

Key Influencers of Propensity to Migrate among India's Labor

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The Covid-19 pandemic has adversely affected every household in India. The worst plight has been of 139 million migrant workers, whose daily livelihoods have come under threat. It is essential to understand the basic reasons for migration of the labor force. This paper studies ten different factors, which influence the propensity of this phenomenon. It finds that demographic factors like gender and urbanization have a higher impact than socioeconomic factors like poverty (BPL), involvement in farming and permanence of job contract. Thus, this research will aid policy makers in designing efficient social welfare schemes and decentralization of economic opportunities.

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Introduction & Literature Review

The ongoing Covid-19 pandemic has caused a number of unprecedented crises. While most crises which had occurred earlier affected only one or two fields, Covid-19 has had an adverse effect in different fields – macroeconomics, microeconomics, medical and health, geopolitics, technology, social relations and so on. Moreover, in terms of damages, most of the earlier threats were geographically confined to a city, region, country or continent. However, this pandemic is a more severe threat, since it has had adverse effects across the world. They include not only losses of nearly a million human lives, but also a global economic slowdown. Developed, developing and less developed – all types of nations have had to suffer contraction of growth of Gross Domestic Product (GDP).

Developed countries are in a relatively better position to recover, but developing and less developed countries face a daunting task of getting back on track. Over a quarter of their populations live below poverty line (BPL). Covid-19 has thus impacted the livelihoods of millions of citi-

zens in developing and less developed countries, especially in Asia and Africa. It has led to direct consequences like reduction of income, increase in unemployment and hence, in poverty levels. There are some indirect consequences as well in the form of social evils like increased alcoholism, substance abuse, increased domestic violence, conflict in relationships and disruptions in the law and order system. Worse, from an individual perspective, the pandemic has resulted not only in an increase in health troubles and medical ailments, but also increased incidences of psychological disorders like mental stress, clinical depression and hyper anxiety.

Undeniably, Covid-19 has affected all sections of the population and the poor sections are worst hit. In India, in particular, it has brought into limelight the plight of migrant workers across India. The Central Government's 2011 Census pegged the total number of internal migrants in the country (accounting for inter- and intra-state movement) at 453 million, that is, 37% of the population. Of these, 139 million are casual workers, many of whom live a hand-to-mouth existence. Uttar Pradesh and Bihar were the biggest source states, with Madhya Pradesh, Punjab, Rajasthan, Uttarakhand, Jammu and Kashmir and West Bengal closely following them; the major destination states were Delhi, Maharashtra, Tamil Nadu, Gujarat, Andhra Pradesh and Kerala. To devise policies and provide relief measures for the benefit of migrant workers, the Government must have a realistic account on them and an understanding of their mobility

patterns. An important study is by Lusome and Bhagat (2006), which showcases a longitudinal analysis of data from 4 rounds of Census (1971, 1981, 1991 and 2001). It provides the trends of migration within India and clearly shows the distinction between women and men.

Considering the urgency of the situation of migrant workers and its importance for the Indian economy, we have drawn motivation to study the patterns of migration in India. Our research aims to understand the main factors influencing migration in various ways. United Nations (1993) defines it as a move from one migration defining area to another, usually crossing administrative boundaries made during a given migration interval and involving a change of residence. The change in residence can take place on a permanent, semi-permanent or temporary basis, according to Premi (1990). It is possible in different ways viz. within the same district, to a different district within the same state, to a different state and abroad (to a different country). A person is considered as a migrant if birthplace is different from place of enumeration.

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Several scholars assert the fact that over one third of India's population is enumerated outside their respective

places of birth indicating the importance of migration as a major demographic process in India. de Haan (1999) provides a comprehensive review of literature on this topic. It concludes that development studies have paid insufficient attention to labor migration, and makes a plea to integrate analyses of migration within those of agricultural and rural development. The relationship between migration and development is in focus, indicating that more research is needed to understand this relationship properly, and that perhaps no generalizable finding applies. Mukherji (1985) argues that circulation of Indian wage laborers occurs within, and in turn reinforces, the syndrome of poverty and mobility. Thadani and Todaro (1984) explore social determinants of migration, but other modifications have continued to focus on the economics of the migration decisions. A key development in the literature was by Stark (2006), who laid emphasis on family and family strategies as crucial elements in migration decisions. Various factors determine the decision to move from one place to another – economic, social, cultural and political and the effects of these factors vary over time and place.

Census 2001 classifies the reasons for migration into seven broad groups – work/employment, business, education, marriage, moved at birth, moved with family and others. The data on reasons for migration are useful to understand the motivational factors behind movement of people. A key aspect of work / employment and business is urbanization of livelihood opportunities. Under urbanization as a source of migration, Kundu (2003)

estimates the contribution of net rural-urban migration. In terms of education, migration rates are high among both the highly educated and the least educated, while there is a preponderance of illiterates among seasonal migrants. The relationships between income and migration run deep in the literature. One of the latest papers is Sangita (2017), which sets out to investigate the interlinkages between rural to urban migration in India and income and ownership of assets. It finds that the inverted U hypothesis regarding the relationship between wealth and migration holds, but only to some extent.

Along with the possible reasons and compulsions for migration, we are interested in studying this issue specifically from the perspective of women. Upadhyaya (2015) mentions that in India, migration is strongly gendered, with regional and class differences. Four other papers are noteworthy, which focus on female migration. Fawcett et al (1984) categorizes this phenomenon into three distinct types – autonomous female migration, relay migration and family migration. Shanthi (2006) examines the extent of employment-oriented migration of females in India and the inter-state variations in its magnitude using National Sample Survey Office (NSSO) data. Using Census data, Singh (1998) studies various aspects of this topic, like volume, distance, duration, stream and reasons. It finds that among females and males, marriage and employment respectively are the main reasons for migration. Associational reasons — movement on account of accompanying parents or any

member of family – is the second most important reason among both females and males. Mahapatro (2010) highlights the changes in population mobility in the post-reform era using data from two NSSO rounds. Further, it compares the findings and results from NSSO and Census datasets. Thus, it extends the depth of research by studying two different data sources instead of one.

From the above literature survey, we see that academic studies on migration in India have primarily been through two sources. Their limitation is that with respect to migration, NSSO and Census data are available only till 2008 and 2011 respectively. These data are likely to be obsolete, given the dynamic nature of the Indian economy. No research is available on recent data. India Human Development Survey 2nd round (IHDS-II) is a good source, providing data from 2015. Hence, our study uses this source to find the most important factors which influence migration. Before we proceed, we shall outline the structure of this research. What follows is a description of the data and the analytical framework. Next we report the results of statistical analysis followed by identification of the scope for future research and conclusions of the study.

Data Description & Methodology

The data are from India Human Development Survey (IHDS). This was a joint exercise of researchers from the University of Maryland and the National Council of Applied Economic Research (NCAER), New Delhi. It is a nationally

representative, multi-topic panel survey of 42,152 households in 384 districts, 1,420 villages and 1,042 urban neighborhoods. This study refers to the second round of IHDS, whose time period was 2012 – 2015 and contains a sample of 204,569 across India.

Out of the entire dataset of 204,569 respondents in the IHDS, we shall consider only those from ages 15 to 64. We call them ‘potential earners’. Since our study pertains to economic activities, we must ignore those who are economically inactive. So, our target dataset is 132,524 respondents, of which the number of females is slightly higher than the number of males. Nearly 64% belong to the rural sector and 36% belong to the urban sector. The following table shows this:

Table 1 Share of Rural and Urban Sectors in India’s Overall Population (%)

	Female	Male	Total
Rural	32.7	31.2	63.9
Urban	18.1	18.0	36.1
India	50.8	49.2	100.0

However, when one considers only the migrant and non-resident population (12,094 respondents), the split is as per Table 2.

Table 2 Share of Rural and Urban Sectors in India’s Migrant Population (%)

	Female	Male	Total
Rural	10.1	62.9	73.1
Urban	5.6	18.6	24.2
Unknown	1.1	1.6	2.7
India	16.8	83.2	100.0

Some peculiar characteristics of migration in India are apparent on comparison of the two tables. While the number of females in the age group of 15 to 64 is slightly higher than the number of males, the number of females among migrants is unequivocally lower than the number of males among migrants. Among migrants, the number of men (10,063) is nearly five times the number of women (2,029). In terms of the sector, there is a difference in the characteristics of the overall sample and the migrant sample. The share of the rural sector among all potential earners is about 63%. This share jumps up by nearly 10% among migrants. Consequently, the share of the urban sector among all potential

Table 3 Share of Migrants among Female and Male Populations in Each state (%)

	Share of migrants among all Females	Share of migrants among all Males	Share of migrants among population
Arunachal Pradesh	19.6	25.8	22.4
Chandigarh	14.5	22.7	18.8
Himachal	5.4	32.9	17.9
Nagaland	15.7	18.5	17.1
Bihar	1.7	32.3	16.1
Madhya Pradesh	4.9	25.1	14.9
Uttar Pradesh	2.1	26.7	13.8
Chhattisgarh	4.8	22.3	13.3
Kerala	4.2	23.0	13.0
Uttarakhand	3.4	22.8	12.5
Rajasthan	2.5	20.4	11.3
Karnataka	6.1	15.7	10.8
Sikkim	7.5	12.4	9.7
India	3.0	15.4	9.1
Daman & Diu	5.4	12.2	8.7
Punjab	3.2	14.1	8.7
Mizoram	3.2	12.2	7.5
WB	1.9	12.8	7.4
J&K	2.0	12.2	7.0
Odisha	1.8	12.0	6.8
Andhra	2.8	8.7	5.7
Jharkhand	1.9	9.2	5.5
TN	2.0	8.1	5.0
Gujarat	2.0	6.8	4.4
Tripura	1.9	6.0	4.0
Delhi	3.5	4.4	3.9
Haryana	1.1	5.6	3.4
Maharashtra	1.2	5.1	3.2
Assam	0.5	5.3	3.0
DNH	2.8	1.8	2.3
Pondicherry	1.4	2.8	2.1
Goa	0.0	2.5	1.1
Meghalaya	0.5	1.8	1.1
Manipur	0.6	0.0	0.3

workers drops by nearly 10% when one considers only migrants. Further, in the overall population, there is no dominant segment. The most sizeable segment is of rural women. However, among the set of migrants, there is one dominant segment (rural men). These suggest that both, gender and sector have an influence on migration.

Both gender and sector have an influence on migration.

At an all-India level, nearly one in every ten potential earners moves to another location, be it another town, district, state or country. However, we observe a large skew between females and males. Only 3% of the women in our study are migrants, whereas for men, this number is as high as 16%. The share of migrants within the respective population is higher than the national average in 13 states. In the remaining 20 states / Union Territories, the share of migrants in the respective population is lower than the national average.

The level of development in a state is another factor influencing migration.

Preliminary observation shows that a majority of these 13 states are under-developed i.e. we associate them as economically backward. They include Bihar, Madhya Pradesh, Chhattisgarh, Rajasthan and Uttar Pradesh (collectively known by the acronym BIMARU) and also some relatively undeveloped North-

eastern states (Arunachal Pradesh, Nagaland and Sikkim). This suggests that the level of development in a state is another factor influencing migration.

We compare the migration patterns of women and men. First, we shall look at the types of locations they migrate to. These can have 3 categories – same state, different state and abroad. The following table shows this.

Table 4 Distribution of Migrants by Type of Destination Location (%)

	Female	Male	Total
Same state	75.7	52.2	56.2
Other state	21.2	39.7	36.6
Abroad	2.8	8.0	7.1
India	100.0	100.0	100.0

Among women migrant workers, over three-fourths move to a place within the same state, whereas in the case of men, it is just over one half. The proportion of men relocating to a different state is almost double the proportion of women relocating to a different state. Further, the number of women migrant workers is only 2,029 as against the number of male migrants (10,063). Thus, in absolute terms, for employment only 431 women relocate to a different state as against 3,990 men. It shows the contrast between the two groups.

Next, we look at the main types of occupations of migrants. We classify all occupations into 4 main types – skilled profession (e.g.: technical expert), white collar, blue collar and agricultural labor. Table 5 shows the split of females and males.

Table 5 Distribution of Migrant Population by Type of Profession (%)

Female	Male	Total	
Skilled profession	82.7%	32.7%	41.1%
Blue collar	5.2%	34.5%	29.5%
White collar	5.9%	23.8%	20.8%
Agricultural	4.1%	7.0%	6.5%
India	100.0%	100.0%	100.0%

Men who relocate to a different place are likely to be either highly skilled or almost unskilled.

It is shown that among women, more than four-fifths migrate since they belong to some skilled profession. Among men, we don't have any one dominant occupation type. Instead, the two extreme ends viz. skilled profession and blue collar have nearly equal proportions (one third each) of migrants. This suggests that men who relocate to a different place are likely to be either highly skilled or almost unskilled.

Observations, Statistical Analysis and Results

From the preliminary statistics, we see that gender, sector (i.e. the urbanization), development in the state and type of occupation have an influence on migration. IHDS classifies the extent of urbanization into 4 categories – metro, non-metro town, developed village and less developed village. For the level of development in the state, we create a proxy variable – the gross state domestic product (GSDP) per capita, which is indicative of the average income per person in the state. The expectation is that

the higher the per capita income, the greater the scale of economic activities and hence, the higher the level of development. Our approach is to group the above 33 states into three categories according to GSDP per capita:

- i) Top 10
- ii) After Top 10, but higher than the national average
- iii) Lower than the national average GDP per capita

Beyond these four key predictor variables, we check for the effects of seven variables. The first is whether the person belongs to a Below Poverty Line (BPL) household. For the definition of BPL, we refer to the guidelines of the Tendulkar committee. The second is involvement in farm work. The third is the nature of job / contract (the extent to which it is permanent). Next is whether the person worked for at least 25 days in National Rural Employment Guarantee Act (NREGA) activities. 9,953 respondents have an NREGA card, which entitles them to 100 days of employment in a year. Practically, very few persons actually work for 100 days under NREGA activities. Hence, we choose a cut-off of 25 days, with the logic that 25 days of work is equivalent to a full calendar month of employment, which is an incentive to stay in the same location. The fifth variable is the medium or channel through which a person can migrate. Related to this is the sixth variable employer type. Finally we evaluate household size, which is the number of members in the household. We treat this as a continuous

variable. The names, types and description of all variables are in Appendix I.

The dependent variable (y) is called ‘migration’, indicating whether or not a person is a migrant. Since this is a binary variable, the analytical tool of preference

is discrete regression and in particular, Probit analysis. This is similar to the approach of Inamdar (2019). First, we take each variable individually and evaluate the effect on the response variable (y). Table 6 captures the summary of this first-level analysis.

Table 6 Results of Probit Analysis Using Each Predictor Variable Individually

Num	Variable	Likelihood Ratio χ^2	Degree(s) of freedom	Significance level
1	Gender	2,325.8	2	0.00
2	Urbanization	1,288.8	4	0.00
3	Level of development (GSDP per capita)	498.6	3	0.00
4	Type of occupation	30,201.0	4	0.00
5	Below poverty line (BPL)	563.0	1	0.00
6	Involvement in farm work	7.4	2	0.03
7	Nature of job / contract	2,908.2	4	0.00
8	Minimum 25 days NREGA	10.7	1	0.00
9	Channel / medium of migration	28,112.0	3	0.00
10	Employer type	2,725.2	5	0.00
11	Household size	1.83	1	0.18

Except for household size, all factors are statistically significant on an individual basis. So, we omit the continuous variable and build a Probit model combining the remaining variables and note the effect, when they act together. When all variables are together in the model, we see that all are insignificant, suggesting that there is interdependence among them. As a result, some of these are redundant. The solution is to simplify the model by removing one variable at a time and testing the effect. We try out different combinations.

First, we remove ‘type of employer’. The result, as before, is that all variable categories are insignificant. Next, we remove ‘source / channel of migration’.

Even then, the result is the same. Then, we exclude ‘type of occupation’ and perform a combined Probit analysis. Thus, we consider only the following 7 variables: gender, gsdp per capita, bpl, minimum 25 days nrega, involvement in farm work, urbanization level and nature of employment / contract. Table 7 captures the summary of this exercise.

Only those values which are significant at the level of $\alpha = 0.05$ are highlighted. From the above results, one can confirm what one saw earlier viz. household size is not significant. Further, among the seven possible factors under consideration, all categories of ‘gsdp per capita’ and both categories of ‘min 25 nrega’ are statistically insignificant. These imply that

Table 7 Results of Probit Analysis Using a Combination of Predictor Variables

Parameter	B	Std. Error	t-stat	Significance
(Intercept	-1.70	0.50	-3.40	0.00
gender=female	-0.70	0.05	-14.67	0.00
gender=male	0 ^a	ref	ref	Ref
Gsdp per capita=above national avg.	0.09	0.08	1.04	0.30
Gsdp per capita=below national avg.	0.12	0.08	1.57	0.12
Gsdp per capita=z top 10	0 ^a	ref	ref	Ref
Bpl check=bpl	0.30	0.04	7.15	0.00
Bpl check=non-poor	0 ^a	ref	ref	Ref
Min25nrega=no	0.06	0.04	1.28	0.21
Min25nrega=yes	0 ^a	ref	ref	Ref
FM36Yfarmwork=irregular	0.25	0.10	2.59	0.01
FM36Yfarmwork=regular farm work	0.13	0.09	1.40	0.16
[FM36Yfarmwork=no	0 ^a	ref	ref	Ref
Urbanization level=w undeveloped village	-0.50	0.44	-1.15	0.25
Urbanization level =x developed village]	-0.52	0.44	-1.18	0.24
Urbanization level =y non-metro town	-1.68	0.57	-2.93	0.00
Urbanization level =z tier 1 metro	0 ^a	ref	ref	Ref
H h size	-0.01	0.01	-1.15	0.25
WS13permanent=<1yr contract	0.69	0.29	2.41	0.02
WS13permanent=casual daily wage	0.62	0.22	2.79	0.01
WS13permanent=casual per piece	0.32	0.24	1.29	0.20
WS13permanent=z permanent / regular	0 ^a	ref	ref	Ref

Not: 'a' indicates that it is reference category and hence the coefficient is 0

both these factors are insignificant and we should exclude them from the consolidated model.

The Probit model contains one reference value of each categorical variable. For each variable, it estimates the increase or decrease in the probability of the occurrence of the expected response due to a particular value against the reference value. Appendix 2 shows the reference categories of each variable. The general model depiction is as follows:

$$P(LFP = 1 | X_1, X_2, X_3, \dots, X_n) = \Phi(b_0 + b_1 \cdot X_1 + b_2 \cdot X_2 + \dots + b_n \cdot X_n)$$

where $X_1, X_2, X_3, \dots, X_n$ are the predictor variables under consideration,

Φ is the cumulative density function of the normal distribution.

Since the R-squared statistic is not directly available in a non-linear model like Logistic Regression or Probit, we resort to a Pseudo R² statistic to test the validity. The 3 common forms of this are McFadden, Cox & Snell and Nagelkerke.

$$R^2(\text{McF}) = 1 - (\text{Ln}L_1 / \text{Ln}L_0)$$

$$R^2(\text{CS}) = 1 - (L_0 / L_1)^{2/n}$$

$$R^2(\text{Ngl}) = \frac{R^2(\text{CS})}{1 - (L_0)^{2/n}} = \frac{R^2(\text{CS})}{1 - e^{((2/n)(\text{Ln}L_0))}}$$

where $R^2(\text{McF})$ is the Pseudo R² as per McFadden,

R^2 (CS) is the Pseudo R^2 as per Cox & Snell,	work – 1.68 non-metro town + 0.69 less than 1-year contract + 0.62 casual daily wage)
R^2 (Ngl) is the Pseudo R^2 as per Nagelkerke,	
n is the sample size	where Φ is the cumulative density function of the normal distribution.
L_0 is the likelihood of the intercept-only model,	
L_1 is the likelihood of our test model	Here, the intercept represents a non-poor male, in a Tier 1 Metro, not involved in farming work, but spending at least 25 days in NREGA. Such an individual has a permanent employment / contract and belongs to a state which ranks in the top 10 in the country in terms of GSDP per capita. Now, we test the validity of the model through Pseudo R^2 , the results of which are as in Table 8.
and $\ln$ is the natural logarithm function	
The predicted probability P of migration is as follows:	
$P(\text{migration} = 1) = \Phi(-1.70 - 0.70 \text{ female} + 0.30 \text{ bpl} + 0.25 \text{ irregular farm})$	

Table 8 Pseudo R^2 values using different methods (combination of variables)

N	LL_0	LL_1	McFadden	Cox & Snell	Nagelkerke
9,953	-840.11	-3,676.26	0.77	0.43	0.52

Generally, researchers consider any Pseudo R^2 value of 0.36 and above as acceptable. Here, we find that Pseudo R^2 values by Cox & Snell as well as Nagelkerke methods are good. Moreover, the value by McFadden method is excellent suggesting that this model is a good fit. While analyzing the Average Marginal Effect (AME), one finds that the Estimated Grand Mean value is 0.02, with a standard error of 0.008. The t-statistic comes to 2.5, the level of significance of which is 0.00. This implies sufficient confidence in the model.

Conclusions, Limitations & Future Scope

A number of important and well-compiled scholars, such as Chakravarty

(1997), Nair and Narain (1985), Srivastava (2011) and Premi (2016), have studied migration in India. They have relied on NSSO or Census data, which date many years back. What makes our study different from previous studies is that it is the first to explore the India Human Development Survey (IHDS) dataset. We use the platform of the previous literature to identify seven factors, which could influence migration in India. These factors are gender, extent of urbanization, ranking of the state in terms of GSDP per capita, whether the respondent belongs to a Below Poverty Line (BPL) household, involvement in farming work, nature of employment / contract and whether the respondent worked in

an NREGA scheme for at least 25 days, which is equivalent to one month.

Persons who live below poverty line (BPL) are more likely to migrate.

None of the remaining three factors is significant – specialization of occupation, type of employer, and channel or source through which the respondent migrated. Even household size is not significant, which implies that having a larger family does not necessarily increase the likelihood of migration. We find that in each of the significant variables, only one category of that variable has a pronounced effect. From an income perspective, persons who live below poverty line (BPL) are more likely to migrate. Those who are not occupied regularly in farming work are more likely to migrate than those who have regular farming work. The duration of employment / contract also plays a role. If the duration is less than a year, it increases the probability of migration. Similarly, workers who are on casual daily wage have a higher chance of becoming migrants. Among labor force participants and potential earners, women have a much lower tendency to be migrant workers than men. The level of urbanization has an interesting effect, since it is not linear. When compared to residents of Metro cities, those in Non-metro towns

Women have a much lower tendency to be migrant workers than men.

are much less likely to be migrants. But, when the level of urbanization is lower, the probability of the response variable does not decrease further. As per these data, belonging to the rural sector reduces the chance of migration as opposed to belonging to a Metro city. However, this effect is not statistically significant.

In summary, we can classify the factors influencing migration into two groups – economic and demographic. Measured in terms of the value of the coefficient of change in probability, the highest impact factor is coming from a non-Metro town and then, being female. Economic factors have relatively lower impact than demographic factors. We recognize that our study has three limitations. Firstly, our data are from the period 2012 – 2015. Given the rapidly changing socioeconomic and demographic nature of India, one cannot comment with confidence on the validity of our conclusions. Secondly, the study refers to the IHDS dataset, which does not explicitly record the reason for migration. Hence, we are unable to distinguish between voluntary migration and distress / forced migration. NSSO carries this information explicitly in the 64th round (2007 – 2008), although it is outdated. Thirdly, due to lack of female-specific data, this research combines female and male populations together. Existing literature suggests that the causes and hence the patterns of migration are different for the two genders.

The above limitations provide scope for future research in three directions. One, we would like to analyze data of

2020 and onwards, in the post-Covid scenario, given that the pandemic has caused disruptions in the socioeconomic as well as demographic spheres. Two, we would like to carry out a cross-validation exercise by conducting a similar study with NSSO data and comparing the results with IHDS. Three, there is scope to segregate between female migration and male migration and examine the former in detail. Out of all migrant population in India, almost 70% are females. However, in stark contrast, out of migrant workers / laborers, only 16% are female. Hence, we argue for the need for a focused study on women's migration, using current data.

Covid-19 has impacted all households across India, in some manner, particularly the families of 139 million migrant workers. Statistical analysis of migration information will help to understand the causes and thus, help to estimate the consequences of this phenomenon. The implications on development are that governments and administrative authorities can prepare better to reduce the impact of migration. They can design more efficient policies, which will lead to better medical infrastructure, social welfare schemes and decentralization of economic opportunities.

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Appendix 1 Names, Descriptions and Possible Values of Variables

Num	Variable	Type	Description	Possible values
1	Gender	Categorical	Gender	• Female, • Male
2	Urbanisation	Ordered	Extent of urbanisation of the home location	• Less developed village, • Developed village, • Non-metro town • Metro
3	Level of development (GSDP per capita)	Ordered	Comparison of state in terms of GSDP per capita with respect to National GDP per capita	• Top 10 state, • After top 10, but higher than National average, • After top 10 and lower than National average
4	Type of occupation	Categorical	Degree of expertise / specialisation in the occupation	• Skilled profession, • White collar, • Blue collar, • Agricultural
5	Below poverty line (BPL)	Binary	Whether the respondent is BPL	• Non-poor, • BPL
6	Involvement in farm work	Categorical	Whether engaged in some farming work	• No, • Irregular • Regular
7	Nature of job / contract	Categorical	Measure of permanence of job in terms of duration	• < 1 year contract, • Casual daily wage, • Casual per piece wage, • Regular / permanent
8	Minimum 25 days NREGA	Binary	Whether the respondent worked in NREGA activities for at least 25 days	• No, • Yes
9	Channel / medium of migration	Categorical	Channel / medium which indicates the circumstance of migration	• Through contractor, • With a job or self-employment, • Without a job
10	Employer type	Categorical	Classification of employer with respect to ownership	• MGNREGA • Private firm • Private individual • Other • Govt. / PSU
11	Household size	Continuous	Number of members in the household	• 1, 2, 3, ...(Natural numbers)

Appendix 2 Reference Categories of Significant Variables in the Model

Num	Variable	Type	Reference value
1	Gender	Categorical	Male
2	Urbanization	Ordered	Tier 1 Metro
3	Level of development (GSDP per capita)	Ordered	Top 10 state as per GSDP per capita
4	Below poverty line (BPL)	Binary	Non-poor
5	Involvement in farm work	Categorical	No farming work
6	Nature of job / contract	Categorical	Permanent employment / contract
7	Minimum 25 days NREGA	Binary	Minimum 25 days in NREGA