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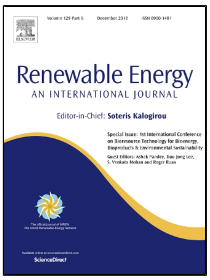

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The macroeconomic impact of renewable electricity power generation projects

Corrado Andini*, Ricardo Cabral** and José Eusébio Santos***

ABSTRACT

Policy makers are increasingly supporting the development of renewable electricity power generation projects not only for environmental concerns but also for economic reasons. Several studies have indeed documented that renewable electricity can be a viable economic alternative to electricity power generation based on non-renewable sources. Yet, most of the existing studies are based on microeconomic cost-benefit analyses which disregard the existence of large macroeconomic effects. This paper develops a novel method to evaluate the macroeconomic impact of renewable electricity power generation projects. Economic theory is used to identify the potential effects of these projects on the vector of macroeconomic variables affected by their implementation. A structural vector autoregression model is thus estimated using a novel dataset of quarterly macroeconomic and energy data for Portugal. The estimated impulse-response functions suggest that renewable electricity power generation projects have positive effects on real economic growth in the medium run, through both the investment and the operations phases. Import substitution is the key driver of the overall positive impact.

JEL classification: C32, E17, Q43

Keywords: renewable energy, macroeconomic impact, structural VAR

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