WP-2020-034

Employment Guarantee during Times of COVID-19: Pro-poor and Pro-return-migrant?

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November 2020

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Abstract

Worldwide, the COVID-19 pandemic has disrupted economies rendering millions without employment. A number of countries have turned to labour market interventions to protect workers. India leverages on a workfare programme, the MGNREGA, to provide a fallback option for workers in rural areas. Established long before the pandemic and designed to be demand-driven and self-targeting, we examine its expansion in 2020 as a COVID-19 response. We combine monthly administrative data with district-level data on migration and multidimensional poverty. We test whether the additional person-days in public works employment generated are distributed across districts in ways that are commensurate with their population shares of out-migration and poverty. This yields four major findings. First, poorer districts appear to have extended the programme to include more households, i.e. expanded on the extensive margin. Second though, this does not seem to hold for districts with a high proportion of all out-migrants in the country. While these districts account for 72.2% of all out-migrants, they account for only 54.8% of the person-days generated. Third, in these districts, unmet demand for work is higher than elsewhere. Given widespread administrative rationing, of 22.7% in the period May-August 2020, the increase in person-days has been as much on the intensive margin as it has been on the extensive margin. Fourth, the person-days generated per rural household suggest that the expansion is far from adequate in serving the large number of households likely pushed into economic distress in specific districts. Between May and August 2020, the employment guarantee provided 31 days per working household, yet this is equivalent to just 13.5 days per rural household. Districts that are poor or account for a higher out-migration share are not differentially ramping up the programme; instead implementation patterns are consistent with past records of person-days generated or rationing rates. Notwithstanding the impressive expansion of the workfare programme, it needs continued funding and attention to fulfill its promise as a credible safety net, especially in districts that need it most.

Keywords: COVID19, MGNREGA, workfare, India, out-migration

JEL Code: J08; I38

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October 30, 2020

Worldwide, the COVID-19 pandemic has disrupted economies rendering millions without employment. A number of countries have turned to labour market interventions to protect workers. India leverages on a workfare programme, the MGNREGA, to provide a fallback option for workers in rural areas. Established long before the pandemic and designed to be demand-driven and self-targeting, we examine its expansion in 2020 as a COVID-19 response. We combine monthly administrative data with district-level data on migration and multidimensional poverty. We test whether the additional person-days in public works employment generated are distributed across districts in ways that are commensurate with their population shares of out-migration and poverty. This yields four major findings. First, poorer districts appear to have extended the programme to include more households, i.e. expanded on the extensive margin. Second though, this does not seem to hold for districts with a high proportion of all out-migrants in the country. While these districts account for 72.2% of all out-migrants, they account for only 54.8% of the person-days generated. Third, in these districts, unmet demand for work is higher than elsewhere. Given widespread administrative rationing, of 22.7% in the period May-August 2020, the increase in person-days has been as much on the intensive margin as it has been on the extensive margin. Fourth, the person-days generated per rural household suggest that the expansion is far from adequate in serving the large number of households likely pushed into economic distress in specific districts. Between May and August 2020, the employment guarantee provided 31 days per working household, yet this is equivalent to just 13.5 days per rural household. Districts that are poor or account for a higher out-migration share are not differentially ramping up the programme; instead implementation patterns are consistent with past records of person-days generated or rationing rates. Notwithstanding the impressive expansion of the workfare programme, it needs continued funding and attention to fulfill its promise as a credible safety net, especially in districts that need it most.

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1 Introduction

Public works are a tested government tool to provide necessary income to the poorest in times of recessions, droughts and now pandemics. Such programmes provide work that require little skill at wages that are typically set lower than market wages. They are an appealing welfare initiative as workfare operates via self-selection on account of the kind of work and the low wages and thus increases the chances of proper targeting (Besley and Coate, 1992). In theory, workers can decide flexibly and individually whether to supply their labor and receive benefits.

In the Global South, public works have been used widely. For example, in sub-Saharan Africa, 150 public works programmes have been active around 2010 (World Bank, 2013), and large-scale public works programmes existed in Asia and Latin America in the 1980s and 1990s (Subbarao, 2003).

During the current COVID-19 pandemic, Gentilini et al. (2020) note that worldwide, supply-side worker related labour market programmes have been on the rise as an instrument to deal with the pandemic-related economic crisis. As many as 169 programmes are in place in about 100 countries. Although wage subsidies have been the dominant measure, there have been calls to implement workfare and job guarantee programmes in the developed world as well, among other things, to prevent people from sliding into long-term unemployment (Layard, 2020; Dhingra, 2020; Bance and Gentillini, 2020).

In India, public works have a long history. For example, the Bara Imambara in Lucknow was built as part of famine relief work under the Nawab of Awadh in the 18th Century (Singh, 1955), mirrored by princely activities of famine relief works across India, visible in for example the Umaid Bhavan palace in Jodhpur, constructed in the 1930s and 1940s (Chatterji, 2017). Under the British Raj similar initiatives took place during years of droughts and famine (Drèze and Sen, 1989). In the 1980/90s, the much studied Maharashtra Employment Guarantee Scheme (MEGS), that emerged in response to a severe drought in 1972, provided much support to the poorest, followed, among others, by food for work programmes in several states. The MEGS later became the template for a nation-wide employment guarantee under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), that has been in place since 2006.

On March 24, 2020, the Indian government implemented a nationwide lockdown to contain the spread of the Covid-19 pandemic. Given the sudden halt in economic activity, widespread loss of jobs and precarious living conditions of migrant workers in cities, the lockdown triggered a large-scale exodus of migrants from urban centres to their villages (Srivastava, 2020). An estimated 10.4 million workers returned home from their places of work (Government of India, 2020a). A recent estimate by the Centre for Monitoring the Indian Economy, in August 2020, estimates job losses of 18.9 million since the lockdown, representing a 22 per cent drop relative to the pre-lockdown figures (Vyas, 2020). Job losses in industries that are more labour intensive have been particularly severe (Vyas, 2020).

Even in the early days of the lockdown, many commentators had anticipated that in the absence of jobs for the burgeoning rural workforce, large scale migration back to rural areas would aggravate economic distress. In particular, many anticipated

that these would be the areas that were already poor to start with (Imbert, 2020). As per data shared in Parliamentary discussions, nearly 71 per cent of the recorded 10.4 million migrants belonged to just four states, namely Uttar Pradesh, Bihar, West Bengal and Rajasthan, ranked among the poorer Indian states (Government of India, 2020a). Many therefore advocated effective expansion and implementation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), some calling for a "million worksites" (Drèze, 2020b).

The MGNREGA is currently among the world's largest rural public works programmes and since its inception in 2006 has generated 30.36 billion days of work at the cost of Rs. 198 (or USD 2.7) per person day of job created.[1] On an average year, more than 50 million households across India are employed under the Act. Existing evidence on the impact of the programme has been fairly unequivocal. Despite implementation issues that varies widely across states, the programme provides a credible safety net, especially during the lean season and for disadvantaged and marginalized communities (see for example Klonner and Oldiges, 2019; Imbert and Papp, 2015; Deininger and Liu, 2019), while it also creates useful and productive assets (Ranaware et al., 2015). As under the MGNREGA manual labour can be sought within local areas, studies show that the laborers prefer such work over even higher paid work in the cities (Imbert and Papp, 2020a). Thus the MGNREGA has the potential to reduce rural-urban migration flows and may affect short-term migration decisions (Imbert and Papp, 2020b; Das, 2015).

Despite its documented effectiveness on several aspects of livelihood, recent years have seen some reluctance on the part of the Government in strengthening and augmenting resources available for the programme. In July 2019, for example the Union Rural Development Minister stated in the Lok Sabha, the Lower Parliament, that the Government was not in favour of continuing with the programme forever.[2] In the wake of the pandemic however, as part of the Pradhan Mantri Garib Kalyan Yojana (PMGKY) announced on May 17, 2020, an additional allocation of Rs.40,000 crores (approx. USD 5.5 billion) was made for the MGNREGA with an apparent mandate to clear pending wages as a priority.[3] In addition, the Government also announced the Garib Kalyan Rozgar Abhiyan (GKRA) on June 20, focussing on providing employment via rural infrastructure projects in districts that receive larger numbers of returning migrants, especially leveraging their skills.[4]

Several commentaries note that the scale of MGNREGA has expanded in response to widespread economic distress triggered by the COVID-19 lockdown. Yet there is currently little understanding on whether this expansion has occurred in the districts that need it most, i.e., the poorest and those that account for a disproportionate share of out-migrants in the country. This is specifically a concern

[1]This is based on MGNREGA at a Glance, as on September 15, 2020, available at https://nrega.ac.in

[2]He had stated: "I am not in favour of continuing with MNREGA forever. Because it is for the poor and government wants to eradicate poverty from India and is working in this direction." (PTI News, July 17, 2019)

[3]https://pib.gov.in/PressReleasePage.aspx?PRID=1624661

[4]The scheme involves implementation of projects worth Rs.5000 million in 125 days in 116 Districts of 6 States - Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan, Odisha and Jharkhand. See https://pib.gov.in/PressReleasePage.aspx?PRID=1632861 for details.

because historically the poorer states have often been less effective in MGNREGA implementation perhaps owing to limited state capacity (see for similar concerns regarding the GKRA Afridi, 2020). For example, states with a larger number of poor, such as Bihar, have on average utilised far less funds for MGNREGA than the states with fewer poor like Tamil Nadu (Saxena, 2016).

In this paper, we assess systematically the extent to which the MGNREGA has or has not fulfilled its promise as a safety net. In particular, we look beyond the aggregate numbers and focus on two broad questions and ask: How far has MGNREGA delivered where it is needed most and for those who need it most? What can be done to enhance the effectiveness of the MGNREGA? Seeking answers to these two questions provide insights and information for similar work programmes around the world that may be designed as a COVID-19 response strategy or other disaster relief strategy.

Our paper brings together available information on out-migration and poverty, combining these with MGNREGA performance to shed light on state response to the migrant crisis. We do so as follows. First we review the performance of the MGNREGA during the COVID-19 lockdown (Section 2). We then describe the data we use and analyze three questions (Section 3): First, we examine whether districts with higher share of potential return migrants and the poor have seen a proportionate increase in demand for MGNREGA work. We also examine whether districts have been able to meet the surge in demand post-lockdown or whether there is significant unmet demand. Second, we examine whether the additional person days of MGNREGA employment generated is distributed across districts in ways that are commensurate with their out-migration shares and share of the poor. Third, we decompose the total person days generated under the MGNREGA during the months of the nation-wide lockdown (May, June, July and August 2020) into two parts: that accounted for by the inclusion of more households under the programme (hence, the extensive margin) and another by expanding the number of days each household works (the intensity of participation, hence, the intensive margin). We examine these patterns across districts. Using these three approaches, we analyse whether those districts that send out more migrants (and hence likely to have more return-migrants) have been able to expand the MGNREGA adequately to service the demand. In Section 4, we conclude with a discussion on the imperative of continued effective implementation of the MGNREGA and draw on existing commentaries to elaborate on some key operational issues that need to be addressed.

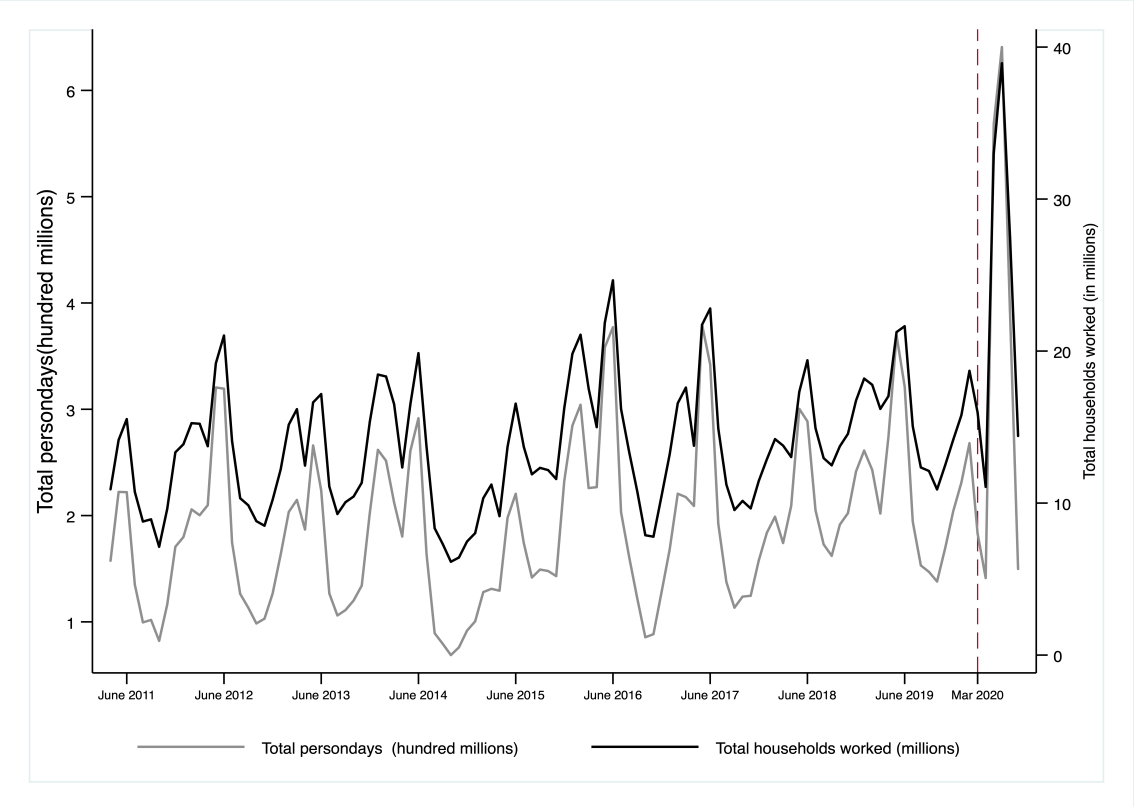
2 MGNREGA during the COVID-19 lockdown

When the lockdown was announced on March 24, 2020, the Government of India had not issued clear guidelines regarding the functioning of the MGNREGA. Consequently, in the immediate aftermath of the lockdown, at least seven states had officially closed the MGNREGA as a precautionary measure to contain the spread of COVID-19 as part of the lockdown (Nath, 2020). April thus saw a steep fall in the scale of MGNREGA - lower relative to both pre-lockdown and relative to April 2019. On April 15, 2020, the Government of India announced some easing of restrictions associated with the lockdown starting April 20, 2020, explicitly permitting

MGNREGA worksites to remain open.[5] Most states thus resumed providing work on a large scale in May to cope with the large increase in demand. In June 2020, the MGNREGA programme was providing more employment than it has ever in its 14 years of existence (Figure 1).[6]

Since then however, the scale of operation has been declining, attributed in part to the availability of agricultural work in July, when much of the sowing operations take place. As Figure 2 shows, demand for work increased five-fold relative to demand during the eve of the lockdown and the workdays generated was close to four times that just before the lockdown. This extraordinary increase in 2020 relative to previous years reflects the reliance of rural workers on the MGNREGA and of those who had perhaps returned to their native villages. This pattern is shared across most states (Appendix Figure A.1)

Figure 1: MGNREGA during COVID-19 has been the highest in a decade

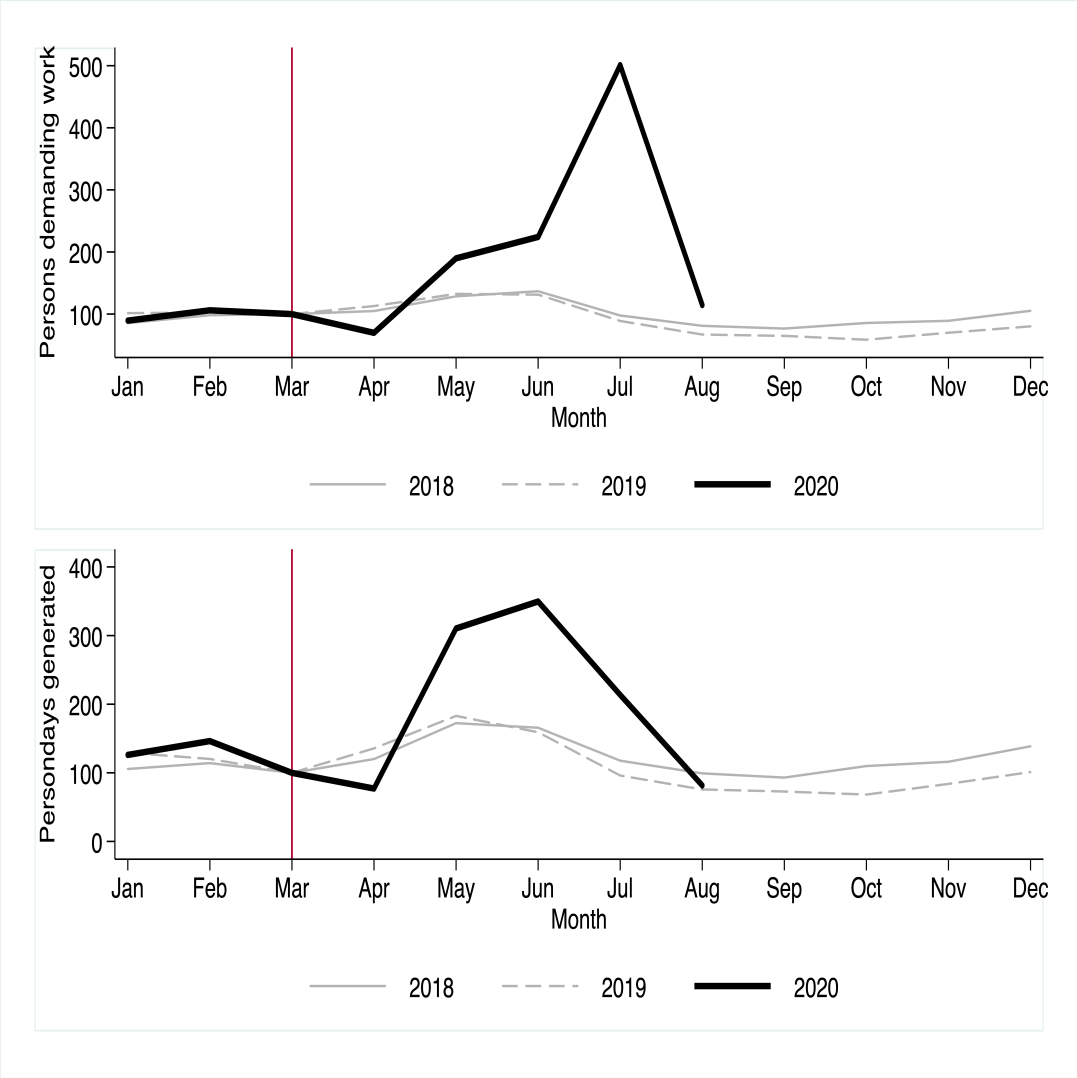


As of September 15, 2020, 144 million households were enrolled in the MGNREGA. Countrywide, between April and mid-September 2020, a period spanning the Covid-19 lockdown and after, 58.5 million households and 83.5 million workers have been employed under the MGNREGA. By September 15, 2020, the programme

[5] Order No. 40-3/2020-DM-I(A), Ministry of Home Affairs, Government of India

[6] Administrative data on the MGNREGA are publicly available but tend to be dynamic and can vary depending on the tables used to generate the data. The numbers cited in this paper can therefore be somewhat different from other reported figures. We have attempted to use data from a single source accessed at a single point of time for all calculations to ensure replicability.

Figure 2: MGNREGA demand and workdays generated surged during the COVID-19 lockdown



Notes: Data based on MIS.Excludes districts that do not have a consistent series. Base: March= 100

had generated a total 2.02 billion person days, with each working household securing 34.52 days of employment.[7]

It is evident that the MGNREGA has expanded significantly in response to rural distress and an economy-wide collapse in employment. A number of reports from across the country during the lockdown emphasizes the critical role of the MGNREGA as a fallback option (see for example Singh, 2020; Kumar, 2020b). Reports suggest that even those with professional degrees and salaried formal employment, who lost their jobs, returned to their villages and sought work under the MGNREGA (Mashi and Slater, 2020).

[7]This is as on September 15, 2020 as reported in http://mnregaweb4.nic.in, MGNREGA At a Glance.

3 MGNREGA performance across districts of high poverty and out-migration

In this section, we examine the MGNREGA response to the large scale reverse migration in districts that are particularly poor and are likely to have received large numbers of returning migrants.

To do this, we compile administrative data relating to the MGNREGA from the website of the Ministry of Rural Development that maintains near real time record of MGNREGA implementation. We use monthly data on work demanded and person days generated from January 2019 until August 2020.[8]

We estimate the multidimensional poverty index (MPI) and its components the headcount ratio of multidimensionally poor people (H) and the intensity of multi-dimensional poverty (A) at the district-level following Alkire et al. (2020). We use H as a measure of the extent of poverty in a district. Since our poverty estimates are based on the National Family Health Survey 4 (NFHS-4) from 2015/16, which was designed using district boundaries of the Census 2011, we use these districts as "parent districts." Subsequently, new districts were carved out of these. We thus assign new districts (for which we have the latest MGNREGA data) to their parent districts.

For out-migration, we compute the total number of out-migrants (both long term and short term) based on Imbert (2020). We compute the out-migration rate in the district - that is the proportion of a district's total population who migrate out, which relies on information from Census 2011 for long-term migrants, the National Sample Survey (NSS) Employment module 2007-08 for short-term migrants and the Census 2001 to impute the origin of long-term migrants (Imbert, 2020).[9] We also compute the out-migration share of the district - the share of all out-migrants in the country accounted for by the district. To identify High, Medium and Low out-migration districts we form terciles of out-migration rates and out-migration shares. Whereas being in the top tercile based on the out-migration rate indicates that the district has a high rate of out-migration, being in the top tercile based on out-migration shares indicates that the district accounts for a higher proportion out-migrants nationally than the other two terciles.

Similarly, we also identify terciles based poverty rate, i.e., based on the head-count ratio using MPI and terciles based on the share of all multidimensionally poor nationally that is accounted for by the district.

Districts in the top tercile by share in all out-migrants account for 72.2% of all out-migrants in the country and are also disproportionately poor, accounting for 59.8% of the poor based on the MPI headcount ratio (Table 1) . Likewise districts in the top tercile based on out-migration rates too account for more than proportionate share in total out-migration (60.7%) and the poor (45.6%).

Districts in the top tercile by share of the multidimensionally poor account for

[8]We rely on the MIS data rather than the data available on the Public Data Portal, given the omissions of several districts in the latter.

[9]As described in metadata at `https://github.com/devdatalab/covid`. A similar approach has been taken by Lee et al. (2020) in their analysis of how COVID-19 spread to rural areas, which also relies on out-migration data from the NSS Employment module 2007-08.

72.7% of the poor and 58.4% of out-migrants, a mirror image of the pattern for migration share terciles. In terms of poverty rate, the top tercile of districts, i.e. those that have higher poverty rates (proportion who are multidimensionally poor within the district) account for 62% of all such poor in the country and fewer, i.e. 45% of all out-migrants.

This comparison suggest that districts that tend to have a concentration of the poor also have a higher concentration of out-migrants, but the districts with the highest poverty rates don't necessarily also account for a high proportion of migrants. Unsurprisingly, close to two-fifths of the districts that are in the top terciles according to at least one of the four dimensions are from three states, Uttar Pradesh, Madhya Pradesh and Bihar. About 17% of the districts are in UP (67 districts), 10% in Madhya Pradesh (40 districts), and 9.8% in Bihar (38 districts). As per the data released by the Government, these are also among the states that have received the largest share of return migrants during the COVID-19 pandemic.

In the next part, we examine the following issues. First, we map new enrollments and demand between April and August 2020, to assess if the relatively poor districts with more out-migration have seen higher enrollments and demand. We then document whether there is unmet demand in the programme, i.e., whether households that seek work are unable to get work. In a demand-driven programme, where access to work under the MGNREGA is an entitlement, in principle, any household that seeks work ought to obtain work. However, given limited resources, districts might be constrained from providing everyone work and we examine whether such rationing varies systematically across district types. We then examine, given the context of administrative rationing, how districts, especially those that are relatively poorer or have higher share of out-migrants respond to these constraints. In particular, if districts have limited capacity to expand the programme, district administrations might choose to provide a few days to a large number of households or focus on fewer households and provide them with more days and move them closer to the 100 days' entitlement under the programme. Collectively these enable us to assess whether and how the MGNREGA has been across districts in the country, especially in those that need it most. We elaborate on each of these issues in the following sections.

3.1 Demand and Administrative Rationing

Across districts, demand for MGNREGA has surged. We use two set of indicators to assess this - the number of new enrollments in the programme and recorded demand for work under the programme.

Enrollment in the MGNREGA essentially involves applying for a job card that is issued by the local administration, which then provides households with a unique identity number and a physical document that records members of the household eligible to seek work in the programme and records their employment under the MGNREGA. Based on this registration, household members can seek work via an application that is collected routinely, typically once a week.

Between April 1 and August 31, 2020, 8.5 million fresh jobcards had been issued countrywide, representing a 22% increase in the number of new job cards compared

Table 1: MGNREGA enrollment and performance by district characteristics

	Terciles based on											
	Out-migrant share (%)			Out-migration rate (%)			Poor share (%)			Poverty rate		
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Out-migrant share (%)	5.2	19.5	72.2	10.5	25.6	60.7	12.5	25.9	58.4	22.8	29.0	45.0
Poor share(%)	13.6	26.6	59.8	23.0	31.4	45.6	4.1	23.2	72.7	8.5	29.4	62.0
Out-migration rate (%)	0.9	1.2	2.7	0.6	1.2	3.1	1.3	1.6	2.0	1.2	1.4	2.3
Multidimensional poverty rate (%)	26.5	26.7	34.6	27.2	24.8	35.8	13.8	29.8	44.3	9.4	28.1	50.4
Share of job cards applied for countrywide (April-August 2020)	14.2	30.3	55.3	25.1	35.3	39.4	13.4	31.6	54.8	25.9	33.2	40.7
Share of all new job cards issued (April-August 2020)	14.3	30.6	55	25.4	35.5	39	13.7	32.1	54.1	26.5	33.4	39.9
Total job cards issued (million, till August)	20.1	43.0	77.4	35.7	49.9	54.9	19.2	45.1	76.1	37.3	47.0	56.1
Administrative rationing rate (mean, %, May-August, 2020)	20.1	22.0	26.0	20.1	23.7	24.3	19.0	22.5	26.6	20.7	21.2	26.3
Administrative rationing rate (mean, %, May-August, 2019)	12.1	16.3	16.7	13.3	16.4	15.7	11.5	16.3	17.2	14.9	13.8	16.7
Total person-days (million, till August)	268.4	524.0	960.0	417.4	640.3	694.8	234.1	600.7	917.6	407.2	653.1	692.2
District share in person-days generated (%, April to August)	15.3	29.9	54.8	23.8	36.5	39.6	13.3	34.3	52.3	23.2	37.2	39.5
person-days generated April -August, 2020 as %age of 2019-20 (mean)	102.5	96.5	103.2	100.5	101.0	100.6	93.8	96.3	112.1	92.4	100.6	109.2
Increase in person-days until August (2020 versus 2019)	173.3	138.7	148.5	153.4	156.9	150.2	157.9	136.8	165.9	144.1	155.1	161.4
Total households worked (million, till August)	9.0	17.0	29.7	15.0	19.6	21.0	8.6	18.5	28.5	15.0	20.3	20.3
Total persons worked (million, till August)	17.9	36.1	46.6	38.2	29.9	32.6	10.4	37.2	53.2	27.1	45.1	28.5

Notes: Authors' calculations with data from MIS for MGNREGA statistics, NFHS-4 for poverty shares,and migration data from NSS 2007-8 and Census 2011 as compiled by Imbert (2020). Districts with incomplete data have been excluded. Administrative rationing rates are averages over the months of May through August and exclude extreme values, below -100% and above 100%.

to the last five years (People's Action for Employment Guarantee, 2020).[10] About 55% of the job cards issued and applied for during 2020-21 have been in the high out-migrant districts, a clear sign of demand for work by new households, likely on account of migrant-returnees (Table 1). Yet, the job cards issued in the High out-migration districts remain less than proportionate relative to their share of out-migrants and/or the poor. The same is true of the top tercile based on poverty share and poverty rate (Table 1).

It is encouraging that as per official records, virtually all those who applied for job cards have been issued the same, indicating that there are few impediments at that level. While official data records those who formally applied to enroll and might therefore not reflect accurately all those who seek to enroll, field accounts do not seem to indicate that workers are systematically denied enrollment. This is notwithstanding reports from several parts indicating that these job cards did take time to be issued, forcing workers to wait before they were able to seek work (for instance Mishra, 2020).

Another aspect of implementation quality is unmet demand. Referred to in the literature as administrative rationing (see for example Dutta et al., 2012; Liu and Barrett, 2013) , it is calculated as the proportion of those households who demanded work but did not get work under the programme. Administrative rationing or unmet demand points to inadequate or inefficient implementation - especially in the context of a demand-driven guarantee of work. One would expect that when demand surges, administrative rationing could possibly increase as well when districts are resource constrained, have limited implementation capacity or if the programme is not a priority. This is indeed the case. Compared to the rationing rates in 2019, rationing rates in 2020 stand higher, virtually across the board (Table 1). Administrative rationing rate for the period May-August, 2020 stood at 22.7% (with a standard deviation of 18.6) countrywide; the corresponding figures for 2019 were 15.1% (standard deviation of 13.9).[11]

We find that the High out-migrant-share districts have consistently higher lev-

[10] These new enrollments include job cards for new households that might be formed and therefore do not all represent additions on account of the pandemic related lockdown.

[11] These rationing rates are monthly rates averaged over districts and the months of May through August, dropping 40 outliers that have rates above 100% and below -100%.

els of administrative rationing relative to the Medium and Low out-migrant-share districts (see Figure 3, Table 1). Figure 3 plots a non-parametric local polynomial regression that maps the relationship between monthly rationing rate and district characteristics using data for rationing for May through August 2020. We plot the top tercile of districts by migrant share separately from districts belonging to the other two terciles. The lines show the relationship between administrative rationing rate and head count ratio (H), i.e., the proportion of district population who are classified as multidimensionally poor. The rationing rate for the top tercile by out-migrant share is mostly higher than those for other districts; importantly, it has a positive slope suggesting that the rationing rate is on average higher in districts with higher poverty rates within the top tercile. Thus, within the High out-migration districts, the poorer districts, i.e. with a higher headcount ratio based on the MPI have higher rationing rates. To the extent that data on demand are credible, these suggest a large unmet demand for MGNREGA work especially in the high out-migration districts.[12] Several ground level reports too note that the unmet demand is substantial. For example, People's Action for Employment Guarantee (2020) offers testimonies from workers who demanded but did not get work. In some instances, return migrants did not possess job cards and had to apply to be eligible for work; in others even with job cards, several return migrants got little work (Shrivastava, 2020; Mishra, 2020; Bhattamishra, 2020, See for example). People's Action for Employment Guarantee (2020) notes too that unmet demand is highest in Uttar Pradesh (27%), Madhya Pradesh (22%) and Bihar (20%), states that account disproportionately for the share of the poor as well as of out-migrants.

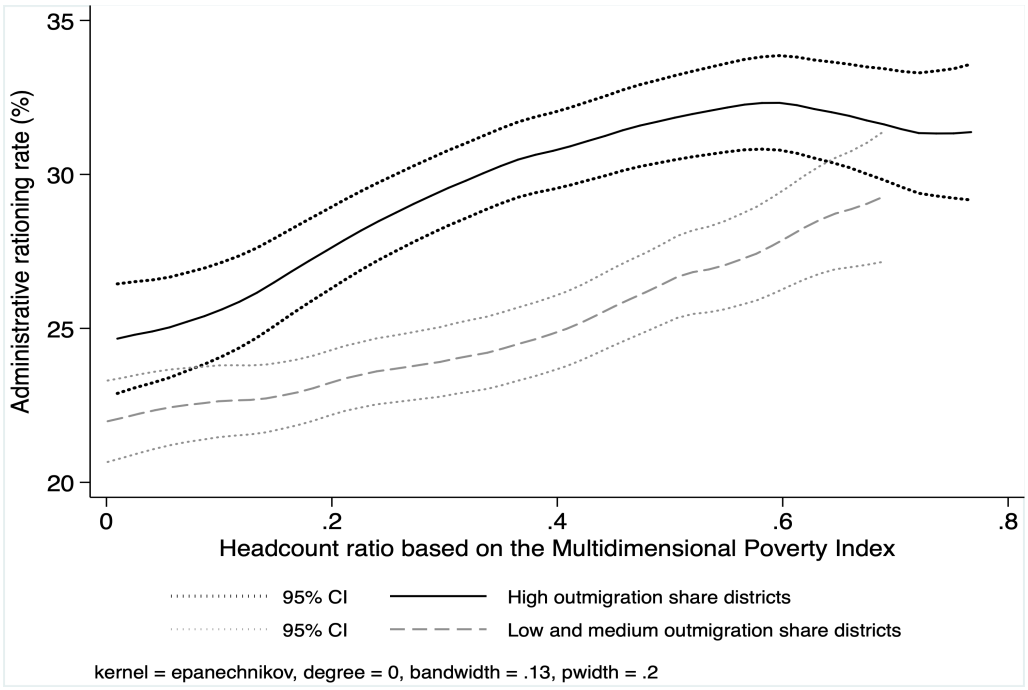
3.2 Where has the MGNREGA expanded most?

In this section, we ask if the MGNREGA has expanded in areas where it is needed most. The previous section noted that administrative rationing rates are consistently higher in High out-migration districts (both in terms of share and rate) and in High poverty districts (again, both in terms of share and rate). A higher rationing rate implies therefore that the creation of employment days to meet the demand was not commensurate with demand. We are therefore interested in whether the expansion in person days at the district level as a share of total person days generated is proportionate to the share of the poor and to the share of all out-migrants in the district or the rates of poverty and out-migration.

Across types of districts, on average, for most terciles, the person-days generated under the MGNREGA during April to August 2020, has outstripped that for the previous financial year, suggesting that the expansion in the MGNREGA person days generated is not concentrated in a few districts (Table 1). Yet, as shown in Table 1, although the High out-migration districts account for 72.2% of all out-migrants, they account for only 54.8% of the person days generated. The average

[12] Administrative rationing based on publicly available data is often considered an underestimate for several reasons. The demand that is reported captures only those that are recorded and for which receipts are issued. Further, the number of days demanded is not captured. The gap between recorded demand and actual number of households worked could also be because households are offered work but they do not take it up. The rationing rates presented here are therefore likely imprecise estimates of implementation failures but a useful indicator nevertheless.

Figure 3: High out-migrant share districts have higher administrative rationing especially in poorer districts



Notes: Computed based on MIS data. Terciles are based on share of the district in all out-migrants, both short and long term. Rationing rates are monthly for April to August 2020, so that there are four observations per district.

increase in person days generated in April-August 2020 relative to the same period in 2019-20 is significantly higher in Low migration tercile (1.73 times) relative to the High migration tercile (1.48 times). This implies that Low out-migration districts have expanded the programme to a greater extent than have the Medium and High out-migration districts (Table 1). Encouragingly, the pattern based on poverty share and rate suggests the opposite. Here, the expansion in the workdays provided have indeed been greater in the terciles with the highest poverty rates and share of multidimensionally poor.

Historically, the MGNREGA has been widely regarded as being inclusive or marginalized communities (the Scheduled Castes and Tribes) as well as of women. At the all-India level, indications are that this continues to be the case. The share of person days accounted for by SCs and STs are 20.56% and 17.88% as against the average over the previous 4 years of 20.86% and 17.7%. The share of women in total person days has however declined by two percentage points to 52.49 from the 4-year average of 54.75% indicating some crowding out of women's participation in the MGNREGA, especially in districts that have a relatively high rate of poverty or account for a larger share of the poor (Table B.3). It appears therefore that exclusion of marginalized and vulnerable groups is of limited concern and the constrained expansion of the programme has not systematically undermined specific groups on a large scale.

Overall, there are a number of indicators that suggest that the MGNREGA has expanded in the districts that are poor and where out-migration is widespread. At

the same time, it is apparent that a disproportionate number and share of person days generated under the MGNREGA has been in districts that do not account for a high proportion of out-migration and share of out-migrants. Thus, although there has been an impressive expansion in the programme in all these regions, it appears that in the regions that likely saw more distress on account of the lockdown, the generation of workdays has likely been inadequate.

3.3 Decomposing MGNREGA expansion

In this section, we examine whether the expansion in person days generated under the MGNREGA has come from expanding the coverage of households or from increasing the number of days for a given set of households. In principle, in a demand-driven programme, the programme ought to expand in scale to meet the entire demand. In the absence of rationing, one would expect the programme to expand not just to provide the minimum of 100 days to each enrolled household, as per the programme, but also to additional households, for example, to return migrants who might enroll for the first time to be able to seek work or hitherto inactive households that now turn to the programme for work. However, if district administrations are unable to expand the programme, they might ration out households and workers by either limiting the number of days of work they provide to each enrolled household to be able to include more households or to focus on allocating resources to already enrolled households at the expense of, if inadvertently, those who are enrolling for the first time or have been largely inactive and not used the programme thus far. Thus, given the significant unmet demand for work, it is possible that some districts face such a trade off.

3.3.1 Decomposition

To examine these tradeoffs, we think of an expansion of the MGNREGA as follows:

$$\frac{D_t}{D_{t-1}} = \underbrace{\frac{\frac{\Sigma d_{it}}{n_t}}{\frac{\Sigma d_{it-1}}{n_{t-1}}}}_{\text{Int. Margin}} \times \underbrace{\frac{n_t}{n_{t-1}}}_{\text{Ext. Margin}} \tag{1}$$

where D_t is the total person-days generated in the MGNREGA, n refers to active, participant household and d_i refers to the days worked by the ith household. We don't see d_i in the data but see the average days per active household. The subscripts t and $t-1$ are the time periods we track. For example, we compare May of 2020 with May of 2019, and so on.[13]

We can thus decompose the proportionate change in the total person days generated into two components - the extensive margin (the proportionate change in the number of households who participate) and the intensive margin (the proportionate change in the intensity of participation for each participating household). This

[13]One caveat is that we can only comment on *net* expansion on the extensive margin, since we do not know the identity of the households but only the overall number. For example, if in $t-1$, a hundred households worked on the MGNREGA and in t the number increases to 125, we do not know if the hundred who were employed in $t-1$ are all part of the 125.

decomposition helps us examine if the expansion in the MGNREGA has come disproportionately from providing more days to a limited number of households relative to expanding to include more workers. For example, if the number of person-days generated in May 2020 is 3 times that generated in May 2019, in principle this could come from the person-days per working household remaining the same, with three times as many households getting employment or the reverse. These two can imply very different things for returning migrants or those who have turned to the MGNREGA for the first time and as a last resort.

Starting with Equation 1, we normalize it such that the share of extensive and intensive margins add up to 1. We first multiple both sides by hundred

$$\frac{D_t}{D_{t-1}} \times 100 = \underbrace{\frac{\frac{\Sigma d_{it}}{n_t}}{\frac{\Sigma d_{it-1}}{n_{t-1}}}}_{\text{Int. Margin}} \times 10 \times \underbrace{\frac{n_t}{n_{t-1}}}_{\text{Ext. Margin}} \times 10 \tag{2}$$

Taking logarithm on both sides, we get

$$ln\left(\frac{D_t}{D_{t-1}} \times 100\right) = ln\left(\frac{\frac{\Sigma d_{it}}{n_t}}{\frac{\Sigma d_{it-1}}{n_{t-1}}} \times 10\right) + ln\left(\frac{n_t}{n_{t-1}} \times 10\right) \tag{3}$$

Dividing through by the term on the Left Hand Side, we get the shares of the contribution of intensive and extensive margin to generating an additional person day.[14]

$$\begin{aligned} I + E &= 1 \\ \text{where} & \\ I &= \frac{ln\left(\frac{\frac{\Sigma d_{it}}{n_t}}{\frac{\Sigma d_{it-1}}{n_{t-1}}} \times 10\right)}{ln\left(\frac{D_t}{D_{t-1}} \times 100\right)} \\ E &= \frac{ln\left(\frac{n_t}{n_{t-1}} \times 10\right)}{ln\left(\frac{D_t}{D_{t-1}} \times 100\right)} \end{aligned}$$

As elaborated already, ideally, in a demand-driven programme, the number of days generated should expand both on the extensive margin, when households hitherto not active users of the programme begin to seek work, and on the intensive margin, wherein active households seek more days of work under the programme. Yet, potentially owing to resource constraints in terms of both funds and staff capacity, it might be the case that district administrations are pushed to make choices

[14] We note here that only a few districts reduced the scale of the programme, overall as well as on the extensive and intensive margins.

on whether to expand on the intensive or the extensive margin. In the context of large scale return migration, it would seem that expansion on the extensive margin is particularly desirable, ideally without cutting back on the number of days each households gets to work.

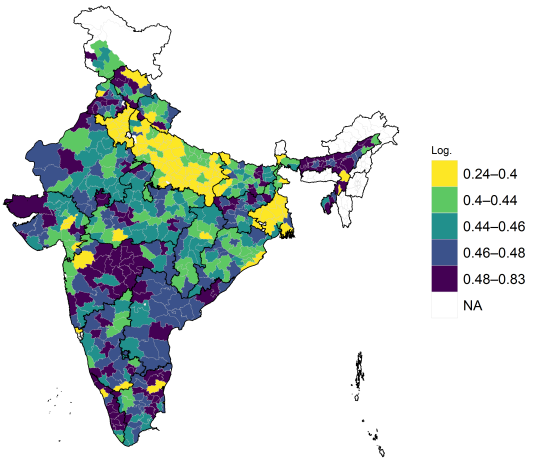
The decomposition exercise is instructive in understanding the nature of expansion of the MGNREGA, but is not in itself informative on whether the overall expansion is adequate to needs. Here we use the average person days generated per rural household (from Census 2011) to judge the scale of expansion following Drèze and Oldiges (2011).

For this purpose, we focus on one month, May, to gauge the year-on-year change of the expansion. As a first step, we plot the intensive and extensive margin of the MGNREGA expansion each on a district level map based on the year on year change of the months May 2019 and May 2020 (Figure 4). A third map shows which districts are top performers in terms of person days per rural household indicating overall coverage. The maps of Figure 4 are supported by Appendix Tables B.1 and B.2, where we report state-level number of days per employed MGNREGA-household and state-level number of days per rural household, respectively for each month of May between 2015 and 2020.

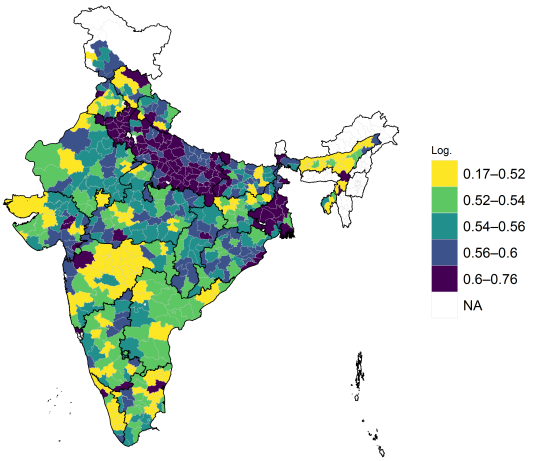
Earlier research for the initial years of MGNREGA had done so too (Drèze and Oldiges, 2011), and identified several states as top performers in terms of the average person days per rural household. They included Rajasthan, Madhya Pradesh and Chhattisgarh, later coined as 'star states' (Imbert and Papp, 2015; Klonner and Oldiges, 2019). As visualized in the third map (Figure 4c), where darker colors indicate more days, these states are still among the top performers and include first and foremost Andhra Pradesh/Telangana.

Figure 4: Shares of Intensive and Extensive Margins of MGNREGA Expansion (May 2020 vs May 2019) and Person Days per Rural Household in May 2020

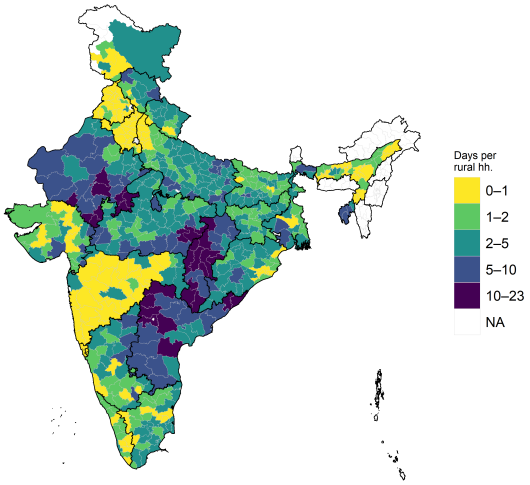
(a) Int. Margin Share



(b) Ext. Margin Share



(c) Person Days



Notes: Authors' calculations based on MIS data and Census 2011. Excludes districts that do not have a consistent series, district boundaries of 2011.Urban districts in the map are coded as 0. Bardhaman, Balrampur, Puducherry are set to 0 due to incomplete data.

In the maps of Figure 4, darker colours indicate higher intensive (Figure 4a) and extensive margins (Figure 4b). The majority of districts saw an expansion of the MGNREGA on the extensive margin (green to dark purple colors). In many districts of Assam, Gujarat, Maharashtra, Tamil Nadu and Kerala it reduced (yellow colors). In these districts, there was less employment per rural household in May 2020 than in May 2019. Among the highest expansion visible, districts in Uttar

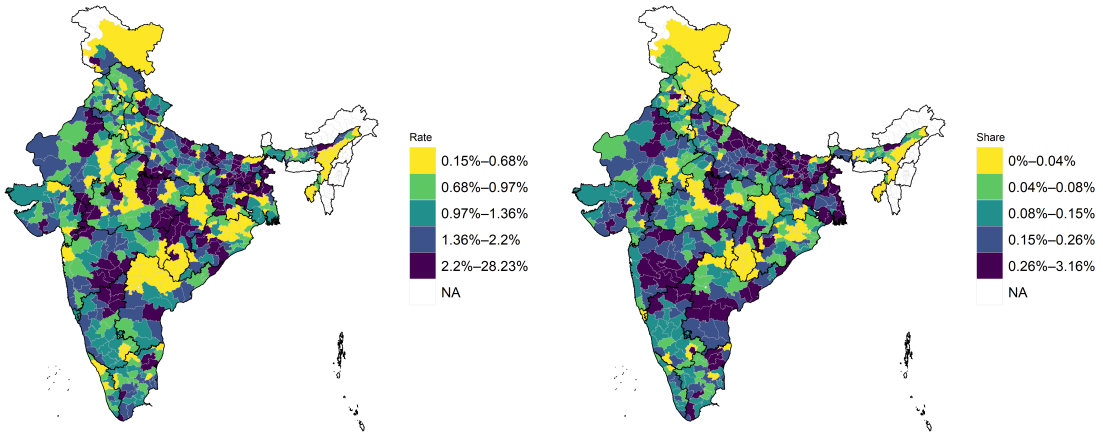
Pradesh saw a fourfold increase in the number of person days per rural household. Yet, from Table B.2 and the map on person days (Figure 4c) it is apparent that the huge increase happened at relatively low levels: in May 2020, rural households in Uttar Pradesh worked on average three days under the MGNREGA. In other states of Telangana and Chhattisgarh the extensive margin was reasonably high and person days per rural household almost doubled, albeit from already high levels in May 2019. Person days per rural household increased from 7 to 11 in Telangana and from 6 to 11 in Chhattisgarh (Table B.2). On the intensive margin (Figure 4a), many districts across Madhya Pradesh, Jharkhand, Odisha and Telangana saw considerable increases, indicating that the average employed household received more work days in May 2020 than in May 2019. Among the top performers at high levels are districts in Telangana, where person days per employed household increased from 20.72 to 23.72, and in Odisha with an increase from 16.9 to 19.2 (Table B.1). Most districts in Rajasthan though are an exception: the increase on the extensive margin is not mirrored on the intensive margin (yellow colored in top left map). In fact, person days per employed household in Rajasthan reduced from 20.95 to 18.65. Most districts in Tamil Nadu neither expanded on the intensive nor on the extensive margin, with person days per employed household of 7.63 being the lowest in India (Table B.1). Interestingly, Gujarat ranks as the third highest performer in terms of person days per employed household: 21.35 days per employed household (Table B.1). But this occurs at rather low coverage as only 1.96 days per rural household are provided in May 2020, less than a fifth of what is provided per rural household in Telangana and Chhattisgarh (Table B.2).

3.4 MGNREGA expansion: in high out-migration and poor districts?

Figure 5: Rate and All-India Share of Out-migration and Poverty in District Quintiles

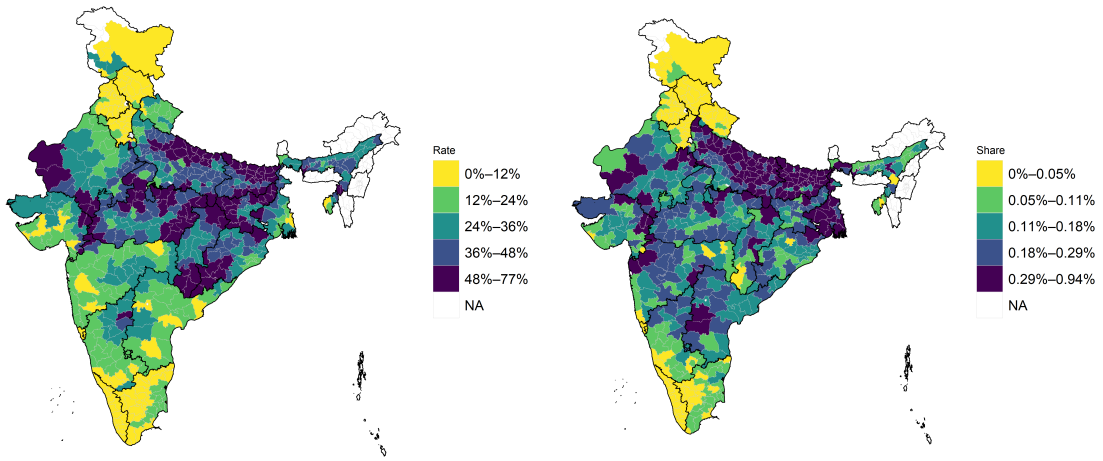
(a) Out-migrant Rate

(b) Out-migrant Share



(c) Poverty Rate

(d) Poverty Share

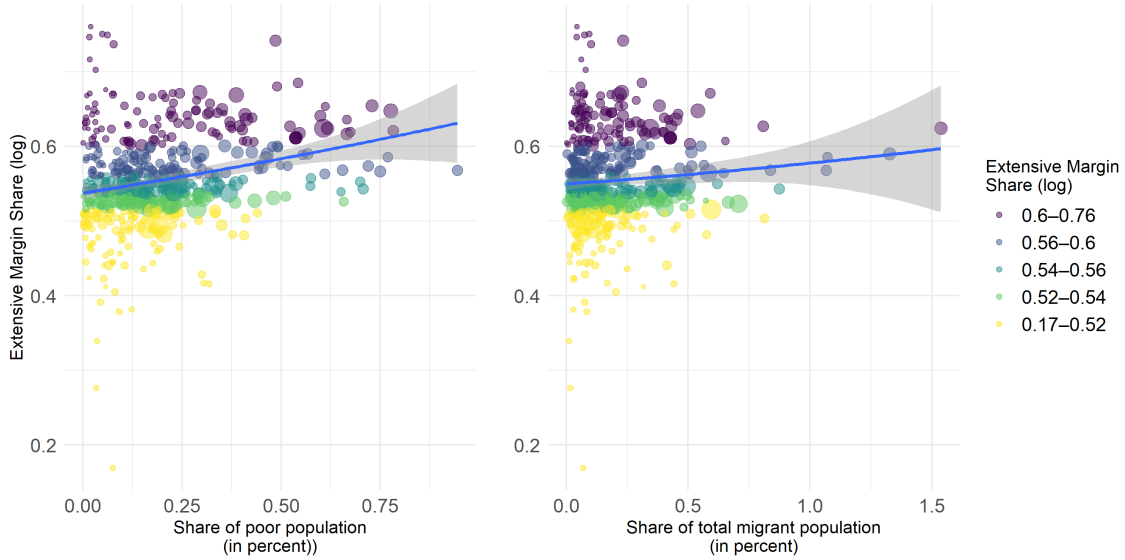


Notes: Authors' calculations based on migration data from Imbert (2020) and NFHS-4 data. Excludes districts that do not have a consistent series. District and state boundaries are from Census 2011 shapefile.

Having established that an expansion on the intensive margin does not warrant an expansion on the extensive margin and may indeed imply the opposite, we now turn to the question where the expansion on the extensive margin, if any, took place. In particular, we are interested in whether a) districts with high rates of out-migration - and thus likely a high number of return migrants - and b) particularly poor dis-

tricts induced a proportionately higher MGNREGA expansion. The four district maps in Figure 5 reveal that pockets of high out-migration rates (Figure 5a) do not necessarily overlap with pockets of poverty (Figure 5c). Overwhelmingly, districts with high rates of poverty, where one half or more of the population is MPI poor, are largely located in Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh and Odisha. It is interesting to note that districts in Uttar Pradesh and Bihar are also among the highest contributors of total out-migrants (see Figure 5b). Districts in these two states contribute significantly both to the pool of all-India out-migrants and the the all-India poor population (see Figure 5d). Some of the less poor districts of Maharashtra and Andhra Pradesh/Telangana also contribute significantly to the all-India pool of out-migrants. Furthermore, relatively high shares of out-migration are visible along the South-Western part of India, stretching all the way from districts in Kerala, Karnataka, and Maharashtra to Gujarat. Keeping in mind where the expansion of the MGNREGA took place (Figure 4), these parts of India do not seem to be part of the MGNREGA expansion of 2020. While some of the poorest regions have seen both an increase in the intensive margin and extensive margin, the visual evidence seems mixed at best. To probe this further, we plot the district-level extensive margin over a district's share of poor population (left panel of Figure 6). Even though many of the districts as represented by bubbles cluster towards the left hand side there is a slightly upward trend with increasing levels of poverty shares, a pattern consistent with Table 1. Plotting the extensive margin over district-level out-migration shares (right panel of Figure 6) yields an even flatter curve, indicating that there is hardly any correlation between the two variables of interest.

Figure 6: Extensive Margin Share of MGNREGA Expansion over Poverty Share and Out-migration Share at District-level



Notes: Authors' calculations based on MIS data, migration data from Imbert (2020) and NFHS-4 data. Each bubble represents a district, with the size proportionate to the total number of person days in May 2020.

On the left panel, there is a an upward and positive trend, indicating that districts with higher shares of poverty account for a higher extensive margin. No such

positive relationship is visible on the right-hand panel, where we plot the extensive margin over total out-migration share. It thus appears, that the MGNREGA expansion in May 2020 has not been pro-return-migrant.

3.5 MGNREGA expansion a correlate of poverty and out-migration?

The analysis so far provides evidence of expansion of the MGNREGA across districts. While the poorer districts appear to have extended the programme to include more households, the same does not seem to be the case with those accounting for a high proportion of out-migrants in the country. Furthermore, the person-days generated per rural household suggests that the impressive increases in MGNREGA are far from inadequate in serving the large number of households likely pushed into economic distress in specific districts. Indeed, it appears that states that had hitherto implemented the programme well continue to do so, while others that do not have a strong record of implementation have largely been unable to implement the programme to the extent required.

To bring these aspects of our analysis together, we implement a set of simple regression models using district level data to assess the correlation between expansion on the extensive margin and out-migration and poverty shares and rates, while accounting for past record of implementation (in 2019) and state level differences. Our regressions are of the following form:

$$EM_{May2020} = \alpha + \beta O_{May2020} + \gamma P_{May2020} + \delta OXP_{May2020} + \mu PDRH_{May2019} + \nu_s + \varepsilon \tag{4}$$

where EM is the contribution of the extensive margin to expansion in MGNREGA person days generated, O represents a variable representing the importance of out-migration in different forms (rate, share and indicator variable for terciles), P denotes a corresponding variable for multidimensional poverty, OXP represents an interaction of the two, $PDRH$ refers to person-days per rural household in May 2019 and ν_s represents state fixed effects. The dependent variable is the proportion of year on year change in person days generated that comes from the extensive margin during the month of May.

We then estimate a similar regression for the person-days generated per rural household.

$$PDRH_{May2020} = \alpha + \beta O_{May2020} + \gamma P_{May2020} + \delta OXP_{May2020} + \mu PDRH_{May2019} + \nu_s + \varepsilon \tag{5}$$

where $PDRH$ is person-days per rural household as in May 2020, and the explanatory variables are the same as in the previous model. Our last model focuses on rationing rates for May 2020.

$$R_{May2020} = \alpha + \beta O_{May2020} + \gamma P_{May2020} + \delta OXP_{May2020} + \mu PDRH_{May2019} + \nu_s + \varepsilon \tag{6}$$

Via this model, we check if the top tercile districts by out-migration and poverty shares and rates were differentially able to expand the programme via reduced rationing rates. We use rationing rate for May 2020 $R_{May2020}$ as the dependent variable. Here, the model is similar to the earlier ones, but apart from a model controlling for $PDRH$ we also run a model that controls for rationing rates in May 2019.

Across the models, we find no consistent statistically significant correlation between the expansion of MGNREGA and poverty and out-migration, while conditioning on past performance and state variations in the dependent variable (Table 2).[15] Instead, the results suggest that the expansion has been taking place in districts that already saw high person days per rural household in May 2019 (columns (5) (6), Table 2). We know from the previous discussion that these districts were not necessarily among the poorest or high out-migration. In other words, districts that are poor or account for higher out-migration are not differentially ramping up the programme; instead implementation patterns are consistent with past records of person-days generated or rationing rate.[16] These patterns point to the need to perhaps pay particular attention to implementation capacity and resource constraints faced by these districts.

Table 2: MGNREGA during COVID19: Determined by Poverty and Out-migration?

	Extensive margin				Person days/rural hh		Rationing	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High out-migrant share=1	-0.008		-0.008		-0.190		-0.337	
	(0.007)		(0.007)		(0.290)		(2.019)	
High poor share=1	-0.001		-0.001		0.124		1.185	
	(0.007)		(0.007)		(0.286)		(1.990)	
High out-migrant share=1 × High poor share=1	0.006		0.006		0.045		0.460	
	(0.009)		(0.009)		(0.400)		(2.787)	
High out-migration rate=1		-0.003						
		(0.006)						
High poverty rate=1		0.004						
		(0.006)						
High out-migration rate=1 × High poverty rate=1		-0.001						
		(0.009)						
Poor Share (in %)				-0.015		0.043		4.401
				(0.023)		(0.882)		(5.943)
Out-migrant share (%, long and short term)				-0.013				
				(0.021)				
Poor share (%) × Out-migrant share (%, long and short term)				0.035				
				(0.044)				
Out-migrant Share (in %)						0.134*		0.090
						(0.080)		(0.526)
Poor share (%) × Out-migrant share (%)						-0.065		-0.741
						(0.243)		(1.632)
2019 May persondays/rural hh	-0.005***	-0.005***	-0.005***	-0.005***	0.964***	0.940***	-0.885***	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.040)	(0.041)	(0.278)	
2019 Rationing rate								0.673***
								(0.089)
Constant	0.568***	0.566***	0.568***	0.569***	1.545***	1.386***	14.038***	8.017***
	(0.004)	(0.004)	(0.004)	(0.005)	(0.151)	(0.199)	(1.051)	(1.346)
N	588	588	588	588	617	617	617	616

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[15] It is when state fixed effects and past performance are dropped that we find variations across district type, consistent with Figure 6; these results are not presented here.

[16] Whereas Figure 3 used rationing data for multiple months, the regression for administrative rationing is confined to just May 2020.

4 Concluding remarks

Worldwide, the COVID-19 pandemic has disrupted economies rendering millions without employment. A number of countries have turned to labour market interventions to protect workers. While a number of countries have resorted to wage subsidies, countries such as India have leveraged workfare programmes to provide a fallback option for workers in rural areas. This paper reviews the performance of one such programme, the MGNREGA, which guarantees employment for rural households in India.

We set out to examine whether the MGNREGA has served as a credible safety net during the COVID-19 pandemic, especially in regions where it is needed most. Being demand-driven and self-targeting, the programme offers a promising way to provide employment in poorer areas where a large number of migrants have returned to from cities without work. We find, as others have noted, that the MGNREGA has indeed expanded on an unprecedented scale to cater to the surge in demand for employment. Encouragingly, this has happened across districts, including those that have a high share of the poor or high poverty rates and account for high share of out-migrants. Indeed, the role of the MGNREGA have prompted calls for similar programmes in urban areas of India as well (Drèze, 2020a; Basole and Mundoli, 2020). At the same time, we find that the poorest districts and those with the highest out-migration rates, that also likely saw more migrants returning home, account for a less than proportionate share of employment created. They also have significantly higher unmet demand for work. Such rationing implies that despite the impressive expansion of the programme, the MGNREGA fails to serve as a fallback option for many; further, it can also discourage workers from seeking employment under the schemes aggravating deprivation (see for example Himanshu and Sharan, 2015; Narayanan et al., 2017).

Given widespread administrative rationing, we find that across districts, the increase in the person-days generated has been as much on the intensive margin (via providing more days to MGNREGA households) as it has been on the extensive margin (extending the programme to include more households under the MGNREGA). The latter is particularly key to ensuring that return-migrants have a fallback option that helps them tide over the economic crisis. Further it is apparent that there has been no substantial expansion in person-days generated per rural household in the districts that need it most. Overall, between May and August 2020, although the MGNREGA provided 31 days per working household countrywide, this is equivalent to just 13.5 days per rural household and is significantly lower in districts that need it most (B.3). We find that states that in the past implemented the programme on a large scale - and are not among the poorest states - are also those that seem to have performed relatively better, with few exceptions. This does not portend well for the poorer districts that have seen a large number of returning migrants.

Indications are that the Indian economy, which shrank by 23.9% in the first quarter of 2020-21 will likely take time to emerge from this economic crisis (Government of India, 2020b). The uncertainty in recovery is aggravated by the continuing spread of the pandemic, including in rural areas. Recent data on rural unemployment suggest that weekly rural unemployment might be on the rise as of October 4,

2020.[17] In the absence of a quick economic recovery, the MGNREGA will continue to be a lifeline for many wage workers, but especially those who returned form cities without work.

To do this effectively the government needs to ensure continued focus on the MGNREGA. A chief constraint has been the financial allocations (Ghosh, 2020; Mishra, 2020; Gupta, 2020). Although the Government of India announced additional allocations, which, in nominal terms, is the largest ever since MGNREGA inception, a substantial portion of these have gone into servicing pending wage and material payments (Nandy, 2020b,a; Sowmya Meenakshi, 2020; Kumar, 2020a). There has thus been some concern that a large chunk of the additional allocations has not gone into generating new employment, but to meet the substantial arrears from previous years on both wages and material. The allocations also fall well short of what is required for a crisis of this magnitude. As per the administrative data we accessed, most districts have already exhausted the funds allocated to them for the entire financial year, others are close to doing so (Table B.3). Funding to enable the programme is hence a looming concern.

Several commentators have pointed out a number of other problems prevent the MGNREGA from being an effective palliative. Even as there is significant unmet demand, many MGNREGA households that do get work are quickly reaching their 100 day entitlement (Table B.3). Although the Act specifies that households are entitled to a minimum of 100 days, in practice, 100 days is often treated as a cap. The current crisis is likely to be long drawn out and in these extraordinary circumstances 100 days of work per households does not offer adequate protection, especially considering that the MGNREGA wages continue to be pitifully low (Aggarwal and Paikra, 2020). Some states have requested an expansion of the minimum guarantee to 200 days per household under the programme. Pending wages and rejected payments are also problems (Acharya, 2020; Shrivastava, 2020). Further, barriers to accessing jobs, owing to the lack of a job card and so on, need to be reduced to enable greater coverage of households, especially those with return migrants, who tend not to be enrolled.

Our research suggests that the MGNREGA has expanded significantly during the COVID-19 pandemic in response to demand for work. At the same time, the expansion has not been adequate to meet recorded demand. Importantly, it appears that districts where the need for the programme is perhaps greater have not differentially been able to expand the programme to meet the surging demand.

The Indian experience with the MGNREGA offers lessons on the potential of workfare and job guarantees to cushion the distressing economic consequences of the COVID-19 pandemic and underscores the continued political commitment that is required to enable it.

[17] https://unemploymentinindia.cmie.com/kommon/bin/sr.php?kall=wshowtabtabno=0002

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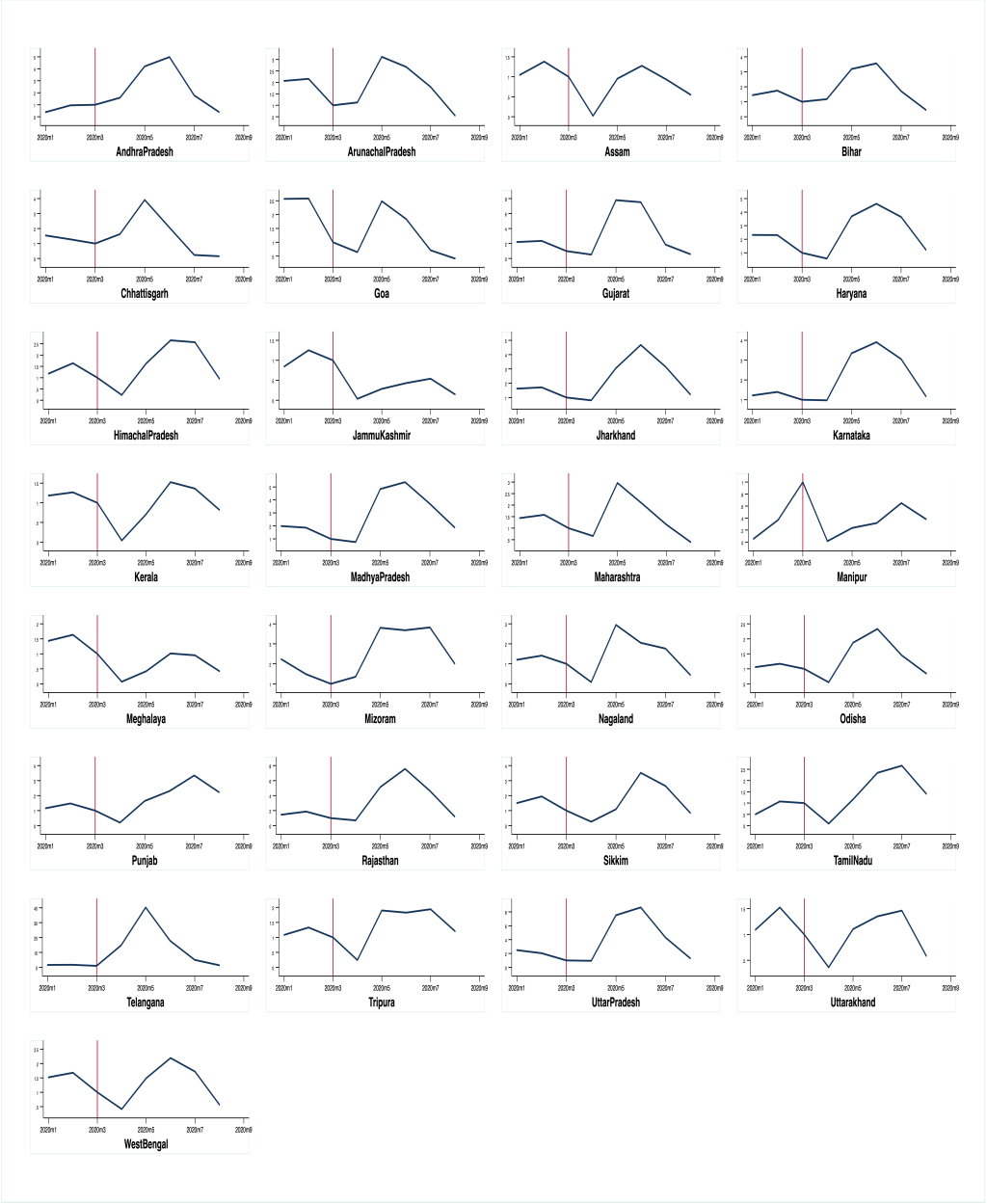
A Figures

Figure A.1: MGNREGA during COVID-19 across states



B Tables

Table B.1: Person days per employed household in May, by year

State	2015	2016	2017	2018	2019	2020
Telangana	16.36	16.72	22.31	21.73	20.72	23.72
Chhattisgarh	15.11	19.86	19.52	20.30	20.27	21.49
Gujarat	18.74	23.70	21.68	21.08	21.97	21.35
Madhya Pradesh	14.72	17.99	16.86	14.68	19.03	20.10
Odisha	15.03	18.25	17.80	17.45	16.90	19.28
Jammu and Kashmir	20.62	19.97	21.08	22.35	21.91	19.05
Karnataka	20.17	24.49	20.99	17.11	20.06	18.78
Bihar	17.58	18.22	18.27	18.47	18.73	18.71
Rajasthan	16.73	20.64	20.41	16.91	20.95	18.65
Andhra Pradesh	18.23	19.05	21.90	18.29	18.60	18.04
West Bengal	12.08	14.72	17.60	17.59	19.65	18.02
Maharashtra	22.14	22.69	20.74	20.35	18.43	17.49
Himachal Pradesh	15.40	16.20	16.08	16.79	16.45	16.60
Jharkhand	14.93	17.26	14.97	15.40	16.03	15.30
Uttar Pradesh	14.21	15.18	14.33	15.96	15.42	15.26
Uttarakhand	13.64	14.98	15.90	15.87	16.42	14.74
Haryana	12.68	12.79	12.89	14.18	12.99	11.29
Tripura	7.86	11.24	8.32	7.51	9.73	11.12
Assam	11.63	15.89	14.47	12.40	13.65	11.10
Goa	10.54	9.15	11.43	9.75	6.65	10.83
Kerala	8.30	8.89	8.68	9.97	10.70	9.19
Punjab	10.26	12.24	12.20	10.23	10.10	9.00
Tamil Nadu	9.38	9.43	10.18	9.81	11.05	7.63

Table B.2: Person days per rural household in May, by year

State	2015	2016	2017	2018	2019	2020
Telangana	4.65	5.28	8.34	8.21	7.16	11.38
Chhattisgarh	1.76	5.88	5.00	6.12	5.59	10.65
Tripura	0.86	7.39	1.04	2.07	4.51	7.51
Andhra Pradesh	4.91	5.66	6.97	6.18	6.35	7.24
Rajasthan	2.84	5.43	4.95	2.06	6.40	7.23
Madhya Pradesh	0.27	1.36	1.99	1.24	2.24	3.99
West Bengal	0.21	0.93	2.40	1.04	1.04	3.10
Odisha	0.83	2.09	1.33	1.65	1.16	2.79
Uttar Pradesh	0.69	1.32	0.80	1.03	0.67	2.75
Karnataka	0.11	1.59	1.39	0.61	2.01	2.63
Himachal Pradesh	1.05	1.43	1.82	2.34	1.74	2.19
Bihar	0.15	0.46	1.07	1.18	1.11	1.98
Tamil Nadu	2.78	3.48	3.26	0.62	3.44	1.97
Gujarat	0.19	1.18	1.15	1.19	1.12	1.96
Jharkhand	1.32	3.25	1.73	1.58	1.65	1.95
Uttarakhand	0.43	1.19	1.33	1.47	0.99	1.80
Jammu and Kashmir	0.25	0.61	0.72	1.02	0.86	1.19
Kerala	0.64	0.59	0.36	0.89	1.30	1.16
Assam	0.51	0.99	1.11	0.83	1.80	1.03
Maharashtra	0.95	1.35	1.02	1.15	0.77	0.92
Punjab	0.26	0.74	0.96	0.54	0.65	0.65
Haryana	0.17	0.31	0.33	0.27	0.11	0.64
Goa	0.09	0.07	0.09	0.01	0.00	0.07

Table B.3: Some aspects of MGNREGA implementation during COVID19 (May 1-August 31, 2020)

	Out-migration rate			Out-migration share			Poverty rate			Poverty share			ALL
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High	
Job cards issued in FY 2020-21 per rural household (as in Census 2011)	0.995	0.815	0.862	0.904	0.815	0.953	0.961	0.859	0.851	0.808	0.918	0.946	0.891
	(0.532)	(0.295)	(0.277)	(0.475)	(0.343)	(0.333)	(0.546)	(0.292)	(0.27)	(0.480)	(0.396)	(0.256)	(0.393)
MGNREGA days per working household (May-Aug 2020)	30.4	31.0	31.9	31.2	30.7	31.3	28.2	33.0	32.0	28.7	31.3	33.2	31.1
MGNREGA days per rural household (May-Aug 2020)	18.8	10.6	11.2	15.5	11.9	13.2	17.1	12.3	11.2	12.4	14.8	13.3	13.5
Proportion of 2011 rural households who got MGNREGA work	0.58	0.32	0.34	0.46	0.36	0.42	0.56	0.35	0.33	0.38	0.47	0.38	0.41
Households who have completed 100 days of work (% of households worked)	11.2	20.0	7.8	30.5	5.1	3.4	0.5	18.5	20.0	12.9	25.2	0.8	13.1
Funds utlized (as % of available funds)	97.1	100.4	101.8	99.82	99.84	99.58	97.97	102.2	99.21	100.8	101.1	97.49	99.67
	(20.54)	(11.86)	(13.64)	(10.12)	(10.22)	(23.52)	(20.56)	(15.4)	(9.507)	(24.63)	(11.53)	(5.975)	(15.96)
Average wage (Rs. per day)	213.7	215.1	202.1	211	216.9	203.1	230.2	203.3	197.5	231.5	203.7	195.8	210.4
	(34.40)	(42.66)	(28.35)	(37.63)	(39.92)	(28.36)	(40.15)	(33.73)	(23.48)	(44.40)	(29.57)	(19.00)	(36.16)
Cost per person-day(in Rs.)	284	268.4	251.3	274	274.3	255.4	303.1	258.5	242.1	295.1	260	248.6	267.8
	(89.15)	(69.82)	(51.36)	(85.42)	(67.17)	(62.90)	(87.28)	(67.59)	(42.58)	(66.52)	(89.02)	(49.51)	(72.75)
Scheduled Caste share in person-days(%)	39.7	80.0	41.8	100.7	33.3	27.8	19.6	62.3	79.6	61.4	84.3	15.9	56.9
Scheduled Tribe share in person-days (%)	53.2	48.7	23.2	77.2	20.1	27.9	31.2	46.2	47.7	36.6	65.6	22.8	43.7
Women's share in person-days (%)	46.0	49.8	46.8	46.2	50.3	46.0	54.2	46.7	41.6	56.0	43.3	43.2	47.5
Extensive margin share in May	0.55	0.55	0.56	0.55	0.56	0.55	0.55	0.54	0.57	0.55	0.55	0.56	0.55
	(0.0675)	(0.0658)	(0.0572)	(0.0630)	(0.0641)	(0.0631)	(0.0718)	(0.0591)	(0.0567)	(0.0684)	(0.0680)	(0.0523)	(0.0633)
Extensive margin share in June	0.56	0.55	0.56	0.56	0.56	0.56	0.56	0.54	0.57	0.55	0.55	0.57	0.56
	(0.0642)	(0.0478)	(0.0459)	(0.0560)	(0.0494)	(0.0542)	(0.0634)	(0.0493)	(0.0431)	(0.0562)	(0.0595)	(0.0410)	(0.0531)
Extensive margin share in July	0.55	0.55	0.55	0.55	0.55	0.55	0.54	0.54	0.56	0.53	0.55	0.56	0.55
	(0.136)	(0.0531)	(0.0467)	(0.0704)	(0.119)	(0.0590)	(0.127)	(0.0683)	(0.0462)	(0.120)	(0.0793)	(0.0439)	(0.0871)
Extensive margin share in August	0.66	0.60	0.60	0.65	0.60	0.60	0.60	0.65	0.60	0.60	0.65	0.60	0.62
	(0.792)	(0.0408)	(0.0407)	(0.779)	(0.0579)	(0.0477)	(0.0701)	(0.771)	(0.0373)	(0.0530)	(0.780)	(0.0359)	(0.451)

Notes: Authors' calculations with data from MIS for MGNREGA statistics, NFHS-4 for poverty shares, and migration data from NSS 2007-8 and Census 2011 as compiled by Imbert (2020). Standard deviation in paranthesis.