



Lucky Economists, Unlucky Scientists?

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For decades, economists (Cornucopians or optimists) have been at odds with natural scientists (Malthusians or pessimists) when it comes to the scarcity of natural resources. The economist's argument, summarized here by Julian Simon, is as follows:

More people, and increased income, cause resources to become more scarce in the short run. Heightened scarcity causes prices to rise. The higher prices present opportunity, and prompt inventors and entrepreneurs to search for solutions. Many fail in the search, at cost to themselves. But in a free society, solutions are eventually found. And in the long run the new developments leave us better off than if the problems had not arisen. That is, prices eventually become lower than before the increased scarcity occurred. (Simon 1996)

The viewpoint of natural scientists seems to be a bit simpler; the more scarce something is the higher the price, leading to increasing prices as resources deplete over time. These opposing views have led to some famous wagers in the past. The most famous occurred in 1980 between economist Julian Simon and natural scientist Paul Ehrlich. The wager was whether the price of five metals would increase in ten years time. Simon won the bet. Another bet was made more recently. In 2005, [John Tierney](#) of the New York Times wagered with Matt Simmons over the price of oil. Simmons bet \$5,000 that the price of oil would be \$200 per barrel in 2010. [Tierney won the bet.](#)

As a result, Tierney has publicly applauded himself and the economists' view in a recent article in the New York Times. He states: "Maybe something unexpected will change these happy trends, but for now I'd say that Julian Simon's advice remains as good as ever. You can always make news with doomsday predictions, but you can usually make money betting against them."

But what is the real message (if any) to be gleaned from these bets? Is it that economists are always right and natural scientists always wrong? Is it that prices decline for commodities over time?

I argue that there is very little (if anything) to be learned from these bets, and I explain why below the fold.

First, as [Paul Kedrosky](#) and [Dave Summers](#) have indicated in their articles, the outcome of the Simon-Ehrlich wager depends almost entirely on the date in which the wager termed, not scarcity or technology or anything meaningful like that.

Let's examine oil prices as an example. Let's say that I wagered in 1864, when the price of oil was \$110 per barrel (2009\$), that the price of oil will decrease over time. I would have been correct regardless of whether the wager termed in 1865 after one or in 1964 after one hundred years.

However, if I bet in 1892 when the price of oil was \$13 per barrel, that oil prices will increase in the future, I would have been correct in every year henceforth except 1931, 1933, 1945, and from 1963-1973. Neither of these bets would have indicated anything about the scarcity of oil.

Knowing this, how could anyone claim that either Simon or Ehrlich was correct? Simon was lucky, Ehrlich unlucky. The point is that scarcity is only one of many factors that can influence prices.

In fact, Ehrlich and Simmons both made the same mistake—they assumed that all other variables that effect price, such as demand, would either be held constant or only help their bets. But this was clearly not the case. In the fall of 2008 after the global economy imploded, oil demand declined all over the globe, and the price of oil fell accordingly from a peak of over \$140 per barrel to just over \$30. Energy prices are another influential factor. It is easy to counteract the effects of depletion (e.g. declining ore grade) by applying more energy (i.e. effort) in extraction, and as long as energy prices are low, this will not have a large impact on the cost of production. But as oil itself depletes and becomes more expensive, applying more energy in extraction to counteract the effects of depletion becomes less tenable.

Clearly, Ehrlich and Simmons made bad bets and lost, but Simon and Tierney made bad bets as well, they just happened to win. As a result, I would caution against believing Tierney's optimism. He writes:

“It's true that the real price of oil is slightly higher now than it was in 2005, and it's always possible that oil prices will spike again in the future. But the overall energy situation today looks a lot like a Cornucopian feast, as my colleagues Matt Wald and Cliff Krauss have recently reported. Giant new oil fields have been discovered off the coasts of Africa and Brazil. The new oil sands projects in Canada now supply more oil to the United States than Saudi Arabia does. Oil production in the United States increased last year, and the Department of Energy projects further increases over the next two decades.”

But is this really reason for optimism? This is how I read the previous paragraph: 1) the future of our oil supply resides 30,000 feet below the ocean surface, requiring more deep sea drilling exactly like that that led to the tragic accident on Deepwater Horizon, 2) we have substituted our oil imports from Saudi Arabia where oil production is roughly \$10 per barrel, to Alberta where production costs are upwards of \$80 per barrel, not to mention increased greenhouse gas emissions, and 3) oil production in the U.S. is still roughly 1.5 billion barrels per year (4 mbpd) below the peak level in 1970, and the U.S. still imports most of its oil.

The bets made by Ehrlich and Simon as well as Simmons and Tierney were faulty because they assumed *ceteris paribus* conditions; that all other conditions aside from the one on which the bet is made (depletion in these cases) will not influence prices. In the real world, however, there are a number of factors that influence price. As a result, it is incorrect for Tierney to claim that his victory, or that of Simon, is a validation of the economists' viewpoint on the price of commodities. The economists were lucky, and the scientists unlucky.



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