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Are States Created Equal? Moving to a State With More Expensive Childcare Reduces Mothers' Odds of Employment

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ABSTRACT Married mothers who relocate are less likely to be employed after an interstate move than married childless women and nonmobile mothers. Here, we ask whether moving to a state with more expensive childcare is associated with lower odds of maternal employment among mothers who had been employed prior to relocation. We use hierarchical binomial logistic regression models, combining data from the 2015 American Community Survey five-year sample and state-level childcare costs to assess married mothers' employment following an interstate move, controlling for states' economic conditions. We show that employment odds for married mothers were about 42% lower than those for childless married women in the year following a move. Married mothers who moved to more expensive childcare states had odds of employment that were 18% lower than those of married mothers who moved to less expensive childcare states, showing that childcare accessibility shapes mothers' employment decisions even among those with stronger labor force attachment. Moving back to respondents' or their spouses' state of birth and moving to states with more favorable economic conditions improved odds of employment as well. Overall, we show that moving to states with fewer childcare barriers is associated with higher levels of maternal employment, partly mitigating the negative labor market effects of interstate migration.

KEYWORDS Women's employment • Interstate mobility • Trailing spouses • Childcare costs

Introduction

A robust literature on the labor market outcomes of trailing spouses, or spouses who move to accommodate their partners' career, shows that (1) women are more likely to move for their husbands' careers than vice versa, and (2) women who move to enhance their husbands' careers face a career penalty in that they are less likely to be employed and are more likely to occupy lower-quality jobs (Cooke et al. 2009; Geist and McManus 2012). Of course, the shift toward gender egalitarianism means that more men are moving for women's careers than in the past (Bernard 2014; Harvey and Wiese 1998). However, even when husbands are the trailing spouses, men have better career outcomes than women who trail their husbands (Boyle et al. 2001). Simply

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put, mobility is a greater career killer for wives than husbands. Interstate mobility may be especially detrimental to married mothers' employment. Mothers are more likely to reduce work time or leave the labor market upon the transition to parenthood (Landivar 2017; Yavorsky et al. 2015), and the lack of universal high-quality childcare or flexible work protections make maternal employment more precarious when work-family policies are left to the discretion of individual employers (Esping-Andersen 1990; Gornick and Meyers 2003). Adding an interstate move that disrupts mothers' employment and childcare networks may further alienate working mothers from the labor market. Thus, mothers may be especially vulnerable to career disruptions following an interstate move compared with fathers or childless women.

Most internal migration is driven by employment opportunities (Cooke et al. 2009; Flippen 2014; Halfacree and Boyle 1999; Perales 2017), suggesting that internal migrants move to maximize their skills in the most lucrative labor markets and weigh their resources against their opportunities to maximize returns (Mincer 1978). Mothers with the most resources—those with the highest levels of education and strongest labor market attachment—should be best equipped to maintain employment post-mobility. But highly educated mothers are often married to highly educated men, which has been shown to reduce maternal employment following childbirth (Cha 2010). Thus, married mothers' and their spouses' human capital may be equally important drivers of their employment post-mobility. Yet, absent from these individual- and couple-level studies are the resources at the geographical level—here, states—in structuring married mothers' employment following a move. Married mothers may be less likely to reenter the labor market if they move to a state where childcare costs are higher or economic conditions are less favorable than if they move to a state with lower childcare costs and more favorable economic conditions. We build on existing scholarship that illustrates country-to-country differences in geographical context on mobile women's employment by extending this approach to mobility across U.S. states.

To address these questions, we link data for a large sample of married women who were employed in the past year with state-level measures of childcare costs and cultural and economic conditions. Because interstate mobility is limited to a small percentage of the employed population in a given year, we require a large sample to generate robust model estimates of mobile women. We use the American Community Survey (ACS), the largest household survey in the United States and the premier source of annual geographic data, because it has a sufficiently large sample of married mothers to estimate the effects of interstate mobility with precision. Our application of cross-sectional data does not allow us to disentangle causality about mobility—that is, whether women are moving for their own career, another's career, or other reasons. However, we limit our analyses of mobile married women to those who have been employed and moved in the past 12 months. By excluding those with long spells of unemployment or nonparticipation in the labor force, we evaluate mobility and employment changes over the same period for a sample of married women who were recently employed. These women are more likely to be attached to the labor market: about 87% of our sample of mobile women who were employed at any point in the past 12 months were still employed at the time of the survey. We also compare mobile married women *without* children with married *mothers* whose children are under age 13 to understand the impact of childcare costs on mothers' employment relative to general state economic conditions that may hinder or bolster

employment among women more broadly. Consistent with the cross-national literature, our results underscore that maternal employment is higher post-migration in states with more generous childcare resources.

Trailing Spouses: Marriage and Mobility

Research has shown that young, single, college-educated women are most likely to move to maximize employment opportunities (Enchautegui 1997; Kazakis and Faggian 2017; Ternes 2014). Once women marry, however, they are more likely make decisions for their families, often at the expense of their own careers (Damaske 2011). Married women are more likely to be "tied migrants" or "trailing spouses" in interstate moves (Amcoff and Niedomysl 2015). Faced with institutionalized gender inequality in the labor market and normative pressures to put their husbands' careers first, married women move for their spouses because men's economic returns are often higher (Blackburn 2010; Boyle et al. 2009). Men are also more likely to be employed in occupations that are geographically clustered within specific states, making men more vulnerable to mobility (Benson 2014). In this regard, wives may weaken their labor market positions to maximize men's earnings by moving to accommodate husbands' career opportunities. Thus, it is no surprise that the bulk of the literature has found that female trailing spouses have worse labor market outcomes than those who are less mobile (Bielby and Bielby 1992; Boyle et al. 2001; Cooke and Bailey 1996; Halfacree and Boyle 1999).

Interstate mobility likely reduces the employment of married women regardless of whether they have children. Women who are trailing spouses may be in a weaker economic position than their spouses, hampering their labor force continuity. The literature has also shown that married women are more likely to move for their husbands' careers than vice versa and experience an employment reduction as a consequence (Cooke et al. 2009; Geist and McManus 2012). However, mothers' labor force attachment may be even more vulnerable in an interstate move compared with childless women. Mothers who move may disrupt attachment to an employer and existing caregiving networks. To the extent that flexible work promotes mothers' employment and advancement opportunities (Landivar 2014; Lyness et al. 2012) and flexibility is frequently dependent on management discretion and job tenure (Blair-Loy 2003; Epstein et al. 1999), changing employers may result in less flexible work arrangements, which could diminish mothers' likelihood of retaining employment. Further, most individuals turn to family and friends or the market for childcare, and moving destabilizes these networks. As a result, maternal employment after an interstate move may be difficult, regardless of for whom the move was initiated. These experiences may be exacerbated by moving to a state where childcare is more expensive. Of course, not all married women migrants are trailing spouses. But other conditions, such as the lack of universal childcare and the influence of traditional gender norms, mean the consequences of mobility on mothers' employment is likely more severe for married mothers than for fathers or childless women.

We test whether interstate mobility is associated with labor force exits for married childless women and married mothers. We expect that following an interstate move, the odds of employment for mobile married women will be lower than for our

nonmobile married population. By contrast, employment odds for mobile married women who move for their own careers should be similar to or higher than those for the nonmobile women sample. Mobile women tend to be younger and hold more education than nonmobile women, indicating selectivity into mobility (Enchautegui 1997; Kazakis and Faggian 2017; Ternes 2014). Yet, the characteristics associated with mobility should also lead to *stronger* labor force attachment post-migration, an outcome that may be more common among couples in which women contribute a larger share of the family income. To test this possibility, we develop a dependency ratio of women's earnings as a proportion of their spouses' earnings. Women who contribute an equal or larger share to the family income should maintain employment post-mobility, regardless of state-level characteristics. By contrast, women—especially mothers—who are more dependent on their husbands (i.e., earning less than their husbands or having no income) should be more likely to exit employment post-mobility, especially when faced with more expensive childcare costs.

From this, we derive our first set of hypotheses:

Hypothesis 1a (H1a): Mobile married women will have lower odds of employment than nonmobile married women.

Hypothesis 1b (H1b): Mobile mothers will have the lowest odds of employment compared with mobile childless women and nonmobile mothers.

Hypothesis 2a (H2a): Married childless women with lower prior-year earnings than their spouse (higher dependency ratio) will be less likely to be employed post-move than married childless women with a lower dependency ratio.

Hypothesis 2b (H2b): Married mothers with a higher dependency ratio will be less likely to be employed post-move than mothers with a lower dependency ratio as well as married childless women.

Childcare Contexts, Cultural Settings, and Economic Conditions: State-Level Resources

As the previous section outlines, mobility weakens mothers' labor market attachment. Yet, no study to date has assessed whether moving to a state with less expensive childcare or more favorable cultural and economic conditions mitigate some of this disadvantage. This omission is conspicuous given cross-national research showing that maternal employment is tied to differences in host and receiving countries. International migration involves substantial cultural readjustment for families, particularly for spouses of primary migrants, who often find themselves unable to secure work in their field of employment or struggle to adapt their preexisting skills to a new sociocultural context (Boyle et al. 2001; Gordon and Molho 1985). Because U.S. states exhibit significant heterogeneity in economic opportunities and gender norms (McCall 2001; Ruppanner and Maume 2016; Scarborough et al. 2019), interstate migration may have some similarities to an international move. Although the consequences of these state-level characteristics have received less attention in the context of interstate migration, research has established their relation to women's employment outcomes writ large. Regional labor markets with a greater share of managerial

and professional occupations, for example, have been associated with higher wages for women (McCall 1998), whereas areas with more widespread support for gender equality have increased rates of women's employment and lower gender wage gaps (Charles et al. 2018).

Research on the impact of internal migration on husbands' and wives' economic outcomes has placed less emphasis on the differing cultural contexts between migrants' places of origin and their new work destinations, assuming that most developed countries are reasonably culturally homogenous. As such, it has assumed that internal migrants' employment outcomes are driven more by individuals' demographic qualities than by the broader cultural contexts in which they live (Blackburn 2010; Enchautegui 1997; Flippen 2014; Kazakis and Faggian 2017; Perales 2017; Ternes 2014). Consequently, the role of the state in outcomes for internal migrants has been largely ignored across this literature, with no research on migration simultaneously accounting for individual- and state-level differences. This study is one step in this direction.

We expect that states with more favorable economic conditions in the form of higher wages, a larger share of the population with advanced degrees, and a larger share of their workforce in managerial and professional occupations will retain or draw more women into employment post-move. States with cultural norms that are more supportive of women's employment and, especially mothers' employment, should also show higher levels of labor force participation among these women. From this literature we derive the following hypothesis:

> *Hypothesis 3* (H3): Moving to a state with more favorable economic and cultural conditions will be associated with higher labor force participation among mobile mothers and childless married women.

In addition to heterogeneity in cultural and economic conditions impacting women's employment, states vary in their childcare costs. Childcare costs are driven by a host of factors, including the availability and cost of labor (Herbst 2015), state-sponsored services and availability of funding for Head Start and childcare subsidies (Herbst 2008), and local costs of operation (i.e., rents, utilities, and taxes). State-sponsored preschool programs can be found in 42 states, mostly serving 4-year-olds. However, enrollment in public programs is concentrated in just 8 states and Washington, DC, together serving more than 50% of all 4-year-olds in the country's public programs (Chaudry et al. 2017). Younger children and infants who are more expensive to provide care for have fewer public options. Even as states are increasingly important actors in legislating childcare, they are far from offering universal provisions. Costs remain primarily driven by the market. In 2015, center-based infant care ranged from $4,822 per year in Mississippi to $17,062 per year in Massachusetts (Child Care Aware of America 2016). Even after children enter school, many parents continue to pay aftercare costs for the gap between the end of the school day and parents' workdays. States that have higher childcare costs also have higher aftercare costs, ranging from $1,104 per year in Louisiana to $8,919 in Hawaii (Child Care Aware of America 2016). After-school care is equally important, with 83% of working parents reporting after-school care is essential for them to keep their jobs (Afterschool Alliance 2014).

We expect that expensive childcare will be a barrier to maternal employment. Mothers are more likely to exit and less likely to reenter the labor market as childcare

costs increase (Blau and Tekin 2007; Han and Waldfogel 2001). Mothers of young children and those working in low-income jobs are more vulnerable to labor market exits when faced with expensive childcare costs (Blau and Robins 1989; Gelbach 1999; Leibowitz et al. 1992). At the state level, Ruppanner and colleagues (2019) showed that mothers spend more time engaged in childcare and less time in employment in states with more expensive childcare costs. These studies collectively extended a robust cross-national literature showing that affordable, high-quality, and widely available childcare is associated with higher odds of maternal employment (Boeckmann et al. 2015; Misra et al. 2011; Pettit and Hook 2005).

From this literature, we expect that moving to a state with more expensive childcare will be associated with decreased labor force participation among mothers. We focus here on married mothers of young children (under age 13) because married mothers' employment is more sensitive to the costs of childcare than single mothers', and childcare costs, including the costs of school aftercare, typically apply to younger children.[1] As a sensitivity test to pick up any confounding characteristics not controlled for by the cultural and economic index, we model how the costs of childcare affect employment among mobile childless married women. After including state-level control variables, we expect childcare costs to have no effect for this group because they have no children.

Hypothesis 4 (H4): Moving to a state with higher childcare costs will be associated with lower labor force participation among mobile mothers of young children.

Data

Data for these analyses come from the 2015 American Community Survey Public Use Microdata Sample (ACS) five-year file provided by the Integrated Public Use Microdata Series (IPUMS) (Ruggles et al. 2015).[2] We use the ACS because it is an ideal source for measuring cross-state moves. As the largest household survey in the United States, the ACS provides the highest-quality geographic data among nationally representative surveys. Furthermore, because interstate mobility is uncommon in any given year, we require a large sample size to observe enough individuals making a recent interstate move. Although we use cross-sectional data pooled over five years, we limit our sample to married women who have been employed at some point in the past 12 months regardless of their current employment status. Thus, we can determine whether mobile women left the labor force in the year they moved. Although other surveys (e.g., National Longitudinal Survey of Youth, Panel Study of Income Dynamics) offer more detailed data on the timing of moves and are longitudinal, their samples are prohibitively small for examining the association between mobility and employment among married mothers by state. The sample size for our primary population of interest (geographically mobile mothers) in these other

[1] Analyses replicated for mothers of younger children (under age 6) substantiated our conclusions.

[2] The Census Bureau recommends using five-year samples for analyses of detailed groups or when focusing on specific geographies. These samples pool five consecutive years of the ACS, which are intentionally sampled to ensure that no respondents are surveyed twice and are weighted to be nationally representative. The 2015 five-year sample used here includes surveys from 2011 through 2015.

data sets would fail to meet recommended quality standards for logistic regression (Peng et al. 2002). Given these constraints, the ACS is the best data source for our research questions.

Our analyses are based on married women who have been employed and moved out of state in the past 12 months, for which the total sample size is 229,351 (10,730 unweighted) childless married women and 228,035 (10,104 unweighted) mothers. We use the sample weights provided by the Census Bureau. Because changes in childcare costs should primarily affect those with younger children, we exclude women whose youngest child is 13 or older. Mothers in these analyses refer to those who have at least one child who is younger than 13. Childless married women are those who have no children or no children living at home. Geographic mobility is determined by the respondent's current address and the ACS mobility question that reads, "Where did this person live one year ago?" This question is asked of those who indicated living in a different location in the past year. We use hierarchical binomial logistic regression models to assess how state childcare costs and cultural and economic conditions are associated with women's labor force participation. Our observations are nested within states, and hierarchical models account for this type of data nesting because they do not require the assumption of independence between observations.

Our dependent variable is a binary measure of labor force participation (1 = in labor force; 0 = not in labor force). We control for age and age squared, race and ethnicity (White, not Hispanic; Black; Asian; other races; or Hispanic), educational attainment (high school or lower, some college, bachelor's degree, or master's degree and higher), and usual hours worked. We create a dependency ratio by dividing the spouse's earnings by women's earnings in the past 12 months. A dependency ratio over 1 indicates that women earned less than their spouses in the past 12 months. We top code the dependency ratio to 10 to limit extreme outliers generated by cases in which women had very low earnings (e.g., less than $500 in the past year). Because of differences in the cost of living across states, we adjust earnings using regional price parities from the Bureau of Economic Analysis. Regional price parities measure the differences in price levels across states and are expressed as a percentage of the overall national price level (Bureau of Economic Analysis 2018). We control for moving back to the respondent's or spouse's state of birth to account for the possibility that doing so may offer respondents the benefit of having available relatives (e.g., grandparents) to provide childcare.

At the state level, we include an index of childcare costs and an index of cultural and economic conditions. Average yearly childcare costs are obtained from Child Care Aware of America (2016). We combine the state-level average infant center-based and paid home-based costs (r = .89), and the state-level average center-based and paid home-based aftercare costs (r = .95). Because these metrics are highly correlated at the state level, we develop an index of childcare costs (alpha = .88). States that have higher infant care prices tend to have higher aftercare costs, and center- and home-based costs track each other well, even as center-based costs are higher. Alternative specifications yielded very similar model results.[3] Costs are logged and

[3] We evaluated additional variables that could affect childcare costs, but they did not meaningfully affect the results and increased collinearity; they are thus excluded. These variables include whether respondents lived in an area designated as a childcare desert, the percentage of children enrolled in Head Start, the Child Care and Development Block Grant required parental copayments and maximum reimbursement

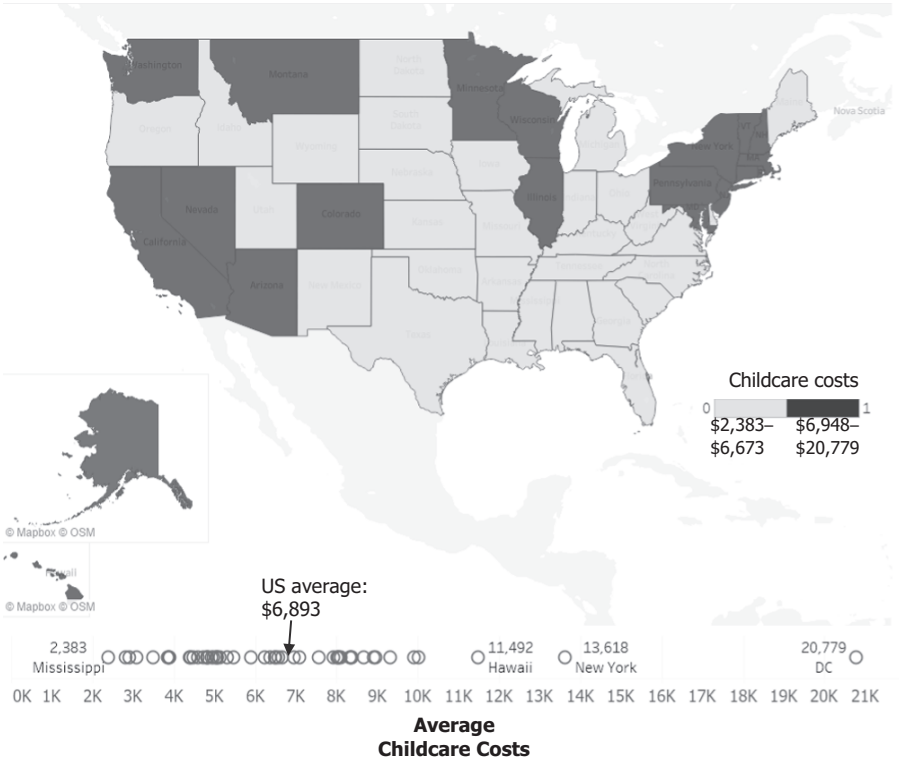

Fig. 1 State distribution of childcare costs. States with higher childcare costs are indicated in a darker color and represent yearly costs higher than the U.S. average. Childcare costs are an index of the yearly average cost of center-based infant and school-age care and paid home-based infant and school-age care. *Source:* Child Care Aware of America 2016.

adjusted with regional price parities. Using our index of childcare costs, we designate states as having higher childcare costs if they have costs that are higher than the average across states where the U.S. average is $6,893. Figure 1 shows states' distributions across this measure. States with higher childcare costs were primarily concentrated in the Northeast and West and a few states in the Midwest. We generate an additional measure evaluating whether childcare costs increased or decreased in the destination state compared with the origin state. We code respondents as moving to a state with a higher cost of care if they moved from a state where childcare costs were lower than average or average to a state where costs were higher than average.[4] About

rates, minimum work hours required of parents receiving state childcare subsidies, and length of school day (longer school days were associated with lower aftercare costs).

[4] Results were robust to multiple specifications of increased costs in addition to the mean, or average costs, including the 40th and the 75th percentiles. Moving from a low-cost childcare state to a higher-cost childcare state was associated with reduced employment odds among mothers even with smaller increases in childcare costs. The association between mothers' employment and childcare costs was stronger when moving to the most expensive states (childcare prices at the 75th percentile or higher) and significant, but

Table 1 Descriptive statistics of mobile married women ages 25–54 and employed in the past 12 months by parental status

	Mobile Women No Children		Mobile Women With Children Under Age 13	
Variable	Mean	SE	Mean	SE
Individual Level				
Age	36.0	0.1	34.8	0.1
Race and ethnicity				
White, not Hispanic	70.9	0.6	66.5	0.6
Black	7.3	0.4	9.7	0.4
Asian	10.3	0.4	9.3	0.4
Other	5.3	0.3	6.7	0.3
Hispanic	9.1	0.4	12.1	0.4
Educational attainment				
High school or lower	15.0	0.5	16.2	0.5
Some college	24.0	0.5	29.8	0.6
Bachelor's degree	33.2	0.6	29.9	0.6
Master's degree or higher	27.8	0.5	24.1	0.5
Labor force status				
Full-time (35+ hours)	68.2	0.6	55.2	0.6
Part-time (<35 hours)	15.0	0.5	19.7	0.5
Unemployed	7.1	0.3	7.5	0.3
Out of labor force	9.7	0.4	17.6	0.5
Usual weekly work hours	39.3	0.2	35.9	0.2
Dependency ratio	2.2	0.3	3.2	0.4
Returned to home state	25.8	0.5	29.4	0.6
State Level				
Live in state with high childcare cost	44.1	0.6	40.8	0.6
Childcare costs increased post-move	19.3	0.5	19.7	0.5
Economic and cultural conditions	0.0	0.1	-0.1	0.1

Source: U.S. Census Bureau, 2011–2015 American Community Survey Public Use Microdata Sample.

41% of mothers currently reside in a state with a higher cost of care, and about 20% of mothers who moved experienced increased childcare costs post-move (Table 1).

To construct our index of cultural and economic conditions, we combine state-level data on the percentage of the population with advanced degrees, women's median earnings, the share of the working population employed in managerial and professional occupations, the state minimum wage, and public support for feminism. We include these measures primarily to control for the confounding effects of state-to-state economic and cultural differences that could be associated with higher childcare costs. Data on advanced degrees, median earnings, and occupations come from the 2015 American

weaker when moving to more expensive states defined at a lower-cost threshold (40th percentile or higher relative to those living in sub-40th percentile states). Employment odds remained lower among mothers that moved from a lower-cost state to a higher-cost state even among moves that occurred between states below the national average in childcare costs.

Community Survey five-year file. State minimum wage data for 2015 are obtained from the Department of Labor's historical archive. Data on cultural gender norms are less readily available at the state level because few surveys measure attitudes and beliefs with large enough samples for state analysis. Therefore, we use organic data measuring public sentiment toward feminism expressed on Twitter. We use an established data set that has been validated in previous research (Scarborough 2018), using naïve Bayes classification to code 105,066 tweets about feminism as positive or negative and linking them to states based on Twitter users' bios to calculate the percentage of positive tweets toward feminism in each state.[5] Research indicates that support for feminism correlates with cultural norms of gender egalitarianism more broadly (Banaszak and Ondercin 2016; Scarborough 2018). Given research showing that this measure correlates highly with average state support for equal divisions of household labor ($r = .5$; Scarborough 2018), we use this item to capture states' cultural environment. Because our state-level economic and cultural variables are on different metrics, we standardize them using z scores prior to combining them into an index (alpha = .85). Places with better economic conditions (e.g., higher wages and better job opportunities) tended to have more positive support toward feminism. We include this index in our models to test whether states' economic and cultural contexts outweigh the higher childcare costs in these areas.[6]

Our use of cross-sectional data limits our ability to control for unobserved individual and state characteristics. To mitigate for individual-level confounders, we test our hypotheses comparing a sample of mobile married women who do not have children with a sample of women who do. Unobserved confounders associated with interstate moves and employment would affect both mobile mothers and mobile nonmothers, but only mothers would be affected by childcare costs. To mitigate against state-level confounders, we conduct additional models that include a state fixed effect to control for unobserved state characteristics. Although the state fixed effect makes it impossible to model the relationship of specific state characteristics, such as overall childcare costs, to mothers' employment, it does allow us to examine the effect of moving to a high-cost state from a low-cost state because values for this item vary within states depending on respondents' state of origin.

Results

Interstate mobility among married women is uncommon in any given year. In our sample, about 2% of employed married women migrated to another state during a 12-month period. Those who moved tended to be younger and more highly educated.

[5] Despite the nonsystematic sampling of Twitter data, this measure of state-level sentiment toward feminism is correlated ($r = .5$) with representative state-level gender attitudes measured by the General Social Survey (GSS) (Scarborough 2018). Because of restrictions on the use of sensitive data, we are unable to use the geocoded GSS attitudinal data here. Furthermore, in its previous application (Scarborough 2018), the GSS state-level data included only 38 states, which would have significantly reduced our sample size. We generated the economic and cultural index without state-level sentiment toward feminism as a robustness check, and the model results remained unchanged. The economic and cultural index was slightly improved with the inclusion of state-level sentiment toward feminism (alpha = .85) over the version without its inclusion (alpha = .84), and model fit was superior, so we opted to retain it.

[6] In addition to economic and cultural characteristics, we also controlled for population, employment, and service sector growth since the year 2000. None of these variables were significant.

Descriptive statistics for mobile married women are provided in Table 1, and descriptive statistics for nonmobile married women are available in the online appendix. Labor force participation rates of nonmobile married women were higher than those for mobile married women with or without children. Among women (with and without children) who had been employed one year earlier, 79% of mobile women and 93% of nonmobile women remained employed the following year (not shown). Women who moved to the East Coast and Nebraska were more likely to remain employed following a move than women who moved to other states (Figure 2).

Interstate mobility was especially detrimental to mothers' employment. Following a move, mothers were less likely to be employed or to work full-time than mothers who did not move. Only 75% of mothers who had worked in the past 12 months were working at the time of the survey if they experienced a move.[7] In contrast, 92% of nonmobile mothers remained employed (Table A1 in the online appendix). Focusing on full-time employment, about 67% of nonmobile mothers were employed full-time at the time of survey, compared with 55% of mobile mothers. Among mothers not working, 7.5% were unemployed (seeking but not obtaining work), and 18% were out of the labor force (not actively seeking work). Mobile mothers were about three times as likely to be unemployed and out of the labor force than mothers who did not move in the past year. These differences are significant and indicate that employment was substantially disrupted, given that all these women were employed in the 12 months prior to the survey date.

Controlling for demographic and economic differences between nonmobile and mobile women, we show that mobile mothers' odds of employment were less than one-third of nonmobile mothers' odds of employment (Figure 3). Additionally, among married women who were childless and mobile, relative to those who were nonmobile, the odds of employment were 0.37. Comparing mobile women, mothers were less likely to remain in the labor force. Thus, mothers and childless married women both experienced an employment penalty following a move, with a larger penalty among mobile mothers, lending support to H1a and H1b. Of course, we cannot directly measure whether these mothers were trailing their spouses or driving the moves. However, the results clearly indicate that married women experience a severe employment penalty post-migration. If women were moving for their own career opportunities, they would be more likely to be employed than nonmobile women.

Mobility and State-Level Childcare, Culture, and Economic Indices

Because mobile women differ from nonmobile women in terms of age, education, and employment, we focus our remaining analyses on comparisons between mobile married women with and without children to more readily isolate the relationship between employment and characteristics of destination states.

Competitive labor markets may be more likely to attract highly educated women with improved job prospects. In our models, we show that mobile women with the highest levels of education were most likely to remain employed fol-

[7] All descriptive statistics on labor force group differences between mobile and nonmobile mothers are statistically significant at the .05 level.

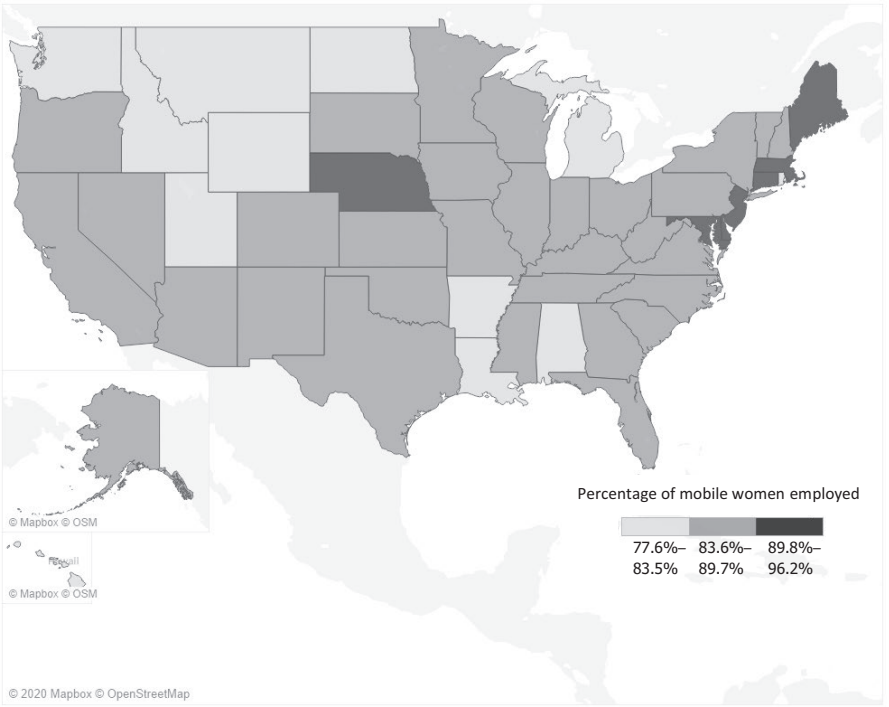

Fig. 2 Percentage of mobile women employed by state. *Source:* U.S. Census Bureau, 2011–2015 American Community Survey Public Use Microdata Sample provided by the Integrated Public Use Microdata Series (IPUMS).

lowing a move. Women with a master's degree or higher were the most likely to work following a move compared with other women, but an important motherhood gap emerges (Table 2). Compared with childless married women who had a high school education, those with a master's degree had significantly higher employment (log odds = 0.71, $p < .001$), and log odds of employment remained higher for highly educated mothers than for mothers with a high school education (0.27, $p < .001$). Thus, highly educated women are the most likely to be employed, but motherhood erodes education-based employment differences. Women who worked more hours, on average, in the past 12 months also remained more likely to be employed post-move. As shown in the descriptive statistics tables (Table 1 and Table A1 in the online appendix), mobile women were less likely to work part-time, especially mothers. Women who worked part-time prior to a move may be more likely to be knocked out of the labor force following a move, perhaps indicating trailing-spouse status as a nonprimary earner.

Economically dependent women were much less likely to be employed. Both married mothers (–0.21, $p < .001$) and childless married women (–0.17, $p < .001$) were less likely to be employed when the dependency ratio was high, confirming H2a and partly confirming H2b given that the effect sizes were only slightly larger and did not

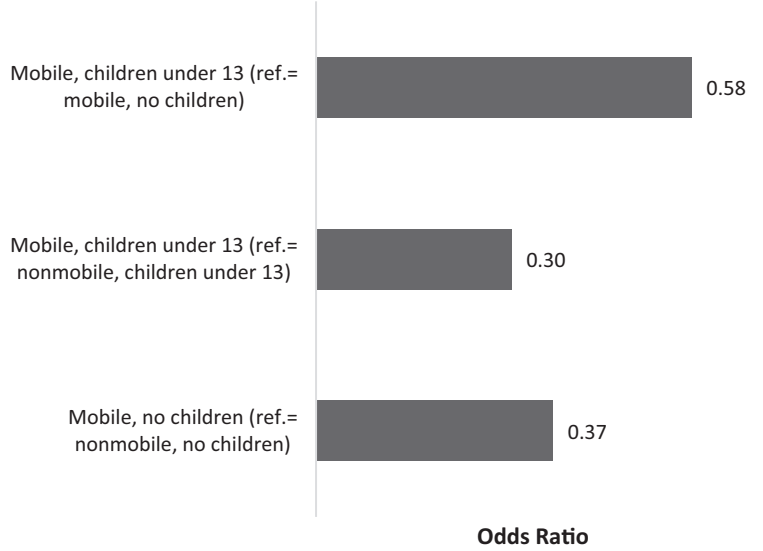

Fig. 3 Married women's employment odds by presence of children and mobility status: Hierarchical binomial logistic regression results. *Source:* U.S. Census Bureau, 2011–2015 American Community Survey Public Use Microdata Sample provided by the Integrated Public Use Microdata Series (IPUMS).

significantly differ between married mothers and married childless women.[8] Rather than being opportunities for improved job prospects, interstate moves appear to be more disruptive of married women's employment, especially when these women are more dependent on their spouses' incomes. One circumstance under which interstate moves were favorable to employment was when women moved back to their or their spouse's birth state. Moving back to a birth state was associated with higher employment among married mothers (0.25, $p < .001$) and childless married women (0.12, $p < .001$).[9] One reason moving back to a home state is associated with higher employment is that family may be available to provide childcare. Yet, this does not appear to be the only mechanism: employment was also higher among childless married women when they returned to a home state. Thus, moving back to a home state appears to offer additional networks that can lend support to finding new employment above and beyond childcare support from extended family members.

To evaluate how state context matters for mothers' employment, we turn to our final models including contextual information on cultural and economic conditions and childcare costs. Although we predicted that moving to a state with more work-supportive cultural and economic conditions would be associated with greater employment among mobile married women, this result holds only for mothers, partly confirming H3 (Table 2, Models 2 and 5). Because mothers are less likely to work

[8] In a pooled model combining mobile childless women and mothers (not shown), the interaction between economic dependency and parental status was not significant, indicating that economic dependency is associated with lower rates of employment to a similar extent among mothers and nonmothers.

[9] The interaction effect between a return to a birth state and parental status is not significant.

Table 2 Married women's labor force participation,[a] by parental status: Hierarchical binomial logistic regression results of individual-level characteristics

Variable	Mobile Women, No Children			Mobile Women, Children Under Age 13		
	Model 1 Individual Characteristics and State-Level Childcare Costs	Model 2 + State-Level Economic and Cultural Conditions	Model 3 State Fixed Effects	Model 4 Individual Characteristics and State-Level Childcare Costs	Model 5 + State-Level Economic and Cultural Conditions	Model 6 State Fixed Effects
Intercept	2.52***	2.60***	2.38***	2.27***	2.41***	2.13***
	(0.09)	(0.10)	(0.12)	(0.07)	(0.07)	(0.08)
Age	0.11***	0.11***	0.11***	0.20***	0.20***	0.20***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age Squared	–0.01***	–0.01***	–0.01***	–0.01***	–0.01***	–0.01***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Race (ref. = White, non-Hispanic)						
Black	0.32***	0.32***	0.32***	0.48***	0.48***	0.48***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Asian	–0.31***	–0.31***	0.31***	0.20***	0.20***	0.20***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Other	0.40***	0.40***	0.11***	0.28***	0.28***	0.15***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)
Hispanic	0.11***	0.11***	0.12***	0.15***	0.15***	0.29***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)
Educational Attainment (ref. = high school)						
Some college	0.14***	0.14***	0.14***	0.07***	0.07***	0.07**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Bachelor's degree	0.26***	0.26***	0.26***	–0.12***	–0.12***	–0.12***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Master's degree	0.71***	0.71***	0.71***	0.27***	0.27***	0.27***
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)

Table 2 (continued)

Variable	Mobile Women, No Children			Mobile Women, Children Under Age 13		
	Model 1 Individual Characteristics and State-Level Childcare Costs	Model 2 + State-Level Economic and Cultural Conditions	Model 3 State Fixed Effects	Model 4 Individual Characteristics and State-Level Childcare Costs	Model 5 + State-Level Economic and Cultural Conditions	Model 6 State Fixed Effects
Usual Hours Worked (per 10-hour increase)	0.28***	0.28***	0.03***	0.10***	0.10***	0.01***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Dependency Ratio	–0.17***	–0.17***	–0.17***	–0.21***	–0.21***	–0.21***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Returned to Home State	0.12***	0.12***	0.12***	0.25***	0.25***	0.25***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
State Characteristics						
High-cost childcare	0.07	–0.10	—	0.15	–0.13	—
	(0.14)	(0.17)		(0.10)	(0.11)	
Childcare costs increased	0.04	0.04	0.04	–0.20***	–0.20***	–0.20***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Economic and cultural index		0.15	—		0.25***	—
		(0.08)			(0.06)	
State Random Intercepts ($N=51$)	Included	Included	—	Included	Included	—
State Fixed Effect ($N=51$)	—	—	Included	—	—	Included
N	10,730	10,730	10,730	10,104	10,104	10,104
Likelihood Ratio Chi-Square	237,415	237,433	146,167	231,531	231,545	212,333

Note: Standard errors are shown in parentheses. Per Census Bureau specifications, standard errors that would appear to be 0.00 are rounded to 0.01.

Source: U.S. Census Bureau, 2011–2015 American Community Survey Public Use Microdata Sample.

[a] The reference category is not in the labor force.

***$p<.001$

than childless married women, they may be more sensitive to state socioeconomic conditions. Mothers are more likely to work when relocating to states that rank higher on our cultural and economic index—those states with more advanced economies and stronger feminist support (0.25, $p < .001$)—than when relocating to states that rank lower on these measures.

Among childless married women who were mobile, higher childcare costs were not associated with levels of employment (Table 2, Models 1 and 4). By contrast, the relative change in childcare costs from origin and destination states was a significant predictor of employment among mothers. Mothers were much less likely to work if they moved to a state with more expensive childcare than their state of origin (−0.20, $p < .001$; Table 2, Models 5 and 6), about 18% lower odds of employment, compared with mothers who moved to states with equivalent or cheaper childcare costs. This relationship was observed in hierarchical random intercept models (Model 5) and fixed-effects specifications (Model 6) that control for unobserved state characteristics. Importantly, moving to a state with higher childcare costs did not influence childless women's odds of employment, indicating that the significant effects observed for mothers are robust to unobserved individual-level confounders associated with moving that are shared between mothers and nonmothers. These results confirm H4: higher childcare costs are a barrier to mothers' employment and labor force continuity post-migration.

Together, these results show that moving to a state with more favorable economic conditions and childcare resources improves maternal retention in the labor market. Although childcare costs tend to be higher in states that have more beneficial cultural and economic conditions, moving to a state with higher childcare costs is still associated with employment reductions, even under conditions that may otherwise facilitate employment.[10]

Conclusion

This research contributes to our understanding of how regional context matters in enhancing married mothers' employment opportunities. Moving to another state significantly reduces mothers' employment, even among women who are highly attached to the labor market. Rather than moving for their own employment opportunities, mothers in this sample appear to have moved for other reasons, likely spousal employment opportunities. Mothers who moved out of state were less likely to be in the labor force than both nonmobile married mothers and childless married women who also made an interstate move. Mothers who earned significantly less than their spouses in the past 12 months were less likely to remain in the labor force post-move. One instance that mitigated some of the negative effects of an interstate move was a

[10] Women with older children who are primarily using aftercare that is less expensive may be less sensitive to the price of childcare. When we restricted models to mothers of preschoolers only (not shown), living in a state with high childcare costs was associated with reduced odds of employment compared with living in states with less expensive childcare. Living in a state with high childcare costs was not significantly associated with employment among mothers with children ages 6–12. When we ran separate models for mothers of preschoolers, mothers with children ages 6–12, and mothers of children under age 13, we found that the relative change in childcare costs associated with interstate moves remained important. Moving to a state with more expensive childcare reduced mothers' odds of employment for all women with young children (under age 13).

move to a woman's or her spouse's state of birth. Such a move may offer additional advantages—for example, in the form of family caregiving resources and networks to locate new employment opportunities—as is evident for all mobile married women in our sample, including those without children.

State resources also mitigated some of the negative effects of interstate mobility. That is, we show that state context matters, and not all moves have equal outcomes. Where women migrate can significantly increase or decrease the odds that they will work after their move. This finding is important because it illustrates that state conditions structure trailing spouses' and mothers' employment decisions beyond their individual resources, shifting the focus on their capacity to work beyond the couple-level dyad to include a more nuanced understanding of geographical context. Our results show that a change in childcare costs can incentivize or become a barrier to mothers' employment. Moving to a state with less affordable childcare is associated with reduced retention of married mothers in the labor market. In contrast, states that offered more work-supportive cultural and economic conditions were more likely to retain mothers in the labor force. This finding is consistent with previous research arguing that local economic and cultural conditions constitute the structure of employment and the accessibility of economic opportunities for women residents (Boeckmann et al. 2015; McCall 2001). Importantly, however, we found that these state conditions were more impactful among mothers than nonmothers, suggesting that motherhood may be a primary basis of local forms of gender inequality (England 2005)—an aspect overlooked in previous research focusing on women writ large.

Although it would be desirable to know why the women in our sample migrated between states as well as the relative timing of their move and employment change, the respondents surveyed were not asked why they moved, and panel data sets are not large enough to assess the effects of interstate mobility with precision. We limit our sample to those who were employed within the 12 months prior to an interstate move to redress some of these concerns around causality. This research is not without limitations, which ought to provide direction for future research. We estimate the state-level context of childcare costs, but more refined measures of local labor markets would be equally useful. Our restriction is a practical one: sample sizes of more geographically refined data sets are not large enough to estimate mobility, motherhood, marriage, and human capital simultaneously. Future research could focus on maternal employment without the mobility dimension, estimating city- and state-level differences. Further, although we find that a move associated with increased childcare costs is detrimental to the careers of mobile mothers, we cannot determine for whose career the woman moves. As women gain more human capital and employment experience, more women will likely drive interstate moves. Future research might apply longitudinal data to estimate whether moving into a state with more resources leads to more continuous employment. Again, sample sizes and representativeness across states are issues for most longitudinal data sets, but our results indicate the necessity of greater concentration on these issues, particularly a focus on who drives career moves.

Ultimately, our results are clear: mothers moving to states with more affordable childcare have higher odds of labor force participation than those experiencing an increase in childcare costs. These findings underscore the barriers that expensive childcare poses to mothers' employment. To address these constraints and maximize human capital, states should legislate policies to subsidize the costs of childcare. ■

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