Family-Friendly Policies and the Motherhood Employment Gap during the COVID-19 Recovery

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About the Authors

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Acknowledgments

1. FAMILY-FRIENDLY POLICY AND THE COVID-19 PANDEMIC

The post-lockdown reopening of schools in September 2021 presented an opportunity for mothers to re-enter the workforce, especially for mothers of young children. With an increase in demand for labor, the increase in employment numbers of mothers of young children varied widely across states. This reinvigorated conversations among policymakers about the macroeconomic impact of family-friendly policies—policies that promote the well-being of parents and children.

The COVID-19 pandemic doubly disrupted employment levels of parents with young children. The decline of labor demand following stay-home mandates affected all workers and households, but parents—particularly mothers—faced the added challenge of childcare needs due to childcare center and K-12 school closures. This double disruption forced some parents to adjust their decisions about work, with a disproportionate number of working mothers leaving the workforce.[1]

Since the reopening of schools in September 2021, we have witnessed a quick recovery in the employment rate of mothers with young children on the national level. The reopening of schools presented an opportunity for mothers to reconsider their labor market decisions and reenter the labor market after months of potentially constrained decision-making following the lack of available childcare outside of the household. This study, to the best of the authors' knowledge, is the first to draw together the effect of family-friendly policies on women's employment and the effects of the COVID-19 pandemic on women's labor market outcomes.

The extent to which women with young children have increased their labor market presence since the fall of 2021 varies greatly across states. This spring, federal childcare legislation, which would have increased federal subsidies for childcare and provided families with the much-needed guarantee of

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[1] Zamarro and Prados (2021) find that women have carried a heavier load than men in the provision of childcare during the COVID-19 crisis in the US and that this division of childcare is associated with a reduction in working hours and an increased probability of transitioning out of employment for working mothers.

affordable childcare, failed to move forward. The legislation started with the inclusion of universal pre-kindergarten, four weeks of federal paid family and medical leave, and funding for childcare, housing support, and college aid. Pressure to scale down the bill and limit federal assistance to families that need the most support successfully stalled efforts. The future of these provisions appears bleak, with the spending on the bill down to less than half of the $1 trillion plan.

Yet the variation across states in the extent of mothers' post-pandemic labor market participation highlights the role that state-level family-friendly policies, such as parental leave and publicly funded childcare, play in the employment patterns of mothers of young children (in addition to the impacts of other labor policies, race, education levels, and demographic elements). The different levels of employment gains for the same demographic group in different states imply that state-level factors affect women's labor force participation. At one extreme is Kentucky, where the employment rate of women with young children in January-April 2022 was 4.5 percentage points (p.p.) greater than during the same period in 2019. At the other extreme is Wisconsin, where the employment rate of women with young children was 4.5 p.p. lower in January-April 2022 than in January-April 2019.[2] With the social spending bill stalled, the fate of family-friendly policies lies heavily with state legislatures. This study reveals that states have the ability to support women—and state economies—by investing in childcare and parental leave.

As this study suggests, family-friendly policies at the state level demonstrate a significant bearing on mothers' labor-market choices, as do factors such as overall labor policies and conditions, gender norms, education status, and race. The study suggests that young, low-educated women of color could benefit more from family-friendly policies than their white counterparts, given their lower relative employment rates on average. The estimates for a comprehensive racial analysis suffered from data constraints of using individual level CPS data pooled at the state-demographic level. It is important to note that the effects of family-friendly policies observed in this study, and other demographic effects

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[2] The standard deviation of the distribution of the change in employment of mothers of young children over this period is 3.5 p.p. and the interquartile range is 4.3 p.p.

such as race, are additive and do not negate the salience of one another. Additional data constraints also curtail a more comprehensive gender analysis that takes into account the impacts for non-binary, trans, and queer parents.

1.1 Family-Friendly Policies and Women's Labor Force Participation

The relationship between family-friendly policies and women's labor force participation has been studied in various ways. Capitalizing on cross-country evidence, Blau and Kahn (2013) demonstrated a correlation between the adoption of family-friendly policies and the rise in female labor force participation. After the introduction of paid parental leave in California and New Jersey, women who otherwise would have exited the labor force temporarily in the months around a birth experienced an increase in labor force attachment, making them more inclined to continue participating in the labor force, according to Byker (2016). However, the evidence on the effects of paid parental leave is mixed. Bailey et al. (2019) studied the effects of California's new paid leave on women's careers. Using administrative data, they found no effects in the short run on women's employment, earnings, or attachment to employers, but found negative effects in the long run on employment and wages.

A potential policy that broadly expands subsidies limiting family payments for early childhood education to no more than 7 percent of income among those up to 250 percent of national median income is seen to increase employment of mothers with children under age five by 6 percentage points (Borowsky et al. 2022). These increases are substantially larger among lower-income families. There are also studies quantifying how childcare costs affect maternal labor supply (Blau and Robins 1988; Connelly 1992) and demonstrating that greater childcare costs negatively affect women's employment.

## 1.2   The COVID-19 Pandemic and Women's Labor Force Participation

The fundamental changes in social structures and economic patterns resulting from the COVID-19 pandemic exposed a unique lens for observing the impact of family-friendly policies. The pandemic resulted in unprecedented employment losses, and unlike in other recessions, the effects were more severe for women than men.[3] While recent recessions in advanced economies had a disproportionate impact on men's employment, the 2020 recession caused larger employment declines among women in most advanced economies including the US, Spain, Germany, and Canada (Alon et al. 2022). Stay-at-home mandates have greatly impacted caregiving and client-facing industries and occupations that typically employ women.

1.3   Impact on Labor Force Participation of Mothers with Young Children

The limited availability of in-person childcare and schooling options led many parents—mothers in particular—to exit the labor force at or near the beginning of the pandemic (Albanesi and Kim 2021). More than 10 percent of mothers of young children left their jobs due to childcare responsibilities in 2020 (Bauer et al. 2021), with the disproportionate burden falling on Black and brown women. Additionally, the COVID-19 pandemic represented an important divide in employment outcomes by education level rather than by gender (Goldin 2022).

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[3] Alon et al. (2022) coined the term "shecession" to refer to the pandemic recession, to differentiate it from other recessions or "mancessions" that have had stronger negative effects on men's employment than on women's. Albanesi and Kim (2021) find that differences in both labor demand and labor supply were relevant drivers.

Figure 1. Employment-Population Ratio, All Women (solid) and Moms of Young Kids (dashed)
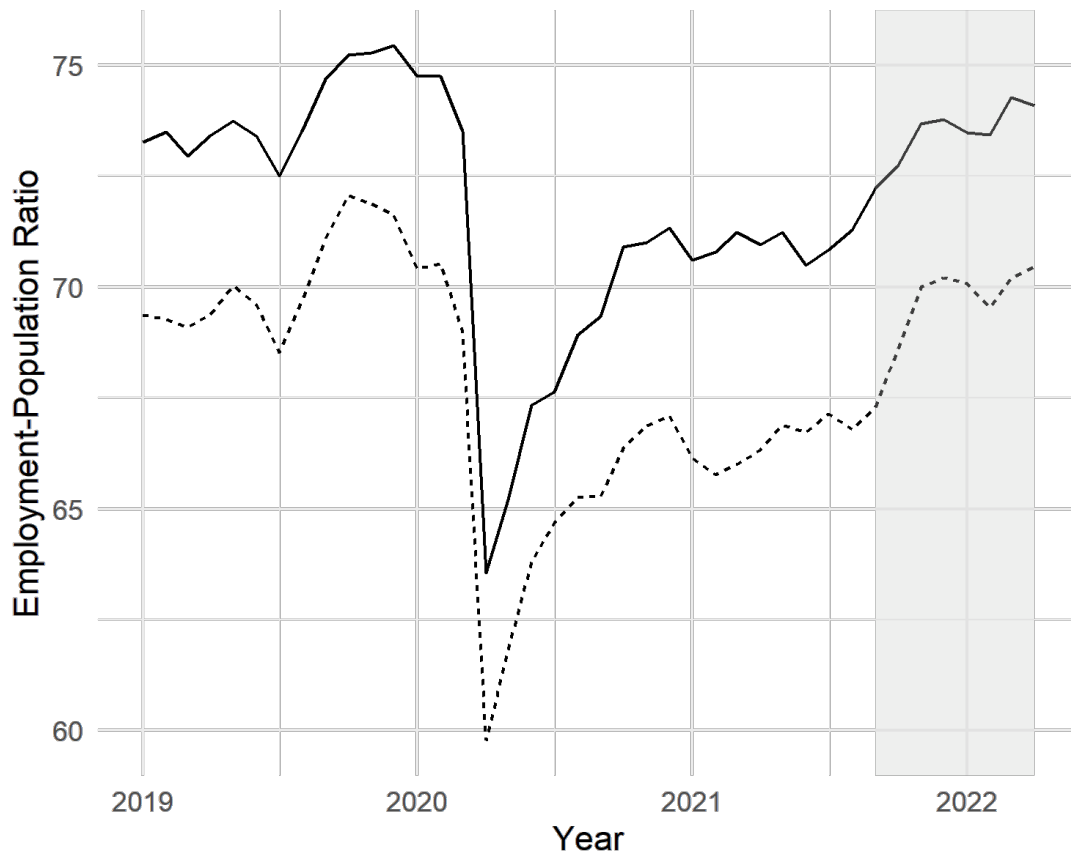
Note: The solid line refers to all prime-age women, and the dashed line refers to prime-age women who have (at least) one child 13 years old or younger in the household. Constructed using CPS survey weights. The shaded area represents the period from September 2021 to April 2022, which is the last month included in the analysis.

However, employment levels of prime-age women (ages 25 to 54) with young children have recovered. Specifically, the employment-population ratio of this demographic group has increased from 69.4 percent in April 2019 to 70.5 percent in April 2022, and the generalized school reopening seems to have played an important role. In April 2020, the employment-population ratio for prime-age women with young children had plummeted to 59.8 percent.

Examining the dashed line in Figure 1, we see that after the initial decline at the beginning of the pandemic, the employment-population ratio for women with children aged 0 to 13 recovered for most of 2021 and saw significant increases with the start of the 2021/2022 academic year, which has been crucial for closing the gap in employment relative to pre-pandemic levels. On the other hand, for all prime-age women in 2021, the recovery started earlier during the summer and did not closely coincide with the start of the 2021/2022 academic year (solid line in Figure 1). Family-friendly policies

play a larger role in the lives of prime-age women with children 13 and under, compared to prime-age women with older children (aged 14 to 19). Even though it seems intuitive that employment choices would be influenced by family-friendly policies, a simple comparison of employment numbers for women with young children across states will not suffice as the evidence will be confounded by state characteristics other than family-friendly policies that affect the labor demand and labor supply. The employment level of these women will also be affected by factors such as the industries present in a given state; the types of occupations available; cultural, religious, and gender norms; and so on. Further complicating things is that greater provision of family-friendly policies often coincides with the provision of other supporting policies that could potentially exaggerate the effect family-friendly policies have on employment.

2. THE STATUS AND EFFECTS OF FAMILY-FRIENDLY POLICIES ACROSS STATES

States with low coverage of family-friendly policies demonstrate the biggest increase in the average gap in the employment-population ratios between women with young children and women with older children.

2.1 Construction of a State-Level Family-Friendly Policies Index

To distill into a single variable the different layers of information that directly impact the robustness of a state's family-friendly policy, we constructed a state-level family-friendly policies index using information about two specific policies:

- *State-level parental leave*, including whether the leave is paid, and its length.[4] If no state-level regulation is implemented, the one assigned to that state is the federal one, i.e., the Family and Medical Leave Act (FMLA), which offers up to 12 weeks of unpaid parental leave.
- *State-level public spending per child enrolled in pre-kindergarten education*, retrieved from the National Institute for Early Education Research.[5]

These indicators are more directly related to government provision as compared to proxies used in other studies such as the share of children enrolled or the percentage of parents taking up parental leave which are tied more to family characteristics than government. Thus, they are less directly related to women's employment decisions, making them particularly interesting to use in this context.[6]

The value of the family-friendly policies index (FFPI) in any given year and each of the 50 US states plus DC is given by the average between the value of parental leave and the value of pre-K spending per child. The value of parental leave in any given state and period is computed, taking the leave paid normalized to the maximal amount. Likewise, both paid and unpaid weeks of leave are taken into account. The number of paid weeks is normalized relative to a maximum of 12 weeks, and the number of unpaid weeks relative to a maximum of 18 weeks. The relative pre-K spending in any given state and period is computed using the state with the maximal spending that year.[7] In cases of missing pre-K spending information for a given year, the number is replaced with the last year of data available. If a state does not have a pre-K program implemented, its spending is zero.

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[4] Parental Leave information has been collected from different sources by Siddarth Pannamaneni.

[5] For more details, see: https://nieer.org/state-preschool-yearbooks/past-reports.

[6] Blau and Kahn (2013) use the length of weeks of parental leave, the replacement rate of the parental leave, and the public childcare spending over GDP. An example of an indicator closer to the perspective of the families' take-up, and thus more endogenous to labor market decisions, would be the percentage of children of a given age enrolled in a given program in a given year.

[7] The exact computation for state j and year t is given by FFPI$_{jt}$=(Value Parental Leave$_{jt}$+Rel. Pre-K Spending$_{jt}$) / 2, where Value Parental Leave$_{jt}$=[Paid Leave$_{jt}$+(Nb. Paid Weeks$_{jt}$/12) +(Nb. Unpaid Weeks$_{jt}$/18)] / 3, and Rel. Pre-K Spending$_{jt}$=(Pre-K Spending$_{jt}$/max. Pre-K Spending$_t$).

While the indicators used to construct the index directly influence individuals with newborns (parental leave) as well as those with children between ages 3-4 (pre-kindergarten programs), the existence of these policies is likely correlated with other policies that affect parents of older children since states that spend more on childcare and education tend to do so in all programs they run. Ideally, one would like to expand the index to include policies targeting families with children up to 13 years old, as the Childcare and Development Fund does, so that it overlaps 100 percent with the population of study, i.e., mothers of children aged 0-13 years old.[8] This is left for future research.

2.2 Highlights from the Index and Rankings

The index is constructed for 2019 and 2022. The 2022 index is constructed with the last available childcare spending information for 2020 and the parental leave regulation implemented in 2022. At the time of this study, Colorado and Oregon had approved but not implemented their paid parental leave programs. In 2022, the highest ranked state is the District of Columbia. The lowest six have the same score since they lack state-funded pre-K programs and state parental leave regulation. These are Idaho, Indiana, Montana, New Hampshire, South Dakota, and Wyoming. Figure 2 shows the states grouped according to low, medium, and high coverage.

The 2019 index is constructed in the same way using 2019 information. In 2019, the highest ranked state was New Jersey. The bottom 6, sharing ranking positions (since they lack state-level policies) are Idaho, Indiana, Utah, New Hampshire, South Dakota, and Wyoming. The analysis uses a ranking based on the index rather than the index itself since the units are more readily interpretable this way. Table 6 in Appendix A contains the 2022 and 2019 rankings based on the family-friendly policies index across states.

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[8] For more details, see: https://ccdf.urban.org/.

Figure 2. Coverage of Family–Friendly Policies by State in 2022
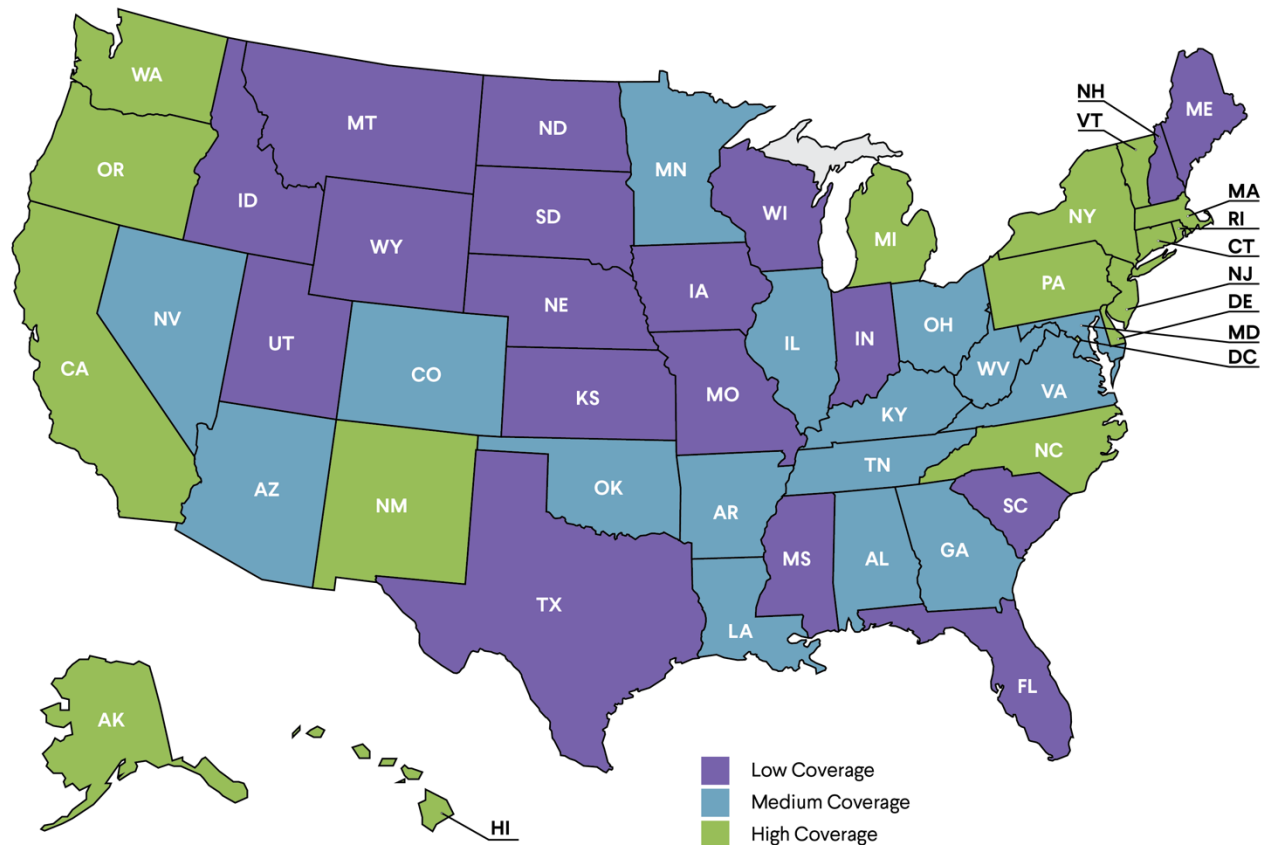
2.3 Motherhood Employment Gap

Family-friendly policies play a larger role in the lives of prime-age women (ages 25-54) with young children (up to 13 years old), compared to prime-age women with older children (age 14-19). Children under 13 are likely to depend more on their parents than older children, who are more independent. A measure of the difference in employment-population ratios between mothers of children aged 0-13 and mothers of children aged 14-19, which we call the *motherhood employment gap,* helps account for cross-state differences in labor demand and labor supply not linked to the availability of family-friendly policies, given that older kids and their families are less affected by those. These may include characteristics such as the industries doing business in a given state; the types of occupations

available; cultural, religious, and gender norms; and the fact that family-friendly policies usually coexist with state labor market policies, affecting employment decisions.

The motherhood employment gap captures differences in outcomes for individuals with children of different ages but who live under the same legal and regulatory frameworks, as well as facing similar gender norms. Incorporating into the analysis mothers with older children instead of non-mothers helps account for other changes that arise from the differences in career choices and labor market attachments of mothers and non-mothers. In order to avoid overstating the relationship between family-friendly policies and the motherhood employment gap, we decided not to use non-mothers as a benchmark. Doing so allowed us to focus on family-friendly policies as we neutralize the impact of different career choices and relationship to labor market on our analysis. For this reason, comparing mothers and non-mothers could lead to a "too wide" motherhood employment gap by including the effects in employment caused by other differences such as different preferences regarding family formation or careers. However, given that motherhood has been shown to have a long-run impact on women's labor market outcomes in the US even 10 years after the arrival of the first child, how we compute the motherhood employment gap should be interpreted as a lower bound of the ideal measure.[9]

By capitalizing on the differences across US states, a regression analysis demonstrates that the gap in employment-population ratios between mothers of young children and mothers of teens in 2022 is wider in states with lower coverage of family-friendly policies. This holds even when constructing the motherhood employment gaps within finely differentiated demographic cells and controlling for demographic specificities.

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[9] In various countries, including the US, Kleven et al. (2019) find a child penalty on earnings and Kleven et al. (2022) find a child penalty on earnings as well as on other variables including wage rate, employment, and hours worked.

2.4 Evolution of the Average Motherhood Employment Gap

Since September 2021, the motherhood employment gap has diverged across groups of states depending on their coverage of family-friendly policies (see Figure 3). With the increase in demand for labor witnessed in the summer of 2021 to April 2022, the motherhood employment gap decreased in states with high coverage of family-friendly policies. The motherhood employment gap has become less negative, demonstrating a decreasing difference in employment rates between mothers of young children and those with older children. In states with low coverage, however, while women with older children witnessed a recovery in their employment numbers, women with younger children more reliant on family-friendly policies did not see their employment rates rise as much, thus increasing the motherhood employment gap.

The decrease is also important, if smaller, in states with medium coverage of family-friendly policies. However, in states with low coverage of family-friendly policies, the motherhood employment gap has increased over the same period.

Aside from school reopening, the period from September 2021 to April 2022 has been characterized by high demand for labor, particularly in the service sector, which historically has been an important source of employment for women and was most affected by the pandemic. In states with medium and high coverage of family-friendly policies, employment rates of women with young children have been increasing more than those of women with older children (who have not recovered their pre-pandemic employment levels), reducing the gap and pushing the difference between the two back to pre-pandemic levels. Meanwhile, the employment rate of women with young children in states with low coverage of family-friendly policies has not recovered from pre-pandemic levels and has grown at a slower pace than that of women with older children in the household, increasing the motherhood employment gap to higher than pre-pandemic levels (see Figure 5 in Appendix A).

Figure 3. Evolution of Motherhood Employment Gap, by Group of States Based on the Family–Friendly Policies Index Ranking
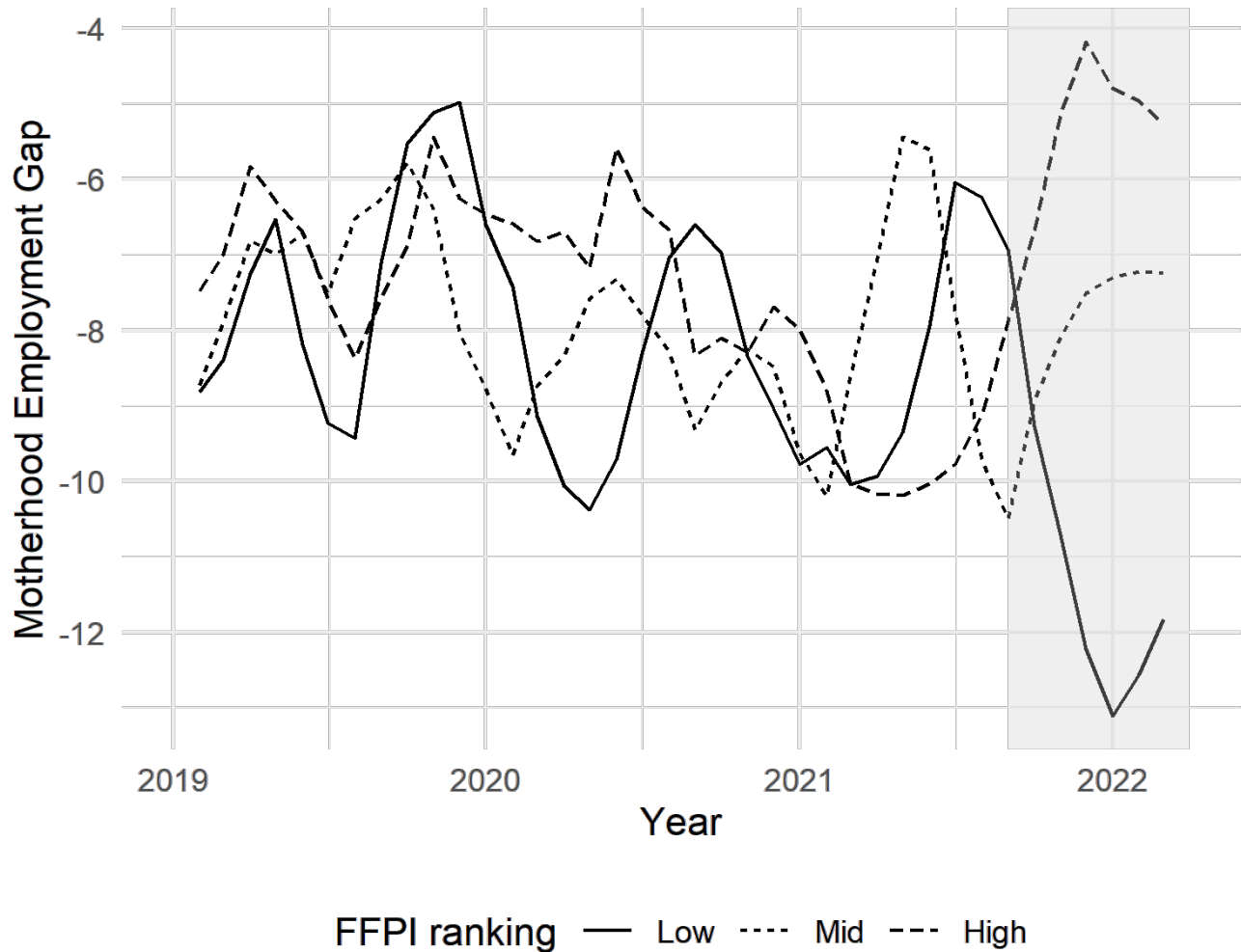
Note: The motherhood employment gap is computed as the difference in employment-population ratios of prime-age women with biological children aged 0-13 and of prime-age women with biological children aged 14-19 present in the household. The motherhood employment gap is smoothed by using three months moving average. Constructed using CPS survey weights. Results are presented by a group of states based on the 2022 FFPI ranking: "Low" includes the 17 lowest-ranked states, "High" includes the 17 highest ranked states, and "Mid" includes the 17 states in the middle. The shaded area represents the period from September 2021 to the last date included in the analysis, April 2022.

These differences across groups are unique to this specific period from September 2021 to April 2022. They do not have a counterpart during the pre-pandemic period (January 2019-February 2020) nor during the period of the pandemic characterized by school closures (up to September 2021). However, there might be many effects masked behind this relationship. A feedback loop between state-level coverage and certain demographic characteristics, especially education, complicates our understanding.

3. ISOLATING THE IMPACT OF FAMILY-FRIENDLY POLICIES

Even for women under similar legal and regulatory atmospheres, family-friendly policies have a significant impact on the employment levels of mothers with young children.

The mean motherhood employment gap stood at −8.0 p.p. across US states, but there is a substantial variation with a standard deviation of 7.36 p.p as demonstrated by the summary statistics in Table 1. The ranking based on the family-friendly policies index is presented in Table 6 in Appendix A.

Table 1. Motherhood Employment Gap Distribution Across 50 US States and DC: Summary Statistics

Q1	Median	Q3	Mean	St. Dev.
−13.15	−9.01	−4.95	−7.98	7.36

Focusing on the period of January-April 2022 helps shed light on the relationship between the availability of family-friendly policies and the labor market presence of women with young children following the reopening of schools in September, which was crucial to the closure of the employment lag. Even mothers of young children most affected by childcare responsibilities who had either lost their job and not looked for a new one or quit during the pandemic were able to positively reconsider their labor market decisions following the generalized schools reopening at the start of the 2021/2022 academic year.

3.1 Regression Design

We start regressing the ranking based on the family-friendly policies index on the motherhood employment gap, as follows:

$$MEG_j = \beta_0 + \beta_1 FFPI_j + e_j, \tag{1}$$

where MEG_j refers to the Motherhood Employment Gap or the p.p. difference between the employment-population ratios of moms of young children and moms of older children in state j, and $FFPI_j$ is the position in the ranking based on the FFPI in state j. The term e_j represents the error term. β_1 is the coefficient of interest since it shows the relationship between the ranking of family-friendly policies and the motherhood employment gap.

Results in Table 2 show that an increase of one position in the ranking of family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of −0.21 p.p., or in other words, with a 0.21 p.p. wider employment gap between women with young children relative to women with older children.

Moving from a state in the first quartile of the ranking of family-friendly policies to a state at the third (a decline of 25 positions in the ranking) is correlated with a change in the motherhood employment gap equal to −5.175 p.p. Considering the cross-state variation and given that the interquartile range for the motherhood employment gap is 8.20 p.p. (see Table 1), and the change in MEG is -5.175 across the first and third quartile of the distribution, 63 percent of the interquartile range variation might be explained by differences in the coverage of family-friendly policies. A majority of the cross-state variation in the motherhood employment gap can be accounted for by the correlation with family-friendly policies.

Table 2. Regression Results with No Demographic Controls

	Dependent variable:
	MEG
FFPI	−0.207***
	(0.067)
Observations	51
R2	0.164
Adjusted R^2	0.147
Residual Std. Error	6.801 (df = 49)

Note: *p<0.1; **p<0.05; ***p<0.01.

Parents were also taking time off to care for their children following the frequent closures of classrooms or schools due to COVID-19 infections during the 2021/2022 academic year. However, this form of temporary disruption does not alter the results since both those employed and present and those employed but not present are counted as employed.

This result might still have plenty of confounding demographic effects. As long as these characteristics are also related to the availability of family-friendly policies, the results presented above might be biased. Fortunately, we can control for these demographic effects, and to do so we construct the motherhood employment gap between mothers of young children and mothers of older children at finely defined demographic characteristics in each state.

4. TAKING DEMOGRAPHIC IMPACT INTO ACCOUNT

The correlation continues to persist even after accounting for the demographic differences between mothers of young and older children. Across US states, on average, one of the biggest motherhood employment gaps is present for young women of color with low levels of education.

Education level, race, and age of women independently and in relation to one another impact employment levels, and, consequently, impact the motherhood employment gap. The demographic differences between women with young children and women with older children are also correlated to the coverage of family-friendly policies (or other state-level characteristics that in turn are correlated to the coverage of family-friendly policies). Regression analysis is more equipped to address these differences.

With the motherhood employment gap computed for each demographic cell and the demographic fixed effects, the regression model now reads as follows:

$$MEG_{j,d} = \beta_0 + \beta_1 FFPI_j + \beta_2 \gamma_d + e_{j,d}, \tag{2}$$

where $MEG_{j,d}$ refers to the motherhood employment gap, or the p.p. difference between the employment-population ratios of women with young children and women with older children, both of demographic group d in state j, and $FFPI_j$ is the position in the ranking based on the FFP index in state j. γ_d are the demographic fixed effects for demographic group d. The term e_j represents the error term. β_1 is the coefficient of interest that shows the relationship between the ranking of family-friendly policies and the motherhood employment gap.

4.1 Education

Table 3 Column (1) shows the estimated coefficients when computing the motherhood employment gap within the education category and including education fixed effects, i.e., "High school or less," "Some college," "Bachelor or more." Results show that an increase of one position in the ranking of

family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of −0.18 p.p., or in other words, with a 0.18 p.p. worse employment rate of women with young children relative to women with older children. Moving from a state in the first quartile of the ranking of family-friendly policies to a state at the third (a decline in 25 positions in the ranking) is correlated with a change in the motherhood employment gap equal to −4.4 p.p. Given that the interquartile range for the motherhood employment gap is 8.20 p.p. (see Table 1), close to 54 percent of the interquartile range variation might be explained by differences in the coverage of family-friendly policies.

Table 7 in Appendix A presents the education fixed effects. Results show that the motherhood employment gap decreases with women's educational attainment level. More specifically, the motherhood employment gap is wider for women with at most a high-school diploma than for women with some college education—9.44 p.p. and -4.65 p.p., respectively. For women with a bachelor's degree or more, the motherhood employment gap is closer to 0 and equal to -0.18 p.p.

Table 3. Regression Results with Demographic Controls

	Dependent variable:			
	MEG			
	(1)	(2)	(3)	(4)
FFPI	−0.176***	−0.133**	−0.122*	−0.133**
	(0.058)	(0.067)	(0.070)	(0.066)
Education FE	✓			
Education-Age FE		✓		
Education-Age-Race FE			✓	
Education-Age-Married FE				✓
Observations	153	284	508	507
R2	0.167	0.095	0.119	0.107

Adjusted R^2	0.150	0.076	0.086	0.085
Residual Std. Error	10.271 (df = 149)	16.272 (df = 277)	21.563 (df = 489)	21.018 (df = 494)

Note: *p<0.1; **p<0.05; ***p<0.01.

4.2 Education and Age

Table 3 Column (2) shows the estimated coefficients when computing the motherhood employment gap within the education-age category and including education-age fixed effects. The age groups are 25-39 years and 40-54 years, making a total of six differentiated demographic groups by state. Results show that an increase of one position in the ranking of family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of -0.12 p.p., or in other words, with a 0.12 p.p. worse employment rate of women with young children relative to women with older children. Moving from a state in the first quartile of the ranking of family-friendly policies to a state at the third (a decline of 25 positions in the ranking) is correlated with a change in the motherhood employment gap equal to -3.325 p.p. Given that the interquartile range for the motherhood employment gap is 8.20 p.p. (see Table 1), 40 percent of the interquartile range variation might be explained by differences in the coverage of family-friendly policies.

Table 8 in Appendix A presents the education-age fixed effects. Results show that, all else equal, the motherhood employment gap for any given level of education is wider for the younger age group (25-39) than for the older one (40-54). This could be explained by the fact that younger women usually have shorter career paths, so their attachment to the labor market is weaker than that of older women. Women with at most a high-school degree, both in the younger and older age groups, experience the widest motherhood employment gap.

4.3 Education, Age, and Race

Table 3 Column (3) shows the estimated coefficients when computing the motherhood employment gap within the education-age-race category, including education-age-race fixed effects. The race groups are "white," "Black," and "other," which includes individuals of Asian and other descent, making a total of 18 differentiated demographic groups by state. Results show that an increase of one position in the ranking of family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of -0.12 p.p., or in other words, with a 0.12 p.p. worse employment rate of women with young children relative to women with older children. Moving from a state in the first quartile of the ranking of family-friendly policies to a state at the third (a decline in 25 positions in the ranking) is correlated with a change in the motherhood employment gap equal to -3.075 p.p. Given that the interquartile range for the motherhood employment gap is 8.20 p.p. (see Table 1), 38 percent of the interquartile range variation might be explained by differences in the coverage of family-friendly policies.

Table 9 in Appendix A presents the education-age-race fixed effects. Results show that, when all else is equal, the motherhood employment gap is the highest for women in the younger age group who are non-white (this is either Black or of Asian or other descent) and who have attained at most a high-school degree. Some of these observations are only available for a few states, so the noise with which the fixed effects are estimated can be substantial. This seems particularly relevant for the "Asian or other descent" group.

Adding demographic controls reduces the magnitude of the effect slightly, but the correlation remains quantitatively important and statistically significant.

4.4 Education, Age, and Marital Status

Table 3 Column (4) shows the estimated coefficients when computing the motherhood employment gap within the education-age-marital status category and including education-age-marital status fixed effects. The marital status groups are "married and spouse present" and "all other groups," making a total of 12 differentiated demographic groups by state. Results show that an increase of one position in the ranking of family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of -0.12 p.p., or in other words, with a 0.12 p.p. worse employment rate of women with young children relative to women with older children. Moving from a state in the first quartile of the ranking of family-friendly policies to a state at the third (a decline in 25 positions in the ranking) is correlated with a change in the motherhood employment gap equal to -3.05 p.p. Given that the interquartile range for the motherhood employment gap is 8.20 p.p. (see Table 1), 37 percent of the interquartile range variation might be explained by differences in the coverage of family-friendly policies.

Table 10 in Appendix A presents the education-age-marital status fixed effects. Results show that the motherhood employment gap, all else equal, is the widest for women in the younger age group who are married, whose spouse was present in the household, and who have less than a bachelor's degree. This could be explained by the fact that women within this demographic group could still rely on their spouse's income.

5. COVID-19 AND THE DISRUPTION OF CHILDCARE PROVISIONS

The COVID-19 pandemic has resulted in fundamental disruptions of formal and informal childcare systems, making the provision of family-friendly policies more necessary than ever.

The regression analysis shows that state-level coverage of family-friendly policies was a more substantial determinant of the relative employment levels of women with young children in 2022 than in 2019. The results for the regression redone for January-April in 2019, using the 2019 FPPI ranking with no demographic controls, are presented in Table 4 and with demographic controls in Table 5, where we find smaller coefficients that are not statistically significant at the standard levels of significance.

This could be linked to the fact that pre-pandemic state-level family-friendly policies were accompanied by informal provisions of care, compensating for circumstances where state-level funding of formal policies was scarce. Such informal childcare provisions were fundamentally disrupted by the COVID-19 pandemic (Zang et al. 2022). The pandemic also disrupted formal care through the closures of childcare centers. According to Child Care Aware of America, about 9 percent of the nation's childcare programs closed between 2019 and 2021.[10]

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[10] You can find the summary and report here. From December 2019 to March 2021, they found a total of 8,899 childcare centers closed in 37 states for which they had data. In that same time period, 6,957 licensed family childcare (FCC) programs (also known as home-based care) closed in 36 states. This represents a 9 percent loss in licensed centers and a 10 percent loss in licensed FCC programs.

Table 4. Regression Results with No Demographic Controls, 2019

	Dependent variable:
	MEG
FFPI	−0.041
	(0.064)
Observations	51
R^2	0.009
Adjusted R^2	−0.012
Residual Std. Error	6.479 (df = 49)

Note: *p<0.1; **p<0.05; ***p<0.01.

Table 5. Regression Results with Demographic Controls, 2019

	Dependent variable:			
	MEG			
	(1)	(2)	(3)	(4)
FFPI	−0.033	−0.073	−0.041	−0.028
	(0.056)	(0.067)	(0.068)	(0.063)
Education FE	✓			
Education-Age FE		✓		
Education-Age-Race FE			✓	
Education-Age-Married FE				✓
Observations	153	291	548	545
R^2	0.106	0.099	0.140	0.099
Adjusted R^2	0.088	0.079	0.111	0.079
Residual Std. Error	9.894 (df = 149)	16.317 (df = 284)	21.880 (df = 529)	20.759 (df = 532)

Note: *p<0.1; **p<0.05; ***p<0.01.

The regression result shows that the estimated effect of family-friendly policies on the motherhood employment gap is -0.04 p.p. in 2019 when including no demographic controls. That means that an increase of one position in the ranking of family-friendly policies index (worse coverage) is correlated with a change in the motherhood employment gap of -0.04 p.p.—or in other words, with a 0.04 wider employment gap between women with young children relative to women with older children. While the estimated effect of family-friendly policies on the motherhood employment gap is -0.21 p.p. in 2022 (statistically significant), in 2019 the effect was smaller in magnitude and not statistically significantly different from zero.

When including age-education-race fixed effects, the estimated effect of family-friendly policies on the motherhood employment gap changes from -0.12 in 2022 to -0.04 in 2019; from -0.18 in 2022 to -0.03 in 2019 when including education fixed effects; from -0.13 in 2022 to -0.07 in 2019 when including age-education fixed effects; and from -0.13 in 2022 to -0.03 in 2019 when including age-education-marital status. Moreover, none of the 2019 estimates of the effects are statistically significantly different from zero.

6. POLICY IMPLEMENTATION

This study comes at a time when the need to establish and reveal the relationship between comprehensive family and care policies and women's employment levels is greater than ever before.

In September 2021, The US Treasury released a report on the economics of childcare supply in the United States and deemed the existing childcare system (which relies on private financing by parents) unworkable due to several market failures. These failures, such as positive externalities that arise from the spillover effects of adequate childcare and the liquidity constraints that parents face in early childcare, provide a strong economic argument for an increased government role in this sector. Under current policy, ironically, families that can least afford childcare are the ones receiving the least government assistance. For instance, under the current child tax credit regime, families with

little or no income receive little to no money. This dire situation increased with the expiration of the expanded child tax credit in December 2021.

At the same time, we have witnessed a rise of dangerous rhetoric around family-friendly policies in the wake of the overturning of Roe v. Wade. Anti-choice arguments seek to misuse expanding child support as an excuse to curtail people's reproductive rights. Conservative proposals to improve childcare coverage are not interested in providing tax-funded support to people but rather rely on methods unlikely to support those in need. Given their focus on using funds from families' future social security spending, these proposals radically increase the financial burden on families who already face a gap in social security payments. The misemployment of family-friendly policies to serve an agenda that impedes upon the bodily autonomy of women and pregnant persons harms the very people these policies seek to protect.

The violation of reproductive rights is incongruent with the goals of family-friendly policies intended to safeguard the socioeconomic rights of parents. The relationship between the FFPI Ranking and the status of reproductive rights clearly demonstrates that states that ranked highest in the FFPI Ranking are the ones more likely to be protective of abortion rights. On the contrary, states that ranked lowest on the FFPI Ranking place the most restrictions on women's reproductive rights (see Figure 4). This correlation emphasizes the fallacy of the conservative argument that abortion restrictions are somehow "pro-life." A recent study by the Institute of Taxation and Economic Policy takes a more detailed look at the relationship between investment on children and abortion rights and reaches the same conclusion: States with most abortion restrictions are the ones investing the least in children. Another study from the National Partnership on Women and Families showed that states with abortion restrictions are the ones that mandate the lowest-funded leave benefits for health- and care-related issues. As pointed out by a recent piece in the *New York Times*, there is notable evidence that states with abortion bans are the least supportive for mothers and children.

Figure 4. Relationship with FFPI Ranking and Abortion Rights Status in 2022
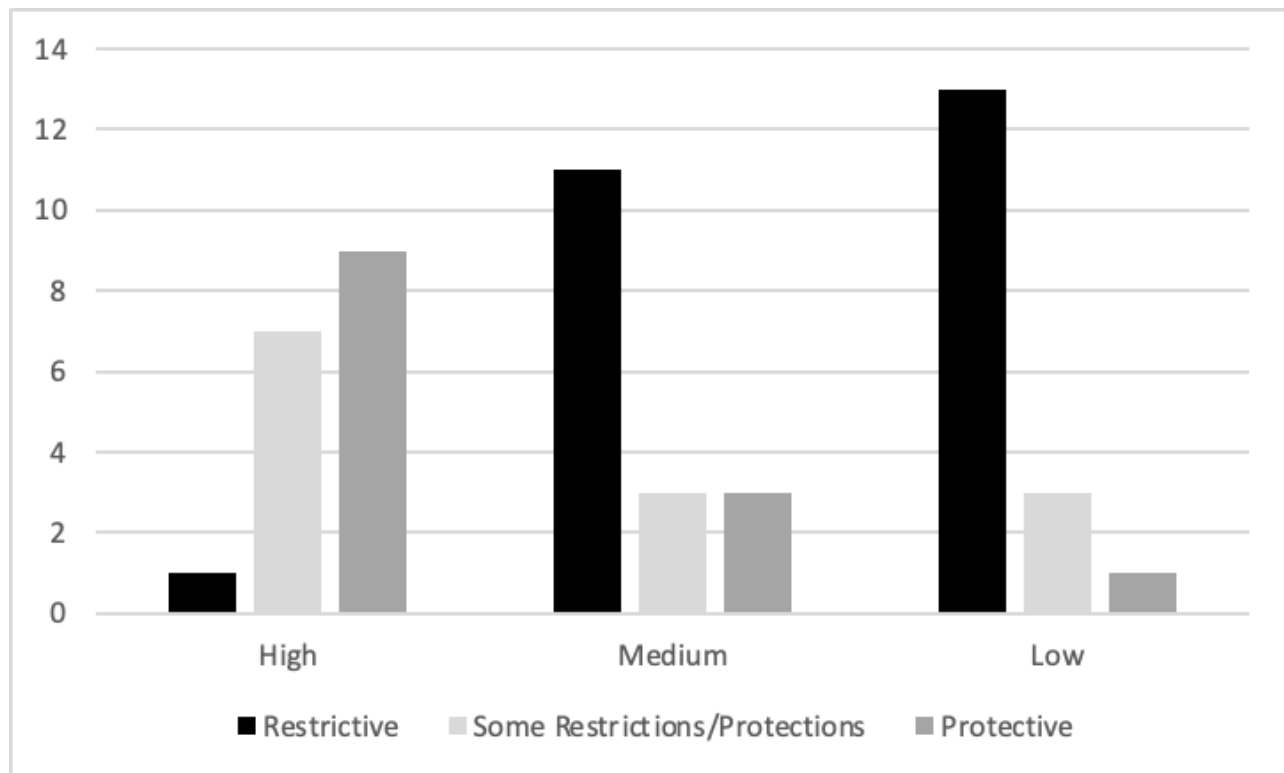
Note: The information about abortion rights is from the Guttmacher Institute (accessed on July 21, 2022).

This study comes at a time when the need to establish and reveal the relationship between comprehensive family and care policies and women's employment levels is greater than ever before. Most recently, the Massachusetts Senate voted unanimously on a reform bill aimed at increasing access to childcare provisions. State legislatures have used federal stimulus money to enact over 100 bills in 2022 and more than 200 childcare bills in 2021.

Public investment is crucial to increase and harmonize the availability of family-friendly policies to ensure a sustained and uniform level of employment gains for women across states. The results of this analysis corroborate the claims made by several economists and policymakers about the economic impacts of family-friendly policies. The correlation between state-level family-friendly policies and changes in the motherhood employment gap observed in this study alludes to the impact of family-friendly policies on women's employment. States must rise to the occasion and recognize the disproportionate childcare burden placed on women and the subsequent economic

cost of non-employed women. In the face of organized conservative backlash and the failure of federal action, state-level policies are becoming the cornerstone of policy provisions targeting families.

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APPENDIX

Table 6. FFPI Ranking, By Year

State	FFPI Ranking 2022	FFPI Ranking 2019
District of Columbia	1	2
New Jersey	2	1
Washington	3	3
Connecticut	4	9
New York	5	4
California	6	5
Rhode Island	7	7
North Carolina	8	21
Oregon	9	8
Massachusetts	10	6
Hawaii	11	14
New Mexico	12	19
Delaware	13	13
Alaska	14	11
Pennsylvania	15	18
Michigan	16	16
Vermont	17	15
Nevada	18	33
West Virginia	19	12
Minnesota	20	17
Alabama	21	22

Arkansas	22	20
Colorado	23	40
Illinois	24	25
Maryland	25	29
Georgia	26	27
Oklahoma	27	28
Kentucky	28	23
Louisiana	29	26
Tennessee	30	24
Ohio	31	31
Virginia	32	32
Arizona	33	30
Texas	34	35
Iowa	35	37
Wisconsin	36	36
Missouri	37	38
Maine	38	34
Utah	39	46
South Carolina	40	39
Florida	41	42
Mississippi	42	41
Kansas	43	43
Nebraska	44	44
North Dakota	45	45
Idaho	46	46
Indiana	46	46
Montana	46	10
New Hampshire	46	46
South Dakota	46	46
Wyoming	46	46

Figure 5. Employment–Population Ratio, by the Age of the Youngest child (0–13 on the left, 14–19 on the Right) and by a Group of States Based on Family-Friendly Policies Ranking
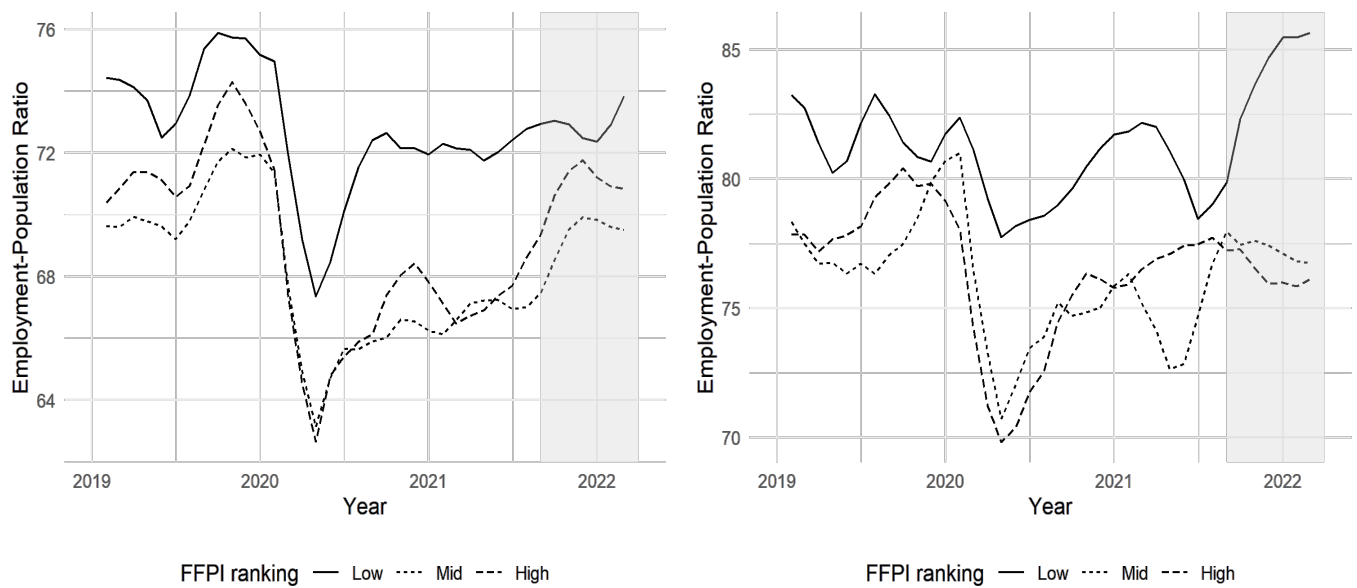
Note: Employment-population ratios of prime-age women with children aged 0-13 and of prime-age women with children aged 14-19 present in the household and smoothed using three months moving average, constructed using CPS survey weights. Results are presented by a group of states based on the 2022 FFPI ranking: "Low" includes the 17 lowest-ranked states, "High" includes the 17 highest ranked states, and "Mid" includes the 17 states in the middle. The shaded area represents the period from September 2021 to the last date included in the analysis, April 2022.

Table 7. Education FE

	FE	Nb. Obs.
HS or less	-9.44	51
Some college	-4.65	51
BA or more	-0.18	51

Table 8. Education-Age FE

	FE	Nb. Obs.
HS or less - 25-39	-14.29	45
HS or less - 40-54	-9.13	51
Some college - 25-39	-8.72	45
Some college - 40-54	-0.90	51
BA or more - 25-39	-4.94	41
BA or more - 40-54	-0.67	51

Table 9. Education–Age–Race FE

	FE	Nb. Obss
HS or less - 25-39 - White	-15.97	41
HS or less - 25-39 - Black	-25.76	15
HS or less - 25-39 - Other	-21.21	15
HS or less - 40-54 - White	-10.95	50
HS or less - 40-54 - Black	-9.80	28
HS or less - 40-54 - Other	-13.08	21
Some college - 25-39 - White	-13.15	43
Some college - 25-39 - Black	-1.14	14
Some college - 25-39 - Other	-16.28	8
Some college - 40-54 - White	-0.94	49
Some college - 40-54 - Black	1.00	28
Some college - 40-54 - Other	-2.52	23
BA or more - 25-39 - White	-4.00	36
BA or more - 25-39 - Black	1.49	11
BA or more - 25-39 - Other	-28.40	7
BA or more - 40-54 - White	-0.78	51
BA or more - 40-54 - Black	3.62	31
BA or more - 40-54 - Other	-8.17	37

Table 10. Education–Age–Spouse Present FE

	FE	Nb. Obs.

HS or less - 25-39 - Married, Spouse Present	-25.61	37
HS or less - 25-39 - No Spouse Present	-8.78	39
HS or less - 40-54 - Married, Spouse Present	-9.67	51
HS or less - 40-54 - No Spouse Present	-8.08	51
Some college - 25-39 - Married, Spouse Present	-13.96	29
Some college - 25-39 - No Spouse Present	-6.82	40
Some college - 40-54 - Married, Spouse Present	1.14	48
Some college - 40-54 - No Spouse Present	-3.12	49
BA or more - 25-39 - Married, Spouse Present	-3.37	32
BA or more - 25-39 - No Spouse Present	0.50	29
BA or more - 40-54 - Married, Spouse Present	-0.50	51
BA or more - 40-54 - No Spouse Present	-0.68	51