

COMMENTARY

by Joel E. Cohen

Ecologists Ask Economists: Is The Price Right?

One of my beloved grandmothers arrived in the United States as a penniless child. When I was a boy and showed her a good report card, she used to ask me with a smile: "If you're so smart, why aren't you rich?"

I didn't know enough then to explain that some people are out of the cash economy, and that some productive assets are not priced by markets in a way that reflects their value to people. In other forms, her question has taken on larger significance in recent exchanges between economists and ecologists.

In December 1995, I published a book called *How Many People Can the Earth Support?* (New York, W.W. Norton and Co.). There I wrote: "Human numbers currently exceed 5.7 billion and increase by roughly an additional 90 million people per year. . . . The Earth's human population has entered and rapidly moves deeper into a poorly charted zone where limits on human population size or well-being have been anticipated and may be encountered."

The eminent Yale University economist William D. Nordhaus recently gave my grandmother's question a new suit of clothes. In a generous, provocative review of my book in the *New York Times* of Sunday, Jan. 14, 1996, page 13, he wrote:

"If the earth is reaching . . . its limits on land and resources, the increased stress should be accompanied by rising prices of land, food and energy. But these prices have been declining. . . . Markets provide signals of scarcities, yet Mr. Cohen doesn't explain why there are so few signals of resource shortages if we are approaching earth's capacity."

Nordhaus is right that world prices of many commodities have declined recently, while some environmentalists anticipated that rising global scarcities would lead to higher commodity prices. For example, in constant prices with the price in 1990 set equal to 100, the price of petroleum fell from 113 in 1975 to 76 in 1992, while the prices of metals and minerals fell from 135 to 83 and total food commodity prices fell from 196 to 85. However, timber prices increased, from 62 to 112.

Do the declining prices mean that human welfare is improving? Not necessarily. Global market prices are useful for coordinating economic activity. They are not reliable signals of changes in human well-being, for at least three good reasons.

First, global prices don't reflect the depletion of unowned stocks, such as marine fisheries, the ozone layer in the stratosphere, or water in internationally shared rivers and aquifers.

Second, even when properties are owned, prices will not reflect all environmental and social costs unless laws and practices bring these costs into the costs of production. Environmental and social costs may arise from extracting natural resources or from disposing of unwanted products, and may be felt locally or globally, immediately or in the future. For example, in a local community, if you mine coal and leave

behind an open pit or unfilled shafts, the price of coal does not reflect toxic effects of the mining, local erosion, or increased runoff. If you abandon the pit or mine when the vein runs out, the price of coal does not reflect the cost of the collapse of the mining community left behind. Countries differ widely in how much they require environmental costs to be included in the costs of production.

Likewise, prices need not reflect future consequences of unwanted products such as spent nuclear fuels, carbon dioxide from power generation, solid wastes from discarded packaging and consumer goods, or asbestos, chlorofluorocarbons, and persistent pesticides. Assessing the costs varies in difficulty from a relatively easy case like nontoxic solid waste, with a well-developed market in some countries, to a relatively hard case like chlorofluorocarbon disposal, apparently with no present market.

It is an empirical question whether the fall in commodity prices could be partly explained by an increasing proportion of production or disposal in parts of the world where the external costs of resource extraction and waste disposal are left out of the costs of production. Economists and ecologists need to collaborate in estimating these external consequences more quantitatively, using economic and other yardsticks.

Third, markets respond to effective demand, not to human need. Three-quarters of a billion people in the developing regions are chronically undernourished. The very poor have too little money to buy food so they can't drive up its price. They are economically invisible. While the global number and the global fraction of chronically undernourished people have fallen over recent decades, the share of global income earned by the poorest 20 percent of people has fallen even faster. Even if there is no global shortage of food relative to effective demand, and even if global food prices are steady or falling, a global pattern of local hunger in parts of Africa, south Asia, and Latin America is a serious problem.

My grandmother was only kidding me for not being rich, but judging changes in human well-being by changes in world market prices is no laughing matter.

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