

The role of technological change & labor productivity in the functional income distribution: a complexity approach to the cases of Brazil and Mexico.

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The central purpose of this paper is to analyze the functional relationship between structural circularity, labor productivity and share of wages in value added in each industrial sector, for the cases of Brazil and Mexico, from a comparative and inter-temporal perspective, to answer the next 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 technological changes that take place when a sector moves from a sequential mode of supply, implies coordination and configuration of circuits of the sector with those of others. The indexes of sectoral circularity are the indicators that permit to measure this technological change and complexity of the net. Thus, by relating this indicator to labor productivity and the functional income distribution through tests of causality (Engle-Granger & Toda-Yamamoto), it is possible to answer the question asked.

The respective indicators are estimated with the information of the tables of input - output for Brazil and Mexico in three key years - circa 1980, 2003 and 2013 - and considering compatible disaggregation levels. Data sources to be used are provided by the Statistic and Geography National Institute (INEGI) and the Statistic and Geography Brazilian Institute (IBGE) for the respective years.

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.