Productivity and competitiveness in an era of reconfiguration of Global Value Chains

Topic: Trade and Global Value Chains Policies
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The second â€˜globalisation unbundlingâ€™ (Baldwin, 2016), which started in the 1990s, transformed the world economy in, at least, three dimensions: global production, national competitiveness and income distribution.

First, globalising factories changed the international division of labour by means of domestic and international outsourcing, creating Global Value Chains (GVCs). Second, driven by competitiveness, the global North de-industrialised, whereas industrialising nations in the global South â€“ led by China â€“ shifted â€œfrom a low-tech/low-wage bundle to a high-tech/low-wage bundleâ€• (Baldwin, 2016, p. 216). Third, but equally important, these processes coincided with a declining global labour share.

The recent (and ongoing) supply shocks (i.e., the Covid-19 pandemic and the war in Ukraine) have exposed the vulnerabilities of the current configuration of globalised production and a reconfiguration is taking place, its depth and scope still being assessed. The outcome of such reconfiguration of GVCs is bound to have important consequences for productivity, competitiveness and income distribution.

While competitiveness remains a national concept, production fragmentation makes productivity an international one: when minimising global production costs, firms operating in a sector take unit (labour) costs of inputs from different countries as given to articulate a GVC. Thus, inter-country, inter-sectoral linkages of costs and technology may play a prominent role in explaining international economic performance. Therefore, to properly understand the components of productivity dynamics, it is necessary to shift the unit of analysis from the industry to the (inter-country) value chain.

It has been argued that the extent of GVC integration is positively related to labour productivity changes (Constantinescu et al., 2019). Hence, a setback for GVC integration might imply a slower pace of productivity growth for the world economy in the years to come, whereas a rewiring of input sourcing towards more expensive partners implies that productivity increases along the value chain will be needed to maintain competitiveness.

Against this background, by combining hypothetical extraction from a global perspective (Dietzenbacher et al., 2019) and vertical integration at an inter-country level (Timmer, 2017) this paper aims to: (1) refine productivity and competitiveness measurement at the value chain level, (2) using scenario analysis, rewire international productive linkages so as to reflect plausible geo-political reconfigurations of trade flows, and (3) quantify the potential effects of such rewiring on productivity and competitiveness across GVCs of the world economy.

Data to perform this scenario analysis will be sourced and articulated from the OECD's Inter-country Input-Output (ICIO), Trade in Employment (TiM) and Structural Analysis (STAN) databases, as well as the UNSD National Accounts main aggregates database.

In relation to aim (1), we will extend the analytical device of a vertically integrated sector (Pasinetti, 1973) to an inter-country setup (Timmer et al., 2013; Garbellini, 2014), measuring productivity along a value chain, which spans inputs sourced from different countries (cf. Timmer and Ye, 2020). But besides productivity, it will be necessary to vertically integrate (unit) labour costs, in order to arrive at

a value-chain measure of competitiveness (cf. Marczak and Beissinger, 2022). Devising these measures will help to understand the contribution of trade partners to the productivity and unit labour costs of a country's GVC.

As regards aim (2), we will divide the world economy into three macro-areas: the global North, China and the (rest of the) global South. In line with strategies currently considered by geo-political debates, we will design possible reconfigurations of input linkages between regions. Using hypothetical extraction techniques (Dietzenbacher et al., 2019), we will compute the model-implied changes in the geographical and sectoral distribution of output, incomes and employment associated to alternative scenarios.

Finally, in relation to aim (3), we will apply the metrics derived in (1) to the scenarios formulated in (2) and quantify the potential implications for productivity and competitiveness across GVCs and for the world economy at large. In particular, we will also quantify the productivity adjustments required in each GVC to maintain actual levels of competitiveness.

The importance of this type of analysis cannot be understated. Strategic trade reconfigurations will impact productivity and global growth prospects. Hence, performing a preliminary assessment with the tools of global input-output analysis (see, e.g., Feenstra and Sasahara, 2018) will inform the debate on the potential effects of events currently taking place, but whose ultimate consequences may take years to emerge clearly.