Structural Change and Economic Growth in a Supermultiplier Model: a dynamic input-output analysis of the Brazilian economy

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This paper aims to discuss the role of structural change in a demand-led pattern of growth. The principal purpose is to evaluate how and by which channels the interaction between structural change and economic growth occurs. This requires an input-output version of the model (and not the usual aggregate version). When occurs variations in the final demand (autonomous expenditures that do not generate capacity for the private sector), three effects characterize the Supermultiplier in this version: i) intermediate demand (Leontief multiplier); ii) induced consumption (Keynesian/Kaleckian multiplier), and iii) induced investment (flexible accelerator effect). The first effect represents the demand generated on sectors that supply intermediate goods and/or services for finals goods and/or services. The second is the effect of variations in the final demand on the consumption of non-durable goods and services. Finally, the last term captures entrepreneurs adapting the productive capacity to the demand/income changes of the economy. The effects of structural change would affect the technical coefficient matrices (Supermultiplier) and the composition of the autonomous final demand vector, it could have effects both in the growth rate and at the productionâ€™s level - with repercussions on the patterns of international trade, propensities to consume and to invest, coefficients of domestic content and the sectoral composition of the economy. The model and methodology developed are similar to Freitas & Dweck (2010) and Freitas, Kupfer & Dweck (2010). Concerning the dynamic input-output model, investment plays a fundamental role because of its dual nature - on the one hand, generates demand for the economy in the current period (directly and by multiplier effect) and, on the other, increases the productive capacity of the followings periods (accelerator). In this way, the Capital Flow Matrix (CFM) explains the investment component of the model, since it is possible to disaggregate the allocation of investment in sectors and products (Miguez, 2016). The data used are the disaggregated versions of Brazilian 2015 Input-Output Tables (127 products and 67 activities) and Supply and Use Tables (128 products and 68 activities) available by Instituto Brasileiro de Geografia e EstatÃ-stica (IBGE). To make compatible all the data for the simulations, it was necessary to reduce the level of aggregation to 91 products and 40 activities. The growth trajectories of output and the production structure will be analyzed through simulations in the R software. Those trajectories are not predictions, but a basis of comparison between hypothetical scenarios. The simulations require, besides the data of the input-output matrices, other databases for the parameterization of the model. Among these are the estimation of potential output and the degree of utilization of the average capacity of the economy. The simulations also depend on the elaboration of scenarios about the Brazilian economy and on a baseline scenario to compare the alternative scenarios. The quality of these scenarios is crucial for the empirical relevance of the model. At the end of the paper, it will be possible to get evidence on which sectors bring more dynamism to the economy (in particular the Brazilian one) and patterns of growth for different productive structures.