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The Covid-19 Pandemic and Lockdown: First Effects on Gender Gaps in Employment and Domestic Work in India

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Ashwini Deshpande†

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Abstract

Based on national-level panel data from Centre for Monitoring Indian Economy (CMIE)'s Consumer Pyramids Household Survey (CPHS) database, this paper investigates the first effects of Covid-19 induced lockdown on employment and hours spent on household work. Identifying roughly over 40,000 individuals surveyed in April 2020 (i.e. during the strict nationwide lockdown) and examining their employment status over the last year, the paper finds that overall employment dropped sharply post-lockdown, with no change in the pre-pandemic time periods. This drop in employment was not gender neutral. Given the large pre-existing gender gaps in employment, in absolute terms, more men lost employment than women. However, conditional on being employed pre-lockdown, women were roughly 20 percentage points less likely to be employed than men who were employed pre-lockdown. India has amongst the most unequal gender division of household work globally. Comparing hours spent on domestic work pre- and post-lockdown, we find that for men, hours spent on domestic work increased during lockdown. The gender gap in average hours spent on domestic work hours decreased in the first month of the lockdown, and most states showed a decline in the gender gap due to a shift in the male distribution of hours. The male distribution continues to be right-skewed, but the proportions of men doing between 0.5 to 4 hours of housework per day increased post-lockdown.

JEL Classification Codes: J1, J6, O53
Keywords: Covid-19, Lockdown, Employment, Gender, Caste, India

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1 Introduction

India imposed one of the strictest lockdowns in the world to contain the spread of Covid-19 pandemic. According to the Stringency Index, developed by the Blavatnik School of Government at the University of Oxford, by the 25th of March, 2020, India had already reached the highest possible level of stringency (index value=100)[1]. This involved a near-complete shutdown of all economic activity. What have been the labour market implications of this shutdown? The first order effects are evident in the massive increase in total unemployment. However, is the pandemic and its aftermath a great leveller? Are the labour labour implications of the lockdown gender neutral? How did the lockdown affect hours spent on domestic work?

As I discuss elsewhere, the impact of recessions on job losses is often gendered, but not necessarily in one direction[2]. For instance, earlier recessions in the USA (2007-9) resulted in more job losses for men than women. Globally, it is estimated that in the Covid-19 pandemic, women are likely to be more vulnerable to losing their jobs compared to men[3]. A research note from Citibank estimates that there are 220 million women in sectors that are potentially vulnerable to job cuts. It has been estimated that of the 44 million workers in vulnerable sectors globally, 31 million women face potential job cuts, compared to 13 million men[4].

There are reports from ongoing research for the US which indicates that 1.4 million people became unemployed in March, but women have been hit harder than men, with a 0.9 percent increase in unemployment, compared to 0.7 percent for men[5]. However, there is a view that this time around, women are more likely to face the brunt of job losses because of the nature of businesses facing extended closure or possibly the threat of permanent closure (Alan et al, 2020). Restaurants, hotels, large retail spaces like malls and department stores, entertainment centres on one end, and domestic workers like maids, nannies, cleaners etc. on the other end of the workspace are large-scale employers of women.

What would a similar picture for India reveal? Note that between 2004-5 and 2017-18, while gaps between men and women in educational attainment have narrowed considerably, gaps in labour force participation have widened. Female labour force participation rate (FLFPR), stubbornly and persistently low in India over decades, has declined precipitously over the last 15 years. Will the already widening gender gap in work participation and employment widen further due to lockdowns and recession? Are women already in the labour force (a small and declining proportion of working age women) more vulnerable to job losses compared to men? More generally, are the effects of the pandemic-induced lockdown neutral with respect to social identity, or are the outcomes worse for groups that are already disadvantaged?

[1] https://covidtracker.bsg.ox.ac.uk/stringency-scatter

[2] (Deshpande, 2020)

[3] Alan et al, 2020. Ongoing research, https://www.youtube.com/watch?v=GGGb9zXHH4g)

[4] https://www.bloombergquint.com/global-economics/women-s-job-losses-could-shave-1-trillion-off-global-gdp, accessed 23 May 2020

[5] https://www.bbc.com/future/article/20200409-why-covid-19-is-different-for-men-and-women, accessed June 2, 2020

An additional dimension that affects women's labour force participation is their predominant involvement in housework and domestic chores. Across the world, women spend more time on domestic work, including care work, than men. A review of the evidence from other countries during earlier epidemics (H1N1, Ebola) reveals that increased domestic responsibilities, e.g. due to school closures, had differential effects on men and women. As their childcare burden increased, women's labour force participation fell, either in the form of reduced hours or withdrawal from paid labour altogether (Deshpande, 2020).

There is early evidence on hours spent on domestic work from other parts of the world. A survey of 2200 adults, conducted between 9-10 April 2020, in the United States finds that even though both fathers and mothers are doing more housework during lockdown than they did earlier, the burden is not shared equally[6]. Examining the evidence on this question from a large developing country with highly unequal gender norms about sharing of domestic work is in order.

This paper investigates shifts in both employment patterns and hours spent on domestic work using data from the Centre for Monitoring Indian Economy (CMIE)'s Consumer Pyramids Household Survey (CPHS) database, which is a private data provider, collecting weekly data at the national level since January 2016. It is a longitudinal data set covering 174, 405 households (roughly 10,900 households per week, and 43,600 per month). Each household is followed three times per year. Since data from the National Sample Survey are only available for 2017-18, the CMIE CPHS data are currently the only national-level source for assessing changes in employment in real time, especially if we want to assess the immediate effect of the national lockdown which started in the last week of March, 2020.

Most commentaries on the impact of the lockdown on jobs in India are either based on small localised surveys (APU, 2020; NDIC, 2020), or on extrapolations combining older national data with smaller surveys (Majid, 2020). While these provide valuable insights which broadly confirm the results of this paper, the attempt here is to go further to examine the national picture. Since the CMIE tracks the same individuals over time, it allows us to compare the post-lockdown employment status of households to their pre-lockdown status and precisely estimate the causal effects of the lockdown.

To the best of my knowledge, this is the first exercise to empirically examine the first effects of the lockdown on total employment and time spent on household work in India, in the aggregate as well as the differentiated by gender. The evidence from India is important for several reasons. It is a large emerging economy with a third of the world's population. It has massive potential for growth, but over the last six-seven years, has been struggling with slowing growth, rising inequality and significant gender gaps. The differentiated effects of aftermath of the pandemic need to be recognised and addressed through evidence-based pro-active policies that actively work towards reversing the widening of gaps. A failure to recognise differential effects will exacerbate the existing challenges, with serious negative consequences for the economic and social health of the economy.

[6] https://www.nytimes.com/2020/05/06/upshot/pandemic-chores-homeschooling-gender.html

1.1 Main Results

Comparing a sample of more than 43,000 individuals over four waves of high frequency nationally representative longitudinal data, the paper finds the following. Due to the pre-existing significant and widening gender gaps in labour force participation rates and employment, the absolute number of men who lost employment is larger than the absolute number of women who lost employment in the first month of the lockdown. However, while pre-lockdown employment was the strongest predictor of post-lockdown employment, its effect was different for men and women. Women who were employed in the pre-lockdown phase were roughly 20 percentage points less likely to be employed in the post-lockdown phase.

India has amongst the most unequal gender division of household work globally. The gender gap in average hours spent on domestic work hours decreased in the first month of the lockdown, and most states showed a decline in the gender gap due to a shift in the male distribution of hours. The male distribution continues to be right-skewed, but the proportions of men doing between 0.5 to 4 hours of housework per day increased post-lockdown. This is due to a shift in the male distribution of hours. The male distribution continues to be right-skewed, but the proportions of men doing between 0.5 to 4 hours of housework per day increased post-lockdown.

The rest of this paper is organised as follows. Section 2 provides the employment context in which India imposed the Covid-19 induced lockdown. Section 3 provides the estimates for determinants of post-lockdown employment using panel data. Section 4 presents the results on changes in time spent on housework. Section 5 discusses the results and offers concluding comments.

2 The Context: Trends in Employment and Unemployment

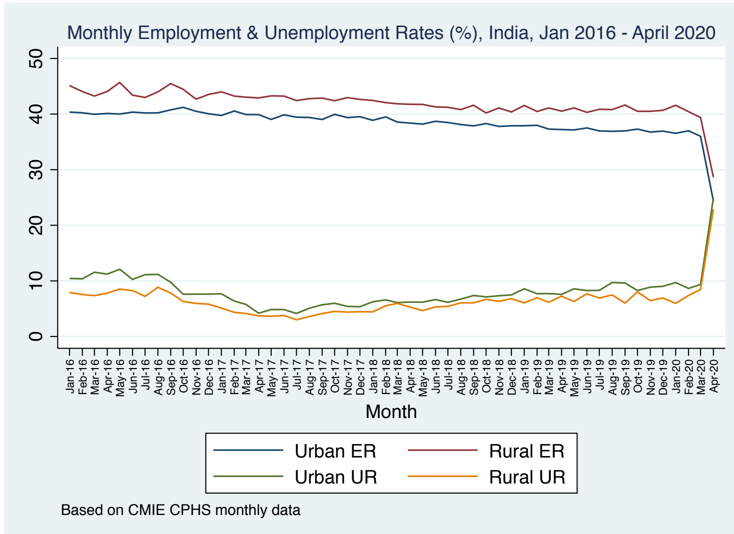
It is helpful to remind ourselves of the recent trends in employment patterns, as it sets the context in which we can examine the job losses. Figure 1 plots of the employment and unemployment rates separately for rural and urban India between January 2016 and April 2020 based on CMIE data. The time series shows some monthly fluctuation, but overall reveals a fairly flat line, indicating that the post-lockdown fall in employment is not a seasonal feature that just happened to coincide with the lockdown.

We can see that between March 2020 and April 2020, as a result of the virtual suspension of economic activity, rural and urban unemployment rates shot up and employment rates dropped sharply, in sharp contrast to the trend prior to March 2020.

The average number of employed persons during March 2019-20 were over 403 million (403,770,566). In April 2020, this number came down to roughly 282 million (282,203,804), which is a drop in total employment of a little over 120 million, roughly 30 percent drop in the first month of the lockdown. In other words, employment in April 2020 was 70 percent of the employment in the preceding year.

The corresponding numbers for the average employment during March 2019-20 were 360 mil-

Figure 1



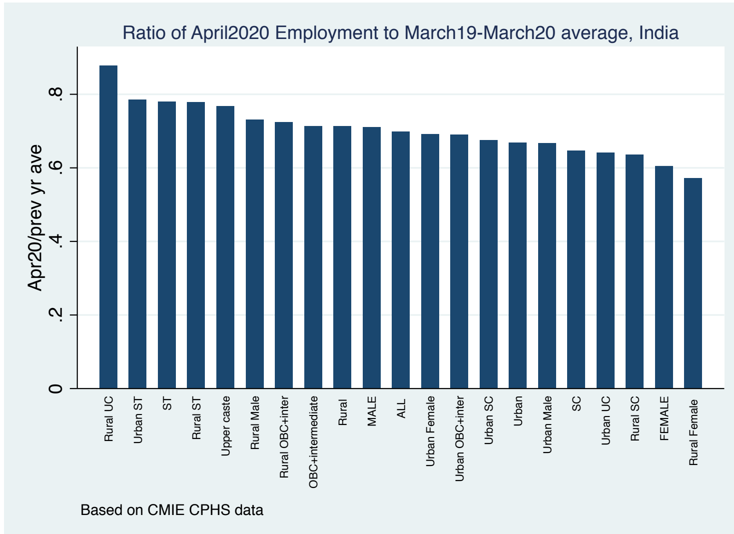
lion (360,521,240) and 43 million (43,249,326) for men and women, respectively, revealing the large pre-existing gender gaps in employment status. In April 2020, these numbers had declined to 256 million (256,029,085) for men and 26 million (26,174,719) for women. In other words, the fall in employment for men was 104 million (104,492,155), whereas for women it was 17 million (17,074,607). Contrary to the reported global trends, in absolute numbers, more men lost jobs in the first month of the lockdown in India.

However, the gendered dimension of job losses have to be assessed in the context of pre-existing gaps. One simple way to do this would be to take the ratio of April 2020 employment (absolute numbers) to the average employment in the preceding year (between March 2019 and March 2020). Figure 2 shows this ratio for different groups. We see that this ratio is 0.61 for women and 0.71 for men, i.e. female employment in April 2020 was at 61 percent of the pre-lockdown yearly average, whereas for men, it was 71 percent. This means that the fall in employment was greater for women (relative to their pre-lockdown level).

Comparing caste groups, the ratio of April 2020 employment to previous year average is 0.77 for upper castes, 0.71 for Other Backward Classes (OBC) and intermediate castes, 0.64 for Scheduled Castes (SC) and 0.78 for Scheduled Tribes (ST)[7]. This indicates that the lowest ranked, stigmatised and marginalised Dalits suffered the largest relative fall in employment.

[7]Castes (jatis) in India are grouped into large administrative categories created for the purpose of affirmative action. Scheduled Castes are the lowest ranked and the most stigmatised. Members of SC castes often use the term Dalit or 'oppressed' as a term of pride. OBCs are a group of intermediate castes and communities

Figure 2



2.1 Rural-Urban Differences

The drop has been higher in urban areas (33 percent) compared to rural (29 percent), i.e. employment figures for April 2020 are 67 and 71 percent of the average employment during the preceding year (March 2019 to March 2020), for urban and rural areas, respectively. This is as expected because sectors that shut down completely included manufacturing and services, which are mostly urban based. What is surprising is why the gap between urban and rural job losses is not larger, given that the CMIE sample is disproportionately urban (Table 1).

Figure 2 shows that rural women's employment suffered the largest fall, as it stood at 57 percent of the previous year's average. This ratio was 73 percent for rural men, 69 percent for urban women and 67 percent for urban men. The decline in female LFPRs since 2004-5 has been driven by a decline in LFPRs of rural women. The pandemic-induced suspension of economic activity reveals a similar pattern.

Caste divisions within the urban population reveal the following ratios: 0.64 for urban UC; 0.69 for urban OBC+ intermediate castes; 0.67 for urban SCs and 0.78 for urban STs. Thus, the biggest relative decline in employment has been for urban UCs. The corresponding rural ratios are 0.88, 0.72, 0.64 and 0.78 respectively. Thus, in rural India, upper castes have suffered the least from the fall in employment. The largest relative fall is seen in rural SCs, which is also driving the overall pattern for SCs.

An important point to note is ratios in Figure 2 represent the rural-urban division (more or less) before and during the great exodus of internal migrants in the form of reverse migration from cities back to their villages. In April 2020, as the uncertainty over the persistence of the lockdown increased, with no clarity about when (if) economic activity would resume, migrants started their long journey back home under extremely hazardous and precarious conditions, often walking hundreds of kilo meters; several never made it back and died on the way.

The data for April 2020 has to be understood in the context of the flux, as it reflects the rural/urban status of workers based on where they were working at the time of the survey. A later survey would better capture the new rural-urban distribution of workers reflecting reverse migration.

A first look at the drop in employment shows that job losses are not neutral with respect to social identity. This paper focuses on the gender dimension; Deshpande and Ramachandran (2020, in progress) explores the caste differences.

3 The Lockdown Effect on Employment

Following a one-day "janata curfew" (people's curfew) on March 22, 2020 that appeared to be a trial run, India imposed a strict nationwide lockdown on March 25, 2020, which shut down virtually all economic activity barring essential services. The lockdown has been relaxed in phases; however, economic activity remained nearly fully shutdown throughout the month of April. This section presents estimates for the determinants of post-lockdown employment. Since this is a panel on the same set of individuals, any change in employment status can be attributed to the lockdown, especially if there is an absence of similar shifts in the pre-pandemic period.

3.1 Data and Variables

The latest wave of CPHS (Wave 19) unit-level data covers the period January- April, 2020, with a subset of households being surveyed each month. This allows us to identify individuals surveyed during April 2020, i.e. during lockdown. The previous wave (Wave 18), conducted during September-December 2019 allows us to identify the pre-lockdown status of these individuals. Most individuals surveyed in April 2020 were last surveyed in December 2019. We can also examine the status of the April 2020 sample going back further in time. Using Waves 16 and 17, we get four data points for the sample of individuals surveyed during lockdown: for April 2019, August 2019, December 2019 and April 2020. Even though the post-lockdown situation in April 2020 was one of extreme flux and uncertainty, the swift change by the CMIE from face-to-face to phone interviews enabled them maintain the size of their sample.

We could construct a pre- and post-lockdown panel (two time periods) of households for whom data was available in both Wave 18 and Wave 19[8]. However, comparing the employment status of the individuals over a longer time period establishes the effects of the lockdown more robustly, as we can show that the change in employment status occurs only after the lockdown; there are no differences in average employment between earlier waves.

[8]Indeed, that was how the first draft of this paper was written. Thanks to Prachi Singh for suggesting that I extend the time period of estimation.

Most of the variables in the data set are standard and I have used them in the original form. Some variables needed to be consolidated as follows. CMIE data has four categories for employment status. One, is the straightforward “employed” category, referring to individuals who are employed at the time of the survey. The second category, “unemployed, not willing, not looking” refers to the voluntarily unemployed individuals. The third category is “unemployed, willing and looking for a job”, and the fourth is “unemployed, willing and not looking for a job”. The last two categories include the involuntarily unemployed, i.e. they are unemployed and willing to work, with some actively looking for a job, and others not actively looking at the time they were surveyed. I combined the latter two categories into a composite “unemployed” category. Thus, my employment status categories are “employed”, “unemployed” and “out of the labour force (OLF)” (the latter being involuntarily unemployed individuals in the original CMIE data.)

The data has a detailed industry (38 categories) and occupation (21 categories) classification. As there is a large variation in frequencies across these multiple categories, I consolidated industry categories into four broad categories and the occupation categories into nine broad categories. This reclassification makes the analysis more concise and meaningful, yet retains the necessary granularity needed for a nuanced understanding of the effects of the lockdown on employment of different population segments.

I converted in the “age in years” variable into two age group categories: “younger” (between 15 and 35 years) and “older” (older than 35). I also created a category for female heads of household (*femhh*), a dummy variable which takes the value of 1 when the head of household is female, and 0 when the head of is male. Data on education is classified by last class (grade) passed. I recoded this variable to take the value of zero for “no education", 1 year for Class 1 and so on till 12 years for Class 12. Given that undergraduate education is a 3-year course in India, those with undergraduate degree were assigned 15 years of education, and those with master’s degrees 17 years. Individuals with PhDs were assigned 22 years of education. Based on this recoding, I created a binary variable called “ed_low" which takes the value 1 if years of education are 10 or less, and zero otherwise.

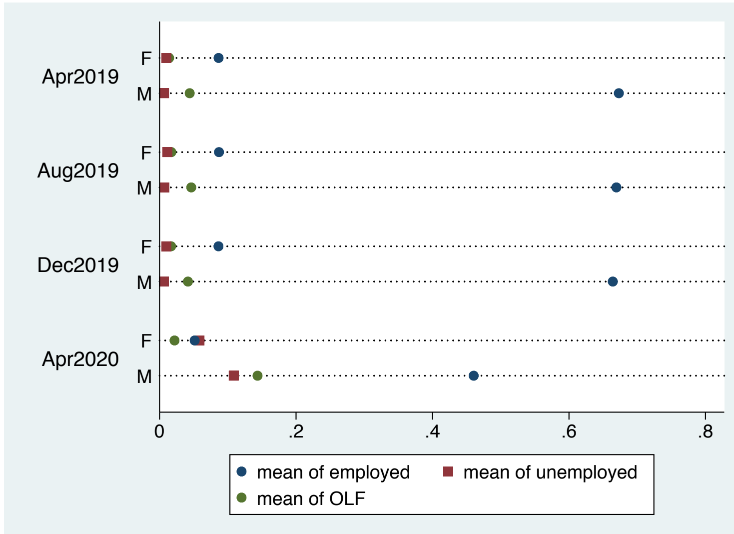
While the lockdown was equally stringent everywhere, the severity of Covid-19 incidence was not uniform across the country. The top eight states in terms of the spread of the disease in April 2020 were: Maharashtra, Gujarat, Tamil Nadu, West Bengal, Andhra Pradesh, Rajasthan, Uttar Pradesh and Telangana (not listed in order of cases). I created a binary variable called “high covid" which took the value 1 if the individual belonged to any of these states. In the context of migration, by “belong to", I mean “was resident in" these states at the time of the survey.

3.2 Summary Statistics

Figure 3 shows the trends in the main variable of interest, employment status, by gender and month, calculated from unit-level data for Waves 16-19.

We can see that for the three waves before April 2020, the gender gaps in average employment are large but stable, with average male employment at 67 percent and average female employment

Figure 3



at roughly 9 percent. In April 2020, employment for both men and women declined to 46 and 5 percent respectively, i.e. a 20 percentage point decline for men and a four percentage point decline for women.

Table 1 show the means and standard deviation of key demographic and occupation statistics for the sample for December 2019, the immediate pre-lockdown wave. We see that 47 percent of the sample is female; 53 percent male; 13 percent households have a female head of household (femhh); 45 percent are “younger" and 54 percent “older"; roughly 18 percent UC, 49 percent OBC and intermediate castes, 25 percent SC and 7 percent ST. 90 percent of the sample is Hindu, roughly 7 percent Muslim, 2 percent Sikh, 1 percent Christian. 37 percent of the sample is rural and 63 percent is urban. Compared to the other national surveys, the urban sector is over-represented in the CMIE sample.

Coming to the industry and occupation classification, we see that roughly 23 percent individuals were engaged in agriculture; roughly 2 percent in primary home production; 26 percent in secondary activities (manufacturing, construction and processing) and 49 percent in the service sector. The occupation division shows that 55 percent of the sample was not working or OLF (either retired, aged, home makers or students). 14 percent were self employed professionals or in business; 5 percent blue-collar workers; 2 percent white-collar workers; 2.3 percent agricultural labourers; less than 1 percent small farmers; 0.2 percent big farmers (called organised farmers in the data); 19 percent small hawkers and traders and 0.1 percent managers or legislators.

3.3 Effect of the Lockdown on Gender Gaps in Employment

To estimate the effect of the lockdown, we can arrange the the data as a panel (four observations per individual). We then regress the binary variable *Emp* on dependent variables as explained below, with standard errors clustered at the state level [9].

$$Emp_i = \alpha_i + \beta_1 gender + \beta_2 month + \beta_3 gender * month + \beta_4 individualFE + \epsilon_i \qquad (1)$$

I have chosen December 2019 as the base month. We can add lagged employment status to Equation 1 (a binary variable which takes the value 1 if individual was employed in the previous period) and an interaction between lagged employment and gender. This leaves us with three periods, and we estimate this equation with district fixed effects.

We can also estimate this only using two waves around the lockdown:

$$\begin{aligned} Emp_i = \alpha_i + \beta_1 male + \beta_2 month + \beta_3 gender * lockdown + \beta_4 laggedemployment + \\ \beta_5(laggedemployment) * gender + \gamma ikDistrict_{ik} + \epsilon_i \end{aligned} \qquad (2)$$

Lockdown is a binary variable with the value 1 for April 2020 and zero for December 2019, and lagged employment is a lagged dependent variable with a value of 1 if the individual was employed pre-lockdown.

Finally, we check if high Covid states had a fall in employment over and above the lockdown-induced fall. It is possible that the high Covid states had a different trend compared to the non-high Covid states even prior to the lockdown. Therefore, we add a high Covid dummy to Equation 1 and not Equation 2. Thus, Equation 1 is estimated with three variations (individual fixed effects, district fixed effects with lagged employment; lagged employment with an additional control for high Covid), and Equation 2 once.

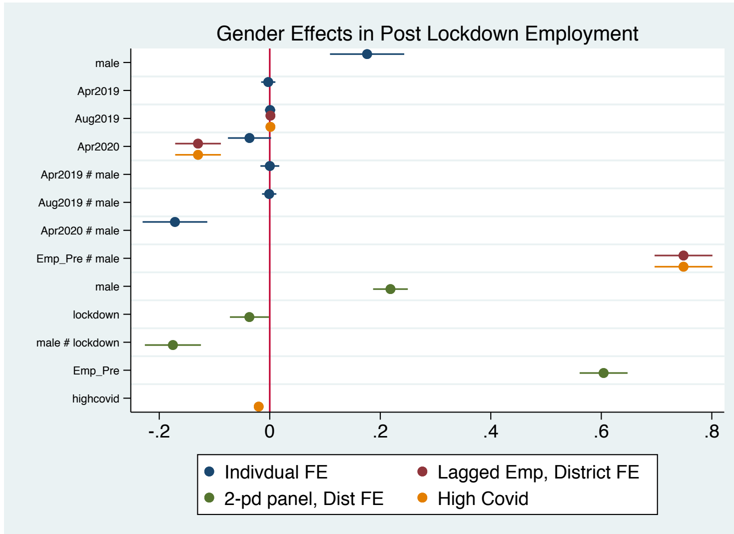
Figure 4 and Table 2 show the results for the four estimations.

The exact estimates underlying Figure 4 are in Table 2. We see from Column (1) in Table 2 that men are 17.6 percentage points more likely than women to be employed overall. Compared to December 2019, the likelihood of employment in April and August 2019 is no different. However, in April 2020, there is a drop in employment. This drop is not gender neutral; the drop in male employment is greater than female by 17.2 percentage points.

However, those already employed in a given period are more likely to be employed in the next period, compared to those not previously employed. We see from Column (2) that conditional on

[9] Using STATA'S *areg* command after *xtset*

Figure 4



being employed in a previous period, men are 18 percentage points more likely to be employed in the next period.

Column (3) presents the results of the equation on a two-period panel, with lagged employment and district fixed effects. The interaction between the gender dummy and lagged employment dummy shows that conditional on previous period employment, men were 20 percentage points more likely to be employed post-lockdown than women.

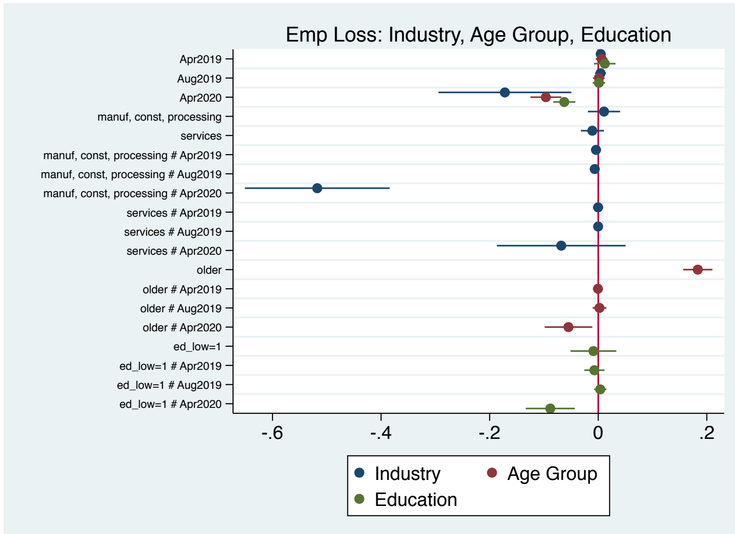
Finally, Column (4) shows that the drop in employment was greater in high-Covid states compared low-Covid states, over and above the drop due to lockdown in April 2020. After controlling for high-Covid states, we find that women were 18 percentage points less likely than men to be employed, conditional on both men and women being employed in the previous period. Another specification (not reported here) showed that the interaction between high-Covid and gender was insignificant, indicating that there was no further differential effect on men versus women in high-Covid states.

While the point estimates across the models vary within a small range (as expected), the loss in women's employment is between 18 to 20 percentage points higher relative to men's, conditional on both being employed.

3.4 Industry, Age and Education Profile of Job Losses

Who were the workers who lost jobs? What was their age, industry and education profile? To explore that, I re-estimate Equation (1) three times, replacing gender with industry, age group and education levels respectively. For age group and education, I use the binary variable as explained in Section 3.1. The results are shown in Figure 5 and Table 3.

Figure 5



For industry categories, the base category is agriculture and allied activities. We see relative to December 2019, employment in both manufacturing, processing and construction industries (secondary sector industries) as well as service fell. The significant fall was in the secondary, where employment was lower by 51.8 percentage points relative to agriculture.

In terms of age group, while over the period, older individuals (35 and above) were more likely to be employed compared to younger (by 18.3 percentage points), they also suffered a larger fall in employment (by 5.5 percentage points) relative to the younger individuals. In terms of education levels, while overall there was no significant difference in the probability of being employed between individuals with high or low education levels, the lockdown affected workers with lower levels of education more adversely compared to better educated individuals, as the former were nearly 9 percentage points less likely to be employed compared to individuals with education levels higher than 10th grade. The latter would be more likely to be in formal sector jobs with tenure contracts. From this, it is reasonable to deduce that informal sector workers suffered greater job losses.

4 Lockdown and the gender division of hours spent on domestic work

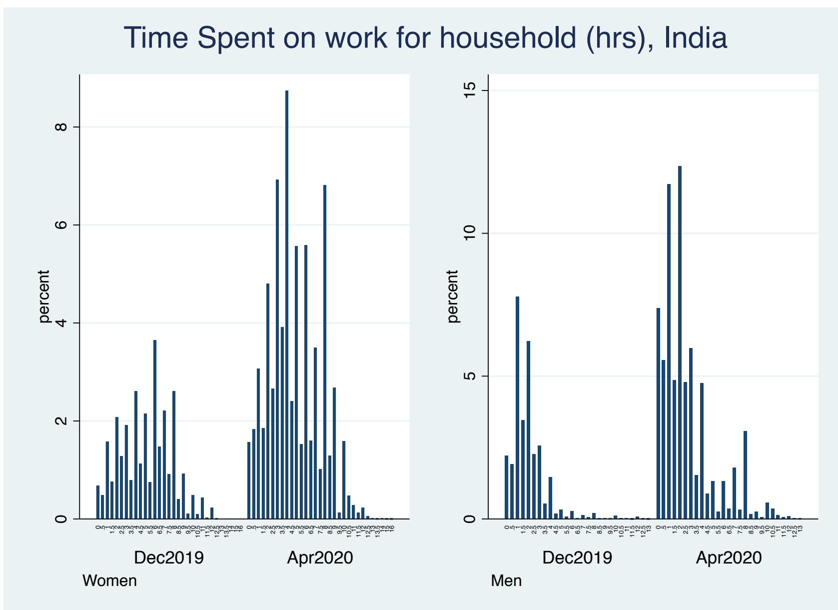
South Asia (India and Pakistan in particular) and MENA (Middle East and North Africa) regions have among the most unequal gender norms in terms of sharing of household chores and domestic work, including care work. While these regions are at one end of the spectrum, everywhere women spend more time doing household chores compared men.

A question that scholars in diverse parts of the world are asking in the context of this massive exogenous shock in the form of pandemic is this: did the lockdown, which forced everyone to stay at home, and the need for social distancing which has resulted in the widespread adoption of "Work from Home" (WFH), shift the sharing of domestic work towards greater gender equality?

Since the pandemic is still ongoing, and countries are expected to go in and out of lockdowns till a vaccine is found, there cannot be a definitive answer to this question until we emerge out of the pandemic decisively and have data covering the entire period. However, an analysis of the early evidence on this issue is both pertinent and interesting.

The CHPS data has a question about time spent on housework in half-hour increments, starting with zero hours. The distribution for women and men pre-and post lockdown is shown in Figure 6.

Figure 6

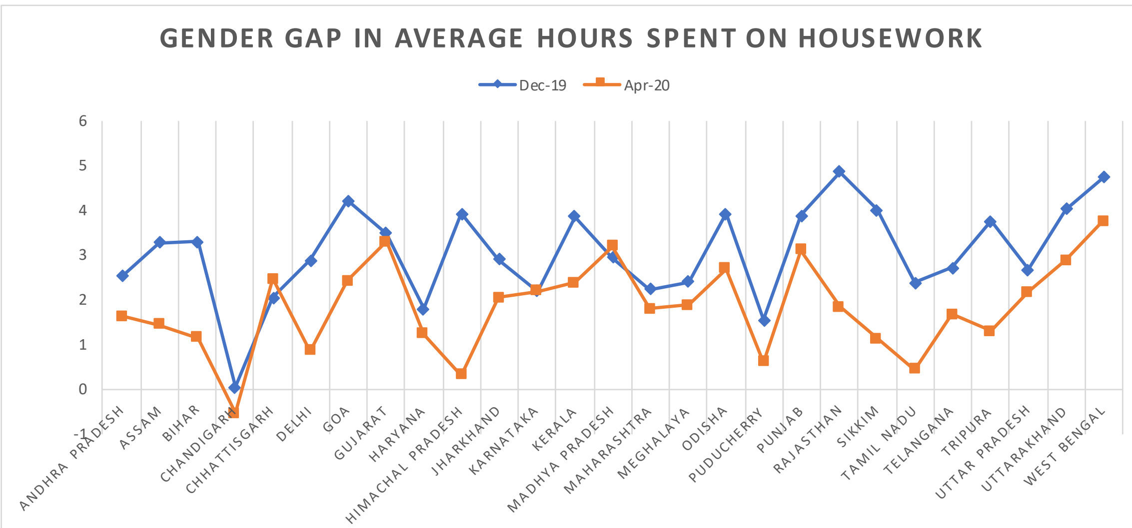


As a result of the lockdown, urban households, especially the middle classes, had to manage without the slew of domestic helpers who are an indispensable part of everyday life for most Indians. We see from Figure 6 that this resulted in an increase in hours spent on housework for both women and men, compared to December 2019. However, the male distribution continues to be right skewed. Also, while the proportion of men putting in between 0.5 and 4 hours everyday increased in April 2020 compared to December 2019, proportion of men putting in zero hours also increased.

The results of a linear regression of hours spent on house work on a gender dummy, on a month dummy and an interaction of month and gender (with individual fixed effects) and standard errors clustered at the state level are shown in Table 4. We see that the average gender gap decreased by roughly one hour over the period.

Figure 7, which plots the gender gap in average hours (female average hours - male average hours) by state and month shows that in most states, the gender gap decreased in April 2020, compared to December 2019. As we note above, given the state of flux around the pandemic and lockdowns, it is too early to say whether these shifts are transitory or more or less permanent. However, given the context of highly unequal gender norms, this shift appears to be promising. This analysis will need to be repeated when data for May 2020 and subsequent months becomes available.

Figure 7



5 Discussion and Concluding Comments

The Covid-19 pandemic has often been described as a great leveller. In several countries, early evidence suggests that regardless of which sections of the population are more vulnerable to the disease, the impact of the lockdown and economic shutdown, which is the key pandemic control strategy everywhere, has been highly uneven, hitting the already vulnerable groups much harder than. In this sense, the pandemic has exposed the many fault lines that lay beneath the surface across the world.

India, home to a third of the world's population, is no exception to this global pattern. Using four waves of longitudinal national data for roughly 40,000 households, this paper presents estimates for the early differential effects of the lockdown by estimating the probability of being employed in April 2020, the first month of the extremely stringent national lockdown relative to December 2019.

Due to the pre-existing significant and widening gender gaps in labour force participation rates and employment, the absolute number of men who lost employment is larger than the absolute number of women who lost employment in the first month of the lockdown. However, even though pre-lockdown employment was the strongest predictor of post-lockdown employment, its effect was different for men and women. Women who were employed in the pre-lockdown phase were roughly 20 percentage points less likely to be employed in the post-lockdown phase.

India has amongst the most unequal gender division of household work globally. The last large government Time Use Survey was conducted by the Central Statistical Organisation of the Ministry of Statistics and Programme Implementation in 1998-1999 across six states in India. The statistics from this survey are not comparable, but instructive. The survey finds men significantly more time on income earning and personal care (including leisure) activities compared to women. However, women spend 10 times as much time on household work, including unpaid work on family enterprises, compared to men (CSO, 1999).

In this paper, comparing hours spent on domestic work pre- and post-lockdown, we find that for both men and women, the gender gap in average hours spent on domestic work hours decreased in the first month of the lockdown, and most states showed a decline in the gender gap due to a shift in the male distribution of hours. The male distribution continues to be right-skewed, but the proportions of men doing between 0.5 to 4 hours of housework per day increased post-lockdown. This is due to the fact that the lockdown resulted in a shift in the male distribution of hours spent on domestic work. The male distribution continues to be right-skewed, but the proportions of men doing between 0.5 to 4 hours of housework per day increased post-lockdown.

While increased involvement in domestic work could have an adverse impact on women's labour force participation, there is historical evidence in the other direction as well. Severe shocks can shift social norms defining gendered labour force patterns, which in turn could have an impact on the gendered division of domestic chores. For instance, the years after World War II resulted in a rise in female labour force participation in OECD countries (Long, 1958). This was also a time when the division of domestic chores shifted towards greater equality.

Specifically in the context of this pandemic, Alon et al (2020) find that beyond the immediate crisis, work norms which normalize work from home as well as the norms of fathers participating in childcare might "erode erode social norms that currently lead to a lopsided distribution of the division of labor in house work and child care". For India, we would need to examine the evidence over a longer time period, as such changes unfold slowly over several years; a month-long lockdown is certainly no proof of the magnitude and persistence of shifts.

While women have suffered disproportionately more job losses, risky, hazardous and stigmatized jobs are exclusively their preserve. All frontline health workers, the trinity that forms the backbone of the primary healthcare system - ASHA (Accredited Social Health Activists), ANM (auxilliary nurse and midwife) and Anganwadi workers (the ICDS or Integrated Child Development Scheme workers) are women. Thus, for a very large number of women, the choice seems to be between unemployment and jobs that put them at risk of disease and infection and make them targets of vicious stigma.

India's economy has "suffered even more than most" as a result of the lockdown (Economist, 2020). Additionally, India's growth rate has been faltering over the last six years, decelerating each year since 2016, to reach 3.1 percent in the first quarter of 2020 (January to March), just before the Covid-19 pandemic hit India. The lockdown is likely to push the economy into a deep recession with the very real possibility of massive job losses.

As I was writing this, the first set of figures released by the CMIE for May 2020 (not yet available to researchers) revealed that in the month of May 2020, with a gradual re-opening of the economy, 21 million jobs got added to the low base of April 2020. This is a hopeful sign. However, despite this the April unemployment rate remained at a high rate of 23.5 percent[10].

This indicates that the unemployment challenge is massive. To sustain this momentum in the coming months, we need to see strong policies to provide employment and boost demand, in the absence of which job losses might mount, worsening the employment crisis. The results of this paper indicate that in addition to overall unemployment, pre-existing inequalities along gender and caste lines are likely to get reinforced, unless the specific contours of disadvantage are recognised and addressed.

[10] https://www.business-standard.com/article/opinion/21-million-jobs-added-in-may-120060101674_1.html

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7 Tables

Table 1

	(1)	
	mean	sd
female	0.471	0.499
male	0.529	0.499
femhh	0.131	0.338
younger	0.454	0.498
older	0.546	0.498
UC	0.209	0.406
OBC	0.476	0.499
SC	0.236	0.425
ST	0.0712	0.257
Hindu	0.874	0.332
Muslim	0.0718	0.258
Sikh	0.0266	0.161
Christian	0.0186	0.135
rural	0.368	0.482
urban	0.632	0.482
agri	0.228	0.420
primhome	0.0182	0.134
secondary	0.261	0.439
services	0.493	0.500
managerlegislator	0.00160	0.0400
SEprofbusiness	0.140	0.347
whitecollar	0.0215	0.145
bluecollar	0.0527	0.223
agrilab	0.0229	0.150
smallfarmer	0.00933	0.0961
bigfarmer	0.00188	0.0433
smalltraderhawker	0.199	0.399
retiredhome	0.550	0.497

Table 2

	(1)	(2)	(3)	(4)
	Ind FE	**Lagged emp, Dist FE**	**2-pd panel, dist FE**	**High Covid**
Male	0.176***	0.0903***		0.0903***
	(5.38)	(6.06)		(6.06)
Apr2019	-0.00269			
	(-0.43)			
Aug2019	0.000661	0.00126		0.00126
	(0.14)	(0.43)		(0.43)
Apr2020	-0.0366	-0.130***		-0.130***
	(-1.93)	(-6.44)		(-6.44)
Apr2019 × M	0.000155			
	(0.02)			
Aug2019 × M	-0.000997			
	(-0.16)			
Apr2020 × M	-0.172***			
	(-6.01)			
Emp_Pre		0.475***		0.659***
		(28.52)		(38.38)
Emp_Pre=1 × M		0.183***		
		(16.13)		
male=1			0.0955***	
			(6.18)	
lockdown=1			-0.129***	
			(-6.38)	
Emp_Pre=1			0.403***	
			(18.95)	
male× Emp_Pre=1			0.201***	
			(13.95)	
Emp_Pre=1 × F				-0.183***
				(-16.13)
highcovid				-0.0200***
				(-8.65)
Constant	0.300***	0.0978***	0.117***	0.110***
	(11.77)	(4.39)	(4.19)	(5.27)
Observations	151944	107879	76472	107879

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3

	(1) Industry	(2) Age Group	(3) Education
Apr2019	0.00469	0.00632	0.0120
	(1.20)	(1.20)	(1.25)
Aug2019	0.00424	0.00124	0.00123
	(0.88)	(0.24)	(0.22)
Apr2020	-0.172**	-0.0965***	-0.0626***
	(-2.88)	(-6.97)	(-6.28)
manuf, const, processing	0.0107		
	(0.74)		
services	-0.0108		
	(-1.05)		
manuf, const, processing × Apr2019	-0.00404		
	(-0.89)		
manuf, const, processing × Aug2019	-0.00640		
	(-1.43)		
manuf, const, processing × Apr2020	-0.518***		
	(-7.96)		
services × Apr2019	-0.000222		
	(-0.05)		
services × Aug2019	-0.000122		
	(-0.03)		
services × Apr2020	-0.0681		
	(-1.18)		
older		0.183***	
		(13.97)	
older × Apr2019		-0.000491	
		(-0.11)	
older × Aug2019		0.00233	
		(0.38)	
older × Apr2020		-0.0548*	
		(-2.56)	
ed_low=1			-0.00880
			(-0.43)
ed_low=1 × Apr2019			-0.00706
			(-0.78)
ed_low=1 × Aug2019			0.00369
			(0.66)
ed_low=1 × Apr2020			-0.0883***
			(-4.00)
Constant	0.996***	0.288***	0.397***
	(56.46)	(30.67)	(45.74)
Observations	56912	149252	151944

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4

	(1) hhwkhrs
male=1	-0.788
	(-1.98)
Apr2020	-0.400*
	(-2.07)
male=1 × Apr2020	0.983**
	(2.93)
Constant	3.897***
	(16.67)
Observations	80574

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$