

Understanding Mexico'S Internal Migration OF Indigenous Population IN A Network System

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Abstract

This study analyzes the internal migration patterns of Mexico's indigenous population from the period 1990 to 2020. Utilizing microdata from the population census, the study focusses on examining the volume, origins, and directions of total interstate migrants by estimating the origin-destination network flows among the indigenous population. The study reveals a shift in the migration patterns of Mexico's indigenous population from 2015 to 2020, with a decline in flows to traditional regions such as Mexico City Metropolitan Area but a rise¹ to an industrial northern state of Nuevo Leon and the tourist destination of the southern state of Quintana Roo. The results also suggest that Nuevo Leon has notably become a primary destination for indigenous migrants forming a well-defined migration corridor from states of San Luis Potosí, Veracruz, and Hidalgo. These findings highlight the need for public policies at destination regions that respect and preserve the cultural heritage of indigenous communities, while also ensuring their rights and smooth integration into these economically dynamic regions.

Introduction

Migration is a key factor influencing the demographic patterns of both indigenous and overall national populations as it crucially affects their growth, structural changes, and spatial distribution. Additionally, migration influences the shaping and changing of indigenous population encompassing the necessity for family support, maintaining agricultural livelihoods, and pursuing social mobility, align with the reasons for both rural-to-rural and rural-to-urban migration (Arizpe, 1980). The importance of studying migration lies in its impact on population size and age structure, alongside two other demographic elements: fertility and mortality. Historically, fertility and mortality were considered the main influencers of population dynamics. However, as these factors have stabilized or decreased in some regions, migration has emerged as a notably influential element (Cardenas 2014).

Understanding the changing demographics of a developing nation like Mexico, which has undergone significant regional economic shifts since trade liberalization and has been impacted by social factors such as violence, requires studying the interstate migration patterns of its indigenous populations. It sheds light on the socioeconomic drivers of migration, reveals the changing spatial distribution of the indigenous population, and informs the design of targeted social and economic policies. Given that indigenous communities often face unique challenges and possess distinct cultural attributes, analyzing their migration patterns can highlight areas requiring policy intervention and support in origin and destination places of migration.

The aim of this study is to estimate total internal migration flows among Mexican states pertaining to indigenous population. It identifies the key regions of origin and destination for this population segment who relocated during a twenty-year period span, from 2000 to 2020. The analysis focuses on the volume, sources, and directions of the migrants, through the estimate a network flow of the indigenous population. A central contribution of this study is the construction of internal migration flows using network representation, which enhances our understanding of the country's population dynamics. This approach provides a clear and detailed visualization of migration patterns, offering a comprehensive view of how individuals, especially from states that greatly concentrate indigenous population, are relocating within Mexico. This method illuminates the complexities of migration and its impact on both the originating and receiving regions.

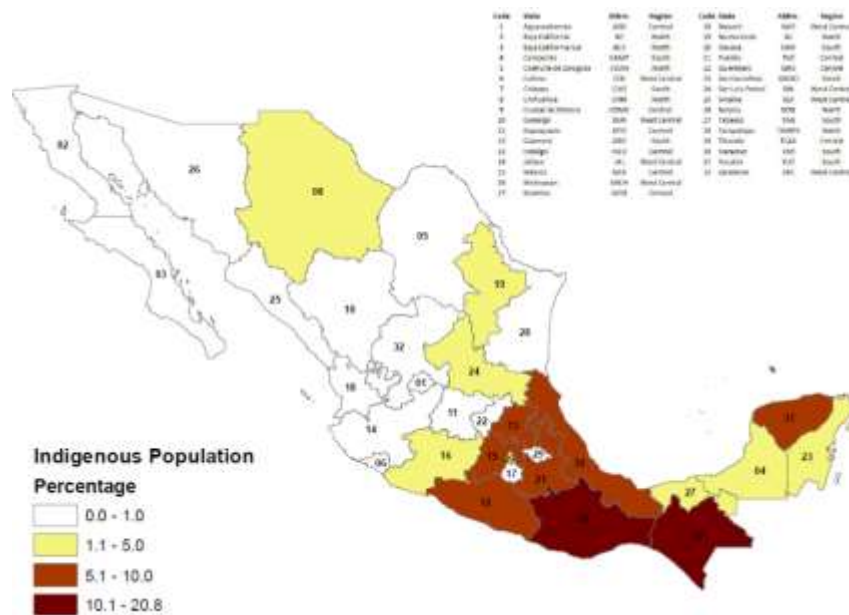
The findings suggest that as a result of the migration of indigenous people, the Mexico City Metropolitan Area has become less attractive, while other locations such as the Quintana Roo coastal region and other states such as Nuevo Leon and Baja California have gained relevance. A key finding is the unique position of Nuevo Leon, which stands out not only for its high concentration of migrants but also for its extensive connections to other states. The migration system reveals that Nuevo Leon primarily receives an inflow of migrants from north-central and southern states, with significant numbers coming from Veracruz, San Luis Potosí, and Hidalgo. On the one hand, these findings could be attributed to the maturing economic conditions in the region, which in turn might be associated to good conditions in local labor market that are absorbing indigenous migrants. On the other hand, as the central region undergoes economic restructuring, migrants are increasingly turning to areas where new industries and economic opportunities are on the rise, underlining the dynamic interplay between economic trends and migratory movements.

The remainder of this paper is organized as follows. Section two presents a comprehensive review of pertinent literature on internal migration for the indigenous population in Mexico. Following this, section three outlines the data sources used and delves into key details regarding the development of the migratory system through a network framework. Section four then analyzes the primary findings, and section five concludes with a final discussion, highlighting potential implications and avenues for future research.

Context of Indigenous Population

Mexico is home to more than 60 indigenous ethnic groups, each characterized by distinct dialects or languages, cultural practices, pre-Hispanic economic systems, and unique social structures and norms. Among these, the Nahuatl, Tzeltal, Mixtec, Tsotsil, Zapotec, Maya, and Mazatec languages encompass 66.5% of the Indigenous Language Speakers population. These distinct identities preserve the foundations of a pre-Hispanic society and add to the rich cultural and ethnic variety of the nation. As observed in Figure 1, the indigenous language Speakers population is predominantly located in the southern part of Mexico, especially in the states of Chiapas and Oaxaca. Other states, including Yucatán, Guerrero, Veracruz, Puebla, and Hidalgo, also exhibit significant concentrations of the HLI population.

Figure 1. Spatial Distribution of Indigenous Population in Mexico, 2020



Source: Own elaboration with data from Population Census 2020.

As showed in Table 1, an estimated 6.3 million indigenous individuals resided in Mexico in 2000, with 218,905 or about 3.5 of total indigenous population having migrated internally. A decade later, the indigenous population grew to roughly 6.9 million, yet internal migration saw a decline to 190,553, representing 2.7% of the total indigenous population. By 2020, the trend reversed; out of the 7.5 million indigenous people, about 240,743 migrated internally, amounting to 3.2%. This marked an upturn in the movement of the indigenous population, indicating a change in internal migratory patterns by 2020.

Table 1. Internal Migration of Indigenous Population

Period	Indigenous Population		
	Total Population	Internal Migrant	Percentage
1995-2000	6,320,250	218,905	3.5
2005-2010	6,989,360	190,553	2.7
2015-2020	7,522,745	240,743	3.2

Source: Own elaboration with data from Population Census 2000, 2010 and 2020.

Literature Review

The literature review on internal migration includes a wide range of venues, but specially have identified new trends in internal migration towards cities, which include: a) an increase in the volume of indigenous migration; b) the growing presence of women and children in migratory flows; c) the diversification of cities that attract immigrants; and d) a transient and itinerant population that moves in response to economic processes (Cardenas 2014). Indigenous migration to cities has gained particular significance, not only due to the increasingly large population involved in this process but also because of the economic, political, and sociodemographic impact it has had on both the areas of departure and destination. This phenomenon has evolved in close correlation with the growth of a considerable number of medium-sized and small cities, where the rate of expansion has been significantly higher than in others (Partida 2000).

Previous studies have shown that migration within Mexico's indigenous regions is common as they move to other places that provide better living conditions and job prospects. This internal migration results in the concentration of populations in areas with improved amenities and employment in relation to the origin places (Cárdenas 2014; Trujillo 2006). Furthermore, recent economic downturns have led to a reduction in agricultural subsidies, exacerbating the longstanding exclusion and economic challenges faced by indigenous communities, who largely rely on farming for their livelihood (Gravel 2007; Robson et al. 2018). Consequently, many seek other income sources, often through migration either by individuals or whole families seeking work and sending money home. Migration, whether temporary to align with seasonal work or permanent, remains deeply rooted in the strong family and community bonds of their origins. This movement is a defining factor in demographic changes, affecting not only population distribution but also indigenous identities. Motivations for migration are primarily for subsistence, maintaining agrarian livelihoods, and pursuing greater social mobility, similar to other rural migration trends (Arizpe, 1980).

Scholars have also considered cultural elements to get a deeper knowledge of migratory trends because of the growing interest in comprehending the causes and effects of migration as well as the growing significance of this phenomena within the nation's demographic dynamics (King and Skeldon, 2010; De Hass 2010). Additional research, which is mostly anthropological, focuses on demographic issues within a particular community and is ill-suited to address more general inquiries concerning the behavior of the group under study. Few studies have examined mortality, economic and productive activity, educational attainment, and service accessibility in communities with a significant population of native tongue speakers. Nonetheless, research on migration and reproductive health is still lacking greatly (Zuñiga 2014; León-Perez; 2019, Espinoza et al. 2014) Others are ethnographic or anthropological research on certain groups or settlements in large cities and rural regions both domestically and overseas, mainly to the United States (Ortiz 2014; Klooster 2013). These studies seek to define and elucidate the socioeconomic variables influencing migratory movements, as well as the personal and familial reasons behind migration, shifts in the domestic and global movements of a specific indigenous group, and the maintenance of migrants' cultural identities.

Recent research has revealed the increasing complexity of indigenous migration patterns (Robles et al. 2023; Gallardo y Martin 2023; Rubio et al. 2000; Avila 2002). In general, they found that the ethnic composition of Mexico extended beyond traditional communities to encompass urban centers, border regions, and minor municipal areas. The study also observed a decline in the allure of the Mexico City Metropolitan Area for indigenous migrants in favor of other cities. This shift is attributed to the development of new economic zones that demand labor in sectors like agriculture, services, and industry, often providing lower-skilled employment opportunities for indigenous workers. Partida's work (2000) echoes this, identifying not just Mexico State and Mexico City but also Quintana Roo as key destinations for migrants fleeing rural deprivation (Granados 2005). Moreover, Granados and Quezada (2018) highlight that in the second decade of the millennium, the states of Quintana Roo, Nuevo Leon, Sinaloa, Baja California, and the State of Mexico have emerged as the most attractive destinations for indigenous migrants.

Despite the extensive literature reviewed, to our knowledge, no study has yet estimated and depicted internal migration flows in Mexico using a network-based approach. This study aims to bridge this gap. By employing network representation, we significantly enhance our understanding of Mexico's population dynamics. This method allows for a clear and comprehensive visualization of migration patterns, particularly shedding light on how individuals from indigenous communities are relocating within the country.

Data and Methods

This research employs microdata from the 2000, 2010, and 2020 General Census of Population and Housing. Migration flows are depicted from origin to destination as a network, offering a comprehensive understanding of migration dynamics during this timeframe. On the one hand, when defining the indigenous population for this study, we focus on individuals aged five and above who identify as speakers of an indigenous language, this is, the definition is based on a question on ethnic identity. On the other hand, migration involves inquiring about the place of residence at a fixed previous date, usually five years prior to each census. This method enables the calculation of migration flows and the identification of recent migration trends, including emerging areas (states) of attraction and expulsion. The network visualization graphs are carried out by using polinode software².

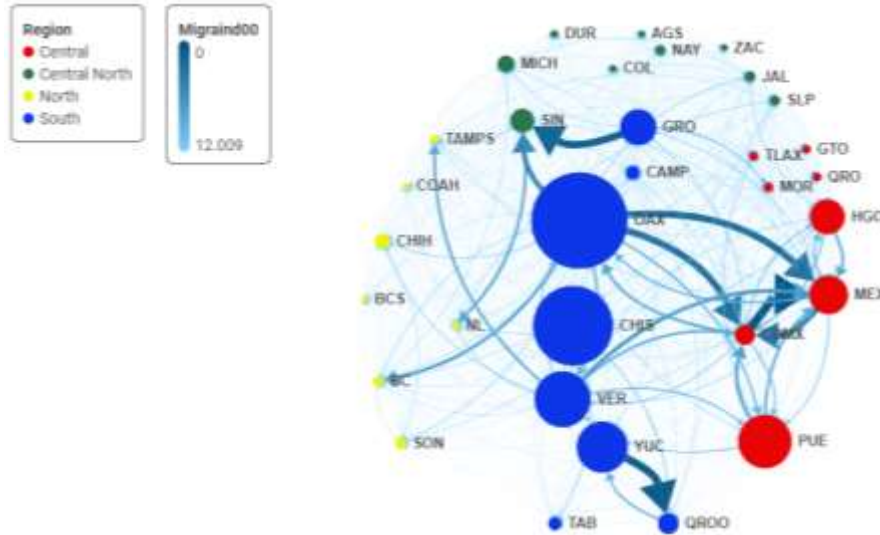
Results

The main results are displayed in Figures 2 to 4, which represent, in a network visualization framework, the origin and destination interstate internal migration flows for the periods 1995-2000, 2005-2010, and 2015-2020. Each figure uses nodes (circles) to represent states, with their size indicating the proportion of the indigenous population relative to the total indigenous population. Curvilinear arrows depict the migration flows, with their size representing the magnitude of the flow from the state of origin to the state of destination.

As showed in Figure 2, the southern region including states like Oaxaca, Chiapas, Veracruz, and Guerrero, is home to the highest proportion of the indigenous population compared to other regions. This area is also characterized by a greater magnitude of out-migration compared to in-migration. Notably, there are significant migratory flows from Oaxaca to Mexico City and the Estado de Mexico. Another important flow is from Yucatán to Quintana Roo, as well as from Guerrero and Oaxaca to San Luis Potosí. The central region of Mexico is predominantly an attractive destination for indigenous migrants, particularly from southern states, with Oaxaca being the principal state of origin. These migrants mainly move to Mexico City and the Estado de Mexico. Puebla, although to a lesser extent, also receives migrant flows, particularly from Veracruz. There is a notable migratory connection between Mexico City and the State of Mexico. The central-northern states have a lower concentration of indigenous population compared to the central and southern regions. However, San Luis Potosí stands out as attracting the majority of migrants, especially from Oaxaca and Guerrero. In the northern region, there is a strong attraction for indigenous migrants, predominantly from southern Mexico and, to a lesser extent, from the central-northern region. Among the states with the highest migrant attraction is Nuevo Leon, with migrants originating from Veracruz, San Luis Potosí, and Hidalgo. Similarly, Baja California and Tamaulipas also draw migrants from southern origin states such as Oaxaca and Chiapas, respectively.

Figure 2. Internal Migration Flows Network of Indigenous Population, 1995-2000

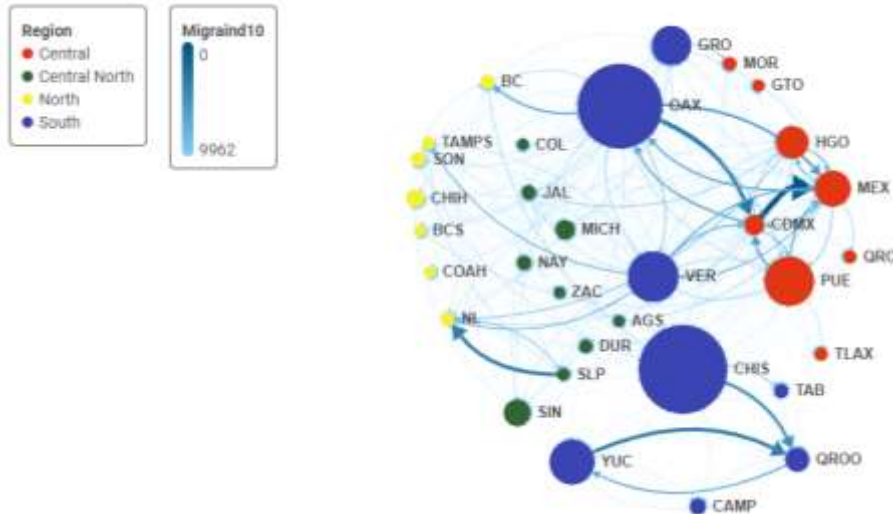
² <https://www.polinode.com/>



Source: Own elaboration with data from Population Census 2000.

During the period from 2005 to 2010, circular migration flows intensified between the southern states of Yucatán and Quintana Roo, with the latter also becoming a significant attractor of migrants from Veracruz. Mexico City and the State of Mexico continued as the main recipients of migrants, with the State of Mexico gaining prominence among the central states. In the central-northern region, while the pattern from the previous period persisted, Jalisco, Michoacán, and Sinaloa emerged as migrant attractors. Nevertheless, San Luis Potosí stood out as the main source of migrants heading to the northern region. In this northern region, Nuevo León played a notable role as the principal attractor of indigenous migrants originating from San Luis Potosí and Veracruz, and to a lesser extent Hidalgo. Other northern states like Baja California and Tamaulipas, though attracting smaller flows, received migrants from Chiapas and Oaxaca, respectively.

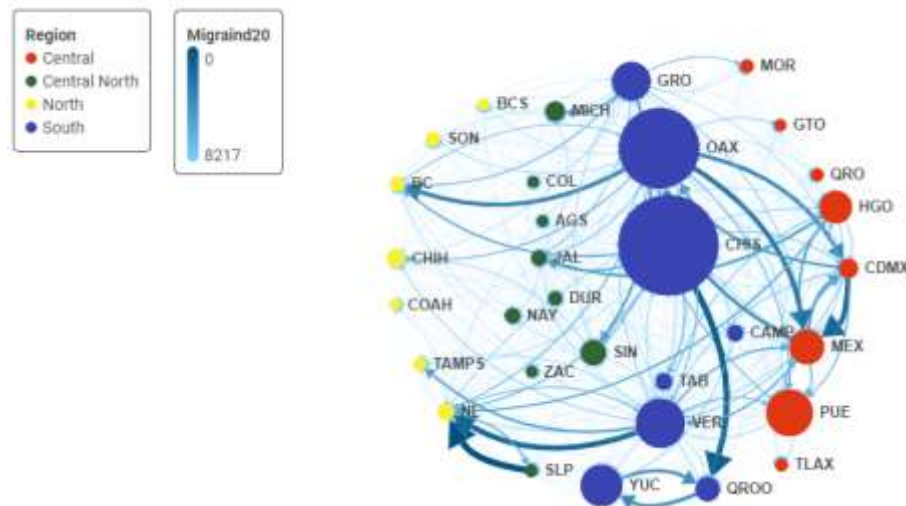
Figure 3. Internal Migration Flows Network of Indigenous Population 2005-2010



Source: Own elaboration with data from Population Census 2010.

During the 2015-2020 period, interstate internal migration of the indigenous population was marked by a strengthening of the northern region as a hub for migrants, with the state of Nuevo Leon emerging as the primary destination, especially for flows from San Luis, Veracruz, and Hidalgo. Notably, these flows even surpassed those recorded by Mexico City and the State of Mexico in the central region, which historically have seen the highest migration volumes. Another significant pattern is observed in the southern region, where Veracruz has become the source of a substantial migratory flow toward Quintana Roo. The central region continues to attract migrants, particularly with the movement from Mexico City to the State of Mexico, while Oaxaca remains the main origin of migrants moving to these two central states. Lastly, the central-northern region is seeing migration from Guerrero to San Luis Potosi and Michoacan, and from Hidalgo to the state of Jalisco.

Figure 4. Internal Migration Flows Network of Indigenous Population, 2015-2020



Source: Own elaboration with data from Population Census 2020.

The above results highlight the significant influence of the economic landscape on shaping the migration patterns of Mexico's indigenous population. Between 2015 and 2020, Nuevo Leon's northern region, with its robust manufacturing sector and favorable economic conditions, emerged as the main attractor for indigenous migrants. The state's industrial growth, offering employment opportunities in automotive, home appliance manufacturing, and services has drawn a significant workforce from states like San Luis, Veracruz, and Hidalgo. This influx is indicative of a shift in migrant preference toward areas offering stable jobs and economic growth, surpassing even the historically dominant central region. Quintana Roo, particularly notable for its service sector centered around the tourist mecca of Cancun, has attracted indigenous migrants seeking employment in hospitality, retail, and related services. The state's sustained investment in tourism infrastructure and the constant demand for a diverse workforce have made it an attractive destination for those from regions like Veracruz, reflecting a broader trend of service-oriented economies drawing labor from agrarian states. Meanwhile, the central region's historical role as a hub for migrants has seen a steady decline. This shift can be attributed to the maturing economic conditions in the region, where the saturation of the labor market and the slowing of urban expansion have lessened its appeal. As the central region undergoes economic restructuring, migrants are increasingly turning to areas where new industries and economic opportunities are on the rise, underlining the dynamic interplay between economic trends and migratory movements.

Final Discussion

Internal indigenous migration in Mexico has gained particular significance for research purposes, not only due to the increasingly large population involved in this process but also because of the economic, political, and sociodemographic impact it has had on both the areas of departure and destination. This phenomenon has evolved in close correlation with the growth of a considerable number of medium-sized and small cities, where the rate of expansion has been significantly higher than in others.

This study estimates internal migration flows among Mexican states pertaining to indigenous population. It identifies the key regions of origin and destination for this population segment who relocated between during a thirty-year period span, from 1990 to 2020. A central contribution of this study is the construction of internal migration flows using network representation, which enhances our understanding of the country's population dynamics. Network representations also highlight the intricate connections between various regions, revealing the interplay between economic, social, and cultural factors driving migration.

The findings suggest that migration trends among the indigenous population within Mexico reveal that from 2015 to 2020, a significant inflow of indigenous migrants towards the northern states, with Nuevo Leon as a standout destination due to its flourishing manufacturing sector. This shift underscores the need for policies that support the integration of indigenous migrants into these new economic contexts, ensuring they have access to education, job training, and social services that match the industrial demands. For Quintana Roo, the sustained attraction of indigenous migrants to the service sector highlights the importance of creating inclusive labor policies that safeguard the rights and well-being of workers in the tourism industry, which is pivotal to the state's economy. Furthermore, public policies should aim not only to support the economic assimilation of indigenous migrants but also to preserve their cultural identities, fostering environments where diversity is seen as an asset to both community life and the economy.

Future research building on these initial findings could delve deeper by employing formal network analysis to further elucidate the complexities of indigenous migration within Mexico. A more granular geographical approach, such as focusing on municipalities rather than states, would provide a richer and more detailed understanding of migration patterns. This refined analysis could uncover nuanced trends and dynamics that are not apparent at the state level. Additionally, examining the effects on areas that have historically been origins for indigenous migrants would shed light on the socio-economic and cultural impacts these migrations have left behind. Understanding these impacts is crucial for crafting policies and interventions that support both the communities left behind and those that receive new migrants. This comprehensive approach would not only contribute to the academic understanding of indigenous migration patterns but also inform policy decisions to better address the needs and challenges of these communities.

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