

A Comparative Kernel Structure of Mexico, Brazil and South Korea: A Pretopological Input-Output Analysis.

Topic: Emerging Developing Countries

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The purpose of this paper is to perform a structural analysis of the fundamental (kernel) sectoral interdependence, in order to study the importance of the general economy structure in the development of each country: Mexico, Brazil and South Korea. The years of the research are 1995 , 2001, 2008 due structural parallel changes in the three economies, notably in trade and financial liberalization. After the Industrialization by Substitution of Imports (ISI) process, these economies applied different trade policies that resulted in the protection of some key sectors that support the currently growth of Brazil and South Korea unlike what happened in Mexico.

This work is based upon the pretopological concepts of pseudoclosure and minimal closed subsets. Firstly, we will generate a binary transaction matrix with a specific Decision Rule. Secondly, we will seek different core structures of each economy with an economics-based Function Decision Rule using the concept of minimal closed subsets. Finally, we will compare each of the structures and identify critical sectors which determine the structural topology of the different economies.

The expected results will be that economic policy applied to modify the structural conformation of an economy is fundamental in the success of the development process in open trade developing countries.