

HUMAN BEHAVIOR, ECONOMIC INSTITUTIONS AND THE CHALLENGES OF A FULL WORLD

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The single feature which most distinguishes ecological economics from other schools of economic thought is the recognition that we now live on a full planet—one in which rates of resources extraction, waste emissions and human population growth threaten the life support functions of planetary ecosystems. Increasingly, the scarcest resources are nature's goods and services, not human made artifacts. As the type of scarce resources has changed so too has the economic problem. On a planet with small human populations and relatively few human made artifacts, the economic challenge was how to allocate scarce resources towards the most valuable products, then ration those products towards the consumers who valued them the most. Most of the desired products were rival and excludable, and competitive markets were relatively effective at addressing this challenge. On a full planet however, the most serious problems include global climate change, ozone depletion, biodiversity loss and unsustainable levels of waste emissions and resource extraction in general. Most of the desired 'products' are non-excludable or non-rival, and the information underlying new technologies required to solve these problems is also non-rival. Both non-rival and non-excludable resources are most efficiently provided through cooperation.

The viability of different economic institutions depends closely on human behavior. If people are perfectly self interested, rational, and competitive certain economic institutions will be more viable, while if people are altruistic, empathic and cooperative, other institutions will be required. Conventional market economies are built on the former assumptions. As Keynes reputedly stated, capitalism "is the astonishing belief that the nastiest motives of the nastiest men somehow or other work for the best results in the best of all possible worlds." Dominant theories of evolution have also long supported the assumption of self interest. If humans are indeed perfectly self-interested, this seriously constrains the choice of economic institutions suitable for solving our problems.

The goal of this paper is to explain carefully why cooperation is required to solve to most pressing problems we currently face, to critically examine the assumption of self-interested behavior, and to assess the potential for developing economic institutions that promote the cooperative behaviors required to solve our current economic challenges. To achieve this goal, I will synthesize recent advances in the fields of behavioral economics, political economy, anthropology, neuroscience, psychology, and evolution.

There is compelling evidence from these fields that humans are capable of both altruistic, cooperative behavior and self-interested, competitive behavior. Evolutionists have shown several mechanisms that can lead to the emergence of altruism and cooperative behavior, and provide compelling evidence that gene-culture evolution has led to highly cooperative behavior among humans. Both theoretical and empirical studies suggest that any given population will show a distribution of pro-social behavior ranging from highly self-interested to highly altruistic. Other studies have shown how societies can develop institutions that lead highly pro-social individuals to be non-cooperative, and perfectly selfish individuals to cooperate. For example, studies in behavioral economics and political economy show how institutions that allow the punishment of non-cooperators stimulate cooperation, and research in gene-culture

evolution explain how such institutions can increase adaptive fitness. Markets of course are designed to award self-interest and competitive behavior, the opposite of what may be required. Interestingly, many otherwise cooperative species do not cooperate in conditions of resource abundance. The fact that the competitive market economy emerged simultaneously with the use of fossil fuels, an abundant source of energy, may not be coincidence. I conclude that self interested Homo economicus is poorly adapted for solving our most important economic challenges, but is also a poor model of human behavior. Human nature is in fact well suited for developing the cooperative institutions required to confront the problems of a full planet.