Global Value Chains, Trade and Growth: Revisiting Supply and Demand Dynamics in an International Input-output Specification

Topic: Dynamic Systems
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Multinational corporations account for 80 percent of all transactions of goods and services across borders, either within their affiliate or through networks of suppliers. As a result, global value chains (GVCs) have been reshaping international trade and investment. Beyond the on-going debate on possible paradigm change and the need to define new theoretical models able to interpret those new international trade modalities, most analysts converge in saying that GVCs change many things in the way actual business takes place. And this has very practical implications for policy making. In this 23rd IIO conference paper, I propose to present the (preliminary) results of an on-going research programme at the World Trade Organization aiming at analysing the relationship between manufacturing fragmentation, global value chains, trade and economic growth through the complementary angles of demand and supply. The traditional decomposition of growth viewed from the demand side, with trade entering the decomposition through the net exports of goods and services (X-M) as measured in the Balance of Payments, is mis-specified when trade takes place in global value chains. As a result, the contribution of trade to growth is at best misrepresented, at worst misunderstood. Looking at the imported content of the different components of Final Demand, from both short and long term perspectives, the paper will develop appropriate methodologies to correct for these shortcomings and illustrate the results using the forthcoming release of the OECD-WTO TiVA database.

The supply-side analysis is more closely linked to the longer term "trade and development nexus". For many developing countries, joining global value chains is just the first step in their export-led growth strategy. For both economic and social reasons, it is important for them to design up-grading strategies that will foster backward and forward linkages and create more job opportunities. Adopting a value-chain perspective, as encouraged by M. Porter (1985), has been the back-bone of most new industrial policies adopting a cluster approach. Yet, in a GVC perspective, a productive chain is as strong as its weakest part. Using appropriate benchmarking methodologies to be developed in the paper, the OECD-WTO trade in value added database (TiVA) offers new insights that help identifying where are the comparative advantages of a country compared to its trade partners and what are the opportunities for joining a global value chain. Perhaps as important, it allows also identifying which industries are relatively less efficient and require a special attention from the authorities. My objectives in presenting this paper are to share with researchers those results and, more importantly perhaps, receive comments and suggestions that will allow me to improve on the methodology used. The feed-back received will be incorporated in each individual component of our present research program at WTO and ultimately incorporated in a revised version of the Conference Paper.

Methods (see attached outline for more details):
1. Demand Side
(a) Short term: Growth Accounting and Input-Output Analysis to measure the contribution of different components of Final Demand to short term economic growth and identify the imported content directly or indirectly embodied in each one of them. International comparative analysis using the forthcoming revision of OECD-WTO TiVA database and diagnostic of the causes of the world-trade slow down during and after the Global Crisis of 2008-2009.
(b) Long term: Evaluation of specific Trade-Demand elasticity for final demand (investment, consumption, exports) controlling for factors specific to each economy (income and development level, exchange rates and relative prices, etc.). Estimation on the basis of results of the

balanced-trade long term growth rate (eg, the Thirlwall's Law)

2. Supply Side
Accounting for inter-industry linkages via the IO relationship, the paper will track sectoral inefficiency spillovers over the upstream and downstream domestic and international segments of the value-chain.
Traditional benchmarking methods are designed for comparing individual firms that share common characteristics. Applying parametric (statistical analysis) or non-parametric (DEA) benchmarking methods to input-output matrices to identify comparative advantages at sectoral level and, symmetrically, sources of inefficiency spillovers. Traditional benchmarking methods, developed to rank individual firms, will have to be modified to reduce the aggregation bias typical of input-output data, even harmonised and calibrated as International I-Os. The paper will adapt those methodologies to the definition of a metafrontiers capturing the heterogeneity in the data.