Willingness to Pay for Clean Air in China

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Abstract

We develop a residential sorting model incorporating migration disutility to recover the implicit value of clean air in China. The model is estimated using China Population Census Data along with PM2.5 satellite data. Our study provides new evidence on the willingness to pay for air quality improvement in developing countries and is the first application of an equilibrium sorting model to the valuation of non-market amenities in China. We employ two novel instrumental variables based on coal-fired electricity generation and wind direction to address the endogeneity of local air pollution. Results suggest important differences between the residential sorting model and a conventional hedonic model, highlighting the role of moving costs and the discreteness of the choice set. Our sorting results indicate that the economic value of air quality improvement associated with a one-unit decline in PM2.5 concentration is up to $8.83 billion for all Chinese households in 2005.

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