

# **The Causes and Consequences of Racial Convergence in Pollution Exposure in the United States**

## **Abstract**

Racial differences in exposure to ambient air pollution have declined significantly in the United States over the past 20 years. This project links confidential Census microdata to newly-available, spatially-continuous measures of ambient particulate pollution (PM<sub>2.5</sub>) to examine the underlying causes and consequences of differences in black-white pollution exposures. We begin by decomposing differences in pollution exposure into components explained by observable population characteristics (e.g., income) versus those that remain unexplained. We then use quantile regression methods to show that a significant portion of the “unexplained” convergence in black-white pollution exposure can be attributed to differential impacts of the Clean Air Act (CAA) in African-American and non-Hispanic white communities: Areas with larger black populations saw greater CAA-related declines in PM<sub>2.5</sub> exposure. We show that the CAA has been the single largest contributor to racial convergence in PM<sub>2.5</sub> pollution exposure in the U.S. since 2000.