Chinaâ€™s 1997-2017 growth: applying SDA to SAMs

Topic: Structural Decomposition Analysis
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Between the late 1990s and the outbreak of COVID-19, China experienced an impressive growth trend, boosted by its accession to the World Trade Organization (WTO) in 2001. The country began to play a decisive role on the international stage, opening up to trade in goods and services and receiving large inflows of capital in the form of foreign direct investment (FDI). China sought to stimulate growth through three main channels: public spending, trade, and investment. These policy instruments are seen as the drivers of growth in the years of China's rapid globalization when profound changes in the economic structure took place. In particular the changes between 1997 and 2017 have been addressed in several studies based on Input-Output (IO) tables.
IO tables represent in a comprehensive way the functioning of real economies by recording information on intermediate transactions, primary factors and final demands. They tie industrial interdependencies, technological features and value-added generation with domestic and foreign final demands. However, IO tables do not provide information on the primary allocation of income and its secondary distribution among institutional sectors. Such information requires the connection of the production structure with the institutional sector accounts. From a policy perspective, IO tables therefore face limitations because they do not display the full circular flow of income.
In contrast, the Social Accounting Matrix (SAM) is a disaggregated accounting scheme that takes the IO table as its starting point and adds information on factor owners' income, inter-institutional transfers and the use of disposable income. In addition, it considers transactions occurring between the residents and the Rest of the World (RoW). These include import expenditures for intermediate and final use, export receipts, incoming and outgoing transfers, and the current account balance. A SAM thus serves as a consistent statistical framework for policymakers that sketches the structure of production (just like IO tables). In addition, however, it also includes the transactions that link the production structure to the distribution of income.
This paper constructs SAMs for China and applies Structural Decomposition Analysis (SDA) to examine the impact of the three policy instruments. First, we construct Chinese SAMs for the years 1997, 2002, 2007, 2012 and 2017. The main data sources are the IO tables and the Flow of Funds tables (the institutional sector accounts) published by the National Bureau of Statistics (NBS) of China. The core information of the SAMs is the production structure of the economy as reported in the non-competitive IO tables. The NBS publishes the IO tables with interindustry transactions at the level of 17 industries. Until 2017, the NBS provided the IO tables with competitive imports. That is, all deliveries (intermediate inputs and final goods and services) include the sum of domestically produced and imported goods and services. These competitive IO tables first need to be converted into non-competitive tables, which separate domestically produced from imported deliveries. This is done with the import scrubbing method based on the import similarity assumption. The SAMs also include two primary factors (labor and capital) and five institutional sectors (financial corporations, nonfinancial corporations, households, the government, and the RoW).
SDA is the technique used in this paper to quantify and describe the contribution of three policy channels to China's economic development process in the period 1997-2017 (distinguishing four subperiods: 1997-2002, 2002-2007, 2007-2012, and 2012-2017). The three policy channels are trade, investment and public spending. Our indicator for trade openness is the increase in exports and we are particularly interested in the effects of Chinaâ€™s WTO accession. Investment includes both public and private investment, while public spending includes both public consumption of goods and services and redistributive policies. We analyze whether the promotion of free trade was the main reason for China's development or whether the transition to a developed country was the result of a combination of targeted investment policies and public expenditure measures. We observe the

relative importance of these policies in driving changes in the production system and incomes of institutional sectors.

Typically applied to the IO framework, SDA allows the change in a variable over time to be decomposed into the relative contributions of a selected set of independent determinants. The variables that are decomposed in our study are: the country's shift in domestic production specialization and the changes in income distribution. The exogenous independent determinants include government consumption, investment, exports, factor income from abroad, government transfers to Chinese institutional sectors, and transfers from the rest of the world. The endogenous