

Spatial Analysis Of Regional Input Output Of The Automotive Supply Chain And Its Impact On Economic Development In The Economic Functional Region Northeast Mexico.

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The automotive industry is of great economic importance for the creation of value added and employment, so it is considered by the national industrial policy as a key factor for development. Even state governments in Mexico promote its establishment in their territories as it is a factor of regional growth and also to take advantage of the export market that the economic openness has given for three decades. However, the production chain of local firms with the transnational companies that lead the automotive industry represent an unfulfilled goal and this becomes evident by the strong dependence on imports from the point in the production chain. This separation does not allow the benefits of the economic liberalization model to achieve regional development.

This paper analyzes the functional economic region of Northeast Mexico, which contains one of the most important automotive clusters in Mexico which is spatially structured in a metropolitan corridor that runs from Saltillo to Monterrey. However, it articulates other cities that specialize in branches that supply inputs located in various internal sub-regions, including the border, generating not only intra subregional interaction but also interaction with other national regions, and of course with the rest of the world where many inputs are imported from. Therefore, the aim of this article is to answer the question: What is the impact of the automotive industry in regional development through the analysis of its production chain in Functional Economic Region in the Northeast? For this purpose, the regional input-output matrix (MIPR) is constructed through the bottom-up methodology, using the main regional economic accounts and analyzing the economic interactions. So, the main economic subregions are identified validating their economic interaction with spatial dependence as measured by Moran and Lisa indices; subsequently, the main economic accounts of every subregion are identified and developed, focusing on key dominant sectors and those that correspond to the automotive industry. Finally, there is an analysis of economic interactions and the construction of matrices of uses and origin of resources taking national tables as reference.

In the light of these results, the regional Input-Output matrix is constructed through economic transactions technical and total coefficients, which is complemented by the identification of key chains, drag chains, base chains and independent chains in the region and its subregions by the Rasmussen methodology, focusing on the chains associated with the automotive industry. Subsequently, by analyzing vertical specialization, the proportion of external and regional added value is estimated, incorporating automotive exports. Additionally, the connectivity of the northeastern region with and without imports is calculated by the analysis of the determinants of the matrices of total regional intermediate consumption and without imports.

To analyze the contribution to regional development, multipliers of the subregional matrices are analyzed and the impact of the growth of value added in the automotive industry on local employment is witnessed. To complement this there is a statistical evaluation of the impact on the main variables of economic and social development of the region.

Statistical information comes from the 2014 and earlier economic censuses, GDP and National Accounts report from the National Institute of Statistics and Geography (INEGI) of Mexico, which provides data by industry and by municipality; as well as officials and business surveys available at the state level.

The contribution of the above methodology is based on an effort to collect and estimate data through the approach "bottom up" and through regional accounts, which has not been done in Mexico before. This allows us to know more precisely the heterogeneity and the impact of the local functional economic structure. Also, the contribution to regional development obtained through the local industrial policy that attracts foreign direct investment is inferred.

Keywords: Automotive industry, regional matrices, chains, enclave, vertical specialization, regional development.