

A Comparative study of Out Migration in Uttar Pradesh, Bihar and Odisha

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Abstract

Migration has always been a defining feature of India's social and economic landscape, but in recent decades, certain states like Uttar Pradesh, Bihar and Odisha have emerged as major sources of out-migrants. This study examines the trends of out-migrants from these three states between 1993 to 2025, using secondary data from Census of India, NSSO,NFHS, RBI,and Economic Surveys. Linear interpolation technique were applied to generate annual estimates of migration and related variables. The research focuses on four major determinants of migration: poverty, unemployment, GDP, and wage rate. A common approach is adopted to highlight both common and state-specific drivers of migration. The findings suggest that persistent poverty and unemployment have been strong push factors, while slow GDP growth and low wage opportunities continue to drive large scale migration. The outcomes are relevant for policymakers seeking to reduce distress migration and create balanced economic opportunities across regions.

Keywords: out-migration, economic determinants, poverty, unemployment, GDP, wage rate.

Introduction

Migration is one of the most visible outcomes of regional inequality and uneven development. In India, internal migration has been a critical part of the country's socio-economic transformation, especially in the post-liberalization period. Among various forms of migration, out migration from less developed states to more developed regions within the country has gained particular attention. While migration has often been viewed from the lens of urbanization and development of destination areas, I believe it is equally important to understand the source regions- why people leave, what drives them, and what they leave behind. This research focuses on out-migration from three major Indian states – Uttar Pradesh, Bihar and Odisha – which have consistently recorded some of the highest rates of inter-state migration in the country. These states despite having large populations, continue to face long-standing development challenges such as poverty, unemployment, underemployment, poor infrastructure and limited access to quality education and health services. These conditions act as strong push factors forcing individuals and families to migrate in search of better employment opportunities and improved living conditions in other parts of the country. The reasons behind out-migration from these states are

multifaceted. Economic underdevelopment manifests through low Gross state Domestic product (GSDP) per capita, slow industrial growth, and limited wage competitiveness compared to national averages. Social factors such as inadequate access to education, skill development, and healthcare services further amplify migration pressures. Seasonal and distress migration, particularly among unskilled and semi-skilled labourers, is often linked to rural poverty, disguised unemployment, and the inability of local economies to absorb surplus labour- a situation aptly described in theoretical models such as the Lewis dual –sector model, Fei-Rains model , and the Harris –Todaro migration model. In addition to the economic push, migration is influenced by household strategies aimed at income diversification and risk mitigation. Remittances send by migrants have emerged as a critical source of livelihood support, financing household consumption, education, healthcare and even small-scale investments. However high out migration also raises questions about the loss of productive human capital, the social costs of separation, and the risk of overdependence on external income flows. Analyzing the trends and determinants of out-migration in UP, Bihar and Odisha is important for several reasons: Economic insight- out-migration reflects the performance and inclusivity of state economies, revealing whether economic growth translates into local employment. Social policy design- understanding migration drivers aids in designing welfare measures targeted at migrant household and improving local retention of labour. Labour market planning – migration patterns influence both in sending and receiving states, affected wages, skill composition, and labour availability. Regional development strategy- the study identifies development gaps that need to be bridged to reduce distress migration.

Recent shifts and new drivers of out- migration

A state wise breakdown of recent shifts and new drivers of out-migration for UP, Bihar and Odisha is as follows:-

Uttar Pradesh -Uttar Pradesh being India’s most populated state, has long been both a source and recipient of migrants. However, recent years have bought to light significant shifts in the dynamics of migration here as well. The COVID-19 lockdown triggered a large-scale return of migrant workers, with official records suggesting that over **2 million** people moved back to their home villages within a span of a few months. This mass movement created immediate pressure on local infrastructure, public health systems, and rural job markets. Traditionally, out-migration from UP has been driven by lack of industrial opportunities and wage differentials between rural and urban areas. However, the pandemic-induced return added a new layer to the migration pattern – the need for robust reintegration mechanisms at the source region. The state government initiated skill mapping of returnees and expanded rural employment schemes to absorb at least a portion of the returning workforce. At the same time, changes in urban job availability, rising living costs in destination states, and uncertainty in contractual employment have made many workers reconsider permanent migration. This reflects a gradual shift from long-term urban settlement to more circular or seasonal migration patterns.

Bihar- In recent years, Bihar has experienced significant transformations in its migration patterns, driven largely by a combination of economic, social, and crisis-related factors. One of the most visible shifts occurred during the COVID-19 pandemic, when the state witnessed an unprecedented wave of reverse migration. Thousands of workers who had been employed in industrial, construction, and service sectors in metropolitan cities returned to their native districts. The magnitude of this inflow was so large that Bihar accounted for nearly one-third of all districts brought under the **Garib Kalyan RojgarAbhiyaan (GKRA)** – a rural employment programme specifically designed for states facing high returnee volumes. This reverse migration not only disrupted urban labour markets but also caused a noticeable fall in household remittance income, which forms a substantial share of Bihar’s rural economy. Studies estimate that during the initial months of the pandemic, remittance inflows to Bihar nearly halved. The state government responded by mapping the skill profiles of returning migrants and offering short-term employment in rural infrastructure projects such as road construction, water conservation, and public building maintenance. This has marked a new phase in Bihar’s migration story – one where migration is not just about economic push factors but also about sudden crisis-induced population movement, requiring a more integrated livelihood rehabilitation strategy.

Odisha -Odisha presents a unique case where migration drivers are increasingly shaped by environmental and climatic stress. Districts such as Kendrapara and Ganjam have seen persistent outflows of labourers, not solely because of economic hardship but also due to repeated exposure to extreme weather events, including cyclones, floods, and coastal erosion. Such environmental vulnerabilities have disrupted agriculture and fishing livelihoods, pushing households to diversify income sources through migration to other states, primarily for construction and manufacturing jobs. During the pandemic, Odisha also witnessed a significant reverse migration wave, although the scale was smaller compared to Bihar and UP. The state made proactive use of an online registration portal to track returnees and rolled out financial assistance for those undergoing mandatory quarantine. Importantly, Odisha’s recent policy focus has been on creating job opportunities within 30 identified high-migration blocks through skill training, rural infrastructure projects, and small-scale industry promotion. This approach signals a shift from reactive crisis management to preventive migration reduction strategies, with the aim of making migration a choice rather than a necessity.

State	Recent Shifts in Migration	New / Emerging Drivers
Uttar Pradesh	Large-scale reverse migration during COVID-19, with over 2 million workers returning. Pressure on rural infrastructure, public health, and local job markets. Shift from permanent to circular/seasonal migration.	Pandemic-induced job loss and uncertainty in destination states. Rising living costs in urban areas. State-led skill mapping and expansion of rural employment schemes. Preference for staying closer to home due to instability in urban work.
Bihar	Massive return of migrants during the pandemic; one-third of GKRA districts were in Bihar.	Heavy dependence on remittances as household income.

	Significant drop in remittance inflows during COVID-19. Focus on skill-based rehabilitation and rural job creation.	Crisis-induced migration shifts. Wage differentials with other states remain a push factor. State focus on rural infrastructure employment.
Odisha	Persistent outmigration from climate-vulnerable districts (e.g., Kendrapara, Ganjam). Reverse migration during pandemic, though smaller in scale. Targeted job creation in high-migration blocks.	Environmental and climate risks (cyclones, floods, erosion). Disruption of agriculture and fisheries. State-driven skill training and small-scale industry promotion. Migration as livelihood diversification strategy.

Source: Author’s own compilation

Across these three states, migration is no longer driven solely by traditional push-pull factors like rural unemployment and urban wage premiums. Instead, crisis events (such as the pandemic), environmental risks, shifting labour market structures, and targeted state policies have emerged as equally important determinants. Bihar’s dependence on remittances, UP’s demographic pressure combined with evolving work preferences, and Odisha’s climate-linked migration illustrate the diversity of recent migration drivers within India

Review of Literature

Hassan and Khan(2012) investigated the geographical patterns of socio-economic causes of rural out-migration among the states and union territories of India. The study is based on secondary data collected from Census of India publications 2001 , New Delhi. The overall analysis of the study reveals that majority of the rural migrants (62.49%) migrated from the rural areas to other states and UTs of the country due to social factors. The study depicts that there is a wide range of variations in the spatial patterns of rural out-migration for different reasons. The high rate of rural out-migration for employment is witnessed from the central –eastern states and low from the north-eastern states. However western , north –western parts of India reported the high rate of rural out –migration for marriage, whereas , north –eastern states have witnessed the highest percent of rural out –migration for education purpose.

Mamgain and Reddy(2017) highlighted the out-migration from the hill region of Uttarakhand. The study is based on a household survey across 18 villages shows migration as a widespread phenomenon among rural household. The study is largely based on a pilot study on “Outmigration in Uttarakhand”. Much of the migration (73%) is for long duration. The main reasons for migration are low productive agriculture and educated unemployment who are unwilling to work as manual wage labor. It depicts the hardships of village life in general and women in particular in the hill region of Uttarakhand in the wake of increasing out-migration. They critically examine the policy

paradigm of development and its failure to create remunerative employment opportunities in the hill region. It offers measures useful to policy and action to promote employment opportunities and quality of living in the hill region of Uttarakhand.

Lei and Desai(2021) studied the male out migration and the health of left-behind wives in India. The data has been collected from the Indian Human Development Survey (2004-2005 and 2011-2012). They estimated lagged dependent variable models (N=19,737) to assess the health impact of husband's out-migration for women in India. The result showed that left-behind wives had lower self rated health than wives of non-migrants. Part of this negative health impact was driven by the low remittances sent by the migrant husbands. For both women in nuclear families and women in extended families, the negative health impact was partially attributable to women's added responsibilities. For women in nuclear families, the negative health effect of husband's migration has been partially suppressed by women's increased autonomy.

Singh (2018) studied the impact of male out –migration on women left behind in two villages in Uttar Pradesh. The objective of this study is to look into various socio-economic, psychological and political impacts of male out-migration on women left behind. To meet this objective 100 women from migrant household were surveyed in two randomly selected villages of UP using snowball methodology. The study found that the impact of male out-migration on women has both positive and negative impacts. Migration has increased their household income, thereby increasing their social status in village. But economic gains are often offset by increased workload of women in household and agriculture. Although decision- making has empowered women, at the same time a lack of financial autonomy and inability to take decisions on important matters impedes their empowerment. Insecurity and loneliness are other major issues. Thus in order to reap positive benefits of out –migration, the government should empower women by providing them agriculture – related technical knowledge and should encourage a change in the mindset of communities.

Marchang(2017) examined the situation of out-migration from North Eastern Region (NER) especially to the cities of Bangalore and Delhi contextualizing the unemployment situation, job aspiration and employability issues. Data has been collected through secondary sources especially based on Census of India. Additionally , primary data is used to underpin the situation of unemployment, job aspiration and employability for Tangkhul migrants from North east to Delhi. Out- migration is strongly associated with an educational development, which has raised the aspiration of the North East People especially among the youth aspiring for a formal employment which are limitedly available at the origin.

Prasad(2015) highlighted the impact of rural out migration on agriculture in Uttar Pradesh. The study is based on primary and secondary data sources. He selected 180 each migrant and non-migrant households for interview in two district of Bundelkhand region of UP. He also organized focus group discussion for depth study. The study

shows that rural out-migration and implementation of MGNEGA created labour shortage and increased wage rate in rural areas. Due to high wage rate farmers are unable to pay wage equivalent of MGNREGA wage rate and resultant they are unable to access labour for agriculture work.

Das(2015) documented the impact of rural employment guarantee scheme in reducing rural out-migration using survey data from the Cooch Behar district of West Bengal. They found no significant impact of household participation in the programme on migration decision after using regression framework and case studies. However , extent of participation in terms of number of days work and earnings has a significant negative impact on short-term migration but not on longer duration ones. The findings lay emphasis on effective implementation in terms of asset creation, reduction in rationing of works and tackling delayed payments to enjoy its potential benefits.

Viswanathan and Kumar(2015) explored the three-way linkage between weather variability, agriculture performance and internal migration in India. They estimated a two-equation model, which examines variations in weather that influence crop yield and identifies the resulting effect on the rate of migration. The analysis uses two variants of migration data – inter state out-migration and intra state district –level in-migration reported in the Indian Census. The result suggest that the impact of yield changes on the migration rate depend on both the inter-play between inter and intra district migration rates as well as the crop under consideration. Their findings suggest that weather related changes in agriculture productivity do contribute to migration in India.

Singh and Sandilya(2012) discussed about the trends of internal migration in India , migration streams and distance categories and aggregate level in the country. They concluded that the population mobility in the country which was decreasing up to 1991, increased after the adoption of new economic policy. The economy of the country is based on agriculture, as a result rural to rural stream dominates the migration process. As far as reason for migration are concerned employment among males and marriage among female is the main reason of migration in the country.

Verma (2023) Aimed to understand the pattern of internal migration on India and its impact on education and well-being of children either left behind at the source or accompanying their families. It has been documented that the extent of such migration over the last decade has doubled reaching approximately 9 million migrants per year in India. This migration is predominantly seasonal and driven by heterogeneous factors i.e., lean agricultural season at the origin and heavy demand for migrant labor at their destination. The children of these migrant families face multiple challenges including irregular education and additional responsibilities of caring for their siblings. This article is based on a secondary analysis of the census of India 2011 and a field study from Bahraich, Uttar Pradesh . It presents the issue faced by children that have been bearing on the action plan to achieve the sustainable development goal 4 in India.

Research Gap

Most of the studies on migration in India have either looked at the whole country or have focused only on one state or a small region. As some studies discuss national migration trends, while others talk about specific cases like Uttarakhand or a few villages in Uttar Pradesh. However, there are very few works that compare states like Bihar, Uttar Pradesh, and Odisha, even though these are the states that send out the highest number of migrants. Also, many earlier studies mainly discuss the social side of migration—such as the condition of women left behind, health, or family changes. They do not give much attention to the economic reasons like poverty, unemployment, GDP, or wage levels.

Research Objectives

- To examine the long-term trends of out-migration in UP, Bihar and Odisha from 1993 to 2025.
- To analyze the relationship between out migration and poverty in these states.
- To study the impact of unemployment on migration patterns and understand how lack of jobs pushes people to migrate.
- To assess the role of GDP growth in influencing migration trends across the selected states
- To examine wage rate differences and their effect on the decision to migrate.

Data and Methodology

Data for the study has been procured from, for the time frame spanning from 1993 to 2025, for states namely; Uttar Pradesh, Bihar and Odisha. On the given panel data Pooled OLS, Fixed Effect and Random Effect has been applied. To further select the appropriate Model, Hausman Test and Lagrange Multiplier has been applied.

$$OM = \beta_0 + \beta_1.PoRt + \beta_2.UnRt + \beta_3.GDP + \beta_4.WgRt + \varepsilon$$

Where OM stands for Out migration, PoRt is Poverty Rate, UnRt is Unemployment Rate, GDP is Gross Domestic Product while WgRt is Wage Rate. β is coefficients and ε represents error term.

Results and Discussion

1. Pooled OLS Results

	Estimate	Std. Error	t-value	Pr(> t)
(Intercept)	17.567158	10.530888	1.6682	0.0986128.
PovertyRate	0.884738	0.253538	3.4896	0.0007383***
Unemployment	-5.24914	2.038844	-2.5746	0.0115977*
GDP	-2.508322	1.043717	-2.4033	0.0182127*
WageRate	0.319184	0.065058	4.9061	3.89E-06***

Source: Author's own calculation

2. Significance Box

Total Sum of Squares: 28851
Residual Sum of Squares: 18084
R-Squared: 0.37319
Adj. R-Squared: 0.34651
F-statistic: 13.9912 on 4 and 94 DF, p-value: 5.4152e-09

Source: Author's own calculation

3. Fixed Effect Results

	Estimate	Std. Error	t-value	Pr(> t)
PovertyRate	-0.3892701	0.0658282	-5.9134	5.65E-08***
Unemployment	0.2113966	0.4030129	0.5245	0.6012
GDP	1.5823029	0.2845762	5.5602	2.62E-07***
WageRate	0.0042176	0.0158264	0.2665	0.7905

Source: Author's own calculation

4. Significance Box

Total Sum of Squares: 9369
Residual Sum of Squares: 541.13
R-Squared: 0.94224

Adj. R-Squared: 0.93848

F-statistic: 375.213 on 4 and 92 DF, p-value: < 2.22e-16

Source: Author's own calculation

5. Random Effect Results

	Estimate	Std. Error	z-value	Pr(> z)
(Intercept)	63.140946	4.561057	13.8435	<2.20E-16***
PovertyRate	-0.353245	0.07505	-4.7068	2.52E-06***
Unemployment	0.230268	0.464386	0.4959	0.62
GDP	1.432211	0.323797	4.4232	9.73E-06***
WageRate	0.012523	0.01808	0.6926	0.4885

Source: Author's own calculation

6. Significance Box

Total Sum of Squares: 9524.2
Residual Sum of Squares: 739.42
R-Squared: 0.92236
Adj. R-Squared: 0.91906
Chisq: 1116.78 on 4 DF, p-value: < 2.22e-16

Source: Author's own calculation

7. Hausman Test

chisq = 1.3331, df = 4, p-value = 0.8557
alternative hypothesis: one model is inconsistent

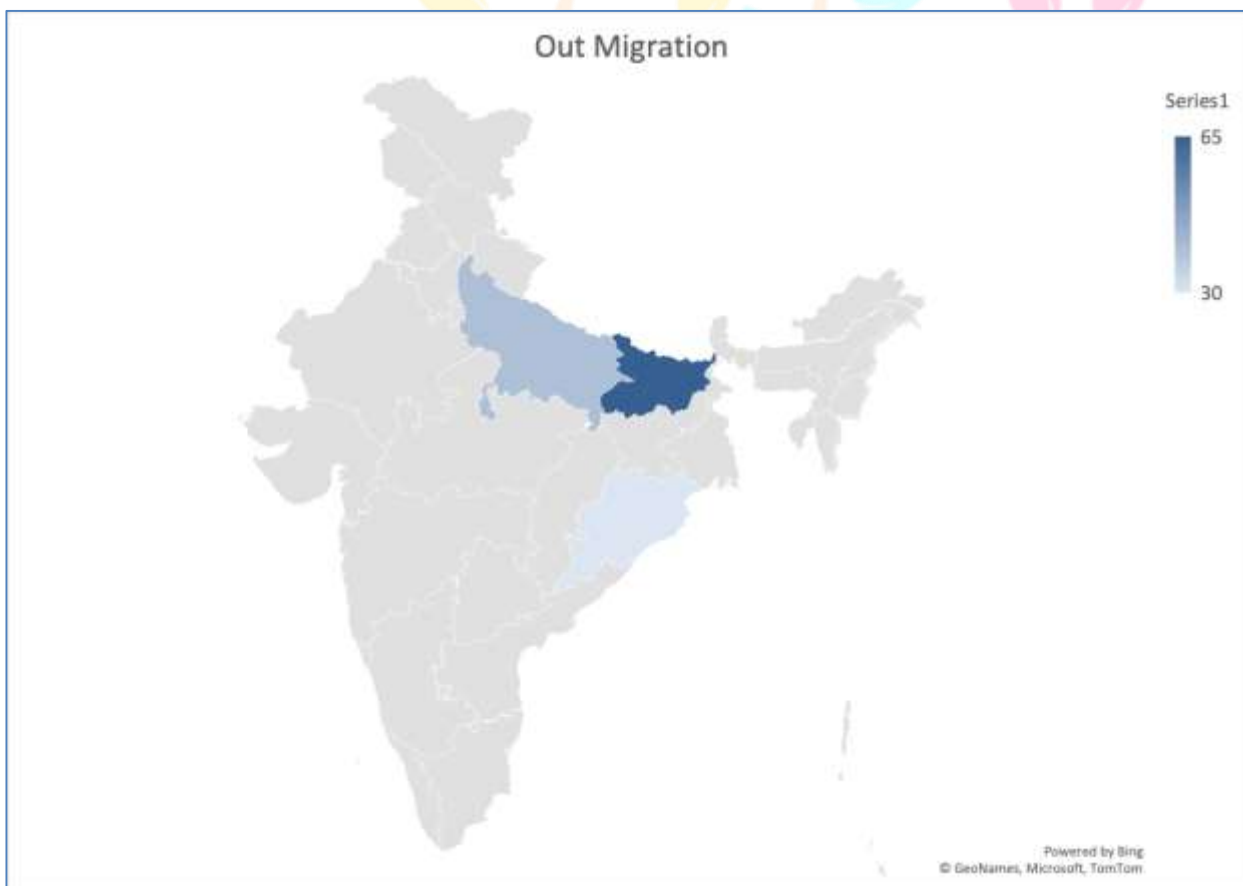
8. Lagrange Multiplier Test

normal = 31.458, p-value < 2.2e-16
alternative hypothesis: significant effects

Source: Author's own calculation

Given the results of the Pooled OLS, Fixed Effect and Random Effect Model; The Hausman test is used to decide between fixed effects and random effects models. The null hypothesis is that the random effects model is appropriate, while the alternative hypothesis is that the fixed effects model is more suitable. Since the p-value is quite high (0.8557), we fail to reject the null hypothesis, suggesting that the random effects model is more appropriate for your data. While the LM test is used to decide between pooled OLS and random effects models. The null hypothesis is that the pooled OLS model is appropriate, while the alternative hypothesis is that the random effects model is more suitable. The p-value is extremely low ($< 2.2e-16$), we reject the null hypothesis, indicating that the random effects model is more appropriate than the pooled OLS model. So of the given three models, Random Effect Model is the most appropriate one.

Figure 1- Out Migration (Uttar Pradesh, Bihar and Odisha)

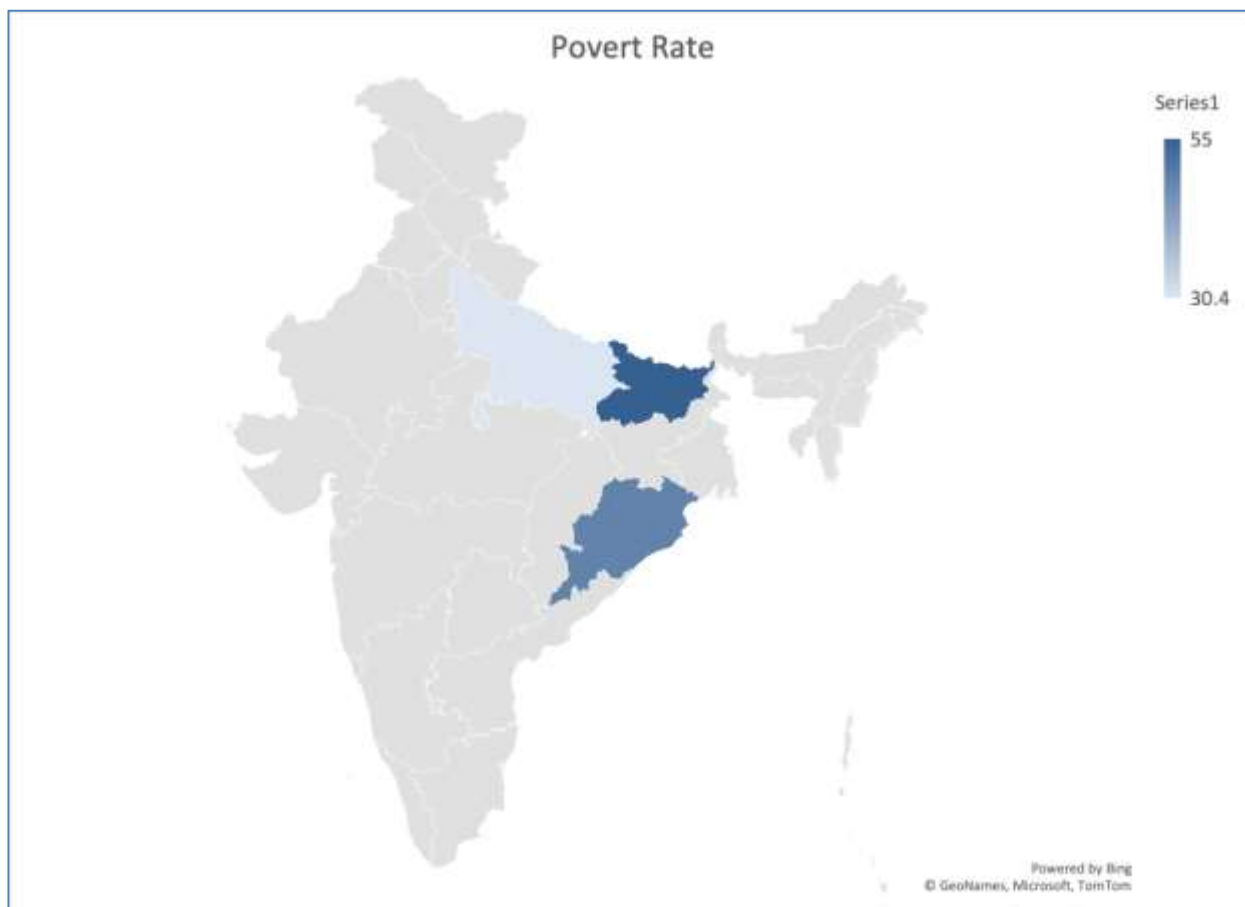


Source:

According to the Random effect model, the impact of Poverty Rate on Out Migration is negative and significant, while the impact of GDP is positive and significant. A negative coefficient suggests that higher poverty rates are associated with lower out-migration from these states. This might seem counterintuitive, but it's possible that poverty-stricken areas have limited resources or ability for people to migrate, leading to lower out-migration rates. The idea here is that migration, especially long-distance or interstate migration, often requires significant

resources - financial, social, and otherwise. People in extreme poverty might lack these resources, making it harder for them to migrate, even if they're motivated to do so by poor local conditions. It's not that poverty directly causes people to stay, but rather that the constraints imposed by poverty can limit migration options.

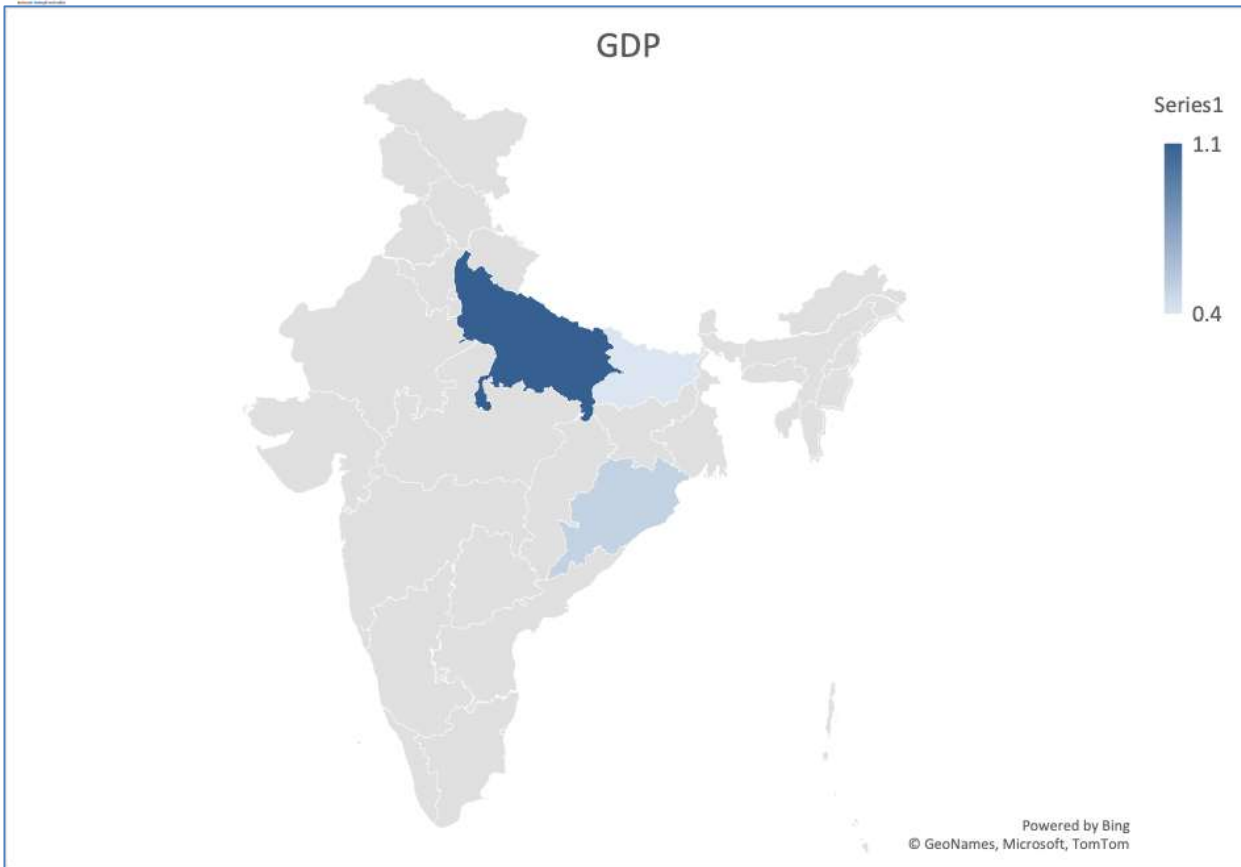
Figure 2- Poverty Rate (Uttar Pradesh, Bihar and Odisha)



Source:

Counterintuitive to the results obtained, Bihar is known for having significant out-migration, often driven by factors like lack of local opportunities. Bihar has high levels of both poverty and out-migration, but the out-migration is often driven by factors like lack of local opportunities and historical migration networks. Odisha also has significant migration, often to states like Gujarat or Andhra Pradesh for work. While Uttar Pradesh is a large state with varied economic conditions and significant out-migration to places like Delhi, Mumbai, and Punjab. The interplay of poverty, local economic conditions, and migration networks likely shapes the migration patterns in these states. The regression results (negative poverty coefficient) might be capturing the broader dynamic that extreme poverty is associated with constrained migration options, playing out across these specific states.

Figure 3- GDP (Uttar Pradesh, Bihar and Odisha)



Source:

A positive coefficient indicates that higher GDP is associated with higher out-migration. This could be because higher GDP often brings more opportunities, infrastructure, and connectivity, making it easier for people to migrate out. Given Uttar Pradesh's relatively stronger GDP (See Figure - 3) compared to Odisha and Bihar, the positive coefficient on GDP suggests that Uttar Pradesh's somewhat better economic conditions and possibly better infrastructure and connectivity might be facilitating out-migration from the state. Meanwhile, Bihar's lower GDP and higher poverty might be constraining migration to some extent, while Odisha's position might be somewhere in between. The interplay of these factors likely shapes the migration patterns from these states.

Conclusion

The study shows out-migration from Uttar Pradesh, Bihar, and Odisha reveals complex relationships between economic factors and migration patterns. Contrary to expectations, higher poverty rates are associated with lower out-migration, suggesting that extreme poverty may constrain migration due to limited resources. Conversely, higher GDP is linked to increased out-migration, possibly indicating that better economic conditions and infrastructure facilitate migration. These findings highlight the nuanced nature of migration dynamics in these states, where both poverty and economic conditions interplay to shape migration decisions.

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