Energy efficiency, productivity and exporting: firm-level evidence in Latin America

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Energy efficiency, productivity and exporting:
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P. Montalbano¹; S. Nenci²

Abstract

This work explores the relationship between energy efficiency, productivity and exporting for a sample of firms located in thirty Latin American and Caribbean (LAC) countries. This relationship has not been studied in depth although it is important and relevant to policymaking. We apply a standard constant returns to scale Cobb-Douglas production function with labor, capital, and knowledge expanded to exports and energy efficiency. We also investigate the relationship between energy efficiency and exporting and take heterogeneity by firms and industries into account. Firm-level data come from the national representative World Bank Enterprise Survey (WBES). Our empirical analysis finds heterogeneous results by firm size and industrial sector both in the relationship between energy efficiency and productivity and between energy efficiency and exporting. These outcomes are robust to different measures of energy efficiency and controlling for heterogeneity among countries and provinces. By providing for the first time an extensive investigation of energy intensity and firm performance for such a large sample of LAC countries, this work contributes to the lively debate on LAC energy efficiency and weak productivity. By adopting a broader productivity and international trade perspective, it opens the ground to a rethinking of the priorities of energy saving policies and their environmental impacts.

Keywords: Energy intensity; Energy efficiency; Firm productivity; Exports; Latin America.

JEL classification: D24, L20, O54, Q40.

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