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## PER CAPITA CO<sub>2</sub> EMISSION TRENDS AMONG EUROPEAN OECD COUNTRIES\*\*

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### Abstract

The relationships between economic growth, environmental sustainability and energy are of great interest among researchers and policy makers. One of the theoretical conclusions that have received most attention is the convergence of the per capita carbon emission levels. But empirical results of theoretical growth models that include the environmental variable or estimated Environmental Kuznets Curve are not conclusive.

This paper uses a multivariate state-space model to examine the process of convergence of the CO<sub>2</sub> emissions in European OECD countries and to obtain their common trends. Then, we analyze their relationship with economic growth and the dynamic effects of the energy factors on the environmental sustainability of economic development. The results show that the debate between environmental sustainability and economic growth seems to be inclined towards incompatibility in Europe, and the reduction of CO<sub>2</sub> emissions level seems to have two alternatives: or low rates of economic growth or more sums are invested in sources of clean and efficient energy.

*Key words:* CO<sub>2</sub> emissions, economic growth, energy intensity, Europe, sustainability

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