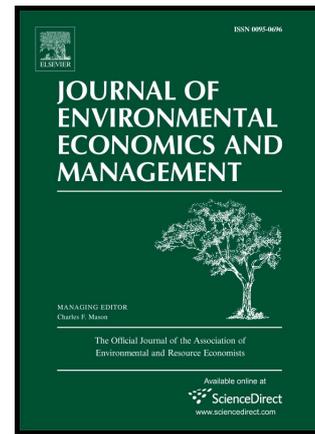


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Fernando M. Aragón, Juan Jose Miranda, Paulina Oliva



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Particulate matter and labor supply: the role of caregiving and non-linearities*

Fernando M. Aragón[†] Juan Jose Miranda[‡] Paulina Oliva[§]

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Abstract

This paper examines the effect of air pollution on labor supply in Lima, Peru. We focus on fine particulate matter (PM_{2.5}), an important pollutant for health according to the medical literature, and show that moderate levels of pollution reduce hours worked for working adults. Our research design takes advantage of rich household panel data in labor outcomes to address omitted variables. This research design allows us to investigate whether the response to air pollution is non-linear. We find that the effect of moderate pollution levels on hours worked is concentrated among households with susceptible dependents, i.e., small children and elderly adults; while the highest concentrations affect all households. This suggests that caregiving is likely a mechanism linking air pollution to labor supply at moderate levels. We provide further evidence of this mechanism using data on children morbidity. Finally, we find no evidence of intra-household attenuation behavior. For instance, there is no re-allocation of labor across household members, and earnings decrease with air pollution.

Keywords: Labor supply; Air pollution; Developing Countries

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[†]Department of Economics, Simon Fraser University; Email: faragons@sfu.ca

[‡]Environment and Natural Resources Global Practice, World Bank; Email: jjmiranda@worldbank.org

[§]Department of Economics, University of California, Irvine and NBER; Email: bolivava@uci.edu

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