Analytics of Inter-State Migration; A Cross Section Study from 2011 Census

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Abstract: *Economists consider migration as an economic phenomenon. Regional disparity and uneven development cause demand-supply mismatch of labour in the economies. This helps labour migration from the source areas to the destinations through the push-pull factors. Labour is not a homogeneous unit; it differs in quality. Hence the same economy may experience both the in and out migration. In this paper interstate migration of states and union territories of India is studied using the data of 2011 census. Here an attempt is made to examine the inter-linkage of GSDP and PCGSDP of states with volume, percentages and the ratio of in and out migration. The study finds that migrants contributes to the GSDP generation on the one hand, they are also attracted by the prosperity of the economy reflected through the GSDP. The study suggests for the adoption of migrant labour facilitation policies by the states.*

Keywords: Interstate migration, Male in-migration, Male out-migration, ratio of in and out migration, Economy-migration linkage.

Introduction

Mobility is considered to be a sign of progress. Moveable resources – human and capital have a tendency to move from the place of low yield to the place of high yield to increase their income. Both the source as well as the destination economies gains from such movement; the former gets the remittance and the latter finds adequate resources for its production. However, movements also have a couple of barriers; some are natural and some are artificial. Distance, lack of transport communication facilities, cultural differences, and restrictive policies are some of such examples. Economists consider migration as an economic phenomenon; growing industrialisation pulls surplus labourers from agriculture, many of whom are disguisedly employed there causing low profit to the employer and low wage income to the fellow workers (Lewis, 1954; Renis & Fei,1961). The above argument assumes unilateral labour migration from the rural to urban areas and from the poor states to the rich states. But in reality unskilled labourers move from the poor underdeveloped areas to the advanced states to do the manual work and skilled labourers from the advanced states migrate to the poor states to avoid unemployment by staying in their own areas. Thus each state is experiencing a large number of

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migrations of labour from and to it. Poor economies are generally found with features like large population, low progress in literacy and education, predominance of subsistence agriculture, low infrastructure facility while the developed states have skilled and educated labour force, good infrastructure facilities, predominance of industrial or service sector and technological advancement in agriculture. Developed states face scarcity of manual labour from the locality and abundance of skilled and educated labour force while the poor states face the opposite situation. Thus the developed and poor states in the process of their economic development have complementary labour supply-demand, facilitating bilateral migration. This way they also help each other's production and income generations. In this paper an attempt is made to link the interstate migration of states and union territories of India to their domestic product to analyse the importance of migration for the economy and at the same time how migration is influenced by the size of the economy. This way it is expected to draw the policy prescription for facilitating economic growth and equity.

Data and Methodology

Decennial census is a rich source of data for migration. It enumerates a person as migrant if found in a place other than his/her place of birth. There is also another way migrants are enumerated, i.e. when the last residence and the place of enumeration differ. In India after marriage the girl leaves her natal home and lives with the marital family; hence, she is enumerated as a migrant in the census data. Thus, the share of female in the total migrant population is much higher than that of the male; for example, female migrants are 120 Percent of their male counterparts. But approximately 70% of the females who have migrated from their birth place have reported marriage is the cause of their movement. In contrast to this less than 5 percent of the male migrants reported marriage is the cause of their migration; they mainly move for work/employment purpose (2011Census). This implies that male migration has economic relevance. Most of the females who migrate for work/employment purpose are assumed to migrate with their male family members. Hence, for examining the economic perspective of the interstate migration, in his paper we concentrate mainly on the male migration. A Couple of studies such as Raman and Bhagat (2006), Das and Saha[3], Kundu and Saraswati (2012) have also attempted to examine the migration issue and linked it to poverty, economic development and Government policy towards migrants. But all these works have used the data up to 2001. The effects of economic reforms are more pronounced in the post 2001 period. As the details of migration information through Migration Tables of 2011 census are now available, we make an attempt to examine the issue using the latest data. We try to link the gross state domestic products (GSDP) and per capita GSDP (PCGSDP) of the states with their number of in-migrants and out-migrants, percents of the same in their population, the ratio of in-migrants to out-migrants (MIOR). For GSDP of the states, instead of taking any one year's data, we have taken the average of the GSDPs (at 2004 price) of states and union territories from 2000-01 to 2011-

[3] Downloaded from https://iussp.org/sites/default/files/event_call_for_papers/Inter-state%20migration_IUSSP13.pdf

12. We assume that any single year's GSDP may not influence the behavior of the labour, but the average of the same for a longer period would do. PCGSDP is obtained by dividing the average GSDP by the mid-year population obtained from the census data of 2001 to 2011.

Rest portion of the paper is designed in the following ways: First we present the migration in India and its components; this is mainly to give the readers a brief information regarding the migration in India. This is followed by the presentation of the top 5 migrants receiving and migrants sending states and the number of respective category of migrants. This is followed by the top 5 states in male migrants receiving and sending. After that migration streams of these top states are described and explained. This is followed by the section mainly dealing with the economics of migration. The findings of this portion helped us to conclude the paper with some suggestions.

Migration in India and its Components

India is experiencing a significant growth of its migrants; it is much higher than the growth of population (See Appendix Table-1). The number of migrants was as high as 447.3 million in 2011 which was more than one third of its population. This implies that every third individual in the country is a migrant. The growing significance of the migrants can be understood from their share in the total population over time as shown in Table 1; it increased from 27.4 (1991) to 36.9 percent (2011). Among the migrants, internal migrants i.e. migration within the country, are the most important component constituting more than 96 percent. Migration from and to other countries is low due to the different barriers. The net immigrants to India constituted less than one percent of population in 1991, 2001 and 2011, and they constitute only 3 percent of all migrants in 1991 which has continuously declined over time. The absolute fall in the immigrant population may be due to the death of many old immigrants who have migrated long back, especially during the partition (Bhagat, 2010). Among the internal migrants, the intra-state ones dominate; they constitute more than 80 percent of the total migrants, though there is slight change in the share from time to time. Within this group, the share of intra-district migrants is more than 50% of total migrants which almost declined to half in 2001 and 2011 while the share of inter-district migrants' doubled during this period, implying people's movement to longer distance. This may be due to the increased emphasis on industrialisation and service sector growth in the post reform period and is facilitated by the increase in connectivities[4] over time. Inter-state migration involving the coverage of longer distance, different language and culture, and different political units, poses certain barriers to the migrants. Hence, the number and share of the interstate migrants are less as compared to other internal migrants. However, their number and share in the total population has increased over time as presented in Table-1: (i)number increased from 27.3 million (1991) to 56.3 million (2011), an increase by more than 100 percent during the two decades, (ii) share increased from 3.2 to 4.6 percent of the total population of the country during the same period. However, the higher growth of intra-state migration reduced

[4]Physical connectivity, internet and telephone connectivity

the share of inter-state migration in the total migration during 2001-2011. But it does not demean the importance of inter-state migration for the economy. In this paper we focus on the inter-state migration in India taking the data from census 2011. For this 35 States/ Union Territories are considered. The State Andhra Pradesh here includes Telengana also. Jammu & Kashmir (J&K) here includes the old state and not the present union territory of J&K.

Table-1: Importance of Migration						
Year	1991	2001	2011	1991	2001	2011
	Percent of Total Population			Share(%) of Total Migrants		
Population	100	100	100			
Total migrants	27.4	29.9	36.9	100	100	100
Internal Migrants	26.5	29.3	36.5	96.8	98	98.7
Interstate Migrants	3.2	4.1	4.6	11.8	13.8	12.6
Intrastate Migrants	23.3	25.1	31.8	85	84.2	86.1
Inter-district Migrants	7	17.7	21.8	25.7	59.2	59
Intra-district Migrants	16.2	7.5	10	59.3	25	27.1
Immigrants	0.8	0.6	0.5	3	2	1.3

Source: Various reports of census (1991, 2001 and 2011)

States and their Inter-State Migration

As said earlier that inter-state migration is influenced by characteristics of the sending and receiving states, hence it is obvious to find differences among the states in their inter-state in-migrants and out-migrants shares. Maharashtra, NCT of Delhi and Gujarat together received 36.25% of interstate migrants while Uttar Pradesh and Bihar together sent 37.2% of the same. Total number of male migrants constitute 44.14 percent of the total migrants of the country as per 2011 census.The positions of the states in the share of interstate male migrants almost remain same though their importance in terms of share changes (shown in Table3).

Table-2: Top 5 States in Migrant Receiving and Sending					
States	In-migrants	Share	States	Out-migrants	Share
Maharashtra	9808424	17.42	Uttar Pradesh	12994674	23.08
NCT of Delhi	6438760	11.44	Bihar	7949853	14.12
Gujarat	4162548	7.39	Rajasthan	3949277	7.02
Uttar Pradesh	4018684	7.14	Madhya Pradesh	3068982	5.45
Haryana	3690755	6.56	Maharashtra	2996543	5.32
Rest	28178392	50.05	Rest	25338234	45.01
Total	56297563	100	Total	56297563	100

Source: Census,2011

For example, Maharashtra occupies number one position in migration receiving as well as in male migration receiving, but its share in case of the former is 17.42% while it increased to 21.34% in case of male in-migration. Similarly UP's position remains same in both the total as well as male migrants sending, but its share rises to 26.80%(in male out migrants) from 23.08% (in total migrants sending).

Table-3: Top 5 States in Male Migrants Receiving and Sending

State	Male in-migrants	Share	State	Male out-migrants	Share
Maharashtra	5,303,068	21.34	Uttar Pradesh	6,658,335	26.80
NCT of Delhi	3,375,325	13.58	Bihar	4,154,666	16.72
Gujarat	2,323,377	9.35	Rajasthan	1,619,163	6.52
Karnataka	1,564,457	6.30	Maharashtra	1,138,753	4.58
Haryana	1,420,635	5.72	Karnataka	1,044,363	4.20
Rest	10,860,702	43.71	Rest	10,232,284	41.18
Total	24847564	100	Total	24847564	100

Source: Census, 20011

Besides Maharashtra, Delhi, Gujarat, Uttar Pradesh and Haryana, other top 5 migrants receiving states are Karnataka, Punjab, West Bengal, and Madhya Pradesh from the 35 states and union territories. On the contrary, small states like Lakshadweep, Manipur, Mizoram, Sikkim, Tripura, Andaman & Nicobar Islands, Meghalaya, Nagaland, Jammu and Kashmir, Dadra & Nagar Haveli are the bottom ten migrants receiving states. Top 10 migrants sending states are UP, Bihar, Rajasthan, Maharashtra, Karnataka, Madhya Pradesh, West Bengal, TamilNadu, Andhra Pradesh and the bottom 10 migrants sending states are Dadra & Nagar Haveli, Lakshadweep, Daman and Diu, Andaman & Nicobar Islands, Sikkim, Mizoram, Arunachal Pradesh, Nagaland, Meghalaya, Goa. (see AppendixTable-2).While the top 10 states combinedly account for 77 to 78% , the bottom 10 account for just 1 to 2% of the share. Among the major states, Maharashtra, Karnataka, UP, MP, West Bengal and TamilNadu are appearing in the top sending and receiving lists. The economies of Maharashtra, Karnataka and TamilNadu are found to be vibrant which attract labour as well as send labour to other states. Large population of the states of Madhya Pradesh and Uttar Pradesh may be responsible for their significant share in migration.West Bengal once upon a time was the most urbanised and industrial state, was attracting workers for manual jobs and was sending skilled labour to the neighbouring states; this tendency still contiues. This history of its migration might have created good networking and favourable cultural milieu helping the continuity of migration.

Some other facts are also noticed from the data: some states are appearing as the top receiving but least sending states; NCT of Delhi, Gujarat and Punjab belong to this category. Good econmic opportunities in different sectors in these states might be pulling labourers from other states. States like Bihar and Rajashthan are appearing in the top sending and bottom receiving lists which means that these two states are not creating ample livilihood opportunities for which less people are coming-in and more people are moving out. There are certain states like

Chandigarh, Chattishgarh, Himachal Pradesh, Odisha, Uttarakhand, Assam which are found in the bottom sending and receiving category in the share of in and out migration in the country.

Migration streams of Top Receiving and Sending States

Migration stream indicates from which state migrants move to which state and thereby helps to explain the reasons of this migration pattern. This study has also attempted to examine this. It finds nearness to the home state is one of the important characteristics of interstate migration. Movement of people from/to neighbouring states observed may be due to the low transport cost and cultural affinities.

Uttar Pradesh is found to be the number one migration sending state to four out of top five receiving states. Similarly Bihar is also found to be one of the top 10 migration sources to the top 5 states. Besides these two states, it is found that four out of six boarder states of Maharashtra are in the top migration sources for it. In Gujarat also besides Uttar Pradesh and Bihar, the neighbouring states of Maharashtra, Rajasthan and Madhya Pradesh are important migration sources. Odisha, West Bengal are also found to be imortant migration sources for Gujarat. People of all states want to migrate to NCT of Delhi because of its all facilities including employment opportunities, but the shares of different states here also indicate that neighbourhood matters.This is also true in case of Haryana. In Karataka case, not only people from the neighbouring southern states like TamilNadu, Andhra Pradesh, Maharashtra and Kerala that send huge number of migrants but also even good number of male migrants from northern states like Uttar Pradesh, Bihar, Rajasthan and eastern states like Odisha and West Bengal send noticeable number of labourers to this state. Table-4 presents the migration streams of top 5 migrants receiving and sending states.

Table-4 :Migration Streams (and their share in %) of Top 5 Receiving and Sending States

Migrants Receiving Top 5 States				
Maharashtra	**NCT of Delhi**	**Gujarat**	**Karnataka**	**Haryana**
Uttar Pradesh (35.9)	Uttar Pradesh (46.0)	Uttar Pradesh (28.0)	Tamil Nadu (24.5)	Uttar Pradesh (36.9)
Karnataka(12.2)	Bihar (20.4)	Maharashtra (19.2)	Andhra Pradesh(24.3)	Bihar (17.3)
Gujarat(9.1)	Haryana (8.0)	Rajasthan (17.1)	Maharashtra(12.1)	Punjab (12.1)
Bihar (8.1)	Rajasthan (4.8)	Bihar (12.1)	Kerala (11.3)	Rajasthan (9.3)
Madhya Pradesh (7.0)	Uttarakhand (4.8)	Madhya Pradesh (6.3)	Rajasthan (5.8)	NCT of Delhi (7.9)
Rajasthan (6.7)	Punjab(3.5)	Odisha (6.0)	Bihar (4.2)	West Bengal (2.8)
West Bengal (4.0)	West Bengal (2.8)	West Bengal (2.5)	Uttar Pradesh (4.0)	Uttarakhand (2.8)
Andhra Pradesh(3.6)	Madhya Pradesh (2.0)	Jharkhand (1.8)	Odisha (3.0)	Madhya Pradesh (2.1)
Others (12.8)	Others (7.5)	Others 6.7)	Others (9.6)	Others (8.6)
Total=9,808,424	Total= 6,438,760	Total=4,162,548	Total=3,375,486	Total=3,690,755
Migrants Sending Top 5 States				
Uttar Pradesh	**Bihar**	**Rajasthan**	**Madhya Pradesh**	**Maharashtra**

Maharashtra (28.6)	NCT of Delhi (16.6)	Gujarat (24.5)	Maharashtra (35.6)	Gujarat (39.1)
NCT of Delhi (23.3)	West Bengal (14.6)	Maharashtra 22.0)	Gujarat (14.1)	Karnataka (16.6)
Gujarat (9.8)	Jharkhand (13.8)	NCT of Delhi (10.1)	Rajasthan (12.3)	Madhya Pradesh(12.4)
Haryana (7.9)	Maharashtra (10.3)	Haryana (8.2)	Chhattisgarh (11.2)	Andhra Pradesh (8.2)
Uttarakhand (5.9)	Uttar Pradesh (7.7)	Madhya Pradesh (8.1)	Uttar Pradesh (8.1)	Chhattisgarh (3.7)
Punjab (5.8)	Gujarat (6.8)	Karnataka (5.6)	NCT of Delhi (6.6)	Goa (3.3)
Madhya Pradesh (5.1))	Haryana (5.9)	Punjab (4.2)	Haryana (2.9)	Tamil Nadu (2.8)
Rajasthan (3.0)	Punjab (5.6)	Tamil Nadu (3.4)	Punjab (1.6)	NCT of Delhi (2.1)
West Bengal (2.0)	Assam (2.5)	Uttar Pradesh (3.3)	Karnataka (1.3)	Uttar Pradesh (1.9)
Others (8.7 0)	Others (16.3)	Others (10.6)	Others (6.3)	Others (9.9)
Total=12,994,674	Total=7,949,277	Total=3,949,277	Total= 3,068,982	Total=2,996,543

By analysing the migration destinations of major migrant sending states it is also found that besides the three major migration receiving states of Maharashtra, NCT of Delhi and Gujarat – the top migrant sending states are mainly sending migrants to their neibouring states. For example, destination states like Haryana, Uttarakhand, Punjab, Madhya Pradesh and Rajasthan are found for the state of Uttar Pradesh; Jharkhand, UP, West Bengal for Bihar; Uttar Pradesh, Punjab, Haryana, Madhya Pradesh for Rajasthan; Chhattisgarh, Rajasthan, Uttar Pradesh for Madhya Pradesh; and Karnataka, Chhattisgarh, Madhya Pradesh, Andhra Pradesh, Goa for Maharashtra which share common boarder. However, there are some exceptions in this regard, like TamilNadu and Uttar Pradesh for Maharashtra; TamilNadu and Karnataka for Rajasthan; West Bengal for Uttar Pradesh; Punjab, Haryana for Bihar.

Besides cultural and physical factors[5], economic factors are also said to be the determinants of people's movement. Economic opportunities represented by the State's gross domestic product is expcted to pull labourers. High GSDP states like Maharashtra attracts large number of migrants while low GSDP small states like Andaman & Nicober, North-Eastern States, Puducherry are attracting less number of in-migrants. An analysis of these are attempted in the following section.

Economics of Migration

The economic implication of interstate migration is discussed here by considering the state GSDP and PCGSDP with the different variables of migration.

(i) Inter-linkage of GSDP and Migration

The states at the top in migration pulling such as Maharashtra, NCT of Delhi are found with higher GSDP as compared to the states like Manipur, Mizoram etc. which are at the bottom in

[5] These physical and cultural factors also involve economic costs.

this respect. A comparison of GSDP of top 5 and bottom 5 states in migration receiving shows that GSDP of all the top 5 migration receiving states have higher GSDP as compared to any of the bottom 5 migrant receiving states. Similarly, the GSDP of all the top 5 migrants sending states have higher GSDP as compared to any of the bottom 5 migrant sending states. It is found that GSDP of the states and the volume of migrants they received as well as they send are changing in the same direction. Positive association is found between GSDP and number of in-migrants and out-migrants of the states. The values of correlation coefficients are found to be high and they are significant (see Table-5). The positive association between GSDP and interstate in-migrants and out-migrants indicates that in-migrants help in production and GSDP creation and out migrants send remittances to the source states.

Table- 5: Correlation Coefficients of GSDP with male in and out migration

	Coefficients	
Items	Pearson's	Spearman's
Melinmig	.780**	.859**
meloutmig	.481**	.922**
N	32	32
** Correlation is significant at the 0.01 level (2-tailed).		

The number of in-migrants is also found to be a significant determinant of GSDP of the state, showing that 1% rise in in-migrants causes 6.83% rise in GSDP. Regression result is kept in the appendix table. Out-migrants' remittance role is also found to be highly significant in raising the GSDP. However, in this model the cases of Uttar Pradesh and Bihar do not fit to our argument though including these cases also the model is found to be significant at 0.01 level. But the model explains 21% of the variation in GSDP by the variation of out-migration. Ignoring these two (Uttar Pradesh and Bihar) cases increases the explanatory power of the model to 60%. However, it must be kept in mind that these two states together account for 43% of total out-migrants in the country. Hence, we want to include their cases in our model. All the regression results are kept in the Appendix Table-3.

(ii) Inter-linkage of PCGSDP and Migration percent

It is true that States like Maharashtra, NCT of Delhi and Gujarat are important destinations of migration and Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh are important migrant sending states from the country point of view. But small states like Chandigarh, Goa, Puducherry, Adaman Nicobar, Arunachal Pradesh and medium sized states like Odisha, Chhattisgarh also find migration issues important for their economies. Though their shares in total migrants are low, but importance of migration for them is reflected from the high share of migrant population in their total population. Share of in-migrants and out-migrants to the total population of the state is visualised as the importance of migration for the state. In the appendix (AppendixTable-4) state wise percents of in-migrants and out-migrants are given.

An attempt is made to analyse the economic condition of states remaining at the top and bottom in the in and out migration percentages. For this the top 5 and bottom 5 states are considered. It is found that average GSDP of states at the top 5 in in-migrant% is found to be Rs 719,604.8 million less than the average GSDP of the bottom 5 states in in-migrants%. Similarly, the average GSDP of the states at the top 5 position in out-migration is found to be Rs 890,802.3 million less than that of the bottom 5 states in out-migration. These two facts imply that on an average, the less migration prone states have high GSDP which is just opposite of our reasoning. The size of the state in terms of its population also matters in this context; it can change the position of the state in terms of PCGSDP. Thus an attempt is made to use PCGSDP instead of GSDP. In fact PCGSDP is a good representative of economic condition of the state. It is found that in both the in and out migration percentages, the averages of the PCGSDP of the top 5 states are higher than the PCGSDP of the bottom 5 states (The values are Rs 65,661 and Rs 19,603 for the in-migrant% and out-migrant% cases respectively). This is at par our reasoning, i.e. migration positively contributes to the economy.

Correlation study also shows that per capita GSDP is significantly and positively correlated with the percent of in-migrants and out-migrants of the states; the results are kept in the appendix table. These two variables are also found to be significant determinants of well-being of the people of the state. The regression results are kept in the appendix. Further, an attempt is also made to consider these two determinants simultaneously as follows:

PCGSDP= $\alpha + \beta_1$% of in-migration + β_2% of out-migration+ ϵ ……(1)

But our regression result presented below through equation (2) shows that though the model as well as in-migrant% variable are found significant and indicated through **, the negative coefficient of out-migrant% variable is contrary to our understanding.

PCGSDP= 0.256 +0.16% of in-migration - 0.001% of out-migration .....(2)

(8.116**) (7.555**) (-0.173) Adj. R^2 = 0.723, F=41.37**

The negative coefficient of out-migrant % can be overcome by deleting the case of Goa which can be considered as an outlier in the model. This is shown through equation (3). Unlike UP and Bihar cases (as considered earlier) its numbers of in and out-migrants are quite small and the delete of its case is considered to be appropriate.

PCGSDP= 0.246 + 0.014% of in-migration + 0.002% of out-migration .....(3)

(11.536**) (9.474**) (0.448) Adj. R^2 = 0.825; F=71.510**

This result shows that our model is significant; among the two determinants, in-migrants% is also found to be significant at 0.01 level. This finding implies that in-migrants contribute to the economic growth of the State by their engagement in different types of work in the economy.

The economic prosperity of a state cannot be thought of without these inter-state migrants' participation. This fact is not well recognised by the people and the Government and the migrants are often looked down upon (Kundu & Mahanan, Undated)[6] . In this study it is found that 1% rise in in-migration can increase PCGSDP (in Rs lakh) of the state by 0.014%.

(iii) Inter linkage of PCGSDP and ratio of in-Migrants & out-migrants

There are some states like Odisha, Rajasthan, Nagaland and Chhattisgarh which do not figure in the top 10 lists of in and out migration percentages, but for them net outflow and net inflow of migrants are important. Hence, the ratio of in-migrants to out-migrants (MIOR) of the states is also considered by us. This ratio is used to examine the significance of migration for the state economy. States are categorised as very high, high, low and very low in the MIOR: value larger than one implies high net in-migration, smaller than one implies large net out-migration and value around one means net in-migration is minimum. The average MIOR found from 32 states and union territories is 2.234; states with higher than this ratio are categorised as very high migration receiving states. Ratio value more than one implies net in-migration; so value >1 but < 2.234 is taken as states of high category. Value less than 1 but up to 0.5 is categorised as low and less than 0.5 is very low category. It is found that out of the 32 states and union territories; Andaman and Nicobar Island, Delhi, Arunachal Pradesh, Sikkim, Maharashtra, Goa, Gujarat, Nagaland, Chandigarh, Chhattisgarh are 10 states and union territories which come under the Very High category. States like Meghalaya, Haryana, Mizoram, Punjab, Karnataka, Jharkhand, Uttarakhand, West Bengal and Puducherry are categorised under the category-High. 7 states and union territories are falling under the Low category and 5 states - Odisha, Rajasthan, Kerala, Manipur, Uttar Pradesh, and Bihar are in the Very Low category.

Table - 6: Distribution of States on the basis of their ratio of in-migrants and out-migrants (MIOR)

Very High		High		Low		Very low	
States	MIOR	States	MIOR	States	MIOR	States	MIOR
Andaman & Nicobar Islands	8.872	Meghalaya	2.069	Tripura	0.951	Odisha	0.472
NCT of Delhi	7.861	Haryana	1.959	Madhya Pradesh	0.863	Rajasthan	0.466
Arunachal Pradesh	6.591	Mizoram	1.94	Tamil Nadu	0.83	Kerala	0.435
Sikkim	5.029	Punjab	1.686	Assam	0.814	Manipur	0.225
Maharashtra	4.657	Karnataka	1.498	Himachal Pradesh	0.738	Uttar Pradesh	0.158
Goa	4.532	Jharkhand	1.326	Andhra Pradesh	0.736	Bihar	0.031
Gujarat	3.523	Uttarakhand	1.274	Jammu & Kashmir	0.586		
Nagaland	3.485	West Bengal	1.117				
Chandigarh	3.437	Puducherry	1.058			**Average**	**2.234**

[6] Downloaded from https://www.oecd.org/employment/emp/42546020.pdf

Chhattisgarh	2.276	**Minimum**	**0.031**	**Maximum**	**8.872**	**C.V.(%)**	**102.06**

Source: Census, 2011

The MIOR is found highly correlated with the PCGSDP; the value of correlation coefficient (r) is 0.561. This implies that inflow of migrants and the PCGSDP move in the same direction. But whether one leads to the other or not is examined through the regression analysis. Findings show that both the models are significant (results are shown in the appendix table); the MIOR is found positively affecting the PCGSDP and this is also being affected by PCGSDP. These two results indicate bilateral relations: that migrant contribute positively to the destination economy's PCGSDP; they are also attracted by the destination economy's PCGSDP (prosperity).

Concluding Remarks

The economic significance of migration needs to be carefully understood by the people in general and policy makers in particular. Since migrants contribute significantly, their contribution must be recognised and there should institutional arrangement for their protection and facilitation. By that the state can achieve inclusive economic growth. Low interstate migration is reducing economic growth (Aggarwal et al 2019). Non-recognition of the importance of poor migrant labourers, absence of labour friendly institutions put the labourers in the extremely distressed situation during the pandemic COVID-19. The major consequences of the vulnerability of migrant labourers will be reflected through the sharp fall in the economic growth rates of the migrants receiving states in future. Hence, there is a need to create labour friendly institutions which would protect and facilitate labourers, both migrants and as well as the non-migrants.

Appendix

Appendix Table-1: Migration in India Over Time					
	Number in millions			Growth rate (%)	
	1991	2,001	2,011	1991-2001	2001-2011
Population	838.5	1028.6	1210.9	21.5	17.7
Total migrants	229.8	307.2	447.3	32.9	45.6
Internal Migrants	222.5	301.0	441.6		46.7
Interstate Migrants	27.2	42.3	56.3	54.5	33.0
Intrastate Migrants	195.3	258.6	385.3		49.0
Inter-district Migrants	59.1	181.8	264.1	29.5	45.3
Intra-District Migrants	136.2	76.8	121.2	32.6	57.8
Immigrants	6.9	6.2	5.7	-11.6	-8.3

Note: (i) Place of birth definition is used; (ii)Figures of 1991 excludes J&K (iii) Growth rate during 1991-2001 is estimated by excluding data of J&K. Source: Census 1991, 2001 and 2011, ORGI, GoI.

Appendix Table-2 Details of Migration, GSDP and Per Capita GSDP of States/Union Territories

Sl Num	States	Male in migration	Male out migratio	malei nmgshare	mlo utmg	MIOR	Male Popn	Male in mig as %of Male popn	Male out mig as %of Male popn	Average GDPfc (Rslakh)	PcGSDP(Rslakh)
1	Andaman & Nicobar Islands	57915.00	6528.00	0.23	0.03	8.87	202871.00	28.55	3.22	232221.4896	0.63041
2	Andhra Pradesh	652671.00	886295.00	2.63	3.57	0.74	42442146.00	1.54	2.09	24754639.55	0.30791
3	Arunachal Pradesh	95924.00	14554.00	0.39	0.06	6.59	713912.00	13.44	2.04	386497.4248	0.31148
4	Assam	271107.00	333015.00	1.09	1.34	0.81	15939443.00	1.70	2.09	5838694.21	0.20182
5	Bihar	127449.00	4154666.00	0.51	16.72	0.03	54278157.00	0.23	7.65	9229960.577	0.09866
6	Chandigarh	331932.00	96584.00	1.34	0.39	3.44	580663.00	57.16	16.63	997984.0156	1.02039
7	Chhattisgarh	557343.00	244837.00	2.24	0.99	2.28	12832895.00	4.34	1.91	5665150.98	0.24430
8	Dadra & Nagar Haveli	88059.00	2600.00	0.35	0.01	33.87	193760.00	45.45	1.34		
9	Daman & Diu	88505.00	5443.00	0.36	0.02	16.26	150301.00	58.89	3.62		
10	Goa	173221.00	38222.00	0.70	0.15	4.53	739140.00	23.44	5.17	1545369.866	1.10139
11	Gujarat	2323377.00	659539.00	9.35	2.65	3.52	31491260.00	7.38	2.09	25039835.32	0.45072
12	Haryana	1420635.00	725263.00	5.72	2.92	1.96	13494734.00	10.53	5.37	11557174.2	0.49713

13	Himachal Pradesh	1754771.00	237656.00	0.71	0.96	0.74	3481873.00	5.04	6.83	2843265.542	0.43937
14	Jammu & Kashmir	71752.00	122374.00	0.29	0.49	0.59	6640662.00	1.08	1.84	3056786.567	0.26950
15	Jharkhand	795052.00	599526.00	3.20	2.41	1.33	1693031 5.00	4.70	3.54	6409436.411	0.21388
16	Karnataka	1564457.00	1044363.00	6.30	4.20	1.50	3096657.00	5.05	3.37	2003965 9.98	0.35174
17	Kerala	318237.00	731932.00	1.28	2.95	0.43	1602741 2.00	1.99	4.57	1394541 7.17	0.42746
18	Lakshadweep	2781.00	4648.00	0.01	0.02	0.60	33123.00	8.40	14.03		
19	Madhya Pradesh	893925.00	1035999.00	3.60	4.17	0.86	3761230 6.00	2.38	2.75	1329544 9.02	0.19997
20	Maharashtra	5303068.00	1138753.00	21.34	4.58	4.66	5824305 6.00	9.11	1.96	5163784 4.04	0.49354
21	Manipur	9239.00	40988.00	0.04	0.16	0.23	1438586.00	0.64	2.85	551569.2087	0.21964
22	Meghalaya	58201.00	28131.00	0.23	0.11	2.07	1491832.00	3.90	1.89	770867.1006	0.29168
23	Mizoram	26971.00	13903.00	0.11	0.06	1.94	555339.00	4.86	2.50	326731.757	0.32907
24	Nagaland	66151.00	18980.00	0.27	0.08	3.49	1024649.00	6.46	1.85	686913.341	0.34618
25	NCT of Delhi	3375325.00	4293605.00	13.58	1.73	7.86	8987326.00	37.56	4.78	1248387 5.8	0.81492
26	Odisha	3034507.00	6425308.00	1.22	2.59	0.47	2121213 6.00	1.43	3.03	9017851.755	0.22894
27	Puducherry	148274.00	140152.00	0.60	0.56	1.06	612511.00	24.21	22.88	775019.1487	0.69749
28	Punjab	1156815.00	686012.00	4.66	2.76	1.69	1463946 5.00	7.90	4.69	1130393 4.64	0.43391
29	Rajasthan	754141.00	1619163.00	3.04	6.52	0.47	3555099 7.00	2.12	4.55	1521516 7.26	0.24333
30	Sikkim	34979.00	6955.00	0.14	0.03	5.03	3230700.00	10.83	2.15	255554.3976	0.44389
31	Tamil Nadu	8212007.00	9896801.00	3.30	3.98	0.83	3613797 5.00	2.27	2.74	2771287 6.76	0.41193
32	Tripura	40045.00	42119.00	0.16	0.17	0.95	1874376.00	2.14	2.25	1036542.856	0.30162
33	Uttar Pradesh	1052790.00	6658335.00	4.24	26.80	0.16	1044805 10.00	1.01	6.37	3015854 0.82	0.16480
34	Uttarak	56094	44030	2.26	1.7	1.27	51377	10.	8.5	3431216.	0.369

4	hand	7.00	3.00		7		73.00	92	7	762	43
35	West Bengal	11261 41.00	10081 42.00	4.53	4.06	1.12	46809 027.00	2.41	2.15	2368983 6.14	0.276 34
	Total	**24847 564.00**	**24847 564.00**	**100.00**	**100 .00**		**62327 0258.00**			**3338918 84.11**	
	Average	**70993 0.40**	**70993 0.40**			**3.49**	**17807 721.66**	**11.69**	**4.73**	**1043412 1.38**	**0.401 03**
	S.D.	**10805 80.67**	**12858 29.33**			**6.20**	**23051 262.08**	**15.71**	**4.58**	**1190343 6.75**	**0.23**
	C.V.(%)	**152.21**	**181.12**			**177.47**	**129.45**	**134.44**	**97.00**	**114.08**	**57.85**

Source: Census, 2011

Appendix Table-3: Regression Results								
			Coefficient of		t values			
Sl No.	Dep variable	Ind. Variables	Constant	Ind varible	Constant	Ind . varible	F value	Adj R^2
1	GSDP	Maleinmig	3994000	8.355	2.440*	6.833**	46.684**	0.596
2	GSDP	Maleoutmig	7085000	4.315	3.248**	3.005**	9.033**	0.206
3	GSDP	Maleoutmig (without UP and Bihar)	161380.4	20.658	0.81	6.620**	43.826**	0.596
4	PCGSDP	% Male in mig	0.253	0.016	9.501**	9.245**	85.470**	0.732
5	PCGSDP	% Male out mig	0.287	0.025	5.421**	2.990**	8.939**	0.204
6	PCGSDP	% Male out mig (without Goa)	0.268	0.024	6.272**	3.622**	13.119**	0.288
7	PCGSDP	Inmig/outmig	0.274	0.057	5.615**	3.710**	13.762**	0.292
8	Inmig/outmig	PCGSDP	0.024	5.511	0.036	3.710**	13.762**	0.292
9	GSDP	Male in mig	-713282	5.655	-0.529	5.926**	66.166**	0.818

		Maleout mig(without UP and Bihar)		13.057		5.315**		
10	PCGSDP	% Malein mig % Male out mig (without Goa)	0.246	0.014 0.002	11.536**	9.474** 0.448	71.510**	0.825
11	PCGSDP	% Male in mig % Male out mig	0.256	0.16 -0.001	8.116**	7.555** -0.173	41.368**	0.723

Source: Census, 2011

Table-4: State-wise Male in-Migrants% and Male out-Migration% and Average GSDP, PCGSDP(Rs lakh)

States	Male in migration	Male in mig as %of Male popn	Male out migratio	Male out mig as %of Male popn	Average GDPfc	PcGSDP (Rslakh)
Andaman & Nicobar Islands	57,915	28.548	6,528	3.218	232221.49	0.630409
Andhra Pradesh	652,671	1.538	886,295	2.088	24754640	0.307911
Arunachal Pradesh	95,924	13.436	14,554	2.039	386497.42	0.311479
Assam	271,107	1.701	333,015	2.089	5838694.2	0.201818
Bihar	127,449	0.235	4,154,666	7.654	9229960.6	0.098664
Chandigarh	331,932	57.164	96,584	16.633	997984.02	1.020389
Chhattisgarh	557,343	4.343	244,837	1.908	5665151	0.244298
Dadra & Nagar Haveli	88,059	45.447	2,600	1.342		
Daman & Diu	88,505	58.885	5,443	3.621		
Goa	173,221	23.435	38,222	5.171	1545369.9	1.101392
Gujarat	2,323,377	7.378	659,539	2.094	25039835	0.450719
Haryana	1,420,635	10.527	725,263	5.374	11557174	0.497125
Himachal Pradesh	175,471	5.040	237,656	6.826	2843265.5	0.439369
Jammu & Kashmir	71,752	1.080	122,374	1.843	3056786.6	0.269498

Jharkhand	795,052	4.696	599,526	3.541	6409436.4	0.213883
Karnataka	1,564,457	5.052	1,044,363	3.373	20039660	0.35174
Kerala	318,237	1.986	731,932	4.567	13945417	0.427463
Lakshadweep	2,781	8.396	4,648	14.033		
Madhya Pradesh	893,925	2.377	1,035,999	2.754	13295449	0.199969
Maharashtra	5,303,068	9.105	1,138,753	1.955	51637844	0.493545
Manipur	9,239	0.642	40,988	2.849	551569.21	0.219636
Meghalaya	58,201	3.901	28,131	1.886	770867.1	0.29168
Mizoram	26,971	4.857	13,903	2.504	326731.76	0.329072
Nagaland	66,151	6.456	18,980	1.852	686913.34	0.34618
NCT of Delhi	3,375,325	37.556	429,365	4.777	12483876	0.814916
Odisha	303,457	1.431	642,538	3.029	9017851.8	0.228941
Puducherry	148,274	24.208	140,152	22.882	775019.15	0.697493
Punjab	1,156,815	7.902	686,012	4.686	11303935	0.433913
Rajasthan	754,141	2.121	1,619,163	4.554	15215167	0.243334
Sikkim	34,979	10.827	6,955	2.153	255554.4	0.443891
Tamil Nadu	821,207	2.272	989,681	2.739	27712877	0.411926
Tripura	40,045	2.136	42,119	2.247	1036542.9	0.301622
Uttar Pradesh	1,052,790	1.008	6,658,335	6.373	30158541	0.164796
Uttarakhand	560,947	10.918	440,303	8.570	3431216.8	0.369432
West Bengal	1,126,141	2.406	1,008,142	2.154	23689836	0.276343

Source: Census, 2011

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