



ECONOMIST, n. a scoundrel whose faulty vision sees things as they really are, not as they ought to be. —*after Ambrose Bierce*

THE VALUE OF ENVIRONMENTAL AMENITIES

Do people *really* care about improvements in the environment? As silly as this question might sound, it has proven remarkably difficult for economists to pin down a precise answer. Recent research by Spencer Banzhaf and Randall Walsh (2008) employs a novel method of thinking about this question, one that delivers a resounding “yes” in response.

Banzhaf and Walsh reason that people are willing to “vote with their feet” in response to the circumstances in which they find themselves. The observation that individuals move to pleasant climates upon retirement is a familiar example. If such behavior is general, then when the environmental quality of a community improves, people would be expected to move there in response. Conversely, if the environment in an area degrades, one would expect individuals to depart for greener pastures (or cleaner air). The key point is that if people really care about environmental amenities, we should see them moving closer to such services. And this is exactly what Banzhaf and Walsh find.

The authors focus their study on data from the Environmental Protection Agency’s (EPA) Toxics Release Inventory (TRI) program. Since 1987, many thousands of firms in the United States have been required to publicly report data on their inventories of toxic chemicals and on any environmental releases of those chemicals. Because all of these chemicals are known or believed to be harmful to humans, the TRI data provide a simple yet powerful method of identifying locally important

changes in environmental quality. For example, if a firm covered by the TRI program moves into a community, the chances increase that local residents will be exposed to the firm’s chemicals; that is, there has been a decline in the expected environmental quality of the community. Conversely, if such a firm departs from the area—taking its toxic chemicals with it—one might reasonably presume that local environmental amenities have improved.

Similar comments apply, perhaps with even more force, to TRI-tracked releases of chemicals into the environment. It takes no leap of the imagination to infer that people would like to avoid being exposed to, say, methyl isocyanate, accidental release of which killed thousands of people in Bhopal, India. So, we can presume that if toxic releases go up in a community, this is bad news, to which some people will respond by departing. But a reduction in releases should attract immigrants seeking a cleaner environment in which to work and play. In both cases, people are voting with their feet by changing locations in search of a better environment.



Banzhaf and Walsh focus their formal study on locational choices across urban areas of California: The state is big enough to provide a large number of communities with diverse environmental amenities, yet small enough (relative to the entire nation) to make the study tractable. The authors examine the consequences of changes in the level of TRI releases, as well as entry or exit of firms that are covered by the TRI program. The impacts on population are striking. Consider, for example, a community that starts off with no TRI-covered facilities and then experiences the entry of at least one such firm. Such a community can expect to lose as much as 9 percent of its population over the next decade, relative to what it would have experienced. Similarly, when TRI-covered facilities exit from an area, the affected community can expect a population *gain* of as much as 5 to 7 percent.

The tendency of people to vote with their feet for environmental amenities shows up in another notable manner. Wealthier people seem to value environmental goods more highly. Hence, when the environment in an area degrades, it tends to be the wealthiest people in the community who exit. Conversely, when environmental amenities improve locally, it tends to be wealthier people who move in. The authors find clear evidence of such behavior in their data: When TRI facilities enter a community or there is a rise in TRI releases, for example, the average income of community residents is observed to decline by as much as 5 percent, as the wealthier residents exit.

A shortcoming of this study is that it does not allow us to directly estimate the precise value that people place on environmental amenities. But it is powerful evidence that people do, in fact, value them. Moreover, they value them enough that they are willing to uproot their families to enjoy the best of them and avoid the worst. But the study also suggests a profound defect of the EPA's approach to toxic releases. If there were a *market* in air quality, one that covered toxic releases, much of this movement of people could be avoided. For example, residents of some communities today opt to pay for improvements in local schools rather than migrating to areas with better schools. With tradable rights in air quality, people could choose the level of toxic releases they were willing to tolerate, by individually or collectively acquiring and retiring the local rights to pollute. The EPA's current regulatory scheme implicitly prevents this, and thus makes all Americans worse off.

REFERENCE

Banzhaf, H. Spencer and Randall P. Walsh. 2008. Do People Vote with Their Feet? An Empirical Test of Tiebout's Mechanism. *American Economic Review* (June): 843–863.

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