

Limiting Local Chinese Pollution for Education and Growth

Dorothee Charlier, **Aude Pommeret** & Anna Risch

Abstract

In this paper, we study both theoretically and empirically the nexus between air pollution, education and households' earnings in China. We account for air pollution in two ways: first, via the number of pollution peaks, measured as the number of days per year above grade 2, second, via the average daily PM concentrations. Using a conditional mixed-process to tackle endogeneity on both education and particulate matters, we demonstrate that attainment in education is affected by pollution peaks. We obtain that in turn, the agent's wealth is affected by education -therefore indirectly by pollution peaks- and by PM concentration through long term health effects. Finally, we also show that there is a non linearity effect of air pollution on wealth. We exploit these results for our theoretical setting in continuous time, where the agent's wealth is affected not only by PM concentration through health's effects but also by pollution peaks through their effect on education. We show that in such a setting, both pollution effects influence the optimal education level. Results of the calibrated theoretical model suggest that on the basis of the effect of pollution on assets, public policy should focus on pollution peaks rather than long term high pollution levels.