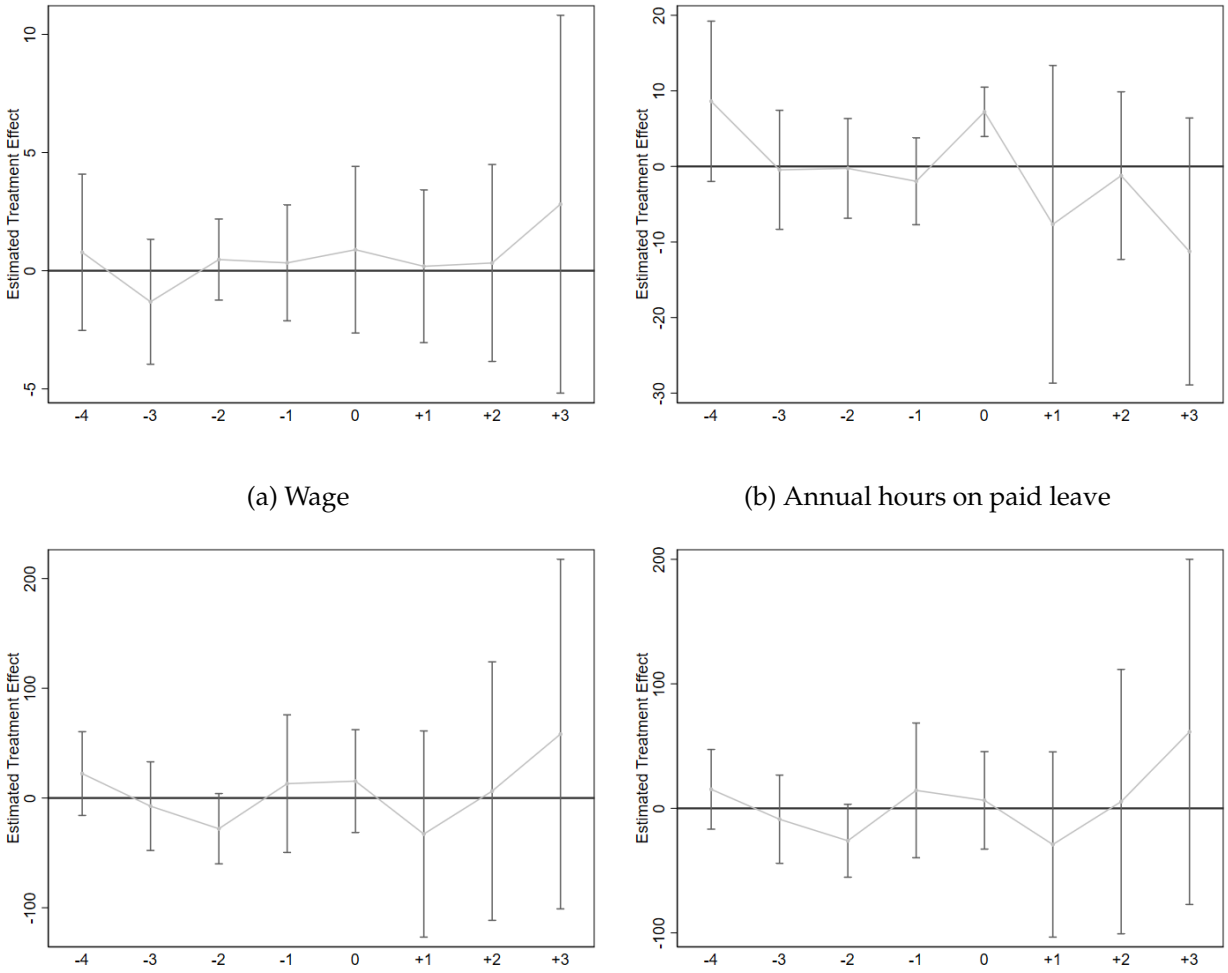
Online Appendix (not for publication)

Table A1: Overview of State-Level Medical and Family Leave Benefits in the U.S.

Region (1)	Law Passed (2)	Law Effective - Premium (3)	Law Effective - Benefits (4)	Content (5)
California	September 26, 2002	Jan 1, 2004	July 1, 2004	TDI already in place since 1946; 52 weeks for own disability; 6 weeks (8 weeks starting from 2020) for family (including grandchildren, siblings, and parents of a spouse or domestic partner); benefits of 70% of wages; premium of 1.1% of wages paid by employee only
New Jersey	May 2, 2008	Jan 1, 2009	Jun 30, 2009	TDI already in place since 1948; 26 weeks for own disability; 6 weeks (12 weeks starting from 2020) for family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits of 85% of wages; premium of 0.23-1% of wages jointly paid
Rhode Island	July 11, 2013	no change	Jan 1, 2014	TDI already in place since 1942; 30 weeks for own disability; 4 5 (2022) 6 (2023) weeks for family; benefits of 60% of wages; premium of 1.2% of wages paid by employee only
New York	April 1, 2016	July 1, 2017	Jan 1, 2018	TDI already in place since 1949; 26 weeks for own disability; 8 10 (2019) 12 (2021) weeks for family (including grandchildren, siblings starting from 2022); benefits of 50-67% of wages; premium of 0.873% of wages jointly paid
Washington D.C.	February 17, 2017	July 1, 2019	July 1, 2020	2 6 (2021) weeks for own disability, 6 12 (2022) weeks for family (including siblings); benefits of 90% of wages; premium of 0.26% of wages paid by employer only
Washington	July 5, 2017	Jan 1, 2019	Jan 1, 2020	12 weeks for own disability, 12 weeks for family (including grandchildren, siblings, parents of a spouse or domestic partner, and other persons with close relationships); benefits of 90% of wages; premium of 0.74% of wages jointly paid (employers with <50 employees are not required to pay);
Massachusetts	June 28, 2018	Oct 1, 2019	Jan 1, 2021	20 weeks for own disability, 12 weeks for family (including grandchildren, siblings, and parents of a spouse or domestic partner); benefits of 80% of wages; premium of 0.88% of wages jointly paid (employers with <25 employees are not required to pay);
Connecticut	June 25, 2019	Jan 1, 2021	Jan 1, 2022	12 weeks for own disability and family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits of 95% of wages; premium of 0.5% of wages paid by employee only
Oregon	August 9, 2019	Jan 1, 2023	September 3, 2023	12 weeks for own disability and family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits up to 100% of wages; premium of 1% of wages jointly paid (employers with <25 employees are not required to pay)
Colorado	November 3, 2020	Jan 1, 2023	Jan 1, 2024	12 weeks for own disability and family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits of 90% of wages; premium of 0.9-1.2% of wages jointly paid (employers with <10 employees are not required to pay)
Maryland	April 9, 2022	July 1, 2025	July 1, 2026	12 weeks for own disability and family (including grandchildren, siblings, and parents of a spouse or domestic partner); benefits of 90% of wages; jointly paid premium depending on analysis of Secretary of Labor (employers with <15 employees are not required to pay)
Delaware	May 10, 2022	Jan 1, 2025	Jan 1, 2026	6 weeks for own disability and family (grandparents not included); employers with <25 employees only covered for parental leave; benefits of 80% of wages; premium of 0.8-1% of wages jointly paid
Minnesota	May 25, 2023	Jan 1, 2026	Jan 1, 2026	12 weeks for own disability and family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits of 90% of wages; premium of 0.7-1.2% of wages jointly paid
Maine	July 11, 2023	Jan 1, 2025	May 1, 2026	12 weeks for own disability and family (including grandchildren, siblings, parents of a souse or domestic partner, and other persons with close relationships); benefits of 90% of wages; premium of 1% of wages jointly paid

Source: A Better Balance (2024); National Partnership for Women and Families (2024), own collection, own illustration. Note: In terms of covered family members all states except for Delaware include own children, parents, grandparents, spouses, and domestic partners. Nevada (Jan 1, 2020), Maine (Jan 1, 2023), and Illinois (Jan 1, 2024) passed paid time off mandates, requiring employers to allow employees to accrue general paid time off, without specific reason.

Figure B1: State-Level FML: Wages, Hours Worked and Paid



(a) Wage

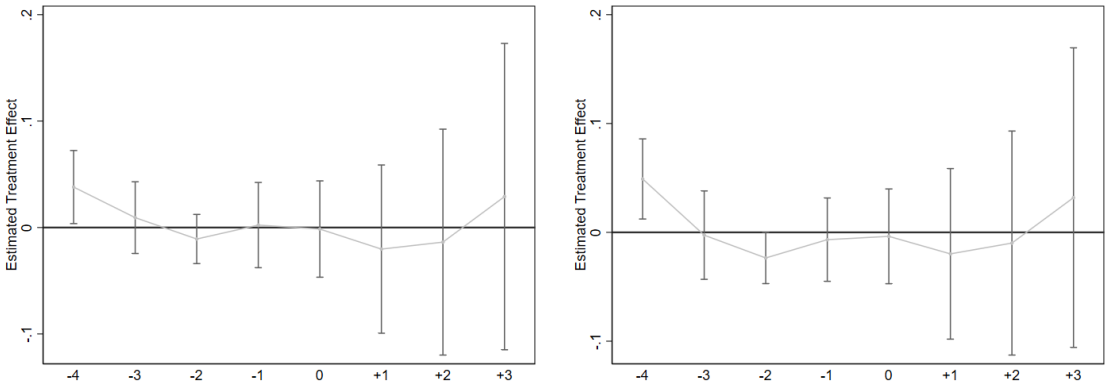
(b) Annual hours on paid leave

(c) Annual hours worked

(d) Annual hours paid

Notes: NCS data from 2009-2023. All graphs show Callaway and Sant'Anna (2021) event studies. Standard errors are clustered at the state level and the gray bars depict 95% confidence intervals. Event studies include year and firm fixed effects. For more information about the FML reforms, see Table A1.

Figure B2: State-Level FML and Employer-Provided Benefits (II)



(a) Medical insurance

(b) Prescription drug insurance

Notes: NCS data from 2009-2023. All graphs show Callaway and Sant'Anna (2021) event studies. Standard errors are clustered at the state level and the gray bars depict 95% confidence intervals. Event studies include year and firm fixed effects. For more information about the FML reforms, see Table A1.