

# Wage Differentials Among Reverse Migrants: Analyzing the Social Reproduction of Inequalities During the Post-COVID Recovery

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**Abstract** - Income inequalities that have traditionally been high in India, witnessed a widening of the wedge as the pandemic struck. Interestingly, this wedge widened further as the recovery began, those in high income groups reverted to their original income levels while those in low income groups were left struggling at decreased wages. This paper is an attempt to examine if the post pandemic economic recovery mirrored the existing pattern of inequalities amongst various social groups. The study is based on a case study of a small town in the Raebareli district of Uttar Pradesh, and the data is collected from a primary survey of the migrants who had returned back to their home town in the aftermath of pandemic. Hypothesis tested is that the rate of recovery from pandemic-induced income loss is consistent among similarly skilled workers, regardless of their social group affiliation. The results indicate that the loss of income is not uniform across categories, and that it is more severe in case of vulnerable groups. We argue that if there is no affirmative action, the inequalities will keep reproducing themselves and become more severe after every shock that the economy faces.

**Keywords:** Wage Differentials, Inequalities, Social Reproduction of Inequalities, Post COVID Recovery, Poverty

## I. INTRODUCTION

In March 2020, the government of India imposed a lock down on the entire country, bringing all economic activity to a sudden halt. Hundreds and thousands of migrant workers were forced out of cities of their dreams back into the villages that had once driven them out. The homes that had been left for sake of better livelihoods saw the distressed inhabitants returning to them, many of them having walked for miles to return. This reverse migration of workers from cities to their native villages, was the greatest exodus of this century and this happened amidst innumerable troubles on the way back, the inhuman isolation, a severe lack of resources, loss of jobs and incomes, lakhs being pushed into poverty.

Income inequalities that were already high, witnessed a widening of the wedge as the pandemic struck. This wedge widened as the recovery began, with those in high income groups slowly reverting to their original income levels while those in low income groups left struggling at decreased wages. Joblessness and lack of social security forced many people to sell whatever little assets they held. This distress sale of assets added to income inequality by increasing

wealth inequalities, compounded by the rising intergenerational inequalities as the children from low income families were withdrawn from education and pushed into work, losing opportunities to become better earners tomorrow.

The fall in incomes, forced sale of assets, huge out of pocket expenditure on account of COVID-19 and other related medical expenditure pushed people close to the poverty threshold into poverty and those already below poverty line deeper into poverty. Further, the evidence from share markets show that the wealth share of rich and ultra-rich went up, not only in India but also globally. Following CMIE, unemployment went up to 23.5 percent in April 2020 and remained at 21.7 percent in May and though it started tapering off by June, the damage caused was irreversible.

This study is based on a primary survey that was conducted to understand the conditions under which migrant workers and their families were subjected to live when the pandemic sent them back to their native villages. It is an attempt to understand the survival strategies of affected households and the coping mechanisms devised by individuals to deal with sudden loss of income earning opportunities. To the best of our knowledge, studies which look at the survival strategies immediately after the lock down are few and thus this study contributes to the pool of studies that are working on the dynamics of reverse migration. This paper is based on a survey of 160 reverse migrants, who were questioned on their demographic and income earning characteristics. The data is analysed for changes in wages pre and post covid using log wage and pair wise t-tests.

Data shows that as a part of survival strategies from the job loss that was caused by the pandemic, people were forced to accept lower wages and longer working hours. Most women in the sample failed to find jobs on return to the native village and the children were pulled out of education and sent to work in order to make up for the lost income. Looking across categories of gender, religion and caste we find that the weaker category is more severely hit in terms of income loss and the recovery in terms of getting back to the pre-COVID income levels is slower. In conclusion, this

study is a call for affirmative and inclusive policies that ensure that people on margins are taken care of during times of crisis and income loss.

## II. LITERATURE REVIEW

The COVID-19 pandemic has had an unprecedented impact on the global economy, leading to economic distress for households across the world. The literature on the post-pandemic economic distress unambiguously points towards the hardships faced by households, particularly in terms of reduced spending on food, education, and health.

Mouloudj *et al.*, (2020) conducted a study across various countries and found that the pandemic has threatened food security in both developing and developed countries. The study highlights that COVID-19 has disrupted food supply chains, causing food prices to rise, leading to a decline in real incomes of the households. This, in turn has resulted in reduced spending on food, with many households struggling to afford basic food items. The study also points out that the pandemic had a severe impact on vulnerable groups, such as low-income households, women, and children, who have been disproportionately affected by the economic downturn.

Similarly, Adjognon *et al.*, (2021) found that the pandemic led to a rapid increase in food insecurity in urban areas in Mali. This study also points out that the pandemic has disrupted food supply chains, leading to a shortage of food in urban areas, raising the food prices, making it difficult for households to afford basic food items. The study also shows that food insecurity in urban areas increased rapidly and at a higher rate than in rural areas, three months after the pandemic spread.

In Nigeria, Folayan *et al.*, (2021) conducted an online survey among adult residents and found that 56% of the respondents were financially insecure; 20.4% of the respondents decreased their daily food intake, and 90% reported a negative impact on their lives due to the pandemic. The study points out that the pandemic had a severe impact on the Nigerian economy, leading to widespread economic distress and making it difficult for households to afford basic necessities.

A study conducted in Pakistan by Ali and Ashraf (2020) found that the pandemic has led to a decline in student enrolment and has disrupted the education system, leading to a decline in learning outcomes. The study also shows that the pandemic has had a severe impact on low-income households, who are struggling to afford the costs of online education.

In another study conducted in Kenya, Mutuku and Benta (2020) found that the pandemic disrupted the education system, leading to a decline in student enrolment and learning outcomes. The study also points out that the pandemic has had a severe impact on vulnerable groups,

such as girls, who are at risk of dropping out of school due to the economic distress caused by the pandemic.

Similarly, in a study conducted in the United States, Chetty *et al.*, (2020) found that school closures have had a significant impact on student learning outcomes, particularly for low-income and disadvantaged students. The study shows that students from low-income households have less access to online learning resources, leading to a decline in learning outcomes.

The impact of the pandemic on education has also been linked to broader social and economic issues. In a study conducted in Nigeria, Adeyemo and Adeyemo (2021) found that the pandemic has led to a rise in food insecurity and homelessness, which has made it difficult for students to focus on their studies. The study also highlights that the pandemic has had a severe impact on students from low-income households, who are struggling to afford basic necessities such as food and housing.

The literature on post-pandemic economic distress highlights the severity of impact of the pandemic on households across the world. The studies discussed in this section show that the pandemic has led to a decline in household incomes, making it difficult for many households to afford basic necessities such as food, education, and healthcare. The studies also highlight that vulnerable groups, such as low-income households, women, and children, have been disproportionately affected by the economic downturn. Overall, the literature emphasises the need for policy interventions to address the economic distress caused by the pandemic and ensure that households have access to basic necessities.

In context of the impact of the COVID-19 pandemic on rural households in India, Sonkar *et al.*, (2022) found that there were a variety of factors that contributed to income loss in rural areas. These factors included socio-economic and demographic factors, such as the type of job, level of education, and location of the household. The study also found that the impact of job loss was higher on migrant labor as compared to non-migrant labor, indicating the vulnerability of this section of the population. Agreeing that the government assistance provided during the pandemic was timely, study calls for its expansion in terms of coverage and outreach ensuring that the benefits reach the most vulnerable sections of the population.

In a study undertaken by Bhattacharya and Roy (2021) on India's social safety response to COVID-19, the authors found that existing government support was more accessible in rural areas as compared to urban areas. The study reports that between May and August 2020, more than 87% of India's poorest households reported receiving at least one benefit, either in the form of food or cash under the Pradhan Mantri GaribKalyan Yojana (PMGKY).

Additionally, nearly 74% of all households received food through Public Distribution System (PDS) allocations, while 40% of households received cash transfers.

The literature on the impact of the COVID-19 pandemic on rural household income in India highlights the need for policy interventions that address the socio-economic and demographic factors that contribute to income loss. The findings of these studies are significant in understanding the impact of the pandemic on rural households in India and can inform policy decisions aimed at mitigating its effects.

The article “Inter-sectionality, Migration and Development” by Tanja Bastia (2014) explores the relationship between inter-sectionality, migration, and development. The author argues that inter-sectionality, which refers to the interconnectedness of social categories such as race, gender, and class, plays a crucial role in shaping the experiences of migrant populations and their access to resources.

Bastia highlights the limitations of traditional development approaches that tend to overlook the complexities of inter-sectionality and how it impacts migrant populations. The author argues that understanding the inter-sectionality of migration is crucial for devising development policies and interventions that are more effective in addressing the needs of migrant populations. The article also emphasises the importance of considering the diverse experiences of migrants, particularly in terms of gender, and how these experiences shape their access to resources and opportunities. The study highlights how gendered power relations often result in women migrants facing greater challenges than men in accessing resources and opportunities.

The objectives of the present study are to

1. Evaluate the extent of income loss experienced by workers during the pandemic.
2. Examine the variations in recovery patterns based on different social groups.
3. Identify factors influencing the income recovery process among similarly skilled workers.
4. Assess the overall impact of social group affiliation on the financial recovery from the pandemic.
5. Provide insights for policymakers to develop targeted interventions for equitable recovery.

Contribution of this study lies in collecting, presenting and analysing data on the coping strategies of workers who work in the informal jobs and in showing that social inequalities tend to reproduce themselves making policy prescriptions to ensure affirmative inclusion of the marginalised groups. As the world becomes increasingly integrated, economic shocks also become all pervasive and each shock works to increase the gap between income groups, calling for policies that are more inclusive in context of post shock recoveries. This paper makes policy suggestions that pave way for such inclusive policies.

### III. METHODOLOGY

The study is based on primary survey of 160 people who had to leave cities and go back to their homeland. We term these people as reverse migrants. The data was collected using a survey form questionnaire that was filled by the surveyor after detailed and lengthy discussion with the respondents who were duly informed about the end use of the survey. Care has been taken to remain unbiased and record the responses with accuracy. Additionally, the survey qualifies the conditions of ethical duty towards the respondents, the names and other personal details have not been recorded or used in the study, and care has been taken to uphold the confidentiality of the respondents.

Data collected is tested for any significant difference in pre and post COVID-19 wages of the respondent using log wage regressions for different income groups. Pairwise t-tests are performed for different categories of workers; women and men, Muslims and non-Muslims and Dalits and non-Dalits, to assess whether change in wages pre and post COVID-19, differs significantly across different worker-groups.

The study collected data on wages from respondents, before and after the onset of COVID-19. Log transformations are applied to wage and income variables to be able to handle skewed distributions and interpret results in percentage changes. Log wage regressions are conducted for different income groups, which involve estimating models where the dependent variable is the log of wages, and independent variables include various demographic and financial indicators.

Pairwise t-tests are employed to compare the mean differences in wages for specific categories of workers. This is done separately for, Women and men workers, Muslim and non-Muslim workers, Dalit and non-Dalit workers. The significance of these tests helps assess whether the change in wages post-COVID-19 is different across various worker groups. A significant result indicates that there is a statistically significant difference in the impact of COVID-19 on wages between the groups being compared.

The findings provide insights into how different demographic groups were affected by the pandemic in terms of wages. For instance, there's a significant difference in the impact on wages between men and women, which suggests gender disparities in the economic consequences of COVID-19. The overall goal is to uncover nuanced differences in the impact of the pandemic on various segments of the workforce.

### IV. DESCRIPTION OF THE SURVEY AND DATA

Study works with migrant workers who had returned starting the first lockdown in the month of March 2019 and were still returning in the months of August and September 2021, when this survey was conducted. These workers had

returned from the metros of Delhi-NCR, Mumbai, Ludhiana and Ahmedabad to their native village in UP. This survey was conducted with help of a locally based surveyor. Households were purposely selected from Nasirabad, which is a village in Raebareli district of Uttar Pradesh. 36% of the respondents were females, 20% of the sample were Muslims and the remaining 80% were Hindus. So far as the caste distribution is concerned 12% of the respondents were

OBCs, 66% were from the scheduled castes and 22% of the respondents were general category respondents. As a part of sample design, all the respondents lie in the working age group.

The following histogram gives the distribution of age of respondents.

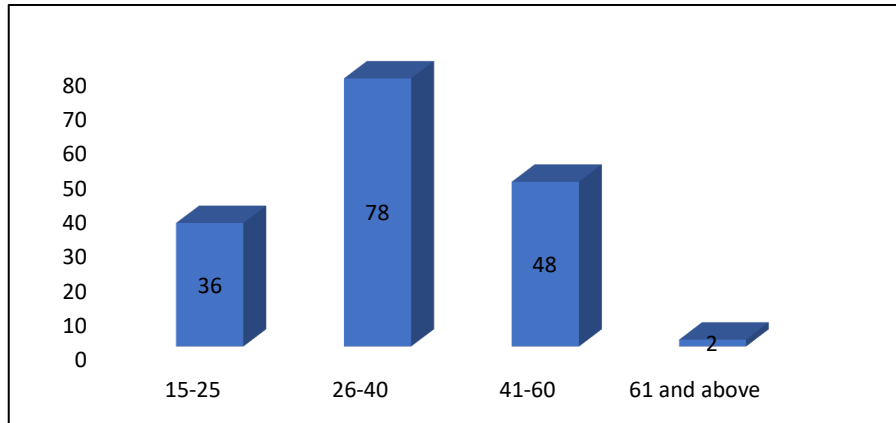


Fig. 1 Age Band of The Respondents

The sample cuts across education levels, 59% of the respondents are in two groups with educational attainment between class 5 and class 12<sup>th</sup>. 29% of respondents have undergraduate level of education but out of this 29% of the sample, 78% are women, who either get low quality private education or get degrees from correspondence courses, either for want of anything better to do, or get enrolled in these courses while waiting for their parents to find suitable matches for them. Further, the entire 3% of post graduate

population is women. However, for reasons mentioned above, these degrees are hardly employable as such degrees fail to endow the candidates with qualifications suitable for the job market. Most of the respondents with such degrees fail to find well paying, organised sector jobs in the cities because despite higher levels of educational attainments the income earning capabilities of such candidates do not improve and they tend to remain unemployed or end up with low-paying, dead-end, informal market jobs.

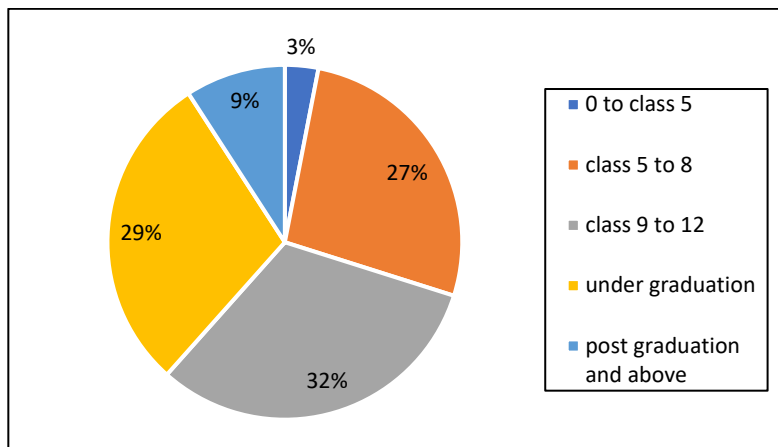


Fig. 2 Education Level of the Respondents

**V. RESULTS FROM PRIMARY ANALYSIS**

Analysis of the data shows that the average wage post reverse migration declined across categories in the sample. Many respondents failed to secure a job for themselves on return to their native village. Men who failed to secure employment during this period turned to self-employment

or small businesses, with petty earnings. Women found it harder to find jobs, while some women were able to get part time jobs like working as house helps but the remuneration was very low. Often being able to work for an hour a day and earning as less as Rs 20 in a day, women saw a significant dip in wages on returning to the native village.

Living with abysmally low family incomes, impossibility of earning themselves and faced with a highly patriarchal society, women who had migrated back to villages found themselves in a multiple bind. Distress sale of assets was reported all across the households; more so, if a family member fell ill. Unable to earn and having used up almost all their savings in the process of returning to villages, out

of pocket medical expenses forced people to sell whatever little assets they had. All this hints at the severity of the economic crisis. The following graph shows how the total family income dipped in the face of reverse migration. The average wage decreased for each subgroup of the respondents, but the decrease was most severe for women, minorities and the respondents from schedule castes.

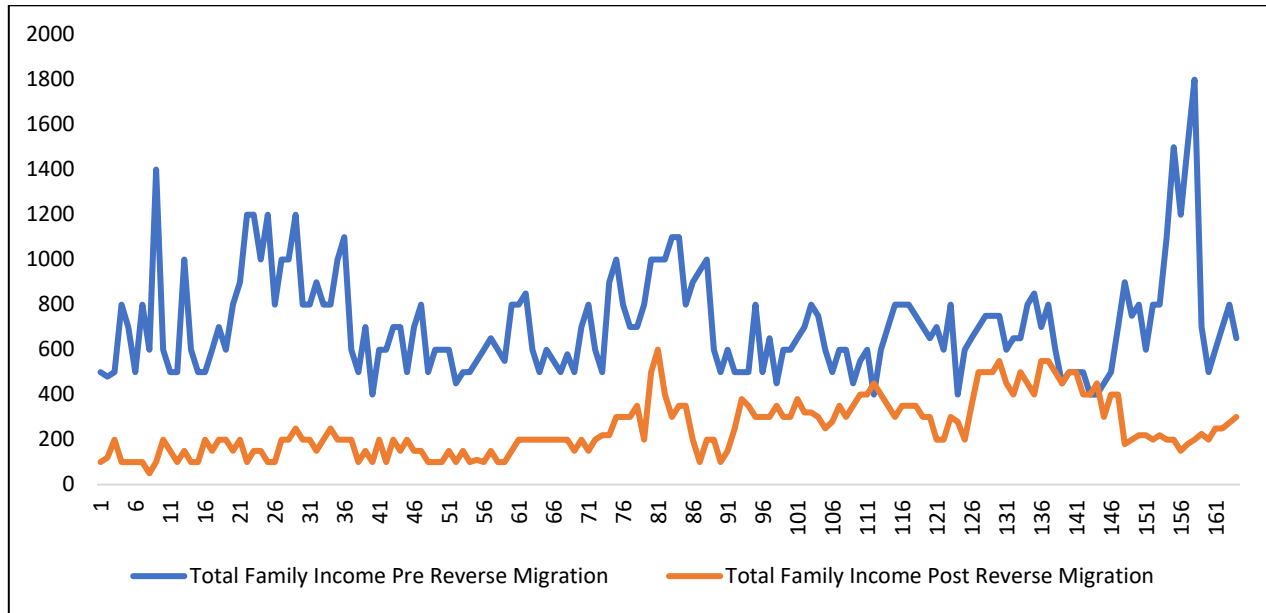


Fig. 3 Changes in Total Family Income

The loss in income was severe in nature, families were displaced, and individuals were forced to look for jobs in the rural agricultural markets that were already overcrowded. Needless to say, jobs were difficult to come by and the payments were abysmal. Data shows that men were in a better position to find jobs as compared to women and we were told by many women respondents that in face of lack of jobs they were advised against looking for jobs by their families and were expected to be satisfied if their husbands could find jobs. As a coping mechanism, women started relying on their children to earn. The fact that pandemic had induced schools to go online did not help either. The children were hardly able to attend classes, the reasons ranged from unavailability of mobiles and laptops to that of books and notebooks not being available.

Internet connectivity remained a big problem and the teachers were not accessible to most of the students. Along with the fact that most of the younger kids were not comfortable with the use of technology kids got pushed out of ‘online’ formal education. The parents, saw children sitting idly at home and faced with shortage of jobs and money started sending them to work. The incidence of child labour suddenly increased and kids were withdrawn from education. We see that number of children not getting any formal education increased from 17% to 31%. Though we see an increase in number of children not getting formal

education, a few qualifications are in place, one is that in the pre COVID-19 times, all 17% of children not going to schools were the children below 5 years of age, while post reverse migration 14% families were forced to withdraw their children from schools.

Daily wage of the respondents fell for the entire sample. However, there are noticeable mentions here, for instance average daily wage for women fell from Rs 372 to Rs 89 while for men it fell from Rs 398 to Rs 192. For the sample of upper caste Hindu respondents, pre COVID daily wage averaged at Rs 410, which fell to Rs 257 on migrating back to village.

This is to be compared with pre and post reverse migration average daily wage earned by the Muslim respondents, that stood at Rs 300 and Rs 146 respectively and the respondents from schedule casts earning Rs 324 and Rs 175 in the two respective periods. It is important to see that the pre COVID-19 wages and the average wages on return to villages is higher for the upper caste Hindu male respondents as compared with all other categories. Not only is the difference in pre COVID-19 wages for different categories significant, the differences in fall in wages are also significant. The women, the minorities and the scheduled casts were more severely hit, and their recovery was harder.

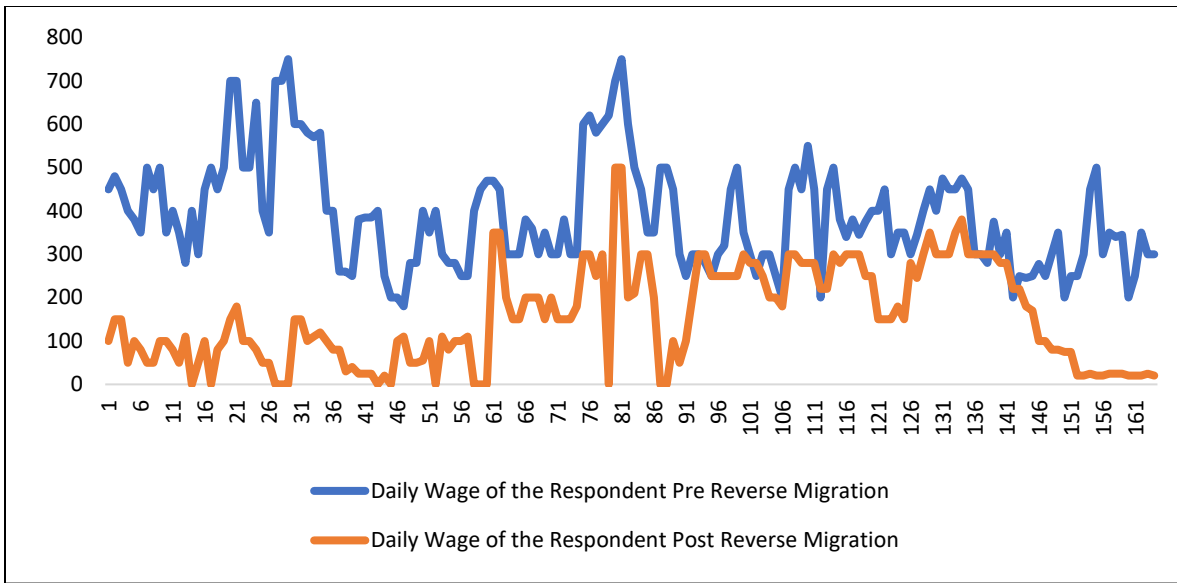


Fig. 4 Changes in Daily Wage of The Respondent

Yet, this remains only the tip of the iceberg, the real problem is depicted by the fact that although in pre COVID-19 times none of these families were engaging in child labour, but as a result of reverse migration 44% of the families had to put their children to work. In context of increasing incidence of child labour, it needs to be mentioned that a multitude of factors played a role, women finding it difficult to earn and family incomes decreasing acted as push factors, the online classes and exams also worked to set up the stage against children but the pulling factor that actually pulled kids out of schools and homes into to the job market became the fact that employers preferred to hire children, especially for unskilled, non-technical, physical labour using jobs because of the low wages that need to be paid to the children.

The exodus that we witnessed and the troubles that it caused, notwithstanding, and to our surprise, on being asked if they intend to go back to the cities 80% of the respondents replied in affirmative. 100% of the women in sample said they would go back to cities whenever they were able to. This huge positive response to our question on the intent of returning to cities that treated the migrants so roughly, should however, be analysed in light of the fact that despite the sudden need to return and the problems on the way, workers on returning back faced scarcities of all sorts and realised that the village economy simply could not host all the migrants if they choose to return all at once.

The women, who were used to living in nuclear families, making their own decisions and with access to money of their own, found it difficult to make adjustments with the heavily patriarchal society in villages. They found themselves deprived of money, decision making abilities and lack of job availability made problems worse. To compound the problems was the fact of children’s education getting spoilt and with it the possibility of a better future. We see a social reproduction of existing inequalities during

the period. It is notable that the pre-existing inequalities deepened when the pandemic struck.

20% of the respondents declared that they do not want to go back to the cities. 83% of these respondents who are unwilling to go back to cities are above 45 years of age and do not see any future on returning back. Besides, these people feel that even after having spent 20 to 25 years of their most productive working lives in cities, the cities failed to offer them food and shelter in times of need and therefore it is not worth going back to cities. 67% of the unwilling to go back respondents were also able to find jobs and payments that they were able to manage with and saw no immediate need to return to cities. We see a social reproduction of existing inequalities during the period. It is notable that the pre-existing inequalities deepened when the pandemic struck.

## VI. MODELING MACRO WAGE DIFFERENTIALS PRE AND POST COVID-19

This section presents a theoretical framework for analysing inter-group macro-wage-differentials between the two categories, marginalised and non-marginalised workers, pre and post COVID-19.

### A. Hypothesis Tested

1. *Null Hypothesis (H0)*: There is no significant difference in the rate of recovery from pandemic-induced income loss among similarly skilled workers, irrespective of their social group.

2. *Alternate Hypothesis (H1)*: The rate of recovery from pandemic-induced income loss differs among similarly skilled workers, indicating a dependency on the social group to which they belong.

*B. Regression Results and Estimated Wage Difference*

This section discusses partial effect of capability and identity attributes on log of reported daily wages (logWage) in a structured least squares linear regression framework, both, pre and post COVID-19. Tables I and II respectively present regression results for daily wage in the sample, pre and post COVID-19, to test the hypothesis of significance of inter-category wage differentials, both pre and post COVID-19. Pairwise t-tests are also performed for different categories of workers; women and men, Muslim and non-Muslim and Dalits and non-Dalits, to assess whether change in wages pre and post COVID-19, differs significantly across different worker-groups.

Considering Table I, we find that age has a positive but insignificant effect on the log of wages (p=0.174300). Educational Attainment (edq) has a positive coefficient but remains insignificant (p=0.355600). Hours Worked (hrswrk) has a positive and significant impact (p=0.003372) on wages, indicating that more number of hours being put in work lead to a higher wage, which can be explained by the sample being drawn from a set of informally employed, low-paid workers, who need to put in longer hours of work in order to earn higher incomes. Gender is found to be negative and significant (p=0.040365), indicating lower wages for females. Similarly, caste remains negative and significant (p=0.003100), suggesting lower wages for Dalits. Being Muslim carries negative but not a significant (p = 0.412322) impact on wages in our sample.

Whereas the intersectional dummies for both Gender\*Caste and Gender\*Muslim are negative and highly significant, indicating lower wages for women belonging to lower castes and Muslim religion.

TABLE I REGRESSION RESULTS FOR DAILY WAGE IN THE PRE COVID-19

Variable	Coefficient	t-Statistic	Prob.
C	-2.221212	-1.212235	0.252102
age	0.072375	0.912280	0.174300
edq	2.547944	1.164418	0.355600
hrswrk	1.122535	2.397741	0.003372
gender	-2.345680	-2.151130	0.040365
caste	-4.458669	-2.122163	0.003100
muslim	-1.233465	-1.342222	0.412322
gender*caste	-2.332452	-3.223402	0.000600
gender*Muslim	-2.333246	-2.971644	0.001100
R-squared	0.621075	F-statistic	10.517790
Log likelihood	-31.493020	Prob(F)	0.000923

Log of daily wage reported by respondent pre Covid  
 Dependent Variable: logWage  
 Method: Structured Least Squares  
 Sample (adjusted): 1.165  
 Included observations: 158 after adjustments.

Where C is the intercept, age is age of respondent, edq, educational attainment in years, hrswrk, hours worked per day, gender the dummy variable for gender of respondent (female 1, male 0), caste the dummy for caste (Dalit 1, non-Dalit 0), Muslim the dummy for whether or not the respondent belongs to the socio-religious category Muslim (Muslim 1, non-Muslim 0), gender\*caste and gender\*Muslim the interaction effects for gender and caste and gender and Muslim, respectively.

Considering Table II, Post-COVID age becomes a positive and significant (p=0.034620) determinant of wages showing that adults earn more than children. Educational Attainment (edq) remains positive but insignificant (p=0.176230). Hours Worked (hrswrk) also show positive but an insignificant relation to wages (p=0.433231). Interestingly, Gender remains negative but turns insignificant (p = 0.670084), not because women get a better deal post covid, but because women fail to get employment during this period. Similarly, caste remains negative but becomes less significant than pre-COVID (p = 0.098660) which is explained by 66% of the sample belonging to the lower caste. While being a Muslim remains negative, it also becomes a significant (p = 0.001074) determinant of wages in the post-covid period. The intersectional dummies for both Gender\*Caste and Gender\*Muslim remain negative and significant.

TABLE II REGRESSION RESULTS FOR DAILY WAGE IN THE POST COVID-19

Variable	Coefficient	t-Statistic	Prob.
C	-2.934242	-3.823642	0.013520
age	1.646626	2.882336	0.034620
edq	0.375543	1.187422	0.176230
hrswrk	2.438866	2.149992	0.433231
gender	-2.323356	-4.543220	0.670084
caste	-2.682242	-2.005872	0.098660
muslim	-1.348762	-2.466702	0.001074
gender*caste	-1.523210	-2.264390	0.001280
gender*Muslim	-2.787420	-3.843240	0.000007
R-squared	0.683426	F-statistic	11.83432
Log likelihood	-51.334252	Prob(F)	0.0000318

Log of daily wage reported by respondent post Covid  
 Dependent Variable: log Wage  
 Method: Structured Least Squares  
 Sample (adjusted): 1.164  
 Included observations: 158 after adjustments.

Where C is the intercept, age is age of respondent, edq, educational attainment in years, hrs wrk, hours worked per day, gender the dummy variable for gender of respondent (female 1, male 0), caste the dummy for caste (Dalit 1, non-Dalit 0), Muslim the dummy for whether or not the respondent belongs to the socio-religious category Muslim (Muslim 1, non-Muslim 0), gender\*caste and gender\*Muslim the interaction effects for gender and caste and gender and Muslim, respectively.

Comparing the two periods we see that the Intercept became more negative and significant post-COVID, suggesting a general decrease in wages. Age became a significant predictor of wages because the pre-COVID sample had no incidence of child labour but the post-COVID sample saw children being sent to work and being paid considerably less than adults. Educational Attainment (edq) remained positive but insignificant in both periods, which has argued in the above section can be attributed to low levels of attributes attainment despite attainment of degrees of higher education. Hours Worked (hrswrk) seems to have lost its significance in the post-COVID regression but that is because opportunity to work were limited and almost everybody was working at less than their potential.

As regards gender, the negative impact on wages remained but became insignificant post-COVID. This can be explained by the fact many women respondents who lost their jobs during COVID were unable to find jobs post migration. Similarly, the negative impact decreased in magnitude and significance post-COVID when looking at caste as the variable, this is because 66% of our sample fell in the lower caste and therefore the impact of caste on wages mirrors the general fall in wages. Being Muslim however turned out to be a significant predictor of lower wages post-COVID. Interaction Terms (Gender\*Caste and Gender\*Muslim) Remained significant in both periods but with changes in their magnitudes, which is in conformity with existing literature, (Gimenez, M., 1931), women indeed comprise the most precarious of the workforce, facing most severe ex-ante and ex-post compression of wages, both in anticipation of and under an actual contraction of work opportunities.

### *C. T-Test Values for Returns to Hours Worked For Various Categories of Workers*

Individual t-values for consistency of inter-category returns to education for different groups of workers, women and Men, Muslim and non-Muslim, Dalit and non-Dalit, Dalit women and non-Dalit women, Muslim women, and non-Muslim women are as follows:

A comparison of Pre and post-COVID wages for the entire sample generates  $t = 3.175460$ ,  $p = 0.05$ , implying average pre and post-COVID wages for the sample differ significantly, and that post-COVID wages are systematically lower than pre-COVID wages. Pre and post-COVID wages for women, compare at  $t = 3.244100$ ,  $p = 0.01$ , while pre and post-COVID wages for men reveals a test value of  $t = 2.984300$ ,  $p = 0.01$ . Pre and post-COVID wages for Dalit women, compare at  $t = 2.431220$ ,  $p = 0.01$ , while pre and post COVID wages for Muslim women reveal a  $t$  value of  $3.6774101$ ,  $p = 0.0$ , implying a significant change in wages for all categories of women, pre and post-COVID.

Women also show a more significant change compared to men, implying they faced more severe loss of wages and jobs. Muslim women tend to have the most significant change, perhaps due to over-concentration of women from

upper caste/landowning sections among Muslims in the sample. As literature confirms, women from upper castes/classes have a greater predisposition to loss of jobs, under a contracting labour market, due to higher than average education attainment levels and stigmatisation of low-paying jobs, as opposed to working class women, who generally tend to exhibit a greater loss of wages compared to the former.

Pre and post-COVID wage differential for men with highest two and lowest two educational attainment levels, reveals  $t = 2.125702$ ,  $p = 0.05$ , while pre and post COVID wage differential for women with highest two and lowest two educational attainment levels,  $t = 3.224260$ ,  $p = 0.05$ , implying women with higher educational attainment have witnessed greater loss of wages, perhaps because of a higher incidence of job loss. One also, sees more pronounced differential for women than men, among higher educational attainment levels.

Pre and post-COVID wages Dalits compare at  $t = 3.112420$ ,  $p = 0.01$ , exhibiting a higher incidence of wage loss compared to the average, while pre and post COVID wages Muslims compare at  $t = 3.640880$ ,  $p = 0.01$ , explained by a higher incidence of job loss, compared to the due to higher percentage of educated respondents from land-owning sections, as opposed to Dalits, for who the median educational attainment level class fifth to eighth.

## **VII. ANALYSIS OF THE RESULTS**

The results suggest that age, despite being insignificant before, becomes a significant determinant of wages post-COVID, reflecting a shift in the workforce dynamics, possibly due to children entering the labor market, indicating that child workers are paid significantly less than adult workers. Educational attainment remains a positive but an insignificant determinant of the wages, indicating that even with higher education, individuals may not experience a significant increase in wages, putting a question mark on the employability of education besides availability of jobs. The positive and significant impact of hours worked on wages in the pre-COVID period aligns with a scenario where informal, low-paid workers need to invest more time to earn higher incomes. However, post-COVID, this relationship becomes insignificant, suggesting limited work opportunities for everyone during that period.

Gender continues to have a negative impact on wages, but the significance diminishes post-COVID. This decrease in significance could be attributed to women losing jobs during the pandemic and facing challenges in re-entering the workforce and most of the women being left out of the workforce. The negative impact of caste on wages decreases post-COVID, reflecting a general decline in wages for the majority of the sample belonging to lower castes. This decline is a combined effect of decrease in wages and a lack of employment for this category of workers which becomes more pronounced in times of scarcity.



Being Muslim is a significant predictor of lower wages post-COVID, indicating a unique challenge faced by this demographic in the aftermath of the pandemic. The intersectional dummies emphasise the vulnerability of women from lower castes and Muslim communities, experiencing a double burden in terms of wage disparities. The overall decrease in the intercept post-COVID suggests a general decline in wages, possibly due to economic challenges during the pandemic.

The socio-economic interpretation revolves around the complex interplay of factors, such as age-related shifts, educational disparities, limited work opportunities, gender-specific challenges, and the differential impact on specific demographic groups, particularly those at the intersection of gender, caste, and religion. The findings underscore the need for targeted policies to address these socio-economic disparities and vulnerabilities in the labor market.

### VIII. CONCLUSION AND POLICY SUGGESTIONS

For the given sample, the study rejects the null hypothesis that there is no significant difference in the rate of recovery from pandemic-induced income loss among similarly skilled workers, irrespective of their social group, in favour of the alternate hypothesis that the rate of recovery from pandemic-induced income loss differs among similarly skilled workers, indicating a dependency on the social group to which they belong. The study indicates a stark disparity in post-COVID recovery. Women, Dalits, and Muslims faced a more significant income loss and slower recovery compared to their counterparts, highlighting the urgent need for targeted support to address these disparities.

Policy reforms could include targeted financial assistance programs, skill development initiatives, and employment support for vulnerable groups. Additionally, implementing anti-discrimination measures and promoting inclusivity in the workforce could contribute to a more equitable recovery. Education and awareness programs may also play a crucial role in ensuring equitable recovery. Ensuring Inclusivity in the workforce is crucial in addressing post-COVID recovery disparities because it ensures that all segments of society, regardless of gender, caste, or religion, have equal opportunities for employment and advancement.

A diverse and inclusive workforce not only promotes social justice but also harnesses a variety of perspectives and skills, fostering innovation and sustainable economic growth. Following policy measures can be adopted to ensure inclusive recovery from shocks:

*1. Targeted Financial Support:* Implement targeted financial support programs for workers in social groups experiencing severe income disparities, ensuring that aid reaches those who need it the most.

*2. Skill Enhancement Initiatives:* Develop and promote skill enhancement programs tailored to the needs of marginalized

social groups, aiming to empower individuals with tools for increased economic resilience.

*3. Inclusive Employment Policies:* Advocate for and implement inclusive employment policies that encourage diversity and equal opportunities within workplaces, reducing disparities in income and career advancement.

*4. Education and Awareness Programs:* Conduct education and awareness programs to address societal biases and promote inclusivity, fostering an environment where individuals from all social groups have equal access to opportunities.

*5. Monitoring and Reporting Mechanisms:* Establish mechanisms for monitoring and reporting income disparities, ensuring transparency and accountability in addressing any emerging gaps.

*6. Collaboration with NGOs and Community Organizations:* Collaborate with non-governmental organizations (NGOs) and community-based organizations to facilitate targeted support and interventions, leveraging their expertise in addressing specific social challenges.

*7. Government-Industry Partnerships:* Encourage partnerships between government bodies and industries to create initiatives that actively promote diversity, equity, and inclusion in the workforce, ultimately contributing to more balanced income recovery.

These recommendations aim to address severe differences in income recovery by combining targeted financial support, skill development, and policy measures to create a more inclusive and equitable economic landscape. By breaking down barriers, inclusivity contributes to a more resilient and equitable recovery for everyone. In absence of affirmative policy measures taken by the state the social and economic inequalities will not only keep reproducing themselves but will also grow with every income shock faced by the society.

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