

Degree of Dependence on Imports of the Automotive Cluster and the Economic Effects on Manufacturing in the Northeastern Region of Mexico: A Bottom-up Methodological and Analytical Approach

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Author: Marcos N. MAYA

Co-Authors: Jos  Manuel S nchez Gamboa, Normand Asuad Sanen

Economically, the automotive industry is very important for being a promoter of national exports and for the productive variety of companies that integrate its supply chain. If this industry is linked to the activities of its regional surroundings, multiplier effects will be transmitted to other local manufacturing branches and irradiated to other sub-regions and thus contributing for its development, otherwise, if this industry is not chained, its impact on the growth of other industries and sub-regions will be halted and there will be dependence on imports. Analyzing this industry through its sectoral interactions at a sub-regional level, allows the identification of its economic-spatial impacts, using as an analytical tool a regional input-output matrix, constructed under a bottom-up approach.

In Mexico, a notorious case is the Northeast region, which in 2008 concentrated 23% of value added and 20% of employment of the national automotive industry. This activity is spatially concentrated in a corridor that includes two functional sub-regions located around the metropolitan areas of Saltillo and Monterrey (Maya, Asuad and S nchez, 2016).

This research comes from the following basic question:

What is the degree of dependence on imports of the automotive cluster and the regional economic impact on the manufacturing sector at a sub-regional level in the Northeast region of Mexico?

The main purpose of this work is to identify at a sub-regional level, whether there is an inter- and intra subregional dragging effect of the automotive cluster in the manufacturing branches or, on the other hand if an enclave economy exists, characterized by a large share of value added from imports.

The methodology used consists mainly of three parts: 1) Construction of a multi-subregional matrix by using branches of the manufacturing industry under a bottom up approach (Asuad and S nchez, 2016); 2) Analysis of principal components to identify manufacturing clusters, including the automotive industry (Feser and Bergman, 2000); and 3) Characterization of the linkage between the automotive cluster and the regional manufacturing industry (Schuschuny, 2005), by reviewing the degree of dependence on imports, through the vertical specialization method. (Maya, Asuad and S nchez, 2015).

The data used come mainly from INEGI's 2014 Economic Censuses, which record the activity of industrial manufacturing establishments. However, the regional industrial accounts were validated considering the information of the economic accounts by both state and national levels.

Unlike previous studies related to the automotive industry in Northeast Mexico, this paper highlights the importance of considering buying and selling relationships between sub-regions, as well as characterizing their manufacturing chains with the automotive industry based on an input-output analysis, using regional data.