Goldilocks Chills Out

Jonathan Lesser

Perhaps it was telling that an April Fools' Day headline for an article by Reuters' environment correspondent was "Global Warming Could Bring Hunger, Melt Himalayas."[1] You just *thought* global warming would only lead to a 20-foot increase in sea levels, massive city-destroying hurricanes, extinction of one-third of all species (including polar bears), the collapse of agriculture, and deadly disease. Al Gore is a piker.

In fairness, the article only refers to predictions in the newest United Nations Intergovernmental Panel on Climate Change summary report issued on April 6, 2007, which says that 80 percent of the Himalayas' glaciers will melt away over the next 20 years. The only thing missing from the tongue-in-cheek predictions I made in my previous column are the plagues of locusts. Who knows, perhaps they are waiting, with Bigfoot and Godzilla, under all of that fast-melting Himalayan ice.

Lately, the Supreme Court has weighed in. In an April 2, 2007, decision,[2] the Court majority ruled that carbon dioxide is a pollutant that falls under the regulatory jurisdiction of the EPA. The case focused on whether the EPA could regulate CO_2 emissions from automobiles. The EPA argued it had no such jurisdiction under the Clean Air Act. The Court disagreed, claiming that "the harms associated with climate change are serious and well-recognized" and that the Clean Air Act's definition of an "air pollutant" includes anything and everything emitted into the air.

Far be it for an economist to question legal dictum, but it seems odd to equate CO_2—something every human being releases into the atmosphere as a consequence of breathing—with the more noxious stuff that trains, planes, and automobiles emit. Perhaps the government will figure out a way to tax the air we breathe after all.

More interesting was the majority's acceptance that regulating CO_2 emissions from cars will not reverse global warming. Instead, the Court lamely argued that a reduction in CO_2 emissions, which can be achieved only by increasing fuel efficiency, would slow the pace of emissions increases. In other words, the EPA should raise fuel-efficiency levels, regardless of the cost and regardless of the actual physical impact on climate change. The EPA could ban all forms of motor transport henceforth. The effect on global warming still would be negligible.

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Finally, the majority appears not to have considered the economic impacts of imposing higher

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fuel-efficiency standards, even though such impacts are well documented. As fuel efficiency increases, the marginal cost of driving falls. Thus, people drive more and the proffered emissions reductions vanish into the ether. This is one reason why higher federal gasoline tax would be a more efficient way to reduce consumption and CO_2 emissions. Moreover, raising the gasoline tax does not restrict individuals' vehicle choices like higher mandated fuel-economy standards; it simply changes the costs associated with those choices. Of course, raising the federal gasoline tax requires political courage, an oxymoron for our time.

Oddly enough, the Court recognized the weakness of emissions standards (higher CAFE standards are just a CO_2 emissions standard in disguise) in another case it decided on the same day. In *Environmental Defense Corp.* v. *Duke Energy,*[3] the Court unanimously rejected an interpretation of the Clean Air Act's Prevention of Significant Deterioration (PSD) pollution control regulations. Duke argued that the modifications it made to its coal plants did not fall under the PSD provisions, because none of the modifications increased the hourly emissions rates at those plants. The Court rejected Duke's argument, reasoning that what matters are the plant's total, not hourly, emissions. Thus, the Court recognized that a more stringent emissions standard would not necessarily achieve the ultimate policy goal of lower total emissions.

INEVITABILITY OF ADAPTATION

Even if one were to accept that the wildest temperature extrapolations are correct, that humans bear 100 percent responsibility for climate change, and that we could somehow stop emitting all greenhouse gases tomorrow, global temperatures will continue to rise. Thus, mankind will have to adapt to climate change, just as it had to adapt before. Today, however, our technology, while unable to control the earth's climate a la *Star Trek,* is far more capable of adapting than Europe was 700 years ago, when cold weather at the beginning of the Little Ice Age set off the Great Famine, which began in the year 1315.[4]

It is not as if those at risk from climate change have been previously immune from risk. The highest point of the island nation of the Maldives, which is located in the southern Indian Ocean, is only 15 feet above sea level. The average height is less than 3 feet. Not surprisingly, the December 26, 2004, tsunami that devastated Indonesia and Thailand caused damage there, too. (Curiously, research shows that since the early 1970s, the Indian Ocean level has fallen some 20–30 centimeters.)[5]

Hurricane Katrina caused extensive damage to New Orleans not because of global warming, but because much of that city lies below sea level. People have always put themselves in harm's way based on an intrinsic cost-benefit analysis. As long as the expected costs are less than the expected benefits, people are willing to assume the risks. When governments subsidize those risks, whether through low-cost flood insurance or dollops of money to rebuild, those intrinsic cost-benefit analyses start to tilt more toward harm's way.

This makes no sense. If we are to adapt successfully to climate change—whether colder or warmer temperatures—we need to become much smarter about it. Nevertheless, among global warming alarmists, adaptation has been given curiously short shrift, other than derided as the skeptics' plot to avoid the massive CO_2 emissions cuts—and economic hardships—climate change alarmists so desperately want.

This reluctance to identify least-cost adaptation strategies is shortsighted, if not disingenuous. Then again, such reluctance may be a natural outgrowth of the far more vicious debates over who should pay, which inexorably lead to the most vicious debates of all: whose fault is it?

From an economic standpoint, however, it does not matter whose fault it is, if indeed it is anyone's. Instead, what matters foremost is how to adapt to climate change, regardless of its cause, at the lowest total cost. That total cost includes economic well-being. Suppose, for example, that shutting down every single coal plant in the world would truly reduce future warming and slow the rise of sea level. Whereas that would certainly lower the cost of building new seawalls and the like, it would drastically raise the price of electricity and lower economic well-being. The world would not have to build new seawalls: a bad thing if we were all too poor to do so.

This is no different than the mistake some environmentalists make when an economist confronts them with the notion of an "optimal"

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amount of pollution. How, the environmentalist will splutter, can anything but no pollution at all be optimal? Simple. The point where the cost of further pollution reductions is greater than the benefit of those reductions is the optimal level of pollution (**Exhibit 1**).

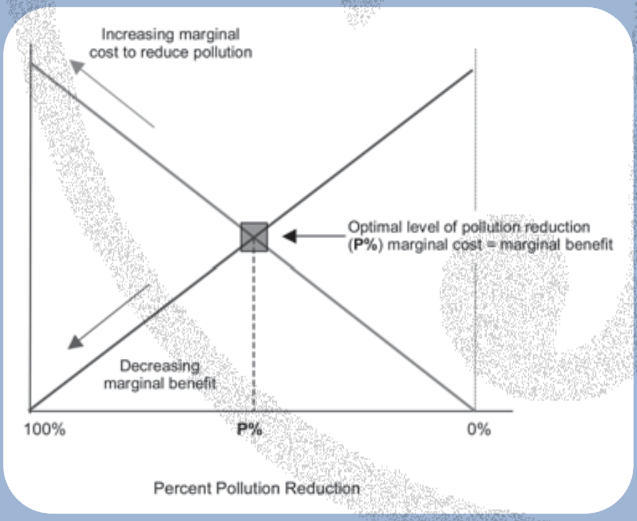
MISTAKING MARGINAL AND TOTAL COSTS

Alarmists point out that warming will cause billions or trillions of dollars worth of economic damages. Whether it is disease, drought, or deluge, one reason the cost of calamities has increased over time is that there are more people who are affected. But in the same way they can fail to balance the costs of adapting and the cost of reduced economic well-being, alarmists are disingenuous when they attribute all of the costs of climate disasters to global warming.

By this, I do not mean they are wrongly ascribing causation, although there seems to be an increasing tendency to blame everything on climate change, whether a hurricane or a hangnail. Rather, environmentalists tally total costs, instead of tallying the change in total costs with and without climate change.[6]

Thus, if higher sea levels will increase the risk of flooding, the appropriate actions should be based on the change in flooding probability, and not on the total cost of flooding itself. Hurricane Katrina, for example, caused perhaps $100 billion in damage to New Orleans and Mississippi. Suppose climatologists can (accurately) estimate that one Katrina-like Hurricane will hit New Orleans every ten years and cause $100 billion in damages if sea levels remain constant. However, if sea levels rise, damages will increase to $110 billion per hurricane. Assuming everything else stays the same, then the expected marginal increase in damage is $10 billion every ten years, or $1 billion per year.[7] That's a much more manageable—and more realistic—number.

Exhibit 1. Determining the Optimal Level of Emissions Reductions



What Al Gore and other environmentalists are really telling us is that our only adaptation choice is a Hobbesian lifestyle—nasty, brutish, and short—just like the one suffered by the Vikings who were forced out of Greenland in the Little Ice Age in the fourteenth century.

When Al Gore and other environmentalists call for reducing CO_2 emissions 90 percent by the year 2050, what they are really telling us is that our only adaptation choice is a Hobbesian lifestyle—nasty, brutish, and short—just like the one suffered by the Vikings who were forced out of Greenland in the Little Ice Age in the fourteenth century. That is both unreasonable and uneconomic, especially if climate change has little to do with man-made CO_2 emissions.

NOTES

1. Available at: http://news.yahoo.com/s/nm/20070401/ts_nm/globalwarming_dc_1 (Last accessed April 2, 2007).
2. *Massachusetts* v. *Environmental Protection Agency,* Slip Op. No. 05–1120.
3. *Environmental Defense Corp.* v. *Duke Energy,* Slip Op. No. 05-848.
4. Jordan, W. C. (1996). *The Great Famine: Northern Europe in the early fourteenth century.* Princeton, NJ: Princeton University Press.
5. Morner, N.-A., Tooley, M., & Possnert, G. (2004). New perspectives for the future of the Maldives. *Global and Planetary Change,* 40, 177–182.
6. How these costs are estimated is a far more complex issue. For an introduction to some of the techniques economists use to measure environmental costs, see Freedman, A. M. (1993). *The measurement of environmental and resource values: Theory and methods.* Washington, DC: Resources for the Future.
7. To simplify the example, I am ignoring present value considerations.

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