

Economic Structure and air pollution in Cyprus and the EU: An environmental input-output model-based approach

Neophyta Empora^{a,*}, Elias Giannakis^b, and Theofanis P. Mamuneas^c

^a *Economics Research Centre, University of Cyprus*

^b *Department of Agricultural Economics and Rural Development, Agricultural University of Athens*

^c *Department of Economics, University Cyprus*

Abstract

Cyprus has pledged to significantly decrease its greenhouse gas and air pollution emissions by the year 2030. This paper aims to evaluate the direct and indirect impacts of economic sectors on air pollution in both Cyprus and the European Union. Our environmental input-output multiplier analysis sheds light on the varying sectoral effects of exogenous shocks on greenhouse gas (GHG) and air pollution emissions. The results show that Air Transport in Cyprus has high air pollution multipliers, which have grown considerably from 2010 to 2018 compared to other economic sectors. On the other hand, Water Transport in Cyprus demonstrates low air pollution multipliers that have decreased significantly from 2010 to 2018. Notably, the Shipping sector has the largest air pollution multipliers in the EU-28. This paper underscores the crucial significance of the economic structure in driving air pollution levels. Therefore, it advocates for targeted and customized strategies for mitigating air pollution, tailored to specific production activities, to achieve the most effective outcomes.

Keywords: air pollution multipliers; direct and indirect effects; GHG; inter-industrial linkages, air transport, shipping

* Corresponding author address: Economics Research Centre, University of Cyprus, P.O. Box 20537, 1678, Nicosia, Cyprus. Email: embora.neophyta@ucy.ac.cy.