Exploratory analysis of the use of a multi-regional Input-Output Matrix for the analysis of the main urban impacts of the new Mexico City International Airport.

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The new Mexico City International Airport (NMCIA) will have different economic and social impacts generated in the stages of both construction and operation. It is expected that this new airport will not only be an important node in terms of economic benefits, but also in terms of the urban impacts it will generate within the urban area of Mexico City, highlighting among others, housing, transport infrastructure and road works.

Thus, the question that guides this research is: What will be the main urban impacts generated by the new Mexico City International Airport, in housing and transport infrastructure within the city? Hence, it pretends to understand and analyze the urban impacts of the construction of the NMCIA, through the use of the multi-regional Input-Output Matrix, using investment amounts destined for urban infrastructure projects and their multiplier effects.
The construction of regional Input-Output matrices, is done with the bottom-up approach, because even though this new airport is a project of national importance, its immediate impact during the construction stage will have a more important effect in the surrounding region and local influence area. Therefore, it is required a methodology that "spatializes" the effects and impacts of this new investment and also emphasizes its connection with the functioning and spatial structure of the city, particularly the areas where impacts are concentrated.

The "spatialization" of the Input-Output matrix requires its construction to come from the elaboration of a system of regional and local accounts, and the identification of sectors of economic activity and its transactions, so as to build matrices by economic subregions of the city that will be integrated in a multi-regional input-output matrix.
Subsequently, there is an exploration of the methodologies available for the analysis of impacts, from which the closest are those related to environmental impacts, given that the review of the literature did not revealed any application of the methodology of Input-Output at the intra-urban level. So, according to the design of functional economic regions and particularly urban economic regions and their interactions, as well as through the construction of Input-Output matrix via bottom-up and with the methodological principles of analysis Input-Output more akin to the urban study, a methodological proposal will be integrated for the purpose of observing its results and scope, in order to, subsequently develop a more systematic and rigorous methodology based on the Input-Output approach so as to analyze the economic composition and spatial structure of cities.
Thus, this research is an exploratory analysis, where economic factors are combined with the economic functionality in urban regions and the input-output analysis. It is expected that the results achieved will get close to the measurement of the urban impacts that the region of study will have and more specific, Mexico CityÂ´s Metropolitan Area as it is the local impact area with an area of influence, in accordance with the new demands of employment and urban infrastructure in the subregions.

The research methodology has the following steps: 1. Identification of the subregions in the central region of Mexico and in the urban economic region of Mexico City, where this new project is to be implemented; 2. Elaboration of the system of regional and local accounts of the area of study; 3. Construction of the subregional Input-Output Matrix and multi-regional matrix, considering the established investment for urban infrastructure projects in the relevant sectors; 4. Identification and analysis of urban impacts on the region of interest, resulting from the use of the input-output

methodology.

For the construction of the regional input-output matrix, the data comes from the most recent economic census where there is availability of the main macroeconomic variables at the level of basic spatial units and those missing variables will be estimated through the bottom-up approach and with the use of interaction indices that validate intersectoral relationships within the multi-regional Input-Output Matrix.

Keywords: subregional, regional accounts, multi-regional input-output matrix, urban impacts.