Paid Sick Time Mandates and Worker Mobility in the U.S.

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October 18, 2019

Abstract

This study estimates the causal effect of access to paid sick time on worker mobility, by exploiting the variation in the implementation of local paid sick time mandates over time in the U.S. I use May 2004 – June 2019 Current Population Survey (CPS) basic monthly data, and by taking the Difference-in-Differences approach, I find that the local mandates significantly reduce private sector employees' monthly job turnover. This study is, to the best of my knowledge, the first to present the effect of the local paid sick time mandates in the U.S. on worker mobility.

Keywords: paid sick time, employer mandates, worker mobility, United States (U.S.), Current Population Survey (CPS)

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Introduction

Paid sick time is time off from work that is compensated, and that employees can use to visit healthcare providers, to recover from illness, childbirth and some negative events such as domestic violence, sexual assault and stalking, and to take care of family members. A popular and theoretically plausible argument is that providing employees with paid sick time benefits will help them address their health and safety needs, maintain a good work-life balance, and thus reduce their mobility between jobs. The goal of this paper is to study whether the recent paid sick time mandates in 8 states and 13 cities of the U.S. decrease worker mobility, using May 2004 - June 2019 Current Population Survey (CPS) basic monthly data.

The United States is one of the few OECD countries without federal paid sick time mandate. Currently the only federal law in the U.S. that mandates medical and family leaves is the **Family and Medical Leave Act of 1993 (FMLA)**. However, FMLA only requires covered employers to provide employees who have worked no less than 1,250 hours annually with job-protected and *unpaid* leave under certain circumstances such as pregnancy, adoption, own disease, care for a seriously ill family member, etc.

According to the Bureau of Labor Statistics, in March 2018, 74% of civilian workers in the U.S. had access to paid sick time; 71% of private industry workers versus 91% of state and local government workers received paid sick time benefits; access to paid sick time varied greatly across occupations, by wage and by establishment size in the private sector.[1] Specifically, 52% of

[1] U.S. Bureau of Labor Statistics. 2018. Employee Benefits in the United States. Table

service workers versus 94% of management/business/financial workers were covered by paid sick time policies; 31% of workers with average wage in the lowest 10 percent versus 92% of workers with average wage in the highest 10 percent had access to paid sick time; 60% of workers in establishments with less than 50 workers versus 87% of workers in establishments with 500 or more workers received paid sick time benefits.

To a large extent, paid sick time in the U.S. is voluntarily provided by employers as a fringe benefit. Concerns about lack of paid sick time may lead to contagious presenteeism, reduce productivity, cause higher job turnover, harm worker well-being and increase inequality (Lovell, 2004; Hill, 2013; Van Kammen, 2015; Ahn and Yelowitz, 2016; Pichler and Ziebarth, 2017).

Eleven states, one federal district and thirty-two counties/cities have implemented paid sick time mandates as of today. Table 1 summarizes the mandates that have gone into effect, and those that are evaluated by this paper due to data availability. The mandate in Westchester County, NY was effective starting on Apr. 10, 2019, but the accrual began on Jul. 10, 2019, and Dallas, TX enforced the mandate on Aug. 1, 2019, so neither is included in this study. I gather information in Table 1 from the state and local government websites, and refer to Pichler and Ziebarth (2018), Stearns and White (2018), National Partnership for Women & Families (2019) and A Better Balance (2019). I present the timeline of the mandates that are examined in the analysis in Figure 1; the date when accrual begins under each mandate is shown, and the years indicate the start of each year; the

5. Selected Paid Leave Benefits: Access, March 2018. Accessed January 8 2019, https://www.bls.gov/news.release/pdf/ebs2.pdf.

start and end months of the sample period in this study are May 2004 and June 2019, respectively. The effective date of each mandate is the same as the date when the accrual of sick time begins under the law, with the exception of California and Westchester, NY. The mandate in California was effective starting on Jan. 1, 2015, while the right to begin accruing and taking sick leave under the California mandate did not go into effect until Jul. 1, 2015. The details of the local mandates are listed in Appendix Table A1, for the identified cities in CPS since May 2004.

I highlight the geographic locations of the cities in the analysis using Google My Maps, and they are presented in Figure 2. The blue stars show locations of the cities in the treatment group, and the red dots show locations of the cities in the control group.

Opponents of paid sick time mandates argue that mandated paid sick leave policies may encourage shirking behaviour and hurt employment (Pichler and Ziebarth, 2017). In a standard model of labor supply and demand, when the employers are mandated to provide a benefit for their employees, labor demand curve shifts downward; depending on the values of the benefit to the employees, labor supply curve shifts downward accordingly; at the new equilibrium, most likely wage and employment are both lower (Summers, 1989).

The local paid sick time mandates in the US require employers to provide their employees with paid sick leave. Some of them only cover relatively large businesses (for example in Connecticut: firms with ≥ 50 employees). The accrual rate is typically 1 hour of paid sick time per 30-40 hours worked,

with a maximum of 40-80 hours annually, allowing the unused balance to roll over to the next year. Workers can take paid sick leave for themselves or family members, for preventive care or diagnosis, care or treatment of an existing health condition, or for specified purposes if the worker is a victim of domestic violence, sexual assault or stalking.

I estimate the causal effect of gaining paid sick time coverage at work on private sector employees' job turnover, using a Difference-in-Differences (DD) identification strategy. The exogenous variation in the enactment of local paid sick time mandates across regions in the U.S. is taken as a natural experiment, and I use monthly data from the Current Population Survey (CPS) during May 2004 - June 2019 to capture the effect of the policy implementation. The effects of the local paid sick time mandates in the U.S. on various labor market outcomes such as work absence, wage, employment are in dispute, and there are only a very limited number of papers that investigate them, mostly because the mandatory paid sick leave polices are implementated very recently. As shown in Figure 1, the right to accrue sick time was effective starting in 2014 or later under most of the local paid sick time laws.

This study is, to the best of my knowledge, the first to examine the causal effect of the local paid sick time mandates on worker mobility in the U.S. Although the paid sick leave policies are not very generous under most mandates, I find very sizeable impact of those policies on private sector employees' monthly job turnover, and such impact is found to get stronger over time after the policy implementation, given the fact that covered em-

ployees accrue paid sick hours as they work. I show that on average in my sample between 2-3% of the workers change their employers or jobs each month, and beginning in the second year after the policy implementation, the reduction in job turnover is about 20-30% relative to the mean. I also find larger policy impact on the high skilled workers than on the low skilled workers, although low skilled workers are less likely to gain paid sick leave coverage without the mandatory policies. The local mandates are found to have a relatively greater effect on the job turnover of female workers, which is consistent with the findings in literature that women have higher likelihood of presenteeism.

1 Literature

Existing studies largely focus on Europe, which has a long history of generous short-term sickness insurance (SI) that are universally available to employees, with policy changes implemented at different points in time (Ahn and Yelowitz, 2016). SI is different from Workers' Compensation Insurance (WCI) or Disability Insurance (DI) in the US: SI covers work-unrelated illness whereas WCI covers work-related illness and DI covers permanent absence due to disabilities.

Research using data from various European countries document that workers respond to the financial incentives provided by paid sick time, such as in Sweden (Johansson and Palme, 2005), Germany (Ziebarth and Karlsson, 2010), Norway (Markussen et al., 2011; Dale-Olsen, 2014), Italy

(De Paola et al., 2014) and Hungary (Csillag, 2016). The estimated elasticity of being absent w.r.t. replacement level is between 0.7 and 1 in absolute value based on evidence from Sweden (Johansson and Palme, 2005) and Germany (Ziebarth and Karlsson, 2010); the estimated elasticity of the number of sick days w.r.t. replacement level is 0.8 (Csillag, 2016).

Markussen (2012) finds that individual sick leave uptake has strong negative effects on subsequent earnings and employment. According to Ziebarth and Karlsson (2014), increased generosity of the federally mandated sick pay does not improve employee health, which supports the shirking explanation. Fevang et al. (2014) shows that the sickness system in which the employer pays for the worker's short-term sick leave and the public insurer pays for the worker's long-term sick leave undermines the employer's incentive to prevent long-term absenteeism. Several studies also look into the reason(s) why workers' sickness absence increases during economic booms, and the proposed explanations include infection between coworkers due to higher workload and reduced moral hazard (Pichler, 2015), and procyclical moral hazard (Askildsen et al., 2005).

Papers that study the paid sick time at workplace in the U.S. find that illness-related absence rate responds substantially to the availability of such a benefit (Gilleskie, 1998; Ahn and Yelowitz, 2016). Early evidence about the local paid sick time mandates in the U.S. shows that they have small or no negative effects on employment and wage (Van Kammen, 2015; Ahn and Yelowitz, 2015; Pichler and Ziebarth, 2018), while they exhibit public health benefits including reduction in influenza-like illness rates (Pichler

and Ziebarth, 2017) and decrease in aggregate level work absences due to illness (Stearns and White, 2018).

The phenomenon termed *job lock*, which describes that workers may choose to stay in jobs that they would rather leave due to fear of losing employee benefits, such as health insurance, is relevant here. Scholars find that workers with employer-provided health insurance are less likely to switch jobs (Madrian, 1994; Monheit and Cooper, 1994; Buchmueller and Valletta, 1996; Bradley et al., 2007; Bansak and Raphael, 2008).

This study is also related to the findings that females take more absence from work and the effect of employment protection on females' absence behavior differs from males' (Ichino and Riphahn, 2005; Gilleskie, 2010). According to the American Time Use Survey in 2011, with similar coverage rates of paid sick time across gender, females have higher likelihood of presenteeism, and number of children is also positively associated with the likelihood of presenteeism (Susser and Ziebarth, 2016).

2 Data

The primary data source is May 2004 - June 2019 Current Population Survey (CPS) basic monthly data, accessed from IPUMS (Flood et al., 2018). This study utilizes city-level policy variations, and only private sector employees who live in identified principal cities of metropolitan areas are kept in the analysis, while self-employed individuals and unpaid family workers are excluded.

A total of 80 cities are identified in the data[2], including New York City, Washington DC and Philadelphia. New York City is identified by the five counties that it consists of, which are Bronx County, Kings County, New York County, Queens County, and Richmond County, and those five counties are identified by the Federal Information Processing Standard Publication (FIPS) county codes in CPS data. Washington DC is identified by the FIPS state code. Philadelphia is a city and county, its geographic boundaries as a city are the same as its county boundaries, and it is identied by the FIPS county code. All other 77 cities are identified by the codes for individual principal city in CPS data. Fifty cities are treated, and the rest thirty cities are in the control group. The time period is limited to May 2004 and after, because there are substantially less identified cities before May 2004 in CPS. Since respondents are surveyed 4 months in, 8 months out and then 4 months in, only individuals who are not surveyed in the 1st or 5th month-in-sample and who were employed last month are included.

Table 2 presents the weighted summary statistics for all workers living in all identified cities, as well as for workers in the private sector, who live in treated and non-treated cities, respectively. The characteristics of workers in the private sector is largely similar to those of the all-workers sample that includes the self-employed and the unpaid family workers. Employees who live in treated cities are on average less educated, with lower percents of non-Hispanic black and non-Hispanic white, slightly lower percent of

[2]Montgomery County, MD and Cook County, IL also have local sick time mandates, but they are not identified during May 2004 - July 2005 in CPS, and they are identified only since August 2005.

married people, and slightly lower percent of people residing with young children, compared to the control group, and the two groups do not differ much from each other in other characteristics. The monthly job turnover is on average between 2-3% in the all-workers sample, in the treatment group and in the control group.

3 Identification Strategy

The causal effect of access to paid sick time on worker mobility is estimated through the Difference-in-Differences (DD) approach. The equation of interest is

$$\begin{aligned} Y_{ict} = {} & \alpha + \pi_c + \lambda_t + \pi_c \times t \\ & + \beta_{-4} \times D_{c,T-4y} + \beta_{-3.5} \times D_{c,T-3.5y} + \beta_{-3} \times D_{c,T-3y} + \beta_{-2.5} \times D_{c,T-2.5y} \\ & + \beta_{-2} \times D_{c,T-2y} + \beta_{-1.5} \times D_{c,T-1.5y} + \beta_{-1} \times D_{c,T-1y} \\ & + \beta_0 \times D_{c,T} + \beta_{0.5} \times D_{c,T+0.5y} + \beta_1 \times D_{c,T+1y} + \beta_{1.5} \times D_{c,T+1.5y} \\ & + \beta_2 \times D_{c,T+2y} + \beta_{2.5} \times D_{c,T+2.5y} + \beta_3 \times D_{c,T+3y} + \beta_{3.5} \times D_{c,T+3.5y} \\ & + X_{ict} \times \gamma + \varepsilon_{ict}, \end{aligned} \tag{1}$$

where $Y_{ict} = 1$ if individual i who lives in city c at time t is NOT employed by the same employer or the same job he/she reported working as his/her main job in the previous month's survey and 0 otherwise; π_c and λ_t are city fixed effects and month-year fixed effects, respectively, and $\pi_c \times t$ are city-specific

linear time trends; $D_{c,T+\vartheta y}$ are the indicators for the half-year periods before and after the right to accrue sick time goes into effect in city c, and they all equal zero for the cities without mandates; X_{ict} is a vector of individual characteristics. Final person-level weight is used in the analysis. Standard errors are clustered at the state level.

$D_{c,T+\vartheta y} = 1$ if city c is treated and $t = T + \vartheta y$, and 0 otherwise. $T + \vartheta y$ denotes each half-year period before and after treatment. T is the first half-year when the right to accrue sick time goes into effect, $T + 0.5y$ is the second half-year, and so on, and $T + 3.5y$ is the period of at least 3.5 years after the policy implementation. $T - 1y$ is the period between 1 year before and 6 months before the policy implementation, $T - 1.5y$ is the period between 1.5 years before and 1 year before, and so on, and $T + 4y$ is the period of at least 3.5 years before the policy implementation. $T - 0.5y$ is the 6-months period right before the policy implementation, it is taken as the reference period, and thus not included in the model specification. $D_{c,T+\vartheta y}$ always equals zero for the control group.

Individual characteristics X_{ict} include: age (<20, 20-29, 30-39, 40-49, 50-59, $\geqslant$ 60), gender, education (less than high school, high school diploma, some college, bachelor degree or above), race/ethnicity (Hispanic, non-Hispanic White, non-Hispanic Black, other race/ethnicity), marital status (married, separated/divorced/widowed, never married/single), having young children in household (own children under age 5, or alternatively under 16), having parent(s) in household[3], and full-time/part-time worker

[3]The indicators for having parents living in the same household are only available since 2007.

status[4].

I choose to use half-year indicators for several reasons. First, according to the information that I gather, as accurately as possible, and mostly from the state and local government websites, mandated employers are allowed to set a probationary period between the start of employment and the date when employees could use the accrued sick time, which varies between 2 months and half year, and such probationary period is allowed in all treated cities in the analysis, except for Newark, NJ and Providence, RI. Second, with the typical accrual rate of paid sick time, a full-time employee who works 35 hours per week earns about 7 paid sick days in a calendar year, and she earns the first full day after around 2 months. Third, it could take some time for the information of the mandated paid sick time benefits to be disseminated to workers and/or for workers to feel comfortable using them, as they may not want to be the first to do that in their firms (Stearns and White, 2018).

To account for the probationary period, time for accrual and for disseminating information, and the possibility that workers need time to become comfortable using the paid sick time benefits, I believe every half year after the policy implementation is a reasonable length of time to examine the treatment effect, especially for the beginning periods after the adoption of the mandates. Meanwhile, since the mandates usually allow the unused balance of sick time to roll over to the next year, and some of them either do

[4]Full-time is defined as working 35 hours or more per week. Full-time workers include full-time hours and usually full-time, not at work and usually full-time, full-time hours and usually part-time. Part-time workers include part-time hours and usually full-time, part-time hours and usually part-time, not at work and usually part-time. The unemployed seeking either full-time or part-time work, and people not in labor force are excluded in the analysis.

not set a cap for the remaining balance or set a maximum that takes years to for the accrued amount to reach, workers may behave differently during the first few years after policy implementation, relative to later years. It is likely that, after several years following the adoption of the law, when a covered employee has accumulated a fair amount of sick time balance, she chooses to stay longer at her current job that she would rather leave, because the balance is not transferable if she switches jobs.

4 Results

I present the dynamics of job turnover rate following the implementation of the paid sick time mandates in Table 3. The first column of Table 3 shows the influence of the mandates without controlling for characteristics of the individual workers. The estimated coefficient on each indicator for the before-treatment periods is not statistically different from zero even at 10% level, except for the ones for 3.5 years and 2.5 years before treatment. The joint hypothesis that the coefficients on the indicator variables for the before-treatment periods are all equal to zero is, however, rejected in the F-test, at 1% level. During the first and second half-year periods after the accrual begins, no impact on job turnover is found. Beginning in the second year after treatment, monthly job turnover in the private sector decreases substantially. During the six months right after the first year of adoption, the reduction in job turnover rate is around 21% relative to the mean, although it is only statistically significant at 10% level. In the third

year of adoption, the reduction in job turnover is as great as 25% - 32% relative to the mean, which is statistically different from zero at 5% level. After 3.5 years following the implementation of the mandates, the estimated policy impact is approximately 24%, which is also statistically significant at 5% level.

Neither the magnitude or the statistical significance of the estimated policy impact changes much after I control for individual workers' characteristics, which is shown in the second column of Table 3. The estimated coefficients on indicators for the before-treatment periods are again all statistically insignificant even at 10% level, except for the ones for 3.5 years and 2.5 years before treatment. The joint hypothesis that the coefficients on the indicators for the before-treatment periods are all equal to zero is again rejected at 1% level in the F-test. I control for city-specific linear time trends in both columns of Table 3.

I plot two event studies in Figure 3, based on specifications (1) and (2) in Table 3, respectively. The coefficient estimate for each half-year period indicator before and after treatment is presented in Figure 3, with the corresponding 95% confidence interval, except for the last six months before the implementation, which is taken as the reference period. A downward trend is observed during the post-treatment periods in both event studies.

When I change the indicator for residing with young children in household from having own children under age 5 to having own children under age 16, and run the same regressions as in Table 3, the results are very similar. Restricting the sample to workers aged 16-64 does not affect the DD

coefficient estimates much either (see Appendix Table A2 and Table A3).

Based on a report from the Bureau of Labor Statistics about the access to paid sick leave in private industry, in March 2006 (before any local paid sick time mandate went into effect), among workers with average wage less than $15/hour, 46% of them received paid sick leave benefits, whereas among workers with average wage $15/hour or higher, 73% of them were covered by paid sick leave policies.[5] Since low-wage and low-skilled workers are much less likely to have paid sick leave coverage, and thus to be affected by the adoption of the mandatory paid sick leave policies, I estimate the effects of the local paid sick time mandates on job mobility for low skilled workers and high skilled workers separately, and the results are presented in Table 4. Here low skilled workers are defined as workers with educational attainment lower than associate degree, while high skilled workers are those with associate degree or above. I also plot the event studies for the two groups of workers in Figure 4.

Surprisingly, as shown in Table 4 and Figure 4, I find no impact on the monthly job turnover of low skilled workers but sizeable impact on that of high skilled workers, despite that low skilled workers change jobs/employers a bit more frequently than high skilled workers (on average in each month 2.68% of low skilled workers change jobs/employers while 2.35% of high skilled workers change jobs/employers). Starting from six months after the

[5]U.S. Bureau of Labor Statistics. 2006. National Compensation Survey: Employee Benefits in Private Industry in the United States. Table 19. Percent of Workers with Access to Selected Leave Benefits, by Selected Characteristics, Private Industry, National Compensation Survey, March 2006. Accessed April 11 2019, https://www.bls.gov/ncs/ebs/sp/ebsm0004.pdf.

right to accrue paid sick time goes into effect, the monthly job turnover of high skilled workers drops by between 27% to 59%, relative to the mean. Most of the estimated coefficients on the pre-treatment indicators are not statistically significant at 5% level, for both low skilled workers and high skilled workers. The joint hypothesis that the coefficients on the indicator variables for the pre-treatment periods are all equal to zero is, rejected in the F-test at 1% level, for both groups of workers. City-specific linear time trends as well as individual workers' characteristics are controlled for in both columns of Table 4.

Since it is documented in previous research that women have higher level of absenteeism at work, I separately estimate the policy impact for female and male workers, and the results are presented in Table 5 and Figure 5. Most of the coefficients on the indicator variables for the pre-treatment periods are not statistically significant at 5% level, for both female and male workers. The joint hypothesis that the coefficients on the indicator variables for the pre-treatment periods are all equal to zero is not rejected in the F-test even at 10% level, for female workers, and it is rejected at 1% level for male workers.

According to Table 5 and Figure 5, the effect of the local paid sick time mandates on job turnover is relatively greater for female, compared to male. The average job turnover rate per month is almost the same between the female sample and the male sample. During the third year after the adoption of the local mandates, the monthly job turnover rate of female workers decreases by between 35% and 47% relative to the mean, which is

statistically significant at 5% level. It seems that male workers react to the policy implementation earlier than the female, in regards to their decisions about change jobs/employers, since it is shown in Table 5 and Figure 5 that male workers' job turnover declines by about 27% relative to the mean, one year after the accrual of sick time begins under the law. It is likely that some female workers use paid sick leave as a substitute for paid maternity leave, and it takes longer for women to accrue the amount of sick days that they feel sufficient to use.

5 Conclusion

An employee without paid sick time benefits at work might consider switching to a new job with a better benefit package. Local paid sick time mandates in the U.S. ensure that employees in the treated regions accumulate a minimum amount of paid sick leave according to the legislation, and they could take sick days off when they need. The adoption of the mandates reduces private sector workers' mobility, and this paper shows that the policy impact is 20-30% decrease in monthly job turnover relative to the mean.

Considering that some workers already have access to paid sick leave benefits before the mandates, not every one is directly affected by the mandatory sick leave polices. Workers in service industry and in relatively smaller businesses are less likely to have paid sick leave coverage without the mandates, and typically they also have higher job turnover rates.

Workers may choose to change jobs/employers less frequently after they

gain access to paid sick leave benefits under the mandates, for three reasons: first, workers who value paid sick leave benefits now have less incentive to leave their current jobs for those benefits; second, workers with paid sick time coverage can better address their health and safety needs, and balance between work and family, so it is less likely for them to give up jobs or switch to different positions due to concerns about their own health or their family life; third, the *job lock* effect of the mandatory paid sick leave benefits arises when the workers have accumulated a certain amount of paid sick time, and the balance of paid sick time is not transferable when they switch jobs. The value of the remaining balance of paid sick time is the additional cost to the work who considers changing job.

Although low-wage and low skilled workers are less likely to gain paid sick leave coverage, I find that the policy impact on worker mobility is more profound for high skilled workers than for low skilled workers. I also find that female workers react to the policy implementation more strongly but relatively later, in regards to their decisions of switching job/employers, compare to male workers. This finding is consistent with the literature about the differences in leave-taking behaviors between men and women, including that women take more absences from work and also have higher likelihood of presenteeism. If some female workers take paid sick leave as a substitute for paid maternity leave, it may take longer for them to accrue sufficient amount of sick time.

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Table 1: Paid Sick Time Mandates in the U.S.

Panel A

State	Effective Date
Connecticut	Jan. 1, 2012
California	Jan. 1, 2015
Massachusetts	Jul. 1, 2015
Oregon	Jan. 1, 2016
Vermont	Jan. 1, 2017
Arizona	Jul. 1, 2017
Washington	Jan. 1, 2018
Maryland	Feb. 11, 2018
Rhode Island	Jul. 1, 2018
New Jersey	Oct. 29, 2018
Michigan	Mar. 29, 2019

Panel B

County/City	Effective Date
San Francisco, CA	Feb. 5, 2007
Washington DC	Nov. 13, 2008
Seattle, WA	Sep. 1, 2012
Portland, OR	Jan. 1, 2014
Jersey City, NJ	Jan. 24, 2014

Continued on next page

Table 1 – continued from previous page

Panel B

County/City	Effective Date
New York City, NY	Apr. 1, 2014
Newark, NJ	May 29, 2014
Passaic, NJ	Jan. 1, 2015
East Orange, NJ	Jan. 7, 2015
Paterson, NJ	Jan. 9, 2015
Oakland, CA	Mar. 2, 2015
Trenton, NJ	Mar. 4, 2015
Philadelphia, PA	May 13, 2015
Eugene, OR	Jul. 1, 2015
Emeryville, CA	Jul. 2, 2015
New Brunswick, NJ	Jan. 6, 2016
Pittsburgh, PA	Jan. 11, 2016
Tacoma, WA	Feb. 1, 2016
Elizabeth, NJ	Mar. 2, 2016
Los Angeles, CA	Jul. 1, 2016
San Diego, CA	Jul. 11, 2016
Plainfield, NJ	Jul. 15, 2016
Montgomery, MD	Oct. 1, 2016
Spokane, WA	Jan. 1, 2017

Continued on next page

Table 1 – continued from previous page

Panel B

County/City	Effective Date
Santa Monica, CA	Jan. 1, 2017
Chicago, IL	Jul. 1, 2017
Cook, IL	Jul. 1, 2017
St. Paul, MN	Jul. 1, 2017
Minneapolis, MN	Jul. 1, 2017
Berkeley, CA	Oct. 1, 2017
Austin, TX	Oct. 1, 2018
Westchester, NY	Apr. 10, 2019
Dallas, TX	Aug. 1, 2019

Note: Regions in gray are not evaluated by this paper.

Table 2: Weighted Summary Statistics

	All Workers	Private Sector Workers	
	All Cities	Treated	Control
Age	40.61	39.34	39.14
Female	46.51	46.50	45.75
Less Than High School	11.86	12.89	14.33
High School Diploma	21.55	22.31	24.07
Some College	24.26	23.92	26.37
Hispanic	25.85	27.97	27.37
Non-Hispanic White	45.54	42.72	46.02
Non-Hispanic Black	16.38	14.28	19.03
Married	48.26	45.86	47.58
Having Children Under Age 5	12.81	12.87	14.18
Having Children Under Age 16	29.79	29.13	31.15
Full-time Worker	78.69	79.61	79.52
Changed Employer/Job	2.44	2.51	2.56
N	746,923	388,670	175,445

Variables except "Age" are in percentage. All statistics are weighted by final person-level weights.

Table 3

	(1)	(2)
Year 0 ∼ 0.5	.0001	.0003
	(.0022)	(.0021)
Year 0.5 ∼ 1	-.0035	-.0036
	(.0021)	(.0021)
Year 1 ∼ 1.5	-.0054*	-.0053*
	(.0027)	(.0027)
Year 1.5 ∼ 2	-.0016	-.0014
	(.0023)	(.0024)
Year 2 ∼ 2.5	-.0081***	-.0082***
	(.0023)	(.0023)
Year 2.5 ∼ 3	-.0064**	-.0065**
	(.0026)	(.0027)
Year 3 ∼ 3.5	-.0040	-.0040
	(.0034)	(.0034)
Year 3.5 ∼	-.0060**	-.0063**
	(.0026)	(.0025)
Individual Controls		x
Weighted Mean	.0253	.0253
N	564,115	564,115

Individual controls include age, gender, education, race/ethnicity, marital status, having own children under age 5 in household, and full-time/part-time worker status. City fixed effects, month-year fixed effects and city-specific linear time trends are controlled for in both specifications. Standard errors are clustered at the state level. Weighted mean is the mean of monthly job turnover in the private sector in identified cities, weighted by final person-level weights. ***Statistically significant at 1% level. **Statistically significant at 5% level. *Statistically significant at 10% level.

Table 4

	Low Skilled	High Skilled
Year 0 ∼ 0.5	-.0019	.0021
	(.0028)	(.0034)
Year 0.5 ∼ 1	.0037	-.010***
	(.0024)	(.0027)
Year 1 ∼ 1.5	-.0044	-.0068*
	(.0031)	(.0038)
Year 1.5 ∼ 2	.0042	-.0064*
	(.0050)	(.0032)
Year 2 ∼ 2.5	-.0043*	-.0120***
	(.0024)	(.0033)
Year 2.5 ∼ 3	-.0045	-.0090**
	(.0041)	(.0034)
Year 3 ∼ 3.5	.0033	-.0107**
	(.0046)	(.0039)
Year 3.5 ∼	.0023	-.0138***
	(.0032)	(.0044)
Individual Controls	x	x
Weighted Mean	.0268	.0235
N	286,468	277,647

Individual controls include age, gender, race/ethnicity, marital status, having own children under age 5 in household, and full-time/part-time worker status. City fixed effects, month-year fixed effects and city-specific linear time trends are controlled for in both columns. Standard errors are clustered at the state level. Weighted mean is the mean of monthly job turnover in the private sector in identified cities, for each subsample, weighted by final person-level weights. ***Statistically significant at 1% level. **Statistically significant at 5% level. *Statistically significant at 10% level.

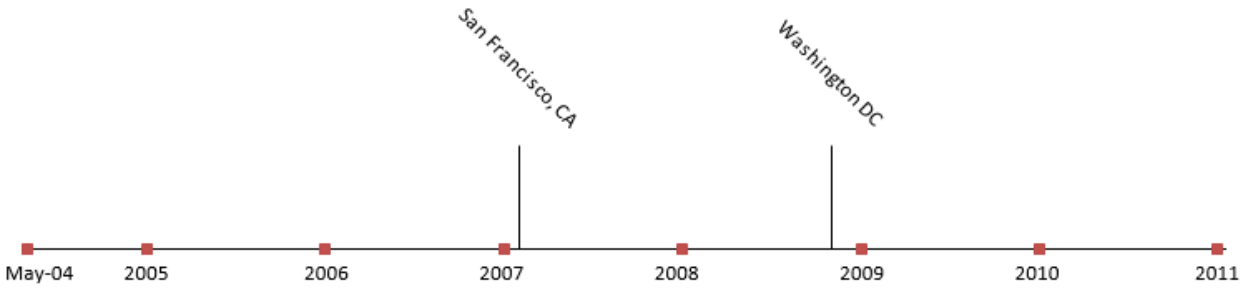
Table 5

	Female	Male
Year 0 ∼ 0.5	.0002	.0004
	(.0033)	(.0020)
Year 0.5 ∼ 1	-.0076	-.0002
	(.0047)	(.0041)
Year 1 ∼ 1.5	-.0036	-.0068***
	(.0052)	(.0020)
Year 1.5 ∼ 2	-.0042	.0010
	(.0030)	(.0043)
Year 2 ∼ 2.5	-.0114**	-.0056
	(.0054)	(.0041)
Year 2.5 ∼ 3	-.0087**	-.0047
	(.0039)	(.0036)
Year 3 ∼ 3.5	-.0054	-.0028
	(.0069)	(.0028)
Year 3.5 ∼	-.0088	-.0040*
	(.0054)	(.0023)
Individual Controls	x	x
Weighted Mean	.0250	.0255
N	270,860	293,255

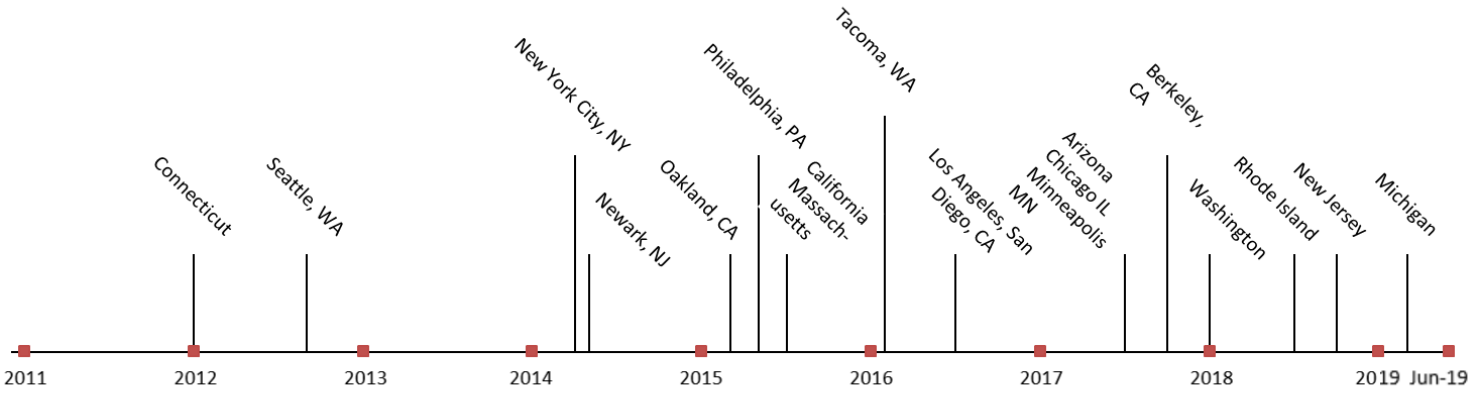
Individual controls include age, education, race/ethnicity, marital status, having own children under age 5 in household, and full-time/part-time worker status. City fixed effects, month-year fixed effects and city-specific linear time trends are controlled for in both columns. Standard errors are clustered at the state level. Weighted mean is the mean of monthly job turnover in the private sector in identified cities, for each subsample, weighted by final person-level weights. ***Statistically significant at 1% level. **Statistically significant at 5% level. *Statistically significant at 10% level.

Figure 1: Timeline of the Local Mandates

(1)



(2)



Note: The date when accrual begins under each local mandate is presented. Only mandates that are examined in the analysis are shown. Years indicate the beginning of each year. The start and end months of this study are May 2004 and June 2019, respectively.

Figure 2: Geographic Locations of Treated vs. Control Cities

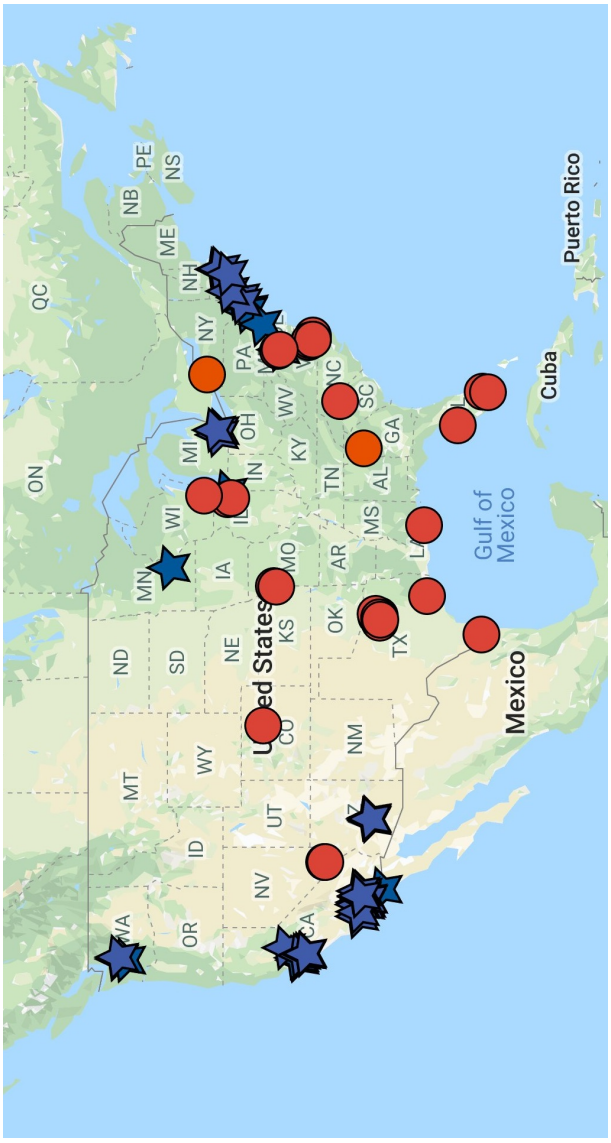


Figure 3: Event Studies, Whole Sample

(1) Without Individual Controls

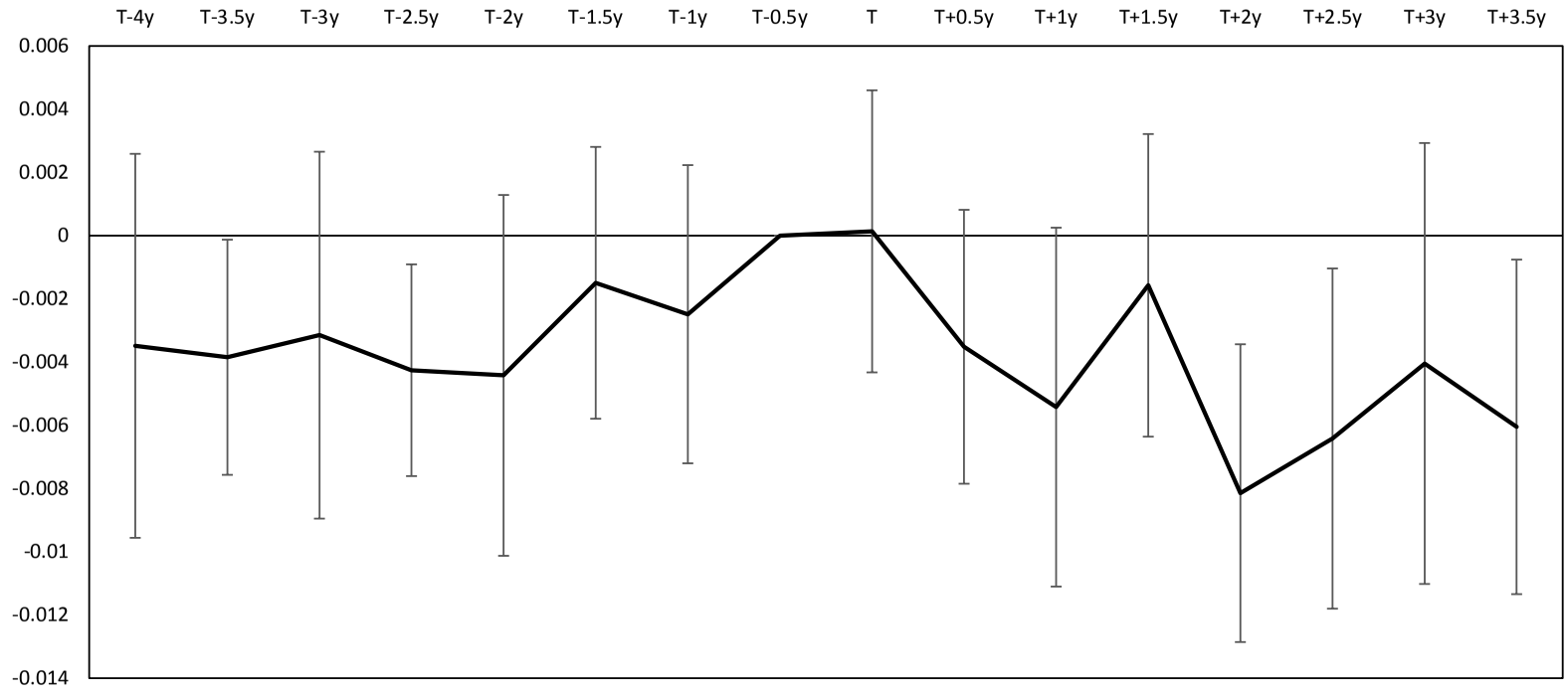


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Figure 3 - continued from previous page

(2) With Individual Controls

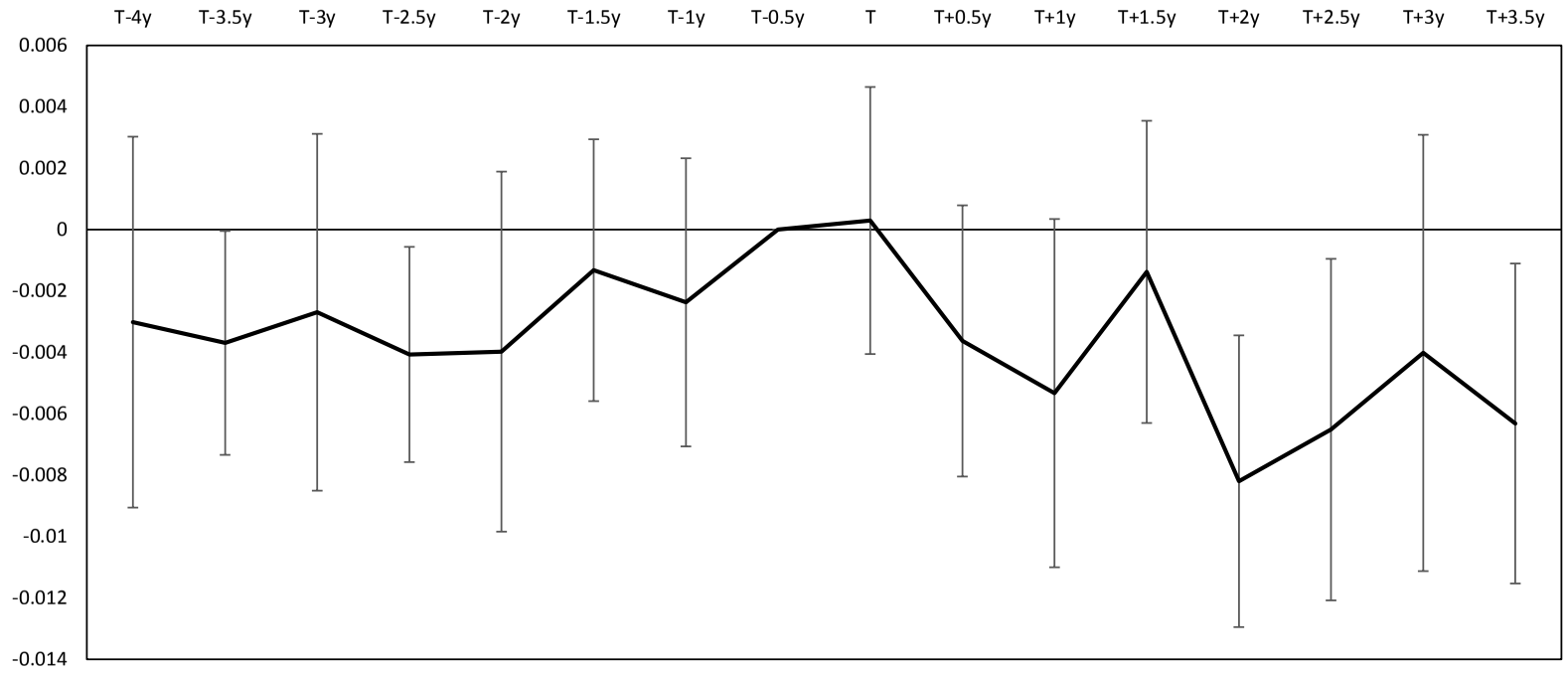

Figure 4: Event Studies, Low Skilled vs. High Skilled Workers

(1) Low Skilled Workers

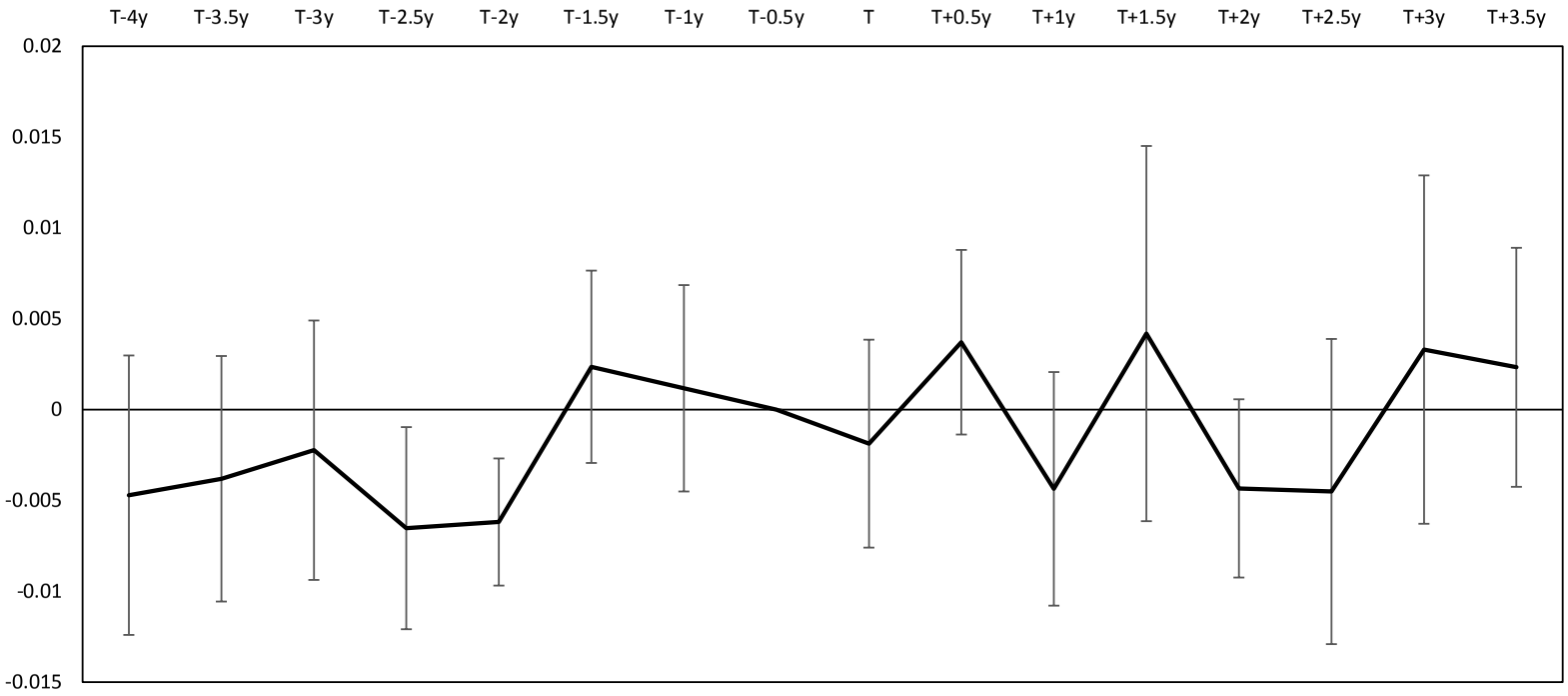

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Figure 4 - continued from previous page

(2) High Skilled Workers

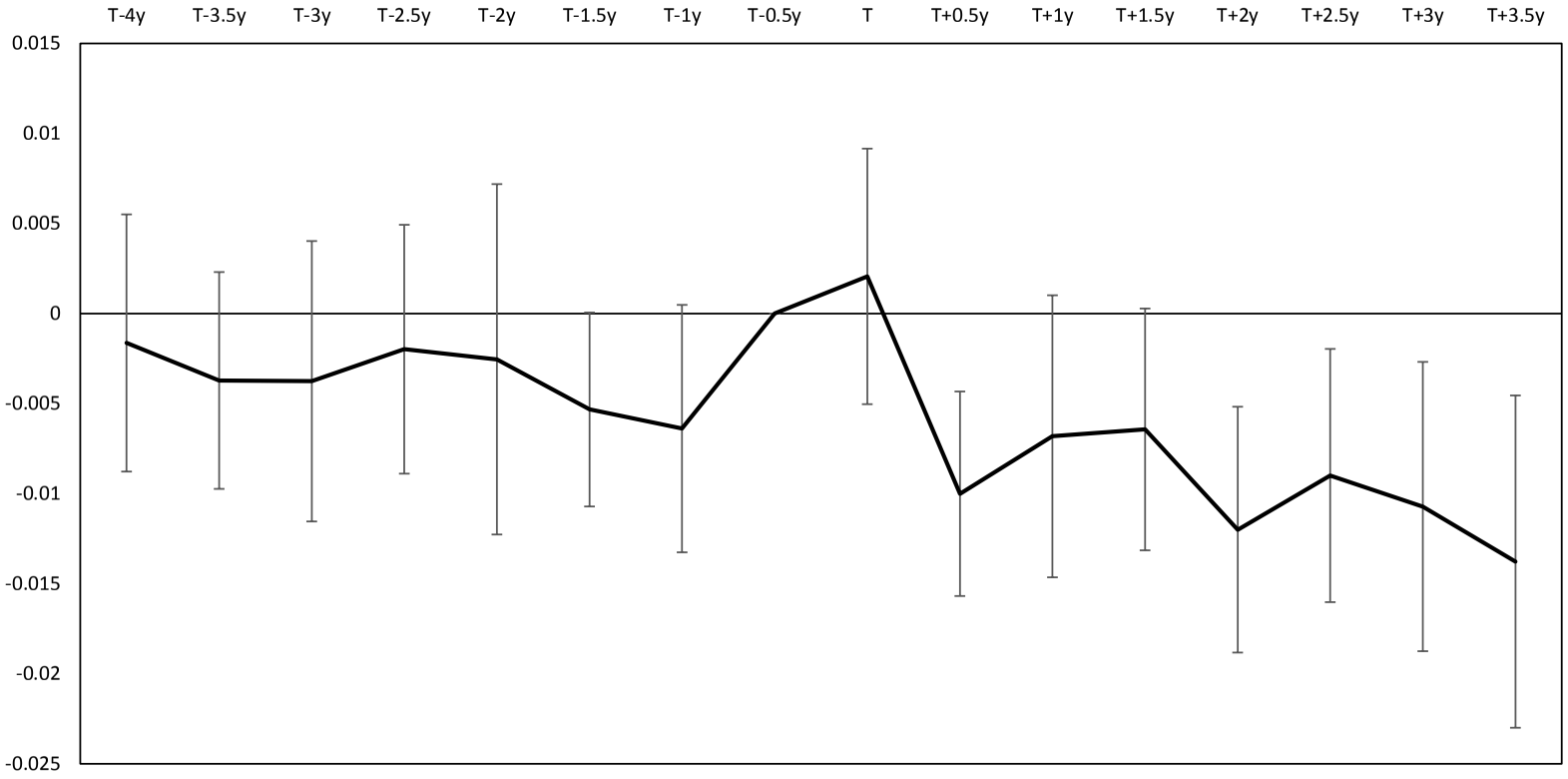

Figure 5: Event Studies, Female vs. Male

(1) Female

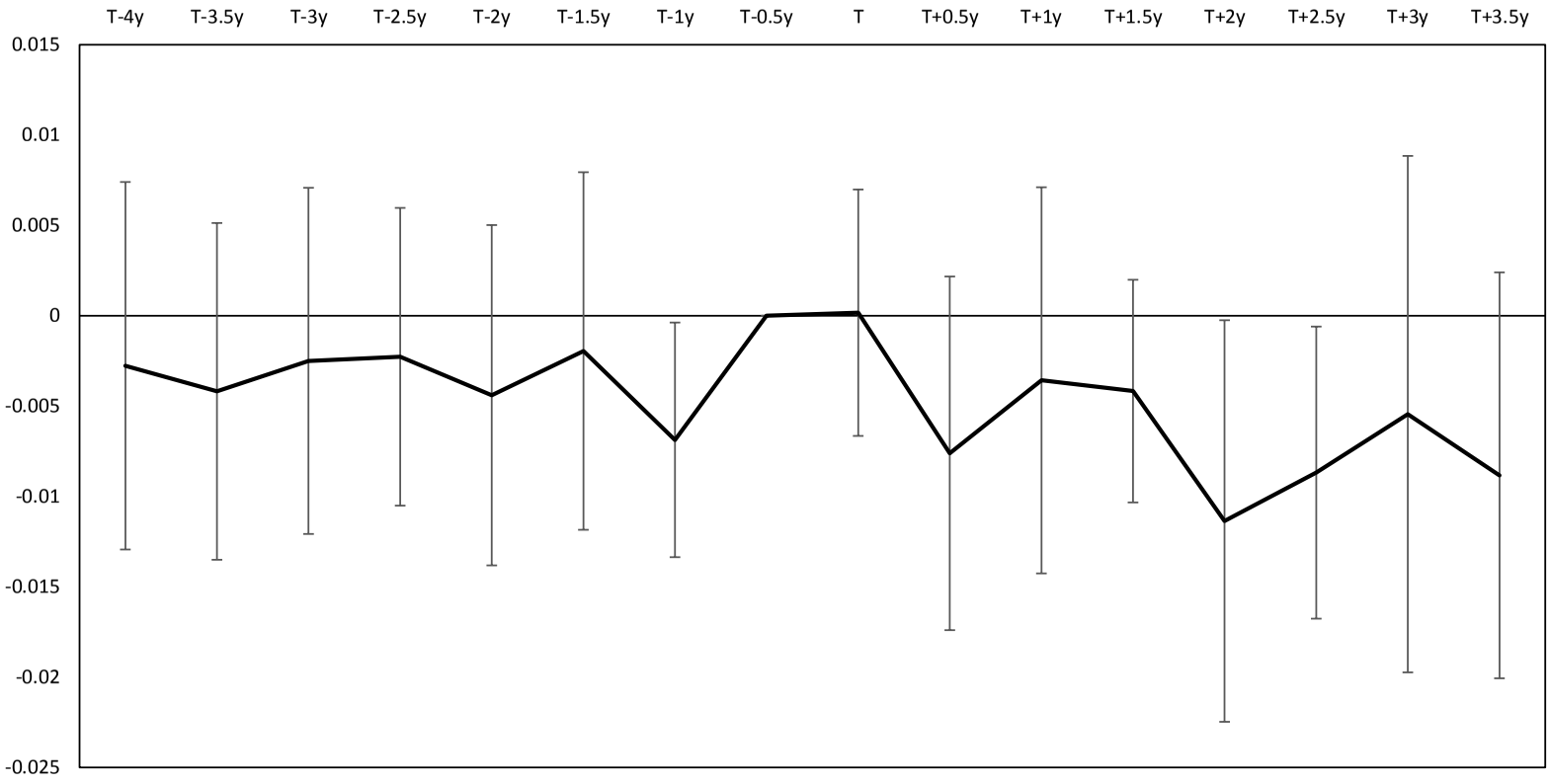

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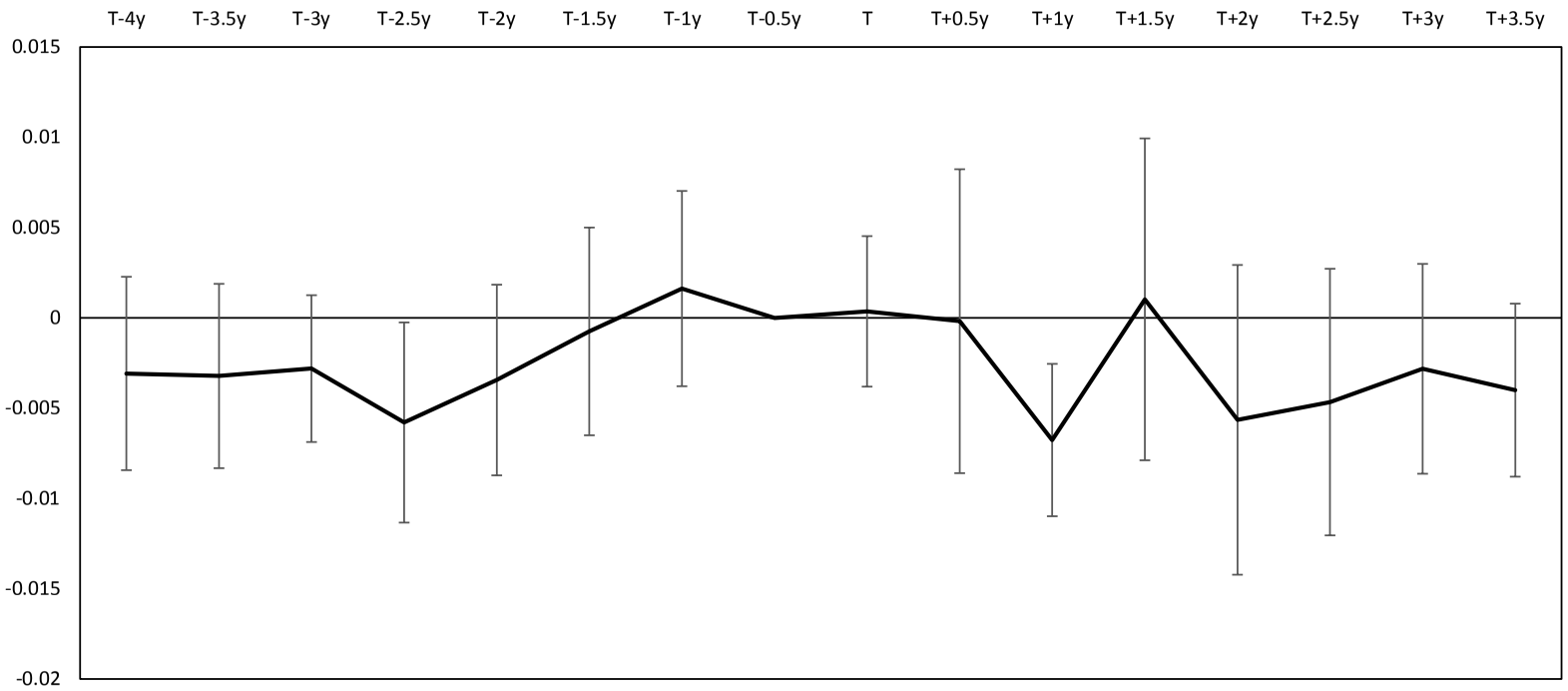
Figure 5 - continued from previous page

(2) Male



Appendix

Table A1: Specific Rules in the Local Mandates

State	City/County	Effective Date	Accrual	Coverage	Note
Illinois	Chicago	Jul. 1, 2017	1/40 [40]	any employee who works within Chicago's city limits and works 80 or more hours within a 120-day period	employers must allow employees to begin taking paid sick leave no later than on the 180th calendar day after their start of employment
Texas	Dallas	Aug. 1, 2019	1/30 [48 or 64]	employers with more than five employees	capped at 48 for employers with 6-15 employees and 64 for employers with 16 or more employees; an employer may restrict an employee from using earned paid sick time during the employee's first 60 days of employment if the employer establishes that the employee's term of employment is at least one year

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
California	San Francisco	Feb. 5, 2007	1/30 [40 or 72]	all employees (including temporary and part-time employees) who perform work in San Francisco	capped at 40 for employers with less than 10 employees and 72 for employers with 10 or more employees; employees can start using paid sick leave on the 90th day of employment; California also has a statewide mandate which was effective starting on Jan. 1, 2015, and the right to begin accruing and taking sick leave under the California mandate did not go into effect until Jul. 1, 2015; amendments were passed in San Francisco in 2016, which went to effect on Jun. 7, 2018 and largely paralleled the California mandate
California	Oakland	Mar. 2, 2015	1/30 [40 or 72]	all employees (part-time, full-time, and temporary) who perform at least 2 hours of work in a particular workweek and within the geographic limits of the City of Oakland	capped at 40 for employers with less than 10 employees and 72 for employers with 10 or more employees; employees who are hired after Mar. 2, 2015 may not use any paid sick leave until after 90 calendar days of employment; California also has a statewide mandate which was effective starting on Jan. 1, 2015, and the right to begin accruing and taking sick leave under the California mandate did not go into effect until Jul. 1, 2015

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
California	Los Angeles Long Beach Glendale Pomona Torrance Pasadena Burbank Santa Ana Anaheim Irvine Orange Fullerton Costa Mesa Oxnard Thousand Oaks Riverside San Bernardino Ontario Sacramento San Diego Fremont Hayward Berkeley San Jose Sunnyvale Santa Clara	Jan. 1, 2015	1/30 [24]	employees who work for the same employer on or after Jan. 1, 2015 for at least 30 days within a year in California, and satisfy a 90-day employment period before taking any sick leave	employers could alternatively choose a no accrual/up front policy which makes the full amount of sick leave for the year available immediately at the beginning of a year-long period, except for initial hires where it must be available for use by the 120th day of employment, and under the up front policy, the employer must provide at least 24 hours or three days of paid sick leave per year and the full amount of this leave must be available for the employee's use from the beginning of each year of employment, calendar year, or 12-month period; covered employees begin to accrue paid sick leave beginning on Jul. 1, 2015, or if hired after that date on the first day of employment; an employee is entitled to take paid sick leave beginning on the 90th day of employment; employees who work more than 30 days but less than 90 days for the same employer within a year in California are not entitled to take paid sick leave; Los Angeles, San Diego and Berkeley also have city mandates, which went into effect on Jul. 1, 2016, Jul. 11, 2016 and Oct. 1, 2017, respectively

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
Michigan	Detroit Livonia Warren	Mar. 29, 2019	1/35 [40]	employers who employ 50 or more individuals	an employer may require an employee to wait until the 90th calendar day after commencing employment before using accrued hours; this is a statewide mandate
Minnesota	Minneapolis	Jul. 1, 2017	1/30 [48]	employers with 6 or more employees	employers with 5 or fewer employees must provide sick and safe time, but they may choose to provide it unpaid; until Jul. 1, 2022, during an employer's first year of operation (except a new location in an existing chain), it may provide sick and safe time as unpaid; paid sick hours may be used on the 90th day of employment
Massachusetts	Boston Quincy	Jul. 1, 2015	1/30 [40]	employers with 11 or more employees	employers with fewer than 11 employees must provide earned sick time, but it does not need to be paid; employees may begin using earned sick time 90 days after starting work; this is a statewide mandate
Connecticut	Bridgeport Stamford Hartford	Jan. 1, 2012	1/40 [40]	service workers who work for employers with 50 or more employees	a service worker shall be entitled to use the accrued hours upon the completion of the 680th hour of employment from Jan. 1, 2012 for current workers or from the date of hire for new workers; this is a statewide mandate

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
Washington	Seattle	Sep. 1, 2012	1/30 or 1/40 []	employers with more than 4 full-time equivalent employees	the accrual rate is 1/30 for employers with more than 249 full-time equivalent employees and 1/40 for employers with 249 or fewer full-time equivalent employees; employers can impose a waiting period of up to 90 days after an employee's hire date; Washington also has a statewide mandate that went into effect on Jan. 1, 2018
Washington	Tacoma	Feb. 1, 2016	1/40 []	employees working within Tacoma city limits for 80 hours or more per year	employees are eligible to use their accrued hours 90 days after start of employment; Washington also has a statewide mandate that went into effect on Jan. 1, 2018
Washington	Bellevue	Jan. 1, 2018	1/40 []	most employees in Washington with a few exceptions including doctors, lawyers, dentists, most executive managers who are paid a salary and supervise at least two full-time employees	employees are entitled to use accrued paid sick leave beginning on the 90th calendar day of their employment; this is a statewide mandate

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
Arizona	Phoenix Mesa Scottsdale Tempe	Jul. 1, 2017	1/30 [24 or 40]	employees who work in Arizona	an employer may require an employee hired after Jul. 1, 2017, to wait 90 calendar days after the start of employment before using accrued earned paid sick time; capped at 24 for employers with fewer than 15 employees and 40 for employers with 15 or more employees; this is a statewide mandate
New Jersey	Newark	May 29, 2014	1/30 [24 or 40]	employees who work in the City of Newark for at least 80 hours in one calendar year	capped at 24 for employers with fewer than 10 employees and 40 for employers that employ at least 10 employees; the mandate in New Jersey went into effect on Oct. 29, 2018
Rhode Island	Providence	Jul. 1, 2018	1/35 [24 in 2018, 32 in 2019, and 40 thereafter]	employers with 18 or more employees	employers with 17 or fewer employees must provide earned sick and safe leave but it does not need to be paid; this is a statewide mandate

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
NA	Washington DC	Nov. 13, 2008	1/37 [7 days] or 1/43 [5 days] or 1/87 [3 days]	employees who spend 50% or more of their time working in DC, and who worked at least 1,000 hours per year	1/37 [7 days] for employers with 100 or more employees, 1/43 [5 days] for employers with 25 to 99 employees, and 1/87 [3 days] for employers with 1-24 employees; 1/43 [5 days] for tipped employees working in restaurants or bars, and full minimum wage is paid for each hour; when the employee has been employed for 90 calendars days, the employee can begin using accrued leave; the 2013 Amendment expanded the coverage to all employees who work in DC, regardless of the total number of hours they work daily, weekly or annually

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
New York	New York City	Apr. 1, 2014	1/30 [40]	employers with five or more employees who are employed for hire more than 80 hours a calendar year in NYC, and employers with one or more domestic workers who have worked for the employer for at least a year and who work more than 80 hours a calendar year in NYC	employers with fewer than five employees must provide unpaid sick leave; employees can start using accrued sick leave on July 30, 2014 or 120 days after the start of employment, whichever is later
New York	Westchester	Apr. 10, 2019	1/30 [40]	employees who work in Westchester County for more than 80 hours in a calendar year and who work for employers with 5 or more workers	if a covered employer has 1–4 employees, sick leave may be unpaid; for employers with 1 or more domestic workers, the accrual rate is one paid sick hour per 7 days worked, up to 40 hours per year; employees will begin to accrue sick leave on Jul. 10, 2019, or on the date of first employment, whichever is later

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Table A1 - continued from previous page

State	City/County	Effective Date	Accrual	Coverage	Note
Pennsylvania	Philadelphia	May 13, 2015	1/40 [40]	employees who work at least 40 hours a year within the City of Philadelphia limits and who work for employers with 10 or more workers	employers with 9 or fewer employees are required to provide unpaid sick leave; existing employees became eligible to use their accrued time on August 11, 2015, and for new workers, accrued sick time may be used after they have worked a minimum of 90 days

This table presents all the identified cities in CPS during May 2004 - June 2019, that have an effective mandate as of the date when the draft is written. Covered employees start to accrue paid sick time either on the effective date or the start date of employment, whichever is later, with the exception of California and Westchester, NY. The mandate in California was effective starting on Jan. 1, 2015, while the right to begin accruing and taking sick leave under the California mandate did not go into effect until Jul. 1, 2015; the effective date of the mandate in Westchester is Apr. 10, 2019, and the accrual starts on Jul. 10, 2019 or the start date of employment, whichever is later. In the "Accrual" column, the first number (as a ratio) is the accrual rate. For example, 1/40 means 1 paid sick hour per 40 hours worked. The number in the square brackets is the cap of paid sick hours per year allowed in the mandate, in the unit of hours unless otherwise noted. When there is no number in the square brackets, there is no cap. Note that the specific rules in the mandates are the legal minimum of paid sick time benefits, and employers can provide more generous policies. The rules shown in the table were enforced when the mandates went into effect, but there might be changes made later on, due to amendment to the current mandate, or adoption of a state mandate in a city. Information in this table is provided as accurately as possible given available documents online, and I primarily rely on official government websites of states and cities, and only seek other sources when some information is unavailable on a government website.

Table A2

	(1)	(2)
Year 0 ∼ 0.5	.0001	.0004
	(.0022)	(.0021)
Year 0.5 ∼ 1	-.0035	-.0036
	(.0021)	(.0021)
Year 1 ∼ 1.5	-.0054*	-.0053*
	(.0027)	(.0027)
Year 1.5 ∼ 2	-.0016	-.0013
	(.0023)	(.0024)
Year 2 ∼ 2.5	-.0081***	-.0081***
	(.0023)	(.0023)
Year 2.5 ∼ 3	-.0064**	-.0064**
	(.0026)	(.0027)
Year 3 ∼ 3.5	-.0040	-.0040
	(.0034)	(.0034)
Year 3.5 ∼	-.0060**	-.0062**
	(.0026)	(.0025)
Individual Controls		x
Weighted Mean	.0253	.0253
N	564,115	564,115

Individual controls include age, gender, education, race/ethnicity, marital status, having own children under age 16 in household, and full-time/part-time worker status. City fixed effects, month-year fixed effects and city-specific linear time trends are controlled for in both specifications. Standard errors are clustered at the state level. Weighted mean is the mean of monthly job turnover in the private sector in identified cities, weighted by final person-level weights. ***Statistically significant at 1% level. **Statistically significant at 5% level. *Statistically significant at 10% level.

Table A3

	(1)	(2)
Year 0 ∼ 0.5	.0003	.0004
	(.0023)	(.0023)
Year 0.5 ∼ 1	-.0037	-.0039
	(.0023)	(.0024)
Year 1 ∼ 1.5	-.0060*	-.0059*
	(.0030)	(.0029)
Year 1.5 ∼ 2	-.0014	-.0012
	(.0021)	(.0022)
Year 2 ∼ 2.5	-.0090***	-.0091***
	(.0024)	(.0024)
Year 2.5 ∼ 3	-.0077***	-.0077***
	(.0026)	(.0027)
Year 3 ∼ 3.5	-.0041	-.0040
	(.0038)	(.0038)
Year 3.5 ∼	-.0059*	-.0062*
	(.0031)	(.0030)
Individual Controls		x
Weighted Mean	.0255	.0255
N	543,197	543,197

The sample is restricted to workers aged 16-64 in both columns. Individual controls include age, gender, education, race/ethnicity, marital status, having own children under age 5 in household, and full-time/part-time worker status. City fixed effects, month-year fixed effects and city-specific linear time trends are controlled for in both specifications. Standard errors are clustered at the state level. Weighted mean is the mean of monthly job turnover in the private sector in identified cities, weighted by final person-level weights. ***Statistically significant at 1% level. **Statistically significant at 5% level. *Statistically significant at 10% level.