Washington State Paid Family Leave Analysis Report

The Effect of State Paid Maternity Leave on TANF and SNAP use

FINAL REPORT

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Executive Summary

Although the federal Family and Medical Leave Act (FMLA) provides employment security for many women at the time of childbirth, the absence of paid maternity leave benefits leaves many with no source of income during the time surrounding the birth. In the absence of maternity leave benefits, low-income women often turn to public welfare programs – including the Temporary Assistance for Needy Families (TANF) and Supplemental Food Assistance Program (SNAP) – to replace lost wages.

This study addresses the question of whether the adoption of paid maternity benefits at the state level may reduce use of these programs by providing substitute income during the period following the birth of a child. This study makes use of nationally representative data from the U.S. Census to compare use of TANF and SNAP by low- educated women who have recently given birth in states that have no paid maternity leave to similar women in states that do have such policies. Using a Difference-in-Difference technique, we compare the likely effects of two existing state-level maternity leave programs: one that uses generous eligibility criteria (in California) and one with more restrictive criteria (New Jersey).

The study finds:

- In the national sample, paid maternity leave is associated with lower rates of TANF use by low-educated women in the year after giving birth, indicating that paid leave can provide an alternative to TANF and prevent low-income families from relying on public assistance during job interruptions stemming from the birth of a child.
    - The probability that a hypothetical 25-year-old, unmarried new mother with less than a high school education and poverty-level income will receive TANF is an estimated 4 to 5 percentage points lower if she lives in a state with paid maternity leave.
    - These estimated decreases are small in absolute terms but substantial relative to the low levels of current use of TANF in this population, which range from an

- The presence of paid maternity leave is also associated with lower rates of SNAP use during the year after giving birth, but this reduction not statistically significant. This suggests that less educated new mothers may still need assistance to meet the financial needs of their families during this period.

- Applying these estimates to Washington state, we estimate that the introduction of paid maternity leave could decrease TANF benefit expenditures by $728,805 to $904,854 annually by reducing TANF use in the year after childbirth, with the likelihood of additional future savings resulting

from the decrease in TANF use.

Introduction

The federal Family and Medical Leave Act (FMLA) provides employment security for many women at the time of childbirth. In the absence of wage replacement or maternity leave benefits, however, many have no source of income during the time surrounding the birth. The consequences are particularly serious for women working in low wage employment who are the least likely to have access to private maternity leave benefits through their employment.

In national surveys, more than half of leave takers under the FMLA report financial difficulties. Among those who had no or only partial payment, most limited their spending (84.4%) and some cut their leave short due to financial constraints (31.0%). In the absence of maternity leave benefits, low-income women often turn to public welfare programs – including the Temporary Assistance for Needy Families (TANF) and Supplemental Food Assistance Program (SNAP) – to replace lost wages at the time of childbirth (Waldfogel, 2001; Klerman, Daley, & Pozniak, 2012).

The use of public welfare programs during childbirth-related employment interruptions has consequences for the economic well-being of mothers and infants and for public expenditures by state and federal government. In this project we make use of representative national survey data at the household level to estimate the likelihood that less-educated women make use of the TANF or SNAP programs and whether paid maternity leave benefits, available in some states, reduce this likelihood.

Interaction between paid maternity leave and public assistance use

Although most low-earning women might be expected to seek TANF and SNAP benefits at the time of childbirth, the actual rate of take up will depend on a number of individual and policy factors. In this study we consider the influence of the availability and generosity of both public assistance and maternity leave benefits in the state of residence, along with individual and household characteristics.

The TANF and SNAP programs are available in all states, but participation varies substantially due in large part to differences in eligibility rules, administrative practices and benefit levels (Bruch, Meyers, & Gornick, 2016). In general, TANF receipt is quite low, from less than 10 to just over 30 percent of poor families in various states. Participation in the SNAP program is higher, ranging from around 80 to over 100 percent of poor families with children.

Five states (New York, Rhode Island, Hawaii, California and New Jersey) currently provide some form of paid maternity leave. Program rules, eligibility criteria, benefits and contributions schemes vary by state. For example, in New Jersey, as of 2016, an eligible employee must have worked 20 calendar weeks and earned at least $8400 per year during the 52 weeks before the claim, whereas in California, an employee who

earned only $300 in the 12 months prior to the claim is eligible for the benefit. Benefit levels are equally variable, with wage replacement rates that range from 50 to 66 percent in different states.

The effect of the availability of paid leave on the likelihood that women make use of public welfare programs, and TANF in particular, at the time of childbirth will depend in part on whether they would be better off financially with TANF or maternity leave benefits. This, in turn, depends on the interaction between prior earnings and the state's public welfare and maternity leave policies.

Data and Method

This study uses a quasi-experimental design to estimate differences in the likelihood that less-educated new mothers will receive TANF or SNAP if they live in a state that provides paid maternity leave benefits. We estimate this difference by comparing TANF and SNAP use between mothers who gave birth in the prior year, and may be eligible for maternity leave benefits, and mothers with slightly older children who would not have been able to use these benefits.

We make use of multiple years (2002-2014) of cross-sectional data from the Current Population Survey (CPS) March Annual Social and Economic Supplement. March CPS data is drawn from a nationally representative sample and provides a broad range of individual- and household-level data including the prior year's income, employment status, and public assistance program participation, as well as demographic information for each household member.

The sample is narrowed to low-educated mothers because these are the women most likely to work in low wage jobs, without private maternity or parenting leave benefits, and to be potentially eligible for TANF and/or SNAP benefits after losing employment earnings. We define this as women whose educational attainment is less than college degree – including those with some college education but no A.A. or higher degree. We also restrict the sample to women aged 20 to 35, the age range in which women are most likely to give birth.

Table 1: Sample Criteria

Women
Less than college degree
Age 20 to 35
At least one child aged 2 or less
All states

We employ a difference-in-difference (DinD) design with robust standard error logistic regression. This approach creates comparisons between similar individuals who experience different policy conditions in order to estimate the effects of those policies –

in this case, state-paid maternity leave – on a particular outcome. Our outcome of interest is whether mothers did or did not receive TANF or SNAP during the year in which they gave birth to a child.

Table 2: Outcome of interest

Any TANF in prior year	YES or NO
Any SNAP in prior year	YES or NO

To construct our comparison we control for a variety of factors that might influence the receipt of TANF or Food Stamps. We control for characteristics of the mothers that are known to influence their earnings and the probability of enrolling in these programs (age, race/ethnicity, income level, educational attainment, marital status and number of family members including children and adults). We also control for the state unemployment rate, which might contribute to higher demand for the programs, and policies that influence the ease or difficulty of obtaining benefits (TANF exemption policy for work-related activities when participants are caring for a child, and a composite scale of the generosity of state welfare efforts) (Meyers, Gornick, & Peck, 2002; Rodgers, Beamer, & Payne, 2006)

Table 3: Control Variables

Individual	Age (years)
	Race/ethnicity
	Education
	Marital status
Household	Number family members
State of residence	Unemployment rate
	TANF exemption policy
	Welfare effort

By controlling for these characteristics we can compare women who have similar likelihood of receiving TANF or SNAP, all else equal. We then construct two intentional comparisons or differences. The first difference is between women who have given birth in the prior year, whose use of TANF or SNAP may be influenced by paid leave, and otherwise similar women who have a child between the age of 1 and 2 years of age and would not be influenced by the availability of paid leave. In experimental research these would be designated as the "subject" (eligible for treatment) and "control" (excluded from treatment) individuals. We use this language because the quasi-experimental DinD design approximates an experiment.

Table 4: First Difference: Between Similar Individuals

	"Subject" Gave birth in prior year (may be eligible)	**"Control" Did not give birth in prior year and has child aged 1 to 2 years (not eligible)**
Any TANF in prior year?	YES or NO	YES or NO
Any SNAP in prior year?	YES or NO	YES or NO

The second difference, or treatment, is whether the woman lived in a state with paid leave benefits. Variation in leave policies across states and years allows us to compare "subject" and "control" observations in states with and without the "treatment" of paid family leave. "Treatment" in this analysis is residence in a paid maternity leave state. Five states (New York, Rhode Island, Hawaii, California, and New Jersey) implemented state-paid maternity leave with partial wage replacement.

Taken together, the two levels of difference in a DinD model approximate an experimental design. The subject-control difference in the non-treatment state establishes a baseline against which the subject-control difference in the treatment states can be evaluated. The difference between the two subject-control differences (the difference in difference) gives the estimated effect of the treatment. These two levels of difference are important because the states that offer paid leave are likely more generous in their TANF benefits than the states that do not offer paid leave.

Table 5: Second Difference: Difference Between Similar Individuals In Treatment or No Treatment Conditions (States)

	STATE WITH PAID LEAVE		STATE WITHOUT PAID LEAVE	
	"Subject" Gave birth in prior year (may be eligible)	"Control" Did not give birth in prior year and has child aged 1 to 2 years (not eligible)	"Subject" Gave birth in prior year (may be eligible)	"Control" Did not give birth in prior year and has child aged 1 to 2 years (not eligible)
Any TANF?	YES or NO	YES or NO	YES or NO	YES or NO
Any SNAP?	YES or NO	YES or NO	YES or NO	YES or NO

Controlling for: Mothers' age, race/ethnicity, income level, educational attainment, marital status and number of family members including children and adults, state TANF exemption policy (for TANF analysis only), state welfare efforts, and state unemployment rate

In addition to having given birth in the prior year, to be eligible for benefits women would have had to meet additional eligibility criteria. Because the five states each have different eligibility criteria, we selected the eligibility criteria for two: California and New Jersey. We select these intentionally as representing relatively generous (California) and strict (New Jersey) eligibility rules. This allows us to estimate a range of treatment effects.

The comparison or "control" group in this study is defined as those families with low-educated mothers who are either likely to be eligible for California PFL or New Jersey PFL, but whose youngest children are 1 to 2 years of age. The significant difference between the treatment group and the comparison group lies in the age of the youngest children. Mothers whose youngest child is over the age of 1 are unlikely to have been eligible to use maternity leave in the prior year and their TANF or SNAP use should not be affected by the availability of maternity leave benefits in their state. However, they still meet the requirement that the comparison group should be as similar as possible to the treatment group by sharing similar characteristics with mothers whose youngest child was born in the prior year. That the treatment and comparison groups share the same working requirement criteria (for maternity leave eligibility) and age restrictions strengthens the possibility that the groups will have similar observed and unobserved characteristics.

In order to find those who are most likely to be eligible for paid maternity leave, we use proxy of 2016 state leave eligibility criteria for California and New Jersey to identify women in the five leave states who are likely to be eligible for benefits following the birth of a child in the prior year. As noted above, we use the eligibility criteria for these two states, rather than all five[1], to construct adequate comparison samples with which to estimate a range of effects associated with more generous (CA) and more restrictive (NJ) policies. We select using variables that proxy the key eligibility condition(s) that can be observed in the CPS data.

Table 6: State leave eligibility criteria California and New Jersey (2016)

State	Eligibility (Base period + earning)	Proxy in the analysis
"Generous" California	Earnings of at least $300 for a base period (12 months)	Mothers earned $300 or more in prior year
"Restrictive" New Jersey	Employees who have worked 20 calendar weeks in covered employment and have earned at least $145 per week or $8,400 per year during the 52 weeks preceding the leave are eligible for FLI	Mothers worked longer than 20 weeks last year; earned more than $8400 last year

Results

The effect of paid family leave on TANF use

Because logistic regression coefficients are not easily interpreted, we calculate the probability of using TANF or SNAP for subject and control groups with different characteristics who resided in either "treatment" (paid maternity leave) or "no treatment" (no paid maternity) states[2]. If the availability of paid family leave reduces benefit receipt, then we would expect to see a larger negative difference between the subject and control groups in the treatment states than in the non-treatment states.

In Tables 7 through 9 we present estimates using three different samples, imposing first no prior employment restrictions and then the eligibility criteria used in the California and New Jersey programs. Each table reports the estimated DinD effect (or

[1] Although it might appear to make more sense to model each state's particular criteria, we do not use this approach because the sample size does not allow for empirical examination due to the lack of statistical power.

[2] Coefficients and significance levels for the dichotomous outcomes of interest – use of TANF or SNAP benefits in the prior year – are provided in Appendix 2.

net effect of paid maternity leave) on probability of using TANF for the relevant population. (See Appendix 1 for explanation of this calculation.)

The first estimate (Table 7) uses the least restricted sample, including all low-educated mothers with infants between the ages of 20-35. This group will include both those who do and do not meet prior employment eligibility criteria, creating a larger sample and producing the most conservative estimate of effects. The availability of paid maternity leave is estimated to decrease the probability of using TANF by 1.3 percentage points. Given the low estimated TANF utilization rate of 6 to 7 percent among similar women in these states, this represents a substantial reduction.

Table 7. Average effect of family leave on probability of using TANF of low-educated mothers

	Subject	Control	Difference
Treatment	7.6 (A)	9.0 (B)	-1.4 [(A) - (B)]
No treatment	5.8 (C)	5.9 (D)	-0.1 [(C) - (D)]
Net treatment effect (DinD)			-1.3 [(A) - (B)]-[(C) - (D)]

Table 8 reports the estimated effects of paid maternity leave for a more restricted sample of new mothers who meet the relatively generous prior employment criteria of the California programs. Using this sample, the availability of paid maternity leave is estimated to decrease the probability of TANF use by 1.6 percentage points. As above, the magnitude of this reduction is substantial relative to the estimated 6 percent TANF utilization rate in this population in states without leave benefits.

Table 8. Average effect of family leave on probability of using TANF of low-educated mothers using California eligibility criteria

	Subject	Control	Difference
Treatment	6.8 (A)	8.2 (B)	-1.4 [(A) - (B)]
No treatment	6.1 (C)	5.9 (D)	0.2 [(C) - (D)]
Net treatment effect (DinD)			-1.6 [(A) - (B)]-[(C) - (D)]

Table 9 reports estimated effects using a sample restricted to those new mothers meeting the more stringent prior employment criteria of the New Jersey program. Using this sample, the availability of paid maternity leave is estimated to decrease the probability of TANF for low-educated 20-35-year-old women by 1 percentage point relative to an estimated 2-3 percent TANF utilization rate among similar women in

nontreatment states.

Table 9. Average effect of family leave on probability of using TANF of low-educated mothers using New Jersey eligibility criteria

	Subject	Control	Difference
Treatment	3.2 (A)	4.3 (B)	-1.1 [(A) - (B)]
No treatment	2.7 (C)	2.6 (D)	0.1 [(C) - (D)]
Net treatment effect (DinD)			-1.0 [(A) - (B)]-[(C) - (D)]

Subgroup analyses

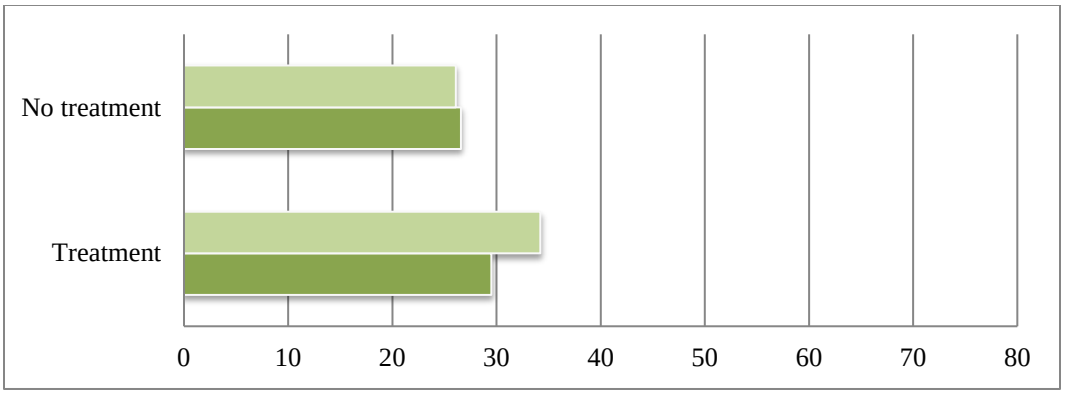
In interpreting the results presented in Tables 7 through 9, keep in mind that most low-educated mothers do not use TANF even though TANF use is concentrated among this population. Given the low baseline rate of TANF use, the effects of paid maternity leave on TANF use will be modest when the whole population of less-educated new mothers is considered.

Effects will be more pronounced for subgroups at higher risk for poverty and TANF use. Below we present estimates of TANF reduction for the hypothetical case of a 20-year-old, unmarried mother with less than a high school education, followed by a summary of estimates for other high risk groups.

Figure 1 shows the probability of TANF receipt for a hypothetical 20-year-old, unmarried mother with less than a high school education. A comparison of the difference in TANF use between the light colored bars (subjects) and dark colored bars (controls) in the treatment and no treatment states illustrates the difference when paid maternity leave benefits are available.

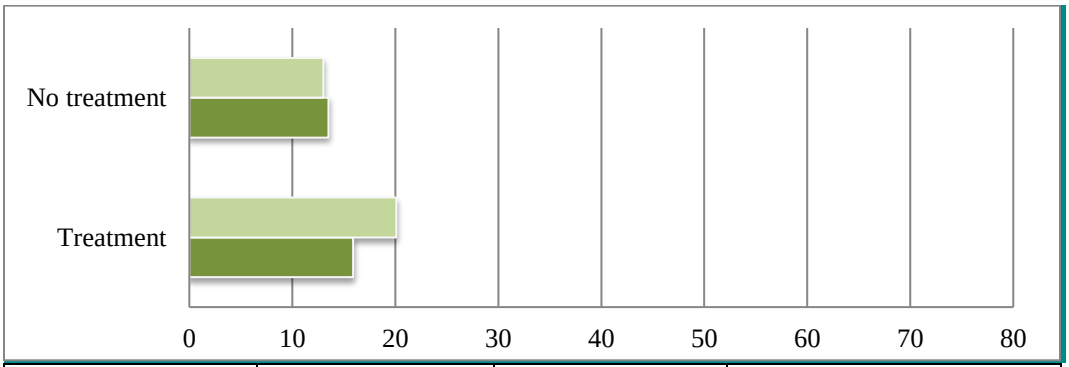
The top panel of Figure 1 applies the California eligibility criteria for paid lead benefits (figure 1-1). The net effect or difference in difference between subjects and controls is a 5.2 percentage point reduced in TANF use when paid family leave benefits are available ($p<.05$). Using the New Jersey criteria (figure 1-2) suggests a similar result: a net effect of 4.7 percentage point reduction in TANF use ($p<.05$). These reductions are substantial in relation to the higher estimated use of TANF in this population of 26.6 and 13.5 percent using California and New Jersey criteria respectively.

Figure 1. Probability of using TANF
(20-year-old, unmarried mother, at poverty, under HS)



	Subject	Control	Difference
Treatment	29.5 (A)	34.2 (B)	-4.7 [(A) - (B)]
No treatment	26.6 (C)	26.1 (D)	0.5 [(C) - (D)]
Net treatment effect (DinD)			-5.2 [(A) - (B)]-[(C) - (D)]

Figure 1-1. Using California Eligibility



	Subject	Control	Difference
Treatment	15.9 (A)	20.1 (B)	-4.2 [(A) - (B)]
No treatment	13.5 (C)	13.0 (D)	-0.5 [(C) - (D)]
Net treatment effect (DinD)			-4.7 [(A) - (B)]-[(C) - (D)]

Figure 1-2. Using New Jersey Eligibility

In Appendix 3 we report estimates of the difference in the probability of TANF and SNAP receipt for controls and subjects with varying individual characteristics. Results are generally consistent across simulated comparisons in which subjects and controls vary by age, education, marital status, income and race. The magnitude of difference is somewhat higher for unmarried than for married mothers, which is consistent with TANF eligibility rules that generally exclude married adults.

The effect of paid family leave on SNAP use

Using the same analytic approach, we examine whether the availability of paid maternity leave affects SNAP receipt among low-educated mothers' households. These results were not statistically significant, suggesting that low-income households are likely to need the additional assistance provided by the SNAP program even if paid leave is available.

Additional simulated probabilities

Table 10 contains simulated probabilities of using TANF for hypothetical individuals with varying age, marital status, race, income and education levels. Due to the fact that analysis for SNAP use does not attain statistical significance, simulated probabilities are only presented for TANF use.

Across all hypothetical simulation, net effects show that the paid maternity leave decreases the use of TANF for those who are likely to be eligible for the leave.

Table 10. Simulated Probabilities for hypothetical persons

		California Eligibility		New Jersey Eligibility	
		Subject	Control	Subject	Control
30 year old, HS grad, married, 150% or higher of poverty	Treatment	1.1	1.4	0.6	0.8
	No treatment	1.0	0.9	0.5	0.4
	Net effect	-0.4 percentage point		-0.3 percentage point	
30 year old, HS grad, unmarried, 150% or higher of poverty	Treatment	3.4	4.3	3.4	4.4
	No treatment	3.0	2.9	2.8	2.7
	Net effect	-1.0 percentage point		-1.1 percentage point	
25 year old, under HS, married, at poverty	Treatment	9.8	11.9	2.5	3.3
	No treatment	8.6	8.4	2.1	2.0
	Net effect	-2.3 percentage point		-0.9 percentage point	
25 year old, under HS, unmarried, at poverty	Treatment	25.1	29.4	13.3	17.0
	No treatment	22.5	22.0	11.2	10.8
	Net effect	-4.8 percentage point		-4.1 percentage point	
20 year old, under HS, unmarried, at poverty, white	Treatment	29.4	34.2	16.5	20.9
	No treatment	26.6	26.0	14.0	13.5
	Net effect	-5.4 percentage point		-4.9 percentage point	
20 year old, under HS, unmarried, at poverty, African American	Treatment	39.3	44.6	24.0	29.7
	No treatment	36.0	35.3	20.7	20.0
	Net effect	-6.0 percentage point		-6.4 percentage point	
20 year old, under HS, unmarried, at poverty, Hispanic	Treatment	23.3	27.4	10.6	13.7
	No treatment	20.8	20.3	8.9	8.5
	Net effect	-4.6 percentage point		-3.5 percentage point	

Washington State Application: Potential influence on TANF expenditure

In this section we apply the estimates presented in Tables 7 to estimate the reduction in TANF grant expenditures in Washington State. We use 2013 birth statistics available from the Washington State Department of Health, which show births to low-educated mothers by age. We cannot base estimates on the more restricted samples reported in Tables 8 and 9 because there is no representative source of data on births by education that also includes mothers' earnings and employment records.

The ranges of paid family leave on reduction of TANF use for low-educated mothers in Washington State are estimated below by the following formula:

= (Number of low-educated mothers who gave a birth in WA aged from 20 to 34 in 2013) × (the effect of paid family leave on TANF use reduction) × (length of TANF use) × (TANF benefit amounts by family size)

Data from the Washington State Department of Health Statistics indicate that 48,574 low- educated mothers aged 20 to 34 gave birth in Washington State in 2013. Multiplying the net effect of paid maternity leave on TANF reduction (-1.3) by this number provides the estimated number of family who would not use TANF due to paid family leave in Washington, producing about 631 families.

The estimated number of family who would not use TANF due to paid family leave = [48574 × (0.013)] = 631.462

This number of families, 631, who would not use TANF after paid family leave introduction is further multiplied by three other factors: weeks of TANF use and benefit amounts by family size and the national average number of recipients in TANF family.

Following the Washington State proposed bill (National Partnership for Women and Families, 2016), we use the maximum of 12 weeks of paid family leave for caring a new child for the TANF use weeks. The number of recipients in TANF families is also used to reflect the TANF rule that benefit amounts vary by size of family. On average, TANF case households contain 2.5 recipients (Falk, 2016). Thus, in our estimation, we projected the range of benefit amounts for family size of 2 and family size of 3. We use TANF maximum monthly benefit amounts for a family with no income in 2014 in Washington State from Huber, Cohen, Briggs, & Kassabian (2015): $385 for family size of 2 and $478 for family of 3. These monthly benefit amounts are multiplied by three to approximate the 12 week leave period.

Table 11. TANF benefit amounts by family size and length of use

	Family size of 2	Family size of 3
Benefit amounts (A)	$385	$478
Length of TANF use (B)	3 months (12 weeks)	3 months (12 weeks)
(A) × (B)	$385 × 3 = $1,155	$478 × 3 = $1,434

Finally, benefit amounts for three-month-period for family size of 2 or family size of 3 are multiplied by the estimated number of family who would not use TANF due to paid family leave, 631. This yields expected TANF expenditure savings to range between $728,805 and $904,854.

- Estimate using family size of 2: 631 × [$385 × 3 (= $1,155)] = $728,805
- Estimate using family size of 3: 631 × [$478 × 3 (= $1,434)] = $904,854

Table 12. Estimation of TANF expenditure savings in Washington State

Family size of 2	Family size of 3
$728,805	$904,854

Conclusion

This analysis suggests that the availability of paid maternity leave is associated with lower usage rates of TANF for low-income families. In the national sample, paid maternity leave is associated with lower rates of TANF use by low-educated women in the year after giving birth, indicating that paid leave can provide an alternative to TANF and prevent low-income families from relying on public assistance during job interruptions stemming from the birth of a child.

Extrapolating these findings to the annual birth rate to less-educated mothers in Washington State, these findings suggest that paid maternity leave could decrease state TANF benefit expenditures by $728,805 to $904,854 annually by reducing TANF use in the 12 weeks after childbirth. It is noteworthy that our estimates for Washington State may be conservative for several reasons. First, these figures do not include the likelihood of additional future savings resulting from the decrease in TANF initiation. Reduced entry to TANF following birth might decrease future use. Second, the current analysis does not account other types of paid family leave but only for leave following childbirth. It is possible that leave to care for family members and own health may also reduce TANF use if these conditions cause low educated and often precariously employed women to leave their jobs. Nor does this analysis capture other potential savings relate to improvements in children's health and development resulting from mothers' ability to care for their young infants.

The presence of paid maternity leave is also associated with lower rates of SNAP use during the year after giving birth, but this reduction is not statistically significant. This suggests that less educated new mothers may still need assistance to meet the financial needs of their families during this period.

Appendix 1. Research Design

DinD is a quasi-experimental design often used in social science where natural experiment is not available. DinD first defines subject group and control group as similar as possible and examines that differences between subject group and control group in treatment and in no treatment. It assumes that these differences are similar if there is no treatment effect, and further, the difference in difference, (A-B)-(C-D) represents the net effect of treatment.

Difference-in-Difference

(A-B)

PFL states (treatment)	Subject (A)	Control (B)	(A-B)-(C-D)
No PFL states (no treatment)	Subject (C)	Control (D)	= net effect of PFL

(C-D)

Appendix 2. Logistic regression coefficients for paid family leave

	California		New Jersey	
TANF use	Coef	p-value	Coef	p-value
	-.254	.037	-.334	.075
SNAP use	Coef	p-value	Coef	p-value
	-.057	.423	.053	.535

Race, poverty level, year, age, number of family, marital status, educational level, state unemployment rate, state TANF exemption policy (for TANF analysis only), state welfare efforts are controlled.

Appendix 3. Robustness test

Results in the present study may be sensitive to decisions about the control and experimental group. Robustness test is a conventional approach to confirm whether the current study design where the research examined how certain the result is holding up with different specification. Plausible robustness tests can be interpreted as evidence of validity for the research.

Our central findings are robust to three alternate specifications.

First, to check the robustness of results regarding different control and experimental group, table 8 presents the results of the same analyses conducted using different control group. Identifying one or more comparison groups is a key factor in the internal validity of DinD estimates (Han, Waldfogel, & Brooks-Gunn, 2001; Hill, 2012; Rossin-Slater, Ruhm, & Waldfogel, 2013). We identify different alternative comparison groups with specification in child age for two separate analyses (youngest child aged 2 or 3, respectively) but follow the previous criteria in the main analysis other than child age. Using a different comparison group, the effects of paid leave are significant for both alternative comparison group, whose youngest children are aged 2 or 3.

Second, linear probability model instead of logistic regression is being used. If dependent variables are dichotomous and do not meet the assumptions of normality due to interpretation difficulty, the linear probability model is sometimes used as an alternative (Hill 2012). The finding using linear probability also confirms that paid maternity leave is associated with less TANF use for both California and New Jersey eligibility.

Third, we use slightly different sample population, but with similar characteristics for the analysis. The sample population is restricted to single and low-educated mothers as opposed to the present study using low-educated mothers. The finding points out the same direction (decrease the use of TANF) with statistical significance. Given that it may be harder to detect significance in smaller sample size the robustness test than the present main study, the finding confirms the significant effect of paid maternity leave.

Robustness test

		California		New Jersey	
		Coef	p-value	Coef	p-value
Different comparison group (Age 2)	TANF	-.3914	.000	-.4905	.017
	SNAP	-.0826	.454	-.0132	.930
Different comparison group (Age 3)	TANF	-.5510	.000	-.4843	.527
	SNAP	-.1833	.044	-.2089	.471
Linear probability model	TANF	-.0322	.004	-.0271	.007
	SNAP	-.0196	.212	.0001	.954
Single, low-educated	TANF	-.3304	.002	-.4399	.015
	SNAP	-.1242	.128	-.0121	.903

Reference

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