Evaluating the impact of maternity leave on employment outcomes for women across the United States

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Abstract

In this paper I examined the impacts of maternity leave policies (both paid and unpaid) on the wage gap for women in the United States. Maternity leave policies have been a topic of contention with studies finding conflicting results on if it minimizes or exacerbates employment gaps for women. I utilized cross sectional data from every US state in 2023, and found no significant effects of paid leave on the wage gap. I did find that states with paid leave had larger maternity penalties specifically leading to higher female unemployment.

1. Introduction

1.1 Topic Overview

Maternity leave is crucial to study as it links across several economic challenges including the wage gap, fertility crisis, and maternity penalty among other issues. Overall, no consensus has been reached on its consequences. Despite most other countries having already implemented generous maternity leave policies, the US still lags far behind. The US remains the only developed country that does not offer government sponsored paid leave while other countries have already pushed to implement paternity leave policies (The Council of Economic Advisers, 2014).

Beginning in the 1940s, Rhode Island, California, and New Jersey created the first disability insurance programs (Mitchell, 2024). In 1993, this was expanded nationally with the Family and Medical Leave Act (FMLA) which provided up to 12 weeks of unpaid leave (The Council of Economic Advisers, 2014). However, its scope is still lacking as it covers only about 60 percent of workers and less than 20 percent of new mothers (The Council of Economic Advisers, 2014). California was the first state to pass a paid family leave policy in 2004 (The Council of Economic Advisers, 2014). As of 2023, 13 states have enacted paid leave programs (Mitchell, 2024).

Paid leave programs have significantly allowed for more new mothers to take maternity leave, by helping less advantaged workers afford it (The Council of Economic Advisers, 2014). Despite this, workers without a high school degree are far less likely to have access to paid leave than workers with a college education (The Council of Economic Advisers, 2014).

There are a myriad of proposed benefits of increased parental leave including job retention, gender equality, and increased female employment among others (The Council of Economic Advisers, 2014). Maternity leave could help close the long standing wage gap in the US. Since the 1990s women

have increasingly contributed substantially to household earnings (The Council of Economic Advisers, 2014). Yet the pay gap persists and even widened in 2025 with women being paid 18.6% less than men on average (Cohn and Gould, 2026). Similarly, women across the world also face a maternity penalty. Studies found that female workers in the US face a 5% wage penalty per child (Corell et al, 2007). Corell et al. also found that mothers were assumed to be less competent and more likely to be offered a lower salary compared to candidates with equal qualifications (Corell et al, 2007). The maternity penalty and inadequate maternity leave policies are also contributors to the decline of the birth rate in the US, a trend beginning in 1960 (Dilmaghani, 2024). Many women are deferring childbirth and marriage which is likely linked to increased female education and employment as women must consider their careers before childrearing (Dilmaghani, 2024). If birth rates continue to decline dependency ratios will increase bringing many negative economic implications. Therefore, maternity leave policies must be considered in the context of these issues including whether they serve to ease or exacerbate these problems.

Additionally, most studies examining maternity leave policies have only focused on countries outside the US or California as few other states have enough data or the universal policy that would allow for such analysis (The Council of Economic Advisers, 2014). Thus, the literature is limited in its scope of applicability across the entire US.

1.2 Purpose

This paper seeks to use cross-sectional data to examine the relationship between the wage gap (measured through difference in employment between men and women as well through women's wages as a percentage of men's) and maternity leave. I also examined how fertility interacts with maternity policies to impact the wage gap. Since each state has varying levels of maternity leave policies, some providing paid leave while others only unpaid leave, I used the random implementation of the treatment to examine the problem as a natural experiment. I chose not to simply examine one state in order to make my conclusions applicable to the entire country.

2. Literature Review

The current literature that examines the effects of policies that offer women maternity leave gives conflicting results on whether it increases or decreases income and employment differentials. In one paper, Timpe explored the effect of the expansion of short-term disability insurance (STDI) to include mothers. He found that the increased access to leave, led to decreased hourly wages for women by 5-6 log points, decreased female employment (but more ambiguously), and decreased family incomes, which corroborated a decrease in the female demand for labor and an unknown change in the female supply of labor. He also found greater effects of the policy in firms with high employee absence and turnover costs which supports the idea that firms are averse to bearing the costs associated with

maternity leave. Additionally, he found that male wages stayed relatively flat during the same years that female wages declined which shows that women were the only ones affected by the policy (Timpe, 2024).

Another paper that instead examined California-paid family leave (CPFL) combined with data from the IRS found lower employment and earnings for first-time mothers after the enactment of the policy. They also found that these effects persist, as 12 years later they still observed a decrease in earnings, and women in lower-wage jobs were less likely to return to work following CPFL leave (Bailey, 2024).

Conversely, Baum and Ruhm found positive benefits of maternity leave such as increased employment. The study used the NLSY-97 data and also looked at CPFL using a difference-in-differences model with time and location fixed effects. They found that the leave taken by mothers increased by 5 weeks and by 2-3 days for fathers which proves that mothers do take advantage of maternity policies. They also found that employment increased and work fell during the first few months after childbirth, but these effects disappear around 10 weeks after child birth. 7-12 months after birth the rate of employment and hours/weekend work also increases which means that there is a greater probability that women return to work by 9-12 months (18.3 percent). The paper also commented on potential increases in wages though their results were not significant (Baum and Ruhm, 2016).

In a literature review done by Olivetti and Petrongolo, they found that across different studies on the impact of family policy on the labor market there was not a clear positive impact. Generally, they noted increased female employment, more observable in less-skilled jobs and insignificant for skilled workers, and a negative effect on the wages of more-skilled female workers. The authors also note that short leaves have positive impacts while parental leave of over a year has negative consequences on the female labor market. There can be a potentially positive or negative shift for the demand for labor depending on the burden given to employers. Additionally, the paper found negligible effects on fertility. Overall, much of the literature contradicts and it's hard to decide if parental leave is wholly good or bad for women (Olivetti and Petrongolo, 2017).

3. Data

The data used for this paper consists of cross sectional data from all 50 states recorded during 2024. Using a binary variable I noted which states had unpaid leave, and also recorded the number of states with paid leave including the length of leave (Paycor, 2025). I also used a binary variable to note political affiliations of each state (1 = governor is aligned with the democratic party) (National Conference of State Legislatures, 2026). The GDP of each state is used as a proxy for wealth and is recorded in 2024 current USD collected by the Bureau of Economic Analysis (Bureau of Economic Analysis, 2024). I also used employment statistics, specifically median weekly earnings, female median

weekly earnings, female wages as a percentage of male earnings, unemployment rate, female unemployment rate, and the difference in employment rate taken from data published by the US Bureau of Labor Statistics (Bureau of Labor Statistics, 2024).

I also wanted to use controls for other factors that affect wage. In order to examine the effects of motherhood, I utilized data from the CDC on the number of births, birthrate, and fertility rate by state in 2023. I gathered educational data from the US Census on the percentage of individuals of each state who are 25 years or above who have obtained at least a high school diploma (Census, 2024).

Table 3.1: Variable Descriptions

Variable Name	**Description**	**Units**
UnpaidLeave	1 if the state has unpaid leave and 0 if not.	N/A
PaidLeaveDummy	1 if the state provides leave and 0 if not	N/A
Births	Number of births in 2023	Births
BirthRate	Birth rate of the state in 2023	Percentage
FertilityRate	Fertility rate of the state in 2023	Percentage
2024CurrentGDP	2024 State GDP in nominal USD	Millions of USD
Democrat	1 if state governor is Democratic and 0 if not	N/A
FemaleWagesPer	Female wages as a percentage of male wages	Percentage
UnemploymentRate	Unemployment rate in 2024	Percentage
FemUnemploymentRate	Female unemployment rate in 2024	Percentage
DiffUnemployment	FemUnemploymentRate - UnemploymentRate	Percentage
PerTotalEDU	Percentage of state population with at least a high school diploma in 2024	Percentage
PerFemaleEDU	Percentage of female state population with at least a high school diploma in 2024	Percentage

Table 3.2: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Births	50	71762	81889	5065	21312	82499	400108
BirthRate	50	11	1.1	7.8	9.9	12	13
FertilityRate	50	55	5	42	52	59	66
2024CurrentGDP	50	579070	741013	46276	133535	746917	4048108
FemaleWagesPer	50	83	3.9	74	81	86	90
MedianWeeklyEarnings	50	1100	129	851	998	1166	1413
FemaleWeeklyEarnings	50	997	120	775	914	1067	1331
UnemploymentRate	50	3.7	0.75	1.9	3.1	4.3	5.2
FemUnemploymentRate	50	3.6	0.83	1.7	3.1	4.2	5.9
DiffUnemployment	50	-0.14	0.38	-1.2	-0.3	0.1	0.7
PerTotalEDU	50	91	2.3	85	90	93	95
PerFemaleEDU	50	92	2.2	86	91	94	96

4. Empirical Strategy

I first wanted to test the relationship between different types of maternity leave policy and determine if they had significant effects on the wage gap (measured through FemaleWagesPer which represents women's wages as a percentage of male wages). I ran one regression where FemaleWagesPer was the dependent variable against PaidLeaveDummy as the independent variable and one where UnpaidLeave was the independent variable.

I also ran both regressions again with controls to remove confounding factors like the unemployment rate, political affiliation, state GDP, education, and the fertility rate which all may affect labor demand or the wage gap.

For my second set of regressions, I ran several linear regressions using interaction terms between paid leave and the fertility rate. I wanted to test if having more generous maternity leave benefits can mitigate the adverse effects of the maternity penalty and having more children. I ran one set with FemaleWagesPer as the dependent variable in order to analyze the wage gap, and I ran a second set of regressions with DiffUnemployment as the dependent variable to examine changes in women being hired. Again, I added controls to remove confounding factors from education, GDP, and political party.

5. Results

5.1 Wage Gap vs Unpaid Leave

FemaleWagesPer = β_0 + β_1 PaidLeaveDummy + other controls + u

	Dependent variable:	
	(1)	(2)
PaidLeaveDummy	1.095	-1.562
	(1.440)	(1.594)
FertilityRate		-0.252**
		(0.124)
Democrat		2.634**
		(1.306)
CurrentGDP		0.00000
		(0.00000)
UnemploymentRate		-1.164
		(0.845)
PerTotalEDU		-0.439
		(0.315)
Constant	82.905***	140.219***
	(0.609)	(31.058)
Note:	*p<0.1; **p<0.05; ***p<0.01	

FemaleWagesPer = β_0 + β_1 UnpaidLeaveDummy + other controls + u

	Dependent variable:	
	(1)	(2)
UnpaidLeave	0.284	-0.855
	(1.117)	(1.122)
UnemploymentRate		-0.823
		(0.932)
Democrat		3.030***
		(1.125)
CurrentGDP		0.00000*
		(0.00000)
Constant	83.004***	84.586***
	(0.640)	(3.358)
Note:	*p<0.1; **p<0.05; ***p<0.01	

In all of the regressions above, the variable for maternity leave was insignificant implying that it has no effect in either direction of the wage gap. Interestingly, political affiliation was significant in both regressions and democratic states have smaller wage gaps by about 3 percent. This may be because of confounding factors as democratic states are more likely to implement maternity leave policies. Additionally, they may also implement other types of social welfare policies that minimize effects from gender based discrimination and the wage gap. The fertility rate also appeared to have a statistically

significant negative coefficient which means that on average for every child women have during their lifetime, they make 0.25 percent less than men. This corroborates what was previously studied regarding the maternity penalty.

5.2 Wage Gap vs Paid Leave and Fertility Rate

FemaleWagesPer = β_0 + β_1(PaidLeaveDummy) + β_2(FertilityRate) + β_3(PaidLeaveDummy × FertilityRate) + other controls + u

	Dependent variable:	
	(1)	(2)
PaidLeaveDummy	-10.557	-13.870
	(19.160)	(19.123)
FertilityRate	-0.314***	-0.276**
	(0.116)	(0.130)
Democrat		2.117
		(1.299)
CurrentGDP		0.00000
		(0.00000)
PerTotalEDU		-0.270
		(0.298)
PaidLeaveDummy:FertilityRate	0.203	0.230
	(0.367)	(0.373)
Constant	100.343***	121.957***
	(6.487)	(27.013)
Note:	*p<0.1; **p<0.05; ***p<0.01	

Both regressions display a significant negative effect of fertility on the wage gap and having a generous maternity leave policy does not reduce the impact. This corroborates the studies done on the maternity penalty and show that on average one additional child can lead to around a 0.3 percent decrease in wages for women. Additionally, having a generous paid leave policy does not decrease the economic burden of children in a significant way.

DiffUnemployment = β_0 + β_1(PaidLeaveDummy) + β_2(FertilityRate) + β_3(PaidLeaveDummy × FertilityRate) + other controls + u

	Dependent variable:	
	(1)	(2)
PaidLeaveDummy	-2.320*	-2.509**
	(1.278)	(1.154)
FertilityRate	0.024**	0.024**
	(0.010)	(0.010)
CurrentGDP		0.00000*
		(0.00000)
PaidLeaveDummy:FertilityRate	0.045*	0.047**
	(0.025)	(0.022)
Constant	-1.486**	-1.506***
	(0.558)	(0.550)
Note:	*p<0.1; **p<0.05; ***p<0.01	

When looking at differences in employment, increased fertility also correlates with a greater difference in employment meaning women are more likely to be unemployed implying them being hired less or not being able to retain their jobs. In the absence of children, paid leave can decrease unemployment differentials by more than 2 percent, but when the fertility rate increases in states with paid leave, the difference in employment increases. I hypothesize this could mean that in states with paid leave, women are more likely to find employment as they perceive a lower opportunity cost of having children (because they have access to paid leave). However, when women take advantage of the paid leave, they do not retain their jobs and perhaps choose not to return to work. Overall, these findings seem to suggest that paid leave worsens the maternity penalty.

	Dependent variable:
UnpaidLeave	-0.914
	(1.564)
FertilityRate	0.014
	(0.026)
UnpaidLeave:FertilityRate	0.014
	(0.028)
Constant	-0.851
	(1.462)
Note:	*p<0.1; **p<0.05; ***p<0.01

However, these effects are not observed in states with less generous unpaid maternity policies. Likely, because women are less likely to be influenced by such policies.

6. Conclusion

My study finds no significant effect of maternity leave (paid and unpaid) on the wage gap. It does find the political alignment and fertility both do impact the wage gap within each state. Interacting paid leave with fertility, did yield a significant effect on female employment compared to male employment but not on the wage gap. It seemed to worsen the effects of the maternity penalty by increasing the difference in male and female employment. No effect was observed when examining only unpaid leave.

These findings align with previous studies done on the maternity penalty by corroborating its significant negative impacts on both wages and employment for women. It contradicts previous papers that display higher wages or higher employment for women when paid maternity leave was enacted. Overall, it showed negligible effects and even adverse effects when paired with higher fertility.

Based on these numbers alone it is impossible to surmise if it is a supply side issue (more women choose not to seek employment following paid maternity leave) or a demand side issue (employers in paid leave states find female workers less employable). Additionally, several confounding factors make it hard to isolate the specific effects of the policy. For example, many states have differing cultural norms or family expectations which may also sway the impacts of maternity leave. Furthermore, some employers may offer their own forms of paid leave which are not accounted for in my current data set.

For future research, I would use the percentage of women eligible for paid maternity leave and include more control variables. Additionally, I would collect panel data and try to run a difference in differences regression to control for time and entity fixed effects.

In conclusion, maternity leave policies may not be the most effective solution for solving the wage gap and maternity penalty. It may even worsen the trade off between having a family and advancing a career for women which may also lead to further declines in the fertility rate. Maternity leave policies could be still viable, but must be paired with a shift in domestic burdens and the perception of motherhood and employment. Thus, more research should be done into examining existing policies and future policies in this field.

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