



Introduction to the special issue: green economy and environmental policies in oligopoly markets

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An extensive and well-documented research body shows that global pollution is generated by human activities associated with the production, transportation and consumption of products.

There exists common agreement among researchers that, to meet emissions reduction, national energy and climate plans are needed. In its 2020 Climate and Energy Package, the European Commission has committed to reaching 20% cut in greenhouse gas emissions from 1990 levels. As part of the European Green Deal aiming to make Europe climate neutral in 2050, the Commission proposed in September 2020 a more ambitious emission reduction target declaring the willingness toward emission reductions of 55% compared to 1990.

Moreover, a more recent approach shows that green persuaded consumers might play an active role in curbing emissions (Eriksson 2004; Brécard 2013; Mantovani et al. 2016; Karakosta 2018).

This environmental concern has generated a growing interest in environmental policies' economic effects and, possibly, on the supply of environmentalism (Andreoni 1990; Glaeser 2014).

The main scope of the special issue of the *Journal of Industrial and Business Economics* has been to advance the comprehension of the effects of eco-friendly actions, when they are undertaken by institutions, enterprises and/or consumers in oligopoly markets.

Two considerations have inspired the issue.

First of all, economic theory shows that global pollution is an externality (Meade 1979). Externalities generate market failures whose effects spread throughout the whole economic system. In a predominant view, these effects have

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been considered to play a role in the real economy, whereas not much attention has been paid to the relationship between global warming and the financial system. Not even the consequences of climate change on handling monetary policy have been deeply disentangled.

The Special Issue begins with the paper by *Xepapadeas*, where the author briefly presents the financial risks associated with climate change intended as a negative externality and the ongoing research in this area. He shows how climate change may affect the financial system's stability and describes several possible paths of future research. In particular, he proposes to analyze the exposure of the financial system to carbon-intensive assets and the possible financial risks from the emergence of stranded brown assets. Also, he investigates the role of green bonds policies in enhancing the transition to a low-carbon economy and supporting programs of adaptation to climate change.

It is well known in environmental economics that fiscal policies targeted to abate global emissions generate competitiveness problems and possibly relocation choices. Whenever a country's unilateral climate policy is undertaken, polluting firms in that country can choose to relocate elsewhere where climate policy is less strict. As a by-product of the above consideration, a jurisdiction's ability to attract capital while enhancing sustainable development becomes crucial. This issue has been considered by *Zanaj et al.*, where a small jurisdiction competes against a larger rival. This paper locates in a strand of research where policy interventions pass through fiscal competition between asymmetric jurisdictions. In an infinite time horizon with capital mobility, *Zanaj et al.* assume that policy instruments at the disposal of the two jurisdictions to reach an efficient steady-state (when possible) are capital taxes and attractive public infrastructures. They define the equilibrium configuration and show that convergence to long-run efficiency may be impossible if capital mobility is too low.

The paper by *Zanaj* opens the door to a further analysis related to the effectiveness of fiscal policy as a tool to abate emissions. The paper by *Cadoret et al.* examines which type of taxes are environmental taxes by analyzing how governments use them. This paper's entry point is the polarization of the theoretical literature between two alternative interpretations of environmental taxes: the Pigouvian and the Leviathan hypotheses, each leading to alternative testable hypotheses. The authors test them on a sample where the analysts' discretionary evaluations are minimal, the EU-28 countries that committed themselves to correct a negative environmental externality and greenhouse gas emissions by 2020. The estimates support the strict Pigouvian hypothesis, while the Leviathan hypothesis appears less consistent with the data.

The paper by *Rey and Madies* provides a further contribution to the analysis of the link between fiscal policy and environmental abatement. It wonders whether the implementation of asymmetric carbon pricing policies leads to carbon leakage.

Carbon leakage is a well-known phenomenon taking place when a policy aimed to curb emissions in a region directly cause an increase in emissions outside the region itself and thus hampers its effectiveness (*Sanna-Randaccio et al. 2017*). The authors first present the theoretical mechanisms behind carbon

leakage. Then, they review the existing empirical results of carbon leakage. Interestingly, their focus is on the competitiveness channel. Accordingly, their review relies on papers analyzing the effects of asymmetric carbon prices on trade and investment flows.

A case study complements this first strand of analysis. Yamamoto et al. analyze competition between firms providing recycling service of end-of-life products in the Japanese automobile market. To capture the sector's main features, they develop a Hotelling framework that assumes that markets are discontinuous or remote so that there is no customer area between them. Also, they consider the incentive toward illegal dumping and improper treatment of waste.

Secondly, empirical observations show that pollution is an uneven phenomenon and environmental policy is likely to remain sub-global in the coming years. This consideration has two main implications. On the one hand, one may wonder whether “the supply of environmentalism,” generating a form of green awareness among consumers, contributes to curb emissions. This question is located in a broad strand of research, wondering whether green awareness may substitute for environmental regulation.

Lambertini et al. provide an answer to this open question. Borrowing from the literature on impure altruism and moral motivation as a source of pro-social behavior (Andreoni 1990), they introduce in a setting of vertically differentiated products the so-called warm glow effect. They demonstrate that a sufficiently high degree of environmental concern, enhancing an eco-friendly consumption behavior, can induce brown firms to reduce their emissions levels to remain in the market.

On the other hand, as a natural by-product, it remains to see how globalization and trade foster environmental protection in developing countries. *Pugliese and Sestini* tackle this issue. They consider the incentive, if any, to engage in the production of green technology in a developing area. A more stringent climate policy is found to become the critical driver for inducing the more efficient firm to engage in the abatement technology production, also leading to a fall in total emissions.

Before wishing to enjoy reading, as Invited Editors, let us thank Carlo Cambini and Antonello Zanfei—Editor of *Economia e Politica Industriale*—Journal of Industrial and Business Economics—for their support and continuous encouragement.

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