PARAMETRIC DYNAMIC MODELLING OF THE SHORT-TERM EFFECTS OF AIR POLLUTION ON CHILDREN RESPIRATORY ILLNESS

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ABSTRACT

This study focuses on the parametric dynamic modeling of the short-term effects of air pollution (smoke, CO, SO_2, NO_2), as well as of meteorological factors (temperature, humidity), on children respiratory illness in the city port of Piraeus, Greece, during the six-year period 1987-92. The study aims at confirming earlier results obtained through stationary non-parametric analysis. The present methodology is based upon multi-input parametric Output Error (OE) models. The results of the study confirm the statistical significance of the air pollution effects on hospital admissions, indicate the non-stationary nature of the relationships, and call for a potentially more accurate inherently non-stationary analysis.