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Global value chains and productivity growth in advanced economies: do intangibles matter?

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Abstract

In this paper we explore the productivity effects of intangible capital accumulation taking into account the mediating effect of participation in global value chains. The analysis of the productivity impact of GVCs is at the centre of an emerging literature (Criscuolo et al 2015) focusing, to mention some of them, on the effect of specialization in tasks and offshoring (Grossman and Rossi-Hansberg, 2008, Amiti and Wei, 2009) and on the productivity gains from increased variety and quality of imported intermediate goods (Amiti and Konings, 2007; Goldberg et al., 2010; Bas and Strauss-Kahn, 2015; Halpern et al., 2015). However, the studies looking at the associated effect of intangible capital accumulation and participation to GVCs on productivity growth are rather scant. We bridge the macroeconomic literature on the impact of intangibles on productivity growth (Jalava et al. 2007; Hao et al. 2008; Fukao et al. 2009; Marrano et al. 2009; Corrado et al. 2009; Corrado et al. 2013; Corrado et al. 2017) with the microeconomic literature on the role of intangibles along the value chain (Everatt et al., 1999; Mudambi 2007, 2008; Shin et al. 2009, 2012; Dedrick et al. 2010). Our aim is to the uncover the productivity gains associated with different intangible assets in diverse stages of the production process. We distinguish between different intangible assets (R&D, design, organizational capital, training, brand) and different forms of participation in GVC (forward and backward) providing a taxonomy of their possible synergies. The existence of such synergies is tested in the framework of an augmented production function, also looking at possible differences between groups of sectors and countries and of the existence of structural breaks during the economic crisis. The data cover 15 European countries and 18 sectors over the period 2000-2016. The data we use in the analysis are from EUKLEMS, WIOD and INTAN Invest.

Our findings contribute to the analysis of the interdependencies between investment in innovation, value creation and productivity growth taking into account the position of countries and sectors in GVCs. Disentangling the multiple channels through which knowledge based capital and GVC participation affect growth and the (possibly) heterogenous impact across type of assets, countries, sectors and over time will allow suggesting targeted policies or combination of policies to sustain European productivity growth in the long run.

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