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The motherhood penalty and The fatherhood premium in employment during covid-19: evidence from The united states

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ARTICLE INFO

Keywords:

Motherhood penalty
Fatherhood premium
Gender
COVID-19
Labor market inequality

ABSTRACT

In this paper, we present evidence from the Current Population Survey examining the effects of the COVID-19 crisis on parental status and gender inequalities in employment in the United States. We show that the drop in the employment rate in post-outbreak months was largely driven by mass layoffs and not by workers quitting their jobs. Results from fixed-effects regression models show a strong fatherhood premium in the likelihood of being laid off for post-outbreak months compared to mothers, men without children, and women without children. We also found that the “fatherhood premium” was higher among lower-educated and mid-educated workers. These findings show that gaps in layoff rates exacerbated pre-existing forms of parental status and gender inequality in employment. Possible mechanisms are discussed, but more work is needed to explain why employers were less likely to lay off fathers following the outbreak, and the short- and long-term consequences of the COVID-19 pandemic in reinforcing parental status and gender inequality in employment in the United States.

1. Introduction

Prior research has demonstrated the importance of parental status in shaping gender inequality. Parental status penalties and premiums have been observed across national contexts (Harkness & Waldfogel, 2003), across the wage distribution (Budig & Hodges, 2010; England, Bearak, Budig, & Hodges, 2016; Killewald & Bearak, 2014) and have varied over time (Glauber, 2018). Most research has examined parental status penalties and premiums during stable economic conditions. We know much less about the effects of parental status in shaping employment outcomes during periods of economic crises, such as those created by the COVID-19 pandemic.¹ As a response to COVID-19, non-essential businesses were forced to close, and millions of workers found themselves laid off. Were mothers more or less likely to be laid off compared to fathers? Were parents more or less likely to be laid off compared to non-parents? Do the effects of parental status and gender vary by education level?

There are reasons to believe that, during economic downturns, employers may deploy various forms of gender-based stereotypes associated with parental status as they are forced to temporarily scale down business operations and cut costs by reducing wages, reducing working

hours and laying off workers. Cultural beliefs of mothers as expressive caretakers and fathers as active breadwinners and deserving of career advancement may shape employers' decisions (Coltrane, 2004; Ridgeway & Correll, 2004). In addition to direct discrimination by employers, labor market attributes and tenure (Haveman, Broschak, & Cohen, 2009), as well as the formalization of layoff rules within organizations (Kalev, 2004), may also explain differences by parental status and gender during downsizing. Although we do not empirically test these mechanisms, we do provide the first findings on how COVID-19 may have exacerbated existing patterns of parental status and gender inequality in employment.

2. COVID-19 and the economic downturn in the United States

On January 15, the Centers for Disease Control confirmed the first case of 2019 Novel Coronavirus in the United States. Since then, the cumulative rate of infection of COVID-19 has increased persistently with reports of new cases throughout the nation. As many non-essential businesses were forced to close under state-level mandates, millions of workers were laid off. By May 2020, roughly 22 million Americans had filed claims for unemployment benefits (U.S. Department of Labor,

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¹ For an exception, see Cha (2014).

2020). Additionally, there was a localized closure of schools across the nation, affecting both parents and students. Businesses that stayed open experienced a large drop in revenue as consumer spending decreased, specifically in March and April 2020 (Chetty, Friedman, Hendren, Stepner, & the Opportunity Insights Team, 2020). In response to the high unemployment rate, the CARES Act created the Paycheck Protection Program loan through the Small Business Administration, for which small businesses can apply with hopes of keeping their employees employed (U.S. Department of the Treasury, 2020).

3. Data and methods

All data is from the December 2019 to May 2020 samples of the Current Population Survey (CPS) from the U.S. Census Bureau and U.S. Bureau of Labor Statistics, which we accessed through the Integrated Public Use Microdata Series (Flood, King, Rodgers, Ruggles, & Robert Warren, 2020). Every month, the CPS surveys about 60,000 households to provide nationally representative employment and earnings numbers of persons aged 15 and older by demographic characteristics, including sex, household composition, and educational attainment. We use data covering the time period of December 2019 to May 2020 in order to compare trends before and after the outbreak of and initial policy responses to COVID-19 in the U.S.

We construct an indicator variable for parental status and calculate layoff and quit rates for demographics by parental status, education levels, and gender. Parental status is defined as an individual who has children under age 18 in the household and is either the head of household, the spouse of the head of household, or the partner of the head of household. Using the parental status variable, we focus on four groups: fathers, non-fathers, mothers, and non-mothers. Fathers are male parents, non-fathers are male non-parents, mothers are female parents, and non-mothers are female non-parents. Layoff rates and job leaver rates are calculated analogously to a standard unemployment rate. The layoff rate for a demographic subgroup is the sum of individuals in the subgroup who are either temporarily or permanently laid off divided by the total number of individuals in the labor force from the same subgroup. Quit rates for demographic subgroups are calculated similarly, dividing the number of individuals in a subgroup who are unemployed due to quitting by the number of individuals of the subgroup in the labor force.

4. Analytical Strategy

To examine trends in parenthood penalties and premiums in employment, we test whether changes in employment due to the COVID-19 outbreak differ along lines of gender and parenthood. We begin with descriptive statistics on how employment status for fathers, mothers, non-fathers (men without children), and non-mothers (women without children) changed over the December 2019 to May 2020 CPS samples. We then examine whether these changes to unemployment were driven by workers' decisions to leave their jobs or by employers' decisions to lay workers off, and compare differences in trends between mothers, fathers, non-mothers, and non-fathers.

To test whether changes in the likelihood of being laid off are similar across gender and parent dimensions, we use individual-level CPS data on members of the labor force to regress the status of being unemployed due to a layoff on an indicator variable for the post-COVID-19 time period. We repeat the regression over the total sample of the labor force and separately for fathers, mothers, non-fathers, and non-mothers. Additionally, we restrict the CPS sample to members of the labor force who were surveyed consecutively in the February, March, April, and May 2020 survey rounds and include individual-level fixed effects. The addition of individual-level fixed effects controls for unobserved and time-invariant individual-level characteristics correlated with job loss. We estimate the fixed effect regression separately on the total sample, only fathers, only mothers, only non-fathers, and only non-mothers. The

coefficient estimates for the post-outbreak months can be interpreted as the increased risk of unemployment due to a layoff with the onset of COVID-19 for each of the different groups.

5. Results

5.1. Employment rates by parental status and gender

We begin by presenting the changes in employment rate for mothers, fathers, non-mothers, and non-fathers. Fig. 1 shows the employment-population ratio for prime age workers from December 2019 through May 2020. Prior to COVID-19, fathers were more likely to be employed compared to non-fathers, mothers, and non-mothers. The effects of COVID-19 on employment rates were roughly similar for mothers, non-mothers, and non-fathers, but smaller for fathers. In April 2020, the employment rate decreased by 9.3 percentage points for mothers, followed by non-mothers (9.6 percentage point decrease) and non-fathers (9.9 percentage point decrease). For fathers, the decrease in employment rates between March 2020 and April 2020 was smaller, with a 7.4 percentage point decrease. These patterns suggest that COVID-19 maintained the pre-pandemic patterns in employment rates for mothers, non-mothers and non-fathers, but widened the gaps in employment rates between fathers and mothers and between fathers and non-parents.²

5.2. Lay off rates in pre- and post-outbreak months

In the previous section, our findings indicated that all workers experienced a decrease in employment rates at the beginning of the pandemic, but the decrease was much smaller for fathers than for non-fathers and women. This was particularly the case among workers with a bachelor's degree (See Online Supplement). In this section, we examine to what degree the decrease in employment rates across parental status and gender was due to involuntary job losses and layoffs.

Fig. 2 shows the layoff rates between December 2019 and May 2020. Prior to March 2020, the layoff rates were roughly the same for parents and non-parents, regardless of gender. In March 2020, the layoff rate was 2.2 % for mothers and fathers, and 2.4 percent for non-mothers and non-fathers. As shown in Fig. 2, the layoff rate increased for all groups in April 2020, but the increase was much smaller for fathers. Between March and April, the layoff rate increased by 10.1 percentage points for mothers, 10.6 percentage points for non-mothers, and 11.4 percentage

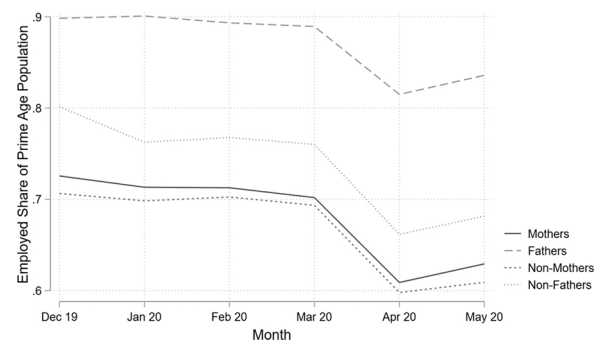


Fig. 1. Prime Age Employment-Population Ratios by Parenthood and Gender. Source: Current Population Survey.

² In supplemental analysis, we also examined the changes in employment rates by education level. Fathers had the smallest drop in prime age employment-population ratio within all education groups, and fatherhood employment premiums were larger among lower- and mid-educated workers (Figures S1, S2, and S3, Online Supplement).

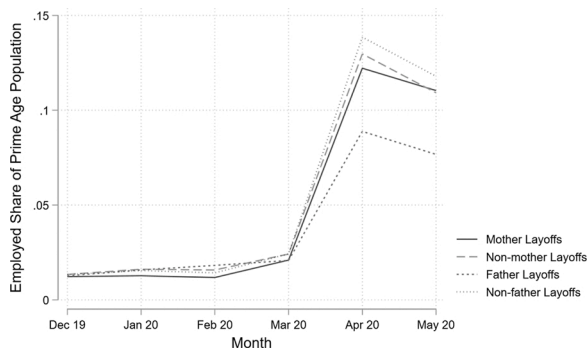


Fig. 2. Layoff Rates by Parenthood in U.S. Labor Force. Source: Current Population Survey.

points for non-fathers. The layoff rate for fathers during the same period increased by only 6.8 percentage points, suggesting that employers were much less likely to lay off fathers than mothers and non-parents.³

5.3. Quit rates in pre- and post-outbreak months

As the patterns described above suggest, fathers were much less likely to be laid off compared to mothers and non-parents. In addition to layoff rates, we also examine the extent to which voluntary quit or opting-out of the labor force might be driving the changes in employment status before and after the pandemic. As Fig. 3 shows, quit rates remained very low, and actually declined, between March 2020 and April 2020, while layoff rates increased significantly during the same period. The bulk of changes in employment status before and immediately after COVID-19 were driven by employers’ decisions and not by workers opting out of the labor market during this period.

5.4. Regression analyses

To identify the changes in layoff rates associated with specific differences in gender and parenthood, we run a series of OLS regressions with the dependent variable being an indicator for being unemployed due to a layoff. Observations are at the individual-month level. The key explanatory variable is an indicator variable for whether the survey

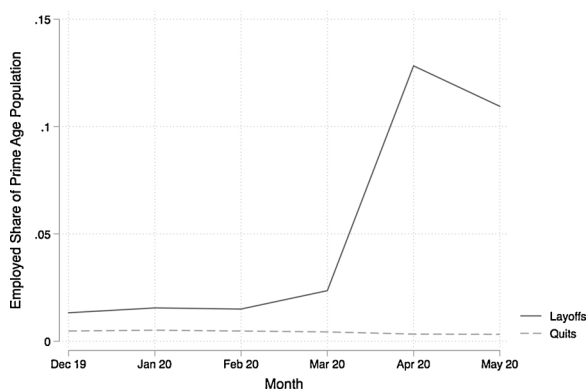


Fig. 3. Layoff and quit rates for U.S. labor Force. Source: Current Population Survey.

³ In supplemental analysis, we also examined the layoff rates by education level. We found that the fatherhood premium in the likelihood of being laid off following the shutdowns exists, especially among lower- and mid-educated workers (Figures S4, S5, and S6, Online Supplement).

response month is after the onset of the COVID-19 outbreak, which, in this sample, refers to April or May 2020. We include control variables for education, age, and race in all regressions (Summary statistics are provided in Table S1 in the Online Supplement).

Regression results are provided in Table 1. We run the regression on five samples. The first sample is the entire sample of CPS respondents in the labor force during the December 2019 to May 2020 period, and then subsequent four samples are restricted to only male non-fathers, fathers, female non-mothers, and mothers, respectively. For the overall sample of workers, the probability of being laid off rose 10.3 % in response to the outbreak of COVID-19. Non-fathers, non-mothers, and mothers are, respectively, 10.5 %, 12.7 %, and 10.3 % more likely to be laid off in the post-outbreak period. Fathers face an increase in the probability of being laid off of 6.6 % post-outbreak, which is substantially smaller than the increase for other groups. In the COVID-19 period, mothers are 56 % more likely to be laid off than fathers and non-mothers are roughly twice as likely to be laid off as fathers. Wald tests using coefficient estimates from an interaction regression in Table S2 (Online Supplement) indicate that the difference in the effect of the outbreak on layoff rates is statistically significant between each group at the 1% level.

In order to control for unobserved time-invariant characteristics of individuals, we restrict the sample to CPS respondents in the labor force who were consecutively surveyed in the February, March, and April 2020 round. This restriction allows us to treat the data as a panel and include individual fixed effects to the baseline specification in Table 1. We report the results of the fixed effects regression for all continuously surveyed labor force participants and for the four restricted subsamples in Table 2. When accounting for individual fixed effects, the results are similar to the baseline specification. The overall layoff share of the labor force rises 10.5 % during the months with widespread COVID-19. The probability of being laid off increases 9.9 % for non-fathers, 6.1 % for fathers, 12.5 % for non-mothers, and 10.1 % for mothers. Fathers are 38 % less likely to face layoffs than men without children. Women overall face larger risk of being laid off in the post-outbreak period than men, with non-mothers having the highest risk of layoffs in the COVID-19 period. With individual fixed effects included, women without children are more than twice as likely as fathers to be laid off in the outbreak period and 26 % more likely than men without children to be laid off in the outbreak period. Mothers are 66 % more likely than fathers to be laid off in the outbreak period. Wald tests indicate that each of these samples’ coefficient estimates are statistically significant from each other at the 1% level, except between non-fathers and mothers.

Table 1
Unemployment Due to Layoff, Baseline Specification, December 2019 to May 2020 CPS.

	(1) All Labor Force Participants	(2) Non- Fathers	(3) Fathers	(4) Non- Mothers	(5) Mothers
Post- Outbreak Month	0.103*** (0.001)	0.105*** (0.002)	0.066*** (0.002)	0.127*** (0.003)	0.103*** (0.003)
Obs.	323,315	109,688	58,933	97,543	57,151
R-squared	0.056	0.054	0.035	0.076	0.059

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ Robust standard errors are in parentheses. The dependent variable in all columns is unemployment due to layoff. Person-month observations are from December 2019 to May 2020 respondents to CPS in the labor force. Post-Outbreak Month refers to the April and May 2020 CPS rounds. Column (1) includes all labor force participants, (2) includes only men without children at home, (3) includes only men with children at home, (4) includes only women without children at home, (5) includes only women with children at home. All columns include controls for age, education, and race.

Table 2
Unemployment Due to Layoff, Individual Fixed Effects Specification, March 2020 to May 2020 CPS.

	(1) All Labor Force Participants	(2) Non- Fathers	(3) Fathers	(4) Non- Mothers	(5) Mothers
Post- Outbreak Month	0.099***	0.099***	0.061***	0.125***	0.101***
	(0.002)	(0.005)	(0.005)	(0.005)	(0.005)
Obs.	42,656	13,686	8644	12,043	8155
R-squared	0.501	0.513	0.540	0.500	0.461

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors are in parentheses. The dependent variable in all columns is unemployment due to layoff. Person-month observations are from March to May 2020 respondents to CPS in the labor force. Post-Outbreak Month refers to the April and May 2020 CPS rounds. Column (1) includes all labor force participants, (2) includes only men without children at home, (3) includes only men with children at home, (4) includes only women without children at home, (5) includes only women with children at home. All columns include controls for age, education, race, and individual fixed effects.

6. Discussion and conclusion

In this article, we sought to examine the consequences of the COVID-19 pandemic for parental status and gender inequality in employment in the United States. Using descriptive statistics and fixed-effects regression models with panel data from the Current Population Survey, we found evidence of a fatherhood premium in layoff rates compared to mothers, non-mothers, and non-fathers. Fathers were much less likely to be laid off compared to mothers, even after controlling for race, age, education, and individual fixed effects. These findings are consistent with the theoretical expectations regarding the fatherhood premium in employment (Correll, Bernard, & Paik, 2007; England et al., 2016; Glauber, 2018). We also found that the “fatherhood premium” was higher among lower-educated and mid-educated workers, which is consistent with prior studies that show that the motherhood penalty in earnings is largest among lower skilled and mid-skilled workers (Budig & Hodges, 2010; Killewald & Bearak, 2014).

There are several potential mechanisms that explain the lower likelihood of fathers being laid off in the months following the shutdowns compared to mothers and non-parents. One possibility is that male-dominated occupations were less affected by the shutdowns compared to female-dominated occupations. We explore this mechanism by examining job posting data from Burning Glass⁴ for the months of March and April for 23 major occupational categories (see Table S3, Online Supplement). The total expected job loss for females due to COVID-19 was 502,361 jobs and the total expected job loss for males was 515,467 jobs (Table S2, Online Supplement). Our analyses indicate that COVID-19 did not disproportionately affect male-dominated and female-dominated jobs, and likely do not explain the gaps in layoff rates between fathers, mothers, and non-parents.

Existing theories of gender and parental status inequality offer compelling explanations for the observed gaps in layoff rates. When economic crises develop rapidly, as COVID-19 did, employers and managers need to quickly determine who will get laid off. Employers may rely on tenure and other labor market characteristics (Haveman et al., 2009), as well as on descriptive and prescriptive stereotypes about

parenthood (Correll et al., 2007). The decision to lay off workers may also depend on whether firms have formalized layoff policies (Kalev, 2004). More work is needed to assess the extent to which employer discrimination, different labor market characteristics, and organizational features explain parental status and gender gaps in employment rates and layoff rates during the COVID-19 crises.

Although we do not formally test these theories in this article, our study makes important contributions to existing research by identifying a new source of parental status and gender inequality in employment. Unlike the 2008 Great Recession, during which layoff rates were not substantially differentiated by motherhood status (Cha, 2014: 169), our analyses show that COVID-19 has affected fathers much less than mothers, non-mothers, and non-fathers, providing strong evidence of a fatherhood premium. More work is needed on the short- and long-term consequences of the parental status premiums and penalties described in this study.

Funding

Funding for this project was provided by the National Science Foundation (Grant Award Number: 1934553) and the Tufts University Tripods Grant.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.rssm.2020.100542>.

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⁴ Although Burning Glass does not represent a total sampling frame of job postings in the United States, and therefore, jobs not posted online and other informal job opportunities are excluded, it provides a comprehensive (and the largest) list of online job postings.