

Discussion

Altruism, evolution, and welfare economics[☆]

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Henrich clearly presents the convincing evidence that the evolution of prosocial preferences—altruism and altruistic punishment—is both theoretically possible and empirically present in human populations. Henrich convinces us using only the most restrictive arguments. If one goes beyond the assumptions of one-gene, one-trait, or recognizes the existence of “social cognition” (Caporael, 1997), the case for the existence of prosocial behavior is overwhelming. Furthermore, while Henrich is probably correct in saying that large-scale social cooperation is unique to the human species, mounting evidence suggests that prosocial behavior is also present in such diverse non-human species as lions, meerkats, fire ants, and Arabian babblers (Clutton-Brock, 2002). So why is the reaction against the notion of pure altruism so strong in both economics and biology? A likely reason is that it goes against the dominant cultural belief in progress through competition among individuals. Both evolutionary biology and political economy matured in Victorian England where Darwin’s careful and cautious argument for evolution by natural selection was recast as “survival of the fittest”, a metaphor which fit the dog-eat-dog world of commercial society. Rugged individualism is reflected in the gene-based reductionism of biology as well as the agent-based reductionism of welfare economics (Bergh and van den Gowdy, 2003).

In his contribution, Henrich establishes the theoretical basis for cultural group selection based on large-scale cooperation. He shows that the existence of prosocial behavior cannot be explained by individual-based characteristic alone such as kin selection, reciprocal altruism or costly signaling. This does not contradict Darwinian natural selection which can operate on any statistically reliable pattern. Patterns of culture may vary widely in human societies based on the different kinds of cultural transmission including conformist transmission (a short cut to reliable information), prestige-based transmission, punishment of non-conformists, and normative conformity by which people want their behavior to match that of the group. The interplay between these kinds of cultural transmission and the in-

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teraction between within-group and between-group variation gives the enormous array of human cultures on the planet. Human societies exhibit multiple stable equilibria with different mixes of selfish and non-selfish people and different cultural rules enforcing group behavioral norms.

As Henrich suggests, these results and others from behavioral economics, experimental economics and game theory have important implications for economic theory and policy. These results have uncovered “large, consistent deviations from the predictions of the textbook representation of *Homo economicus*” (Henrich et al., 2001). “Economic man” is the cornerstone of orthodox economic theory and is an essential support for economic policies based on standard model of general equilibrium welfare economics. The axioms of consumer choice insure that this creature is selfish, consistent in choices, always prefers more to less, and is thus able to efficiently allocate a limited income among an array of desirable goods so as to achieve a unique global utility maximum. Of course, many economists know that *H. economicus* is a caricature of real-world behavior. Leading economics journals routinely publish empirical studies refuting the axioms of consumer choice. Preferences routinely violate the canonical assumptions of transitivity (Loomes and Taylor, 1992; Tversky, 1969), continuity (Spash and Hanley, 1995), irreversibility (Knetch, 1992) and narrow self-interest (Fehr and Gächter, 2002). The findings of Henrich and others demonstrate that group level differences are more important than individual characteristics in explaining economic behavior (Henrich et al., 2001).

The canonical model is not only at odds with empirical evidence about human decision-making, but it also fails the predictability test of a good economic model as set forth by Friedman (1953) a half-century ago. Evidence from game theoretic experiments such as the ultimatum and dictator games, various versions of the public goods game and the existence of altruistic punishment show that individual agent-based (non-social) explanations of economic behavior are poor predictors of real-world economic behavior. Economic, ethnographic, and experimental evidence from a variety of traditional and market-oriented societies show unequivocally that people do not behave according the canonical model of welfare economics (Henrich et al., 2001, p. 73). Experimental results show that pure altruism holds even in simple one-shot games where the participants know they will never interact again (Fehr and Gächter, 2002; Frank et al., 1993). Nowak et al. (2000) suggest that human emotional responses have been shaped by millions of years of living in small groups and that our emotions are not finely tuned to anonymous interactions. This suggests that the impersonal market economy might not be the best vehicle to determine social choices.

These findings are not new. Economists have known about Veblen and Bandwagon effects, public goods, oligopolies, and other group-based economic behavior for decades. So why do most economists still cling to the notion of *H. economicus*? The answer is that, together with the assumption of perfect competition, it is one of the essential supports for the notions of general equilibrium and Pareto optimality. These concepts are the essence of neoclassical economic theory and neoliberal economic policy; they provide the theoretical justification for the superiority of competitive market outcomes.

Neoclassical economics remains firmly grounded in the two fundamental theorems of welfare economics. The first asserts that any perfectly competitive outcome is Pareto optimal. The second asserts that any Pareto optimal outcome may be achieved as a competitive equilibrium with the proper lump sum transfers. In spite of its widely acknowledged

shortcomings, the goal of Pareto efficiency dominates contemporary economic policy. Lockwood (1987, p. 811) summarizes the importance of the second Pareto theorem:

It is no exaggeration to say that the entire modern microeconomic theory of government policy intervention in the economy (including cost–benefit analysis) is predicated on this idea.

Armed with the two fundamental Pareto theorems, economists attack any problem by attempting to create the conditions for a competitive economy so as to achieve Pareto optimality. The solution to any real-world problem is a secondary outcome of “getting the prices right” so that Pareto optimality may be achieved. Welfare economic models are much more than mildly interesting theoretical toys. These models lie behind the pronouncements of leading economists on a variety of critical issues including global warming, international trade and development policies, and biodiversity protection. For example, Nordhaus (1992, 2001) uses a dynamic general equilibrium model assuming a CES utility function (with one omniscient consumer) and a Cobb–Douglas production function (with one omniscient firm) to advocate a business as usual approach to controlling greenhouse gases. According to Nordhaus (quoted in *NewScientist* online, June 12, 2002): “a vague premonition of some potential disaster is insufficient grounds to plunge the world into depression.”

A major problem for standard welfare theory, and the policies that come out of general equilibrium models, is that empirical results from behavioral and experimental economics undermine the assumptions of the canonical model of preference formation. And this undermines the notions of general economic equilibrium and Pareto optimality, concepts essential for contemporary neoliberal economic policy. But acknowledging prosocial behavior is essential for constructing scientifically valid explanations of economic behavior. Models allowing for altruism and other aspects of social decision-making consistently lead to better predictions than those which do not allow for it (Gintis, 1999).

In surveys of consumer preferences, information is collected that routinely violates the axioms of consumer choice. Lexicographic preferences are widespread, people express ethical concerns based on group norms, and considerable evidence exists that people value the medium and distant futures about the same (hyperbolic discounting). But collected information about consumer attitudes is filtered by economists through the axioms of consumer choice to fit the stylized “facts” of welfare economics (Fig. 1). If economics is to be a serious science, its models of human behavior should describe behavior as it really exists and not as it “ought to be” to make it mathematically tractable.

Again, criticisms of economic man are not new. In spite of the obvious fact that culture matters in economic behavior, attempts to incorporate it have not fared well in the past.

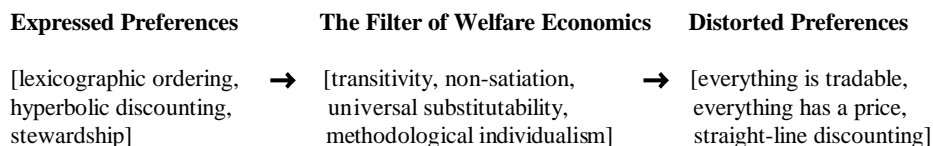


Fig. 1. Preferences and the axioms of consumer choice.

Nevertheless, contemporary criticisms of *H. economicus* are likely to have more of an impact for two reasons. First, the empirical evidence for prosocial behavior is overwhelming, and second, this behavior can now be mathematically modeled. One need not deny that egoism runs deep in human societies to argue that it may be tempered by a variety of cultural checks and balances. The century-old behavioral foundations of neoclassical welfare theory cannot withstand the current onslaught of accumulating empirical evidence and mathematical analysis. The question is what happens next? Can standard theory accept prosocial behavior and still retain the basic framework and results of neoclassical welfare economics? An obvious possibility for mainstream theory is to treat “groups” as the unit of analysis rather than individuals or families. Each group could maximize its collective utility based on the fundamental results of consumer theory, and economic analysis and policy could proceed as before. This is exactly how institutions are incorporated into mainstream theory in the “new institutional economics” of Demsetz (1967), North (1990) and others. In this view, institutions are no different than other market commodities. New institutional economists refer to the “demand” and “supply” of institutional change, whose “market clearing price” occurs (of course) where the “demand curve for institutional change” meets the “supply curve for institutional change” (quotes are from Alston et al., 1996, taken from Bromley, 2000).

But what if economics took the new findings in behavioral and experimental economics seriously and replaced *H. economicus* with a species that more accurately reflected the behavior of real *Homo sapiens*? What would the new economics look like? The implications for economic policy of a science-based theory of human behavior are far-reaching. At a minimum, the emerging model of human behavior and decision-making implies the following:

1. Policies should focus on the specific problem under consideration rather than relying on spillover effects from the construction of hypothetical efficient markets.
2. The alleged global optimality of competitive markets is an illusion. If consumer decisions are not strictly rational, then there is nothing sacrosanct about any particular competitive market outcome. Market efficiency is only one of many possible economic goals (Bromley, 1990).
3. Atomistic agent-based models cannot adequately capture the complexities of human decision-making. Economic policies should allow for group choices within a framework of within-group diversity.
4. Economic policy should recognize that decision-making is parametric and based on multiple criteria. Traditional cost–benefit analysis distorts human preferences by forcing incommensurable preferences into a single money metric.

A recent article in a leading economics journal (Bergstrom, 2002) presented the convincing evidence supporting the existence of prosocial behavior, but concluded: “Does this mean our familiar analytic tool, selfish old *Homo economicus* (sic), is an endangered species? I don’t think his admirers have reason to worry.” Bergstrom may be correct. *H. economicus* is himself a fine example of group selection. Such a maladjusted and ill-adapted creature could not survive in the jungle of academia without the support of legions of economists with a carefully constructed network of rewards and punishments ensuring his continued existence.

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