The Imperative of Macroeconomics for Ecologists

BY BRIAN CZECH

Increasing human population and per capita consumption have been widely recognized as threats to ecological integrity. Therefore, one might expect economic growth (a function of increasing population and per capita consumption) to occupy center stage at ecological conferences, infuse the policy implications of ecological research, and shape the public education programs of ecological organizations. This would make the ecological professions much more relevant to society. After all, economic growth is ubiquitous in public dialogue; population and per capita consumption are not. Furthermore, in the middle of the policy arena is a massive table devoted to economic growth, while population and per capita consumption occupy some folding chairs in a dimly lit corner. Yet explicit reference to economic growth in the ecological literature is a rarity, probably for three major reasons: (1) lack of expertise on economic-scale issues, (2) a mistaken notion that problems posed by economic growth are obvious to the general public, and (3) fatalistic philosophy. Each of these could be readily overcome with a modicum of study, probably much less than generally realized.

Lack of expertise on economic-scale issues

Lack of expertise on issues pertaining to the size of an economy does not distinguish ecologists from most other people. The experts on these issues are presumed to be economists, but the presumption is weak. Economics has always focused on the allocation of resources and, to a lesser extent, the distribution of wealth. Macroeconomic scale has instead been the focus of the nascent transdiscipline of ecological economics, which welcomes the participation of ecologists and others with expertise in the natural sciences.

This does not mean that ecologists should rush into economic discourse with no macroeconomics background. Much of the scant ecological literature on economic growth has had the ironic effect of *promoting* growth. Through its selective employment of microeconomic case studies, this literature usually highlights the truism that in an increasingly crowded world, the presence of open space invites local economic development. The specious implication is that economic growth and ecological integrity are somehow reconciled. Seldom is the leap made to the macroeconomic and ecological consequences of cumulative growth.

Mainstream economists are trained in neoclassical theories of economic growth. In the neoclassical framework, economic growth may continue in perpetuity because of the substitutability of resources and increasing productive efficiency. Such optimism helps to explain the neoclassical indifference to scale issues. Neoclassical growth theory was the foundation for Julian Simon's work, recently reincarnated in Bjorn Lomborg's *Skeptical Environmentalist.*

Ecological economists counter the neoclassical claim to perpetual economic growth with laws of thermodynamics, trophic theory, and a great deal of empirical evidence pertaining to habitat loss, environmental contamination, and the erosion of biodiversity. Most of these transdisciplinarians are trained economists who have acquired an understanding of basic ecology, and their arguments display a corresponding proportion of expertise. If ecologists had a fundamental understanding of neoclassical and ecological economic growth theories, they would be able to address the topic from the other direction—that is, in simple economic terms but with much more ecological rigor. For example, their policy recommendations would highlight the ultimate challenge that economic growth poses for ecological integrity, rather than the immediate microeconomic advantages conferred upon communities developing in natural areas.

Mistaking the problems associated with economic growth as obvious

Most ecologists probably recognize the inexorable challenge to ecological integrity posed by economic growth. For many it probably even seems so obvious as to merit no academic discussion. Clearly, however, the conflict between economic growth and ecological integrity is not so obvious to mainstream economists and to those they influence. Policymakers and the public are led to believe that because money is required to administer conservation programs, economic growth has a net positive effect on ecological integrity. (In economic jargon, this simple logic underlies the "environmental Kuznets curve.") This belief is widespread because of an inadequate understanding of the ecological origins of money. Influenced by "information economy" rhetoric, many have forgotten the classical wisdom of Adam Smith, who described how money originates via agricultural and extractive surplus and the resulting division of labor. With this in mind, ecologists versed in trophic theory readily recognize that even the provision of the many services (including information services) in a mature economy is ultimately dependent upon natural capital liquidation. Ecologists tend to forget, however, that few others have

studied trophic theory. Ecologists are also typically unaware of the circular flow model of production and consumption (which contradicts trophic theory) that neoclassical economists employ to describe the production process.

Furthermore, while some ecologists are familiar with the distinction between economic growth and economic development, they may incorrectly assume that most others are similarly knowledgeable. Economic growth is a quantitative process that gauges physical throughput and is therefore limited by natural capital stocks and the environment's capacity to absorb wastes. Economic development is a qualitative process that describes changes in economic patterns and sectoral structures (such as transformation from an agricultural to a manufacturing economy). Herman Daly (see *Beyond Growth: The Economics of Sustainable Development)* has been a major proponent of the distinction, which many neoclassical references do not make. For example, in the fourth edition of the *MIT Dictionary of Modern Economics,* D. W. Pearce defined economic development as "a process of improving the standard of living...by raising per capita income," which is virtually indistinguishable from quantitative economic growth. History has indeed had a tendency to couple development and growth. But economic development in the absence of economic growth is clearly a physical possibility and holds the keys to ecological integrity and a sustainable society.

If ecologists were familiar with the precepts of neoclassical growth theory and the disproportionate influence such theory has had on public opinion and economic policy, they would not be surprised that the general public does not find it obvious that economic growth and ecological integrity are conflicting goals. If they also understood the fundamentals of ecological economics, they would be able to make inroads on public opinion and macroeconomic policy.

Fatalist philosophy

Some ecologists probably survey the landscape of political economy and conclude that even if economic growth is the ultimate challenge to ecological integrity, it is simply a phenomenon beyond the pale of ecology. It is such an enormous topic, influenced by so many variables, that the scale of economy seems almost a matter of fate, thus providing justification for avoiding the topic.

A little background in economic history would suffice to alter such a philosophy, for history shows that ecological movements have the potential to drastically alter economic outcomes. Rachel Carson's *Silent Spring* did more than alert the public to the dangers of organochlorines; it was a springboard from which the American public and polity began in the 1970s to reexamine the national goal of economic growth. If ecologists would provide the explicit

connections of their research to economic growth instead of impotently implicating "human activities," public discourse would again move toward the questioning of economic growth as national policy.

Challenge to ecologists

It behooves ecologists concerned with ecological integrity (as, one hopes, most are) to develop a fundamental understanding of the neoclassical and ecologically economic models of growth. This is not a formidable task. Comparisons of the two models written for noneconomists exist (see, e.g., *Natural Capital and Human Economic Survival,* by T. Prugh and others) and accessible histories of economic thought (e.g., J. K. Galbraith's *Economics in Perspective* and M. Gaffney's *The Corruption of Economics)* illustrate how neoclassical theory took root. The knowledge acquired from such accounts would put the ecologist ahead of the many scholars—including most economists—who have not investigated the comparative precepts of ecological and neoclassical economics.

After acquiring a conceptual and historical background in macroeconomic theories, ecologists will understand why the public and polity have adopted a belief in perpetual economic growth. Such ecologists will no longer think it obvious to the public that economic growth and ecological integrity are conflicting goals; they will be empowered to discuss the issue in public and policy circles and to make the conflict between economic growth and ecological integrity clearer to others. Erstwhile fatalists may find a reason to be more sanguine about the prospects for effecting ecological integrity through macroeconomic policy.

Finally, I encourage ecologists to consider two questions: First, if ecologists do not elaborate and explicate the conflict between economic growth and ecological integrity, who will? Second, if ecologists do explicate the conflict, will it be worth the reaction engendered?

The answer to the first question will almost certainly not be the dominant (that is, neoclassical) economics profession. Ecological economics has been leading the way, but it needs the intellectual and organizational assistance of the ecological professions. Otherwise it may be relegated to a sideshow at the perimeter of economics "proper."

Regarding the second question, suggesting that economic growth has become an inappropriate goal—even if only from the perspective of ecological integrity—would surely engender some negative reaction, especially from a corporate community that is well served (at least in the short run) by the national goal of economic growth. However, it would probably also strike a chord of common sense in the public, including many who were taught the basic neoclassical theory of growth and assumed that the neoclassical theory was uncontested. Perhaps many would respond, "Finally, someone has told it like it is, instead of telling us that we can have our cake and eat it too." If this were a prevalent response, there would be hope, in a democratic society, of moving toward a stable, mildly equilibrating, steady-state economy. The maintenance of remaining ecological integrity depends on it.

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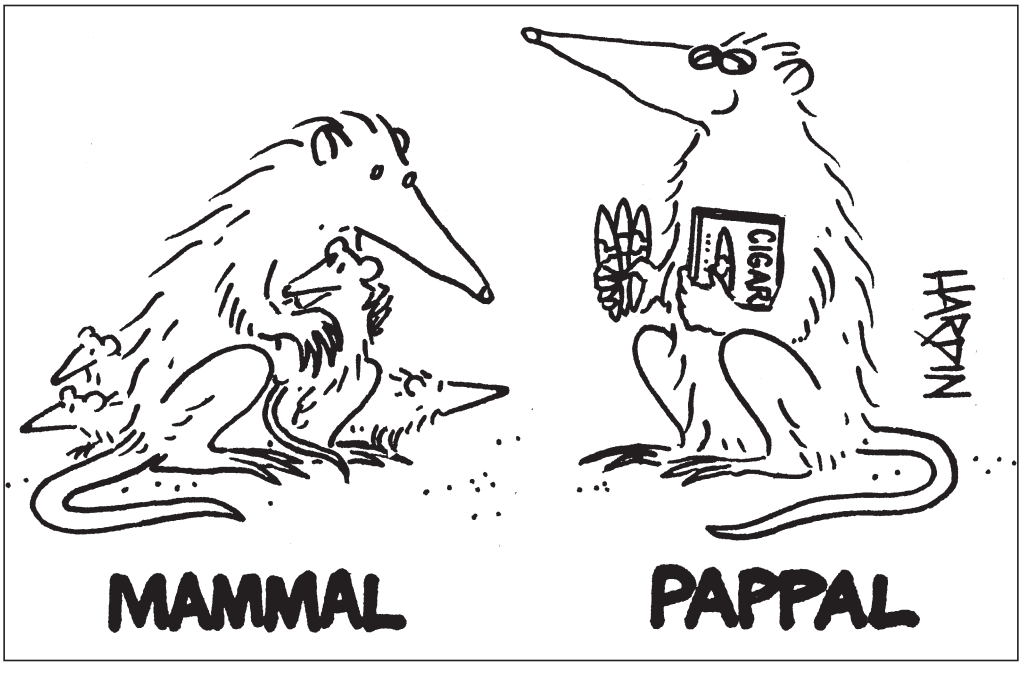

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