

R&D expenditure and economic growth: how has changed globalization the current outlook?

Topic: (2.3) Structural Change and Dynamics (1)

Author: Sofía JIMÉNEZ

Co-Authors: Julio Sánchez Cheliz, Rosa DUARTE

There is certain consensus in economic literature on the factors that have influenced historical differences in growth patterns observed between developed and developing countries. However, it is less clear how structural elements have marked growth differences in developed economies in recent decades and how these different patterns have conditioned their economic outcomes in the context of the global economic crisis.

R&D has been traditionally studied as a key factor explaining economic growth in developed economies. In fact, significant bulk of literature has provided evidence on this relationship (Griffith (2004) among others). Despite that, recent economic literature has also focused on the role that indirect and imported R&D expenditure (imported R&D) and R&D spillover effects (Vitucci et al (2011) or Seck (2011)) have played boosting economic growth. This indirect influence becomes more evident in a context of increasing globalization and production fragmentation scheme.

In this context, our paper has two main objectives; to study how globalization has changed the world map of R&D flows and their role in economic growth, and to approximate to the temporal gap existing from the R&D investment to the effects on economic growth. Regarding the first objective, we propose a methodology to modify the traditional R&D embodied in demand. The change is mainly based on the concept of country-specific absorptive capabilities (Verspagen, 2016). In order to capture these differences we propose to use a weighted based index depending on the specialization structure.

On the basis of this measure, we formulate an econometric two -equations model to address two important issues: First, how globalization has changed R&D role on economic growth, with an increasing importance of external flows over direct R&D investment itself. Second, our results suggest that immediate R&D investment barely affects labour productivity as most literature tends to assume. In fact we find that there is at least a three years gap depending on the period considered.