Inter- state Migration in India

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Abstract

Migration has been historical process happening for various reasons. Various studies have shown the benefits of migration across the countries and states. But in the recent times esp. during COVID-19, the vulnerable situation of inter-state migrants in India got exposed and raised the question of need of migration to such distant places. In view of the above, this study has been focussed on inter-state migration analysis in India. The study has tried to explain the migration across the states through various push and pull factors. We have used regression to estimate in and out-migration in states with the help of various social and economic variables. The results of the analysis shows that the various socio-economic factors significantly influences the inter-state migration in India.

Introduction

Migration is the geographic movement of people across a specified boundary various reasons especially social, economic, political reasons. Along with fertility and mortality, migration is a component of the population change. The term "in migration" and "out migration" are used for migration within a country and are comparable to the terms "immigration" and "emigration" used in international migration. There are various pull and push factors affecting the migration across the world. Most of the theories have shown the importance of pull factors of migration but in case of India it has been seen that the push factor is more significant. People are still migrating for survival in India and this was witnessed clearly in recent years affected by pandemic.

Recent events like COVID-19 induced lockdown led to raise certain question on the issue of migration majorly focussed on consequences. But these recent events cannot solely determine the overall impact of migration. Various studies have shown the benefits of migration for both host and home country and increasing income for migrant population.

The history of migration is the history of people's struggle to survive and to prosper, to escape insecurity and poverty, and to move in response to opportunity. The economist J.K. Galbraith describes migration as "the oldest action against poverty". Migration happens more due to regional disparity in development. People move from backward underdevelopment regions to developed and prosperous areas in order to improve in their living conditions. This is found to be true both in international as well as in internal migration. In the developing countries in general and India in particular the inter-state migration should be viewed in the above context of regional disparity and inequality in development.

The migration is seen, not so much as a natural outcome of development, but more as a result distortion in the development process deriving from inappropriate or ineffective planning"(U.N,ESCAP,1991,Pp 1-12). Migration and regional disparities are strongly interlinked. Lee's theory (1965) of volume of migration states that the "volume of migration within a given territory varies with the degree of diversity of areas included in that territory". Economic Criteria is the basic motive behind most of the migration.

The study (Mukheji, DPFW-93) on "Inter-state migration and regional disparities in India" showed that even at that time the major reason for migration in India is job/employment opportunities. The regional variations in the

opportunities were the driving force for migration between the states. The rural urban development mismatch also played important role in migration pattern.

A study on intra-state migration and service sector contribution (Mitra, 2020) has shown the contribution of service sector in generating employment opportunities for migrant population. The share of service sector in the study significantly influences the intra-state migration unlike industrial sector's coefficient.

Most of the literature has focussed upon underdevelopment and out-migration's positive relationship various studies have also shown that even the prosperity can lead to out-migration. The better social and economic condition of a community can encourage the young population to move for livelihood opportunities.

Trends of Migration in India

According to 2011 census, about 21 crore persons migrated in the preceding decade within India. This migration was predominantly intra-state. The share of intra-state migration was about 88% and the share of inter-state migration was about 12%. Females are major migrant population intra-state migration and the males are major migrant population in inter-state migration. The summary of intra and inter-state migration is shown in table 1.

Table 1:

	Persons	**Male**	**Female**
Intra-State	18,66,97,174	7,17,60,396	11,49,36,778
	(88%)	(85%)	(89%)
Inter-state	2,60,69,340	1,23,61,366	1,37,07,974
	(12%)	(15%)	(11%)

Note: The figure in parenthesis shows the percentage of total migration within India.

The major source of out-migration at intra and inter-state level is rural population with 68% share. At inter-state level this share is about 58%. In the case of intra-state migration, rural area accounts for 59% of in-migrant population. But at

inter-state level, the urban area accounts for 72% of in-migrant population in country. (Table 2)

Table 2:

	TO					
	Intra- State			**Inter-State**		
		Rural	Urban		Rural	Urban
	Rural	50%	18%	Rural	21%	37%
From						
	Urban	9%	23%	Urban	7%	35%

Though the intra-state migration is major proportion of migration in India but the major reason for this has been marriage. Marriage accounts for about 33% of intra-state migrant population which is 51% for female intra-state migrant. But in case of inter-state migration the work/employment is one of the biggest factor with 25% share. The 45% of inter-state male migrants have stated work/employment as the reason for migration. (Table 3 and 4)

Table 3: Reasons for Intra- State Migration

	Persons	**Males**	**Females**
Work/employment	7%	15%	2%
Business	1%	1%	0%
Education	2%	3%	2%
Marriage	33%	2%	51%
Moved after birth	9%	12%	7%
Moved with household	15%	17%	13%
Others	34%	50%	25%

Table 4: Reasons for Inter- State Migration

	Persons	**Males**	**Females**
Work/employment	25%	46%	6%
Business	1%	2%	1%
Education	2%	3%	1%
Marriage	23%	1%	42%
Moved after birth	5%	6%	4%
Moved with household	28%	23%	32%
Others	16%	19%	14%

Data and Source

This study is based 2011 census data for migration within state and across states in India during last ten years. The migration data is estimated using current and last place of residence. The last place of residence for migration data has its own limitations. The duration of migrant has no significance in considering migrant if it is within last ten year. The person migrating nine years back and nine days back gets same treatment. Various social and economic variables used in study are:

1) Net State Domestic Product (NSDP) per capita
2) population density
3) irrigation ratio obtained by dividing gross irrigated area by gross cropped area
4) bank branches (RRB+SCB) by population
5) industrial wage rate obtained by dividing gross emoluments by total number of man-days
6) share of primary sector in GSVA
7) share of secondary sector in GSVA
8) share of tertiary sector in GSVA
9) share of higher education (literates over matric/secondary level) in total literates
10) social expenditure per capita
11) rural poverty rate
12) road length by area.

The source for data are shown in below table.

Table 5:

Data	**Source**
Decadal Migration, Population, Literacy, Area	Census of India, 2011
NSDP Per Capita	National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India
Gross Emoluments, Total man-days	Annual Survey of Industries (ASI), Ministry of Statistics and Programme Implementation, Government of India
Road Length	Ministry of Road Transport and Highways, Government of India
Irrigation Ratio	Ministry of Agriculture and Farmers Welfare, Government of India
Number of Bank Branches, Social Expenditure	Reserve Bank of India

The study has tried to explain migration rate through separate estimation for in-migration rate and out-migration rate using various independent socio-economic variables. In-migration rate may be defined as the number of migrants enumerated in the state, who have come from other states of the same country, per enumerated population of the state of destination. Similarly out-migration rate may be defined as the number of migrants moving out to other state per enumerated population of the origin state.

The in-migration and out-migration rates are:

$$\text{In-migration rate} = \frac{\text{Volume of in-migration to the state}}{\text{Enumerated population of the destination state}}$$

$$\text{Out-migration rate} = \frac{\text{Volume of out-migration from state}}{\text{Enumerated population of the origin state}}$$

The following table summarizes the derived variables used in the study:

Table 6:

Variable	Calculation
In migration rate	$\frac{decadal\ in-migration\ from\ other\ states}{population}$
out migration rate	$\frac{decadal\ out-migration\ to\ other\ states}{population}$
Higher Education Share	$\frac{Number\ of\ Literates > matric\ or\ secondary}{Total\ Literates}$
Bank Branches by Population	$\frac{Number\ of\ (RRB + SCB) branches}{population}$
Road length by area	$\frac{Length\ of\ roads\ in\ state\ in\ 2011-12}{area\ of\ state}$
Irrigation Ratio	$\frac{Gross\ Irrigated\ area}{Gross\ cropped\ area}$

Methodology

This study has used ordinary least square (OLS) method of regression to estimate the effects of various socio-economic variables on in-migration and out-migration rates. The regression estimates are based on cross sectional data available for all the states and union territories. The cross-sectional data may pose the problem of heteroscedasticity which may affect the results. Therefore robust standard errors have been used to take care of the problem. The in-migration rate and the out-migration rate have been estimated using separate equations.

The two equations used for regression estimates are:

$$In - migration\ rate = \alpha + \sum \beta_i X_i \qquad \text{-----(1)}$$

$$out - migration\ rate = \alpha + \sum \beta_i X_i \qquad \text{-----(2)}$$

where X_i's are independent variables and β_i's are coefficients estimated and α is constant.

Empirical Findings

In-migration rate:

The OLS estimates for in-migration rates are summarized in table 3.

Table 7:

Dependent Variable - In migration rate	
log(NSDP per capita)	0.0199* (1.72)
log (wage)	0.0271* (1.84)
Share of Tertiary sector	0.173** (2.29)
Bank Braches By Population	0.436** (3.09)
Share of Secondary sector	-0.0214 (-0.17)
_cons	-0.464** (-4.64)
N R^2 adj. R^2	28 0.811 0.769
t statistics in parentheses * p < .1, ** p < 0.05	

The coefficients of NSDP per capita, industrial wage rate, share of tertiary sector in GSVA and bank branches by population are significant at 10% significance level. Though the coefficient of share of secondary sector in GSVA is not significant influencing in-migration in a state.

NSDP per capita: The coefficient of log of NSDP per capita is positive which shows that the higher the NSDP per capita of a state, higher will be the in-migration to the state. This is expected result as per various economic theories. People migrate for better income.

Industrial wage rate: The coefficient for industrial wage rate is positive. This shows that higher the wage rate in industries in state higher will be in-migration from other state. The industrial sector coefficient is not significant but the wage in the sector has contributed significantly to migration pattern in India.

Share of tertiary sector in GSVA: The coefficient for share of tertiary sector in GSVA is also positive. This shows that the service sector is able to generate employment and other livelihood opportunities for people within state and people from other states.

Bank branches by population: The positive and significant coefficient for bank branches by population show the contribution of financial market in migration. The developed financial market in a state encourages various economic opportunities in the state which attracts the migrants from other states.

Out-migration rate

The OLS estimates for out-migration rates are summarized in table 8.

Table 8:

	Dependent Variable - Out Migration Rate
log(NSDP per capita)	**-0.0350**** **(-2.63)**
Share of Tertiary sector	**-0.0905*** **(-1.79)**
Higher Education share	**0.192*** **(2.00)**
log (wage)	**0.00944 (1.42)**
Road length by area	**0.00000260**** **(2.38)**
log (Social Expenditure per capita)	**0.0498**** **(2.83)**
Rural Poverty	**0.000797 (1.46)**
Irrigation Ratio	**0.0582**** **(2.79)**
_cons	**-0.122 (-0.97)**
N	**26**
R^2 **adj. R^2**	**0.731 0.605**
t statistics in parentheses *** p < .1, ** p < 0.05**	

The coefficients of NSDP per capita, share of tertiary sector in GSVA, road length by area, share of higher education in literates, social expenditure by population, irrigation ratio are significant at 10% significance level.

NSDP per capita: The coefficient of NSDP per capita is negative and significant.it is along the expected lines that the higher income state will face lower out-migration from them.

Share of tertiary sector in GSVA: The coefficient for share of tertiary sector in GSVA is negative and significant at 10% significance level. This shows that the higher share of service sector has been able to generate enough livelihood opportunities for the population that the out migration from the state can be reduced significantly.

Road length by area: The positive and significant coefficient of road length by area may be surprising given the fact that the higher road length by area shows the developmental status for a state. But the coefficient may have been positive because of other effects of infrastructure development in the state. The increased road length by area increases the transportation accessibility for the population. This may have increased the out migration from distant places.

Share of higher education in literates: The coefficient of share of higher education in literates is also positive and significant. This may be due to the reason that the higher education has been able to upskill the labour force in a state which may have made them desirable for employers across the country.

Social expenditure by population: The coefficient of social expenditure by population is positive and significant. The higher social expenditure in the state can increase the welfare of the population especially the dependent population. The increased welfare of dependent population can release the young labour force to work outside states and can contribute to out-migration from the state.

Irrigation ratio: The positive and significant coefficient of irrigation ratio in out-migration rate estimation can be explained by higher income opportunity

from agriculture sector. The higher irrigation ratio can improve the productivity of agriculture and thus increasing the income from it. The increased income from agriculture can generate enough resources for families to invest in education, health etc. for young generation which can be better employable across the country.

Conclusion

This study has tried to explain the various pull and push factors which influences the inter-state migration in India. The results from the study shows the effect of various social and economic variables which significantly influences the inter-state migration in India. Most of the variables like NSDP per capita, share of tertiary sector, wage rates etc. have shown the coefficients as per expectations. But the coefficients of certain variables like higher education, social expenditure, irrigation ratio, road length by area, irrigation ratio have shown that the higher growth and development can also influence the out migration from a state.

The important result of this study is that the growth even led by service sector can create livelihood opportunity for population across the country. This has bearing for policy making as the important contribution of economic growth cannot be neglected at any cost. The main focus of policy making should be on achieving higher economic growth even if it is dominated by service sector in short run.

The importance of social variables like higher education, welfare policies, health etc. cannot be neglected in the process of economic growth. The study has shown that the social development has significant influence on upskilling of labour force in country. The importance of better skilled labour can also be realized in the study which shows the demand for high educated population across the country.

The vulnerable situation of inter-state migrants in India during COVID-19 got exposed, which has encouraged many thinkers and influencers to challenge inter-state migrants. But the overall great benefits of migration cannot be ignored. Therefore this is important for authorities to overcome these problems

of migration through proactive policies which can be based upon expected nature of migration based upon the social and economic development differences.

Appendix 1: Migration Rates

State	In migration rate	Out migration rate
Andhra Pradesh	0.010	0.013
Arunachal Pradesh	0.053	0.018
Assam	0.006	0.011
Bihar	0.004	0.036
Chhattisgarh	0.021	0.014
Goa	0.111	0.035
Gujarat	0.037	0.011
Haryana	0.073	0.036
Himachal Pradesh	0.034	0.035
Jammu & Kashmir	0.008	0.017
Jharkhand	0.025	0.025
Karnataka	0.031	0.020
Kerala	0.011	0.020
Madhya Pradesh	0.016	0.020
Maharashtra	0.038	0.014
Manipur	0.003	0.019
Meghalaya	0.018	0.012
Mizoram	0.021	0.010
Nagaland	0.029	0.014
NCT of Delhi	0.152	0.056
Odisha	0.009	0.017
Punjab	0.047	0.023
Rajasthan	0.017	0.025
Sikkim	0.059	0.020
Tamil Nadu	0.013	0.013
Tripura	0.013	0.010
Uttar Pradesh	0.010	0.029
Uttarakhand	0.064	0.044
West Bengal	0.010	0.013

Appendix 2: Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Log NSDP per capita	1.000												
(2) Population_Density	0.394	1.000											
(3) Irrigation_ratio	0.179	0.382	1.000										
(4) Bank_braches_p~n	0.740	0.185	0.109	1.000									
(5) log_wage	0.390	0.228	0.150	0.439	1.000								
(6) primary	-0.561	-0.530	-0.197	-0.397	-0.318	1.000							
(7) secondary	0.414	-0.260	0.026	0.571	0.586	-0.350	1.000						
(8) tertiary	0.057	0.669	0.133	-0.222	-0.299	-0.468	-0.664	1.000					
(9) Higher_Education	0.797	0.486	0.212	0.695	0.295	-0.767	0.307	0.323	1.000				
(10) log_soc_exp	0.760	0.168	-0.102	0.630	0.026	-0.532	0.406	0.042	0.633	1.000			
(11) rural_poverty	-0.699	-0.140	-0.286	-0.651	-0.082	0.326	-0.323	0.044	-0.505	-0.580	1.000		
(12) urban_poverty	-0.763	-0.090	-0.092	-0.625	-0.255	0.318	-0.440	0.161	-0.507	-0.603	0.880	1.000	
(13) road_area	0.460	0.966	0.277	0.257	0.145	-0.522	-0.276	0.677	0.574	0.246	-0.196	-0.171	1.000

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