

Is Economic Growth Bad for Your Health?

Industrial Growth and Industrial Pollution in Indonesia

Jules R. Elkins

ABSTRACT

The type of industrialization underway in today's developing countries provides a poignant example of the pernicious side of economic growth. It is a process marked by rapid urbanization, crowding, poor access to clean water, and high levels of industrial pollution. The adverse health consequences of these by-products of industrial growth have proven difficult to accurately measure, since industrialization also has positive effects, the most salient of which lie in rising incomes. Moreover, there is little available data from developing countries to analyze this relationship. But it is an important relationship, given the rapid pace of industrialization in many developing countries over the last several decades.

This study employs a purpose-built dataset rich in health, socioeconomic and manufacturing data that allows us to circumvent the lack of credible pollution data, by linking pollution to health outcomes via industrial activity in a rapidly industrializing developing country, Indonesia. The research design builds upon work using 'natural experiments' to circumvent problems in identification due to omitted variables. In the case of health and pollution, the omitted variables problem arises because pollution is not random, and so it has proven difficult to control for all the variables that may impact health other than pollution, but that incidentally accompany pollution.

The natural experiment this paper exploits is the Indonesian financial crisis in 1997-98, which caused large reductions in manufacturing and pollution in some areas of the country and little change in others. A plausible presumption is that the omitted variables problem is drastically reduced when the research design is based on comparisons of changes across districts during a short time of rapid change.

Results from the quasi-experimental design show that the change in incidence of all respiratory problems, coughing, and breathing difficulty was positively correlated with the sub-district's change in pollution, and was significant at the one percent level. Other health problems, including fever, headache, flu, accidents, mortality, disruptions of daily activities, doctor visits, and medication were insignificant or negative, except for the change in incidence of diarrhea (significant at 1 percent) and overall poor health (barely significant at 5 percent, $t=2.05$). Results from the quasi-experimental design tend to be insensitive to the inclusion of a wide variety of controls, which provides an indirect measure of the validity of the main assumption of this study design – that the treatment is close to randomly assigned.

Author Information:

Jules R. Elkins
Department of Agricultural and Consumer Economics
University of Illinois at Urbana-Champaign

310 Mumford Hall, MC-710
1301 W. Gregory Drive
Urbana, Illinois 61801-3605
Phone: (217) 244-0792
E-mail: jrelkins@uiuc.edu