

Functional income distribution, labor productivity and technological change in input-output matrices: an approach of complexity to the Mexican case.

Topic: Mathematical Analysis and Thematical Applications

Author: Eduardo MORENO REYES

Co-Authors: MartÃn Carlos PUCHET ANYUL

The importance of the Functional Income Distribution (FIN) is not simply to understand the configuration of the primary payments in the production process of an economy, but in this lies the primal step of the entire distributive and redistributive process in an economy. This paper have two motivations; first, to expose the possibility of interpreting the sectorial circularity indexes (SCI) (Latner 1972, Gazon 1976) of input-output table as an indicator that captures the complexity and technological change of an inter-industry system; second, to answer the question: "Is the complexity and cost of new technologies and their impact which changes the structure of income and labor-saving and modify the production function towards more capital intensive methods? ".

The SCI is an indicator that allow to measure the technological change and the complexity of the network associated with an input-output table. Therefore, when this indicator is related to labor productivity and the FIN through econometric panel model, the question formulated in the second purpose can be answered; in turn, to establish if the variables maintain a long-term relationship.

The respective indicators are estimated with the information of the tables of input - output for Mexico in three key years 1980, 2003 and 2008 " and considering compatible disaggregation levels. Data sources to be used are provided by the Statistic and Geography National Institute (INEGI).

While there have been studies analyzing the circularity index, an indicator that synthesizes without losing information the circular relationships represented by a table of input-output, no studies have been done to take this indicator as representing technological change and complexity and, even less, research has been conducted to consider this indicator of a joint form with labor productivity to determine the functional income distribution; the mode of distribution less addressed in the economic literature, however, its importance.