

R&D, Innovation, and Technological Progress: A test of the Schumpeterian Framework without Scale Effects

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Abstract

I use U.S. manufacturing industry data to estimate a system of three equations implied by a model of R&D-induced growth in steady state. These equations relate R&D intensity to patenting, patenting to technological progress, and technological progress to economic growth. In each case, I find evidence of positive impact. Thus, I reject the null hypothesis that growth is not induced by R&D in favor of the Schumpeterian endogenous growth framework without scale effects. I also find strong support for technological spillovers from aggregate research intensity to industry-level innovation success.

Keywords: Endogenous Growth, R&D, Patents, Technological Change.

JEL Classification: O40, O30