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Gender Norms and Women's Employment During the COVID-19 Pandemic: Evidence from India

by

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ABSTRACT

We examine the role of household-level social norms regarding women's mobility in determining the impact of the COVID-19 pandemic on women's employment. The shock of the pandemic containment measures, such as India's nationwide lockdown caused both supply- and demand-side disruptions. Nationally representative labor force surveys offer suggestive evidence that loss of income and employment for men could plausibly have increased the labor market participation of women, particularly in self-employment, in order to smooth household consumption. But whether women are able to respond in this manner to a negative income shock is likely to be mediated by social norms around mobility. Using the fourth and fifth rounds of the National Family Health Survey (2015–16 and 2019–20), we show that this was indeed the case. We find that women residing in districts with more progressive gender norms in the baseline period (2015–16) were significantly more likely to be employed as compared to women residing in districts with stricter norms, controlling for the husband's employment and other relevant household- and individual-level factors.

KEYWORDS: India, COVID-19, women's employment, social norms

JEL CLASSIFICATION: J1, J22, Z13

1 INTRODUCTION

Gender norms have been recognized to be important supply-side factors that determine women's employment (SWI 2023; Deshpande 2022). These include norms around mobility (especially movement alone outside the home), care-giving, as well as the male breadwinner norm. This last norm also translates into an income effect, whereby women withdraw from paid work as household incomes rise. Usually, the income effect as well as social norms change gradually over time. Though the two effects (income and norms effect) are analytically distinct, in practice it is hard to separate them. The COVID shock presents an opportunity to disentangle the two because it results in a sudden negative shock to household incomes but is unlikely to have changed gender norms in the short run (though it did of course change norms around social interactions quite dramatically).

The COVID shock caused a sudden exogenous change in incomes and labor demand fell for both men and women. Both responded by shifting to agriculture and self-employment. While around 48 percent of men and 59 percent of women were engaged in agriculture in 2019, this increased to 56 percent for men and 72 percent for women in 2020 (SWI 2023). But women's work participation also rose dramatically from 20.9 percent in 2018–19 to 26.7 percent in 2019–20. The view that the rise in women's labor force participation is distress-led is supported by looking at changes in labor earnings over this period. A crowding into the self-employment sector by women who were previously out of the workforce is expected to increase competition among the self-employed. Given a constant level of demand in the product market, this will lead to lower per person earnings from self-employment, and given that growth was generally slowing down as well as given the pandemic shock, demand in the product market actually collapsed even as supply of labor to the self-employed sector grew. This impacted earnings severely (SWI 2023). The COVID-induced fall in household incomes (largely due to the impact on men's employment) may create a need for women to take up self-employment, but whether women are actually able to do so is likely to be mediated by norms.

In this paper, we examine this question using the fact that the fifth round of the National Family Health Survey (NFHS) was conducted in two phases due to the pandemic. We compare women

residing in districts surveyed prior to the lockdown in April–May 2020 with those residing in districts surveyed post-lockdown. Our main explanatory variable is the lagged district-level mobility index (from NFHS-4, 2015–16). This index is based on women's self-reported responses as to whether they are required to take another household member's permission (typically the husband's) in order to do things like visit the local store, health center, friends and family, etc. We consider this to be a proxy for how easy it will be for women to take up paid work (inside or outside the home) if the need arises. Using the individual recode for women, we ask if women are more likely to report being employed post-lockdown in districts which have more progressive mobility norms prior to the pandemic. We control for a range of individual characteristics including husband's employment in the current period. We see that women's employment rate rose more post lockdown in those districts where women reported fewer restrictions on mobility. Interestingly, the effect is not present when we include state-fixed effects. This suggests that most of the variation in both mobility norms and change in employment comes from across states, not within a state.

Studies have discussed the exogenous shock of the pandemic increasing distress employment for women (SWI 2023; Abraham, Basole, and Kesar 2022). Our contribution to this literature is the likelihood of norms exerting a positive influence on the shock increasing the distress employment. Without a state-fixed effect, the result explains a lot of district level variation in mobility and employment within a state not getting picked up. The variation across states which is larger than what is seen within states is captured. For example, on average, if all districts of a southern state, Karnataka, are combined, they show more progressive mobility than all districts of a northern state, Uttar Pradesh, put together. Thus, this variation within states has not been captured.

The remainder of this paper is as follows. The next section briefly reviews the literature on norms and women's employment, COVID, and women's work. Section 3 discusses the data and methods. Section 4 presents the results. Section 5 discusses the results and concludes.

2 LITERATURE REVIEW

2.1 Norms and women's employment

The Indian economy has been characterized by a low participation rate for women in paid work. Further, between 2004 and 2017 the female workforce participation rate declined substantially in rural areas from 28.7 percent to 16.5 percent. Subsequently, however, it has been rising. Intriguingly, the female WPR rose throughout the pandemic period, with a rise in the share of women engaged in self-employment leading to suggestions by several researchers that this was a distress phenomenon (Dhamija and Chawla 2023; SWI 2023).

This 'income effect' says that household incomes are crucial in determining women's participation (Kapsos, Bourmpoula, and Silberman 2014; Abraham 2013; Neff, Sen, and Kling 2012; Rangarajan, Kaul, and Seema 2011). When incomes are low, women enter the market and exit when they rise. Further, in India, women working outside the home is often seen as a sign of lower social standing. As household incomes increase, norms against women may become more rigid and families may withdraw their women from the workforce (Bussolo et al. 2022; Fletcher, Pande, and Moore 2017; Srinivas 1977). A recent study uses nationally representative Periodic Labor Force Survey data to show that, cross-sectionally, a U-shaped relationship is observed between husband's earnings and the wife's probability of being employed, controlling for relevant factors (SWI 2023).

On the supply side, norms around responsibility for household work, marriage and motherhood, decision-making within the household as well as mobility outside it, profoundly influence availability of women for work, particularly work outside the home. This is why home-based employment, whether of the own-account, piece rate or contributing family worker variety is so prevalent among women. Another way in which norms can impact labor supply is via the threat of sexual violence and beliefs around 'family honour' which can lead households to limit women's mobility. Note that even if a woman does not face mobility restrictions from within the family or community, she may still be unfree because of larger concerns around violence.

Ordinarily labor force surveys do not collect any information on variables that capture intra-household relations and gender norms. This limits our ability to estimate their impact on employment. On the other hand, the NFHS has been used extensively to study gender norms but contains only a few questions on employment. Gupta and Yesudian (2006) and Kishor and Gupta (2004) constructed indices on household autonomy or decision making, freedom of mobility, acceptance of unequal roles between spouses, son preference and attitude to domestic violence using NFHS-1 (1992-93) and NFHS-2 (1998-99). Sinha, Jha, and Negi (2012) constructed three indices of empowerment using NFHS-3 (2005-06). These are women's decision making, mobility, and restrictions placed on them. Singh et al. (2019) use characteristics such as educational attainments, participation in labor markets with women's ownership of assets, and participation in decision-making as indicators of empowerment. Singh et al. (2022) constructed a patriarchy index using NFHS-4 (2015-16), an adaptation from Gruber and Szoltysek (2016) in the European context. Nandwani and Roychowdhury (2023) use the same data to look at the long-term impact of colonialism on gender norms. Similarly, Mukhopadhyay (2025) analyzes NFHS-5 data and finds that women's education is the key determinant of empowerment, alongside various variables of living conditions.

SWI (2023) draws on the above work to ask whether progressive social norms enable greater participation of women in paid work controlling for women's individual characteristics such as age and education as well as household characteristics such as caste, religion, number of members, and wealth. Since using individual level employment outcomes and norm variables has a potential problem of reverse causality, this study addresses the problem by estimating the relationship between an individual woman's employment status and the average norms prevalent in the district in which she resides.

Xiao and Asadullah (2020) argue that social norms remain important determinants to the labor market outcomes in contemporary China. By examining the data from CGSS 2010 round, and by constructing a 'social norms' index and performing a Blinder-Oaxaca decomposition analysis,

the authors find that these norms account for 41.2 percent of the unexplained gap in the gender-wise LFPR.[1]

2.2 COVID and Women's Work

The COVID-19 pandemic was an exogenous shock that impacted labor demand as well as labor supply. On the supply side of the labor market, restrictions on movement and assembly resulting from the pandemic are likely to have impacted men and women in a similar manner. On the labor demand side, it is possible that job losses resulting from firms closing could have driven down employment rates for both men and women, though to different extents. Globally, the pandemic had a differential impact on men's and women's employment. The lockdown disproportionately affected women in the informal economy. During such a crisis, women lost their jobs and incomes immediately. Rapid assessment surveys by UN Women's Regional Office covering Asia and the Pacific countries, Eastern and Southern Africa, Europe, and Central Asia showed that female workers were more likely to lose their jobs than male workers (UN WOMEN 2020). In Kenya, 23 percent of women and 11 percent of men reported losing a job since the spread of COVID-19. In Cambodia, around 36 percent of women and 14 percent of men lost a job.

Further, job losses from the pandemic have been differentiated across sectors. The sectors that faced high job loss from COVID-19 employed more women. The International Labor Organization's predicted job loss found that the impact of job loss was high for manufacturing, constituting a share of around 39 percent of the global workforce. Job loss was high for accommodation and food services, employing around 54 percent of women (ILO 2020).

The Indian labor market has also witnessed the gendered impact of the pandemic. A study by Azim Premji University found that women were disproportionately affected and had fewer chances of returning to the workforce. Around 47 percent of women lost jobs and did not return to work by the end of 2020, whereas 7 percent of the men lost jobs and did not return (SWI

[1] Some recent studies have looked into the role of community-based interventions in changing gender norms related to allocation of time to unpaid domestic labour resulting in increased caregiving contributions by men (Pakrashi et al. 2025). Using a contextualized time-use and socio-economic survey, Sinha et al. (2024) find that women experience adverse effects on labour market outcomes, self-care, socializing time from care giving responsibilities. In the context of gender norms, it is important to address the unequal burden of unpaid caregiving on women.

2021). Abraham, Basole, and Kesar (2022) found that for persons in the workforce before the pandemic, women were seven times more likely to lose a job. Deshpande (2021) found a huge contraction in employment opportunities immediately after the lockdown of the first wave in April of 2020. Though men lost more jobs than women in absolute numbers in the first month, they recovered quickly as the economy unlocked. Conditional on being in employment before lockdown, the probability of being employed was 9 percentage points lower for women than men in August 2020. Nikore (2022) states that gender gaps in employment remained after three waves of lockdown. Compared to January 2020, women's labor force contracted by 9.4 percent where there was a contraction of only 1.6 percent for men in 2022.

Unable to find a suitable job after a job loss, several discouraged women exited the labor force. In 2022, 79 percent of unemployed men were looking for jobs whereas only 36 percent of unemployed women searched for jobs (Nikore 2022). In Abraham, Basole, and Kesar (2022), after a job loss, women were 11 times less likely to return to work compared to men. The socio-economic and demographic characteristics influenced their ability to return to work. Married women were less likely to return to work than were married men.

But as noted earlier, the aggregate workforce participation rate for women increased. But most of the increase was concentrated in self-employment. After the pandemic, the share of women in self-employment and agriculture continued to remain high for women. The same share returned to pre-pandemic levels for men (SWI 2023; Dhamija and Chawla 2023). Thus, it seems likely that women's participation did not rise due to economic growth or growing labor demand, instead, it acted as an insurance for the incomes of poor households during times of crisis.

Finally, it is worth noting that the pandemic brought about certain changes in behavior surrounding social norms in households. Closure of offices, schools and the absence of domestic workers intensified women's unpaid work burden during the lockdown. In Chauhan (2021), the burden of unpaid work, in terms of time spent rose for married women and unemployed women in urban India, who were already spending a significant share of their time on unpaid work before the lockdown. Certain changes were noted in the gender division of labor for unpaid work within households. Deshpande (2021) found that men's average hours on housework increased

immediately after the lockdown was imposed in April 2020. However, by December 2020, women's average hours of unpaid work increased sharply compared to pre-pandemic levels.

3 DATA AND METHODS

3.1 Datasets

This study primarily uses the National Family Health Survey (NFHS) supplemented with some information from the Periodic Labor Force Survey (PLFS). The NFHS collects data from eligible women aged 15–49 on health, marriage and cohabitation, contraception, pregnancy, post-natal care, child nutrition, family planning, maternal and child health, sexual activity, fertility preferences, HIV status, employment, household relations, and domestic violence. Six rounds have been carried out so far in 1992–93, 1998–99, 2005–6, 2015–16, 2019–20, and 2023–24. Data of the sixth round have not yet been released. To construct the social norms index, data collected in the sections on woman's work, household relations, and domestic violence are used. The NFHS has different questionnaires for men, women, and the household. This study is based on data asked to women only.

The NFHS-5 survey was conducted in two phases due to the COVID-19 pandemic. For the 17 states and 5 union territories, the survey was conducted entirely before the COVID-19 outbreak. In the remaining 11 states and 3 union territories, the survey occurred before the outbreak (December 2019–March 2020) and resumed after easing lockdown restrictions in October 2020, continuing until May 2021. We divide Indian districts into two kinds—those surveyed prior to the lockdown and those surveyed afterwards. These districts are matched to their counterparts in the baseline year, 2015–16 (the year of the NFHS-4 round).[2] Our strategy is to compare women in districts surveyed pre-lockdown (December 2019–March 2020) with those surveyed post-lockdown (October 2020–May 2021) in terms of employment outcomes while controlling for a range of observable factors.

[2] The district-level information is available only from NFHS-4 and hence no other round could be better suited for the study.

3.2 Balance Checks

The strategy depends on the pre- and post-lockdown samples being statistically indistinguishable from each other in terms of characteristics unlikely to be impacted by the pandemic. Tables 1 and 2 provide this comparison for urban and rural areas respectively. The characteristics tested are gender of the head of the household, number of persons in the household, marital status of the woman, caste, religion, age, education level of the woman, and whether the household had a pipe-water connection. While the urban sample is substantively the same, several significant differences emerge in the rural sample. Hence we focus on the urban results, though results from the rural sample are reported for completeness.

Table 1: Difference in Socioeconomic and Demographic Characteristics for Urban Women Surveyed Pre- and Post-COVID Outbreak

	Pre-COVID		Post-COVID				Overall
	Mean	Observations	Mean	Observations	Difference (3) - (1)	t statistic	Observations
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Male household head	0.837	104,330	0.842	50,683	0.005	0.71	155,013
Household size	5.12	104,333	5.33	50,684	0.21*	1.72	155,017
Marital status	0.75	104,333	0.72	50,684	-0.03***	-5.85	155,017
Belonging to marginalised caste groups	0.254	95,760	0.246	49,342	-0.009	-0.69	145,102
Has piped water	0.554	104,333	0.502	50,684	-0.052	-1.25	155,017
Belonging to Hindu religion	0.754	104,333	0.784	50,684	0.030	1.48	155,017
Education (in single years)	9.42	104,333	9.68	50,684	0.26	1.5	155,017
Age	31.28	104,333	30.88	50,684	-0.40**	-2.59	155,017

*** p < 0.01, ** p < 0.05, * p < 0.1

Table 2: Difference in Socioeconomic and Demographic Characteristics for Rural Women Surveyed Pre- and Post-COVID Outbreak

	Pre-COVID		Post-COVID				Overall
	Mean	Observations	Mean	Observations	Difference (3) - (1)	t statistic	Observations
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Male household head	0.838	325,003	0.844	154,203	0.006	0.77	479,206
Household size	5.40	325,003	5.82	154,207	0.42***	4.53	479,210
Marital status	0.79	325,003	0.74	154,207	-0.05***	-8.86	479,210
Belonging to marginalised caste groups	0.36	299,795	0.40	152,312	0.04**	2.45	452,107
Has piped water	0.26	325,003	0.19	154,207	-0.07***	-3.26	479,210
Belonging to Hindu religion	0.81	325,003	0.88	154,207	0.07***	3.50	479,210
Education (in single years)	6.62	325,003	7.11	154,207	0.49***	3.06	479,210
Age	30.32	325,003	29.86	154,207	-0.46***	-3.36	479,210

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

3.3 PLFS Data

The National Statistical Office conducts the nationally representative survey called the Periodic Labor Force Survey annually since 2017–18. The PLFS provides regular data on labor market indicators on an annual as well as a quarterly basis. There are seven rounds of PLFS survey from 2017–18 to 2024. Quarterly estimates can be generated for both rural and urban areas. We use the Periodic Labor Force Survey (PLFS) to present the broad descriptive trends in male and female employment rates during the COVID period.

The question regarding employment from NFHS is framed as follows: “Aside from your own housework, have you done any work in the last seven days?” This question indicates the overall current employment status and not precisely the kind of employment. It is close to the

employment definition measured by the current weekly status of the PLFS data.[3] We have used PLFS data by current weekly status that give accurate information on the kind of employment (self, salaried, casual) to understand the quarterly changes from 2019 to 2021 and to substantiate our findings from NFHS data.

3.4 Mobility Index

We construct an index that captures the gender norms around women's mobility at the individual level. In the selection of mobility questions, we are careful to pick those that measure mobility norms alone. NFHS has different questions about decision making related to earnings, health care, and household purchases that are close to the concept of agency.[4] The questions we have chosen for mobility specifically ask women if they are allowed to go to certain places without permission. So, these questions measure mobility norms only. The following questions are used to construct the index.[5]

- Are you usually allowed to go to the market alone, only with someone else, or not at all?
- Are you usually allowed to go to places outside village/community alone, only with someone else, or not at all?
- Are you usually allowed to go to the health facility alone, only with someone else, or not at all?

We code each question in a binary fashion. Women who answer that they are free to move alone are given a score of one while those who report not being allowed to go out on their own are given the score of zero. The simple average of the three responses is a woman's individual mobility score. This score varies from zero to one. The individual level variables were collapsed

[3] Current weekly status indicates the person's activity status during the last seven days.

[4] According to Kabeer (1999), agency is the ability of individuals to make decisions denied earlier.

[5] Gupta and Yesudian (2006) constructed freedom of mobility index using the questions if married women required permission to go to market or visit friends and relatives. Kishor and Gupta (2004) used similar questions and did a state wise analysis of women's freedom of movement. Sinha, Jha, and Negi (2012) used the three mentioned questions to study freedom of mobility and found that an increase in age, educational attainment, marital duration, those working, living in nuclear families experienced a higher level of freedom of mobility than others in the respective categories.

at the district level and the mobility index was a simple average for the district, once again varying between zero and one.

All three questions are given equal weights of importance. We explored the method of principal component analysis for assigning weights.[6] To keep weight-assignment simple, we proceed with equal weights with no particular reason for unequal weights when all three questions matter equally.

We explored whether the results were sensitive to the coding method by also calculating a more lenient index where any movement outside (whether alone or with someone else) is given a score of one. This does not substantively alter the results. We also conducted the analysis with variables based on the individual question rather than an index. Once again, the results are comparable. In this paper, we use the strict version of the index.

3.5 Regression Analysis

We explore the impact of gender mobility norms on women's employment in the COVID context using a regression model. It is a cross-sectional specification at the individual/household level with the key explanatory variables being at the district level. The regression specification is given below:

$$y_{id} = \alpha + \beta_1 * LM_d + \beta_2 * C_d + \beta_3 * LM_d * C_d + \beta_4 * X_D + \beta_5 * Z_i + \epsilon$$

The dependent variable takes the value of one if a woman, *i*, in district *d* undertook paid employment in the preceding seven days. The variable *LM* is the lagged mobility index at the district level for 2015–16. The COVID dummy, *C*, indicates if the district was surveyed pre- or post-lockdown. *X* stands for district-level controls, viz. the lagged employment rate of women in the district. *Z* stands for individual-level controls—age, education, wealth index, religion, caste, and whether the husband was employed. The main coefficient of interest is $\beta 3$ which estimates the extent to which more progressive mobility norms are correlated with higher probability of employment during COVID.

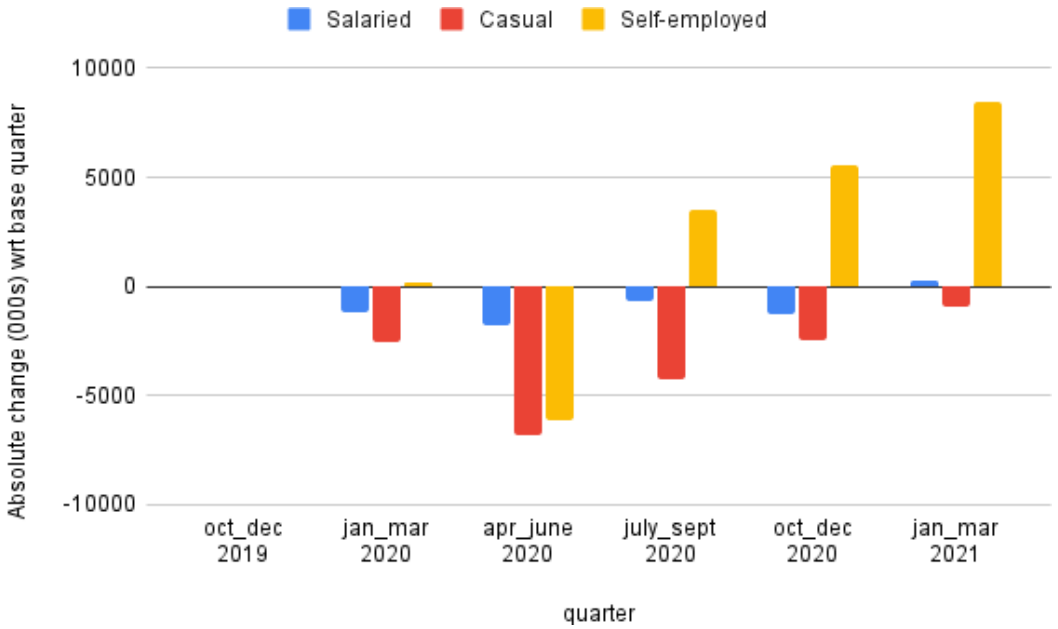
[6] The technique transforms the data to have few variables that explain decreasing amounts of variation.

4 RESULTS

4.1 Broad Employment Trends During the Pandemic

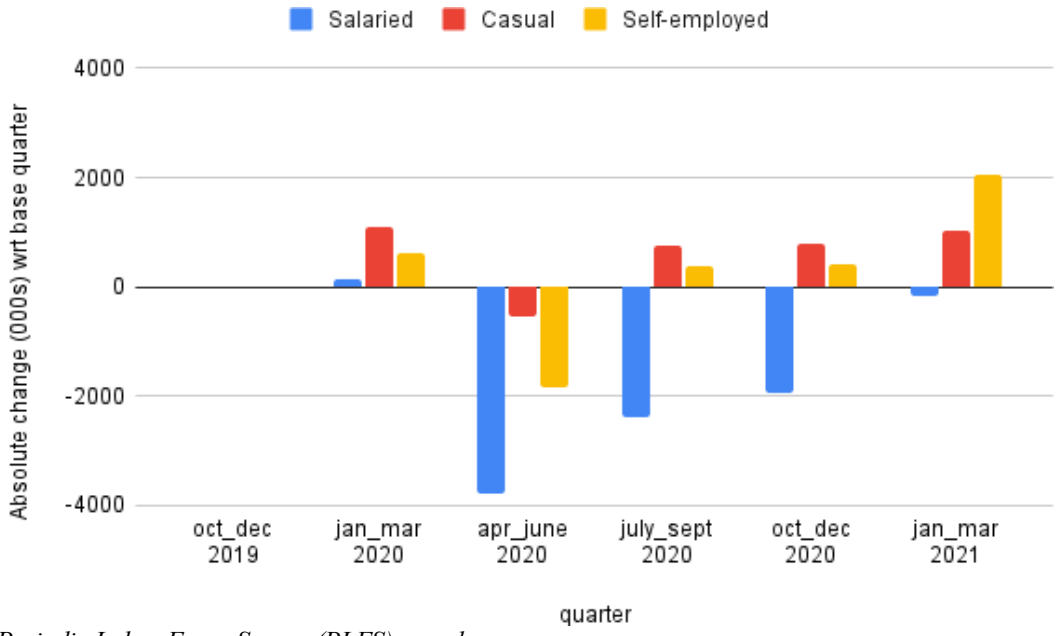
As noted earlier, the recent rise in India's female WPR has been driven by an increase in self-employment. The PLFS quarterly data allow us to track the change in female employment structure over the period of the NFHS 2019–21 survey (from Oct–Dec 2019 to Jan–Mar 2021). Figure 1 shows the change in the number of women workers in casual wage, regular wage, as well as self-employment between the Oct–Dec 2019 quarter and the Jan–Mar 2021 quarter in rural and urban areas. Keeping the quarter prior the pandemic (Oct–Dec 2019) as the base, the steady rise in self-employment (with the exception of the lockdown quarter of Apr–Jun 2020) is visible in both areas, though more pronounced in rural India. In general, the PLFS data shows that self-employment grew faster than the total workforce in this period, indicating a significant shift in the structure of employment for women. In rural India, the proportion of women in self-employment increased from 63 percent in Jan–Mar 2020 quarter to 64 percent in the Jan–Mar 2021 quarter. The comparable numbers from urban India were 35 percent to 38 percent.

Figure 1: Quarterly Changes in Salaried, Casual, Self-Employment for Women in Rural India



Source: Periodic Labor Force Survey (PLFS) rounds.

Figure 2: Quarterly Changes in Salaried, Casual, Self-Employment for Women in Urban India



Source: Periodic Labor Force Survey (PLFS) rounds.

4.2 Regression results

We now turn to the regression analysis. The results are shown in Table 3. The rural and urban estimates are reported separately. In both areas, overall employment is actually lower post-lockdown as compared to the initial period. This is at odds from the aggregate PLFS data that show a small rise in the employment rate in rural areas in the same period (and a stagnancy in the urban areas). The main coefficient of interest is the interaction between the lagged district-level mobility index and the COVID dummy. In the specification without state-fixed effects, we find a positive and significant effect for both rural and urban sectors, indicating that women in districts with less restrictive mobility norms were more likely to work for pay post-lockdown than comparable women in districts with stricter norms. But the inclusion of state-fixed effects eliminates the result. We comment on the possible reasons for this in the next section. We tried a few variations, including region-fixed effects for the same specification and carrying out the specification only for the states that were surveyed both before and after the pandemic. However, the results were not significant.[7]

[7] We tried the region-fixed effects in two possible ways. First, we divided the states into different regions based on geographical location—Central, North East, East, West, South and Union Territories. The Northern region was the

Table 3: OLS Regression of Women's Employment Pre- and Post-Lockdown Versus Gender Norms

	Urban		Rural	
	current work		current work	
lagged mobilityindex (d)	0.09	-0.01	-0.003	0.01
	(0.07)	(0.07)	(0.05)	(0.04)
COVID	0.09	-0.12**	0.03	-0.09**
	(0.07)	(0.06)	(0.03)	(0.04)
COVID*laggedmobility index	-0.10	0.19*	0.03	0.15*
religion	(0.12)	(0.11)	(0.07)	(0.08)
muslims	-0.12***	-0.13***	-0.08***	-0.08***
	(0.02)	(0.02)	(0.01)	(0.01)
others	-0.005	0.03	0.00	0.00
wealthindex	(0.04)	(0.04)	(0.02)	(0.02)
poorer	0.04	0.05	-0.03***	-0.01
	(0.05)	(0.05)	(0.01)	(0.01)
middle	0.00	0.03	-0.06***	-0.01
	(0.04)	(0.04)	(0.01)	(0.01)
richer	-0.08**	-0.06	-0.10***	-0.04***
	(0.04)	(0.04)	(0.01)	(0.01)
richest	-0.11***	-0.08	-0.15***	-0.10***
	(0.04)	(0.04)	(0.01)	(0.01)
lagged current work (d)	0.12	0.22***	0.26***	0.62***
husband employed caste	(0.08)	(0.09)	(0.04)	(0.04)
	0.08***	0.09***	0.12***	0.13*** (0.01)
	(0.02)	(0.02)	(0.01)	
st	0.09*	0.09**	0.02	0.04***
	(0.05)	(0.04)	(0.01)	(0.01)
obc	-0.03	-0.01	-0.02**	-0.02**
others	(0.02)	(0.02)	(0.01)	(0.01)
education	-0.04**	-0.04**	-0.05***	-0.05***
	(0.02)	(0.02)	(0.01)	(0.01)
primary	-0.02	-0.02	-0.03***	-0.02**
secondary	(0.02)	(0.03)	(0.01)	(0.01)
	-0.08***	-0.06***	-0.04***	-0.03***
	(0.02)	(0.02)	(0.01)	(0.01)
higher	0.00	0.01	-0.04***	-0.04***

base. Each region consisted of seven to eight states. Second, we ranked states based on workforce participation from PLFS 2019–20 data and divided them into seven groups. The coefficient of interest—the interaction between the lagged district level mobility index and the COVID dummy—was not significant by both the methods of including region-fixed effects for urban women. In the second variation, only the split states which were surveyed both before and after the pandemic were included to analyze the variation and the interaction was not significant.

age age square	(0.02)	(0.02)	(0.01)	(0.01)
State fixed effects	0.04***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	0.00	0.00
	-0.001***	-0.001***	-0.0004***	-0.0004*** (0.00)
	(0.00)	(0.00)	(0.00004)	No
	Yes	No	Yes	
Observations	11681	11681	48241	48241

Standard errors clustered at the district level
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

A few other points are worth noting. As expected, women in districts with higher baseline employment rates in 2015–16 were also more likely to be employed in 2019–2020. But interestingly, the husband's employment status is positively correlated with the wife's, indicating that, at least in this sample, women are not more likely to work because their husbands lost employment.[8] However, it is still possible that there exists a distress phenomenon reflected in a fall in husband's earnings post-lockdown (as opposed to a loss of employment). We cannot directly test for this in this data set, as the NFHS does not report earnings. The other covariates are along expected lines. Women from richer households are less likely to work, Muslim women are less likely to work as compared to Hindu women and upper caste women are less likely to work as compared to lower caste women. [9]

5 CONCLUSION

The foregoing analysis takes advantage of the fact that the NFHS-5 survey was split by the COVID-19 pandemic. A comparison of women in districts surveyed prior to the onset of the pandemic and the nationwide lockdown with women in districts surveyed post-lockdown reveals that districts with less strict gender mobility norms saw higher increases in women's employment. While this effect is observed for both rural and urban areas, the differences in the pre- and post-lockdown samples in the rural areas prevent us from drawing a strong conclusion for rural India. The result is consistent with the view that the COVID-induced increase in women's self-employment is mediated by gender norms. That is, at least for urban India, where the pre- and post-lockdown samples are largely statistically indistinguishable, the exogenous

[8] This result remained significant with a region-fixed effect by both methods.

[9] Again, they remained in the region fixed effects by both methods.

timing of the NFHS survey allows us to identify the effect of gender norms on women's employment.

The fact that the interaction terms are no longer positive and significant upon inclusion of state-fixed effects suggests that the main source of variation in the relevant variables is across Indian states and not across districts within a state. Such an outcome is possible if state-level differences in employment rate as well as gender norms are much larger than within state differences. This issue needs further exploration.

In conclusion, the exogenous shock of the pandemic on household incomes as well as the exogenous disruption in the NFHS survey allow us to estimate the importance of gender mobility norms in determining whether women will undertake paid work when called upon to do so. We find that norms are indeed an important determinant at least in urban India.

The findings of this paper add to the larger concerns and discussions around women's safety and conclude that norms do play a role in women's choices of work. A lack of appropriate safety conditions deters women from going to work and results in rigid gender norms concerning women's mobility at the household level. Therefore, improved conditions of safety may be conducive for women to go out for work and to different places on their own. There need to be fine changes in places of work and public sites such that women could go around freely without gender norms at the household level mediating mobility in any way.

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