Impact of Migration on Economic Development:

A Study of some selected State

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Abstract—**Mobility has been an inherent part of human existence since the days of civilization. Migration in today's world is shaped by a number of factors related to economic, political, religious, life risk, and various ethnic and socio-cultural issues. In this paper, an attempt has been made to investigate firstly, the impact of a variety of economic and non-economic factors on net in migration and secondly, the impact of net migration on the level of economic development in fifteen major states of India. Using pooled cross section data for fifteen major states, it has been found that net migration is positively influenced by level of Per Capita Income and level of road infrastructure, and negatively influenced by unemployment rate and cost of living. The other variable, crime rate, has been found insignificant as a determinant of migration, indicating that people migrating from one state to other do not concern about risk of life, they are rather concerned about basic needs of life. Further, migration-development relationship tested in the present study indicates that level of development is positively associated with net migration. This finding defends the controversial belief that migration is beneficial for development and there is no reason to raise voice against human mobility in the context of Indian economy.**

Keywords-Migration, Economic Development, India.

I. INTRODUCTION

Migration has been a major source of human survival, adaptation, and growth across the centuries and millennia. In the early days, human migration was accompanied by anticipation, excitement, fear, the fracturing of long-standing social relationships, heartaches, tensions, and even bloodshed between the migrants and the local populations, and the willing or unwilling exchange of ideas, skills, attitudes, and genes. The overwhelming majority of people who move do so inside their own country. Data reveals that internal migration is four times higher than international migration [1]. And when it comes to internal migration, case of Indian economy is of particular interest because of the strong heterogeneity across states in their levels of per capita income, and demographic characteristics [2].

The impact of human-mobility on the economy of destination is a debatable issue. While research has found that migration can, in certain circumstances, have negative effects on locally born workers with comparable skills, the body of evidence suggests that these effects are generally small and may, in some contexts, be entirely absent [1]

In this study, we made an attempt to investigate firstly, the impact of a variety of economic and non-economic factors on net state in-migration and secondly, the impact of net migration on the level of economic development in fifteen major states of India[1].

II. MOTIVATIONS AND IMPACT OF MIGRATION: REVIEW OF LITERATURE

The basic idea of classical thought is that labor migration arises due to the actual wage differentials between regions. The neo-classical idea on migration, which is an extension of classical idea, based on the expected rather than actual wage differentials between regions [3]. Despite its seminal contribution to understanding people outflows, this approach has failed to account for the risky nature of migration and the empirical evidence showing that people movement does not equilibrate expected incomes across regions [4, and 5]. Indeed, the main limitation of Todaro [3] model is that it does not include any other influences, besides expected income, that shape potential migrants' decision and also potential impacts on source economies. Modern scholars, after recognizing this limitation of Neo-classical model, opined that migration is caused by a push from behind and/or a pull from an appealing prospect in front. Push factors attribute to the negative characteristics operating at the center of origin whereas pull factors identify the positive characteristics at the center of destination The combination of push and pull factors and research into which specific determinants play a significant role in migration patterns has received a lot of attention in the empirical literature [6,7,8 and 9]. In general, many of the determinants of migration flows can be categorized under three headings: Economic and Demographic, Political, and Environmental factors.

The economic contribution of migrants is a hotly debated issue. While some analysts contend that migrants pose a net drain on resources and threaten local employment, others argue that they do not compete for the same jobs and provide cheap labour that boosts economic growth. The same arguments apply to internal migrants and the evidence suggests that circular migration in particular has win-win outcomes for sending and receiving areas [10].Neo-classical

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[1] These states are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil, Uttar Pradesh, and West Bengal.

perceptions of the impact of migration on the labour market often start from the observation that in-migration increases the supply of labour and out-migration reduces it. It is thus argued that migration results in more competition for jobs, lowering wages and increasing unemployment. This logic of falling PCI in one region and rising PCI of other region as a result of migration is often used to explain economic convergence in the literature [11]. However, this simplified neo-classical model makes the mistake of assuming that there is a so-called "lump of labour"-i.e; a fixed number of jobs to be performed in the economy-and that "work is given to one person at the cost of another". In reality, in-migration increases both the supply of labour and also the demand for workers, since immigrants are not only workers but consumers too [12]. In fact, migration creates both opportunities and risks for the sending and receiving countries, thus it is imperative that a holistic approach be given to discussions on the socio-economic impacts of migration [13]. The movement of people, particularly labour from one region to another creates for the two regions both negative and positive socio-economic effects. For the receiving regions, the positive benefits from in-migration are the infusion of 'cheap labour' into their economies and the cross-fertilization of cultures. In terms of cost, the increasing flow of in-migrants often leads to a distortion of the labour markets and social tensions such as crime, unemployment, public welfare burden and other security concerns. There is also the social dimension. Migration can also have negative social externality on sending regions. The social fabric of a source economy could be polluted with norms, customs, culture and values acquired by returned migrants and can hurt the social capital. Also, at the community and family levels, regardless of the skill level of migrants, their departure can lead to family disorganization, reduced labour force and loss of decision makers in the community. For the sending regions, the socio-economic effects vary widely. Migration has the potential to contribute to sustainable development through transfer of funds, skills transfer, investment, brain circulation etc.

III. INTERNAL MIGRATION IN INDIA: TRENDS AND PATTERNS

In 2001, 309 million persons were found migrants based on place of last residence, which constitute about 30% of the total population of the country. This figure indicates an increase of around 37 percent from census 1991 which recorded 226 million migrants. Out of the total migrants 91 million are males and the rest 218 are females. Thus migrants constitute around 30 percent of the total population, male and female migrants constituting 18 percent and 45 percent of their population respectively. Of the total migrants, 87 percent were migrants within the state of enumeration while 13 percent were interstate migrants. Among the male migrants, 79 percent moved within the state of enumeration while 21 percent moved between states. Among females, 90 percent were intrastate migrants and 10 percent were interstate migrants as per census of India 2001. As regards inter-state movement in India, a clear sex differential is found from census 2001. Among the male interstate migrants,

rural to urban stream emerged as the most prominent accounting for 47 percent.

In census 2001, the reasons for migration have been classified into seven broad groups – work/employment, business, education, marriage, moved at birth, moved with family and others. It is observed that employment among males and marriage among females are the main reasons for migration. Associational reasons – movement on account of accompanying parents or any other member of the family is elicited second most important reason among both male and female intercensal migrants. Among male migrants, employment has continued to be the main reason for migration with nearly 40 percent of them accounted by it.When interstate migration is taken into account; employment emerges as the main reason for migration.

IV. DATA SOURCE AND EMPIRICAL MODEL

Given the framework provided in the section II, we estimate the following model to trace out the impact of socio-economic factor on net migration:

$$M_{it}=b_1+b_2\ln Y_{it-1}+b_3\ln C_{it-1}+b_4\ln Un_{it-1}+b_5\ln Cr_{it-1}+b_6 R_{it-1}+u_{it}$$
(1)

Definitions of each of these variables and their respective data sources are given in the appendix. Here, index i refers to the state (i = 1,..., 15), t to the time period (t = 1,..., T) and u_{it} supposed to be white-noise error. Most studies of determinants of internal migration adopt either per capita income(PCI) or median income in the initial period as a measure of economic opportunity which in turn, would pull in-migration. In equation (1), the use of Per capita income (Y) is parallel to such a specification. Assuming that migrants are not subject to "money illusion," net in-migration should be a decreasing function of the cost of living [8, and 9]. We use SDP deflator (C) in the initial period as a proxy of cost of living in ith state. We use rate of unemployment in the last period (Unit-1) as an indicator of expected unemployment which is expected to have a negative effect on in-migration rate [see 10]. Quinquennial Average of Cognizable Crime (Cr)in the initial period has been used as a proxy of life risk in ith state. Accordingly, it is hypothesized that the net in-migration is a decreasing function of Crit-1. Finally, we have incorporated road coverage per sq km as a proxy variable for level of infrastructure which is supposed to have a positive effect on in-migration.

V. RESULTS AND DISCUSSION

The estimated results of equation (1) by OLS, adopting the White [14] correction for heteroscedasticity, are provided in Table-1[2]. In this estimation, four of the five estimated coefficients exhibit their expected signs and are statistically significant at the five percent level or beyond. The adjusted coefficient of determination is 0.71, so that the model

[2] The model is estimated using two non-overlapping samples. The time points/periods of the variables are: M (1981-91 and 1991-2001),Y (1981, 1991), C (1971-80, 1986-90), C (1981 and 1991), Un (1983 and 1994), and R (1981 and 1991).

explains more than three-fifths of the variation in the net state in-migration rate. The F-statistic is significant at beyond the one percent level, attesting to the overall strength of the model (see Table I).

TABLE I.   DETERMINANTS OF IN-MIGRATION: DEPENDENT VARIABLE: Mit

Variables	Coefficient
Constant	*-19.41* *(-7.47)***
lnY_{it-1}	*2.43* *(5.14)***
$lnCr_{it-1}$	*0.14* *(0.57)*
lnC_{it-1}	*-1.08* *(-8.02)***
$lnUn_{it-1}$	*-0.68* *(-2.46)**
R_{it-1}	*0.01* *(4.19)***
$\overline{R}^2$	*0.71*
F	*13.19***

Note: * and ** indicate 5% and 1% level of significance.

Figures in the parentheses indicates respective t-values

Source: Estimated by authors

The estimated coefficient of PCI (Y) variable is positive and significant at the one percent level, implying that net in-migration is an increasing function of State Per Capita Income. This finding is consistent with the conventional wisdom [15, 16, and 17]. The coefficient of cost-of-living(C) variable is negative and statistically significant at one percent level, implying that migrants are not subject to "money illusion." This finding is also consistent with the exiting literature [15, 16, 17, 18, 19, and 20]. Next, the estimated coefficient of the unemployment rate variable (Un) is negative and statistically significant at one percent level, implying that states with higher rate of unemployment experienced less in-migration. This implies that migrants tend to seek destinations with better employment prospects ceteris paribus. This finding is consistent with the very recent study by Partridge and Rickman [21]. The estimated coefficient of the often neglected infrastructure variable(R) is positive and significant at the five percent level, confirming the fact that better infrastructure drives in migrants. However, the coefficient of risk of life variable (Cr) is positive but it is not significant even at ten percent level. This implies that inter-state migration in India is not influenced by crime rate. People migrating from one state to other do not concern about risk of life, they are rather concerned about basic needs of life.

The next step in our analysis consists of looking at the impact of migration on the level of economic development as

Here, three of the four estimated coefficients are statistically significant. Values of   adjusted R2 and F are highly satisfactory. The estimated coefficient of the M variable is positive and significant at the one percent level, implying that net in-migration is a positive determinant of State Per Capita Income. This finding is consistent with the

approximated by level of per capita income. To do this we estimate the following equation:

$$lnY_{it}=c_1+c_2lnM_{it-1}+c_3lnL_{it-1}+c_4lnH_{it-1}+c_5lnSA_{it-1}+e_{it}$$
.... (2)

As before, definitions of each of these variables and their respective data sources are given in the appendix. It is important to note that we regress Per Capita Income of ith state in the current period on variables (expected to determine PCI) in the previous period. The reason behind such specification is easy enough to understand. Since it takes time for a change in the level of education, health care facility, inflow of labour force (through migration may be) and others to be reflected in higher level of output , therefore , it is quite obvious that we would find today's PCI responding to yesterday's "hard work."

Here we use lag value of net in-migration (Mit-1) to find the answer to the question that we raised before: whether migration affects economic development. Literacy rate (L) has been included to capture the level of education in the ith state which is expected to have positive sign. The variable infant mortality rate (H) is adopted as an indicator of the level of health. Accordingly, it is hypothesized that the level of Y today is a positive function of H of yesterday. Finally, we use share of agriculture in total state domestic product (SA) as proxy of economic structure of the ith state. If we believe in the controversial thought that level of development is conditioned by a structural change in favour of non-agricultural sector, then we should expect a negative sign for SA. The estimated result of equation (2) is reported[3] in Table II.

TABLE II.   IMPACT OF MIGRATION ON LEVEL OF DEVELOPMENT: DEPENDENT VARIABLE: LNY IT

Variables	Coefficient
Constant	*8.25* *(21.72)****
M_{it-1}	*15.43* *(4.14)****
lnL_{it-1}	*0.02**** *(5.57)*
lnH_{it-1}	*0.08* *(8.02)***
$lnSA_{it-1}$	*0.01* *(0.69)*
$\overline{R}^2$	*0.63*
F	*26.19***

Note: * and ** indicates 5% and 1% level of significance.

Figures in the parentheses indicates respective t-values

Source: Estimated by authors

conventional wisdom [18, 19 20, 22 and 23]. And the coefficients of education and health variables are having

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[3]   The model is estimated using two non-overlapping samples. The time points/periods of the variables are: M (1981-91 and 1991-2001),Y (1991,   2007),   L   (1991,   2001),   H   (1991,

desirable sign. The coefficient of economic structure is, however, found to be insignificant even at 10 per cent level of significant. This implies structure of the state economy in terms of agricultural sector share does not influence per capita NSDP.

This result, though goes against the traditional thought[4], is acceptable in the case of India economy. Because here some states having higher contribution of agricultural sector (for example Punjab and Haryana) are experiencing better Per Capita NSDP than states (like Assam, Orrisa) having relatively lower contribution of the same.

VI. CONCLUSION

We have identified two pull (PCI and level of infrastructure) and two push factors (unemployment and cost of living) of inter-state migration in India. The other variable, crime rate, has been found insignificant as a determinant of migration, indicating that people migrating from one state to other do not concern about risk of life, they are rather concerned about basic needs of life. This calls for importance of Basic Needs Approach to human development in Indian states. Further, migration-development relationship tested in the study indicates that level of development is positively associated with net migration. This is an important finding as it defends the controversial thought that migration is beneficial for development and there is no reason to raise voice against human mobility in the context of Indian economy. Infact in the context of recent growing tensions in the northeastern part of Indian states (consisting eight states) where in-migration becomes a political and social issue, this findings go a long way in influencing people's perceptions. The people at large in most of these states are raising their voices against in-migration and there is a popular belief that in-migration causes lower economic development in these states. In all the tribal majority states in northeastern region of India there is a system of Interline Permit as a precautionary measure against large scale in-migration and also for protection of indigenous culture. However, a suitable policy package may be framed the Central government of India in this context.

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APPENDIX

Variable	Definition	Source
Net In-Migration Rate	Net migration during a decade divided by total population at the beginning of the decade.	Census of India, 1981, 1991, 2001.
Per Capita Income	Per Capita Net State Domestic Product as defined in CSO, India.	Economic and Political Weekly Research Foundation(EPWRF), 2009
SDP deflator	Ratio of nominal SDP to real SDP	Calculated by authors using data published by

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[4] Traditionally it is believed that economic development in terms of higher level of PCI is conditioned by lower contribution of Primary sector and higher contribution of secondary and tertiary sectors

		EPWRF,2009
Crime Rate	*Quinquennial Average of Cognizable Crime as defined in source*	*National crime records bureau, India,2009*
Road Coverage	*All category of roads (both surfaced and unsurfaced) length in kilometers per 100 s.q Km*	*Palnning Commision , Government of India (2005)*
Unemployment Rate	*The percentage of persons unemployed in the age group 15 years and above on the usual principal and subsidiary status to the total number of persons in the labour force.*	*The 38th, 50th and the 55th Rounds of the NSSO on Employment and Unemployment Situation in India*
Literacy Rate	*The proportion of literates to the population in the age group 7+.*	*Census of India, various issues.*
Infant Mortality Rate	*The number of infant deaths (one year of age or younger) per 1000 live births*	*Census of India, various issues.*
Share of Agricultural Sector	*Percentage of agricultural SDP to total SDP.*	*Economic and Political Weekly Research Foundation(EPWRF), 2009*