A pretopological analysis for amplification and absorption effects in the economical structure: a comparison among Mexico with center, center-periphery and periphery countries

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This paper is based on pretopological analysis to study the influence (received and exerted) by a group of economic sectors that constituted a community. This influence is direct and indirect, by the sector of each community and the others sectors. For this purpose input–output matrix of different countries, are analyzing and contrasting by their structure through the pretopological analysis. The countries to be analyzed are: two centers (Germany and USA), two center–peripheries (Canada and Korea) and two peripheries (Mexico and Brazil) in two different years (1995 and 2009).

For this study, we use national accounts matrices found in the website of the World Input-Output Database (WIOD), these matrices have 35 sectors. We obtained four communities of these 35 sectors. The communities are conformed by the spectral method using the binarized matrix according to principal components results of 95% variance explained. The computing calculus for the pretopological analysis is using the program MARX that provides us with the pretopology structure of influence and the interior and adherence of each community.
Marx makes a different binarization thresholds court, this helps us to find the influence of the behavior of communities. So we know if the communities cushion or amplify the economy. MARX and its results are used for an economic historical view and the relationship among Mexico and the other countries.