



## Analysis of Factors Affecting Internal Migration in India

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### Abstract:

Migration is a universal phenomenon. Internal migration in India, particularly interstate and rural urban streams have increased in volume and importance over time. Internal migration in India does not only fill demand and supply gaps but acts as an instrument of survival for millions of poor population concentrated in the states of Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh etc. A large number of push and pull factors influence migration pattern especially in case of out migration of male workers. This study analyses the pattern of internal migration in India and tries to identify the significant factors affecting in migration and out migration of seventeen major states of India. The study finds that internal migration rate has increased in both rural areas as well as urban areas. This increase in migration rate is primarily due to increase in migration rate for females. The male migration rates have shown a declining trend in both rural and urban areas. Migration to urban areas has been mainly for employment purposes for males, whereas marriage is major reason for migration of females in rural as well as urban areas. Regression results show that urbanization and per capita credit to industry shows positive and significant relation with volume of in migration. Per capita income is negatively and significantly related with volume of out migration. Population below poverty line in rural as well as urban areas and percentage of irrigated area shows positive and significant relation with volume of out migration. Per capita income, literacy rate per capita credit to industry and per capita consumption of electricity are positively and significantly related with inter-state rate of in migration.

**Keywords:** Migration, Socio Economic Indicators, Regression Analysis, Factor Analysis

**JEL Classification:** O15, C1

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### Introduction

Migration has become a universal phenomenon in recent years. Millions of people all over the world move out of their normal place of residence to seek their fortune elsewhere (Joseph, 1988). Internal Migration is considered as a universal phenomenon which accompanies economic development. In rural areas of developing economies, there is vicious circle of low agricultural productivity, under employment, low income and poverty. This vicious circle leaves no opportunities especially for landless rural workers and compels them to seek employment opportunities elsewhere. Hence they are pushed to migrate to the places of better opportunities.

(Oberai, 1987). Industrialization and economic development go side by side with the growth and expansion of the urban areas. Migrants tend to shift from regions of lower economic avenues to those of higher economic avenues. Urban places also have an attraction over and above that reflected by narrow employment considerations, but it is difficult to isolate the impact of these attractions. Migrants tend to find jobs quickly after moving (Bhattacharya, 2002).

Internal migration is an important instrument of filling demand and supply gaps providing dynamism in the labour market. Migration has important implication for human development. Migration normally leads to higher income, savings and remittances with positive implication for human development and poverty reduction. But migrants face hardships in availing basic necessities of life like housing, education and health facilities and adequate food and nutrition. Migrants also experience difficulty in availing banking and credit facility as well as government welfare schemes like PDS etc.

Migration is a historical reality and has been propounded by modern means of transportation and urban development. The phenomenon of migration is continuous one and is essential for economic growth and labour market stability.

## Review of Literature

Piplai and Majumdar (1969) reveal that majority of the migrant workers migrate to industrially developed states like Maharashtra and West Bengal. The major out migration states are the backward states of Uttar Pradesh and Bihar. Rele, J.R (1969) study finds that rate of internal migration in India is low. Females usually migrate within district on account of marriage. Among the males major reason of migration is unemployment. Male migrants who move out for work during their young age tend to return to their place of origin in old age, which reduces the effectiveness of urbanization. Skeldon (1986) finds that migration in India is primarily rural to urban and long term in nature. The short term circulatory migration has declined over time. Majority of the migrants enter the informal sector and hence create their own employment. Kundu (1986) found that migration rate has decreased over time in both rural and urban areas. The study points out that the decline in migration rate is responsible for increasing inter-state disparities in terms of per capita output or labour productivity. Similarly Kundu and Gupta (1996) study found that the percentage share of inter-state migrants has been diminishing gradually over the 1961-1981 period in all the developed states except Gujarat, Punjab and Haryana. Again Kundu (2003) found that there is a small decline in the role of rural migration in the growth of urban population due to anti migration prejudice in some states and absence of inclusive urbanization policies being pursued.

Bhattacharya (1998) found that the informal sector is no longer the least attractive employment sector or employer of last resort. Over the time this sector has matured and comprises hugely productive economic activities. This sector is productive enough to attract labour in its own right. Bhattacharya (2002) highlighted that urbanization and a great deal of rural- urban migration are inevitable consequences of economic development. Economic growth and availability of better opportunities in urban areas further promote rural-urban migration. Lusome and Bhagat (2006) found that internal migration rates vary by gender as well as region. During 1990s internal migration has increased. Migration is more long distance and from rural to urban. There is a significant increase in migration to urban areas both among males and females during 1991-2001. Male migration is primarily for employment and economic reasons. Ghuman, Ranjit Singh, Lakhwinder Singh and Inderjeet Singh (2007) found that after green revolution a large number of the migrant workers migrated to Punjab. This inflow was maximum in 1990s

as compared to 80s. Majority of the migrant workers belonged to economically backward states Uttar Pradesh and Bihar. Mitra and Murayama (2008) found that in poor and economically underdeveloped states there is large population which is mobile and searching for adequate livelihood. Even in developed states of Maharashtra and Gujarat male population is quite mobile. Bhagat and Mohanty (2009) found an increase in the contribution of migration towards urban population during 1990's in comparison with 1980's. Bhagat (2009) found higher growth of interstate migration in comparison with intra-state migration during 1990's. There is a strong relationship between per capita income and inter-state migration; both in migration and outmigration. Interstate migration is also correlated with the share of non-agriculture in GSDP and employment as well as rural poverty. Srivastava (2009) found that remittances and savings are making significant addition to migrant workers income. These additional resources help in improving living standard of migrant families. Thus remittances also help in growth of areas of origin of migrant workers. There is also a change in workers tastes, perceptions and attitudes due to migration. Kohli (2010) found that economic underdevelopment, low wages, unemployment and increasing number of landless workers in the native states of the migrant workers are push factors in migration. The pull factors which attract migrant workers to Punjab are increasing demand for migrant workers in agriculture sector due to the adoption of green revolution technologies, higher wage rates, tremendous increase in the demand for skilled and unskilled labour in the urban industrial and informal sector of Punjab. Vipul Kant Singh, et al. (2011) found that in interstate migration the percentage of rural urban stream was found higher than other streams. Major reason for male migration was unemployment and in case of females marriage was found to be the main reason for migration. Maharashtra and Madhya Pradesh lead among all in migrating states, while the economically backward states Uttar Pradesh and Bihar occupied top position among out migrating states. Chakraborty and Kuri (2013) found that on economic front, better employment opportunities in urban centers attracted a sizeable proportion of workers from the rural to urban areas. Rural indebtedness is an important push factor.

Roy and Debnath (2011) found that per capita income and level of infrastructure shows positive and significant relationship with net migration rate and negative relation with unemployment and cost of living.

Das and Saha (2013) found that workers migrate from economically less developed states to relatively more developed states. The growth rate of migration has increased during the period 1991-2000. Poverty shows negative and statistically significant relation with in migration rate. The volume of in-migration is positively correlated with per capita bank deposit, per capita bank credit to industry and urbanization.

Malhotra N and Devi (2014) found that migration in India has raised labour force participation rates and employment rates for both males and females. Migration is normally more productive utilization of labour force and hence contributes towards economic growth. Per capita net state domestic product and human development index show positive and significant relationship with interstate in-migration rate.

## Research Gap

The above reviewed studies mainly highlight the changing pattern of internal migration in India. There are very few studies which have attempted to identify factors causing internal migration in India. This study focused on the relationship between inter-state migration and socio economic indicators of various states.

## Contribution of the Study

The present study identifies the push and pulls factors which play important role in migration decision. For this purpose, study used the NSSO data on migration and various socio economic variables. The study has examined these factors and identified the factors which are significantly explaining variation in the internal migration.

## Objectives of the study

The present study has following objectives:

1. To study the changing pattern of internal migration in India.
2. To identify factors causing internal migration in India.
3. To study the relationship between interstate migration (in migration rate, out migration rate, volume of in migration and volume of out migration) and socio- economic indicators.

## Database and Methodology

The present study is based on the secondary data. Data on migration has been taken from the NSSO three rounds 49th round, 55th round and 64th round. Data on socio economic indicators of the major seventeen states have been taken from NSSO 64th round, Data-book Compiled for use of Planning Commission, Handbook of Statistics on Indian State, Economic Survey and Agriculture Statistics.

## Variables of Study

To study the relationship between migration and socio- economic indicators the study has applied simple regression, factor analysis and correlation analysis. The following socio economic indicators are chosen for analysis.

1. Per Capita Net State Domestic product (PCNSDP)
2. Literacy rate (LR)
3. Population below Poverty Line in Rural Area (PBPLR)
4. Population below Poverty Line in Urban Area (PBPLU)
5. Percent of Irrigated area (PCIA)
6. Per Capita Consumption of Fertilizer (PCCF)
7. Population Growth (PG)
8. Urbanization (URB)
9. Share of employment in Agriculture (SAW)
10. Share of employment in Manufacturing (SMW)
11. Share of employment in service (SSW)
12. Percentage of cultivator workers (PCW)
13. Per Capita Credit to Industry (PCCI)
14. Per Capita Credit to Agriculture (PCCA)
15. Per Capita Consumption of Electricity

In migration rate and out migration rate have been computed as follows.

$$\text{Immigration rate} = \frac{\text{Volume of in migration to the state}}{\text{Total enumerated mid year population of the state}} * 100$$

$$\text{Outmigration rate} = \frac{\text{Volume of out migration from the state}}{\text{Total enumerated mid year population of the state}} * 100$$

$$\text{Netmigration rate} = \frac{\text{Volume of in migration to the state} + \text{Volume of out migration from the state}}{\text{Total enumerated mid year population of the state}} * 100$$

## Hypothesis

Decision to migrate depends upon Per Capita Net State Domestic Product, literacy rate, population below poverty line in rural area, population below poverty line in urban area, percent of irrigated area, per capita consumption of fertilizer, population growth, urbanization, share of employment in agriculture, share of employment in manufacturing, share of employment in service, percentage of cultivator workers, per capita credit to industry, per capita credit to industry.

## Research Models

**Regression Analysis:** To examine the relationship between migration and socio economic indicators, simple regression analysis has been used for 17 major states in India with the help of following equation:

$$Y_i = a + bx_i + u$$

Where  $Y_i$  is dependent variables and  $X_i$  is the socio economic indicators.

**Correlation Analysis:** In order to study inter correlation amongst different variables of migration and socio economic indicators, correlation matrix was constructed. To test the significance of correlation coefficient t test has been applied.

$$t = \frac{r_{ij}}{\sqrt{1-r_{ij}^2}} \sqrt{n-2}$$

Where  $n$  is number of observation and  $r_{ij}$  is correlation coefficient between  $i$ th and  $j$ th variables.

**Factor Analysis:** "The technique of Factor Analysis is similar to regression analysis but it identifies the most important variables grouped as factors explaining the variance in the data in descending order. In factor Analysis, a given set of  $n$  variables is grouped in to  $p$  number of groups called 'factor' which are less in number than the set of original variables. The factors so identified are not correlated with each other unlike the values of original variables. The variables in the group (Factor) are the same nature or the complementary with respect to the phenomenon under study but between two groups factors variables are independent. Thus factors  $F_i$  and  $F_j$  are orthogonal or statistically independent" (Malhotra, N.K, 2007)

The technique of Factor Analysis, as used in the present study, is given under:

$$X = \beta F + U$$

Where  $X$  is vector of all the variables



$$X' = [X_1, X_2, X_3, \dots, X_n]$$

F is vector of Factors derived.

$$F' = [F_1, F_2, F_3, \dots, F_n]$$

U is the vector of error terms

$$U' = [E_1, E_2, E_3, \dots, E_n]$$

And  $X'$ ,  $F'$  and  $U'$  are respective transposes

$\beta$  is the matrix of Factor Loading (Loading Coefficient Matrix)

$$\beta = \begin{bmatrix} \alpha_{11} & \alpha_{12} & \alpha_{13} & \alpha_{14} & \dots & \dots & \dots & \alpha_{1p} \\ \alpha_{21} & \alpha_{22} & \alpha_{23} & \alpha_{24} & \dots & \dots & \dots & \alpha_{2p} \\ \alpha_{31} & \alpha_{32} & \alpha_{33} & \alpha_{34} & \dots & \dots & \dots & \alpha_{3p} \\ \vdots & & \vdots & & \ddots & & & \\ \vdots & & & & & & & \\ \alpha_{n1} & \alpha_{n2} & \alpha_{n3} & \alpha_{n4} & \dots & \dots & \dots & \alpha_{np} \end{bmatrix}$$

The coefficient (Factor loading)  $\alpha_{ij}$  belongs to  $i$ th variable and  $j$  the factor which is similar to simple correlation coefficient and shows the extent to which variable  $X_i$  is related to  $F_j$  Factors.

Communalities in factor analysis measure the extent of variance of a variable with all other variables included in the analysis. The value of the communalities should be large enough (more than 70 percent) so as to ensure that each variable has been explained well.

### Statistical Tools Used

Simple linear regression, correlation analysis and factor analysis were carried out by using the SPSS 22.

### Data Analysis and Results Discussions

#### Migration Rates in India

In Table 1 migration rates, for all-India, rural and urban areas have been presented for the period from 1983 to 2007-08. It is seen from the table that in both the rural and urban areas, migration rates have been steadily increasing during the period 1983 to 2007-08, except for a marginal fall in migration rate in 1993. Rural to rural migration rates increased from 21 percent in 1983 to 23 percent in 1993 and it further increased to 26 percent in 2007- 08. In urban areas migration rates increased from 32 percent in 1983 to 35 percent in 2007-08. However, this increase is primarily due to the increase in migration rates for females. It is observed that the male migration rates have shown a downward trend.

Table 1 :Migration Rates in India 1983 – 2007/08 (%)						
All-India	Category of persons					
	Rural			Urban		
Round (Year)	Male	Female	Persons	Male	Female	Persons
38th (Jan - Dec, 1983)	7.2	35.1	20.9	27.0	36.6	31.6
43rd (July 1987 – June 88)	7.4	39.8	23.2	26.8	39.6	32.9
49th (Jan - June, 1993)	6.5	40.1	22.8	23.9	38.2	30.7
55th (July 1999 –June 2000)	6.9	42.6	24.4	25.7	41.8	33.4
64th (July07-Jun-08)	5.4	47.7	26.1	25.9	45.6	35.4

Source: NSS 64th Round (July 2007 – June 2008)

Rural male migration rate has decreased from 7 percent in 1983 to 5 percent in 2007-08, while the migration rate for rural females has increased from 35 percent in 1983 to 48 percent in 2007-08. The similar trend has been observed in the urban areas, where the urban male migration rate has decreased from 27 percent in 1983 to 26 percent in 2007-08 while urban female migration rate has increased from 37 percent in 1983 to 46 percent in 2007-08.

## Migration Stream in India

Table 2 presents the data on migration streams in India (%). During 2007-08, rural-to-rural migration was the most dominant migration stream (62 %) followed by rural-to-urban migration stream (20 %), urban to urban stream (13 %) and urban to rural migration stream (6 %).

Table 2: Migration Stream in India			
All India	Category of migrant		
NSS 55th round (1999-2000)			
Migration stream	Male	Female	Person
Rural to rural	32.3	70.3	61.8
Urban to rural	10.7	5.2	6.4
Rural to urban	34.4	14.4	18.8
Urban to urban	22.6	10.1	12.9
All	100	100	100
NSS 64th round (2007-08)			
Migration stream	Male	Female	Person
Rural to rural	27.2	70.0	61.7
Urban to rural	8.90	4.9	5.7
Rural to urban	39.0	14.8	19.5
Urban to urban	24.8	10.3	13.1
All	100	100	100

Source: NSS 64th Round (July 2007 – June 2008)

For male migrants, rural-to-urban migration stream was the most dominant one which shared nearly 39 percent of total male internal migrants followed by rural to rural migration stream (27 %) and urban-to-urban migration stream (24.8%).

However, some changes, in the shares of the migrations streams for male migrants have been observed in 2007-08 compared to that in 1999-2000. Table 2 shows that the share of rural-to rural migration for male migrants has decreased and the share of rural-to-urban migration has increased during 1999-00 to 2007-08.

Table 3 : Percentage Distribution of Internal Migrants by Last Usual Place of Residence (%)				
Migration Stream	Last Usual Place Of Residence			
	Within State			Between States
	Same District	Different Districts	Intra State	
<b>55th Round (1999-2000)</b>				
Rural-to-Rural	75.3	20.1	95.4	4.6
Rural-to-Urban	43.8	36.5	80.3	19.6
Urban-to-Rural	46.5	33.5	80.0	20.0
Urban-to-Urban	36.6	43.5	80.1	19.9
<b>64th Round (2007-2008)</b>				
Rural-to-Rural	72.4	23.2	95.6	4.4
Rural-to-Urban	41.2	33.6	74.8	25.2
Urban-to-Rural	48.8	33.8	82.6	17.5
Urban-to-Urban	27.9	49.2	77.1	22.9

Source: NSS 64th Round (July 2007 – June 2008)

Table 3 presents the percentage distribution of internal migrants by last usual place of residence (%). It is observed from the table that in 55th round interstate migration rate for rural to urban stream and urban to urban migration stream was 20 percent. In 64th round interstate migration rate for rural to urban stream was 25 percent and urban to urban stream was 30 percent. From the table it is observed that interstate migration rate for rural to urban stream and urban to urban stream have increased while intra state migration rate have declined during the period 1999-00 to 2007-08

### Reason for Migration

In Table 4, percentage distribution of migrants by reasons for migration have been presented for NSS 55th round (1999-2000) and NSS 64th round (2007-08). The share of employment related reasons in rural male migration had decreased from 30.3 percent in 1999-00 to 28.6 percent in 1999-00, while for urban male the share of employment related reasons increased from 52 percent in 1999-00 to 56 percent in 2007-08. Table shows that employment related reasons declined in importance in case of male migrants from rural areas while the same has increased in importance in case of male migrants in urban areas. Table also shows that the important reasons for the movement of the females were marriage.



Table 4 : Percentage Distribution of Migrants by Reason for Migration				
All India	Migrated in			
	Rural areas		Urban areas	
Reason for migration	Male	Female	Male	Female
55th round (1999-2000)				
Employment related reasons	30.3	1	51.9	3
Studies	5.3	0.4	6.2	1.3
Marriage	9.4	88.8	1.6	58.5
Movement of parents/earning member	26	6.3	27	31
Other reasons	29	3.5	13.3	6.2
Total	100	100	100	100
64th round (2007-08)				
Employment related reasons	28.6	0.7	55.5	2.7
Studies	10.7	0.5	6.8	2.2
Marriage	9.4	91.2	1.4	60.8
Movement of parents/earning member	22.1	4.4	25.2	29.4
Other reasons	29.2	3.2	10.9	4.9
Total	100	100	100	100

Source: NSS 64th Round (July 2007 – June 2008)

Table 5 presents the net migration rates and human development index for the major states in India during the period 2007-08. Table 5 reveals that among the major seventeen states, in migration was the highest in the state of Maharashtra (about 5.66 million) followed by Uttar Pradesh (about 3.23million), West Bengal (about 2.37million) and Haryana (about 2.23 million). The out-migration was the highest for the state of Uttar Pradesh (about 8.14 million) followed by Bihar (about 3.45 million) and Rajasthan (about 2.08 million). The table also shows that the net-migration rate was the highest for Maharashtra (4.34) followed by Haryana (3.75), Punjab (2.89) and Gujarat (2).

Our results are in line with the findings of Mukherji, Shekhar (2013) study. This study also highlighted that the states of Uttar Pradesh and Bihar with lowest HDI index (in 2001) are also the states of high male out migration while the developed states of Maharashtra, Punjab and Haryana are regions of high in migration rate. Poor migrant workers from the backward states are virtually forced to move out and swell in relatively forward states.

Table 5 also shows that among all the major states, HDI was highest in Kerala (0.790) followed by Himachal Pradesh (0.652), Punjab (0.605) and Maharashtra (0.572). HDI was lowest in Orissa (0.362) followed by Bihar (0.367), Uttar Pradesh (0.380) and Madhya Pradesh (0.395). The study also shows that income index was lowest in Bihar (0.127) followed by Orissa (0.139) Madhya Pradesh (0.173) and Uttar Pradesh (0.175).

Table 5 : State Wise Net Migration Rate and Human Development Index (2007-08)

State	In-migrant (in millions)	Out Migration (in millions)	Net Migration rate	In Migration Rate	Out Migration Rate	HDI	Income Index	Education Index	Life Expectancy
Andhra Pradesh	1.02	1.23	-0.29	1.3	1.6	0.473	0.287	0.553	62.8
Assam	0.11	0.23	-0.48	0.4	0.9	0.444	0.288	0.636	58.4
Bihar	0.55	4.71	-5.51	0.7	6.2	0.367	0.127	0.409	64.2
Gujarat	2.08	1.09	2.00	4.2	2.2	0.527	0.371	0.577	63.7
Haryana	2.23	1.42	3.75	10.2	6.5	0.552	0.408	0.622	65.0
Himachal Pradesh	0.30	0.34	-0.65	4.9	5.5	0.652	0.491	0.747	67.4
Jammu & Kashmir	0.08	0.18	-1.17	1.0	2.2	0.529	-	-	67.1
Karnataka	2.01	1.42	1.22	4.1	2.9	0.519	0.326	0.605	63.9
Kerala	1.07	0.81	0.87	3.6	2.7	0.790	0.629	0.924	70.5
Madhya Pradesh	1.32	1.7	-0.64	2.2	2.8	0.395	0.173	0.522	58.9
Maharashtra	5.66	1.54	4.34	6.0	1.6	0.572	0.351	0.715	66.3
Orissa	0.53	0.96	-1.19	1.5	2.7	0.362	0.139	0.499	59.6
Punjab	1.86	1.17	2.89	7.8	4.9	0.605	0.495	0.654	67.5
Rajasthan	1.76	2.08	-0.56	3.0	3.6	0.434	0.253	0.462	63.0
Tamil Nadu	0.99	1.37	-0.61	1.6	2.2	0.570	0.355	0.719	65.7
Uttar Pradesh	3.23	8.14	-2.87	1.9	4.8	0.380	0.175	0.492	60.6
West Bengal	2.37	1.23	1.45	3.0	1.6	0.492	0.252	0.575	65.7

Source: NSS 64th Round (July 2007 – June 2008), Economic Survey (2014-15)

Table 6 presents the basic data on the socio-economic indicators of major 17 states of India which play important role in internal migration. Per capita net state domestic product and per capita credit to industry play important role in economic development. During the period 2007-08, PCNSDP was in highest in Maharashtra (Rs. 50138) followed by Haryana (Rs. 47046) and Gujarat (Rs. 42498). On the other hand PCNSDP was lowest in Bihar (Rs. 9070) followed by Uttar Pradesh (Rs.14875) and Madhya Pradesh (Rs.17572). Per capita credit was highest in Maharashtra followed by Gujarat and Tamil Nadu. On the other hand PCCI was lowest in Bihar followed by Assam, Uttar Pradesh and Madhya Pradesh. Per capita Credit to Agriculture was highest in Punjab followed by Haryana and Karnataka and lowest in Assam, Bihar, West Bengal, Jammu & Kashmir, Orissa and Uttar Pradesh. During the 2004-05, Poverty was highest in Bihar followed by Madhya Pradesh, Assam and Uttar Pradesh. The study finds that Maharashtra, Gujarat, Punjab and Haryana are the industrial and agriculture developed states and in these states in migration rate is high where as Bihar, Uttar Pradesh are the economically backward states and out migration is highest in these states.

According to Census 2011, percentage of urban population to the total population was highest in Tamil Nadu (48.4%), followed by Kerala (47.7 %), Maharashtra (45.22 %), Gujarat (42.6 %), Karnataka (38.67 %) and Punjab (37.48 %).

Above results are consistent with the findings of Roy and Debnath (2011) and Das and Saha (2013) and Malhotra and Pushpa Devi (2014). These studies also find per capita income, urbanization, poverty, per capita credit to agriculture significantly effect migration.

Table 6: State Wise Socio Economic Indicators which motivate Internal Migration

State	2007-08						2009-10						2011		
	PCNSDP	PCCI	PCCA	PCIA	PCCF	PBPLU	SAW	SMW	SSW	PCCF	LR	PG	URB	PCW	
Andhra Pradesh	33217	7651.9	3879.1	46.32	196.6	22.8	51.1	11	24.3	1013.74	67.66	11.1	33.36	16.47	
Assam	18089	1360.2	520.1	2.41	55.7	39.9	63.1	4.1	27.2	209.21	73.18	16.93	14.1	33.93	
Bihar	9070	1019.8	900.6	60.56	152.4	55.3	63.8	5.1	20.4	117.48	63.82	25.07	11.29	20.72	
Gujarat	42498	14313	4427.3	41.66	132.8	26.7	52.3	13.7	26.8	1558.58	79.31	19.17	42.6	21.99	
Haryana	47046	8017.8	5039.8	85.99	189	18.6	45.0	15.4	27.9	1491.37	76.64	19.9	34.88	22.82	
Himachal Pradesh	40143	6425.6	2249	19.16	51.5	9.1	64.5	3.9	16.7	1144.94	83.78	12.81	10.03	57.93	
Jammu & Kashmir	24470	3738.9	1206.1	40.85	69	8.1	61.8	7.6	21.9	968.47	68.74	23.71	27.38	28.81	
Karnataka	35574	13953.9	5005.4	29.39	116.9	26.1	57.2	9.9	25.1	873.05	75.6	15.67	38.67	23.61	
Kerala	41315	3884.5	4052	16.49	75.4	12	32.1	12.4	39.2	536.78	93.91	4.86	47.70	5.77	
Madhya Pradesh	17572	2546.9	2298.9	32.17	63.8	42.0	64.4	6.3	15.3	618.1	70.63	20.3	27.63	31.18	
Maharashtra	50138	29436.7	2795	19.57	102.7	29.5	52.9	10.8	29.8	1054.1	82.91	15.99	45.22	25.43	
Odisha	21640	2997.4	1320	36.7	50.1	39.2	62.2	8.3	17.4	837.55	73.45	13.97	16.69	23.4	
Punjab	39567	12155.2	6454.8	97.71	215.7	14.6	45.1	12.7	29.1	1663.01	76.68	13.73	37.48	19.55	
Rajasthan	21922	4355.7	2754.6	36.42	44.4	26.4	47.6	5.9	19.1	811.12	67.06	21.44	24.87	45.57	
Tamil Nadu	41314	13960.3	4328	55.92	185	21.2	41.8	17.2	27	1210.81	80.33	15.6	48.40	12.92	
Uttar Pradesh	14875	1621.1	1679.6	75.45	150.7	39.4	60.3	9.6	19.1	386.93	69.72	20.09	22.27	28.96	
West Bengal	27094	6869	1197.9	56.89	141	14.9	43.4	18.4	30.3	515.08	77.08	13.93	31.87	14.72	

Sources: NSSO 64<sup>th</sup> round,  
Report on Planning Commission  
Handbook of Statistics on Indian State  
Economic Survey  
Agriculture Statistics  
Population Census of India, Office of the Registrar General, India

## Results of Correlation Matrix

Table 7 gives the result of correlation matrix. Results show that volume of in migration is positively correlated with per capita credit to industry.

The volume of out migration is positively correlated with population below poverty line in rural areas and population below poverty line in urban areas.

The rate of in migration is positively correlated with per capita net state domestic product (PCNSDP) at constant prices (base 2004-05), per capita credit to agriculture (PCCA) and per capita consumption of electricity (PCCE).

## Simple Linear Regression Results

Table 8 presents the result of simple regression between migration and socio economic indicators. In this table an effort has been made to analyze the relationship between migration and various socio economic indicators for the selected seventeen Indian states with the help of simple linear regression analysis, with migration as a dependent variable and socio economic indicators as independent variables. The results are given only for those variables which show significant relation with migration. Table shows that urbanization and per capita credit to industry is positively and significantly related with volume of in migration.

Table 8: Results of Simple Linear Regression between Migration and Socio-Economic indicators					
Dependent Variable: Volume of In Migration					
Independent Variables	Constant	$\beta$	R <sup>2</sup>	R <sup>2</sup>	Sig
Urbanization	172.24 (.021)	522.38 (2.088)***	.225	.174	.054
Per Capita Credit to Industry	5188.73 (1.431)	.014 (3.970)*	.512	.480	.001
Dependent Variable: Volume of Out Migration					
Human Development Index	5.897 (2.859)	-7.981 (-2.014)***	.225	.169	.064
Income Index	4.018 (3.542)	-6.806 (-2.084)***	.237	.182	.056
Education Index	6.430	-7.562 (-2.132)***	.245	.191	.051
Per Capita Income	40246.34 (3.432)	-.738 (-2.088)***	.225	.174	.054
Population Below Poverty Line (Rural )	-3272.89 (-.355)	789.36 (2.500)**	.294	.247	.025
Population Below Poverty Line (Urban)	-19581.51 (-1.741)	1767.25 (3.473)*	.446	.409	.003
Percent of irrigation area	3678.14 (.343)	323.66 (1.830)***	.183	.128	.087
Dependent Variable: Rate of In Migration					
Human Development Index	-2.438 (-.883)	11.729 (2.211)**	.259	.206	.044
Income Index	-.015 (-.010)	11.061 (2.646)**	.333	.286	.019

Per Capita Income	-1.365 (-1.066)	.000 (3.976)***	.513	.481	.081
Literacy Rate	-8.095 (-1.282)	.152 (1.826)***	.182	.127	.088
Population Below Poverty Line (Rural )	5.624 (4.117)	-.086 (-1.833)***	.183	.128	.087
Per Capita Credit to Industry	1.977 (2.239)	1.771E-6 (2.115)***	.230	.178	.052
Per Capita Credit to Agriculture	.328 (.333)	1.034E-5 (3.635)*	.459	.423	.003
Per Capita Consumption of Electricity	-.177 (-.163)	.004 (3.649)*	.470	.435	.002

Source: Author's Calculation

\*significant at 1% level

\*\*significant at 5% level

\*\*\*significant at 10% level

Per capita income is negatively and significantly related with volume of out migration. The result shows that less income results in more out migration from the state. Population below poverty line in rural as well as urban areas shows positive and significant relation with volume of out migration. Percentage of irrigated area is positively and significantly related with volume of out migration.

The study finds that Human Development Index, Income index and education index show negative and significant relationship with volume of out migration.

The study finds that Human Development Index and Income index show positive and significant relationship with rate of in migration. Per capita income is positively and significantly related with rate of in migration. The result suggests that more income attract more people to the states and in migration rate will be high. Literacy rate is positively and significantly related with in migration rate. Education plays a very important role in the process of migration. Education attainment and migration are positively related. If the persons have higher educational attainment all else being equal, they will be more mobile. Highly educated persons search for employment in regional and national labour markets in which employers seek qualified employees. Education helps the persons to have information about employment opportunities elsewhere (McConnell and Brue, 1986). Per capita credit to industry and per capita consumption of electricity also shows positive and significant relation with in migration rate.

## Factor Analysis Results

The technique of Factor Analysis is used to find out the variables responsible for internal migration. The results of the factor analysis with varimax rotation are given in the Table 9. Factor analysis of socio economic variables of seventeen major states of India is completed which has given following three main factors, showing the main economic structure of all the states of India.

Variables	F1	F2	F3	Communalities
PCNSDP	.916	.330	-.008	.949
PCCE	.877	-.082	.383	.923
PCCA	.712	.282	.435	.775
PCCI	.702	.209	.035	.538
PBPLR	-.698	-.214	.079	.539
LR	.590	.519	-.441	.812
SSW	.296	.883	-.088	.874
PCW	.108	-.867	-.333	.874
SAW	-.381	-.793	-.144	.795
SMW	.355	.712	.442	.829
URB	.563	.699	.147	.828
PCIA	.027	.059	.933	.875
PCCF	.162	.344	.858	.880
Eigen Value	6.56	2.22	1.71	
% of Variance	31.99	29.47	19.24	
Cumulative %	31.99	61.47	80.70	

Extraction Method: Principal

The value of Kaiser-meyer-olkin measure of sampling adequacy is 0.705 which tells us that we should be confident that factor analysis is appropriate for this data, while, Barlett's test is highly significant which also shows factor analysis is quite suitable for data.

The cumulative percentage of the variances of these factors is 80.70. Economic development factors explaining 31.99 percent of the total variance, is the most dominant factor in this case. The variable having the highest loading in the first factors are Per Capita Net State Domestic Product (.916), Per Capita Consumption of Electricity (.877), Per Capita Credit of Agriculture (.712), Per Capita Credit of Industry (.702), Population below Poverty Line in rural areas (-.698) and literacy rate (.590).

The second factor accounts for 29.47% of total variance and includes share of workers in the service sector (.883), percentage of cultivator workers (-.867), share of workers in the agriculture (-.793), share of the workers in manufacturing (.712) and urbanization (.699). These variables represent the share of workers in various sectors and urbanization. The Third factor explains 19.24% of the total variance and contains percent of irrigated areas (.933) and per capita consumption of fertilizer (.858) and may be termed as agriculture factors.

## Conclusion

The present study makes an attempt to analyse the trend and changing pattern of internal migration in India. The study also attempts to identify factors causing internal migration in India. Based on NSSO survey data, during the period 1983 to 2007-08, the study found that migration rate increased over the time but male migration rate decreased over time. It has been found that the share of rural-rural migration has been a dominant migration stream and on the other hand rural-urban migration has been increased. The study shows that higher migration rate and higher rural to rural migration is due to female migration marriage. Inter-state migration rate for rural

to urban stream and urban to urban stream have increased while the intra- state migration rate have declined during the period 1999-2000 to 2007-08. Analysis of reason of migration shows that migration to urban areas has been mainly for employment purposes for males, whereas marriage is major reason for migration of females in rural as well as urban areas.

The study found that in migration was the highest in the state of Maharashtra followed by Uttar Pradesh, West Bengal and Haryana. The out-migration was the highest for the state of Uttar Pradesh followed by Bihar and Rajasthan. Net migration rate was the highest for Maharashtra followed by Haryana, Punjab and Gujarat.

The rate of in migration is positively correlated with per capita net state domestic product, per capita credit to agriculture and per capita consumption of electricity.

The regression results show that Human Development Index, Income index and education index show negative and significant relationship with volume of out migration. The study finds that Maharashtra, Gujarat, Punjab and Haryana are the industrial and agriculture developed states and in these states in migration rate is high whereas Bihar, Uttar Pradesh are the economically backward states and out migration is highest in these states.

Regression results show that urbanization and per capita credit to industry show positive and significant relation with volume of in migration. Per capita income is negatively and significantly related with volume of out migration. Population below poverty line in rural as well as urban areas and percentage of irrigated area shows positive and significant relation with volume of out migration. Per capita income, literacy rate, per capita credit to industry and per capita consumption of electricity is positively and significantly related with rate of in migration. Factor Analysis Results show that the variable having the highest loading in the first factors are Per Capita Net State Domestic Product, Per Capita Consumption of Electricity, Per Capita Credit of Agriculture , Per Capita Credit of Industry, Population below Poverty Line in rural areas and literacy rate.

### Limitations of the Study

1. The study could not be extended beyond 2007-08 as NSSO data is available upto this year only.
2. Analysis has to be restricted to 17 major states as comparable data is available for these states only for all the NSSO rounds included in this study.

### References

- Bhagat, R. B. (2009). Internal Migration in India: Are the Underclass More Mobile? Paper presented in the 26th IUSSP General Population Conference held in Marrakech, Morocco, 27 September- 2 October 2009, 1-21.
- Bhagat, R.B. & Mohanty, S. (2009). Emerging patterns of migration and contribution of migration in urban growth in India. *Asian Population Studies*, 5(1), 5-20.
- Bhattacharya, P (1998). The Informal Sector and Rural-to-Urban Migration: Some Indian Evidence. *Economic and Political Weekly*, 33(21), 1255-1262.
- Bhattacharya, P (2002). Urbanization in Developing Countries. *Economic and Political Weekly*, 37(41), 4219-4228.
- Chakroborty & Kuri (2013). Rural-Urban Migration and Urban Informal Sector in India: An Inter-State Analysis. *International Journal of Current Research*, 5(04), 950-956.
- Das K.C & S. Saha (2013). Inter-state migration and regional disparities in India. Retrieved from [www.iussp.org](http://www.iussp.org)



- Ghuman,, R. S (2007). Changing Character of Rural Economy and Migrant Labour in Punjab, MPRA Paper No. 6420. Retrieved from <http://mpra.ub.uni-muenchen.de/6420>
- Government of India (2001). *Report of the Working Group on Social Security for Tenth Five Year Plan (2002-07)*. Planning Commission, GOI, New Delhi.
- Joseph, K.V (1988). *Migration and Economic Development of Kerala*. Mittal Publication, Delhi
- Kohli, P.S (2010). Inter-State Immigration into Punjab during 1971-91. Retrieved from [www.archive.org](http://www.archive.org).
- Kundu, A (1986). Migration, Urbanisation and Inter-Regional Inequality: The Emerging Socio-Political Challenge. *Economic and Political Weekly*, 21(46), 2005-2008.
- Kundu, A & Gupta (1996). Migration, Urbanisation and Regional Inequality. *Economic and Political Weekly*, 31(52), 3391-3398.
- Kundu, Amitabh( 2003). Urbanisation and Urban Governance: Search for a Perspective beyond Neo-Liberalism. *Economic and Political Weekly*, 38 (29),3079–3087.
- Lusome, R & R.B.Bhagat (2006). Trends and Patterns of Internal Migration in India: 1971-2001. Retrieved from [www.scribd.com](http://www.scribd.com)
- Singh,M.(2010). *Globalization and Economic Development: Experience of Developing Countries*. Deep & Deep Publications. New Delhi.
- Mukherji, S. (2013). *Migration in India: Links to Urbanization, Regional Disparities and Development Policies*. Rawat Publication, Jaipur.
- Narayana, M. R (1990). Policy and Non-Policy Economic Determinants of Inter-Regional Migration of Workers in a Developing Country: Some New Evidence Based on a Polytomous Logit Model for India. *Population Research and Policy Review*, 9(3), 285-302.
- Malhotra, N & P Devi (2014). Trend, Pattern and Determinants of Internal Migration in India. *Indian Journal of Regional Science*, 46(2),41-50.
- Malhotra, N. K. (2007). *Marketing research: An Applied Orientation*. Upper Saddle River, NJ: Pearson/Prentice Hall.
- NSSO (1998). *Migration in India 1993*, NSS Report No. 430, NSS 49<sup>th</sup> Round. Ministry of Statistics and Program Implementation. Government of India. New Delhi.
- NSSO (2001). *Migration in India 1999-2000*, Report No. 470 (55/10/8), NSS 55<sup>th</sup> Round, Ministry of Statistics and Program Implementation, Government of India. New Delhi.
- NSSO (2010). *Migration in India 2007-2008*, NSS Report No. 533 (64/10.2/2), NSS 64<sup>th</sup> Round, Ministry of Statistics and Program Implementation, Government of India. New Delhi.
- Oberai A.S (1987). *Migration, Urbanization and Development*, Human Resources and Development Planning Paper No. 5, International Labour Office Geneva.
- Oberai A.S and H.K.M Singh (1983). *Causes and Consequences of Internal Migration: A Study of Indian Punjab*, Oxford University Press.
- Piplai,T and N Majumdar (1969). Internal Migration in India: Some Socio-Economic Implications. *Sankhyā: The Indian Journal of Statistic, Series B*, 31(¾), 509-522.
- Rele J. R (1969). Trends and Significance of Internal Migration in India. *Sankhyā: The Indian Journal of Statistics, Series B* 31(¾),501-508.
- Roy, N and A Debnath (2011). Impact of Migration on Economic Development: A Study of some selected State, *2011 International Conference on Social Science and Humanity IACSIT Press, Singapore*.
- Skeldon, R (1986). On Migration Patterns in During the 1970s. *Population and Development Review*, 12 (4), 759-779.



Srivastava, R (2009). Impact of Internal Migration in India. Migrating Out of Poverty Research Programme Consortium, *Working Paper No. 41*, RMMRU.

Vipul K S (2011). Changing Pattern of Internal Migration in India: Some Evidence from Census Data. *International Journal of Current Research*, 3(4), 289-295.

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**Table 7: Pearson Correlation Matrix**

Indicators	PCNSDP	LR	PBPLR	PBPLU	PCIA	PCCF	URB	SAW	SMW	SSW	PCW	PCCI	PCCA	PCCE	IM	OM	IMR	OMR
PCNSDP	1																	
LR	.738**	1																
PBPLR	-.651**	-.535*	1															
PBPLU	-.699**	-.595*	.821**	1														
PCIA	0.024	-0.281	-0.059	0.279	1													
PCCF	0.299	-0.079	-0.091	0.117	.790**	1												
URB	.714**	.541*	-0.427	-.548*	0.122	0.412	1											
SAW	-.573*	-.554*	.536*	0.421	-0.249	-0.401	-.754**	1										
SMW	.554*	0.396	-0.423	-0.238	0.482	.648**	.753**	-.757**	1									
SSW	.576*	.656**	-0.427	-0.325	0.000	0.321	.703**	-.794**	.626**	1								
PCW	-0.196	-0.222	0.022	-0.028	-0.300	-.554*	-.640**	.592*	-.705**	-.671**	1							
PCCI	.753**	0.419	-0.235	-0.389	-0.031	0.279	.661**	-0.281	0.419	0.384	-0.171	1						
PCCA	.720**	0.382	-0.433	-0.478	0.399	.570*	.705**	-.592*	.518*	0.429	-0.327	.487*	1					
PCCE	.766**	0.297	-.568*	-.597*	0.367	0.394	.492*	-0.321	0.438	0.147	-0.011	.556*	.757**	1				
IM	0.395	0.208	0.04	0.064	0.166	0.247	0.475	-0.239	0.373	0.269	-0.134	.716**	0.235	0.187	1			
OM	-0.474	-0.396	.542*	.668**	0.428	0.269	-0.223	0.198	-0.083	-0.292	-0.018	-0.225	-0.204	-0.407	0.322	1		
IMR	.716**	0.426	-0.428	-0.247	0.409	0.351	0.379	-0.401	0.387	0.337	0.011	0.479	.677**	.686**	0.47	-0.173	1	
OMR	-0.049	-0.134	0.077	0.331	.569*	0.265	-0.338	0.1	-0.153	-0.283	0.264	-0.246	0.186	0.135	-0.05	0.432	0.464	1