Looking beyond the R&D effects on innovation: The contribution of non-R&D activities to total factor productivity growth in the EU*

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Abstract

Non-R&D innovation activities account for a significant portion of innovation efforts carried out across very heterogeneous economies in Europe. However, to incorporate them into economic models is not always straightforward. Moreover, relying only on R&D data does not capture well innovation in the services sector. To counter these problems, this paper builds an augmented macro-theoretical growth model where, besides R&D, non-R&D innovation activities play a key role as main drivers of TFP. The model is estimated for a sample of EU-26 countries over the period 2004-2008, showing that the distinction between R&D and non-R&D innovation activities is significant for a number of different issues. First, we find both R&D and non-R&D to be statistically significant and economic important in technological catch-up. Second, there is a differential sizable impact of R&D and non-R&D; the impact of R&D on TFP growth is found to be twice as big as that of non-R&D. And third, the two types of innovation cannot strictly been seen as complementary, at least for the case of countries with high R&D intensities or high non-R&D intensities.

Keywords: TFP, R&D, non-R&D expenditures, EU countries.

JEL Classification: O0, O3, O4

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