Paid Family Leave and Fertility: The Case of California

Pamela Meyerhofer
Cornell University

Preliminary Results- Please do not circulate or cite without permission

Introduction:

Paid family leave has become a prominent topic of US policy discussions. In 2004, California became the first state in the United States to implement a paid family leave policy. The current body of research on California's Paid Family Leave policy (CA-PFL), as well as most of the research on maternity and parental leave more generally, focuses on leave take-up and employment outcomes. Paid family leave less than one year in length increases labor market attachment through increased job continuity, female employment, and hours without decreasing wages (Rossin-Slater, 2017; Olivetti and Petrongolo, 2017; and Baum and Ruhm, 2016). Studies on CA-PFL specifically have found large increases in leave taking with little impact on employers. It is too soon to definitively know the long run effects on employment and earnings, but there are short term increases in female employment one year after childbirth (Bartel et. al, 2014; Baum and Ruhm, 2016). By lowering the financial and career cost of childbearing, paid family leave may alter women's fertility intentions and decisions in a theoretically ambiguous direction. Financial support and easier return to the labor market may increase fertility while increased attachment to the labor force may decrease fertility. Lichtman-Sadot (2014) shows women changed the timing of births to take advantage of this policy, suggesting the policy is salient to fertility decisions. This paper is the first to examine how the introduction of a paid family leave policy in the United States impacts fertility decisions and outcomes. Using multiple data sources, I will estimate the effect of California's paid family leave policy on births, the total fertility rate, and age at first birth.

Policy Background

The International Labor Organization (ILO) has set a minimum standard of maternity leave that is at least 14 weeks long, preferably job-protected, that is paid at two-thirds of the woman's previous salary (ILO, 2014). Currently, the only federal parental leave in the US is the Family Medical Leave Act (FMLA) of 1993. Due to eligibility restrictions, however, estimates suggest that only about half of workers are covered under the FMLA (Ruhm, 1997).[1] The Pregnancy Discrimination Act of 1978 required state Temporary Disability Insurance (TDI) programs to cover pregnancy. Five states have TDI (California, Hawaii, New Jersey, New York, and Rhode Island) that grants new mothers 5 to 6 weeks of leave paid between half and two-thirds of their previous wages, depending on the state (Rossin-Slater et. al, 2013; Rossin-Slater, 2017). In California specifically, mothers receive 6 weeks of leave, extended to 8 for a cesarean delivery, paid at 55 percent. Consequently, California women were better off than the average American woman even prior to the implementation of PFL.

Since the United States has no national *paid* maternity or parental leave, several individual states have implemented paid parental leave programs with New Jersey, Rhode Island, New York, and Washington following California's lead. Paid family leave in California is an extension of the TDI program. As of July 1, 2004, all California parents, mothers *and* fathers, are eligible for 6 weeks of paid leave at 55 percent of previous wages after the birth of a child or to care for an ill family member. However, the leave is not job-protected, meaning that the employee is not guaranteed to return to their position or a similar position unless they also

[1] Under the FMLA, eligible employees can take up to 12 weeks of job-protected *unpaid* leave with the guarantee of returning to their previous position or another similar position. The law applies to private employers with at least 50 people within 75 miles of the worksite during at least 20 weeks of the current or previous year, and most government employers are covered regardless of these requirements. The employee must also have worked for the covered employer for at least 12 months and worked at least 1,250 hours during the last 12 months.

qualify under the FMLA or an employer-sponsored policy. The leave may be taken by one or both parents simultaneously or separately but must be taken within 12 months of the child's birth. This means that fathers are eligible for up to 6 total weeks of leave and mothers are eligible for up to 12 to 14 weeks of leave, depending on delivery, all of which is paid at 55 percent wage replacement. It is important to note that this policy increases paid leave from 6 weeks to 12 weeks for California women and from zero weeks to 6 weeks for California men. Estimates of the policy's impact may be a lower bound for what could be expected from implementing a similar program at a national level where there is no current paid leave. The states that have since implemented PFL policies (New Jersey, Rhode Island, and New York), also have TDI programs which their PFL policies extended. Therefore, none of the states with PFL policies serve as a perfect natural experiment for a national PFL policy in the US, which does not have universal TDI.

Literature on Take-Up and Labor Market Outcomes

The number of paid family leave claims in California rose from 153,000 in fiscal year 2005-2006 to over 260,000 in fiscal year 2016-2017 with the majority of claims for bonding with a new child (Bartel et. al, 2014; Employment Development Department, 2018). Several papers have estimated take-up of California's PFL policy using a variety of data sources (Rossin-Slater et. al, 2013; Baum and Ruhm, 2016; Bartel et. al, 2017; Bana et. al, 2018; Milkman and Appelbaum, 2013). Zigler, Muenchow, and Ruhm (2012) estimate that the number of claims increased from 24 to 30 claims per 100 live births between 2004 and 2009.[2] Among the bonding claims, the proportion made by fathers has risen from only 24 percent in 2008-2009 to about 34 percent in 2016-2017 (Bartel et. al, 2014). Studies using a variety of data sources estimate that

[2] About 12 percent of all claims were for care of a sick family member from 2005 to 2017.

mother's leave duration increased by 3 to 4 weeks and father's increased their leave use by 44 to 63 percent (Bartel et. al, 2014; Rossin-Slater et. al, 2013; Baum and Ruhm, 2016; Bartel et. al, 2017; Bana et. al, 2018). While far from universal, the current literature makes a compelling case that both men and women responded to the new policy, increasing their leave-taking. Based on these results, I assume the policy was relevant for California women and impacted their take-up behavior, which I am unable to estimate from my data sources.

To summarize the literature on how paid family leave policies affect labor market outcomes: leave entitlements less than one year in length improve job continuity and increase women's employment rates several years after the birth, increasing employment without decreasing wages. Leaves longer than one year can negatively influence earnings, employment, and advancement for women. Current state-level programs in the US have minimal impact on productivity, morale, profitability, turnover rates, or the total wage bill (Rossin-Slater, 2017). Baum and Ruhm (2016) find that CA-PFL increases employment overall as well as weeks and hours worked one year after childbirth for California women. They also find noisy, but suggestive evidence of increased hourly wages.[3]

Paid Family Leave and Fertility

As mentioned above, the bulk of the literature on paid family leave focuses on labor market outcomes (employment, wages, or hours) or maternal and child health outcomes. Little work has looked at the effect of paid family leave on fertility outcomes. Because paid family leave provides financial support and a continued tie to the workplace, PFL may prompt women to desire more children than they would otherwise or have children earlier in their careers than

[3] For a more comprehensive summary of the literature and California's PFL policy specifically, see Rossin-Slater (2017), Olivetti and Petrongolo (2017), and Bartel et. al (2014).

they would have if this tie to the labor market were not as readily available. Paid family may also decrease parity by women returning to work after their first birth rather than remaining home and having additional children. With below replacement fertility in the US and ever-changing immigration policy, fertility levels are an increasingly important component of maintaining a balanced population structure. Therefore, it is important to know and consider the unintended fertility consequences of paid family leave policies.

While this is the first paper to explore the relationship between CA-PFL and fertility outcomes, there is a literature looking at the relationship between fertility and paid family leave policies generally. Shim (2014) uses an Ordinary Least Squares model to test the impact of paid family leave policies and other family policies on fertility rates in 19 OECD countries, including the United States. She finds that job-protected, paid leave is associated with a 2.27 percent increase in fertility rates, significant at the 1 percent level. This finding is robust to the inclusion of a host of country characteristics such as GDP per capita, healthcare coverage, and female employment. More importantly, leave that is unpaid or non-job protected, like FMLA which is unpaid, has no impact on fertility. However, Cannonier (2014) finds that women who were eligible for FMLA increased the probability of a first birth by 1.5 percent and the probability of second birth by 0.6 percent per year from the baseline, both statistically significant. This finding only holds for whites, possibly because whites are more likely to be able to afford unpaid leave due to higher paying jobs or husbands with higher paying jobs that make unpaid leave possible. Cannonier also examines age at birth, finding that FMLA eligible women give birth to their first child one year and their second child 8.5 months earlier than non-eligible women. If job-protected leave increased fertility among US women, but only paid, job-protected leave was associated with increased fertility internationally, it is plausible that California's PFL policy would lead to an increase in fertility as well as lowering the age at first birth since California's policy lowers the cost of fertility even further. Additionally, unlike Cannonier's results, California's PFL policy should help lower-income and minority women for whom FMLA was financially infeasible.

Other work looks at how paid family leave expansions much larger than California's affected fertility (Lalive and Zweimuller, 2009; Malkova, 2014; Raute, 2014; and Stichnoth, 2014). A one year expansion in leave duration increased fertility by 15 percent in Austria, where the duration went from 1 to 2 years (Lavlive and Zweimuller, 2009), and by 5 percent in Russia, which was introducing a new maternity leave policy (Malkova, 2014). Other work finds that increasing the value of leave for higher earning mothers by 1000 euro (about $1,140) in Germany increased fertility by 1.2 percent (Raute, 2014; Stichnoth, 2014). These expansions are much larger than California's PFL policy and may not accurately anticipate how it would affect fertility. In 2011, Australia introduced its first federal, paid parental leave program that provides 18 weeks of paid leave to a newborn's primary care giver. This benefit was paid at full-time minimum wage, which is equivalent to 41 percent replacement of the average wage. While the duration of the policy is longer than California's, the replacement rate is lower. Bassford and Fisher (2016) find that this Australian policy has no impact on fertility intentions at the extensive margin. However, conditional on wanting at least one (more) child, the number of intended children increased by 0.28, or 13 percent. These results suggest that such a policy may not be sufficient to incentivize women who have no desire for children to reproduce but may increase parity among those who want children. Assuming that fertility intentions translate into fertility outcomes, these results also highlight the importance of looking at the total fertility rate and higher order birth rates in addition to births to capture changes in parity.

Lichtman-Sadot (2014) examines the impact of California's PFL on births but uses only the latter half of 2004 as the post period with the intention of measuring a change in the timing of pregnancies. She finds a significant shift in births from the first half of 2004 to the second half of 2004. Because the policy was passed in September of 2002 and had an implementation date of July 1, 2004, Californian women had ample notice to plan the timing of their pregnancies to take advantage of the benefits of the new policy. She finds the policy led to a 1.7 percent increase in the probability of a birth occurring during the second half of 2004, a shift of approximately 7,400 births. She further finds the shift is larger for the most disadvantaged groups: low education, unmarried, and minority women. Looking at specific months, the shift in births was roughly from February through June to July through November. Like Cannonier, the shift concentrates in higher parity births, but is larger for disadvantaged women, fitting with his results suggesting that lower SES women couldn't afford unpaid leave. As the first known paper to measure changes in pregnancy timing in response to monetary benefits, Lichtman-Sadot (2014) shows women alter their fertility intentions and outcomes, at least in the short run, in response to the policy. This paper looks at a longer post period and looks at fertility rather than timing, bringing in additional data sources and outcomes, to test how far women are willing to manipulate their fertility decisions in response to a new monetary benefit. Because Lichtman-Sadot uses such a short post period and many of the above cited work has concerns about policy implementation knowledge, the longer post period in this study will tell more about how program use affects fertility in the long run, once information transmission about the benefits and employers' response to the leave passes through social networks. Dahl et. al (2012) finds that fathers are 11 to 15 percentage points more likely to take paternity leave if a coworker or brother took leave.

Consequently, some of the effect may require time to travel through social networks which previous work was unable to capture.

Contribution

The literature summarized above focuses on leave take-up and employment outcomes. Previous work on fertility is concentrated in countries with more generous leave policies than that implemented in California in 2004. CA-PFL may not only increase births but change other fertility intentions and outcomes for California women. The results from Lichtman-Sadot (2014) suggest that women are changing their fertility decisions in response to the new policy. This project first looks at changes in fertility rather than the manipulation of pregnancy timing to capture the monetary benefit of a new policy. Further, this paper focuses on population level fertility changes measured through the birth rate, total fertility rate, and age at first birth rather than the pregnancy timing decisions of individual women.

Data

My outcome variables come from the 2000-2017 American Community Survey (ACS) and the 1995-2015 National Vital Statistics System Birth Certificate (NVSS) data, currently pulled from CDC Wonder but I will be using the restricted access files. The ACS is a nationally representative sample to collect demographic information between census years beginning in 2000. While the ACS includes a household roster, it does not contain a detailed fertility history. Therefore, while I know the age of the children in the household, I do not know if the children are the biological children of the woman interviewed or if it includes all of her children. Since I am restricting my sample to women of reproductive years, I am less concerned about not capturing all of her children. Further, as most of the children in the household are likely her biological children, I do not believe step and foster children will greatly bias my results.

Comparing results from the ACS to those with the NVSS data will validate these assumptions as well. These biases are only applicable when calculating higher order births and mother's age at first birth. The ACS also asks if the respondent has given birth to any children in the past 12 months. The instructions state to mark "Yes" only if the person gave birth to at least one child born alive in the last 12 months even if the child has since died or no longer lives with the mother. It specifically states not to count miscarriages, stillborn children, adopted, foster, or stepchildren. I will use this measure for probability of birth in the last year, birth rates, and total fertility rate in the ACS.

The second reason to supplement the ACS data with NVSS data is that the ACS begins in 2000, fairly close to policy implementation in 2004. As Lichtman-Sadot (2014) showed, the announcement of the policy implementation date of July 2004 in September of 2002 decreased births in 2003. Therefore, 2003 is not a good indictor of pre-policy fertility, leaving a short pre-period. NVSS contains a longer pre-period and all observed births are biological children when calculating birth rates and the total fertility rate. Additional control variables are pulled from the Surveillance, Epidemiology, and End Results population data for demographic and population estimates for each state and year.

Methods

California's unique demographic structure and pre-policy fertility trends are not parallel to the rest of the US, violating the identifying assumptions for a traditional Differences-in-Differences Model. Figure 1 shows the divergent pre-trends in the probability of birth in the last year from the ACS. California and the US are merging from opposite directions from 2000 to 2002. While they merge in 2003, the results of Lichtman-Sadot (2014) suggest 2003 is not a reliable average, pre-policy fertility year for California. Figure 2 also shows diverging trends when using NVSS birthrate data early in the pre-period. Because of this and to be consistent across outcome variables and data sets, I employ the synthetic control method of Abadie et. al (2010). Instead of comparing a treated unit, in this case the state of California, to a specific control unit, such as Nevada or Texas, California is compared to a synthetic control group that is basically a weighted average from a group of donor states, though it is unusual for every donor unit to receive weight.

Abadie et. al (2010) have published a STATA program that creates a weighting matrix from the donor units such that

$$\sum_{J=2}^{J+1} w*_j Z_j = Z_1 \text{ and } \sum_{J=2}^{J+1} w*_j \mu_j = \mu_1 \qquad \text{(Eq. 4 from Abadie et. al (2010))}$$

where J is the unit, w is a vector of weights, Z is a vector of observed covariates and μ is a vector of unknown factor loadings. This analysis uses J + 1 states indexed j = 0,1,2…J where California is 0 and all the rest represent the donor pool. I exclude Alaska, Hawaii, and the District of Columbia from the donor pool but all remaining states are eligible donors. This method creates a synthetic control group that more closely matches California than any individual or group of states.

For all outcomes variables, Z, the predictor variables, includes the percent female, percent ages 15-44, percent Hispanic, and percent Asian. For probability of birth in the last year in the ACS, I also include the lagged outcome from 2002 as a predictor variable. As already mentioned, 2003 is not a representative lag year, but I wanted a year as close to the year prior to implementation as is customary with this method. Because of the short pre-period, I begin with only one lag for this outcome variable. For birthrate using the NVSS Birth data, I use a 2002 and 1995 birthrate variable as predictor variables. Because I have a longer pre-period in the Birth data, I use the first year available in the data, which also follows from Abadie et. al (2010). For my initial analysis, I restrict my sample to years prior to 2008 for two reasons. The first is that New Jersey implemented a policy in 2009 and would have to be eliminated from the donor pool as well we Rhode Island in 2014. The second is to observe the effect prior to the Great Recession as recessions have an ambiguous effect on fertility. Additional analyses will extend the sample window and drop states as necessary.

Preliminary Results and Discussion

Figure 3 shows the synthetic control results for probability of birth last year. The synthetic California slightly improves the match to real California compared to the US overall. Table 1A shows that synthetic California is made up of Nevada, New Mexico, Rhode Island, and Texas. Table 1B indicates that the largest predictor is the lagged 2002 outcome variable. While the synthetic California match percent female, percent reproductive age, and 2002 births last year, Table 1C shows it does not match as well in the race categories. The match, overall is noisy and suggests that the policy had no impact on the probability of giving birth last year.

Figure 2 shows the results for birthrate using NVSS birth data pulled from CDC Wonder. Beginning around 1998, synthetic California runs fairly parallel to real California through policy implementation in 2004. While there is a slight deviation from 2006-2007 where California has lower fertility than synthetic California, the distance resumes its pre-policy difference by 2008. This model pulls on primarily Nevada but also New York and Utah to create synthetic CA (Table 2B) and Table 2C shows again that most of the predictor weight goes to the lagged birthrate and synthetic CA matches real CA closely on all but the race predictors (Table 2C). These results again suggest that the policy had not long-term impact on Californian women's fertility. This is confirmed when extending the sample period to 2017. In order to do this, I drop New Jersey and Rhode Island from the donor pool as well as New York and Washington to eliminate any states from the donor pool who have passed or implemented a paid leave policy. The results in Figure 5 (Tables 3A, 3B, and 3C again show the weights and balance) are quite similar to Figure 4 where synthetic CA runs tightly parallel to CA from 1998 to 2006. However, the deviation is short before resuming a tightly parallel trend after 2007. It is challenging to discern any effect as both synthetic CA and CA have small fertility increases shortly after the policy was implemented but large fertility decreases during the Great Recession and after. At best, California's birthrate increased slightly less than synthetic California suggesting no impact or a negative impact on fertility.

Next Steps

The outcomes detailed thus far tell us about the overall effect of CA-PFL on fertility among births. CA-PFL may not only lower the cost of childbearing, but it may also change employment incentives. Since CA-PFL has been shown to increase labor market attachment (Baum and Ruhm, 2016), women who prior to the policy would have waited until later in their careers to have children may take advantage of the leave to have children sooner. Beyond career motivations, those saving up to afford children may be able to have them sooner because of PFL. Both would cause the age at first birth to decrease. Other work has also shown that mother's age at birth is an important avenue for response among women responding to the FMLA (Cannonier, 2014). As mentioned above, ACS is a noisy measure of age at first birth. NVSS data contains information on both the age of the mother at the time of birth and birth parity. From this, I can measure the average age of mothers among first births. Though not the same as average age at first birth, it does measure if women are having their first birth at a younger age, on average, after CA-PFL compared to women in the rest of the US. This data also allows me to identify higher order births and calculate birth rates for different parities accurately. Previous research has found the largest change on this intensive margin rather than the extensive margin of a first child, so it is an important measure to observe for California's policy.

The next steps for this project include additional outcomes variables discussed but not yet analyzed: total fertility rate, higher parity birth rates, age of mother among first births calculated both in the ACS and NVSS Birth data. I also plan to add additional predictor variables including unemployment rate, education levels, and state GDP. I would also like to use LASSO methods to select the best predictor variables to see if different predictors would create a better matched synthetic California. I am also waiting on my restricted access NVSS Birth data to test in individual level analysis using a Differences-in-Differences model is valid in supplement to the synthetic control method used here.

References

Alberto Abadie, Alexis Diamond & Jens Hainmueller (2010) Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program, Journal of the American Statistical Association, 105:490, 493-505, DOI: 10.1198/jasa.2009.ap08746

Anthony, Deborah J. "The Hidden Harms of the Family and Medical Leave Act: Gender-Neutral Versus Gender-Equal." American Journal of Gender, Social Policy & the Law. 16, no. 4 (2008): 459-501.

Bana, Sarah, et al. "The Impacts of Paid Family Leave Benefits: Regression Kink Evidence from California Administrative Data." *NBER Working Paper 24439*, Mar. 2018, www.nber.org/papers/w24438.

Bana, Sarah, et al. "Trends and Disparities in Leave Use under California's Paid Family Leave Program: New Evidence from Administrative Data." *AEA Papers and Proceedings*, vol. 108, 2018, pp. 388–391., doi:10.1257/pandp.20181113.

Bartel, Ann, et al. "California's Paid Family Leave Law: Lessons from the First Decade." *U.S. Department of Labor.* June 23, 2014.

Bartel, Ann, et. al. "Paid Family Leave, Fathers' Leave-Taking, and Leave-Sharing in Dual-Earner Households." *Journal of Policy Analysis and Management*, vol. 37, no.1, 2018, pp. 10.31.

Bassford, Micaela, and Hayley Fisher. "Lifecourse Centre - Lifecourse Centre." *Life Course Centre* , 2016, www.lifecoursecentre.org.au/working-papers/bonus-babies-the-impact-of-paid-parental-leave-on-fertility-intentions.

Baum, Charles L., and Christoper J. Ruhm. "The Effects of Paid Family Leave in California on Labor Market Outcomes." *Journal of Policy Analysis and Management*, vol.35, no. 2, 2016, pp. 333-356.

Cannonier, Colin. "Does the Family and Medical Leave Act (FMLA) Increase Fertility Behavior?" *Journal of Labor Research*, v35, 2014, pp. 105-132.

Dahl, Gordon B.; Løken, Katrine V.; Mogstad, Magne (2012) : Peer effects in program participation, Discussion Paper series, Forschungsinstitut zur Zukunft der Arbeit, No. 6681, Institute for the Study of Labor (IZA), Bonn

Das, Tirthatanmoy; Polachek, Solomon (2014) : Unanticipated Effects of California's Paid Family Leave Program, IZA Discussion Paper, No. 8023, Institute for the Study of Labor (IZA), Bonn

Finer, Lawrence B., and Kathryn Kost. "Unintended Pregnancy Rates at the State Level." *Perspectives on Sexual and Reproductive Health*, vol. 43, issue. 2, 2011, pp 78-87.

Han, Wen-Jui, et al. "Parental Leave Policies and Parents' Employment and Leave-Taking." *Journal of Policy Analysis and Management*, vol. 28, no. 1, 2009, pp. 29-54.

Kost K, *Unintended Pregnancy Rates at the State Level: Estimates for 2010 and Trends Since 2002*, New York: Guttmacher Institute, 2015, <http://www.guttmacher.org/pubs/StateUP10.pdf>.

Gillian Lester, Defense of Paid Family Leave, A, 28 Harv. J.L. & Gender 1 (2005).

Lichtman-Sadot, Shirlee. "The Value of Postponing Pregnancy: California's Paid Family Leave and the Timing of Pregnancies." BE J Econ. Anal. Policy, vol. 14, no. 4, 2016, pp. 1467-1499.

"Maternity and paternity at work: Law and practice across the world." *International Labor Organization*, 2014.

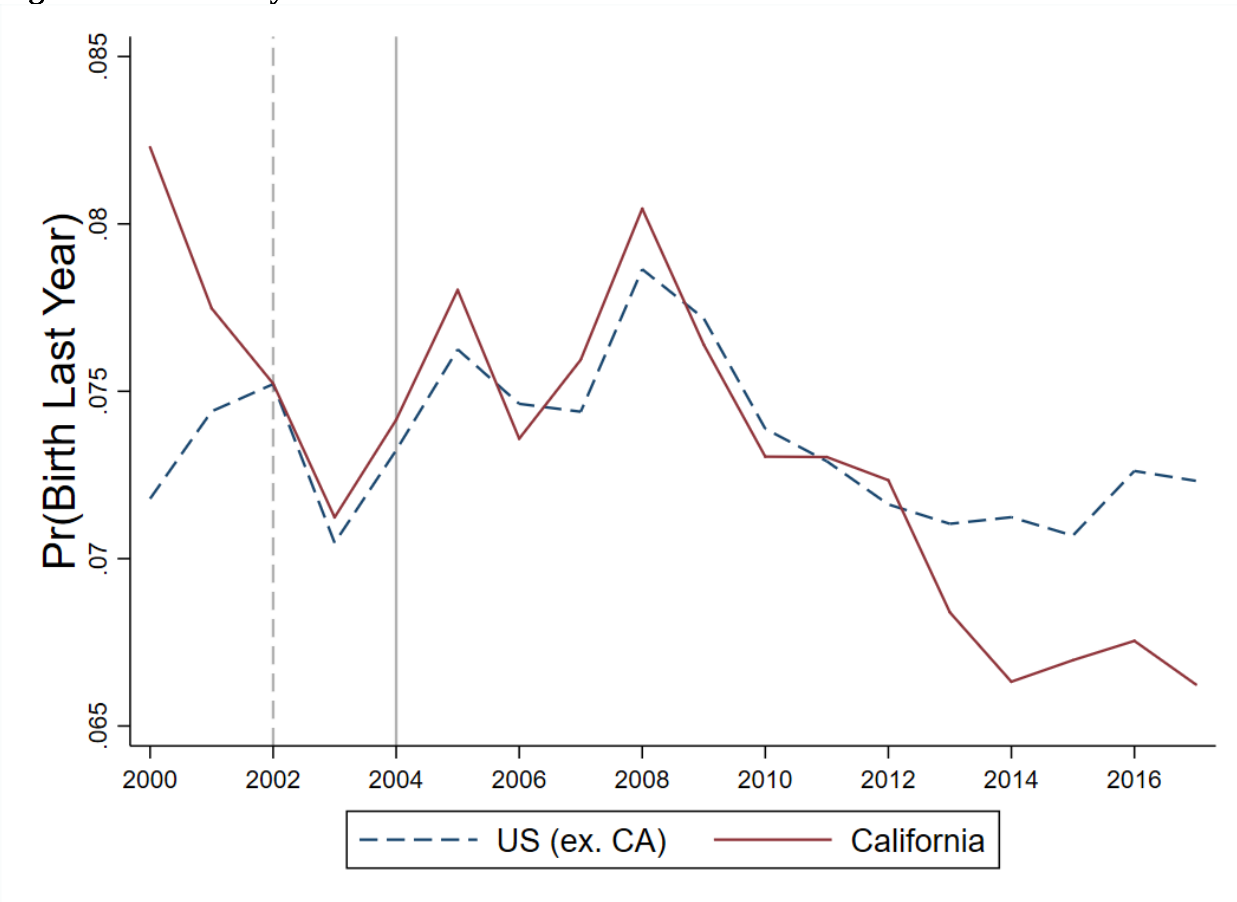
Olivetti, Claudia and Barbara Petrongolo. "The Economic Consequences of Family Policies: Lessons from a Century of Legislation in High-Income Countries." Journal of Economic Perspectives, vol. 31, no. 1, 2017, pp. 205-230.

Rossin-Slater, Maya (2017) : Maternity and Family Leave Policy, IZA Discussion Papers, No. 10500, Institute for the Study of Labor (IZA), Bonn

Rossin-Slater, Maya et. al. "The Effect of California's Paid Family Leave Program on Mothers' Leave-Taking and Subsequent Labor Market Outcomes." Journal of Policy Analysis and Management, vol. 32, no. 2, 2013, pp. 224-245.

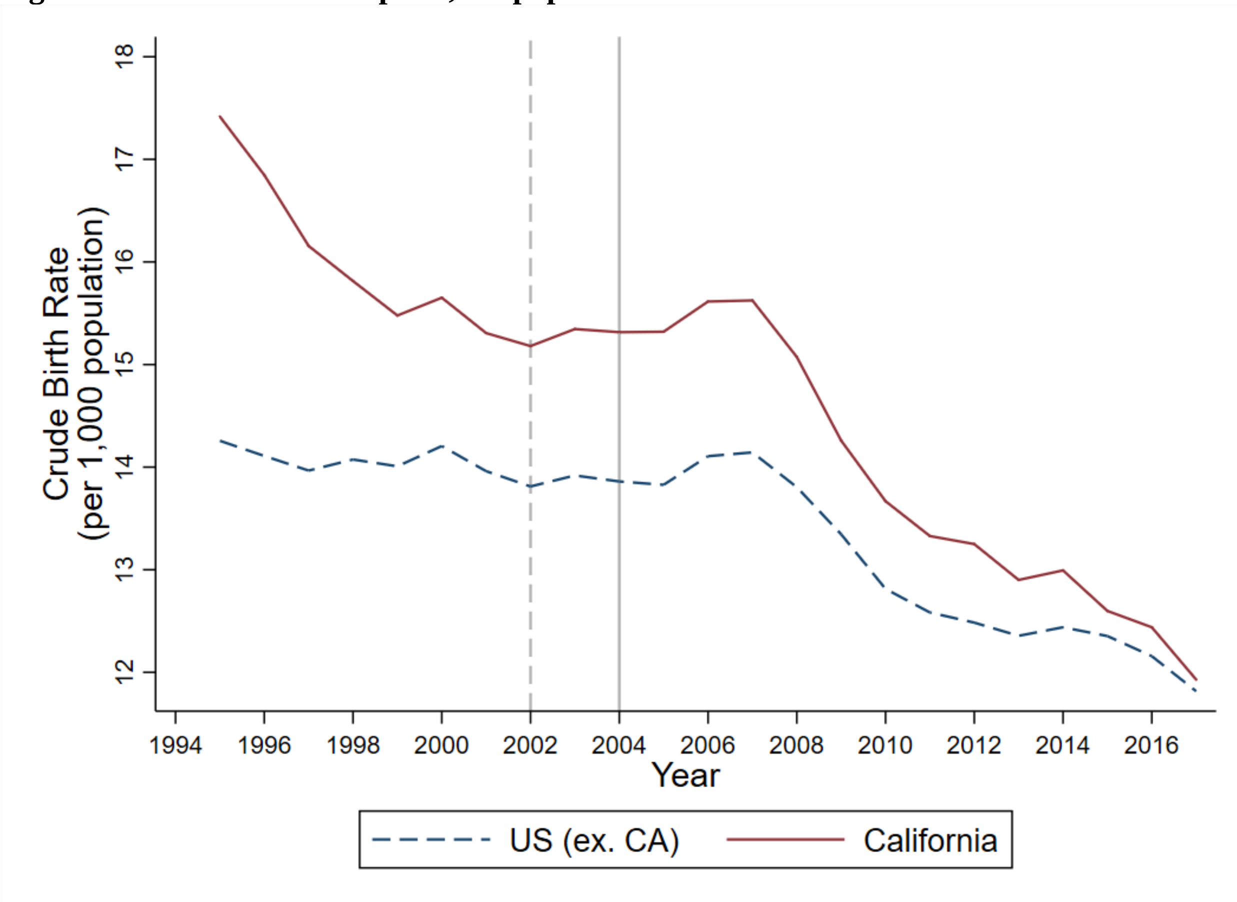
Ruhm, Christopher J. "Policy Watch: The Family and Medical Leave Act." Journal of Economic Perspectives, vol. 11, no. 3, 1997, pp. 175-186.

Figure 1. Probability of Birth Last Year California vs. US 2000-2015.



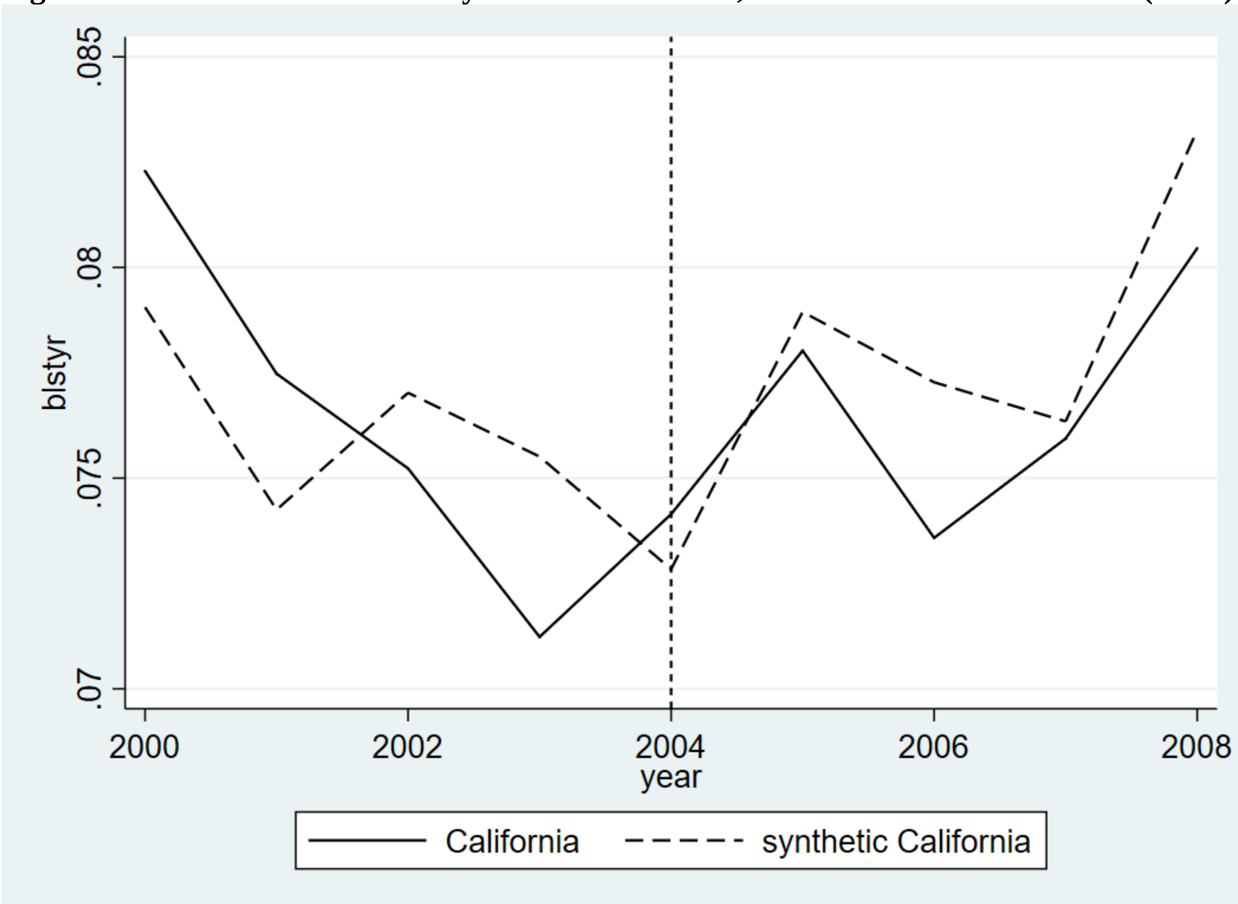
Note: Data from 2000-2016 American Community Survey. CA Paid Family Leave was announced in 2002, dashed vertical line, and implemented in mid-2004, solid vertical line.

Figure 2. Crude Birth Rate per 1,000 population California vs. US 1995-2015.



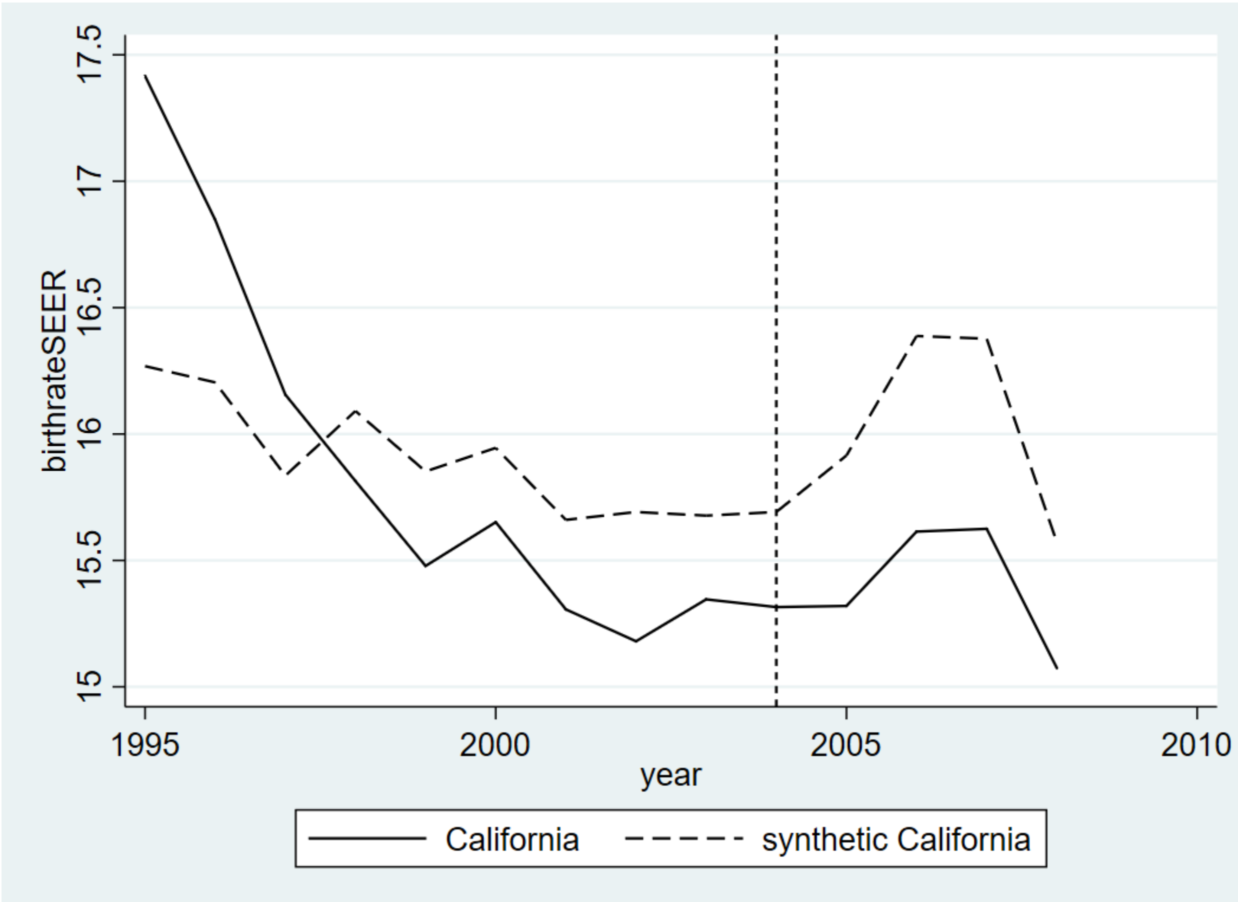
Note: Data from 1995-2017 NVSS Birth Data pulled from CDC Wonder. CA Paid Family Leave was announced in 2002, dashed vertical line, and implemented in mid-2004, solid vertical line.

Figure 3. Trends in the Probability of Birth Last Year, California vs. US 2000-2008 (SCM).



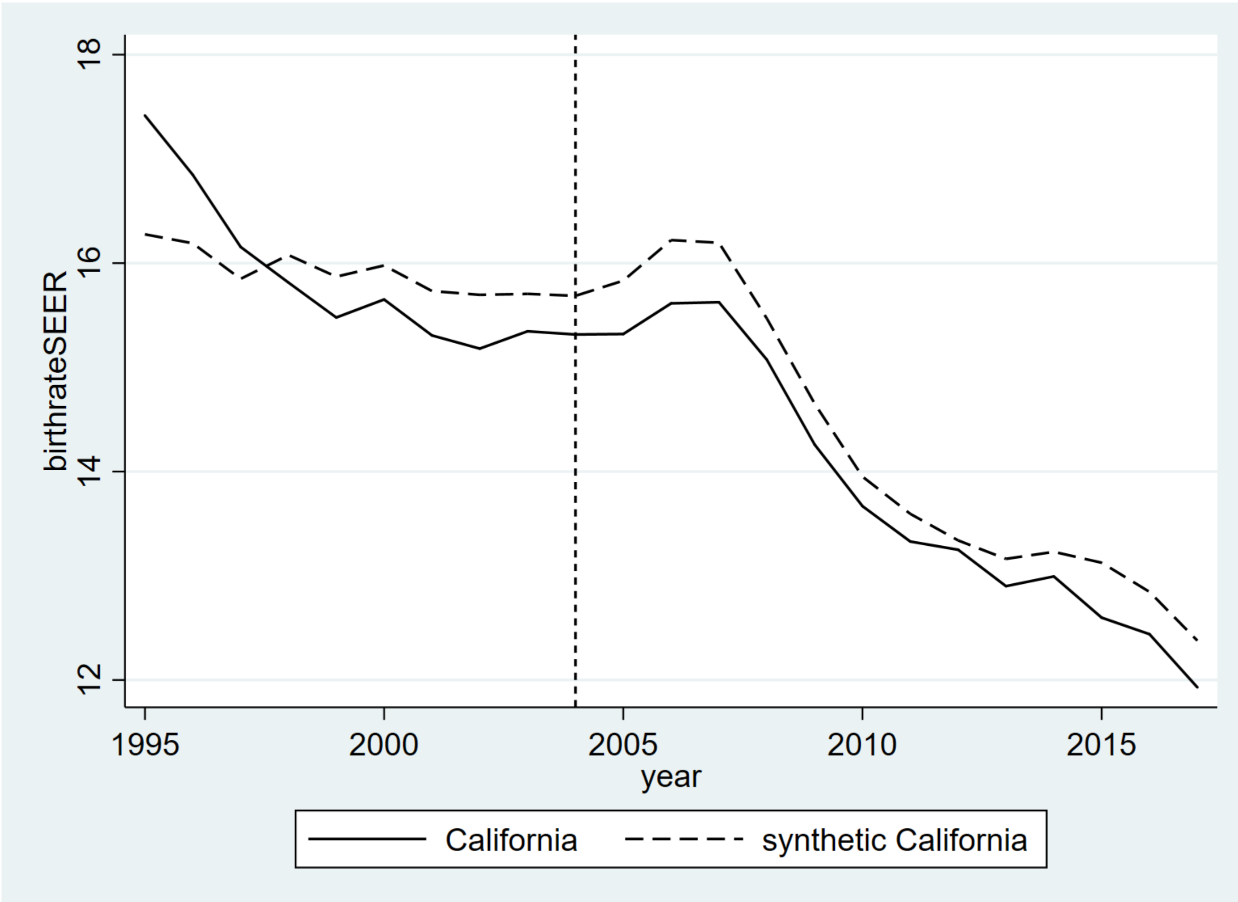
Note: Data from 2000-2008 American Community Survey. CA Paid Family Leave was implemented in mid-2004, solid vertical line. Predictor variables include state % female, % 15-44, % Hispanic, % Asian, and 2002 pr(birth last year).

Figure 4. Trends in Crude Birth Rate per 1,000 population, California vs. US 1995-2008 (SCM).



Note: Data from 1995-2008 NVSS Birth Data pulled from CDC Wonder. CA Paid Family Leave was implemented in mid-2004, solid vertical line. Predictor variables include state % female, % 15-44, % Hispanic, % Asian, 2002 birthrate, and 1995 birthrate.

Figure 5. Trends in Crude Birth Rate per 1,000 population, California vs. US 1995-2017 (SCM).



Note: Data from 1995-2017 NVSS Birth Data pulled from CDC Wonder. CA Paid Family Leave was implemented in mid-2004, solid vertical line. Predictor variables include state % female, % 15-44, % Hispanic, % Asian, 2002 birthrate, and 1995 birthrate.

Table 1A. Weighting Matrix.

Donor State	Weight
Nevada	0.131
New Mexico	0.211
Rhode Island	0.233
Texas	0.425

All other donors receive 0.

Table 1B. Predictor Weights.

Predictor	Weight
% female	0.036
% 15-44	0.017
% Hispanic	0.178
% Asian	0.015
2002 births last year	0.753

Table 1C. Predictor Balance.

	Treated	Synthetic
% female	0.50185	0.50645
% 15-44	0.45456	0.44214
% Hispanic	0.33309	0.28056
% Asian	0.12707	0.03159
2002 births last year	0.07523	0.07703

Note: Data from 2000-2008 American Community Survey.

Table 2A. Weighting Matrix.

Donor State	Weight
Nevada	0.787
New York	0.073
Utah	0.139

All other donors receive 0.

Table 2B. Predictor Weights.

Predictor	Weight
% female	0.0026
% 15-44	0.0006
% Hispanic	0.0020
% Asian	0.0008
1995 birth rate	0.6407
2002 birthrate	0.3531

Table 2C. Predictor Balance.

	Treated	Synthetic
% female	0.50142	0.49398
% 15-44	0.4605	0.45024
% Hispanic	0.31832	0.16812
% Asian	0.12183	0.05033
1995 birth rate	15.1801	15.6916
2002 birthrate	17.4166	16.2686

Note: Data from NVSS Birth Data 1995-2008 pulled from CDC Wonder.

Table 3A. Weighting Matrix.

Donor State	Weight
Nevada	0.627
Illinois	0.236
Utah	0.137

All other donors receive 0.

Table 3B. Predictor Weights.

Predictor	Weight
% female	0.0043
% 15-44	0.0009
% Hispanic	0.0011
% Asian	0.0010
1995 birth rate	0.6472
2002 birthrate	0.3455

Table 3C. Predictor Balance.

	Treated	Synthetic
% female	0.50142	0.49711
% 15-44	0.4605	0.45115
% Hispanic	0.31832	0.15536
% Asian	0.12183	0.04588
1995 birth rate	15.1801	15.6961
2002 birthrate	17.4166	16.2769

Note: Data from NVSS Birth Data 1995-2017 pulled from CDC Wonder.