

# IMF Economic Review

## Jobless and Stuck: Youth Unemployment and Covid-19 in India

--Manuscript Draft--

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| <b>Manuscript Number:</b>                            | IMFE-D-22-00142R2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |
| <b>Full Title:</b>                                   | Jobless and Stuck: Youth Unemployment and Covid-19 in India                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| <b>Article Type:</b>                                 | Research Article                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| <b>Funding Information:</b>                          | European Research Council<br>(760037)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Dr Swati Dhingra |
| <b>Abstract:</b>                                     | <p>Youth unemployment is a big challenge in developing economies, but there is a limited understanding of the dynamics underlying the rise in unemployment among young workers. This article examines youth unemployment and inactivity in India, where the economic contraction from the pandemic was solely responsible for reversing the trend of decades of declining global inequality. Young workers face higher unemployment, have fewer transitions to work, and are more likely to get stuck in unemployment. The pandemic disproportionately pushed young workers out of work and reinforced the pre-existing trends of being more likely to be out of work and stuck in worklessness. Young workers have a strong desire for public employment programmes, with over 80 percent preferring job guarantees among policy options to tackle unemployment in survey experiments. Workers who lose their jobs and become discouraged from finding work afterward are most supportive of a job guarantee.</p>                                    |                  |
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| <b>Author Comments:</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| <b>Response to Reviewers:</b>                        | <p>Dear Professor Cosar,</p> <p>Thank you very much for your careful thoughts on our revised resubmission of MS# IMFE-D-22-00142R1, entitled "Jobless and Stuck: Youth Unemployment and Covid-19 in India". We appreciate the suggestions and think they have helped improve the readability of the manuscript substantially. In case it might be useful, we wanted to let you know that all the changes you suggest are now in the paper. We are highlighting them in this letter, with your comments in italics followed by our response.</p> <p>1. All figures, especially 1-2-3 are low resolution and hence very blurry. Please generate legible high-resolution versions.</p> <p>We have re-created the images in pdf form to avoid this arising again.</p> <p>2. On page 14 of the pdf file (containing the response letter, this is in the last paragraph above 'Data Description' section title), you use the expression "in the health and care sector." It is not clear if you mean health care or "health and personal care sectors."</p> |                  |

We have changed this to “health care sector” as it is an example that most people would understand easily.

3. You do not define and expand in the paper the abbreviation CPHS as the Consumer Pyramid Household Survey. Please do so.

Thank you and apologies, we have done so.

4. In page 18 of the pdf (just below the place holder for Figure 3), you give numbers for transitions from employment to joblessness. It took a while to figure out that by joblessness you mean unemployment or inactivity, hence the numbers are the sum of EU and EI transitions. It would help the reader to be explicit about this, and that, for example, the 9.5% number for the youth is the sum of 3.5% for EU transition and 6% for EI transition.

We have clarified that: “Young workers are much more likely to lose their jobs to unemployment or inactivity, which we collectively refer to as joblessness” and added in references to the addition of the two numbers in the text.

5. In page 21, in the first paragraph of the subsection "Findings: Unemployment Dynamics of Entrants", you give two numbers for unemployment: 10% for the youth versus 7.4% for the overall working age population. These numbers do not compare with earlier ones from CPHS (for instance those in figures 1,2,3) so I presume they are from the official labor force survey. Please clarify.

Thank you, we have added the definition to reiterate that it is a different set of individuals: “The previous section showed trends for individuals who were incumbents in the labour market while this section refers to a different set of individuals – those who enter the labour market for the first time during our sample period.”

6. In page 30, I would move the reference to footnote 10 to the end of the sentence, since otherwise the number looks like 1500 to the power 10.

Thank you, we have done so.

7. In page 31, the following expression does not quite make sense: "Discrete choice experiments are common in the environmental economics literature to elicit stated preferences." My quibble is with the phrase 'discrete choice'. You are referring to the widescale use of surveys in the environmental economics literature to elicit people's stated preferences and valuations of things or concepts that do not have market prices or valuations from revealed preferences. To add content, these can be survey questions like "how much monetary value do you attach to biodiversity" or "to the extinction of so and so species." These are not necessarily discrete choices, so it would make sense for you not to constrain your expression to that.

Thank you, we have changed the references to “stated choice experiment” to address this. “Stated choice experiments are a common survey instrument used to elicit preferences of individuals over a set of policy options, varying the attributes of policy options and making the respondents think about the trade-off between those attributes.”

8. I found the explanation of the markdowns at the bottom of page 33 (below the place holder for table 4) not super clear and inconsistent with the actual markdown values featured in that table. Please give a numerical example that is consistent with the numbers in table 4.

Thank you, we have re-worded it in the way you suggest.

9. Table 3 has some missing columns (column titles but no content) at the end.

Thank you, we have re-done all tables and figures and will co-ordinate with the publisher to ensure they are fine in the final submission.

We are very grateful for your insights and it was a pleasure to be able to work with you on the submission. We also appreciate the helpful insights of the referees.

Best regards,  
Fjolla and Swati

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## Jobless and Stuck: Youth Unemployment and Covid-19 in India

**Abstract.** Youth unemployment is a big challenge in developing economies, but there is a limited understanding of the dynamics underlying the rise in unemployment among young workers. This article examines youth unemployment and inactivity in India, where the economic contraction from the pandemic was solely responsible for reversing the trend of decades of declining global inequality. Young workers face higher unemployment, have fewer transitions to work, and are more likely to get stuck in unemployment. The pandemic disproportionately pushed young workers out of work and reinforced the pre-existing trends of being more likely to be out of work and stuck in worklessness. Young workers have a strong desire for public employment programmes, with over 80 percent preferring job guarantees among policy options to tackle unemployment in survey experiments. Workers who lose their jobs and become discouraged from finding work afterward are most supportive of a job guarantee.

**Acknowledgments:** Financial support from the ERC Starting Grant 760037 is gratefully acknowledged. The primary survey was reviewed and approved by the LSE Research Ethics Committee (REC Ref. 1129) and conducted by Sunai. We are grateful to Stephen Machin and Uday Bhanu Sinha for their comments. There are no conflicts of interest to declare.

## 1. Introduction

Much of the labor force in developing economies is young and informally employed, with little recourse to social protection and unemployment benefits (Ohnsorge and Yu 2021). The pandemic caused livelihood losses everywhere. While many developed economies provided support to overcome these losses, developing economies were more limited in their policies to address the crisis. Government relief programmes often proved inadequate and did not reach new individuals who were being pushed into poverty. Subsequently, GDP started to come back to pre-pandemic levels. But unemployment remained higher than before and was driven primarily by unemployment among the youth (Barford et al. 2021).

Young workers make up the bulk of unemployed individuals. They are also expected to face a much higher burden of the scarring effects of prolonged periods of unemployment through livelihood losses, lower future earnings, reduced human capital accumulation and well-being, and potential recourse to criminal activities. A large amount of literature in the developed world shows that unemployment rates are higher among the youth and even more so during economic downturns. This poses risks of long-term scarring impacts, which tend to lower reemployment wages, erode human and social capital and result in worse physical and mental health for young individuals and their communities.<sup>1</sup> Scars from entering a weak labor market and from unemployment spells when young are not transitory, and active labor policies are an important tool to prevent young workers from prolonged worklessness and the ills it brings with it (Machin and Manning 1999; Arulampalam et al. 2001; Von Wachter 2020).

While much is understood about the dynamics of youth unemployment and active labor market policies in the developed world, there is a limited understanding of it in developing economies. A growing body of work shows that youth unemployment is a big challenge in developing countries and has been exacerbated by population growth and economic crises in recent decades (Cho et al. 2012; Bandiera et al. 2022, Dhingra and Kondirolli 2021). The pandemic has intensified these pressures, with large numbers of young workers having lost their jobs and finding it even harder to return to work.

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<sup>1</sup>See, for example: Jacobson, LaLonde, and Sullivan (1993), Ruhm (1991), Sullivan and von Wachter (2009), Browning and Heinesen (2012), Eliason and Storrie (2009), and Bentolila and Jansen (2016) for long-term unemployment from the pandemic.

1 The large negative impact of Covid-19 on labor markets has also renewed policy and research  
2 interest in active labor market policies in developed and developing countries. Evidence from  
3 high-frequency phone surveys in 39 countries in the early months of the pandemic suggests  
4 that 34 percent of workers stopped working, 20 percent were not paid for their work, and 62  
5 percent reported income reduction in their households (Khamis et al. 2021). These large  
6 negative impacts have had longer-term consequences for the labor market. By the end of 2021,  
7 the number of hours of work globally was still 4.5 percent lower than pre-pandemic levels, and  
8 younger workers and women were more likely to be unemployed (ILO 2021a). By the end of  
9 2022, hours worked remained lower, and there continued to be a wide gap between high- and  
10 middle- and low-income countries in terms of employment recovery. Moreover, informal job  
11 growth in the developing world outpaced formal work, leading to further concerns about  
12 precarious work in the long term (ILO 2021b). Our results contribute to the evidence of the  
13 labor market impacts of Covid-19 in developing countries, with a focus on youth  
14 unemployment in India before, during, and after the Covid-19 lockdown.  
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27 Importantly, our paper contributes to the question of the design of policies to address youth  
28 unemployment in the aftermath of Covid-19. There is little knowledge of the drivers of youth  
29 unemployment, such as whether it is higher job separations or lower job-finding rates that drive  
30 the observed rise in unemployment among young workers in developing economies. These are  
31 crucial questions that provide an understanding of the prospects of returning to work,  
32 particularly amid the scale and urgency of the huge shock to livelihoods since the pandemic.  
33 Studying unemployment dynamics in the developing world, however, is challenging because  
34 of limited longitudinal data and the fine boundary between unemployment and inactivity. The  
35 problem is made worse by the lack of frequent and timely data to determine the impacts of  
36 economic crises and the policies needed to recover from them.  
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47 This article fills the knowledge gap by providing some of the first estimates of unemployment  
48 dynamics from a large panel of working-age individuals during the pandemic. It shows that the  
49 youth are more likely to face worklessness and remain stuck in it. Inflows into inactivity among  
50 young workers peaked during the pandemic, reinforcing the pre-existing trends of young  
51 workers facing lower inflows into work and higher chances of being stuck in unemployment.  
52 These findings contribute to the literature on labor market flows and unemployment dynamics  
53 which is largely focused on developed countries (Blanchard et al. 1990, Burgess and Turon  
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2005, Petrongolo and Pissarides 2008, Elsby et al. 2009, Shimer 2012) with limited evidence from developing economies (Bosch and Maloney 2008).

India has a large young and informal workforce, typical of developing countries,<sup>2</sup> and it also suffered one of the deepest economic contractions from the pandemic (see Ray and Subramanian 2020). In fact, the contraction in India is solely responsible for the reversal of declining trends in global inequality. For three decades, inequality in the world had been falling. The pandemic reversed this trend, and the reversal was driven by the economic contraction and livelihood losses that occurred in India (Deaton 2021; Ferreira 2021). The pandemic resulted in a sharp increase in unemployment, especially among young workers in urban areas who were at the frontlines of the pandemic (NSO 2020). While GDP recovered in 2021, unemployment remained above its pre-pandemic levels, especially among young workers. This article provides findings from primary data on the potential of different labor market recovery policies in delivering a transformative recovery from worklessness in India and, more broadly, in developing economies where the majority of the workforce is young and informally employed.

The rest of the article is organized as follows. We start with a description of the data, definitions, and findings on transitions between employment, unemployment, and inactivity in section 2. We then proceed to recovery policies and preferences of young workers in section 3, followed by a discussion and conclusion in section 4.

## 2. Unemployment Dynamics in India Before, During, and After the Pandemic

### Framework

Following Petrongolo and Pissarides (2008), we model three different types of employment status – employment, unemployment, and inactivity and examine transitions from one status to the other for individual workers. The inflows and outflows into unemployment enable an

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<sup>2</sup> In 2017/2018, informal employment amounted to 88.6 percent of total employment in India, with similar rates in the region (81 percent in Nepal, 94.7 percent in Bangladesh, 81.7 percent in Pakistan), but higher rates than Latin American countries (69.4 percent Peru, 62.4 percent Colombia) and much higher rate than for example South Africa 35.3 percent (Ohnsorge and Yu, 2021).

1 understanding of the dynamics of unemployment that workers face and the extent to which it  
2 is driven by the chances of losing work or finding it harder to get work.  
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5 By definition, the change in the unemployment rate  $\Delta U_t$  is the sum of the rates at which  
6 individuals enter into unemployment from employment and inactivity ( $EU_t + IU_t$ ) minus the  
7 rates at which individuals exit unemployment and move on to employment or inactivity  
8 ( $UE_t + UI_t$ ). When unemployment deviates from its steady state (Elsby et al. 2013), as is  
9 appropriate to consider for the period of the pandemic in a young country, the change in  
10 unemployment needs to also account for new entrants into the working-age population who  
11 might face higher unemployment rates. Let  $N_t$  denote the share of new entrants who face an  
12 unemployment rate that is  $\Delta U_{Nt}$  higher than that of older cohorts. Then an exact decomposition  
13 of the change in the unemployment rate is:  
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$$\Delta U_t = N_t \times \Delta U_{Nt} + (1 - N_t) \times (EU_t + IU_t) - (1 - N_t) \times (UE_t + UI_t)$$

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27 If, as is conventional, the focus is on steady-state unemployment and constant demographic  
28 composition, then  $N_t$  is zero and we get the usual relationship: the change in the unemployment  
29 rate is driven by inflows into unemployment minus outflows out of unemployment  
30 ( $EU_t + IU_t$ ) - ( $UE_t + UI_t$ ).  
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37 To understand the sources of change more generally, the change in the unemployment rate can  
38 be decomposed into the contribution of new entrants and incumbents in the working-age  
39 population. The first term on the right-hand side of the equation contains the contribution of  
40 new entrants to unemployment. The second and third terms can be further decomposed into  
41 those who join the ranks of the unemployed from employment, which has been the focus of a  
42 large amount of literature showing that it is a lead indicator of increases in unemployment in  
43 the developed world.  
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51 In the presence of inactivity, a key feature of labor markets in developing countries,  
52 unemployment dynamics also consist of transitions to and from inactivity. Developing  
53 economies rarely provide unemployment benefits to displaced workers, blurring the distinction  
54 between unemployment and inactivity. Though less prevalent, this feature is also observed in  
55 developed countries when workers become discouraged from finding employment and exit the  
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labor force despite unemployment benefit programmes. Therefore, studies on unemployment dynamics routinely examine transitions to unemployment and inactivity. For example, during cost-of-living crises, young females might enter the labor force to increase household incomes, leading to increases in  $IU_t$ . Inactivity margins are, therefore, also important in understanding unemployment dynamics. The second term on the right-hand side of the equation is, therefore, the sum of inflows into unemployment from employment and inactivity. The third term instead accounts for outflows from unemployment, including to inactivity or employment.

Much of the literature on unemployment dynamics characterizes inflows and outflows from unemployment and their relative contributions to determine the sub-populations for different labor market policies. Outflows of individuals who leave unemployment to go into employment are often seen to fall after periods of heightened unemployment in the developed world, while increased inflows from employment to unemployment are seen as a leading indicator for contracting labor markets and recessions. We augment this literature to a developing country context and account for demographic changes, which is important in understanding youth unemployment in economies where the share of the working-age population is increasing over time.

We examine unemployment dynamics before, during, and after the pandemic to understand its large impacts on youth unemployment. The pandemic impacted outflows from unemployment differently from normal times because of transitions to employment in sectors where labor demand rose due to the pandemic, such as in the health care sector. It also impacted inflows differently because of transitions to inactivity from lockdown restrictions.

To undertake a decomposition of unemployment dynamics, the subsequent sections estimate the transition matrix for individuals who are incumbent in the working-age group and whose change in employment status is well-defined between employment, unemployment, and inactivity. Then we examine the extent to which new entrants alter the unemployment dynamics.

## Data Description

A key challenge that limits research on the dynamics of unemployment in developing economies is the scarcity of panel data and consistent unemployment definitions to determine

work transitions over time. The Consumer Pyramids Household Survey (CPHS) is a longitudinal survey of a sample of households conducted three times per year, covering nearly all states in India. It is a stratified, multi-stage survey with towns and villages as primary sample units and households as ultimate sample units. The survey collects data on demographics, consumption, income, employment, asset ownership, and consumer sentiments. An individual's employment status (employed, unemployed and looking for work, unemployed and not looking for work, or unemployed and out of the labor force) is recorded during each of those three times. Employment status is recorded based on daily recall at the time of the interview, and the unemployment rate is defined as the share of unemployed individuals in the labor force (i.e., those who are employed or unemployed and looking for work).

The CPHS falls short of being nationally representative. Systematic differences between CPHS and other nationally representative surveys have been documented, such as in literacy rate and asset ownership (Somanchi and Drèze 2021), age distribution, sex ratio, and consumption patterns (Somanchi 2021), and women's labor force participation rate (Abraham and Shrivastava 2022). Compared to the official periodic labor force survey (PLFS) of India, CPHS underrepresents lower-educated individuals; only 2 percent of the adult sample in the 2018 CPHS had no formal education compared to 17 percent of the PLFS sample. Discrepancies are higher in states with high adult illiteracy. Moreover, CPHS shows a lower labor force participation rate among men and women and a higher share of casual wage workers (Sinha Roy and Van Der Weide 2022). For comparison, we also use the nationally representative data from the PLFS collected by the Government of India for the period before the Covid-19 pandemic, between 2017 and 2019. PLFS is the official labor force survey data that provides quarterly estimates of labor force participation, employment and unemployment, wages, and other labor market characteristics for all states of India. It contains a short panel (like the Current Population Survey of the United States or the Labor Force Survey of the United Kingdom), but it does not have a long panel dimension which makes it infeasible to trace individuals over a longer period before and after the pandemic.

As with official surveys, the response rates to the CPHS survey fell during the Covid-19 lockdown when the face-to-face interviews had to be replaced with phone interviews. The response rate fell from 85 percent before the lockdown to 35 percent during the lockdown, but the distribution remained the same as before the pandemic in terms of its rural-to-urban ratio,

income distribution, and state representativeness.<sup>3</sup> Despite these shortcomings, CPHS provides a large panel of randomly sampled individuals and is the only survey conducted before, during, and after the pandemic, allowing tracking of individuals to study unemployment dynamics.<sup>4</sup> It has therefore been extensively used in research on labor markets and consumption in India (Chodorow-Reich et al. 2020, World Bank 2022, Gupta and Kishore 2022, Gupta et al. 2021, Deshpande 2022).

## Findings: National and Youth Unemployment Dynamics

In this sub-section, we examine the prevalence and dynamics of unemployment in India before, during, and after the pandemic. Our sample includes individuals of working age, between 18 and 64 years old. We define young workers as individuals between the age of 18 and 29 years old.<sup>5</sup> We discuss the findings for young (18-29 years), middle (30-40 years), and older workers (41-64 years) to highlight features of youth employment during the periods.

***Before the Pandemic. Young workers are more likely to be out of work, more likely to lose work (through inactivity and unemployment), and much more likely to stay in unemployment but not in inactivity.***

Youth unemployment drives the national unemployment rate in India. For the period between 2017 and 2019, nationally representative data from the official Periodic Labor Force Surveys show that the labor force participation rate for individuals between 18 and 64 years old in India was between 55 and 58 percent (based on the usual status of an individual during the year), and

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<sup>3</sup> The CPHS sample had a rural-urban ratio of 34:66 before the lockdown. However, during the period of 24th of March to 7th of April, the rural sample was overrepresented with a ratio of 43:57. This overrepresentation quickly got restored to 36:64 between April and July. In terms of household income, during the lockdown, the share of households in the middle of the income distribution, earning between Rs 150,000 and Rs 300,000 remained at 45%. Nevertheless, there was a change in the tail-ends of the income distribution. There was an overrepresentation of low-income households and an under-representation of high-income households. Specifically, households earning Rs 500,000 or more made up 13% of the sample before lockdown and 9% during the lockdown. Whereas those earning Rs.84,000 to Rs.150,000 made up 19.6% of the sample before the lockdown and 25% during the lockdown. Finally, the share of those earning less than Rs.84,000 increased from 2.4% to 4.1% (“CPHS execution during the lockdown of 2020”, available online at [consumerpyramidsdx.cmie.com](https://consumerpyramidsdx.cmie.com))

<sup>4</sup> A discussion of the representativeness concerns arising from exclusions at the bottom end of the consumption distribution, especially in rural areas, is provided in Drèze and Somanchi (2021), Dhingra and Kondirolli (2022).

<sup>5</sup> Eighteen is the age of majority in India and therefore labor laws differ for 15-17 years old who are covered under child labor laws. The compulsory school leaving age in India is 14 years and therefore some official labor statistics are reported for those between 15 to 29 years old. We exclude individuals between 15 to 17 years from our analysis because they are minors who are also more likely to be pursuing high school education which occurs till age 17. However, including them in our analysis reinforces the main findings further.

the unemployment rate was 5-6 percent of the labor force. Among young workers between the ages of 18 to 29 years, labor force participation rates were lower, between 45 and 47 percent., and young workers had much higher unemployment rates. In fact, the national unemployment rate is driven by youth unemployment, which averaged between 16 and 18 percent before the pandemic.

As official data do not have a longitudinal structure across long periods, we draw on the CPHS panel to determine the dynamics of unemployment by examining the likelihood of an individual transitioning from one employment status to another over time. We start with the transition rates before the pandemic, between January to April 2019 and May to August 2019, at the national level and among different age groups (Figure 1). Figure 1(a) shows the share of individuals between the ages of 18 to 64 years who are in employment, unemployment, and inactivity at the start of 2019. Between January and April 2019, less than a majority - 46 percent - of the national working-age population was in employment. Unemployment was low at 3 percent, but the majority of working-age people were in inactivity – they were not in work and not looking for work either.

To understand the dynamics of unemployment, we examine the transitions of all individuals employed between January and April 2019. Four percent of them left the labor force, and one percent became unemployed in the period between May to August 2019. Out of those who were unemployed during the initial period, 16 percent got employment, and 18 percent became inactive in the following quarter. The rest, 66 percent, remained unemployed. Out of those inactive, just two percent entered unemployment, and 4 percent became employed. Therefore, the vast majority, 94 percent, remained inactive.

### **FIGURE 1: Quarterly labor market flows 2019 (% of initial status)**

Note: Source: CPHS. Transitions in labor market status in India: January-April to May-August 2019 for all India (a) and January-April to May-August 2019 for workers aged 41 to 64 (b), 30 to 40 (c), and 18 to 29 (d) as a percentage of the initial status.

### **FIGURE 2: Quarterly labor market flows 2020 (% of initial status)**

Note: Source: CPHS. Transitions in labor market status in India: January-April to May-August 2020 for all

India (a) and January-April to May-August 2020 for workers aged 41 to 64 (b), 30 to 40 (c), and 18 to 29 (d) as a percentage of the initial status.

### FIGURE 3: Quarterly labor market flows 2021 (% of initial status)

Note: Source: CPHS. Transitions in labor market status in India: January-April to May-August 2021 for all India (a) and January-April to May-August 2021 for workers aged 41 to 64 (b), 30 to 40 (c), and 18 to 29 (d) as a percentage of the initial status.

Figures 1 (b), (c) and (d) show the same labor market statistics broken down by age group. When we focus on workers aged 18 to 29 in Figure 1(d) compared to older workers in Figures 1(b) and (c), the main insight is that flows into and out of employment are less conducive to being in work for young workers. Young workers are much more likely to lose their jobs to unemployment or inactivity, which we collectively refer to as joblessness. 9.5 percent of employed young workers fall into unemployment or inactivity compared to 2.2 percent for middle-aged workers and 4.1 percent for older workers. Both routes to joblessness, employment to unemployment and employment to inactivity transitions, are more prevalent among young workers. This is also reflected in their much higher unemployment and inactivity rates to start with, 10 percent unemployed compared to 1 percent or less for older workers and 59 percent inactive compared to less than 50 percent for older workers.

While inactivity to employment transition is broadly similar for young and older workers, their unemployment to employment transition is starkly different. Compared to older workers aged 41 to 64 in Figure 1(b) and 30 to 40 in Figure 1(c), younger workers are much less likely to move from unemployment to employment, less likely to stay inactive, but more likely to enter unemployment from inactivity. The latter two facts are consistent with older workers being more likely to transition permanently out of work for age reasons. The first fact, however, reveals a key divergence in labor market outcomes of young workers, who are considered more vulnerable to the negative consequences of long-term unemployment. Young workers are much less likely to find work after being unemployed. Fifteen percent of unemployed young workers move into employment in the following quarter, while the same unemployment to employment transition rate is one and a half times for middle-aged workers and more than double for old workers. Once unemployed, young workers are more likely to stay in unemployment than older

workers; 68 percent remained unemployed compared to 59 percent of workers aged 30 to 40 years old and 39 percent of workers 41 years and older.

Overall, Figure 1 shows that before the pandemic, young workers were already more likely to be unemployed, to fall into unemployment and to remain stuck in unemployment compared to older cohorts of workers.

***During and After the Pandemic. Young workers were more likely to lose their jobs during the pandemic and to remain stuck in worklessness afterward in the recovery period.***

Figures 2 and 3 show the likelihood of an individual transitioning from one employment status to another over time at the national level and for the different age groups for the years 2020 (during the pandemic) and 2021 (during the recovery period). For each year and subpopulation group, the transition rates are calculated using the employment status between the period January to April and May to August of the survey year.

Figure 2 shows that the pandemic took a heavy toll on the labor market outcomes of all workers. But young workers fared particularly badly and did not recover as rapidly as older cohorts. Youth unemployment jumped from 24 percent at the beginning of 2019 to 39 percent during the peak of the first wave of the pandemic, according to CPHS data, while inactivity rose from 59 to 67 percent. By May 2021, the youth unemployment and inactivity rates settled six percentage points higher than the pre-pandemic level. While the old cohort had higher inactivity rates, as has also been witnessed in other countries after the pandemic, the recovery among the middle cohort and in the unemployment rate shows that the challenges for young workers have been more severe during and after the pandemic.

During the first wave of the pandemic, when India was under a strict national lockdown, there was a big jump in transitions from employment to unemployment and inactivity, with the bulk of the change towards inactivity. These transitions from employment to joblessness drove the unemployment rate during the first wave, and there was some churn afterward, with more unemployed youth finding employment. These trends have since abated, and the gaps between young and older workers in transitions from employment to unemployment or inactivity have

1 slightly increased because younger workers are much more likely to become unemployed, even  
2 in the recovery period of May to August 2021.  
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5 Between January-April and May-August 2020, 15 percent of employed youth became  
6 unemployed, compared to the national average of 8 percent, and 24 percent of them exited the  
7 labor force, compared to 13.5 percent nationally. Unemployed young workers continued to  
8 have a more difficult time transitioning to employment than older workers, with half of them  
9 exiting the labor force and only 22 percent of them finding employment in between the two  
10 quarters (Figure 2).  
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18 These results show that during the first wave of the pandemic, many unemployed youth stopped  
19 looking for work (Figure 3). Compared to 2019, they became about nine percentage points  
20 more likely to stay unemployed in 2021, which is in stark contrast to the higher likelihood of  
21 finding work among the older cohorts. Only 9 percent of younger workers transitioned between  
22 unemployment and employment in the first two quarters of 2021, compared to 37.5 percent  
23 among 30 to 40-year-old workers and 47 percent among 41 to 64-year-old workers. As might  
24 be expected for age reasons, older workers are more likely to stay inactive, but they also have  
25 greater possibilities of getting a job after being in an inactivity spell. The youth, instead, are  
26 less likely to remain inactive but find it harder to transition to work after being inactive.  
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36 Placing the inflows and outflows next to each other also enables an understanding of which  
37 margin is more important and the differences in the evolution of inflows and outflows over  
38 time. For clarity of visual representation, Figure 4 shows the unemployment and inactivity rates  
39 and plots them together with inflows and outflows of each status. Between 2018 and 2021,  
40 workers aged 18 to 29 years have seen increasing unemployment and inactivity, from about 18  
41 percent to 30 percent and from 60 to almost 65 percent during the period, respectively.  
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49 **{{ FIGURE 4: Unemployment, inactivity, and labor market flows among young workers**  
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54 Note: Source: CPHS. The sample includes individuals 18 to 29 years old. Transition rates are calculated as the  
55 share of status in the previous quarter. The unemployment rate is the share of individuals in the labor force who  
56 were unemployed and looking for work. The change in unemployment is calculated as the sum of the rates at  
57 which individuals enter into unemployment from employment and inactivity (EI+IU) minus the rates at which  
58 individuals exit unemployment and move on to employment or inactivity (UE+UI). The inactivity rate is the  
59 share of individuals in the working-age population who are out of the labor force. The change in inactivity is the  
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sum of the rates at which individuals enter inactivity from employment and unemployment (EI+UI) minus the rates at which individuals exit inactivity and move into unemployment and employment (IU+UE)

During the pandemic, inflows from employment into unemployment and inactivity came before the increases in worklessness rates, while the outflows followed. Overall, these trends are in line with empirical findings from the developed world but contrary to the canonical assumption in macroeconomics that gross flows decline with rising unemployment and outflows are lead indicators of unemployment increases while inflows lag them (Elsby 2013). In particular, the gross transition flows rise during crises. Inflows from employment drive increases in worklessness while outflows lag them. Consequently, these findings provide evidence for this fact from the unemployment dynamics literature in a very different context of a large developing country with informality and youth unemployment.

### **Findings: Unemployment Dynamics of Entrants**

We now move to an examination of entrants who join the working-age population during the period before, during, and after the pandemic. The previous section showed trends for individuals who were incumbents in the labor market while this section refers to a different set of individuals – those who enter the labor market for the first time during our sample period. Between 2018 and 2021, the share of new entrants in the working-age population was under two percent. They had higher unemployment compared to the rest of the working-age population even before the pandemic, 17 percent versus 7 percent in May 2019. Their unemployment rates were also much higher, and the gap widened during and after the pandemic. During the peak of the first wave of Covid-19, the entrants' unemployment rate was 41 compared to 24 percent among the incumbents. These rates later settled at 21 percent for entrants and 7.7 percent for incumbents in May 2021 (Figure 5). Therefore, the contribution of the demographic composition has been concentrated and growing in terms of unemployment but small in aggregate – under a quarter of a percentage point.

As the share of entrants into the workforce is small, the age bins of entrants can have small sample sizes. Nonetheless, it is worth noting that the higher unemployment of entrants is also driven by young workers among them. New entrants of age 18 to 29 had an unemployment rate of 34 percent in 2019, compared to 2 percent among workers 30 to 40 years old and 0.6 percent among workers 41 to 64 years old. In 2021, the unemployment rate among new entrants aged

18 to 29 was 34 percent, compared to 4 percent among the 30 to 40-year-olds and less than a percent of older workers. Overall, unemployment rates are higher among workers who enter the working-age population, but they make up a small share of the workforce and hence the national unemployment rate and its evolution since the pandemic.

### **{{ FIGURE 5: Unemployment rate among entrants and incumbents }}**

Note: Source: CPHS. The unemployment rate is the share of individuals in the labor force who were unemployed and looking for work. Sample includes individuals 18 to 64 years old.

During the pandemic, the sharp rise in youth unemployment increase was largely driven by inflows from employment to unemployment. Inactivity to unemployment transitions also played a role, but they were smaller. The pandemic was accompanied by strict restrictions to mobility and commerce, and hence the ability to work. Naturally, the unemployment rate would have been even higher if many unemployed workers had not chosen to drop out of the labor force during this period, as seen in both inflows into and outflows from inactivity. After the two waves of the pandemic, the recovery was primarily driven by the reversal of the rise in inflows into unemployment. Notably, inflows from employment to unemployment were the main channel through which national unemployment rose and fell back during and after the pandemic.

### **Findings: Unemployment Dynamics by Demographic Characteristics**

We end this section by examining differences in unemployment dynamics by gender (Figure 6), education level (Figure 7), urban and rural residence (Figure 8), and residence in low-income states of India (Figure 9). As pointed out in the introduction, labor force participation is low in India, and it is even lower for women. We, therefore, examine differences in labor market dynamics by gender first. Then we examine differences by education because educated workers are much more likely to be in formal employment with greater job security and protections, which could lead to different transitions in employment status. Labor laws in India also differ by the formality of employment and residence of workers, which could drive differences in dynamics by education and location. We examine location differences across rural and urban workers because public employment programmes in India differ on this dimension, as we discuss in detail in the next section. Finally, we also examine dynamics for workers in low-income states because they are more likely to have migrant populations, which

suffered disproportionately due to lockdown restrictions (Migrant status is not available in the CPHS or the official labor surveys during this period).

India has a low labor force participation of women (23 percent in 2021), even compared with neighboring countries or countries with the same level of income (35 percent among lower-middle-income countries, 61 percent in China, 37 percent in Bangladesh).<sup>6</sup> Young women have much higher unemployment and inactivity rates than men, but men experienced a larger increase in unemployment and inactivity during the first wave of the pandemic (Figure 6). However, unemployment rates for women rose in the second wave and did not fall back immediately afterward in the recovery period.

Unemployment is higher among those with an education level of 12<sup>th</sup> standard (equivalent to a high school degree) or more compared to those with lower education levels. But inactivity rates are much higher for less educated workers (Figure 7). Strikingly, the increases in unemployment and inactivity during the pandemic did not immediately fall back in the recovery period, except for unemployment among less educated workers. This could be due to the greater ease of being absorbed in informal work. In contrast, higher-educated workers might be more likely to look for formal work, which is harder to get. Indeed, higher-educated workers are more likely to be in formal employment. In our sample of young workers, 35 percent of higher-educated workers had salaried employment compared to 6 percent of lower-educated workers. Higher-educated workers are more likely to have benefits such as employer provident fund (11 percent compared to 1 percent of lower-educated workers) and health insurance (24 percent compared to 14 percent of lower-educated workers). But the share of formal workers with such benefits is still small, so it is not surprising that the unemployment rates remained higher than pre-pandemic levels even after national lockdown restrictions had been substantially eased.

Unemployment and inactivity rates are fairly similar among urban and rural workers. While rural workers saw higher unemployment rates during the first wave of the pandemic (Figure 8), they also experienced a sharper and quicker recovery. However, unemployment rates and inactivity stayed higher and more so for urban workers. Partly, this might be driven by public

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<sup>6</sup>International Labour Organization. “ILO Modelled Estimates and Projections database (ILOEST).” ILOSTAT.

employment programmes and the greater share of informal employment, including agricultural work, in rural areas.

In an alternative heterogeneity examination, we compare national youth unemployment dynamics to those of young workers residing in the low-income states of Bihar, Jharkhand, and Uttar Pradesh. While workers in low-income states experienced higher unemployment rates, they also recovered more sharply. But their inactivity rates continued to be much higher and remained there after the pandemic (Figure 9).

### **{{ FIGURE 6: Unemployment rate by gender }}**

Note: Source: CPHS. The sample includes individuals 18 to 29 years old. The unemployment rate is the share of individuals in the labor force who were unemployed and looking for work. The inactivity rate is the share of individuals in the working-age population who are out of the labor force.<sup>7</sup>

### **{{ FIGURE 7: Unemployment rate by education level }}**

Note: Source: CPHS. The sample includes individuals 18 to 29 years old. The unemployment rate is the share of individuals in the labor force who were unemployed and looking for work. The inactivity rate is the share of individuals in the working-age population who are out of the labor force. Sample is split into those who have an education level of 12<sup>th</sup> standard or above and those who are illiterate or have an education level of less than 12<sup>th</sup> standard.

### **{{ FIGURE 8: Unemployment rate in urban and rural areas }}**

Note: Source: CPHS. The sample includes individuals 18 to 29 years old. The unemployment rate is the share of individuals in the labor force who were unemployed and looking for work. The inactivity rate is the share of individuals in the working-age population who are out of the labor force.

### **{{ FIGURE 9: Unemployment rate in low-income states }}**

Note: Source: CPHS. The sample includes individuals 18 to 29 years old. Low-income states include Jharkhand, Bihar, and Uttar Pradesh. The unemployment rate is the share of individuals in the labor force who were unemployed and looking for work. The inactivity rate is the share of individuals in the working-age population who are out of the labor force.

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<sup>7</sup> The gender ratio of response rates is consistent over time, including the first wave of Covid-19 when response rates fell. The ratio of men to women is slightly higher after wave 1, which might explain the drop in women's unemployment rate.

Overall, we conclude that there are substantial differences in youth unemployment across different demographic groups, but broadly, most groups share the experience of higher worklessness after the recovery phase. Key differences after the recovery period arise in terms of greater unemployment among female and more educated workers and greater inactivity rates in low-income states.

Benchmarking these patterns against other emerging and developing economies is hard due to a paucity of such studies. It is instructive, however, to compare it to European countries where youth unemployment has been particularly high, and comparative analyses are available. Overall, India has much lower labor mobility compared to European countries, and the main difference emerges from unemployment outflows. The likelihood of moving from unemployment to employment in India is less than half of the rate in European countries. There is also a lower chance of getting work after being inactive (Table 1). These differences have also been reinforced since the pandemic, and we now turn to an examination of policies that may be able to alleviate the deterioration in labor market outcomes of young workers.

**{{ TABLE 1: Transitions in Labor Market Status in India and EU Countries in 2019 and 2021}}**

### **3. Recovery Policies**

The findings of the previous section show that youth unemployment is an important feature of the labor market, and that the pandemic has exacerbated this already big challenge by pushing more young workers into worklessness. While GDP recovered to its pre-pandemic levels in India in 2021, unemployment remained above its pre-pandemic levels. Youth protests over the lack of employment opportunities have sprung up across the country, and there are proposals to put in place active labor market policies to address the joblessness crisis.

Research on the impact of active labor market policies (ALMPs) such as training, job-search assistance, subsidized private and public employment, or a combination of the above shows that these policies have the potential to effectively address unemployment even after periods of economic crises. Specifically, they are more effective in addressing structural

1 unemployment, such as through human capital formation and training, which are usually not  
2 the focus of policies designed for tackling short-term unemployment. Active labor market  
3 policies have therefore seen renewed interest across the world. The ILO and the OECD have  
4 called for public employment programmes, including job guarantees, to assist young workers'  
5 labor market recovery (ILO 2020; OECD 2020).  
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10 India has a long-standing experience with job guarantee programmes through its Mahatma  
11 Gandhi National Rural Employment Guarantee Act (MGNREGA) programme that entitles  
12 rural workers with 100 days of work and has been running since 2005. A similar programme  
13 does not exist in urban areas and proposals to address the private sector's inability to generate  
14 work in these areas include policies such as expanding MGNREGA in urban areas (Azim  
15 Premji University 2019 and 2021), a Decentralized Urban Employment and Training  
16 programme (Drèze 2020) and a multi-year paid government internship programme (Banerjee  
17 et al. 2019). A large amount of literature has evaluated the impact of the programme ex-post to  
18 find positive effects on wages, livelihoods, and the creation of public assets. But many active  
19 labor market policies remain untried and there is a large evidence gap in what works on  
20 addressing youth unemployment in urban settings. To fill this gap, we report findings from a  
21 primary survey in low-income urban areas that aimed to analyze the effectiveness of policies  
22 in addressing employment and income losses from the pandemic and workers' preferences  
23 between these policies.  
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38 The primary survey, conducted by the LSE's Centre for Economic Performance (CEP),  
39 collected information from a random sample of individuals from the low-income states of  
40 Bihar, Jharkhand, and Uttar Pradesh (see Dhingra and Machin 2020, for more details). The  
41 sample includes individuals between 18 to 40 years old who had a job before the pandemic to  
42 understand the experience of individuals who have been in the labor force and whose work  
43 may have been impacted by the pandemic. The survey focuses on worklessness, the evolution  
44 of employment prospects, and policies to tackle unemployment in low-income urban areas. It  
45 was conducted from 21 January 2021 to 18 March 2021, just before India was hit by a second  
46 wave of the pandemic. The survey sample was drawn randomly from a panel of individuals  
47 available from field visits to 150 lower-income urban ward clusters (50 wards each in Bihar,  
48 Jharkhand, and Uttar Pradesh). The survey is representative of workers in these low-income  
49 states (except above the 90<sup>th</sup> percentile of the wage distribution, which is less relevant to our  
50 question about public employment programmes), as shown in Dhingra and Machin (2020).  
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The first round of the survey was conducted over the phone between 14 May and 8 July 2020. The objective of the survey was to understand the impact of Covid-19 on employment, earnings, and work choices, especially among workers who were informally employed before the pandemic. A second round of the survey expanded sample coverage to overrepresent workers who had lost their job during the pandemic to examine recovery policies from the population of policy interest. The survey elicited preferences of individuals over policies for tackling unemployment in their area. The design of policy preferences takes the form of a stated choice experiment embedded in the primary survey, which we explain in detail in the next section. Overall, the survey interviewed 4,763 individuals aged 18-40 years. This included 3,201 respondents who had been interviewed by phone during the first wave of the pandemic and a boost sample of 1,562 respondents who had become unemployed since the pandemic.

### 3.1. Policy information experiment

The policy preferences of individuals were elicited by asking them about their views on the policies they think would be most effective in tackling unemployment in urban areas. Surveys have been used in economics to understand people's beliefs, perceptions, and reasonings regarding preferences over public policies and how economic views are shaped (see, for example, Stantcheva 2020, Boeri et al. 2020). We add to this literature by providing evidence on policy preferences in countries with large informal labor markets and in times of crisis.

To minimize framing bias, questions on labor market policies were framed in different ways, and individuals were randomized into each type. First, equal numbers of individuals were randomly assigned across policy questions that directly asked or did not ask about their opinions on the different policy options. Then within each group, equal numbers of respondents were randomly assigned to getting or not getting information on the job guarantee and cash transfer policies of the government over the previous year. Then again, within each group, individuals were asked to choose between a job guarantee and a cash transfer with the order of the option decided according to the assigned group (job guarantee first for the job guarantee treatment group, cash transfer first for the cash transfer treatment group).<sup>8</sup>

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<sup>8</sup> The recontacted sample was interviewed over the phone and the boost sample was interviewed door-to-door (in person). Individuals in the control and treatment groups did not interact with each other as the interviews were conducted one on one by trained enumerators.

The full sample was randomly assigned to two groups: the **pre-treatment opinion** and **no pre-treatment opinion**. The first group was asked: "*We would like to ask you about your views on the work situation and the role of government. Which one of these policies, paid by the government, do you think would be most effective in tackling unemployment in urban areas? Job Guarantee for Urban Workers; Direct Cash Transfer for Urban Individuals; Wage Subsidy to reduce labor costs for industry in the area; Land Grant, Tax holiday or Other Incentives in the area to industry; Other (with open-ended answers).*"

The pre-treatment policy opinion group consists of individuals who choose between policies before getting any information from the survey on existing labor market policies. While this is helpful in examining the efficacy of the information provided, it comes with the concern that individuals may be reluctant to change their views to be perceived as being correct. Therefore, half of the sample was randomized into being asked their pre-treatment opinion, and the rest were asked to choose their preferred policy for the *first* time after being given information on the government's existing policies.

After being assigned to the pre-treatment opinion and no pre-treatment opinion, both groups were then randomly assigned to one of three groups: the first group was shown the information on job guarantees first, cash transfers second (G1 and G4); the second group was shown the information on cash transfers first, job guarantees second (G2 and G5), and the third group was shown no information (G3 and G6).

#### **{{ FIGURE 10: Labor market policy experiment design }}**

The information contained in the job guarantee and cash transfer policy opinion was as follows:

**Job guarantee:** Job guarantee programmes create jobs for individuals in public and community works. Through MGNREGA, the government has to provide up to 100 days of work to individuals in rural areas that are not able to find work otherwise. In 2020 until now, the government has reported that 11 crore persons in rural India demanded work and received Rs 5,000 each on average for the year. Examples of urban job guarantees include an urban NREGA in Kerala and new schemes in Jharkhand, Himachal Pradesh, and Odisha.

**Cash transfers:** Cash transfers enable individuals to start their own work or to look for jobs. Through Cash Transfers, the government directly deposits cash into the accounts of beneficiaries like Jan Dhan and PM-KISAN payments. In 2020 until now, the government has reported that 42 crore beneficiaries are covered by cash transfer schemes and received about Rs 1,500 each on average for the year. Examples of urban cash transfers include payments to urban Jan Dhan accounts.

G1 and G4 were then asked: *"How good, on a scale of 0 to 10, do you think a job guarantee programme, paid by the government, would be to tackle unemployment in urban areas?"* and *"How good, on a scale of 0 to 10, do you think a cash transfer programme, paid by the government, would be to tackle unemployment in urban areas?"*

G2, G3, G5 and G6 were asked the same questions in the opposite order.

Everyone was asked: *"Which of the two would you prefer in your area?"* Job guarantee/Cash transfer for G1 and G4; Cash transfer/Job guarantee for G2, G3, G5 and G6.

Following Kuziemko et al. (2015), post-treatment questions are worded slightly differently from the pre-treatment opinion to avoid survey fatigue and the possibility of respondents being reluctant to change their answers. While much of the stated policy choice literature focuses on making the choice under consideration more salient for individuals so that their preferences can be elicited, this is much less of a concern in our case. The choice is about unemployment policies that are of direct relevance and huge economic importance to the individuals being surveyed. Moreover, the policy choices are being elicited in a context where the existing policies (such as MGNREGA and Jan Dhan cash transfers) are highly publicized and at a time when unemployment was one of the most salient debates in the local and national discourse.

Having provided their post-treatment policy options, respondents were asked about the reasons for their choices. Those who chose cash transfers were asked: *"Why do you prefer cash transfers?: Wages under job guarantee programmes are too low; Work under job guarantees is not very desirable; Workers face delays in job guarantee payments; 100 days of work isn't enough; Job guarantee work is too rationed; Job guarantee programmes are run by job contractors; Cash transfers are more flexible; Cash is helpful for those working away from their area; People need more cash, they can always get better work; Cash transfers will enable*

1 *people to do or look for better work; Government should not be doing any such programmes;*  
2 *Other (with open-ended answers)."*  
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5 Those who chose job guarantees were asked: *"Why do you prefer a job guarantee?: Job*  
6 *guarantee will directly address the lack of work; Job guarantee will directly address livelihood*  
7 *insecurity; Workers are sure to get paid from the government, even if they are delays; People*  
8 *need more days of work; People need work in their areas; People need work, not just cash;*  
9 *Cash transfers are too low; Cash transfers don't reach people; People should not take money*  
10 *without working; People won't want to work or look for work if they are getting cash transfers;*  
11 *Government should not be doing any such programmes; Other (with open-ended answers).*  
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20 The comparison of Rs 5000 for a job guarantee with Rs 1500 for a cash transfer is a  
21 conservative estimate of the difference between the amounts actually offered under the  
22 different programmes. On average, beneficiaries of NREGA, the largest job guarantee  
23 programme in India, earned Rs 5000 in 2020 while beneficiaries of cash transfer programmes  
24 such as Jan Dhan and PM-KISAN earned, on average, Rs 1500 in the same year.<sup>9</sup> This absolute  
25 difference is important to maintain from a policy perspective because it is a critical point often  
26 raised in public debate. In particular, the argument is that universal cash transfers would need  
27 to be lower than the amount offered to beneficiaries of a universal job guarantee programme  
28 due to self-selection into participating in work offered by a job guarantee. However, this does  
29 raise the question that individuals might be choosing their preferred policy option due to the  
30 differences in incomes offered by each programme. To probe this question, we follow Dhingra  
31 and Machin (2020) to examine whether preferences change when the job guarantee income is  
32 scaled down to levels that are more comparable to the cash transfer.  
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45 We survey the whole sample, both the treated and control groups, over whether they would  
46 prefer a job guarantee or a cash transfer in a discrete choice experiment offering cash transfer  
47 payments that are randomly scaled down compared to the job guarantee payment. The amount  
48 paid in a cash transfer is lower because it does not come with any work requirement attached  
49 to it. The daily wage paid for a job guarantee *JG* is varied between the prevailing national  
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56 <sup>9</sup> The MGNREGA figure is computed from disbursements made by the government divided by number of  
57 individuals actually worked in 2020. These are available from the NREGA public data portal which put the  
58 figure at Rs 5642 precisely. The cash transfer figure is computed from the release of the Press Information  
59 Bureau (PIB), Government of India, Ministry of Finance, 08/09/2020 at 1:00PM by PIB Delhi. The figure  
60 ranges from about Rs 500 to Rs 1640 depending on the type of recipient.  
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1 minimum wage at the time of the survey, which was Rs 202 per day, and the prevailing  
2 minimum wage at the workers' state of residence (Rs 353 in Bihar, Rs 401 in Jharkhand, and  
3 Rs 512 in Uttar Pradesh). The cash transfer amount was  $CT = (1 - \text{Markdown}/100) * JG$ ,  
4 where the markdown is a random integer between 10 and 70. The question as it appeared on  
5 the survey was as follows:  
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10 *The government has been considering policies for urban areas. Were you to lose your*  
11 *job/business, based on your personal situation, which policy would you prefer – a job*  
12 *guarantee at Rs JG per day or a cash transfer at Rs CT per day with no work attached to it.*  
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18 The possible choices are a Job guarantee or a Cash transfer.  
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22 Stated choice experiments are a common survey instrument used to elicit preferences of  
23 individuals over a set of policy options, varying the attributes of policy options and making  
24 the respondents think about the trade-off between those attributes. In labor economics in  
25 particular, this approach has been widely used to measure the preferences of workers over  
26 non-pecuniary job attributes such as job flexibility (Eriksson and Kristensen 2014, Mas and  
27 Pallais 2017, Wiswall and Zafar 2018, Dhingra and Machin 2020). One shortcoming of stated  
28 choice modeling is "hypothetical bias," where respondents' stated willingness to pay is higher  
29 than their actual willingness to pay (Loomis 2011). This bias is more common in evaluating  
30 the willingness to pay for nonmarketed goods and services, such as environmental public  
31 goods (Landry and List 2007). This is unlikely to be a problem in our case since individuals  
32 answering these questions have a real-life reference point about their labor market choices  
33 (Datta 2019) and are familiar with the set of policy options. Moreover, empirical evidence  
34 suggests that survey-based experiment results are aligned with actual market choices  
35 observed in experimental data (Mas and Pallais 2017). In our survey, we implement some  
36 recommendations from the literature to reduce this bias. First, we indicate at the beginning of  
37 the survey that the respondent's answers will be used to inform policymaking, as reminding  
38 respondents that their choices can have real economic consequences has been shown to be  
39 effective in reducing bias (Cummings and Taylor 1999). Moreover, we ask respondents  
40 follow-up questions on the main reason behind their choice, which enables checking for  
41 consistency in responses.  
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### 60 3.2. Experiment findings 61 62 63 64 65

An overwhelming majority would choose a job guarantee over a cash transfer programme (84.46 percent overall, and 85 percent of those who do not receive any treatment). Information on the government's existing programmes for job guarantees or cash transfers does not have a systematic impact on the policy choices of young workers (Table 2, Column1). The order of the information provided on job guarantees and cash transfer programmes also does not alter the main point: the vast majority of young workers would like a job guarantee and prefer it to cash transfers (Table 2, Column 3). There is some slight but statistically insignificant shift away from preferring a job guarantee when information is provided on the government's existing programme, and older workers are less likely to prefer a job guarantee programme than younger workers (Table 2, Column 2). Both younger and older workers are slightly less likely to want a job guarantee after they receive the job guarantee treatment (Table 2, Column 4), but there is no systematic shift in preferences overall.

#### **{{ TABLE 2: Prefer job guarantee over cash transfer }}**

The policy preferences and the role of information on the government's programmes can be examined further for the group of youth whose pre-treatment opinion on policies was collected. Table 3 reports results from the panel dimension of the policy options. Half of the sample was asked their opinion and to choose the policy option, which provides a pre-treatment and a post-treatment policy preference for an individual. Individual fixed effects are included, so identification of the information treatment comes from those who switch their preferred policy option after being randomly assigned to an information treatment. Column 1 shows a slight but statistically insignificant drop in preference for a job guarantee. Similar results arise in Column 4, which splits the information by the order in which it was given. Younger workers are less likely to want a job guarantee after the information is provided to them (Columns 2 and 5) compared to older workers (Columns 3 and 6), but the difference is not statistically significant.

#### **{{ TABLE 3: Prefer job guarantee over cash transfer }}**

Importantly, the preference for a job guarantee is not driven simply by the requirement of work or the large monetary difference between the job guarantee offer and the cash transfer offer. Previous findings from Dhingra and Machin (2020) show that workers are willing to take, on

average, a 25.5 percent wage reduction for a guarantee of 100 days of work. In their stated choice experiment, workers were offered a choice between two identical jobs, one at their usual daily wage without a guarantee of days of work and the same job with a randomly generated lower wage but with a guarantee of a minimum of 100 days of work per year. Their experiment holds the job characteristics the same, and workers still overwhelmingly choose a job guarantee offer compared to a higher-paying job that does not have a guarantee of workdays. Extending their analysis further, when workers are offered a job guarantee or a cash transfer with a smaller difference in monetary value, they again overwhelmingly choose the job guarantee option. In Table 4, we report the share of workers who choose a job guarantee over a cash transfer at different markdowns. Strikingly, the share of workers who prefer a job guarantee remains at around 80 percent or more, even when the cash transfer amount is just 10 to 39 percent or 40 to 70 percent lower than the job guarantee amount.

**{{TABLE 4: Proportion choosing job guarantee over cash transfer at different markdowns}}**

Table 4 provides evidence that the large difference in monetary values in the original experiment is not the main driving factor behind the share of workers choosing a job guarantee over a cash transfer. In the first experiment, the actual cash transfer amount is 70 percent lower than the actual job guarantee amount. The second experiment scales the cash transfer amount up substantially so that it is between 10 to 70 percent lower than the job guarantee amount. Job guarantees continue to be preferred by similar proportions of workers when the difference in monetary values is narrowed randomly across workers. 85 percent of workers choose a job guarantee over a cash transfer when the cash transfer amount is between 10 and 39 percent lower than the job guarantee amount. A similar share of respondents, (86 percent) chose a job guarantee over a cash transfer even when the cash transfer amount is between 40 and 70 percent lower than the job guarantee amount (Table 4).

Our findings indicate that workers place a low value on cash transfers, suggesting that work holds significance beyond just monetary compensation (Hussam et al. 2022). In fact, when respondents were asked about the reasoning behind their preferences, 64 percent of job guarantee supporters cited the desire to work as their primary motivator. On the other hand, 24 percent of cash transfer supporters appreciated the flexibility that cash transfer programmes offer. To understand how these preferences differ by the labor market experience of young

workers, this section ends with findings on how policy preferences to tackle unemployment differ by the transition status of young workers, as discussed in Section 2. The panel feature of the survey data enables an examination of the policy preferences of individuals who have moved from one employment status to another between April-May 2020 and January-February 2021. Support for a job guarantee programme persists across the different statuses of labor market flows and is particularly pronounced for young workers who moved from employment to inactivity (Table 5, Emp-Inactive). Higher support for cash transfers is noticeable among those who are stuck in unemployment between the two periods, who cite the flexibility of cash transfers as the main reason behind their preference (Table 5, Unemp-Unemp).

**{{ TABLE 5: Proportion choosing a job guarantee over a cash transfer by labor market status}}**

Our results should be interpreted as stated preferences over policy options directly relevant to respondents. There is overwhelming support for job guarantee programmes, even though information on the implementation record of existing policies influences a small share of youth to prefer cash transfers over job guarantees. The findings nonetheless highlight variation in policy preferences across workers who have had different experiences of moving in and out of work. Workers who lose their jobs and become discouraged from finding work afterward are most supportive of a job guarantee, while those who remain out of work for prolonged periods of time in unemployment or inactivity are more inclined to prefer cash transfers over job guarantees.

#### **4. Policy Discussion and Conclusion**

This article contributes to the literature on unemployment dynamics by estimating transition probabilities for moving between employment, unemployment, and inactivity. The focus is on youth unemployment in India, which has been rising in recent years and was severely exacerbated by the pandemic. The rise in unemployment has opened the risks of long-term unemployment and livelihood losses, threatening income growth and well-being. This problem is a feature of many developing economies, where the bulk of the workforce is informally employed, has little recourse to unemployment benefits, and where youth unemployment is a burgeoning problem.

1 We first show that the youth are more likely to be stuck in unemployment and move from  
2 employment to joblessness. They have a lower likelihood of moving from unemployment to  
3 employment and a higher likelihood of moving from employment to worklessness, compared  
4 to older workers. They are faced with greater churn, especially from employment to  
5 worklessness, that on the net makes them less likely to be in work.  
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10 High unemployment among the youth has recently been termed the biggest challenge in India,  
11 and there has been intense public debate over the ability of public employment programmes to  
12 generate jobs, particularly in the aftermath of the pandemic. To understand policies for  
13 addressing youth unemployment, a stated choice experiment is embedded in a primary survey  
14 of young individuals whose work was impacted by the pandemic. It shows that the  
15 overwhelming majority, over four-fifths, of individuals would like a job guarantee from the  
16 government to tackle the unemployment crisis. The rest would mostly like a cash transfer to  
17 provide flexibility in income support and finding work. Information regarding the government's  
18 performance in different welfare programmes reduces the share of individuals who prefer a job  
19 guarantee to a cash transfer, but the share of switching is relatively small compared to the  
20 overwhelming support for job guarantees over cash transfers among young workers.  
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33 Our findings in the context of India suggest that young workers face greater challenges to  
34 getting out of worklessness and have a strong desire for policies that directly generate  
35 employment. More broadly, developing countries are characterized by poor employment  
36 prospects, especially among young workers. The continuing multifaceted crisis since the  
37 pandemic has caused an incomplete jobs recovery in low- and middle-income countries. Global  
38 employment is projected to increase by one percent in 2023, much lower than the 2.3 percent  
39 increase in 2022. Labor markets are still characterized by high unemployment, increased  
40 informality, and a lack of social protection for millions of workers, with young and female  
41 workers faring significantly worse (ILO 2023). Against the backdrop of this deteriorating labor  
42 market outlook, governments are continuing to design policies to support their workers, and  
43 future research can help us in understanding the contribution of the pandemic to the valuation  
44 of job guarantees by workers and the appropriate design of public employment programmes.  
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**Table 1: Transitions in labor market status in India and EU countries in 2019 and 2021**

|                                                             | 2019  |       | 2021  |       |
|-------------------------------------------------------------|-------|-------|-------|-------|
|                                                             | India | EU    | India | EU    |
| <b>From unemployment</b>                                    |       |       |       |       |
| Unemployment                                                | 0.660 | 0.545 | 0.735 | 0.512 |
| Inactivity                                                  | 0.177 | 0.262 | 0.159 | 0.240 |
| Employment                                                  | 0.157 | 0.193 | 0.106 | 0.248 |
| <b>From employment</b>                                      |       |       |       |       |
| Unemployment                                                | 0.008 | 0.015 | 0.011 | 0.014 |
| Inactivity                                                  | 0.041 | 0.025 | 0.033 | 0.028 |
| Employment                                                  | 0.950 | 0.960 | 0.955 | 0.959 |
| <b>From inactivity</b>                                      |       |       |       |       |
| Unemployment                                                | 0.022 | 0.031 | 0.014 | 0.032 |
| Inactivity                                                  | 0.940 | 0.937 | 0.963 | 0.918 |
| Employment                                                  | 0.038 | 0.032 | 0.023 | 0.050 |
| Working-age population as a share of the overall population | 0.670 | 0.645 | 0.673 | 0.642 |

Notes: Transitions in labor market status in India, Q2 to Q3 2019 and Q2 to Q3 2021 (source: CPHS) and transitions in labor market status in the EU, Q2 to Q3 2019 and Q2 to Q3 2021 (source: Eurostat) as a share of the initial status. The working-age population is reported as a share of the total population in 2020 (source: OECD).

**Table 2: Prefer job guarantee over cash transfer**

|                        | (1)                 | (2)                 | (3)                 | (4)                 |
|------------------------|---------------------|---------------------|---------------------|---------------------|
| No information         | 0.850***<br>(0.009) |                     |                     |                     |
| Information            | 0.842***<br>(0.006) |                     |                     |                     |
| No information #18-29  |                     | 0.863***<br>(0.012) |                     |                     |
| No information#30-40   |                     | 0.837***<br>(0.013) |                     |                     |
| Information#18-29      |                     | 0.855***<br>(0.009) |                     |                     |
| Information#30-40      |                     | 0.827***<br>(0.010) |                     |                     |
| No information         |                     |                     | 0.850***<br>(0.009) |                     |
| CT information         |                     |                     | 0.846***<br>(0.009) |                     |
| JG information         |                     |                     | 0.838***<br>(0.009) |                     |
| No information # 18-29 |                     |                     |                     | 0.863***<br>(0.012) |
| No information # 30-40 |                     |                     |                     | 0.837***<br>(0.013) |
| CT information # 18-29 |                     |                     |                     | 0.864***<br>(0.012) |
| CT information #30-40  |                     |                     |                     | 0.826***<br>(0.014) |
| JG information #18-29  |                     |                     |                     | 0.846***<br>(0.012) |
| JG information #30-40  |                     |                     |                     | 0.827***<br>(0.014) |
| <i>Observations</i>    | 4763                | 4763                | 4763                | 4763                |

Notes: Source: CEP Survey 2021. The outcome variable takes a value of one if an individual chooses a job guarantee and zero if they choose a cash transfer. *Information* treatment takes a value of one if an individual is given a cash transfer or job guarantee information treatment and zero otherwise. *CT information* takes a value of one if an individual is given a cash transfer information treatment and zero otherwise. *JG information* takes a value of one if an individual is given a job guarantee information treatment and zero otherwise.

Table 3: Prefer job guarantee over cash transfer

|                          | (1)<br>All          | (2)<br>18-29        | (3)<br>30-40        | (4)<br>All          | (5)<br>18-29        | (6)<br>30-40        |
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Opinion # Information    | -0.009<br>(0.013)   | -0.015<br>(0.019)   | -0.002<br>(0.019)   |                     |                     |                     |
| Opinion # CT Information |                     |                     |                     | -0.004<br>(0.015)   | 0.002<br>(0.021)    | -0.010<br>(0.022)   |
| Opinion # JG Information |                     |                     |                     | -0.014<br>(0.015)   | -0.031<br>(0.021)   | 0.006<br>(0.022)    |
| Sample mean              | 0.820***<br>(0.004) | 0.831***<br>(0.006) | 0.807***<br>(0.006) | 0.820***<br>(0.004) | 0.831***<br>(0.006) | 0.807***<br>(0.006) |
| Individual Fixed Effects | Yes                 | Yes                 | Yes                 | Yes                 | Yes                 | Yes                 |
| Observations             | 4764                | 2502                | 2262                | 4764                | 2502                | 2262                |

Notes: Source: CEP Survey 2021. The outcome variable takes a value of one if an individual chooses a job guarantee and zero if they choose a cash transfer. All specifications control for individual fixed effects. *Opinion* treatment takes a value of one if an individual is asked to choose their preferred labor policy to tackle unemployment and zero otherwise. *Information* treatment takes a value of one if an individual is given a cash transfer or job guarantee information treatment and zero otherwise. *CT information* takes a value of one if an individual is given a cash transfer information treatment and zero otherwise. *JG information* takes a value of one if an individual is given a job guarantee information treatment and zero otherwise. Columns 1 and 4 include the whole sample, Columns 2 and 5 include 18 to 29 year old workers, and Columns 3 and 6 include 30 to 40 year old workers.

**Table 4: Proportion choosing job guarantee over cash transfer at different markdowns**

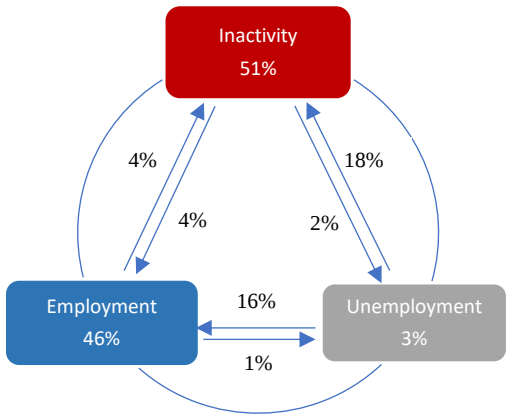
|                    | Markdown | Job Guarantee |
|--------------------|----------|---------------|
| Full sample        | 10-39    | 0.85          |
|                    | 40-70    | 0.86          |
| 18 to 29 years old | 10-39    | 0.86          |
|                    | 40-70    | 0.87          |
| 30 to 40 years old | 10-39    | 0.84          |
|                    | 40-70    | 0.86          |
| Employed           | 10-39    | 0.85          |
|                    | 40-70    | 0.86          |
| Unemployed         | 10-39    | 0.83          |
|                    | 40-70    | 0.88          |

Notes: Source: CEP Survey 2021. The outcome variable takes a value of one if an individual chooses a job guarantee and zero if they choose a cash transfer.

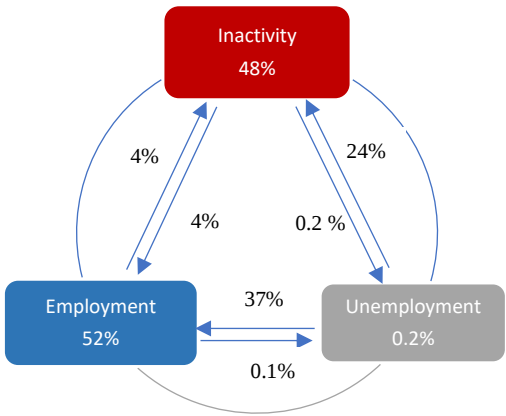
**Table 5: Proportion choosing a job guarantee over a cash transfer by labor market status**

| Transition              | Prefer JG to CT | Observations |
|-------------------------|-----------------|--------------|
| Employed - Employed     | 0.87            | 2382         |
| Employed - Unemployed   | 0.85            | 140          |
| Employed - Inactive     | 0.92            | 40           |
| Unemployed - Unemployed | 0.79            | 38           |
| Unemployed - Employed   | 0.85            | 552          |
| Unemployed - Inactive   | 0.80            | 20           |
| Inactive - Employed     | 0.86            | 28           |

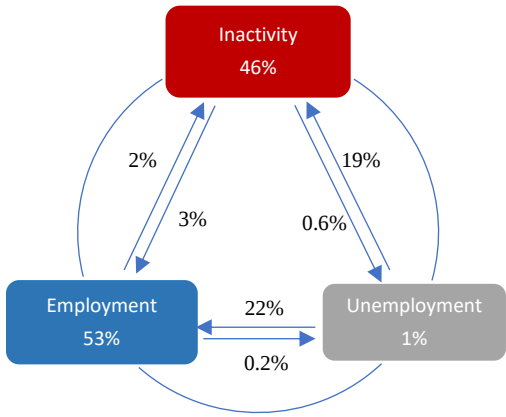
Notes: Source: CEP Survey 2020, 2021. Sample includes the panel of individuals interviewed in April-May 2020 and January-February 2021. Labor market flows are calculated as transitions between employment status (employment, unemployment, inactive) in the first survey (Apr-May 2020) and employment status in the second survey (Jan-Feb 2021). For example, Emp-Unemp includes individuals who were employed in Apr-May 2020 but unemployed in Jan-Feb 2021.



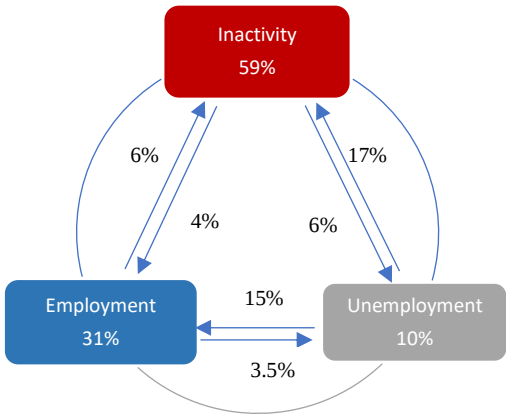
a) All workers  
(Observations=351,066)



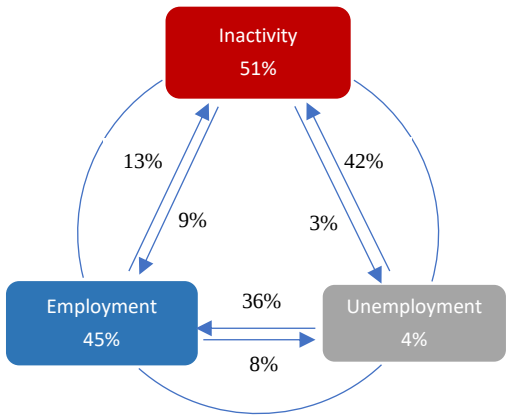
b) Workers 41 to 64 years old  
(Observations=157,572)



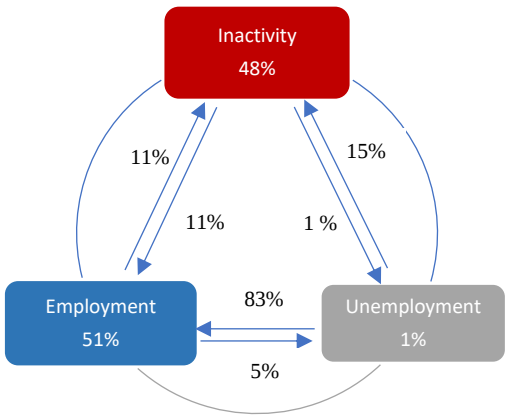
c) Workers 30 to 40 years old  
(Observations=88,883)



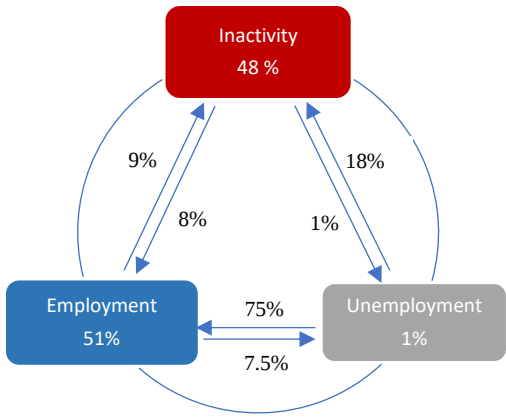
d) Workers 18 to 29 years old  
(Observations=104,611)



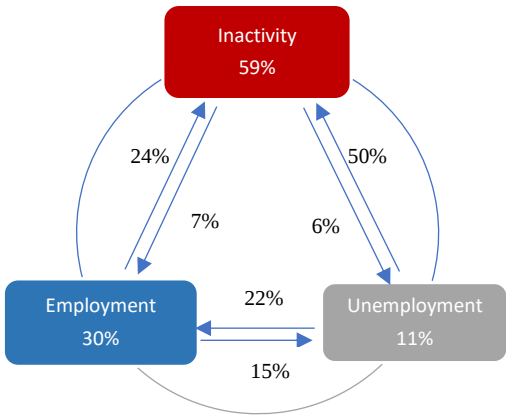
a) All workers  
(Observations=145,459)



b) Workers 41 to 64 years old  
(Observations=67,308)



c) Workers 30 to 40 years old  
(Observations=33,473)



d) Workers 18 to 29 years old  
(Observations=44,678)

Figure 4a

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Unemployment and Labour Market Flows

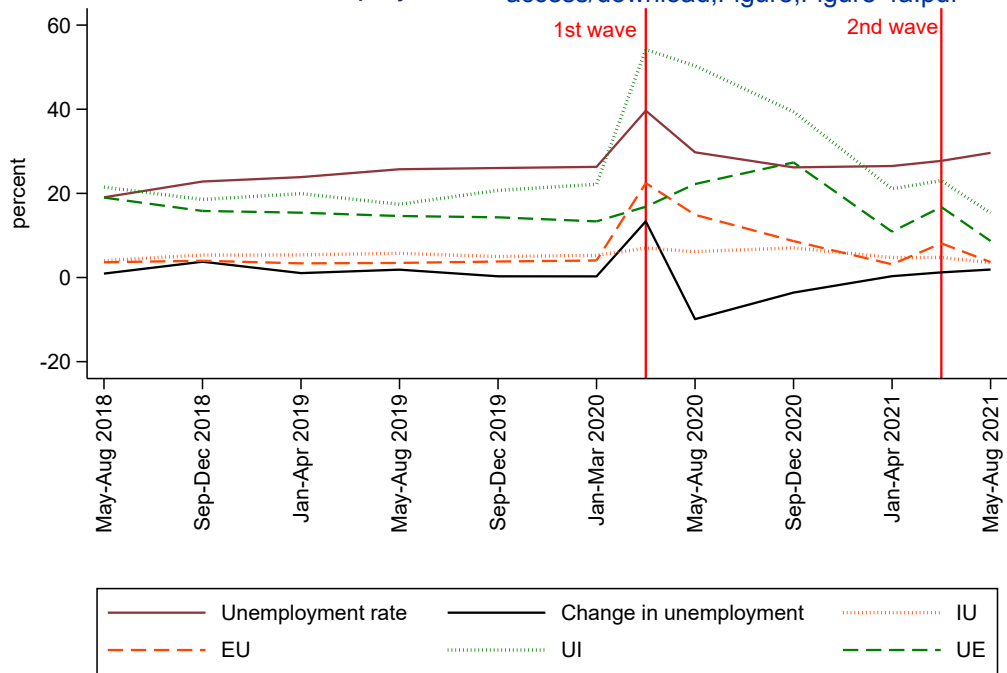


Figure 4b

Inactivity and Labour Market Flows

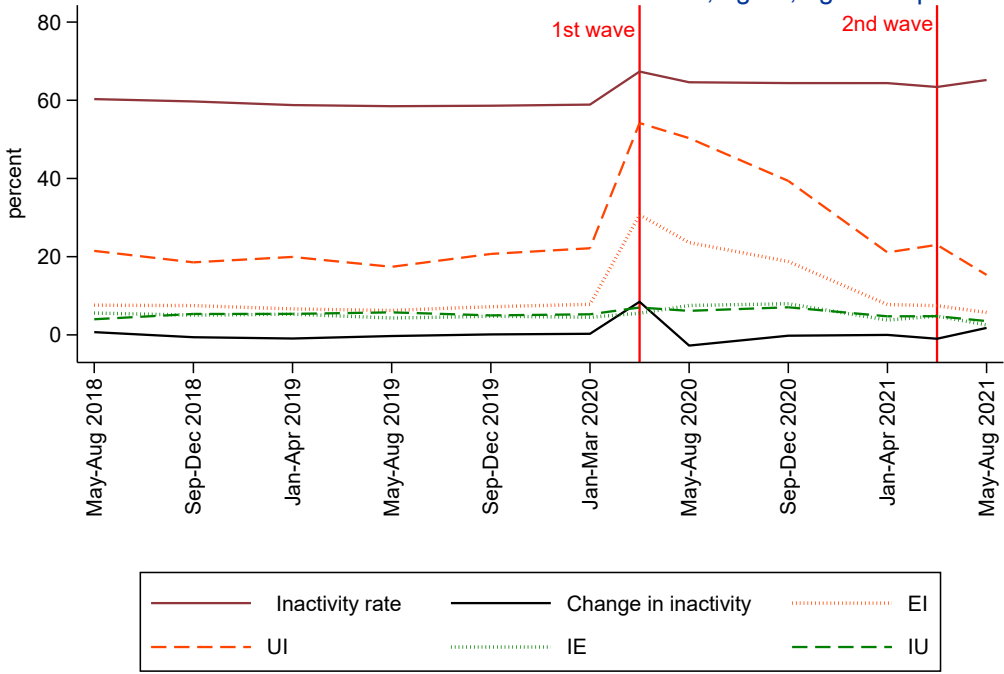


Figure 5

Unemployment Rate, Entrants and Incumbents

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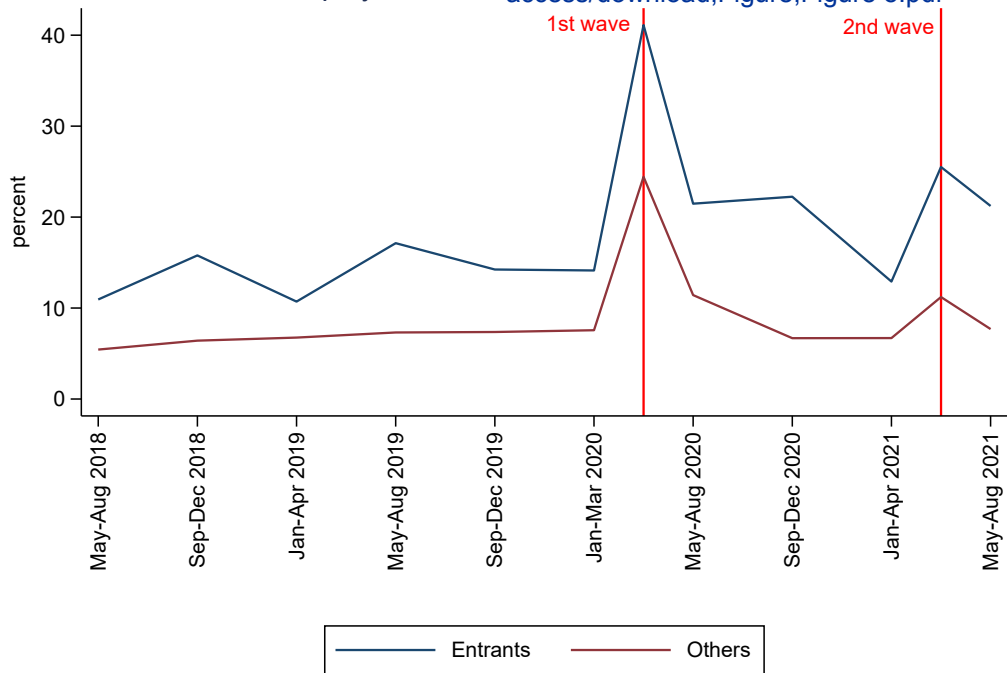


Figure 6

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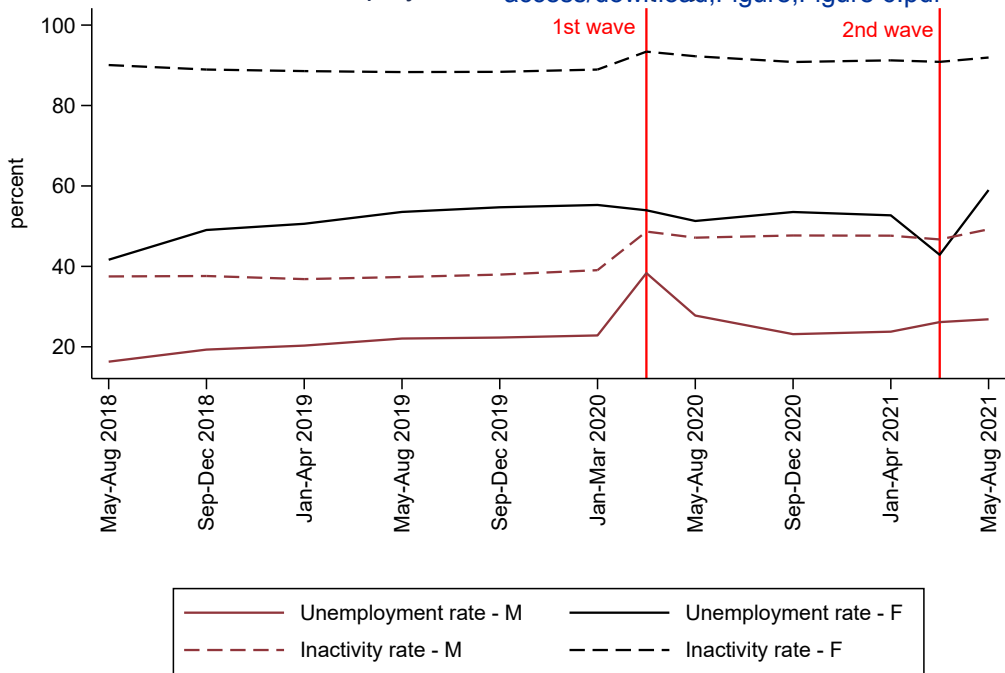


Figure 7

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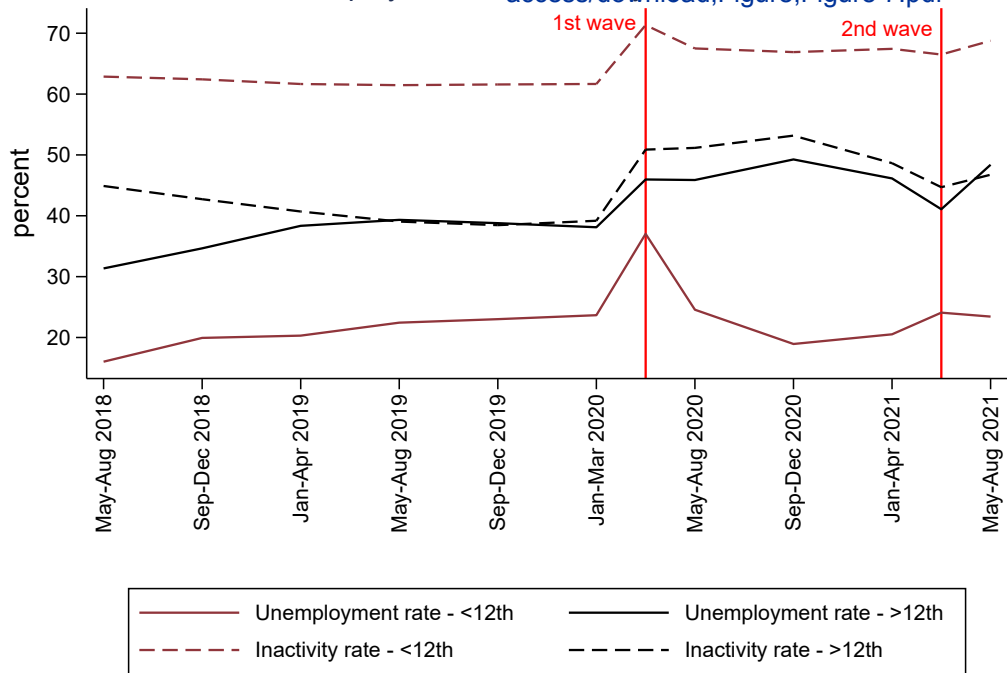


Figure 8

Unemployment and Inactivity, Rural/Urban

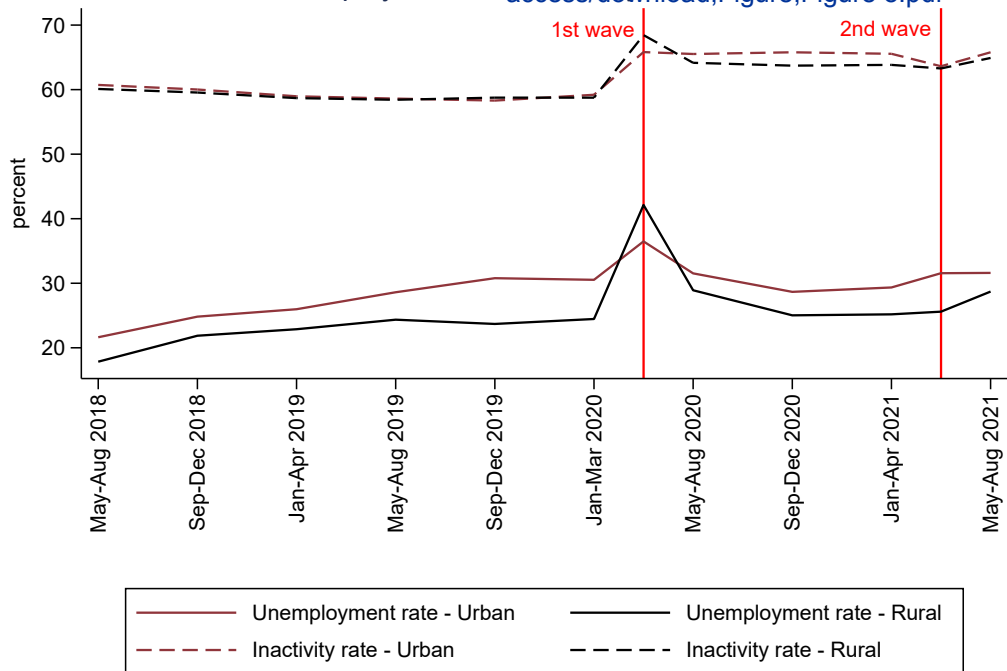


Figure 9

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# Unemployment and Inactivity - Low Income States

