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## REGIONAL POLICIES FOR CIRCULAR ECONOMY IN ITALY AND AN EMPIRICAL ANALYSIS OF PAY-AS-YOU-THROW TAX EFFECTS IN EMILIA ROMAGNA

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### Abstract

A systematic transition towards circular economy (CE) explicitly became a major strategy at European Union level since 2015. Even though this EU-level boost is strong, a major role is played by regional implementation, since local needs and opportunities connected with CE may be very specific.

The aim of this article is twofold. On the one side it highlights which policy instruments are most frequently used by Italian regional policy makers to implement measures supporting the transition to more circular economic systems. The analysis highlights specific regional strategies as well as recurrent policies; these last focus on waste mainly. On the other side, as “pay-as-you-throw (PAYT)” is strongly supported by the EU within the set of policies in favour of EC, an empirical analysis of the effects of the introduction of this waste taxation scheme is conducted.

The case of excellence Emilia Romagna (ER) is considered, as it represents the first Italian Region imposing PAYT to all of its Municipalities by 2021. The effect of PAYT on the quantities of total and sorted urban waste generated is estimated, exploiting the difference-in-differences econometric technique with multiple treatment and time periods. Empirical results show that the effects of this policy in ER are coherent with the first best objective implied by EU Waste Hierarchy and therefore with the CE ones: the total quantity of waste generated decreases by 9.6%, with a non-significant increase of the sorted one.

*Keywords:* circular economy, difference-in-differences, pay-as-you-throw, regional policy, waste

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