The Effect of New Jersey's Paid Parental Leave Policy on Employment

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Abstract: Paid parental leave policy remains a continuing source of controversy in the United States. Advocates for parental leave policy maintain that it has a positive effect on child rearing outcomes and family happiness. Critics, however, maintain that paid parental leave will cause firms to hire fewer women. This paper evaluates the critics' claim that paid family leave entitlements will reduce employment using the New Jersey family leave law that took effect in 2009. We conduct a difference-in-difference analysis that compares county-level employment in western New Jersey using eastern Pennsylvania as a control. We disaggregate county-level employment to test whether women, workers of childbearing age, educated workers experienced larger employment effects in western New Jersey (relative to eastern Pennsylvania) following the New Jersey family leave law. We also conduct similar comparisons within New Jersey. Our estimates suggest that the New Jersey family leave law reduces overall employment by about 3.3 percent. However, the employment reductions among women, people of childbearing age, and more highly skilled workers are relatively larger. Finally, we find little evidence that family leave mandates have employment effects for unskilled workers.

1. Introduction

Laws that establish employer mandates on wages, benefits, and working conditions are a consistent focus of controversy. Advocates for these laws generally contend that they insulate workers from the vagaries of the market and correct imbalances in bargaining power between firms and workers. Opponents of the laws contend that such laws are ineffective and/or produce significant undesirable consequences. Such is the case with parental-leave laws. Parental leave laws typically extend leave to allow employees to care for a newborn or newly adopted child. Often, these laws also provide for leave to care for sick family members (i.e., family leave).[1] While current U.S. federal law requires employers to offer family leave, employees who take such leave are not entitled to payments for lost wages.

However, a series of Democratic policymakers have advanced proposals to change U.S. law to mandate paid family leave. For instance, the sitting President as well as the Democratic nominee Hillary Clinton support changing U.S. law to allow paid family leave (Senior, 2015).[2] Clinton proposes to "guarantee up to 12 weeks of paid family and medical leave to care for a new child or a seriously ill family member." Under Clinton's proposal, leave recipients would receive at least "two-thirds of their current wages" subject to an unspecified ceiling. Advocates like Clinton, point out that parental leave allows women to remain in the labor force post-childbirth, reduces gender inequalities, and benefits child development (Gault et al., 2014). To fund the program, Clinton proposes to increase taxes on the wealthy, and therefore in her view, the program would impose "no additional costs on businesses, including small businesses."

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[1] Family leave is broader than parental leave as it includes parental leave and leave taken to care for sick family members.

[2] For a description of Hillary Clinton's family leave proposal see: https://www.hillaryclinton.com/issues/paid-leave/.

On the other side of the debate, Republicans generally oppose laws that mandate paid parental leave (Senior, 2015). They claim that the policy will cause businesses to hire fewer employees and that they will specifically refrain from hiring members of demographic groups most likely to take leave (Sussman and Trottman, 2016).[3] Despite opposition from most Republicans, support for family leave policy among the electorate is rising. A January 2016 poll of 808 likely voters found that 76 percent of respondents, including 92 percent of Democrats and 57 percent of Republicans, favored a "proposed law that would establish a national PAID family and medical leave fund" (Lake Research Partners, 2016).[4]

While a series of papers analyze the responses of employees, particularly mothers, to parental and family leave entitlements, the impact of family leave on employment has received little attention. This lack of attention persists despite claims from opponents of family leave laws that such entitlements reduce employment. Consequently, this paper examines the effect of family leave entitlements on employment. To assess the effect of paid family leave on employment, we examine the New Jersey family leave law that took effect in 2009 using a difference-in-difference analysis.

The difference-in-difference analysis compares county-level employment in western New Jersey using eastern Pennsylvania as a control. We disaggregate county-level employment by gender, age, and education level to test whether women, workers of childbearing age, educated

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[3] Republican nominee Donald Trump initially characterized family leave as a threat to U.S. competitiveness (Emba, 2016). However, Trump later advanced a proposal to offer 6 weeks of paid maternity leave funded through the unemployment insurance program. His proposal also included expanded tax credits for employers who offer childcare, reduced federal regulations for childcare providers, tax-exempt childcare savings accounts, and tax deductibility of childcare expenses. See https://www.donaldjtrump.com/positions/child-care-reforms-that-will-make-america-great-again.

[4] The fund would allow family leave for up to 12 weeks with some pay to care for a new baby (birth or adoption) or seriously ill family member. Poll questions and data are available at: http://www.nationalpartnership.org/research-library/work-family/fmla-23-lrp-poll-questionnaire.pdf

workers experienced larger employment effects in western New Jersey (relative to eastern Pennsylvania) following the New Jersey family leave law. We also conduct similar comparisons within New Jersey to test whether the employment of workers of childbearing ages fell relative to workers in other age groups and whether the employment of educated workers fell relative to less educated workers following the effective date of the New Jersey family leave law.

2. Background/Literature Review

Parental and Family Leave Policies

Family leave entitlements are common in the industrialized world. Heymann and McNeill (2013) report that of the 189 countries included in the World Policy Centre Adult Labour Database, 96 percent provide a period of paid maternity leave to women. The United States is the only high-income country that does not mandate paid maternity leave benefits (although some U.S. states do offer paid family leave). Every country in the E.U. mandates at least 14 weeks of job-guaranteed leave at least 2/3 pay. Forty-four percent of the countries surveyed extend leave to fathers and 74 percent of that leave is paid leave (Heymann and McNeill, 2013).

While the U.S. does not mandate paid maternity or family leave, the Family Medical Leave Act (FMLA) of 1993 requires private firms with 50 or more employees and all federal agencies to extend unpaid leave to eligible employees. Under the law, new mothers and fathers may receive up to 12 workweeks of unpaid leave in a 12-month period to care for a newborn or newly adopted child. The law also provides similar leave benefits to employees to recover from a serious illness or care for a family member who is seriously ill (United States Department of Labor-Wage and Hour Division, 2012).

Three U.S. states have put into effect laws requiring paid parental leave: California, Rhode Island and New Jersey. [5,6,7] California's law, passed in 2002 and enacted in 2004, replaces approximately 55 percent of wages up to a maximum of $1,129 per week[8]; a payroll tax on employees funds these payments (California Employment Development Department, 2016). The California law does not guarantee job protection. Thus, workers not covered by the FMLA do not have the ability to take job-protected leave (California Employment Development Department, 2016).[9] By contrast, Rhode Island's law, passed in 2013 and effective in 2014, guarantees job protection (Rhode Island Department of Labor and Training Labor Standards Division). It provides 4 weeks of paid leave at 4.62 percent of wages in the employee's highest earning quarter for the base period subject to a minimum of $81 and a maximum $817 (Rhode Island Department of Labor and Training, 2016).[10]

New Jersey's law is similar to California's.[11] The law provides 2/3 of wage replacement up to $615[12] for 6 weeks (New Jersey Department of Labor and Workforce Development, 2016). Eligible workers may take leave for six consecutive weeks, intermittent weeks or 42 intermittent days during a 12-month period. Eligible workers may file additional claims under the law in

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[5] Washington state passed a paid parental leave law in 2007 (Washington State Department of Labor and Industries). However, the law lacked a funding mechanism. Consequently, implementation of the policy was delayed indefinitely with the state citing budget constraints (Gault et al., 2013).The Washington policy would have provided employees with $250 a week for 5 weeks without job protection (Gault et al., 2013).

[6] New York State enacted a paid parental leave law in 2016. The law will go into effect on January 1st 2017 (New York State Assembly, 2016).

[7] A series of U.S. states and one territory have also have temporary disability insurance policies: California (1946), New Jersey (1948), New York (1949), Puerto Rico (1968), and Hawaii (1969) (Gault et al., 2013). Typically, these policies provide for up to 52 weeks of job-protected leave at 50-60 percent of employee's wage for up to 52 weeks. Pregnancy-related disability is included in the policies with most women taking 6-10 weeks of leave; however, this amount of leave is variable up to a maximum allowed by state law (Gault et al., 2013). In general, pregnancy-related disability is available only to women.

[8] Maximum level set starting January 1st, 2016.

[9] If the employee is covered by the FMLA he or she must take his or her parental leave concurrently with FMLA leave (California Employment Development Department, 2016).

[10] Maximum level set starting January 1st, 2016.

[11] The text of the law is available at: http://www.njleg.state.nj.us/2008/Bills/PL08/17_.PDF.

[12] Maximum level set starting January 1st, 2016.

subsequent 12-month periods. Like California, New Jersey's law does not guarantee job protection. As such, workers not covered by the FMLA do not have the ability to take job-protected leave.

To guarantee job protection, the employee must take his or her parental leave concurrently with FMLA leave (Gault et al, 2013). The state finances the payments through payroll taxes on employees; each worker contributes 0.08 percent of the first $32,600 in covered wages earned during the current calendar year (New Jersey Department of Labor and Workforce Development, 2016).[13]

Following the dictates of the New Jersey family leave law, the New Jersey Department of Labor and Workforce Development produced reports on the family leave law for years 2010-2012 (New Jersey Department of Labor and Workforce Development, 2010-2012).[14] The reports reveal that the number of eligible claims under the law held steady over the three-year period at about 30,000. Of the 30,000 claimants, 86 percent were female and 80 percent were claims to support the care of a newborn or newly adopted child (i.e., only 20 percent were claims to support care of a sick family member).

Nearly all (99 percent) of the claims to support the care of a newborn or newly adopted child were filed by claimants under the age of 45 and 88 percent of these claims were from women (New Jersey Department of Labor and Workforce Development, 2010-2012). By contrast, claimants over the age of 45 filed about 58 percent of claims to support the care of a sick family member. However, like the claims to support newborns and adoptions, the majority of claimants were once again female (75 percent).

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[13] The maximum yearly deduction for Family Leave Insurance is $26.08.
[14] See http://lwd.dol.state.nj.us/labor/tdi/content/programstats.html

While the New Jersey Department of Labor and Workforce Development reports do not examine leave-taking by income, Kerr (2015) examines leave-taking by U.S. women both before and after the FMLA took effect (1985-1999) using the CPS and NLSY. She finds that the FMLA had little impact on differences in leave-taking behavior across income groups. However, women with higher family incomes are significantly more likely to take leave and to take leaves of longer duration. Differences in coverage under the FMLA cause some of the differences in leave taking across income groups; higher income workers are more likely to work in firms covered by the law.

The Labor Market Effects of Parental or Family Leave Entitlements

Ruhm (1998) notes that in the absence of market failure (e.g., imperfect information or externalities), paid parental leave entitlements are unnecessary and perhaps harmful. Under such conditions, workers would simply negotiate an optimal compensation package and the compensation package would include paid parental leave only where benefits of leave exceed the costs. When government instead enacts entitlements to family and parental leave, employers may refuse to hire women of childbearing ages into positions where absences are costly. Employers, knowing that such women are more likely to take leave, would hire older women or men instead.

While parental and family leave entitlements may reduce net welfare, markets are also unlikely to deliver optimal family and parental leave policies. Ruhm (1998) points out that companies that voluntarily offer family leave may attract employees who are more likely to take leave (i.e., adverse selection). The consequent increase in costs as employees sort across firms would cause firms that offer family leave to cut wages or rescind the benefit even in cases where the benefits of offering leave to all workers exceed the costs of offering leave. Given this, it is

important to produce accurate assessments of the full costs and benefits of family and parental leave mandates.

Interestingly, there is little empirical analysis of the effect of paid family or parental leave on employment or employment-to-population ratios. Instead, much of the literature focusses more narrowly on the effect of paid family or parental leave on labor force participation of parents or leave recipients.[15] Two exceptions are Ruhm (1998) and Waldfogel (1999). Ruhm examines paid parental leave entitlements in nine European countries over the period 1969-1993 and Waldfogel examines unpaid parental entitlements in the U.S.

Ruhm (1998) finds evidence that the net benefits of a parental leave entitlement are sensitive to the duration of the entitlement. Parental leave entitlements raise the percentage of women employed by 3 to 4 percent. This effect on employment occurs even for leave entitlements of relatively short duration. However, the effect of leave entitlements on wages varies with the duration of the entitlement. Entitlements of short duration have little effect on wages but longer leave entitlements reduce relative wages by about 2 to 3 percent.

Using U.S. data, Waldfogel (1999) finds little impact from the FMLA leave mandates (unpaid leave) on leave taking, employment, and wages. Her design compares changes in outcomes for states that had no family leave laws prior to the FMLA (treated group) with states that had job-protected maternity leave prior to the FMLA. Her results show that the FMLA increased leave-taking for medium-sized firms (100 – 499 employees) but not in large or small firms. She finds no clear employment or wage effects.

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[15] The economic literature also examines the effect of parental or family leave on the mental or physical health of children or parents (Baker and Milligan, 2010; Baum 2003c; Berger, Hill, and Waldfogel, 2005; Chatterji and Markowitz, 2005; Chatterji and Markowitz, 2012; Rossin, 2011; Ruhm, 2000; Tanaka, 2005), productivity (Bassanini and Venn, 2008), and fertility (Lalive and Zweimuller, 2009; Rovny, 2011).

Trzcinski and Finn-Stevenson (1991) examine the costs of leave from the firm's perspective under a Connecticut pregnancy leave law. They find that costs of leave vary by worker type. Using a survey of Connecticut firms, they found that 24.5 percent of firms reported that they searched more than 6 weeks to find a permanent replacement for a manager but only 15.8 percent of firms searched more than 6 weeks to find a replacement for a clerical worker. Tactics to cover for workers on leave also varies by worker type. Firms were more likely to hire a temporary worker or use overtime to cover for clerical workers on leave (compared to managers). Such differences likely produce two effects. First, firms have stronger incentives to retain managers who go on leave (because the replacement costs are higher). Second, firms have stronger incentives to discriminate in hiring managers who may take leave (compared to clerical workers).

Two papers that examine wage penalties for career interruptions offer additional evidence on the costs of leave from the firm's perspective (Albrecht et al. 1999; and Bertrand et al. 2010). Albrecht et al. (1999) analyze panel data on Swedish workers and show that more educated workers experience larger reductions in future wages following parental leave (compared to less educated workers). They also find heterogeneous effects on wages from different types of leave. This heterogeneity suggests that human capital is not the sole reason that leave causes future wage reductions.

Bertrand et al. (2010) examine wage profiles for graduates of an elite MBA program in the U.S. Immediately following graduation, male and female graduates have similar earnings (male: $130K; female $115K). Nine years after graduation, the average male earns $400K, while the average female earns only $250K. They show that most of the increase in the gender earnings gap is the result of raising children. For women, birth events typically cause career interruptions

and reductions in hours worked. Although the subsequent gender differences in job market experience are modest, they cause large and nonlinear differences in earnings. In the first year following the birth, wages fall 13 percent. Four years after the birth, the difference is 27 percent. Controlling for hours worked, women's wages are unchanged for two years following the birth. However, wages fall by about 7 percent in the third year.

Examining the behavior of employees who take leave rather than employment and wages across all workers, a series of papers find that paid family/parental leave mandates produced large increases in leave-taking in U.S. states. Rossin-Slater et al. (2013) analyze the effect of California's paid parental leave law on leave-taking by mothers following childbirth. Using data from the Current Population Survey (CPS) for1999-2010, they found that offering paid leave doubled the overall use of maternity leave, increasing average leaves from three to six weeks for new mothers. While leave-taking was generally higher for college-educated, married, or white mothers, growth in leave-taking was especially large for black, non-college educated, unmarried, and Hispanic mothers. These increases reduced the difference in leave-taking between college-educated, married, or white mothers and their less advantaged peers. The authors also find a 10 to 17 percent increase in work hours 1 to 3 years after giving birth.

Baum and Ruhm (2016) and Byker (2016) cover similar ground. Baum and Ruhm (2016) analyze California's paid parental leave law using the National Longitudinal Survey of Youth (NSLY) rather than the CPS. Using the NLSY allows Baum and Ruhm to determine the exact timing of birth, the amount the individual works before and after birth, and whether they returned to the same firm. Byker (2016) uses the Survey of Income and Program Participation (SIPP) to examine the impact of paid leave in New Jersey and California on the labor market behavior of mothers.

Baum and Ruhm (2016) find that paid leave increased leave use by almost 5 weeks for the average covered mother and by two to three days for the corresponding father. They also find that paid parental leave increases the likelihood that women will return to work after birth especially in their child's second year of life; however, the results for leave takers returning to the same firm are not strong (Baum and Ruhm, 2016). Byker (2016) finds that paid leave laws increase labor-force participation for mothers and those mothers with less than a bachelor's degree spend less time looking for work following a birth event.

The increase in leave-taking following paid parental leave mandates are large relative to increases that followed unpaid parental leave mandates in the U.S. (Baum, 2003a; 2003b; Han and Waldfogel 2003). Baum (2003a; 2003b) and Han and Waldfogel (2003) examine unpaid maternity leave laws at the state and federal level. Baum (2003a; 2003b) find that while unpaid leave increases the number of mothers who eventually return to their pre-childbirth jobs, it does not increase employment, wages, or the probability that mothers take leave. Han and Waldfogel (2003) find some evidence that unpaid leave increased leave-taking by mothers but the estimates are small and not robust to specifications that control for state fixed-effects. In addition, the laws failed to increase leave-taking by men.

By contrast, Berger and Waldfogel (2004) and Han et al. (2009) measure somewhat stronger effects from access to leave. Berger and Waldfogel (2004) differs from earlier work because the data includes: 1) both paid (private insurance) and unpaid leave; and 2) more detailed information on exit and re-entry into the workforce (using NLSY). Using data for years 1988-1996, they found that women with access to leave return to work more quickly than women who did not have access to leave. Women with access to leave were also much more likely to be at home for up to 12 weeks but less likely to take more than 12 weeks (compared to women

without access to leave). This behavior is consistent with the 12 weeks of job-protected leave under FMLA.

Han et al. (2009) extends this analysis using a different data set (CPS) and finds that the FMLA increased the share of mothers on maternity leave by 5 to 9 percentage points. Interestingly, they find that the increases in leave-taking are much larger for married or college-educated mothers than for single or less-educated mothers.

A series of other papers examine the leave-taking behavior of employees under family and parental leave entitlements in Europe (Lalive and Zweimuller, 2009; Pronzato, 2009) and Canada (Baker and Milligan, 2008; Hanratty and Trzcinski, 2009). Baker and Milligan (2008). Hanratty and Trzcinski (2009) examine the effect of extension from 25 to 50 weeks in the duration of paid maternity leave in Canada. They find that the leave extensions reduce the probability that mothers would return to work within a year and that these reductions are larger for mothers with more education. Women with more education took leave at the same rate as less educated women even though a cap on leave payments reduced wage replacement rates at higher incomes. Baker and Milligan (2008) find that long-duration leave entitlements increase the time away from work while shorter duration leave entitlements (17-18 weeks) do not.

Lalive and Zweimuller (2009) examine the effect of an extension of paid job-protected parental leave in Austria (from 1 to 2 years) on mothers' return to work behavior. The extension reduced the percentage of women who returned to work within 3 years of giving birth by about 10 percentage points. Pronzato (2009) compares parental leave policies across Europe. She finds that higher household income reduces the probability that a parent will return to work while higher levels of education increase the probability. Further, job protection in the first year of

leave significantly increases the probability a parent will return to work and the response is larger for parents with more education.

3. Data and Methods

This paper attempts to assess the effects of New Jersey's parental leave policy on employment using a difference-in-difference design. We expect that the New Jersey family leave law affects employment by altering prospective adjustment costs for employers and reducing future productivity growth for individual workers. Leave episodes imply adjustment costs because employers must take costly actions to continue operations in the event an employee chooses to take leave. Leave episodes may reduce productivity if employees acquire significant skills on the job. If leave episodes cause lower future productivity growth or increased adjustment costs and employers can estimate the likelihood that a certain worker will later take leave, employers may avoid hiring workers with a high probability of a future leave episode(s).

One might surmise that employers may compensate for these reductions by simply hiring more workers who are unlikely to take leave. However, neoclassical economic theory maintains that in equilibrium marginal value product (marginal product times the output price) must equal the wage if input and output markets are competitive. Viewed from this perspective, the law reduces the marginal productivity of workers likely to take leave. There is no necessary reason that marginal productivity will rise for workers unlikely to take leave. If marginal productivity varies only because of changes in capital per worker, fewer workers will raise marginal productivity for the remaining workers. However, marginal productivity may vary because of differences in worker skill.

If marginal productivity does not rise among workers unlikely to take leave, there is no compensating increase in employment (or wages). Another possible response to these adjustment costs and/or lower future productivity is reduced wage offers for workers likely to take leave. However, social constraints and antidiscrimination laws may prevent full downward adjustment of wages for workers likely to take leave. If wages do not adjust fully, employment will fall.

To test for these effects, we examine employment in New Jersey and Pennsylvania counties on either side of the Delaware River, before and after the New Jersey law became effective on July 1st, 2009. We assume that the proximity and relative similarity of these counties mean that they operate under similar economic conditions. Although the Delaware River forms the border between the New Jersey and Pennsylvania counties, a series of bridges offer easy transit across the border. Figure 1 shows a map of the border area with the bridges marked by red dots. Thus, the New Jersey counties which received paid parental leave policy in 2009 serve as a treatment group, while the Pennsylvania counties, which did not, serve as a control group.

One critique of this approach is that Pennsylvania employment may rise if New Jersey firms and/or their employees move across the border to Pennsylvania to avoid the impact of the family leave law. If this is the case, Pennsylvania does not function as a control and the likelihood of identifying significant employment effects from the law increase. Consequently, we check the robustness of our results by also exploiting differences in the impact of the law across demographic groups within New Jersey. In particular, we compare employment levels for people of childbearing ages with employment for people of non-childbearing ages both before and after the policy change in New Jersey. Similarly, we compare employment levels for college-educated workers with employment levels for workers without a college education both before and after the policy change.

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We analyze end-of-quarter employment levels reported by the U.S Census Bureau's Quarterly Workforce Indicators dataset (QWI) for every county on either side of the Delaware River excluding Philadelphia. We used the end-of-quarter estimates because the Census Bureau explains that they are the most accurate of all measures of employment reported by the QWI.[16] Our data measures employment by employer location rather than employee location. We prefer employment levels by employer location because it allows us to capture the movement of employees across state lines. If New Jersey's parental leave policy induces employers to reduce payrolls, New Jersey residents may simply find employment across the border in Pennsylvania. A survey of employees will fail to capture this response to the law.

Because we measure employment by employer location, we use employment levels. Constructing employment rates using population would produce inaccuracies because the Census Bureau measures population by state (or county) of residence. We drop Philadelphia from the analysis for two reasons. First, we wish to better match employment levels across treatment and control counties in the period prior to the policy change. Second, Philadelphia is the only county along the New Jersey-Pennsylvania border that is exclusively urban and consequently, it may not have labor markets that are similar to the other counties in our analysis.

Because of the potential that expectations regarding the law and its requirements may produce difficult to predict effects on employment, we drop from the analysis the time periods between the date the family leave law passes the legislature (April 7, 2008) and the date the law takes effect (July 1, 2009). Because our data is quarterly, we drop quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009 from the analysis. It is important to note that our measure of

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[16] Data descriptions for the QWI are available at: http://lehd.ces.census.gov/doc/QWI_101.pdf. Data from the QWI may be downloaded from: http://qwiexplorer.ces.census.gov/#x=0&g=0.

employment includes employees on leave (family or otherwise) as employed.[17] Consequently, any changes in employment we observe follow from changes in hiring, layoffs, and quits rather than changes in the number of employees who are on leave.

We expect that employment changes that follow from the law will occur predominantly among women and in age groups most likely to give birth, as these groups are more likely to request leave. Following on the results in the literature, we also expect the impact of family leave to differ by the educational attainment of prospective employees for three reasons. First, Han et al. (2009) and Rossin-Slater et al. (2013) find that leave-taking is generally higher for college-educated mothers.

Second, and perhaps more importantly, educated workers experience larger wage penalties in the years following a leave episode (Albrecht et al. 1999; Bertrand et al., 2010). The wage penalties appear only after a period of years and suggest that productivity losses follow from the break in labor market engagement. If productivity falls more dramatically among educated workers from such breaks, employers may avoid hiring educated workers likely to take leave (compared to less-educated workers). Third, results reported by Trzcinski and Finn-Stevenson (1991) suggest that firms face higher adjustment costs when an educated worker takes leave (compared to less-educated workers). If this is the case, firms may avoid hiring educated workers who are likely to take leave. Consequently, we estimate the following:

(1) $Employment_{ijt} = \alpha + \beta_1\ Treat_{ijt} +\ \beta_2\ Post_{ijt} + \beta_3\ Treat*Post_{ijt} + \delta_t\ Q_{ijt} + \tau_t\ Y_{ijt} + e_{ijt}$

where i indexes the county, j indexes county sub-group (where applicable), and t indexes time (quarter). The employment measure is described above. *Treat* takes a value of 1 for treated units, and 0 otherwise. The treated units are New Jersey counties in the first set of analyses. In

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[17] See http://www.census.gov/people/laborforce/about/acs_employ.html for definitions of employed.

the second and third sets, they are workers in their childbearing years and educated workers, respectively. *Post* takes a value of 1 for all quarters following the effective date of the New Jersey family leave law (July 1, 2009), and 0 otherwise. *Treat*Post* interacts *Treat* and *Post* and is our variable of interest. *Q* represents a dummy variable for quarter of transaction and *Y* represents a dummy for year of transaction.

4. Results

Table 1 shows average employment by county for western New Jersey and eastern Pennsylvania for the full-time series (January 2003 to October 2015), pre-policy (January 2003 to April 2008) and post-policy (July 2009 to October 2015). We drop the observations for the period between the date the policy becomes law (April 2008) and the law's effective date (July 2009) as businesses may be uncertain about the requirements of the law. Comparing columns 3 and 4 of row 1, we can see that prior to the date the New Jersey family leave law became law (April 2008), average county employment levels were roughly equivalent across western New Jersey and eastern Pennsylvania counties (NJ: 123,399 and PA: 125,893). However, the standard deviation of the employment levels was higher in Pennsylvania (NJ: 81,192 and PA: 96,227). Comparing columns 3 and 5 of row 1, we can see that following the effective date of the law (July 2009) average county-level employment falls in New Jersey from 123,399 to 119,353. By contrast, comparing columns 4 and 6 of row 1 shows that the employment levels rise slightly in Pennsylvania over the same period from 125,893 to 125,913.

These differences emerge primarily because average county-level employment for females rises in Pennsylvania but falls in New Jersey. Comparing columns 3 and 5 of row 2, we can see that following the effective date of the law (July 2009) average county-level female

employment falls in New Jersey from 63,214 to 62,455. By contrast, comparing columns 4 and 6 of row 1 shows that the female employment levels rise in Pennsylvania over the same period from 62,922 to 64,597. For males, average county-level employment falls in both Pennsylvania and New Jersey; however, the employment decrease is larger in New Jersey. Comparing columns 3 and 5 of row 3, we can see that following the effective date of the law (July 2009) average county-level employment for males falls in New Jersey from 60,194 to 56,899 (a difference of 3,295). Comparing columns 4 and 6 of row 3 shows that the male employment levels fall in Pennsylvania over the same period from 62,971 to 61,316 (a difference of 655).

Figures 2 through 4 show the trends in employment in New Jersey and Pennsylvania both before and after the effective date of the New Jersey law. Figure 2 reports average county employment levels while Figures 3 and 4 show male and female employment levels separately. As in Table 1 above, we drop the observations for the period between the date the policy becomes law and the law's effective date. The blue squares and red diamonds show the quarterly averages for the New Jersey and Pennsylvania counties, respectively. We separately estimate regression lines before and after the policy effective date for both New Jersey and Pennsylvania. Figure 1 shows that prior to the effective date of the law, Pennsylvania average county employment levels are slightly higher than New Jersey levels, but the difference is decreasing. Following the effective date, New Jersey employment levels fall relative to Pennsylvania levels and the gap increases over time.

Figure 3 shows that the level of average county employment for females is nearly identical for New Jersey and Pennsylvania in the period prior to the effective date of the law. However, the employment level is rising slightly faster in New Jersey. In the period after the effective date, the trend line rises faster for Pennsylvania and a large gap opens between New

Jersey and Pennsylvania. Figure 4 shows that average county employment for males is higher in Pennsylvania than in New Jersey in the period prior to the effective date of the law. However, once again, employment is rising faster in New Jersey producing convergence. In the period after the effective date, the trend line rises slightly faster for Pennsylvania and the gap between New Jersey and Pennsylvania increases.

Taken together, Table 1 and Figures 2 to 4 suggest that the New Jersey family leave law reduced employment in New Jersey and the effect was stronger for female employees. To test this claim more rigorously, we run random-effects regressions using the difference-in-difference specification in equation (1) above. The results appear in Table 2. In these regressions, the *Treat* variable indicates whether the county is located in New Jersey or Pennsylvania, where Treat equals 1 for New Jersey counties and is 0 for Pennsylvania counties. *Post* is a dummy variable that equals 1 for all quarters following the effective date of the New Jersey family leave law and is 0 otherwise. Our variable of interest, *Treat*Post*, is an interaction term designed to capture the causal effect of the law on employment. Column 1 reports estimates for all employment, column 2 reports estimates for female employment, and column 3 reports estimates for male employment.

The estimate in column 1 of Table 2 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment on average by 4,066 jobs ($p = 0.081$). Using the average county-level employment for New Jersey for the period prior to the effective date of law from Table 1 (123,399) as the base, this estimate reflects a reduction of 3.3 percent. The estimate for *Post* in column 1 implies that county-level employment rose on average rose in the period following the effective date of the New Jersey law by 5,714 jobs ($p = 0.004$). Thus, the net increase in employment in New Jersey for the period following the effective date of law was

1,648 (5,714 – 4,066). By contrast, average county-level employment rose by 5,714 in Pennsylvania in the period following the effective date of the New Jersey family leave law.

The estimate in column 2 of Table 2 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for women on average by 2,434 ($p = 0.013$). Using the average female county-level employment for New Jersey for the period prior to the effective date of law from Table 1 (63,214) as the base, this estimate reflects a reduction of 3.8 percent. The estimate for *Post* in column 2 implies that female county-level employment rose on average in the period following the effective date of the New Jersey law by 4,621 jobs ($p < 0.001$). Thus, the net increase in New Jersey following the effective date of the law is 2,187 (4,621 – 2,434). Despite this, the estimates for male county level employment reported in column 3 show no significant change following the effective date of the law (*Post*) nor any change as a consequence of the law (*Treat*Post*).

To produce a more detailed picture of the effect of the New Jersey family leave law, we further disaggregate county employment levels by gender and age group. In Table 3, we report estimates of *Treat*Post* for employment by gender and age group using the equation (1) specification. Shading shown in the table indicates the age range of 99 percent of parental leave-takers (NJDOL 2010-2012). Column 1 reports *Treat*Post* estimates for all employees by age group, column 2 reports female *Treat*Post* estimates by age group, and column 3 reports male *Treat*Post* estimates by age group. For each estimate, we report both the standard error and the percentage change in employment associated with the estimate (i.e., the parameter estimate divided by the average total employment for the age/gender cohort for the pre-period in NJ or PA counties).

Estimates of the causal effect of the New Jersey family leave law (i.e., *Treat*Post*) for all

employees are statistically significant for both the 22-24 age group and the 25-34 age group.

From column 1 of Table 3, we see that for 22-24 year-olds the law reduced county-level

employment by 537 jobs ($p = 0.025$) and this reflects a 7.5 percent reduction in employment for

this cohort. From the same column, we see that for 25-34 year-olds the law reduced county-level

employment by 1,718 jobs ($p = 0.010$) and this reflects a 7.2 percent reduction in employment

for this cohort. Interestingly, the 55-64 year-old cohort (a cohort that typically takes leave to care

for a sick family member) has a large estimated effect from the law. However, this effect is

statistically insignificant.

The female-only estimates reported in column 2 of Table 3 mirror the effects we see for

all employees. The law reduced county-level employment among 22-24 year-old women by 324

jobs ($p = 0.019$) and this reflects an 8.7 percent reduction in employment for this cohort. In

addition, the law reduced county-level employment among 25-34 year-old women by 984 jobs ($p

= 0.010$) and this reflects a 7.8 percent reduction in employment for this cohort. All other age

groups for women showed statistically insignificant effects from the law. All male age groups

showed statistically insignificant effects on employment from the law except 22-24 year olds.

Here, the estimate implies the law reduced county-level employment among 22-24 year-old men

by 213 jobs ($p = 0.078$) and this reflects a 6.3 percent reduction in employment for this cohort.

Tables 4 and 5 report analyses of the effect of the law by gender and education level on

employment levels in western New Jersey using eastern Pennsylvania counties once again as a

control. We focus on educated workers because as noted above, educated mothers take leave at

higher rates, leave episodes impose a higher wage penalty on educated workers, and firms face

higher adjustment costs when educated workers take leave. Tables 4 and 5 repeat the same

specification as Table 2, however, Table 4 includes only employees with a high-school diploma or less while Table 5 includes only employees with bachelor's degree or more.

From Table 4, we see that each of the estimates of the causal effect of the New Jersey family leave law (*Treat*Post*) on employment of workers with a high-school degree or less are quantitatively small and statistically insignificant. Reading across Table 4, we see that the estimates for *Treat*Post* are -330, -222, and -108. One possible reason for the small and statistically insignificant results on *Treat*Post* is that unskilled workers are more likely to work in small firms and thus are not covered by the New Jersey family leave law (Kerr 2015).

Consequently, we repeat the analysis in Table 4 after dropping employment in firms with fewer than 50 workers. That is, the analysis includes only workers with a high-school degree or less who work in firms with more than 50 workers. The results, like the results report in Table 4, are quantitatively small and statistically insignificant; the parameter estimates and associated standard errors on *Treat*Post* are -164 (1002), -65 (597), and -99 (484) for the specifications reported in columns 1 through 3 of Table 4. This suggests that the insignificant results on *Treat*Post* reported in Table 4 are not the result of differences in coverage under the law.

Another possible intervening factor is the increase in the minimum wage in New Jersey from $7.25 to $8.25 that passed by referendum in November 2013 and became effective in January 2015. Such a change may reduce employment of unskilled workers in New Jersey relative to Pennsylvania and exert a downward bias on the *Treat*Post* estimates reported in Table 4. To test whether the increase in the minimum wage influences our estimates, we repeat the analyses in Table 4 after dropping all observations for years 2014 and 2015. We find that the *Treat*Post* estimates for Table 4 are virtually unchanged for the shorter data set; the parameter estimates and associated standard errors on *Treat*Post* are -319 (974), -219 (544), and -99 (574)

for the specifications reported in columns 1 through 3 of Table 4. Estimates for *Treat*Post* reported elsewhere in the paper are similarly unaffected by dropping years 2014 and 2015.

Interestingly, the estimates for *Post* are significant in each specification reported in Table 4. This suggests that county-level employment generally rises in the period following the law. For both states, county-level employment for workers with a high-school degree or less rose 4,302 in the period following the law ($p < 0.001$). Employment for females with a high-school degree or less rose 2,473 ($p < 0.001$) while males with a high-school degree or less showed an increase of 1,829 ($p = 0.001$).

We see an entirely different pattern among workers with bachelor's degree or more; the New Jersey family leave law had a significant negative causal effect on employment. From column 1 of Table 5, we see that the law reduced county-level employment for workers with a bachelor's degree or more by 1,992 ($p = 0.001$). Using the average college-educated county-level employment for college-educated workers in New Jersey for the period prior to the effective date of law as the base, this estimate reflects a reduction of 5.5 percent.

From column 2 of Table 5, we see that the law reduced county-level employment for female workers with a bachelor's degree or more by 1,076 ($p < 0.001$). Using the average county-level employment for college-educated females in New Jersey for the period prior to the effective date of law as the base, this estimate reflects a reduction of 5.9 percent. The estimate for *Post* in column 2 implies that employment of college-educated females rose by 1,029 in the period following the effective date of the law ($p = 0.003$). This, in turn, suggests that in New Jersey employment for college-educated females was essentially flat in the period following the effective date of the law.

Because it is possible that Pennsylvania does not function effectively as a control, we run two additional difference-in-difference analyses based on equation (1) using *only* New Jersey data . Drawing on the results above, we compare: 1) employment for workers in their childbearing years with workers not in their childbearing years, and 2) employment for workers with a college degree or more with employment for workers with a high-school degree or less. Thus, in the first comparison, the treated group is workers in their childbearing years while in the second comparison the treated group is educated workers.

We report the results of these analyses in Tables 6 and 7. The estimate in column 1 of Table 6 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for workers in their childbearing years by 2,427 jobs ($p < 0.001$). This estimate uses other New Jersey workers (workers not in their childbearing years) as a control. However, the estimate is similar to the effect measured in column 1 of Table 3. The Table 3 estimates use Pennsylvania workers in the same age group as the control. (The sum of the significant estimates from column 1 of Table 3 is 2,256.) The estimate in column 2 of Table 6 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for women in their childbearing years by 1,169 jobs ($p < 0.001$). Once again, this is similar to the Table 3 estimates. (The sum the significant estimates from column 2 of Table 3 is 1,307.) Finally, the estimate in column 3 of Table 6 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for men in their childbearing years by 1,258 jobs ($p < 0.001$). This effect is substantially higher than the estimates in Table 3 (213).

We see a similar pattern in Table 7. The estimates in Table 7 align quite well with the estimates in Table 5 for all workers and for women. However, the alignment is weaker for men. The estimate in column 1 of Table 7 for *Treat*Post* implies that the New Jersey family leave law

reduced county-level employment for workers with a college degree or more by 2,277 jobs ($p = 0.001$). This estimate uses other New Jersey workers with a high-school degree or less as a control. The Table 5 estimates use educated workers in Pennsylvania as a control and produce an estimated effect of 1,992. The estimate in column 2 of Table 7 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for women with a college degree or more by 826 jobs ($p = 0.002$). The Table 5 estimates produce an estimated effect of 1,076. Finally, the estimate in column 3 of Table 7 for *Treat*Post* implies that the New Jersey family leave law reduced county-level employment for men with a college degree or more by 1,451 jobs ($p = 0.003$). The estimated effect in Table 5 is lower (915) and is statistically insignificant.

5. Conclusion

Family leave entitlements enjoy wide support among American voters. This support is strongest among self-identified Democrats; however, a recent poll suggests that a majority of self-identified Republican voters favor also paid family leave. Despite this widespread support, business groups and many Republican legislators continue to oppose paid family leave. These opponents typically argue that expanded family leave entitlements will reduce employment, especially among demographic groups more likely to take leave.

Surprisingly, the economics literature offers little analysis of the effect of paid family leave on employment. Consequently, this paper assesses the effect of paid family leave on employment, using the New Jersey family leave law that took effect in 2009. We expect that the New Jersey family leave law causes prospective adjustment costs for employers and may reduce future productivity growth for individual workers. If leave episodes cause lower future productivity growth or increased adjustment costs and employers can estimate the likelihood that

a certain worker will later take leave, employers may avoid hiring workers with a high probability of a future leave episode(s).

To gauge these possible effects from the law, we conduct a difference-in-difference analysis that compares county-level employment in western New Jersey using eastern Pennsylvania as a control. We disaggregate county-level employment by gender, age, and education level to test whether women, workers of childbearing age, and educated workers experienced larger employment effects in western New Jersey (relative to eastern Pennsylvania) following the New Jersey family leave law. We also conduct similar comparisons within New Jersey to test whether employment for workers of childbearing ages fell relative to workers in other age groups and whether the employment of educated workers fell relative to less educated workers following the effective date of the New Jersey family leave law.

We find evidence that family leave entitlements are more costly than Democratic policymakers seem to believe. Our estimates suggest that the New Jersey family leave law reduces overall employment but affects women, people of childbearing age, and more highly skilled workers most strongly. However, we find little evidence that family leave mandates have employment effects for unskilled workers. More specifically, our results show that overall employment in New Jersey fell about 3.3 percent because of the law (using average employment levels prior to the law as the base). Among women, the reduction was about 3.8 percent (using average female employment levels prior to the law as the base). We find no significant change in overall employment for men from the law.

Disaggregating employment by gender and age group, we see employment losses that align with gender and age groups more likely to make claims under the law. Overall employment for workers 22-24 and 25-34 years of age falls by 7.6 percent and 7.2 percent, respectively (using

average employment levels in the cohort prior to the law as the base) because of the law. Among women, employment for workers 22-24 and 25-34 years of age falls by 8.8 percent and 7.8 percent, respectively. For men, only workers in the 22-24 year age group show an effect and the effect is smaller in magnitude (6.3 percent).

For workers with a high-school education or less, we find no significant effects (overall or by gender) on employment from the family leave law. By contrast, overall employment for workers with a college education or more falls by 5.5 percent (using average employment levels for college-educated workers prior to the law as the base). Employment for college-educated women falls by 5.9 percent. The estimate for men, while quantitatively similar to the estimate for women, is statistically insignificant.

One possible reason the New Jersey family leave law may not affect employment for workers with a high-school degree or less is that the law is less likely to cover these workers. Kerr (2105) shows that less educated workers are more likely to work in firms with less than 50 employees. Consequently, we test whether the law affects employment of workers with a high-school degree or less working in firms with 50 or more employees. One again, we find no effect. We conclude that these differences in employment effects from the law across education levels are not the result of differences in coverage under the law.

This suggests that the variation in impact across education levels occurs because leave episodes for educated workers imply either lower future productivity increases and/or larger adjustment costs for firms. Evidence reported in Trzcinski and Finn-Stevenson (1991) suggests that replacing skilled workers is more costly than replacing unskilled workers. Evidence reported in Bertrand et al. (2010) suggests that career interruptions (typically for childbirth) cause non-linear reductions in future earnings. Thus, policies designed to mitigate the adjustment

costs that firms face when highly skilled workers take family leave are most likely to diminish or

eliminate the reductions in employment that follow from paid family leave entitlements. Of

course, devising and implementing such targeted policies may be difficult.

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Table 1. Average Employment by County for NJ and PA Before and After Policy Change in NJ

	Q1 2003-Q3 2015 Full Time Series		Q1 2003-Q1 2008 Pre Policy		Q3 2009-Q3 2015 Post Policy	
	NJ	PA	NJ	PA	NJ	PA
Female & Male	121,256.6 (80,587.2)	125,857.7 (95,324)	123,398.6 (81,191.6)	125,892.8 (96,226.6)	119,353.4 (80,326.4)	125,913.0 (95,437.4)
Female	62,814.9 (42,117.93)	63,802.3 (47,661.8)	63,213.8 (41,918.0)	62,922.2 (47,347.4)	62,454.7 (42,473.6)	64,597.3 (48,233.0)
Male	58,441.7 (38,590.3)	62,055.4 (47,755.5)	60,184.9 (39,393.7)	62,970.7 (48,953.2)	56,898.7 (37,947.0)	61,315.7 (46,987.2)

Policy passes legislature April 7th 2007 and takes effect July 1st 2009
Standard deviations in parentheses.
Employment defined as end-of-quarter employment.
Averages calculated at the county level over time for 7 New Jersey counties (Burlington, Camden, Gloucester. Hunterdon, Mercer, Sussex, and Warren) and 5 Pennsylvania counties (Bucks, Delaware, Monroe, Northampton, and Pike) using data from the Quarterly Workforce Indicators. Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009).

Table 2. Random-Effects Regression Results on Employment by Gender

	Female & Male	Female	Male
Treat*Post	-4,065.6*	-2,434.15**	-1,631.3
	(2,327.3)	(975.9)	(1,789.0)
NJ	-2,494.1	291.6	-2,785.8
	(55,798.8)	(27,912.9)	(27,941.2)
Treat	5,713.7***	4,621.0***	1,092.6
	(1,997.7)	(1,121.2)	(1,421.7)
Constant	125,257.5***	63,061.3***	62,196.2***
	(45,788.2)	(22,566.8)	(23,237.0)
Year Dummies	Yes	Yes	Yes
Quarter Dummies	Yes	Yes	Yes
n	540	540	540
R^2 Within:	0.3874	0.4011	0.4308
Between:	0.0007	0.0001	0.0018
Overall:	0.0022	0.0018	0.0042

Treat*Post: Interaction term for Treat and Post.
Treat: Dummy variable that takes the value 1 for all New Jersey counties and 0 otherwise.
Post: Dummy variable that takes the value 1 for all quarters after Q3 2009 and 0 before Q2 2008.
Robust standard errors in parentheses.
Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3, and 4 for 2008 and quarters 1 and 2 for 2009).

Table 3. Random-Effects Regression Results on Employment by Age and Gender

	Female & Male	Female	Male
All Age Groups	-4,065.6* (2,327.3) [-3.30%]	-2,434.15** (975.9) [-3.85%]	-1,631.3 (1,789.0) [-2.72%]
14-18	116.6 (696.0) [2.85%]	49.7 (344.7) [2.25%]	66.9 (353.3) [3.54%]
19-21	-90.6 (399.3) [-1.48%]	-60.4 (186.8) [-1.90%]	-30.3 (217.4) [-1.04%]
22-24	-537.5** (239.8) [-7.57%]	-323.9** (137.8) [-8.77%]	-213.5* (121.3) [-6.26%]
25-34	-1,718.0*** (665.1) [-7.17%]	-983.8 *** (382.3) [-7.84%]	-734.2 (463.9) [-6.13%]
35-44	-359.5 (2,133.6) [-1.33%]	-299.2 (801.9) [-2.22%]	-60.3 (1337.6) [-0.45%]
45-54	-335.5 (501.4) [-1.12%]	-269.3 (246.4) [-1.71%]	-66.2 (317.7) [-0.43%]
55-64	-1,173.8 (1,967.9) [-6.18%]	-579.6 (1,084.5) [-5.81%]	-594.3 (892.4) [-6.59%]
65-99	32.9 (738.4) [0.55%]	32.3 (394.3) [1.11%]	0.5 (348.4) [0.00%]

Note: Each cell reports parameter estimates for the Treat*Post term for the specification and time period reported in Table 2. Below the estimate, in parentheses, is the robust standard error for the Treat*Post estimate. The final figure in each cell, shown in brackets, is the parameter estimate divided by the average total employment for the age/gender cohort for the pre-period in NJ and PA counties. Shading indicates the age range of 99 percent of parental leave takers (NJDOL 2010-2012). Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009).

Table 4. Random-Effects Regression Results on Employment of Individuals with a High School Diploma or Less

	Female & Male	Female	Male
Treat*Post	-330.4	-222.4	-108.0
	(1,162.3)	(685.1)	(586.4)
Treat	-5,220.4	-1,836.8	-3,383.6
	(16,457.8)	(7,730.2)	(8,749.5)
Post	4,301.9***	2,473.1***	1,829.0***
	(1,137.2)	(681.3)	(536.2)
Constant	40,184.7**	19,177.0**	21,007.7**
	(13,977.0)	(6,446.1)	(7535.2)
Year Dummies	Yes	Yes	Yes
Quarter Dummies	Yes	Yes	Yes
n	540	540	540
R^2 Within:	0.3893	0.4100	0.3989
Between:	0.0105	0.0059	0.0158
Overall:	0.0131	0.0094	0.0187

Treat*Post: Interaction term for Treat and Post.
Treat: Dummy variable that takes the value 1 for all New Jersey counties and 0 otherwise.
Post: Dummy variable that takes the value 1 for all quarters after Q3 2009 and 0 before Q2 2008.
Robust standard errors in parentheses.
Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3, and 4 for 2008 and quarters 1 and 2 for 2009).

Table 5. Random-Effects Regression Results on Employment of Individuals with a Bachelor's Degree or Higher

	Female & Male	Female	Male
Treat*Post	-1,992.2***	-1076.1***	-915.9
	(625.4)	(253.3)	(570.6)
Treat	6,664.11	3,695.2	2,968.7
	(17,252.71)	(8,571.2)	(8,692.0)
Post	470.7	1028.6***	-558.0
	(527.1)	(340.8)	(469.8)
Constant	32,495.8**	16,250.1***	16,245.7**
	(12,707.5)	(6,231.4)	(6,478.7)
Year Dummies	Yes	Yes	Yes
Quarter Dummies	Yes	Yes	Yes
n	540	540	540
R^2 Within:	0.3199	0.3746	0.3699
Between:	0.0097	0.0117	0.0078
Overall:	0.0109	0.0135	0.0097

Treat*Post: Interaction term for Treat and Post.
Treat: Dummy variable that takes the value 1 for all New Jersey counties and 0 otherwise.
Post: Dummy variable that takes the value 1 for all quarters after Q3 2009 and 0 before Q2 2008.
Robust standard errors in parentheses.
Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3, and 4 for 2008 and quarters 1 and 2 for 2009).

Table 6. Random Effects Regression on Employment by Age Group of 99 Percent of Parental Leave Takers (19-44) vs. All Other Age Groups in New Jersey

	Female & Male	Female	Male
Treat*Post	-2,426.7***	-1,168.9***	-1,257.8***
	(527.3)	(245.2)	(310.9)
Treat	2,573.7	1,014.0	1,559.7
	(5,691.7)	(2,939.0)	(2,759.0)
Post	1,427.8***	834.7***	593.1**
	(525.8)	(286.1)	(251.7)
Constant	13,969.9***	7,406.6***	6,563.3***
	(3,542.2)	(1,857.5)	(1,689.0)
Year Dummies	Yes	Yes	Yes
Quarter Dummies	Yes	Yes	Yes
n	644	644	644
R^2 Within:	0.5127	0.4922	0.5346
Between:	0.0039	0.0013	0.0083
Overall:	0.0093	0.0061	0.0155

Treat*Post: Interaction term for Treat and Post.
Treat: Dummy variable that takes the value 1 for employment levels for workers between the ages of 19-44 and 0 if otherwise.
Post: Dummy variable that takes the value 1 for all quarters including and after Q3 2009 and 0 before Q2 2008, it does not exist in the interim.
Robust standard errors in parentheses.
Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009.

Table 7. Random-Effects Regression Results on Employment of Individuals with a Bachelor's Degree or Higher vs. Employment of Individuals with a High School Diploma or Less in New Jersey

	Female & Male	Female	Male
Treat*Post	-2,277.3 ***	-826.2***	-1,451.2***
	(683.4)	(272.9)	(488.5)
Treat	21,379.4*	11,136.5*	10,243.0
	(12,452.0)	(6,271.7)	(6,190.9)
Post	1,275.3*	860.2**	415.2
	(735.2)	(400.1)	(359.9)
Constant	17,434.2***	8,712. 6***	8,721.4 ***
	(4,425.2)	(2,196.0)	(2,236.8)
Year Dummies	Yes	Yes	Yes
Quarter Dummies	Yes	Yes	Yes
n	644	644	644
R^2 Within:	0.2948	0.2915	0.3690
Between:	0.1747	0.1864	0.1622
Overall:	0.1753	0.1869	0.1635

Treat*Post: Interaction term for Treat and Post.
Treat: Dummy variable that takes the value 1 for employment levels of individuals with a bachelor's degree or higher and 0 for employment levels for individuals with a high school degree or lower
Post: Dummy variable that takes the value 1 for all quarters including and after Q3 2009 and 0 before Q2 2008, it does not exist in the interim.
Robust standard errors in parentheses.
Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009.

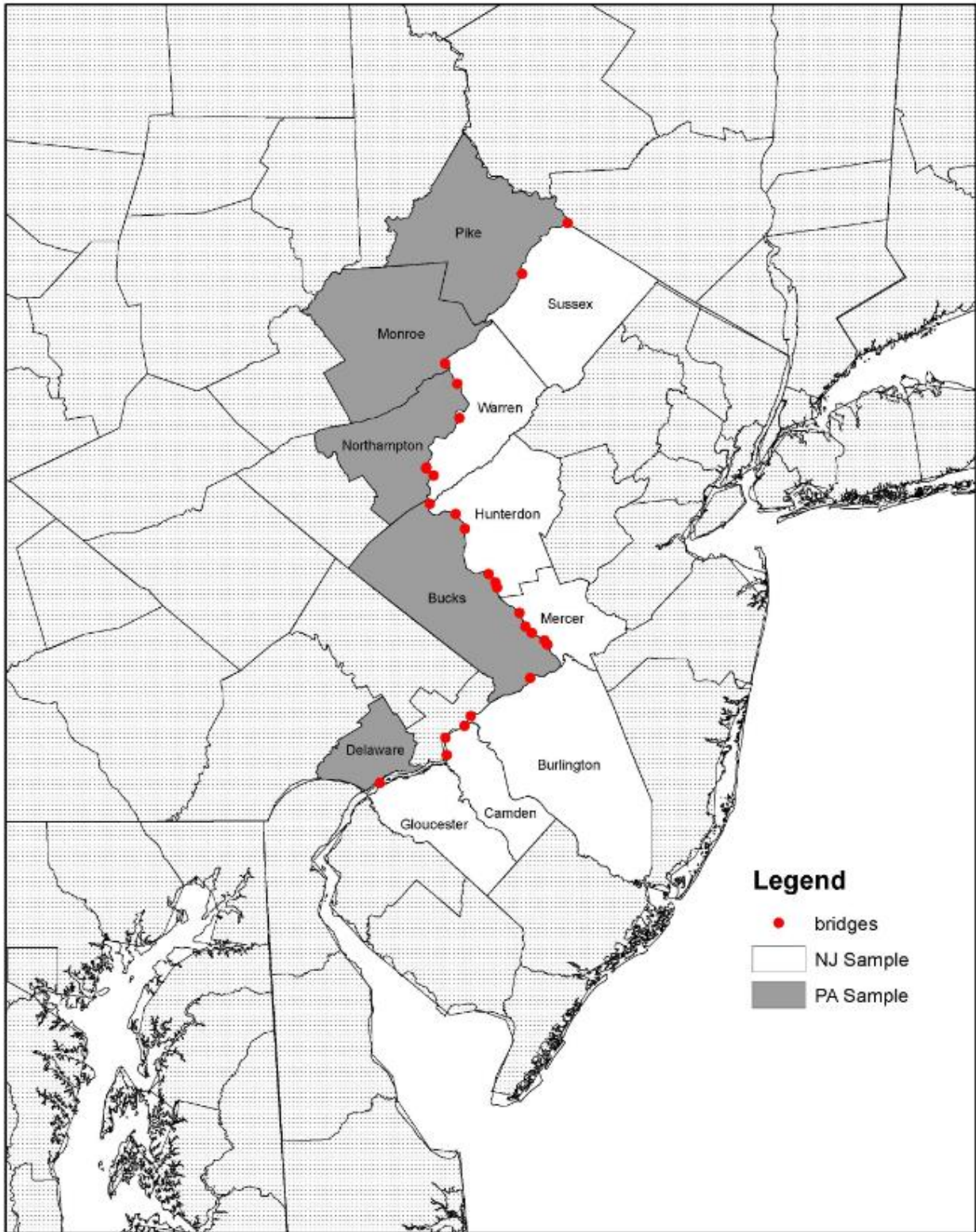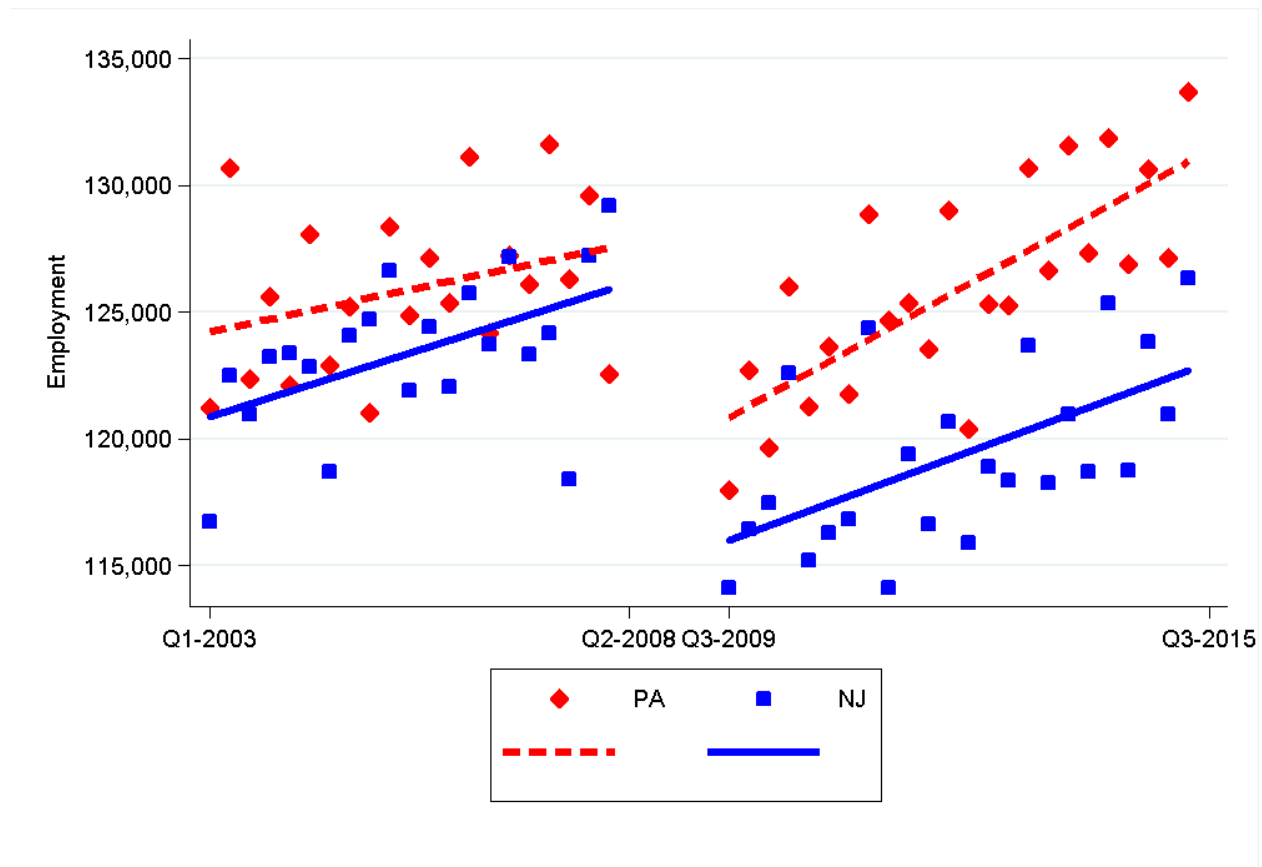**Figure 1. Map of Treated (New Jersey) and Control (Pennsylvania) Counties**

Figure 2. Average County Employment in NJ and PA Before and After Policy Change in NJ
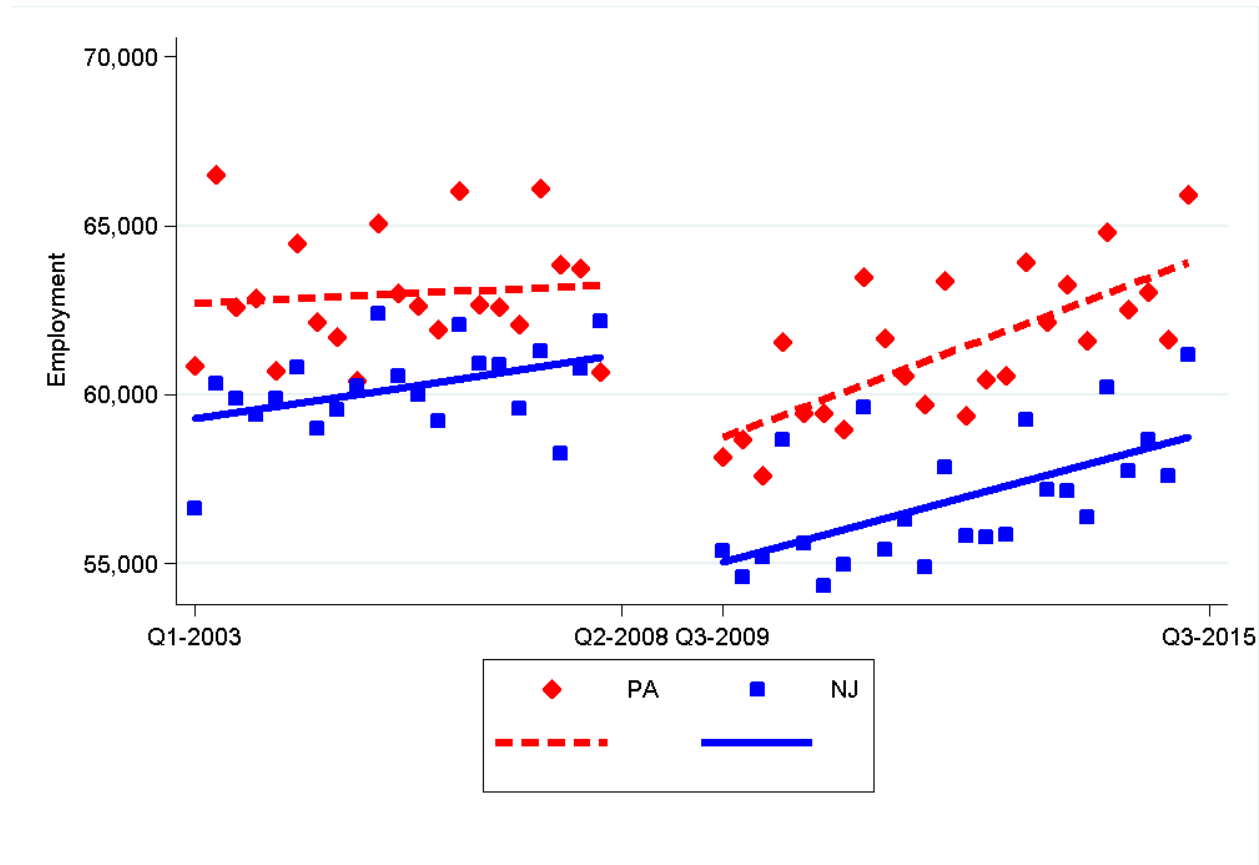

Note: Employment is the average county employment levels for western New Jersey (Burlington, Camden, Gloucester. Hunterdon, Mercer, Sussex, and Warren) and eastern Pennsylvania counties (Bucks, Delaware, Monroe, Northampton, and Pike). Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009). The blue squares and red diamonds show the quarterly averages for the New Jersey and Pennsylvania counties, respectively. We separately estimate regression lines before and after the policy effective date for both New Jersey and Pennsylvania.

Figure 3. Average County Employment (Females Only) in NJ and PA Before and After Policy Change in NJ
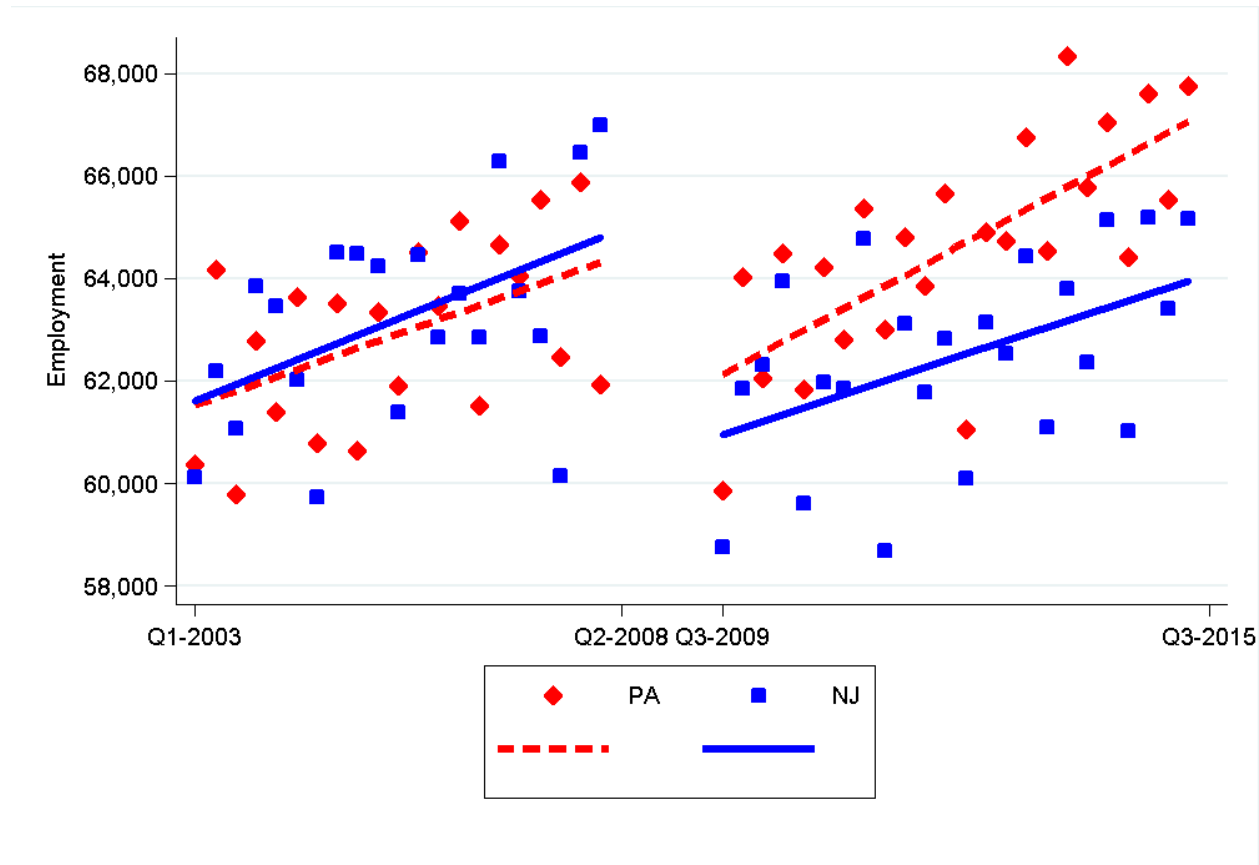
Note: Employment is the average female county employment levels for western New Jersey (Burlington, Camden, Gloucester. Hunterdon, Mercer, Sussex, and Warren) and eastern Pennsylvania counties (Bucks, Delaware, Monroe, Northampton, and Pike). Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the analysis (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009). The blue squares and red diamonds show the quarterly averages for the New Jersey and Pennsylvania counties, respectively. We separately estimate regression lines before and after the policy effective date for both New Jersey and Pennsylvania.

Figure 4. Average County Employment (Males Only) in NJ and PA Before and After Policy Change in NJ

Note: Employment is the average male county employment levels for western New Jersey (Burlington, Camden, Gloucester. Hunterdon, Mercer, Sussex, and Warren) and eastern Pennsylvania counties (Bucks, Delaware, Monroe, Northampton, and Pike). Data for the period between April 2008 (date the law passed) and July 2009 (date the law took effect) is not included in the figure (quarters 2, 3 and 4 for 2008 and quarters 1 and 2 for 2009). The blue squares and red diamonds show the quarterly averages for the New Jersey and Pennsylvania counties, respectively. We separately estimate regression lines before and after the policy effective date for both New Jersey and Pennsylvania.