

Techies, Trade, and Skill-Biased Productivity: Firm Level Evidence

from France

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Abstract

We study how firm level decisions on technology, exporting and importing jointly affect the evolution of productivity and its bias towards management occupations. We use a novel measure of the propensity of a firm to develop and to adopt new technologies: its expenditure share on employment of technology-related occupations. These “techies” are technologically-trained workers that possess STEM (science, technology, engineering and math) skills and we focus on ICT and R&D techies. We extend the Grieco, Li and Zhang (2016) methodology for estimating firm level productivity (revenue TFP) to encompass biased technology, and apply this to high quality administrative data on French firms. Our results indicate an important role for techies and for importing in promoting skill-biased productivity growth. Imports from high income countries are associated with Hick-neutral productivity growth, while imports of intermediates from other countries are associated with skill-biased productivity growth. These forces have large quantitative implications for the demand for management occupations at the aggregate level.