

# HELP WANTED: A PLEA TO ECONOMISTS<sup>1</sup>

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[Big Speak](#)

Many civilizations have disappeared in the past, but today for the first time a *global* civilization is threatened with collapse (Ehrlich, Paul R. and Ehrlich 2009). Individually, or in combination, nuclear war, climate disruption, loss of biodiversity, erosion of soils, global toxification, massive famine, or a nasty pandemic, could in the near future end rich-nation life-styles and even the lives of billions of people. Such a sudden decline of collective utility is one way to define a collapse of civilization.

In our view the community of economists has shown too little technical interest in civilization's existential issues, and has largely ignored thousands of scientists' repeatedly stated urgent need to "reassess the role of an economy rooted in growth" (Ripple et al. 2017), and to recognize that "Our planet is in a perilous state" (Berg 2018). Nonetheless, increasingly successful collaborations between ecologists and economists suggest the latter could help find ways of ameliorating the impacts of a coming collapse. They might contribute even more in designing a post-collapse "reset" that avoided a resurgence of growth addiction and also

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<sup>1</sup> Dedicated to the memory of our much-missed friend Ken Arrow; he was our wisest and nicest critic.

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prevented a return to today's economists' focus on efficiency rather than equity (or at least on both). That could move post-collapse remnant societies toward sustainability instead of toward another collapse.

At the very least, economists could help by speaking frankly and often about the prospects of, and appropriate preparations for, a coming collapse. They could make it clear that the current economic-political paradigm is dangerously outdated. It is, after all, based on the impossible notion (Georgescu-Roegen 1977) that growth of the physical economy can continue forever (Gramm and Solon 2017) and on the often implied but patently false idea that growth is required for human well-being. Perhaps the biggest challenge for their discipline was well stated by economist Kate Raworth (Raworth 2017, p. 240): "to come up with economic designs that would enable nations coming toward the end of their GDP growth to learn to thrive without it."

Obviously, grounding real-world policies on growth addiction will eventually lead to some form of collapse, but estimating exactly when is fraught with difficulty. That is especially true for some causes such as a nuclear war (Lewis 2017, Toon et al. 2007), where immediate decisions by fallible individuals play such a major role. The same applies to a crumbling of the debt pyramid. Famines fueled by climate disruption, including ocean acidification, are somewhat easier (Monbiot 2017) since climate disruption is a biophysical phenomenon that is already tracked and estimates made of the consequences of human meddling. Escalating global toxification, among other things possibly causing today's plummeting human sperm counts (Horan et al. 2017), is scary, but the timing and magnitude of its effects are difficult to predict. So are those of a deadly global pandemic, or some other catastrophe or synergism between various combinations of biophysical threats that could make business as usual impossible.

But on the positive side, a broad public realization and acceptance that the global growth economy is ending and the need for redistribution is increasing could also transform our lives. In theory, of course, a collapse might be avoided. That likely would require rapid reduction of aggregate consumption, increasing material efficiency and equity (redistribution) replacing perpetual expansion, and giving high priority to internalizing negative environmental externalities. Those *could* become the principal economic goals of society. There are some small signs of movement in that direction in the work of leading economist Sir Partha Dasgupta (e.g., Dasgupta and Ehrlich 2013) and other ecological economists, and in the economic de-growth movement in parts of Europe (Amate and De Molina 2013). Those are the foundation on which we hope other economists will build.

How might economists change their focus more to planning for either prevention or amelioration of the impacts of a possible collapse? Such planning is almost nonexistent today, not least because the public and decision-makers have been kept largely ignorant of what the

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threats are (Blumstein and Saylan 2007, Ehrlich, P. R. 2011, Ehrlich, Paul R and Blumstein 2018) and how they might interact (Harte 2007). Myriad economic issues surround dealing with the threats and their connections. What, for example, are the economics (and politics) of what might be called “aid-sheds” – the geographic and political resources available to provide aid to areas especially severely damaged, such as cities suffering nuclear detonations? How much of the expense of rebuilding America’s failing water-handling infrastructure should be dedicated to increasing its flexibility in response to a likely future of continuous changes in temperature and precipitation patterns?<sup>2</sup>

An important demographic trend that may speed collapse and expand its costs is the near certainty of future gigantic waves of migration, generated by climate disruption, major crop failures, or warfare. Economists should be working to develop international mechanisms to spread the risk so that the financial and social costs do not have to be paid primarily by only one or a few countries (as happened recently in Europe<sup>3</sup>).

If business as usual continues, there will be few opportunities for economists or ecologists to see sensible employment of their expertise in preparing societies for what’s coming. But just as ecologists have actively debated and experimented with optimal designs for nature reserves in a world that is not designing nature reserves, so economists and ecologists should be debating and experimenting on responses to looming existential threats. The growing number of experimental economists (Levitt and List 2009) might start to explore more important issues than they currently do. They might, for example, persuade (or finance) selected towns to assemble groups of local political actors, heads of banks and businesses, utility managers, etc. to examine how their town might be kept functioning if it only had electric current two hours a day, no currency, and severely limited food and water supplies. Comparative results might someday prove useful, as might Capetown’s experience with the recent great drought.<sup>4</sup>

If there is to be any sort of recovery after a collapse, as we indicated a gigantic challenge to economists will be to help design a post-collapse transition to a new society in which the economic system is sustainable, at least over a period of several centuries. The challenge to design a “steady state” economy that stays within the human carrying capacity of Earth has been long recognized but too little explored. Herman Daly (Daly 1974) in particular tried to call attention to the design problems, pressing for such growth-control mechanisms as severance taxes on resources. Others have joined him, but mainstream economists have largely ignored the big issues. For instance, in the last few centuries, for the first time, money and finance became the main focus of civilization. Since that finance focus has led to the wholesale destruction of humanity’s life-support systems, the need for economists to develop a new focus

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<sup>2</sup> <https://enviro.blr.com/whitepapers/water/CWA-SDWA-water-regulations/Deterioration-of-water-infrastructure/>

<sup>3</sup> <http://www.migrationpolicy.org/article/europe%E2%80%99s-migration-crisis-context-why-now-and-what-next>

<sup>4</sup> <https://bit.ly/2JXzGCQj>

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seems obvious. For instance, how can private capital accumulation be kept under control? Are tax policies the only way? The current literature, as exemplified by that on the retreat of socialism, is centered on how to remove constraints on growth, where growth is considered “a positive effect” (Heybey and Murrell 1999). Can economists design a system for control of advertising and consumption, coordinated with a revised monetary system that would perhaps increase equality while damping down biophysical throughput? Are there useful lessons to be learned from the post-Pearl Harbor changes in consumption in the United States?

Economic historians could help by investigating one of the most pressing issues of sustainability: how to deal with what are called "non-renewable resources" (more accurately, those with renewal rates slow enough that for practical purposes once used and possibly recycled, they are gone). This problem is usually seen as soluble with technological advances and substitutions. To begin, economists might consider, with full attention to externalities, the costs and benefits of some past transitions, say from hunting-gathering to agriculture, wood to coal burning, coal to gas, copper to glass fiber, or a "well-balanced" atmospheric sink for greenhouse gases to an "overloaded" sink. It should be possible eventually to calculate such things as might be described as "innovation pressure" and a related "time course of innovation."

If some form of capitalism isn't likely to steer humanity to sustainability, one might conclude that the way to limit growth in a post-collapse society would be to set up a communist or socialist government. That choice would discourage growth-promoting economic competition, especially between large corporations. But it likely would be a big mistake to allow limited-liability institutions to exist under any governance system if their organization and goals were not drastically changed (Bakan 2005). Socialist systems might tend to have less destructive growth but, especially in the case of communism, if history is any guide, could produce other serious problems. Concentrations of wealth and power combined with renewed growth addiction and gross neglect of environmental externalities would likely be among them.

Standard economics generally assumes that a system needs to provide incentives to work, save, consume, invest, and reproduce. But an economic reset would have to consider these goals anew. How does each activity affect the sustainability of the system? The need for incentives (or indeed, laws) to regulate human reproduction is manifest in the disaster created in the growth-addicted world by too many high consumers wrecking Earth's life-support systems and too many low consumers living deprived lives.

We hope we have convinced you that there are vast, complex, and critical questions that could benefit from more attention from economists, preferably collaborating with ecologists and other interdisciplinary scientists, and that we have barely scratched the surface. At the very least we hope that more economists will openly reject a conceptual economic framework that

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embodies the fantasy of perpetual growth, and develop a new framework that does justice to biophysical realities. At the moment the situation does not seem very hopeful, as two economists were just given the Nobel Prize for their work on the oxymoronic “sustainable growth.

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## **REFERENCES**

Amate JI, De Molina MG. 2013. ‘Sustainable de-growth’ in agriculture and food: an agro-ecological perspective on Spain’s agri-food system (year 2000). *Journal of Cleaner Production* 38:27-35.

Bakan J. 2005. *The Corporation: The Pathological Pursuit of Profit and Power*. Constable & Robinson, Ltd.

Berg J. 2018. *Tomorrow's Earth: American Association for the Advancement of Science*.  
Blumstein DT, Saylan C. 2007. The failure of environmental education (and how we can fix it). *PLoS Biology* 5:e120.

Daly HE. 1974. The economics of the steady state. *The American Economic Review* 61:15-21.  
Dasgupta P, Ehrlich PR. 2013. Pervasive externalities at the population, consumption, and environment nexus. *Science* 340:324-328.

Ehrlich PR. 2011. A personal view: environmental education—its content and delivery. *Journal of Environmental Studies and Sciences* 1:6-13.

Ehrlich PR, Blumstein DT. 2018. *The Great Mismatch*. BioScience.

Ehrlich PR, Ehrlich AH. 2009. *The Dominant Animal: Human Evolution and the Environment (Second Edition)* Island Press.

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Georgescu-Roegen N. 1977. The steady state and ecological salvation: a thermodynamic analysis. *BioScience* 27:266-270.

Gramm P, Solon M. 2017. Finding America's Lost 3% Growth: If the country can't grow like it once did, then the American Dream really is irretrievably lost. . *Wall Street Journal* September 10.

Harte J. 2007. Human population as a dynamic factor in environmental degradation. *Population and Environment* 28:223-236.

Heybey B, Murrell P. 1999. The relationship between economic growth and the speed of liberalization during transition. *The Journal of Policy Reform* 3:121-137.

Horan TS, Marre A, Hassold T, Lawson C, Hunt PA. 2017. Germline and reproductive tract effects intensify in male mice with successive generations of estrogenic exposure. *PLoS Genetics* 13:e1006885.

Levitt SD, List JA. 2009. Field experiments in economics: The past, the present, and the future. *European Economic Review* 53:1-18.

Lewis J. 2017. This is how Nuclear War with North Korea would Unfold. *Washington Post*.

Monbiot G. 2017. Mass starvation is humanity's fate if we keep flogging the land to death. *The Guardian*.

Raworth K. 2017. *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist*. Chelsea Green Publishing.

Ripple WJ, Wolf C, Newsome TM, Galetti M, Alamgir M, Crist E, Mahmoud MI, Laurance WF. 2017. World Scientists' Warning to Humanity: A Second Notice. *BioScience* 67:1026-1028.

Toon O, Robock A, Turco RP, Bardeen C, Oman L, Stenchikov G. 2007. Consequences of regional-scale nuclear conflicts. *Science* 315:1224-1225.