

Firm Innovation, Employment, and Productivity: Theory and Evidence from Europe

Hiroya Taniguchi* Ken Yamada†

October 2024

Preliminary and Incomplete

Abstract

Firm innovation is expected to be key to productivity growth, whereas it is considered as a threat to employment stability. We develop a general equilibrium framework to evaluate the effects of process and product innovations on employment, output, and productivity at the firm, industrial and national levels. We estimate production and demand functions for a panel of firms in major European countries to separately measure the contributions of process and product innovations to employment, output, and productivity in the years 1995–2015. Product innovation can increase both output and employment, whereas process innovation can increase output but decrease employment. Our preliminary results suggest that the equilibrium effects of process and product innovations are significant.

KEYWORDS: Process innovation; product innovation; employment; productivity

JEL CLASSIFICATION: D24, E24, J23, L11, O33.

*Okayama University. taniguchi.hi@okayama-u.ac.jp

†Kyoto University. yamada@econ.kyoto-u.ac.jp