

Title: The Impact of Regional Remittances on Income and Employment in Mexico: An Input-Output Matrix (IOM) approach.

Authors: Fernando Lozano-Ascencio, Rodrigo Morales, Marcos Valdivia

Key words: Regional remittances; regional economic growth; Input-Output Matrix; Mexico

Abstract:

The resources generated by migrants, commonly known as family remittances, have historically played a central role in the economic development of Mexico and its regions. However, the economic impact of remittances in Mexico's states has been analysed using traditional indicators, such as the absolute amount of remittances by state, and the share of remittances in the state's gross domestic product. The objective of this paper is to propose complementary measures to assess the economic impact at the state level generated by the receipt of family remittances. These estimates take into account the impact of the demand of remittance-receiving households on the generation of income and employment in the different Mexican economic sectors. The methodological strategy used is based on the multi-regional input-output model, which takes into account the sectoral and state interrelationships of the Mexican productive structure in order to estimate the economic impact. Preliminary results show that there are a significant number of Mexican states that have historically concentrated the receipt of remittances; however, the impact of this economic flow is not necessarily reflected in their economies, but rather in those states with less migratory activity, but with a much more developed and diversified economic and productive base.

Extended abstract:

The resources generated by migrants, commonly known as family remittances, have historically played a central role in the economic development of Mexico and its regions. In 2023, remittances represented 3.7% of Mexico's gross domestic product (GDP), with some entities where this indicator reaches 16% (Banxico, 2023). Similarly, remittance-receiving households have benefited directly from an increase in family income, which has had an impact on poverty reduction (Mendoza and Torres, 2022). However, the economic impact of remittances in Mexico's states has been analysed both in terms of their absolute amount and as a share of the state's gross domestic product (traditional indicators). The problem is that the consumption patterns of recipient households and the interaction between the productive structures of the states, mean that the economic impact of this consumption is not always reflected in the entities that receive remittances.

In light of the above, several authors have analysed the multiplier effect of remittances in the global economy from a structural perspective (Ferreira, et al., 2019; Dridi, et al., 2019). In the Mexican case, some analyses have been carried out based on social accounting matrices (Albornoz and Ortiz, 2016; BANXICO, 2021). However, these studies do not allow the assessment of sectoral economic impacts at the state level.

The objective of this paper is to propose complementary measures to assess the economic impact at the state level, generated by the receipt of family remittances. These estimates consider the impact of the demand of remittance-receiving households on the generation of income and employment in the different sectors that make up the Mexican productive structure. Furthermore, we believe that this approach is fundamental to the formulation of economic policies aimed at increasing the impact of remittances in each entity.

The methodological strategy used is based on the multi-regional input-output model (Timmer, et. al., 2013). The strength of this method is that it considers the sectoral and state interrelationships of the Mexican productive structure to estimate economic impacts. The main source of information is the Multi-State Input-Output Matrix of Mexico 2018 (MIPME-18), published by the Mexican National Institute of Statistics, Geography and Informatics (INEGI 2024)¹. Thus, 2018 is the latest year available for estimation, as INEGI updates the base year of the national accounts with a delay of five years. However, it is assumed that structural changes do not occur in short periods of time (Miller and Blair, 2022), so 2018 is still representative for estimating the economic impact, including the productive linkages. The MIPME-18 provides a disaggregation level of 32 sectors for the 32 states, representing the Mexican productive structure with a total of 1,024 state-sectors.

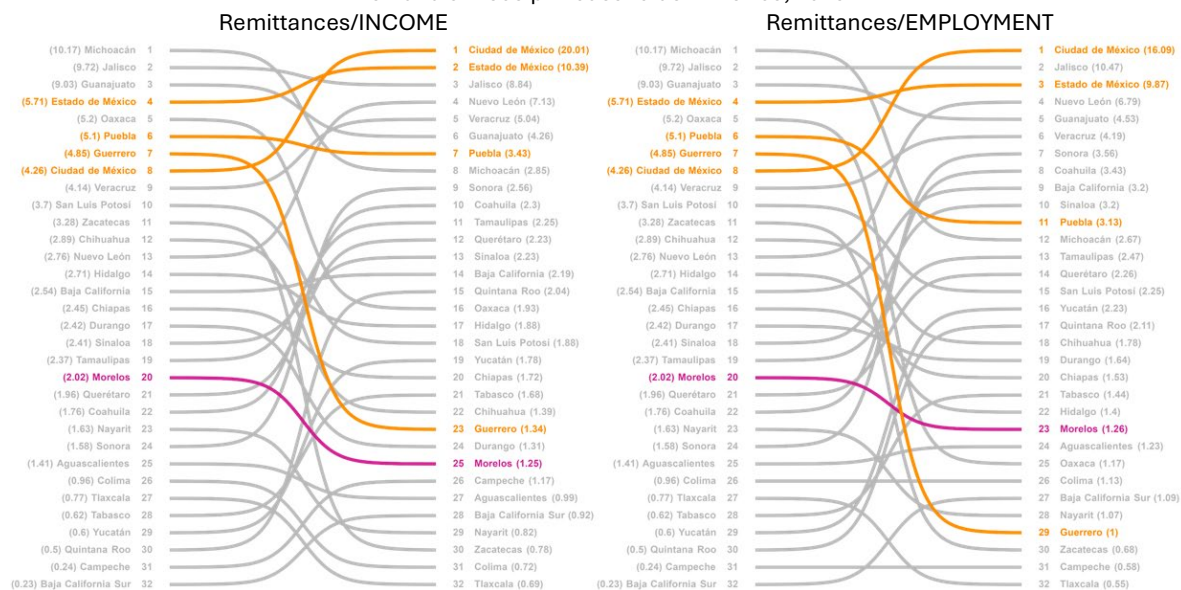
In order to address the research problem, it was necessary to make two estimates: the first was the distribution of consumption of remittance-receiving households in Mexico, both at the national level and by entity, according to the state-sector that produces the goods and services demanded, using information from the National Household Income-Expenditure Survey ENIGH 2018 and Mexico's National Input-Output Matrix 2018 (MIPME-18); the second was the estimation of the number of paid jobs in each of the 1,024 state-sectors, based on information from the 2019 Economic Census, National Occupation and Employment Survey (ENOE 2018, Q3) and MIPME-18.

The preliminary results of this paper show that: 1) A significant percentage of the income generated by the demand of households receiving remittances (16.9%) does not remain in the Mexican economy but is returned abroad. 2) The contrast between the use of traditional indicators –in this case, the absolute distribution of remittances by state– and the income and employment indicators from the Input-Output Matrix (IOM) model is so evident. Figure 1 shows that entities such as Michoacán, which accounts for 10.2% of remittance receipts (position 1), participates with only 2.9% of the income

¹ The Input-Output Matrix (IOM) consists of a set of tables that reflect the economic relationships that take place among the various sectors and agents that intervene in all the phases of the economic cycle (production, commercialization, consumption and investment) and represents an instrument of planning and decision making for economic policies.

generated by the consumption of recipient households (position 8) and with 2.7% of the employment generated by the consumption of households receiving remittances (position 12). In contrast, entities such as Mexico City, which receives 4.3% of total remittances –placing it in 8th position– appropriates 20.0% of the income generated by the consumption of recipient households (1st position) and 16.1% of the employment generated by the consumption of remittance-receiving households (1st position).

Figure 1. State Ranking based on Remittance Reception, and the Income and Employment Generated by the Demand of Receipt Households in Mexico, 2018



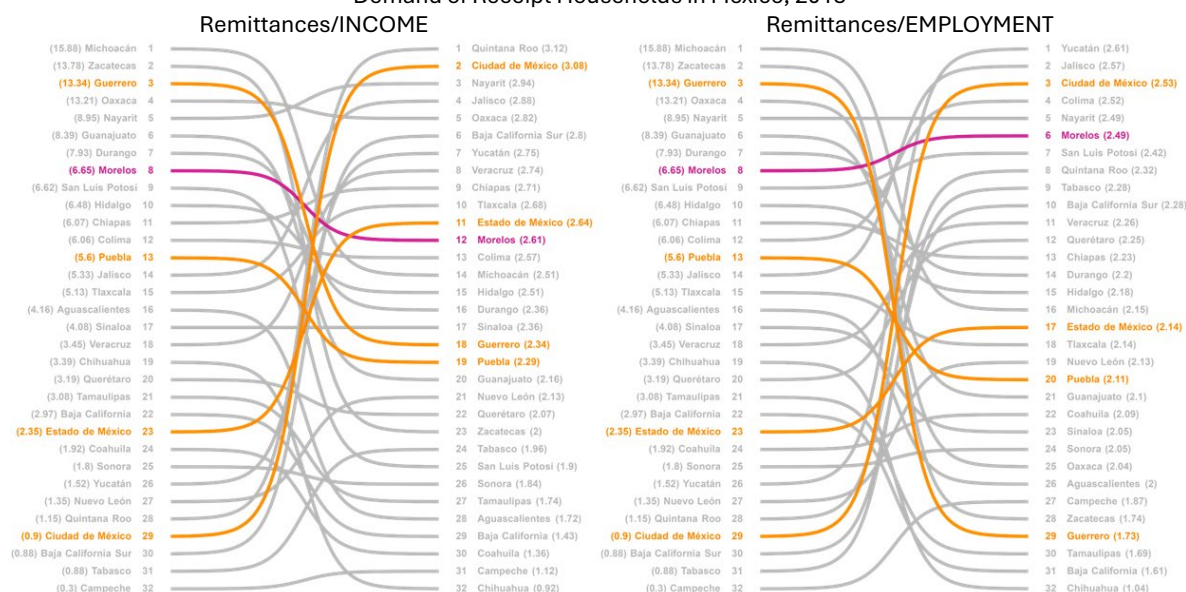
Source: Authors calculations based on INEGI (2024), INEGI (2018a), INEGI (2023), INEGI (2018b), INEGI (2019) and BANXICO (2024).

3) Similarly, when comparing the indicator that shows the percentage of remittances in the state's GDP with the income generated by the demand of the recipient households in the country as a whole, we again find very contrasting results (Figure 2). For example, the state of Zacatecas, whose remittances represented 13.8% of its GDP (placing it in second position), slips to 23rd place when analysing the dependence of remittances on income generation, since two out of every one hundred pesos of income in Zacatecas depends on demand from remittance-receiving households throughout the country. The situation is even more contrasted with the employment creation indicator for the same state of Zacatecas, which falls to 28th place, meaning that 1.7 jobs out of 100 are generated by the consumption of remittance-receiving households. Similarly, states such as Quintana Roo, whose remittances represent barely 1.2% of its GDP (an indicator that places it in 28th position), is the state with the highest number of jobs generated by the consumption of remittance-receiving households in all of Mexico.

In sum, there are a significant number of Mexican entities that have historically concentrated the receipt of remittances; however, the impact of this economic flow is

not necessarily reflected in the economies of the receiving entities, but rather in those with less migratory activity, but with a much more developed and diversified economic and productive base.

Figure 2. State Ranking based on Dependency of Remittance, and the Income and Employment Generated by the Demand of Receipt Households in Mexico, 2018



Source: Authors calculations based on INEGI (2024), INEGI (2018a), INEGI (2023), INEGI (2018b), INEGI (2019) and BANXICO (2024).

4) In terms of sectoral impact, we can mentioned that the income and jobs generated by the demand of remittance-receiving households in the different Mexican states also tend to be unevenly distributed, although we will systematise these results in the coming weeks.

Finally, in terms of public policy, the results suggest strengthening those sectors of the economy that benefit most from remittances –in this case the food industry, hotels and restaurants– as well as real estate and financial services.

References

Albornoz, M.L. & Ortiz, R. (2016), “Cuantificación de los efectos de la disminución de remesas internacionales dirigidas a las regiones urbanas y rurales de México en 2002 mediante el uso de una matriz de contabilidad social”, *Economía: Teoría y Práctica*, Nueva Época, No. 45, July-December, 2016.

BANXICO, (2017), “Impacto de las Remesas Internacionales sobre la Actividad Económica Regional”, Extracto del Reporte sobre las Economías Regionales, pp. 14-17.

- Dridi, J. et. al (2019) “The Impact of Remittances on Economic Activity: The Importance of Sectoral Linkages”, *IMF Working Paper*, WP/19/175, African Department, August 2019.
- Ferreira, J., et. al (2019), “Accounting for global migrant remittances flows, *Economic Systems Research*”, DOI:10.1080/09535314.2019.1659756
- Mendoza, J.E. & Torres, V.H. (2022), “Remittances and Poverty: new macroeconomic evidence at the state level in Mexico”, *Paradigma económico* 14 No. 2, pp. 5-33
- Miller, R. & Blair, P. (2022) *Input–Output Analysis Foundations and Extensions*, Third Edition, Cambridge University Press, DOI: 10.1017/9781108676212
- Timmer, M.P., et.al (2013), “Fragmentation, incomes and jobs: an analysis of European competitiveness”, *Economic Policy* October, pp. 613–661