THE IMPACT OF PAID LEAVE ON THE INCIDENCE OF LEAVE-TAKING AMONG NEW MOTHERS: AN ANALYSIS OF NEW JERSEY’S PAID FAMILY LEAVE INSURANCE PROGRAM

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ABSTRACT

Very few women in the United States have access to family leave, and even fewer have access to leave that is paid. This is problematic given the high rates of labor force participation among women and the recent rise in the number of single-parent households, as well as the myriad of potential health and economic benefits that family leave provides to women and their children. While the United States has a federal leave policy, it is neither paid nor universal, and while many states have laws that extend the coverage and/or generosity of the federal benefit, most of these are unpaid as well. Survey data indicate that these policies have expanded coverage, however, prior research is inconclusive as to the effect of leave policies on the actual incidence of leave-taking among women. Furthermore, there has been very little research to date on the effect of paid family leave policies in the United States, mainly because these policies are relatively new. This study is the first to examine the effect of New Jersey’s recently implemented Family Leave Insurance program – the second state-level policy in the country to provide partially paid family leave – on leave-taking behavior. Specifically, the study primarily examines the policy’s effect on the incidence of leave-taking among employed women in the state. It also explores the effect of other factors that may influence a woman’s decision to take leave following childbirth on the
probability that she takes leave, including financial and non-financial concerns, her employment characteristics, the number of other children she has, and her demographic characteristics. The analysis uses March Current Population Survey data from 2007 to 2009 and 2011 to 2012 and a difference-in-difference methodology to determine the effect of the policy, using women with children under age one as the treatment group and several different control groups, including women with children under age one in other states, women with older children, women without children, and women aged forty-five and older. The study finds suggestive evidence that New Jersey’s Family Leave Insurance policy has increased the incidence of leave-taking in the state.
I would like to thank my parents, siblings and friends for their love and support. I am deeply indebted to my advisor, Donna Morrison, for her feedback, guidance, and encouragement along the way. I would also like to thank my husband for his endless love, support and encouragement.

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INTRODUCTION

Very few women in the United States have access to family leave, and even fewer have access to leave that is paid. This is problematic given the high rates of labor force participation among women and the recent rise in the number of single-parent households, as well as the myriad of potential health and economic benefits that family leave provides to women and their children. While the United States has a federal leave policy, it is neither paid nor universal, and while many states have laws that extend the coverage and/or generosity of the federal benefit, most of these are unpaid as well. Survey data indicate that these policies have expanded coverage, however, prior research is inconclusive as to the effect of leave policies on the actual incidence of leave-taking among women. Furthermore, there has been very little research to date on the effect of paid family leave policies in the United States, mainly because these policies are relatively new.

This study is the first to examine the effect of New Jersey’s recently implemented Family Leave Insurance program – the second state-level policy in the country to provide partially paid family leave – on leave-taking behavior. Specifically, the study primarily examines the policy’s effect on the incidence of leave-taking among employed women in the state. It also examines the effect of other factors that potentially influence a woman’s decision to take leave following childbirth on the probability that she takes leave, including financial and non-financial concerns, her employment characteristics, the number of other children she has, and her demographic characteristics. The analysis uses March Current Population Survey data from 2007 to
2009 and 2011 to 2012 and a difference-in-difference methodology to determine the
effect of the policy, using women with children under age one as the treatment group
and several different control groups, including women with children under age one in
other states, women with older children, women without children, and women aged
forty-five and older.

The results of this study will contribute to a growing literature on the effects of
paid government leave policies on leave-taking behavior, and potentially provide
evidence of their positive effects. This would suggest that other states, or perhaps the
federal government, should consider implementing paid family leave policies. The
results of this study have the potential to inform policies around the country designed to
provide women and men with the support they need to work and care for their families.
Literature Review

Relevance of Family Leave Policies

The vast majority of children in the United States – seventy-one percent – now live in households in which all parents are employed, up from thirty-six percent in 1967 (Glynn 2012; Ruhm 2011). This change is due to two factors: an increase in the number of women, particularly mothers, in the labor force, as well as growth in the number of households headed by single parents (Ruhm 2011). Between 1975 and 2010, the proportion of women in the civilian labor force increased from forty-six percent to fifty-nine percent; among women with children under age three, the rate increased from thirty-four percent to sixty-one percent (U.S. Department of Labor 2011a; U.S. Department of Labor 2011b). The labor force participation rate has increased even more dramatically among women with children under age one. Sixty-four percent of women returned to work within a year of having given birth to their first child between 2005 and 2007, compared to only seventeen percent between 1961 and 1965 (Laughlin 2011). Among women who worked during pregnancy, nearly seventy-three percent returned to work within six months of giving birth (Laughlin 2011).

Although it has risen less dramatically, the proportion of single-parent households in the United States has also increased in the past few decades, from twenty percent of all households with children in 1980 to thirty percent in 2008 (U.S. Department of Commerce 2012c). Furthermore, previous research has found that men take very little leave, if any at all (Han, Ruhm and Waldfogel 2009; Nepomnyaschy and Waldfogel 2007), and thus, the increase in women’s labor force participation has not
been counterbalanced by an increase in the amount of leave taken by men. Together, these trends indicate that fewer families exist in which one parent is available to stay home, creating a need for policies – either employer- or government-based – that allow parents to effectively combine work and family.

Family leave can have several positive effects on women and their children. Leave provides time for women to recover from childbirth and bond with their newborn children. Additionally, studies have found that maternity leaves: improve the initiation and duration of breastfeeding (Ogbanu et al. 2011; Berger, Hill and Waldfogel 2005); increase the probability that infants will receive all necessary vaccinations (Berger, Hill and Waldfogel 2005); increase infant birth weight and decrease the probability of premature births and infant mortality (Rossin 2011); and finally, reduce symptoms of depression among mothers (Chatterji and Markowitz 2005). Furthermore, by helping women to stay in the workforce, family leave can increase their human capital and long-term earnings (Boushey 2008; Waldfogel 1998). Lastly, and somewhat surprisingly, evidence suggests that leave policies impose either very modest or no costs on employers (Appelbaum and Milkman 2011; Waldfogel 2001).

Despite a clear need for leave policies, access to leave, particularly paid leave, is currently low in the United States. Only twelve percent of the civilian workforce has employer-provided, paid family leave (U.S. Department of Labor 2012c). A greater proportion (thirty-six percent) of this workforce has access to temporary disability insurance; however, its use is limited to physical recovery from pregnancy (U.S. Department of Labor 2012b). Moreover, wage replacement rates are on the decline; the
number of employers offering full pay fell from seventeen percent in 2005 to nine percent in 2012 (Matos and Galinsky 2012). While many workers use paid vacation and sick time to care for their newborn children, among private sector workers, twenty-three percent lack paid vacation and thirty-seven percent lack paid sick time, and women are much less likely to have access to these benefits than men (McGovern et al. 2000; National Partnership 2012). Due its strict eligibility requirements, while the Family and Medical Leave Act (FMLA) (discussed in greater detail below) covered fifty-eight percent of employees in 2000, only forty-seven percent of employees were actually eligible to take leave under the law (Waldfogel 2001).

**Background on Policies**

The United States falls far behind other countries in the provision of paid parental leave coverage. One hundred and seventy-eight countries provide paid maternity leave and 54 of those countries provide paid paternity or parental leave that can be used by fathers, but the United States is not among them (Human Rights Watch 2011). Under the Family and Medical Leave Act (FMLA), passed in 1993, the U.S. guarantees twelve weeks of unpaid, job-protected leave once every 12 months to parents to care for their newborn child, among other things (Waldfogel 2001). However, access to FMLA is not universal; in order to qualify, workers must log 1,250 hours within the last 12 months with their current employer and work for an employer with at least 50 employees (Waldfogel 2001).

Prior to the passage of the FMLA, twenty-five states had unpaid parental leave laws; currently, fifteen states (as well as Washington, DC) have unpaid parental leave
laws that are more generous than the FMLA through less stringent eligibility requirements or longer leave length (Ruhm 2011). Additionally, five states – California, Hawaii, New York, Rhode Island, and New Jersey – offer partially paid leave through their temporary disability insurance programs (TDI) for complications due to, and physical recovery from, pregnancy (Ruhm 2011).

Finally, three states – California, Washington, and New Jersey – either currently, or will soon, provide family leave with partial wage replacement. New Jersey’s Family Leave Insurance (FLI) program, the second in the nation behind California, provides workers with six weeks of leave to “bond with a newborn or newly adopted child,” or to care for an immediate family member with an illness (A Better Balance 2012, 1). The wage replacement rate is sixty-six percent (compared to California’s fifty-five percent) and is currently capped at $572 per week (much lower than the $1,011 weekly payment in California) (Houser and Vartanian 2012b). It is entirely funded through employee payroll taxes, which in 2011 could be no higher than $17.76 annually per employee, a fifty percent decline from the previous year (State of New Jersey 2010). In order to be eligible, workers must work for an employer covered by the state’s Unemployment Compensation Law (which covers most employers) and work in New Jersey (A Better Balance 2012). Domestic workers must earn at least $1,000 in a quarter and workers employed by labor unions must earn at least $1,000 in a year (A Better Balance 2012). For those workers whose employers do not have private FLI plans, to be eligible for the State Plan they must earn at least $7,300, or earn at least
$145 per week for a minimum of 20 weeks, in the year prior to taking leave (A Better Balance 2012).

Although much broader and more generous than the FMLA, several elements of FLI may prevent qualified individuals from taking leave under the program. First, the law does not offer job protection, though people who work for employers with fifty or more employees are guaranteed job-protected leave under New Jersey’s Family Leave Act (A Better Balance 2012). Second, the law offers only partial wage replacement. For people with low earnings, partial pay for six weeks may be inadequate to induce them to take leave. Finally, individuals do not receive benefits until they have been on leave for seven consecutive days, which could pose a financial hardship for some families with low earnings and little savings (A Better Balance 2012). Administrative data indicate that since the program’s start in 2009, more than 100,000 claims have been authorized, the vast majority of which have been used to bond with an infant or recently adopted child (White, Houser and Nisbet 2013). However, survey evidence suggests that knowledge of the program is still very limited in New Jersey, especially among low-income individuals (Houser and White 2012).

New Jersey’s Family Leave Insurance program could increase the incidence of leave-taking among women with infant children in the following four ways: by increasing the number of people who qualify for family leave, either through their employer or through the state; by offering partial wage replacement and thereby inducing people who would not have taken leave in the absence of pay to do so; by increasing the length of leave provided to workers, thus inducing workers to take leave
rather than quit their jobs; or by increasing awareness of the availability of paid family leave among workers (Waldfogel 1999).

Prior Research on Leave Policies in the United States

There has been limited research to date evaluating the effects of state and federal family leave policies in the United States, and many of the findings are mixed. Investigators have examined the effects of government leave policies on the incidence and length of leave-taking, as well their effects on women’s employment, earnings, and job continuity following leave.

Effects of Policies on Leave-taking

Several studies have taken advantage of the natural experiment created by the variation in leave laws across states to look at the impact of state-level laws, as well as the FMLA, on leave-taking behavior. Han, Ruhm and Waldfogel (2009) employ a difference-in-difference methodology to examine the effect of leave legislation on the incidence of leave-taking among men and women between 1987 and 1994, during which time many states increased the generosity of their leave laws and the FMLA was implemented. They documented small, positive effects on the incidence of leave-taking among women and men, with stronger effects for married women and women with greater educational attainment.

Using data from the March Current Population Survey (CPS), Waldfogel (1999) employed a difference-in-difference-in-difference (DDD) approach, selecting additional treatment and control groups (beyond those used in a DD model) to avoid bias caused by other differences between states with and without leave laws. The results revealed
that the FMLA had positive effects on the incidence of leave-taking among women in medium-sized private firms, and had a notably large effect on women with children younger than one, increasing their probability of leave-taking by twenty-three percent. In contrast, using a similar methodology but with data from the National Longitudinal Survey of Youth (NLSY), Baum (2004) found that the FMLA had no effect on the use of leave post-childbirth, though he did find an increase in the length of leave taken among eligible women. Klerman and Leibowitz (1997), using census data from 1980 and 1990 and a DDD model, detected no effect of state-level leave policies on the incidence of leave-taking, nor employment or work. Using NLSY data, Baum (2003a) also found no effect of family leave legislation on the likelihood of leave-taking among women. Using data from the Survey of Income and Program Participation (SIPP) in contrast, Han and Waldfogel (2003) showed that leave legislation did increase the incidence of leave-taking, but the results were sensitive to the specification used.

Effects of Policies on Employment Outcomes

Several studies (Han, Ruhm and Waldfogel 2009; Baum 2003b; Waldfogel 1999; Klerman and Leibowitz 1997) revealed no statistically significant effect of state and federal leave legislation on maternal employment outcomes. Two of these investigations (Baum 2003b; Waldfogel 1999) also failed to detect an effect of leave laws on maternal earnings; however, Hofferth and Curtin (2006) found that the FMLA had a statistically significant, negative effect on women’s wages based on data from the Panel Study of Income Dynamics. The effect of leave legislation on job continuity has also been examined. Hofferth and Curtin (2006) documented that the FMLA increased
the probability that a woman returned to her pre-birth employer, and Baum (2003a) found small, positive effects of leave laws on a woman’s job continuity.

**Effects of State-Level Paid Leave Policies**

Two multivariate studies have assessed the effects of state-level paid leave laws on women’s leave-taking behavior. Using data from the March CPS and a difference-in-difference model, Rossin-Slater, Ruhm and Waldfogel (2011) found that California’s paid family leave (PFL) program increased the incidence and length of leave, especially among less-educated, unmarried or minority women. Houser and Vartanian (2012b), using data from the NLSY, also looked at the effect of California’s law, as well as the effects of state temporary disability insurance (TDI) laws, on leave-taking behavior. They also found that the incidence and length of leave increased for women and men residing in states with either, or both, of these laws.

**Theoretical Framework**

The conceptual model used in this paper is based upon human capital theory, augmented by institutional and preference theory, which focus on elements that are included in, but not central to, human capital theory. According to human capital theory, a woman makes a decision about whether or not to take maternity leave, as well as the length of that leave, by weighing the value of her home time (called her reservation wage) against the value of her market time (known as her wage rate), both of which are influenced by institutional constraints and personal preferences (Hofferth and Curtin 2006; Joesch 1994). This model asserts that when the wage rate is greater than the reservation wage, a woman will decide to either return to, or remain at, work,
and when the value of the reservation wage exceeds that of the wage rate, a woman will decide to stay at home with her child. By taking a leave from work, women sacrifice the following: the wages that would have been paid had they been at work rather than on leave; the development of human capital (such as skills, experience, and promotions); and future wages that might have been higher had human capital not been lost. By deciding not to take a leave from work, however, women sacrifice the following: time spent with the new child (and possibly other children); investment in their personal health; and other activities undertaken in home production (Hofferth 1996).

Klerman and Leibowitz (1997) extend this theory by examining the choices that women make in labor markets with “enduring employment relations” (as opposed to spot markets) and the effect of maternity leave legislation on those choices (Klerman and Leibowitz 1997, 67). As Han, Ruhm and Waldfogel (2009) note, this model makes two important assumptions: first, the reservation wage declines as the child ages and second, women will receive lower wages when they eventually return to work if they leave their original employer. Under this model, mothers choose between taking a leave of whatever length is allowed by their employer and remaining with that employer, or taking a longer leave and quitting their jobs (Klerman and Leibowitz 1997). For women making the first choice, the leave policy may have induced them to take a longer leave than they would have taken in the absence of the policy, or it might have induced them to take a shorter leave than they would have chosen in the absence of the policy in order to maintain a higher wage upon returning to work (Klerman and Leibowitz 1997).
reducing the opportunity costs of staying at home, a paid leave policy should induce higher numbers of women to take leave for some period of time.

As noted above, personal preferences and institutional constraints influence the value of a woman’s time spent at home versus work. Hakim (2002) suggests that all women fall into one of three preference categories – “home-centered,” “work-centered,” or “adaptive” – and she labels this preference theory (Hakim 2002, 434). We would expect a “home-centered” woman to prefer home time over work and thus, be more likely to take leave; a “work-centered” woman to prefer work over time at home and thus, be less likely to take leave; and finally, an “adaptive” woman to have a preference for neither, instead desiring some combination of the two (Hakim 2002, 434). We might expect a woman with a preference for an adaptive lifestyle to take a leave because it allows her to spend more time at home and maintain her current job. Institutional constraints, such as societal expectations regarding motherhood or flexibility at work, will also affect a woman’s choice regarding leave (Hofferth and Curtin 2006; Charles et al. 2001).

The conceptual model below (Figure 1) illustrates the factors that could affect a woman’s decision to take any amount of leave following childbirth. Human capital theory makes several predictions about how these factors would affect this choice, although most often in the literature, the choice is framed in terms of when a woman plans to return to work (if at all), rather than whether or not to take a period of leave. However, the theory provides a useful framework for thinking about this choice, and there is empirical evidence in support of this concept.
Resources

The conceptual model below predicts that the resources that are available to a woman will influence her decision about whether or not to take a leave post-childbirth. These resources include her current wages; her partner’s income; any other sources of income or savings; and finally, child care, whether it be provided by her partner, other family members and friends, through her employer, or privately. Human capital theory suggests that the higher a woman’s wages, the greater the opportunity costs of taking leave, and thus, the less likely she will be to do so. There is some evidence to support this claim; several studies have found that women with higher wages have a greater likelihood of returning to work more quickly following childbirth than women with comparatively lower wages (Hofferth and Curtin 2006; Leibowitz, Klerman and Waite 1991). Conversely, it would follow that the lower a woman’s wages, the more likely she would be to take leave; however, many women with low wages lack additional resources beyond their earnings that would support them during a period of leave. Thus, we would expect women’s wages to be negatively correlated with a paid leave policy such that the lower a woman’s wages, the more likely she would be to take a paid leave. There is also some evidence in support of this claim: Waldfogel (2001) found that in 2000, seventy-seven percent of workers covered by the FMLA who needed to take leave did not because they could not afford to do so.

Empirical evidence suggests that the higher a woman’s other family income, the less likely she will be to return to work quickly after childbirth (Hofferth and Curtin 2006; McGovern et al. 2000; Hofferth 1996; Joesch 1994; Leibowitz, Klerman and
Waite 1991), which human capital theory would predict because other family income reduces the opportunity costs of time at home. This provides support for the notion that a woman would be more likely to take leave the higher her other sources of income.

When it comes to child care, human capital theory posits that the higher its cost, the greater the opportunity cost of working, and thus, the more likely a woman would be to take leave. Several studies have found a negative relationship between the costs of child care and maternal employment (McGovern et al. 2000; Ribar 1995; Blau and Robbins 1988), and others have found that women with a partner or spouse returned to work more quickly than those without partners or spouses (Hofferth and Curtin 2006; Leibowitz, Klerman and Waite 1991). This may be true in part because marriage provides a source of child care through one’s spouse and his or her family (Leibowitz, Klerman and Waite 1991; Leibowitz, Waite and Witsberger 1988). However, McGovern et al. (2000) found that single women took shorter leaves than married women, and Han, Ruhm and Waldfogel (2009) did not find that the incidence of leave was statistically significant for single women. Thus, marital status may not always be an appropriate proxy for caretaking resources.

Health Status

One would expect that the more health problems a woman and her infant have following delivery, the more likely that woman would be to take leave. Human capital theory supports this notion under the assumption that health problems increase the value of a woman’s time at home, however the empirical evidence is mixed. Joesch (1997) found that women who had given birth to a low birth weight baby returned to work later
than other women, but Hofferth and Curtin (2006) found no relationship between birth weight and leave-taking. Somewhat surprisingly, McGovern et al. (2000) found that women whose infants had a “congenital anomaly” or “birth injury” returned to work at the same rate as other women (McGovern et al. 2000, 552).

*Attitudes Toward Motherhood*

Preference theory suggests that women who are “home-centered,” or who prefer working at home to working in the formal labor market, will be more likely to take leave than women who have a greater preference for work (Hakim 2002, 434). The same might be true for women with “adaptive” preferences because leave allows them to combine work and family (Hakim 2002, 434).

*Employment*

According to human capital theory and preference theory, women with greater human capital and a stronger preference for work will be less likely to take leave following childbirth. Studies have found that the rate at which women return to work post-childbirth is positively correlated with having worked during pregnancy (Hofferth 1996), years of work experience (Hofferth and Curtin 2006; Hofferth 1996), and tenure with the same employer (Joesch 1997). McGovern et al. (2000) found that women concerned about missing promotions or pay raises also took shorter periods of leave. Institutional theory would predict that the structure of employment would affect the likelihood that a woman takes leave. Evidence has shown that women who have greater access to flexible work policies return to work more quickly than women who do not (McGovern et al. 2000; Hofferth 1996).
Human capital theory suggests that women would be more likely to take leave when the unemployment rate is high because high unemployment rates depress wage rates and reduce the availability of jobs, both of which reduce the opportunity costs of time spent at home. While some studies have found that women return to work at a slower rate post-childbirth when the unemployment rate is high (Hofferth and Curtin 2006; Hofferth 1996), another found no relationship between unemployment and leave-taking (Joesch 1994). Klerman and Leibowitz (1999) note that one of the assumptions in their model is that women always have access to an alternative job if they decide to quit their current one in order to take leave. This suggests that perhaps women would be less likely to take leave when unemployment rates are high out of fear that if taking a leave threatened their job in any way (for example, if it caused their employer to think they were less reliable), they might not be able to find a replacement job.

Number of Children

Similarly mixed results are evident with regards to the effect of other children on a woman’s leave-taking behavior. Under human capital theory, we would expect that as the number of children a woman has increases, the value of her home time would increase as well. Preference theory also predicts this outcome under the assumption that the more children a woman has, the more likely she prefers being at home to being at work. Hofferth (1996) confirmed these hypotheses, finding that women were less likely to return to work after childbirth “with each additional child” (Hofferth 1996, 391), but Hofferth and Curtin (2006) found no relationship between number of children and the rate at which a woman returns to work following childbirth. Human capital theory also
suggests that the value of a woman’s time at home would be greater the more non-
school-aged children she has because the costs of child care outside the home are higher
for these children than they are for older children.

Demographic Characteristics

According to empirical evidence, women with higher levels of educational
attainment return to work more quickly post-childbirth than women with less education
(Han, Ruhm and Waldfogel 2009; Hoffertth and Curtin 2006; Berger and Waldfogel
2004; Klerman and Leibowitz 1999; Hoffertth 1996; Leibowitz, Klerman and Waite
1991). This is in keeping with human capital and preference theories, which suggest
that women with greater human capital and stronger preferences for work will find less
value in staying home than other women. However, studies have also revealed a
positive correlation between education levels and access to leave.

A study of California’s recently enacted paid family leave program, which
covers more people than the FMLA and which provides partial wage replacement,
found that the incidence of leave-taking increased more for women with less than a
bachelor’s degree than women with a bachelor’s or advanced degree after the law’s
enactment (Rossin-Slater, Ruhm and Waldfogel 2011). The same study also found that
the incidence of leave-taking increased much more for black women than white and
Hispanic women following the program’s implementation (Rossin-Slater, Ruhm and
Waldfogel 2011). This contradicts historical evidence that black women take shorter
paid and unpaid leaves than women of other races and ethnicities (Joesch 1997;
Hoffertth and Curtin 2006).
Availability of Paid Leave

The availability of paid leave changes the incentive structure that women face by reducing the cost of home time relative to work. Human capital theory thus predicts that all else equal, paid leave would increase the incidence of leave-taking among women. Several studies have found that women with access to paid leave are more likely to take at least some amount of leave following childbirth than women without access to such leave (Houser and Vartanian 2012a; Houser and Vartanian 2012b; Rossin-Slater, Ruhm and Waldfogel 2011; McGovern et al. 2000; Joesch 1997).
DATA AND METHODS

Data

This analysis uses data from the March Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for the years 2007 to 2012. The data were obtained through the Integrated Public Use Microdata Series (IPUMS), which is run by the Minnesota Population Center at the University of Minnesota. Co-sponsored by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics (and administered by the former), the CPS is a monthly survey of households in the U.S. that collects information on the economic and demographic characteristics of respondents (U.S. Department of Commerce 2006).

The CPS uses a multistage stratified sampling strategy that produces a probability sample containing 60,000 occupied households (U.S. Department of Commerce 2006). In the first stage, each of the fifty states and the District of Columbia is divided into “primary sampling units” (PSUs) that contain either “a metropolitan area, a large county, or a group of smaller counties” (U.S. Department of Commerce 2006, 3-1). These are then combined into strata that are designed to be highly uniform “with respect to labor force and other social and economic characteristics that are highly correlated with unemployment” (U.S. Department of Commerce 2006, 3-1). For each stratum, a single PSU is sampled, and the probability of its selection is proportional to the size of its population (U.S. Department of Commerce 2006). In the second stage, a systematic sample of housing units is taken from each PSU, called “ultimate sampling units” (USUs) (U.S. Department of Commerce 2006, 3-2). These are small clusters of
housing units – typically four – that are geographically close to one another (U.S. Department of Commerce 2006). When the Census Bureau determines that USUs are too large, then a third stage of sampling occurs (U.S. Department of Commerce 2006).

The CPS is a rotating panel survey that uses a 4-8-4 sampling scheme: once a household is selected into the sample, it remains for four months, drops out for eight months, and rejoins for a final four months (U.S. Department of Commerce 2006). Each monthly sample contains eight rotation groups that are each interviewed a total of eight times over this period (U.S. Department of Commerce 2006). This means that 75 percent of the sample is the same each month, and 50 percent is the same each year (U.S. Department of Commerce 2006). However, the IPUMS-CPS data do not permit users to identify and track individual households over time; thus, the data used in this analysis are effectively cross-sectional, rather than panel, data (Minnesota Population Center 2012).

Although the CPS surveys households, the unit of analysis is the individual. Eligibility is restricted to members of the civilian, non-institutionalized population (meaning individuals not in the Armed Forces, nor in institutions such as prisons and nursing homes) aged 15 and older (U.S. Department of Commerce 2006). In contrast to the CPS, the ASEC does not exclude all members of the Armed Forces; rather, members of the military “who live in households with at least one civilian adult” may be included in the sample (U.S. Department of Commerce 2006, 11-6). A single person from each household, known as the “reference person,” responds to all questions, unless that person does not have information about the labor force attributes of other
household members (U.S. Department of Commerce 2006, 1-1). In this case, other adult members of the household are contacted (U.S. Department of Commerce 2006). CPS samples downloaded from IPUMS are weighted; thus, in order to obtain representative statistics, this analysis applies person weights (Minnesota Population Center 2012).

Non-response is an issue in the CPS, and rates of non-response tend to be highest in March, the month used in this analysis (U.S. Department of Commerce 2012a). There are two types of non-response in the CPS. The first is item non-response, in which eligible households do not provide responses to certain questions, and the second is unit non-response, in which eligible households provide no responses to any survey questions (U.S. Department of Commerce 2006). To address the former type of non-response, the CPS imputes values through relational imputation, longitudinal edits, or hot deck allocation (U.S. Department of Commerce 2006). To address the latter type of non-response, the CPS applies certain weights to the data (U.S. Department of Commerce 2006). Between March 2010 and March 2011, the non-response rate ranged from approximately seven percent to nine percent (U.S. Department of Commerce 2012a).

The benefits of using CPS data are many. The data set is large, nationally representative, and because it contains independent samples in each state, allows for analysis to be done at the state-level (U.S. Department of Commerce 2006). Furthermore, the CPS asks respondents about their reasons for taking time off work, and includes maternity leave as a possible response. Finally, the CPS is one of the few
publicly available data sets with data available through 2012, which makes analysis of New Jersey’s recently passed FLI program possible.

**Analysis Sample**

The analysis sample is restricted to women who were employed in the previous calendar year because New Jersey’s Family Leave Insurance program requires recipients to have worked prior to receiving benefits. Since the law does not explicitly articulate the number of hours that a woman must have worked in order to qualify (eligibility is instead based on earnings), the sample is simply restricted to people who reported working any usual hours in the last year. This is the same strategy used by Rossin-Slater, Ruhm and Waldfogel (2011) in their analysis of California’s paid leave program. The treatment group includes women with children younger than one year of age who live in New Jersey (N=149). Leave-taking outcomes for the treatment group are compared to five different control groups that have been selected based on the similarity of the labor market behavior of women in these groups to the women in the treatment group. Multiple control groups are used to check the robustness of the results.

**Variables**

Broad Leave is used for the dependent variable, rather than maternity leave, because women may use many different types of leave (in addition to, or instead of, maternity leave), such as vacation or sick leave, to care for a newborn.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEPENDENT VARIABLE</strong></td>
<td></td>
</tr>
<tr>
<td>Broad Leave</td>
<td>Dummy variable coded 1 if respondent was not at work during the previous week for any of the following reasons: vacation/personal days, child care problems, other</td>
</tr>
</tbody>
</table>
family/personal obligations, maternity leave, or other. The variable is coded 0 if respondent was not at work for another reason, or was not absent from work.

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment Group</strong></td>
</tr>
<tr>
<td><strong>Post 2009 Lagged</strong></td>
</tr>
<tr>
<td><strong>Treatment Group * Post 2009 Lagged</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital Status</strong></td>
</tr>
<tr>
<td><strong>Total Family Income</strong></td>
</tr>
<tr>
<td><strong>Total Personal Income</strong></td>
</tr>
<tr>
<td><strong>Wage and Salary Income</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeks Worked Last Year</strong></td>
</tr>
<tr>
<td><strong>Full-time or Part-Time</strong></td>
</tr>
<tr>
<td><strong>Unemployment Rate</strong></td>
</tr>
</tbody>
</table>
Table 1 presents descriptive statistics for the key control variables in the analysis sample. Women in the analysis sample are twice as likely to be married as single (55 percent and 27 percent, respectively), and three times as likely to be married as formerly married (18 percent). On average, women in the sample have $63,400 in total family income (in 1999 dollars) and less than half of that in total personal income ($27,590, in 1999 dollars). Labor force attachment is high among women in the sample; the majority are employed full-time (71 percent) and the average number of weeks worked in the previous year is forty-six.

Slightly less than half of women in the sample are childless (47 percent), while exactly half have one to three children, and just 15 percent have any children under the
age of five. The sample is almost evenly divided among different levels of educational attainment: thirty-six percent of women have a high school diploma or less, 32 percent have completed some college, and another 32 percent have earned a bachelor’s degree or higher. Non-Hispanic white women constitute the largest share of the sample (63 percent), followed by Hispanic (14 percent), black (12 percent), and Asian (5 percent) women.

**Limitations**

There are several weaknesses in the data that require some explanation. First, since the Family Leave Insurance program only went into effect in July of 2009, there are only three years of data available for the time following implementation (2010, 2011 and 2012) and only two were actually used (discussed in greater detail below). While Rossin-Slater, Ruhm and Waldfogel (2011), in their comparable study, had only two more years of data available for their analysis of California’s program, they benefitted from the large population in that state. The current population of New Jersey is approximately 8.8 million, compared to 38 million in California (U.S. Department of Commerce 2012d). Furthermore, only approximately four million women give birth in the United States each year (Hamilton, Martin and Ventura 2012). Together, these factors restrict the size of my sample, and particularly my treatment group, which may make it difficult to detect statistically significant differences across the groups of interest.

Second, the CPS does not include data on the states in which people work, so I use state of residence to restrict the size of the treatment group and relevant control
groups. This is problematic because the FLI is funded through payroll taxes, which means that people qualify for the program on the basis of employment in New Jersey, rather than by their residence status. Thus, the treatment group and some control groups wrongly exclude people who live in a neighboring state and work in New Jersey, and include people who live in New Jersey but work in another state.

Third, health status and attitudes towards motherhood cannot be measured using the CPS data set. While there is a variable in the CPS that measures self-reported health status, this does not capture health status immediately after labor. Thus, it is possible that at the time of the interview, women who had post-natal complications are no longer experiencing those health problems. Furthermore, there is no variable in the CPS measuring the health of infants, which theory suggests would also influence a woman’s decision to take leave.

Finally, CPS data do not include the exact birth date of respondents’ children or information about whether or not women are employed while pregnant. As Rossin-Slater, Ruhm and Waldfogel (2011) point out in their analysis, having this information would allow us to more accurately classify individuals into our treatment group. Instead, some women will be misclassified with regards to the treatment group. For example, women who became pregnant and worked in 2010, did not work in 2011, and were then surveyed in 2012 would be wrongly excluded from the treatment group (Rossin-Slater, Ruhm and Waldfogel 2011). Other women with infants would be mistakenly included in the treatment group if they worked during the reference year, but not until after childbirth (Rossin-Slater, Ruhm and Waldfogel 2011). This could bias the
estimates in this analysis. Nonetheless, even with these limitations, the CPS is clearly the best data set for this analysis.

**Methods**

This analysis uses a difference-in-difference (DD) approach in which the difference in the incidence of leave-taking for the treatment group before and after the implementation of FLI is compared to the difference in the incidence of leave-taking for five separate control groups before and after the policy. Specifically, I use CPS employment and leave-taking behavior for the years 2007 to 2009 for the pre-policy period and the years 2011 and 2012 for the post-policy period. I exclude 2010 because time is needed for awareness of the policy to become widespread.

This technique accounts for factors unrelated to the leave policy in question that would affect the leave-taking behavior of new mothers (Fiva 2007). A simple examination comparing the incidence of leave-taking before and after the implementation of FLI would not account for other trends that could be explaining any change in leave-taking behavior among women (Klerman and Leibowitz 1997). For example, it could be the case that more women began taking leave in New Jersey beginning in 2010 because of changing attitudes toward motherhood. By comparing the outcomes for the treatment group to the outcomes for the control group, the difference-in-difference method controls for any trends such as this. Given that the dependent variable is binary, the analysis uses a logit model.

In difference-in-difference, members of the control group(s) should closely resemble members of the treatment group and they should not be affected by the policy
under consideration (Fiva 2007). Five different control groups are used to test the robustness of the results. The first control group (N=6,398) comprises women whose youngest child is under the age of one and is restricted to women living outside of New Jersey, but in the rest of the United States, with two exceptions. Women in California are excluded because the state also has a paid family leave policy. Women living in New York, Pennsylvania and Delaware are removed from the first control group because these states border New Jersey. Since eligibility for New Jersey’s Family Leave Insurance program is based on place of work rather than place of residence, it is possible that women living in adjacent states work in New Jersey and thus, qualify for FLI.

The second control group contains new mothers (whose youngest child is under the age of one) residing in Connecticut, Maryland and Massachusetts (N=435). These states were selected because they are most similar to New Jersey in terms of median household income and educational attainment (U.S. Department of Commerce 2012b). Thus, new mothers in New Jersey may more closely resemble new mothers in Connecticut, Maryland and Massachusetts than they do new mothers in the entire United States, meaning that the second control group better satisfies the first condition of ideal control groups in difference-in-difference analysis. Furthermore, given that just 149 women in the analysis sample are new mothers in New Jersey, there may be insufficient power to detect differences when comparing changes in their leave-taking behavior to that of new mothers in the broader United States, of which there are 6,398.
The 435 new mothers in Connecticut, Maryland and Massachusetts may provide a much better control group.

Control groups one and two clearly meet the second condition of difference-in-difference analysis because the women in these groups are highly unlikely to qualify for FLI. They also appear to meet the first condition because women in these control groups have the same characteristics of women in the treatment group in that they are all new mothers with infants. In order to address the possibility that women in New Jersey are fundamentally different from women in other states, new mothers in New Jersey are also compared to three different control groups confined to other women residing in New Jersey. These include women whose youngest child is between the ages of five and seventeen (N=1,606); women without any children (N=2,484); and women aged forty-five and older (N=79,930). These are referred to as control groups three, four and five, respectively.

While women in each of these control groups are eligible to take leave under FLI, it is highly unlikely that they would take leave for reasons related to maternity; rather, any leave they take would be related to the care of a sick family member. Since I am specifically interested in the effects of FLI on leave-taking for maternity reasons, using these women as control groups still satisfies the second condition of control groups in difference-in-difference analysis, given that they are not affected by the maternity leave component of FLI. While administrative data show that the policy primarily affects new mothers, it is possible that including women who are eligible for
FLI in the control groups could introduce bias in my analysis, which would understate the effect of the policy.

The labor market behavior of control group three – women with older children – is likely very similar to that of women in the treatment group “in the absence of the treatment” (Rossin-Slater, Ruhm and Waldfogel 2011, 7). While the labor market behavior of women with toddlers may more closely resemble the treatment group, these women were not used as a control group because they may be pregnant or intend to become pregnant and thus, may be affected by the maternity leave component of FLI (Rossin-Slater, Ruhm and Waldfogel 2011). To address the possibility that women with older children may also be pregnant or planning to become pregnant, the treatment group is also compared to women without children and women who are beyond the typical fertility window.
RESULTS

Descriptive Analysis

Table 2 compares the characteristics of members of the treatment group to those in the five control groups. Values for marital status, number of children and age are just as one might expect for each of these groups. Somewhat surprisingly, new mothers in New Jersey are much more likely to work full-time than new mothers in similar states and the U.S., mothers with older children, and childless women. The treatment and control groups differ significantly in terms of educational attainment. The proportion of women that have earned a bachelor’s degree or higher ranges from 33 percent among childless women to 61 percent among new mothers in Connecticut, Maryland and Massachusetts. While most new mothers and women with older children are most likely to have a bachelor’s degree or higher, childless women and women aged forty-five or older are most likely to have a high school degree or less. The racial and ethnic distribution also varies widely across groups. Racial and ethnic diversity is generally greater among women in New Jersey than it is among women in similar states or the rest of the U.S., with the exception of women aged forty-five and older.

Tables 3 and 4 present data on leave-taking rates among women in the analysis sample as a whole, as well as in the treatment and control groups, before and after the implementation of FLI. Just two percent of all women in the U.S. employed in the previous calendar year took some sort of leave (vacation/personal days, to deal with child care problems or other family/personal obligations, maternity leave, or other leave). As expected, new mothers were much more likely to take leave than mothers
with older children, childless women, or women beyond their primary childbearing years. There are small increases in leave-taking after the implementation of FLI for new mothers in New Jersey and new mothers in the rest of the U.S., while there are small decreases in leave-taking for women with older children and childless women in New Jersey.

Much greater variation in leave-taking behavior within groups is observed when leave-taking rates are examined for each year of the survey (Figure 2). Consistent with findings presented in Tables 3 and 4, Figure 2 illustrates that across the entire time period under consideration, new mothers have much higher rates of leave-taking than women with older children, childless women, and older women, and for the most part, they also have greater variation in leave-taking over time. Rates of leave-taking among women in the latter three control groups (women in New Jersey who are not new mothers), as well as new mothers in the United States as a whole, change by one to three percentage points over this period. In comparison, the rate of leave-taking among new mothers in New Jersey ranges from a high of 21 percent to a low of 3 percent, while it ranges from 10 percent to 16 percent for new mothers in Connecticut, Maryland and Massachusetts.

It is interesting to note that leave-taking rates among new mothers in New Jersey drop dramatically (by more than 10 percentage points) between 2007 and 2008, and then again between 2009 and 2010, so that the overall trend during this time is toward a decrease in the rate of leave-taking. The implementation of Family Leave Insurance in July of 2009 does not appear to alter patterns in leave-taking between 2009 and 2010.
While this seems to suggest that the policy did not increase leave-taking among new mothers, policies take time to be fully implemented and their effects are often delayed due to a lack of awareness among relevant members of the public.

A public opinion survey of New Jersey residents, which found that the majority of people in the state are not aware that FLI even exists, supports this notion (Houser and White 2012). Thus, we might not expect to see an increase in leave-taking immediately after the policy took effect. Further support for this idea is found in the dramatic 14 percentage point increase in leave-taking between 2010 and 2011 that can be seen in Figure 2. This provides at least preliminary, descriptive support for an increase in leave-taking following the implementation of FLI. The small decrease in leave-taking between 2011 and 2012 could be due to the fact that the real value of FLI benefits decreased in 2011 (White, Houser and Nisbet 2013).

Regression Analysis

Table 5 presents logit estimates of the effect of New Jersey’s Family Leave Insurance program on leave-taking among new mothers in the state. Each of the six model specifications uses women residing in New Jersey whose youngest child is between the ages of five and seventeen as the control group. A series of logit regressions using each of the four remaining control groups did not yield statistically significant estimates of the effect of FLI on leave-taking among new mothers in New Jersey and thus, the results from these models are not reported here.

The first model in Table 5 is a simple estimate of the effect of FLI on leave-taking, while the second model controls for marital status, family income, employment
status, the state unemployment rate, the number of children a woman has, education, race and ethnicity, and citizenship status. The third and fourth models use alternate measures of income – personal income, and wage and salary income, respectively. The fifth model controls for the number of children under age five that a woman has, rather than her total number of children. Finally, the sixth model includes dummy variables for each year of the survey to control for the possibility that leave-taking was due to some trend in a given year, rather than the leave policy under consideration.

In all models, except Model 5, I find a statistically significant, positive effect of FLI on leave-taking. In Model 2, which contains the preferred set of controls, new mothers in New Jersey are 4.25 times more likely to take leave after the implementation of FLI as they were prior to its implementation. This is consistent with economic theory about the leave-taking behavior of employed women discussed above. The effect is the same or highly similar in the models with different measures of income and the model controlling for the year the survey was administered. In Model 5, the effect is only marginally statistically significant, and its magnitude decreases slightly.

Each of the three different measures of income is positive and statistically significant, however, the effects of each measure of income on leave-taking are inconsequential in practical terms. This is somewhat surprising given that human capital theory predicts that women would be more likely to take leave the higher her other family income and the lower her personal earnings. Estimates of the effects of the unemployment rate and having at least a bachelor’s degree are marginally statistically significant in the two models with alternative measures of income. Contrary to human
capital theory, which posits that women are more likely to take leave when unemployment is high, the unemployment rate has a substantial, negative effect on the likelihood that new mothers take leave. For each additional percentage point increase in the unemployment rate, new mothers are 19 percent less likely to take leave. Women with bachelor’s degrees or advanced degrees are 1.27 times more likely to take leave than women with a high school degree or less. This is not surprising given that a recent analysis of FLI administrative data reveals that adults without a high school degree were less likely than people with higher levels of education to be aware that the program even existed (White, Houser and Nisbet 2013).

Following the lead of Rossin-Slater, Ruhm and Waldfogel (2011), in order to examine the possibility that the increase in leave-taking observed in the regression results are due to unobserved factors that have different effects on the treatment and control group, I estimated the effect of New Jersey’s leave program on the rates of leave-taking among new mothers in other states with temporary disability insurance programs that could not have been affected by New Jersey’s program (Hawaii and Rhode Island). Table 6 presents logit estimates for each of the six model specifications estimated in Table 5, again using women whose youngest child is between the ages of five and seventeen as the control group. As expected, New Jersey’s FLI program has no statistically significant effect on the leave-taking behavior of women in other TDI states.
DISCUSSION AND IMPLICATIONS

The results of this study provide some evidence that New Jersey’s Family Leave Insurance program increased leave-taking among employed new mothers in the state and thus, is effective at its most basic level. This means that FLI’s lack of job protection, partial wage replacement, and delayed payment are not enough to prevent many people from taking advantage of the policy. If the policy does not provide the proper incentives to induce women to take leave, then it will not achieve its ultimate goal – to give new parents time to bond with their infant children. This study thus provides some support for its continuation in New Jersey, and may be helpful in encouraging other states to consider implementing a similar policy.

However, the model used in this study was highly sensitive to the choice of control group, so the results provide only suggestive, rather than conclusive, evidence that FLI increased the rate of leave-taking among new mothers. Leave-taking outcomes for the treatment group were compared to outcomes for five different control groups, whose members were selected to mirror the labor market behavior of women in the treatment group. Only when the change in leave-taking behavior of new mothers in New Jersey before and after the policy took effect was compared to the change in leave-taking rates among mothers whose youngest child is between the ages of five and seventeen in New Jersey did the model yield statistically significant results.

Despite the failure to detect significant effects of FLI using the other control groups, it is important to note that this investigation was based on a sample in which there were only 149 women in the treatment group and just two years of data post-
policy implementation. It is highly probable that were there to have been more women in the treatment group and more years of data, I might have observed effects for the other control groups. There is one issue with this control group that merits mention. Ideally, those in the control group should not have access to the treatment, but these women were eligible for leave under FLI to care for sick family members.

This study also provides evidence that rates of leave-taking are higher among better-educated women. This is consistent with prior studies of leave policies in the United States, though it does not address the specific effects of FLI on women with different levels of educational attainment. While women with a college degree or higher may take leave at higher rates than women with a high school degree or less, it is possible that the policy increased leave-taking among less-educated women and did so more than it did for better-educated women. Future research on FLI should examine the differential effects of the policy on women with different levels of educational attainment, as well as different income levels and marriage statuses.

Finally, the results of this study also provide evidence of a negative relationship between the unemployment rate and the rate of leave-taking among women. This finding is not consistent with human capital theory, which posits that women would be more likely to take leave when the unemployment rate is high because high rates of unemployment depress wage rates, which increases the opportunity costs of being at work and away from home. A survey of California workers revealed that 37 percent of workers in the state who were both aware of its paid family leave program and needed to take a leave did not do so for fear that it might hurt their careers (Appelbaum and
Milkman 2011). As mentioned above, neither California, nor New Jersey, offer any form of job protection in their paid family leave programs. Thus, it is likely that when the unemployment rate is high, workers are less likely to take leave under FLI out of fear that they might lose their job and be unable to find another one.

In addition to issues with the use of women in New Jersey with older children as the control group, there were also other measurement error issues. First, given that eligibility for FLI is based on place of work, rather than place of residency, and I categorized people as being eligible for benefits based solely on residency, it is possible that some women who were not actually eligible for FLI were included in the treatment group, while others who were eligible were excluded. Second, since the CPS does not provide information about women’s employment status while pregnant, or the birth dates of their children, it is possible that some women were again either incorrectly included or excluded from the treatment group. Finally, by far the most important limitation of the study is that the sample size was exceptionally small. As mentioned above, there were just 149 new mothers in New Jersey in the years used in the analysis, which may have prevented more robust results.

In addition to examining differences in leave-taking rates among women from different socioeconomic backgrounds, further research on New Jersey’s Family Leave Insurance program could explore the number of weeks of leave that women actually take under the policy and the effects of the program on outcomes for women and their children. Specifically, it would be interesting to know whether women who take leave under FLI experience a decrease in their earnings and the quality of the work they
receive when they return to work, and how the policy affects their overall career trajectory. It would also be interesting to know whether the children of women who take leave under FLI have better health and developmental outcomes than the children of women who do not take leave. Finally, while this study was limited to women, it would be intriguing to look at the effects of FLI on men in terms of their leave-taking behavior, labor market outcomes, and level of involvement in providing childcare following leave. These results provide promising evidence that state-level paid family leave policies can be effective, suggesting that other states should consider implementing similar policies to assist the women and men in their state with balancing their work and family obligations.
Table 1. Descriptive Statistics for Key Variables in Analysis Sample

| Variables | Analysis Samplea  
|-----------|------------------
|           | (N=250,997)      | Mean  | SD    |
| RESOURCES |                   |       |       |
| Married   | 0.55             | 0.50  |
| Formerly Married | 0.18 | 0.39  |
| Single    | 0.27             | 0.44  |
| Total Family Income (in thousands) (N=250,908) | 63.40 | 61.00 |
| Total Personal Income (in thousands) (N=250,566) | 27.59 | 30.53 |
| Wage and Salary Income (in thousands) | 23.99 | 28.44 |
| EMPLOYMENT|                   |       |       |
| Weeks Worked Last Year | 45.63 | 12.87 |
| Full-Time | 0.71             | 0.45  |
| NUMBER OF CHILDREN |                   |       |       |
| Number of Children | 0.98 | 1.14  |
| Number of Children Under Age Five | 0.18 | 0.48  |
| DEMOGRAPHIC CHARACTERISTICS |                   |       |       |
| High School Degree or Less | 0.36 | 0.48  |
| Some College | 0.32 | 0.47  |
| Bachelor's Degree or Higher | 0.32 | 0.47  |
| Age | 40.88             | 13.74 |
| Non-Hispanic White | 0.66 | 0.47  |
| Black | 0.12 | 0.32  |
| Hispanic | 0.14 | 0.35  |
| Asian | 0.05             | 0.22  |
| Other | 0.04             | 0.19  |
| Citizen | 0.93            | 0.26  |

Notes: aThe analysis sample is restricted to women who were employed in the previous calendar year.
Table 2. Descriptive Statistics for Key Variables in Treatment and Control Groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Treatment* (N=149)</th>
<th>Control 1b (N=6,398)(^c)</th>
<th>Control 2c (N=435)(^b)</th>
<th>Control 3d (N=1,606)</th>
<th>Control 4e (N=2,484)(^d)</th>
<th>Control 5f (N=79,930)(^j)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>RESOURCES</td>
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<tr>
<td>Married</td>
<td>0.85</td>
<td>0.36</td>
<td>0.77</td>
<td>0.42</td>
<td>0.82</td>
<td>0.39</td>
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<td>Formerly Married</td>
<td>0.05</td>
<td>0.23</td>
<td>0.04</td>
<td>0.21</td>
<td>0.03</td>
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<td>Single</td>
<td>0.10</td>
<td>0.30</td>
<td>0.19</td>
<td>0.39</td>
<td>0.16</td>
<td>0.36</td>
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<tr>
<td>Total Family Income (in thousands)</td>
<td>88.50</td>
<td>64.5</td>
<td>58.23</td>
<td>55.5</td>
<td>85.78</td>
<td>69.3</td>
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<tr>
<td>Total Personal Income (in thousands)</td>
<td>32.59</td>
<td>24.5</td>
<td>23.89</td>
<td>25.9</td>
<td>36.95</td>
<td>37.9</td>
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<tr>
<td>Wage and Salary Income (in thousands)</td>
<td>30.11</td>
<td>23.7</td>
<td>21.86</td>
<td>24.8</td>
<td>34.19</td>
<td>36.8</td>
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<td>EMPLOYMENT</td>
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<tr>
<td>Weeks Worked Last Year</td>
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<td>14.8</td>
<td>42.95</td>
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<tr>
<td>Full-Time</td>
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<td>0.69</td>
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<td>NUMBER OF CHILDREN</td>
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<td></td>
<td></td>
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<tr>
<td>Number of Children</td>
<td>1.79</td>
<td>0.87</td>
<td>1.93</td>
<td>1.03</td>
<td>1.76</td>
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<tr>
<td>Number of Children Under Age Five</td>
<td>1.40</td>
<td>0.58</td>
<td>1.46</td>
<td>0.61</td>
<td>1.41</td>
<td>0.52</td>
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<tr>
<td>DEMOGRAPHIC CHARACTERISTICS</td>
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<td></td>
<td></td>
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<tr>
<td>High School Degree or Less</td>
<td>0.26</td>
<td>0.44</td>
<td>0.29</td>
<td>0.46</td>
<td>0.17</td>
<td>0.38</td>
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<td>Some College</td>
<td>0.21</td>
<td>0.41</td>
<td>0.31</td>
<td>0.46</td>
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<tr>
<td>Bachelor's Degree or Higher</td>
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<td>0.50</td>
<td>0.40</td>
<td>0.49</td>
<td>0.61</td>
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</tr>
<tr>
<td>Age</td>
<td>31.82</td>
<td>4.94</td>
<td>29.60</td>
<td>6.05</td>
<td>31.68</td>
<td>5.68</td>
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<td>Non-Hispanic White</td>
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<td>0.49</td>
<td>0.71</td>
<td>0.46</td>
<td>0.66</td>
<td>0.48</td>
</tr>
<tr>
<td>Black</td>
<td>0.06</td>
<td>0.24</td>
<td>0.10</td>
<td>0.30</td>
<td>0.16</td>
<td>0.36</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.27</td>
<td>0.44</td>
<td>0.13</td>
<td>0.33</td>
<td>0.13</td>
<td>0.33</td>
</tr>
<tr>
<td>Asian</td>
<td>0.05</td>
<td>0.23</td>
<td>0.04</td>
<td>0.19</td>
<td>0.07</td>
<td>0.25</td>
</tr>
<tr>
<td>Other</td>
<td>0.03</td>
<td>0.16</td>
<td>0.04</td>
<td>0.19</td>
<td>0.02</td>
<td>0.13</td>
</tr>
<tr>
<td>Citizen</td>
<td>0.85</td>
<td>0.36</td>
<td>0.92</td>
<td>0.26</td>
<td>0.89</td>
<td>0.31</td>
</tr>
</tbody>
</table>

Notes: *The treatment group contains women residing in New Jersey whose youngest child is under age one. 
\(^c\)Control Group 1 contains women residing in the U.S. but outside New Jersey, California, New York, Pennsylvania and Delaware, and whose youngest child is under age one. 
\(^b\)Control Group 2 contains women residing in Connecticut, Maryland or Massachusetts whose youngest child is under age one. 
\(^d\)Control Group 3 contains women residing in New Jersey whose youngest child is between the ages of five and seventeen. 
\(^e\)Control Group 4 contains women residing in New Jersey who are childless. 
\(^f\)Control Group 5 contains women residing in New Jersey who are aged forty-five and older. 
\(^g\)For Control Group 1, N=6,385 for the Total Personal Income variable. 
\(^h\)For Control Group 2, N=433 for the Total Personal Income variable. 
\(^i\)For Control Group 4, N=2,482 for the Total Family Income and Total Personal Income variables. 
\(^j\)For Control Group 5, N=79,930 for the Total Family Income variable and N=79,754 for the Total Personal Income variable. 

Table 3. Descriptive Statistics for Dependent Variable in Analysis Sample, and Treatment and Control Groups

<table>
<thead>
<tr>
<th></th>
<th>Sample</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis Sample</td>
<td>250,997</td>
<td>0.02</td>
<td>0.15</td>
</tr>
<tr>
<td>Treatment</td>
<td>149</td>
<td>0.15</td>
<td>0.36</td>
</tr>
<tr>
<td>Control 1</td>
<td>6,398</td>
<td>0.11</td>
<td>0.32</td>
</tr>
<tr>
<td>Control 2</td>
<td>435</td>
<td>0.13</td>
<td>0.33</td>
</tr>
<tr>
<td>Control 3</td>
<td>1,606</td>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>Control 4</td>
<td>2,484</td>
<td>0.02</td>
<td>0.13</td>
</tr>
<tr>
<td>Control 5</td>
<td>79,930</td>
<td>0.02</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Notes: 
- The analysis sample is restricted to women who were employed in the previous calendar year.
- The treatment group contains women residing in New Jersey whose youngest child is under age one.
- Control Group 1 contains women residing in the U.S. but outside New Jersey, California, New York, Pennsylvania and Delaware, and whose youngest child is under age one.
- Control Group 2 contains women residing in Connecticut, Maryland or Massachusetts whose youngest child is under age one.
- Control Group 3 contains women residing in New Jersey whose youngest child is between the ages of five and seventeen.
- Control Group 4 contains women residing in New Jersey who are childless.
- Control Group 5 contains women residing in New Jersey who are aged forty-five and older.
Table 4. Descriptive Statistics for Dependent Variable in Analysis Sample and Treatment and Control Groups, Pre- and Post-Policy

<table>
<thead>
<tr>
<th></th>
<th>Pre-Policy</th>
<th></th>
<th>Post-Policy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample</td>
<td>Standard</td>
<td>Sample</td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>Deviation</td>
<td>Size</td>
<td>Deviation</td>
</tr>
<tr>
<td>Analysis Sample(^a)</td>
<td>154,253</td>
<td>0.16</td>
<td>96,744</td>
<td>0.15</td>
</tr>
<tr>
<td>Treatment(^b)</td>
<td>105</td>
<td>0.15</td>
<td>44</td>
<td>0.16</td>
</tr>
<tr>
<td>Control 1(^c)</td>
<td>4,160</td>
<td>0.11</td>
<td>2,238</td>
<td>0.12</td>
</tr>
<tr>
<td>Control 2(^d)</td>
<td>277</td>
<td>0.13</td>
<td>158</td>
<td>0.13</td>
</tr>
<tr>
<td>Control 3(^e)</td>
<td>1,018</td>
<td>0.02</td>
<td>588</td>
<td>0.01</td>
</tr>
<tr>
<td>Control 4(^f)</td>
<td>1,519</td>
<td>0.02</td>
<td>965</td>
<td>0.01</td>
</tr>
<tr>
<td>Control 5(^g)</td>
<td>48,927</td>
<td>0.15</td>
<td>31,003</td>
<td>0.15</td>
</tr>
</tbody>
</table>

Notes: 
\(^a\) The analysis sample is restricted to women who were employed in the previous calendar year. 
\(^b\) The treatment group contains women residing in New Jersey whose youngest child is under age one. 
\(^c\) Control Group 1 contains women residing in the U.S. but outside New Jersey, California, New York, Pennsylvania and Delaware, and whose youngest child is under age one. 
\(^d\) Control Group 2 contains women residing in Connecticut, Maryland or Massachusetts whose youngest child is under age one. 
\(^e\) Control Group 3 contains women residing in New Jersey whose youngest child is between the ages of five and seventeen. 
\(^f\) Control Group 4 contains women residing in New Jersey who are childless. 
\(^g\) Control Group 5 contains women residing in New Jersey who are aged forty-five and older. 
Table 5. Effects of NJ Family Leave Insurance Program on Incidence of Leave-Taking Among New Mothers in New Jersey Using Control Group 3

<table>
<thead>
<tr>
<th>Model 1: Baseline</th>
<th>Model 2: Adds Controls</th>
<th>Model 3: Changes Income Variable</th>
<th>Model 4: Changes Income Variable</th>
<th>Model 5: Changes Number of Children Income Variable</th>
<th>Model 6: Includes Year Dummy Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient</td>
<td>Odds Ratio</td>
<td>Coefficient</td>
<td>Odds Ratio</td>
<td>Coefficient</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Treatment Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Treatment Group *</td>
<td>Post 2009 Lagged</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RESOURCES (Married)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formerly Married</td>
<td>-0.257</td>
<td>0.77</td>
<td>-0.493</td>
<td>0.61</td>
<td>-0.478</td>
</tr>
<tr>
<td>Single</td>
<td>-0.099</td>
<td>0.91</td>
<td>-0.288</td>
<td>0.75</td>
<td>-0.292</td>
</tr>
<tr>
<td>Total Family Income</td>
<td>-0.004***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-0.004***</td>
</tr>
<tr>
<td>Total Personal Income</td>
<td>-</td>
<td>-</td>
<td>0.005*</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>Wage and Salary Income</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.005**</td>
</tr>
<tr>
<td>EMPLOYMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weeks Worked Last Year</td>
<td>0.0002</td>
<td>1.00</td>
<td>-0.001</td>
<td>1.00</td>
<td>-0.002</td>
</tr>
<tr>
<td>Full-Time</td>
<td>-0.153</td>
<td>0.86</td>
<td>-0.261</td>
<td>0.77</td>
<td>-0.269</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>-0.188</td>
<td>0.83</td>
<td>-0.205†</td>
<td>0.81</td>
<td>-0.205†</td>
</tr>
<tr>
<td>NUMBER OF CHILDREN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Children</td>
<td>-0.086</td>
<td>0.92</td>
<td>-0.042</td>
<td>0.96</td>
<td>-0.041</td>
</tr>
<tr>
<td>Number of Children Under Age Five</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DEMOGRAPHIC CHARACTERISTICS (High School Degree or Less)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Some College</td>
<td>-0.402</td>
<td>0.67</td>
<td>-0.332</td>
<td>0.72</td>
<td>-0.330</td>
</tr>
<tr>
<td>Bachelor's Degree or Higher</td>
<td>0.683</td>
<td>1.98</td>
<td>0.819†</td>
<td>2.27</td>
<td>0.818†</td>
</tr>
<tr>
<td>Age</td>
<td>-0.005</td>
<td>1.00</td>
<td>-0.002</td>
<td>1.00</td>
<td>-0.001</td>
</tr>
<tr>
<td>(Non-Hispanic White)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>-0.630</td>
<td>1.88</td>
<td>0.511</td>
<td>1.67</td>
<td>0.503</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-0.136</td>
<td>0.87</td>
<td>-0.216</td>
<td>0.81</td>
<td>-0.216</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.137</td>
<td>0.87</td>
<td>-0.194</td>
<td>0.82</td>
<td>-0.199</td>
</tr>
<tr>
<td>Other</td>
<td>-0.319</td>
<td>0.73</td>
<td>-0.418</td>
<td>0.66</td>
<td>-0.435</td>
</tr>
<tr>
<td>US Citizen</td>
<td>0.171</td>
<td>1.19</td>
<td>0.158</td>
<td>1.17</td>
<td>0.168</td>
</tr>
<tr>
<td>Log-Likelihood</td>
<td>-324550.03</td>
<td>-301529.06</td>
<td>-305471.43</td>
<td>-305089.24</td>
<td>-300670.51</td>
</tr>
<tr>
<td>Constant</td>
<td>0.02</td>
<td>0.04</td>
<td>0.05</td>
<td>0.05</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Notes: aReference category is in parentheses.
bModel 3 uses total personal income, rather than total family income.
cModel 4 uses wage and salary income, rather than total family income.
dModel 5 uses number of children under age five, rather than total number of children.
eModel 6 contains dummy variables for each year of the survey.
Significance Levels: ***p≤.001 **p≤.01 *p≤.05 †p≤.10
Table 6. Effects of NJ Family Leave Insurance Program on Incidence of Leave-Taking Among New Mothers in Hawaii and Rhode Island Using Control Group 3

<table>
<thead>
<tr>
<th></th>
<th>Model 1: Baseline</th>
<th>Model 2: Adds Controls</th>
<th>Model 3: Changes Income Variable&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Model 4: Changes Income Variable&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Model 5: Changes Number of Children Variable&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Model 6: Includes Year Dummy Variables&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Odds Ratio</td>
<td>Coefficient</td>
<td>Odds Ratio</td>
<td>Coefficient</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Treatment Group</td>
<td>1.348***</td>
<td>3.85</td>
<td>1.549***</td>
<td>4.71</td>
<td>1.598***</td>
<td>4.94</td>
</tr>
<tr>
<td>Treatment Group * Post 2009 Lagged</td>
<td>0.324 1.38</td>
<td>0.220 1.25</td>
<td>0.183 1.201</td>
<td>0.215 1.24</td>
<td>0.172 1.19</td>
<td>0.232 1.26</td>
</tr>
</tbody>
</table>

Notes: <sup>a</sup>Model 3 uses total personal income, rather than total family income.  
<sup>b</sup>Model 4 uses wage and salary income, rather than total family income.  
<sup>c</sup>Model 5 uses number of children under age five, rather than total number of children.  
<sup>d</sup>Model 6 contains dummy variables for each year of the survey.  
Figure 1. Conceptual Model of the Maternal Decision-Making Process Regarding Leave-Taking Post-Childbirth

- Given Birth to Infant (treatment)
- Resources – Financial & Nonfinancial
- Health Status
- Attitudes Towards Motherhood
- Employment
- Number of Children
- Demographic Characteristics
- Availability of Paid Leave (FLI)
- Decision to Take Leave
Figure 2. Leave-Taking Trends Over Time by Treatment\textsuperscript{a} and Control Group\textsuperscript{b}

Notes: \textsuperscript{a}The treatment group contains women residing in New Jersey whose youngest child is under age one. 

\textsuperscript{b}Control Group 1 contains women residing in the U.S. but outside New Jersey, California, New York, Pennsylvania and Delaware, and whose youngest child is under age one. Control Group 2 contains women residing in Connecticut, Maryland or Massachusetts whose youngest child is under age one. Control Group 3 contains women residing in New Jersey whose youngest child is between the ages of five and seventeen. Control Group 4 contains women residing in New Jersey who are childless. Control Group 5 contains women residing in New Jersey who are aged forty-five and older. 

REFERENCES


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