

Nordic Journal of Political Economy

Volume 26

2000

Pages 33-53

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Reciprocity, Self-Interest, and the Welfare State

In the advanced economies, a substantial fraction of total income is regularly transferred from the better off to the less well off, with the approval of the electorate. Economists have for the most part misunderstood this phenomenon due to their endorsement of an empirically implausible theory of selfish human motivation. Understanding why citizens regularly vote for parties endorsing redistributive policies requires a reconsideration of the behavioral assumptions of economics. We find that voters support the welfare state because it conforms to deeply held norms of reciprocity and conditional obligations to others. JEL-codes D30, D72, I30.

A man ought to be a friend to his friend and repay gift with gift.
People should meet smiles with smiles and lies with treachery.
in *The Edda*, a 13th century collection of Norse epic verse.

The modern welfare state is one of the more remarkable human achievements. In the advanced economies, a substantial fraction of total income is regularly transferred from the better off to the less well off, and the governments which preside over these transfers are regularly reelected by publics that strongly endorse redistributive ethics. While the extent of the effect of redistributive programs on the eventual distribution of living standards is difficult to determine

(because the counterfactual state is unobserved), there can be little doubt that the considerable support for the modern welfare state even among the well-to-do constitutes the most significant case in human history of a substantially voluntary egalitarian redistribution of income among total strangers.¹

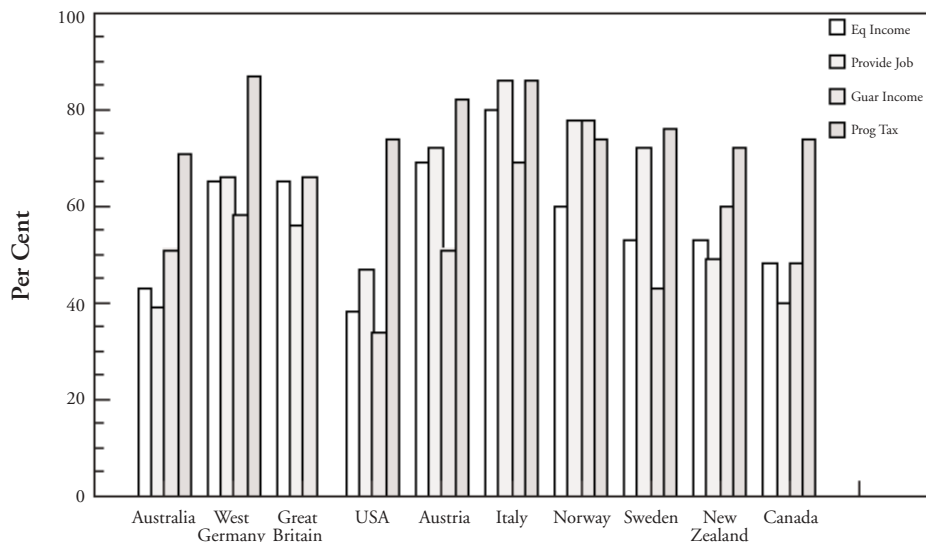
We think that economists have for the most part misunderstood this phenomenon due to their endorsement of an empirically implausible theory of selfish human motiva-

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We would like to thank Rachel Locke for research assistance, Chris Boehm, Rob Boyd, Josh Cohen, Steve Farkas, Ernst Fehr, Christina Fong, Nancy Folbre, Kristin Hawkes, Martin Gilens, Robert Shapiro, Elisabeth Wood and Erik Wright for helpful comments, and the MacArthur Foundation for financial support.

1. Particular advanced nations differ considerably in the types of programs, their degree of effective egalitarianism, and the extent of their popular support. Explaining these differences has been a major research challenge to social scientists over the past four decades (Wilensky and Lebeau, 1958, Esping-Andersen, 1990, Huber et al., 1993). By contrast we are concerned here with a different question, namely what accounts for the phenomenon common to all these countries, namely substantial egalitarian redistribution under democratically elected states.

Figure 1
Percent Agreeing with Welfare state Policies



Public Opinion Evaluates the Welfare State: Evidence from Ten Countries. The exact wording of the question is in the text.

Source: Zentralarchiv für Empirische Sozialforschung, Codebook ZA Study 2310, ISSP 1992, Social Inequality, II. Data for Great Britain on progressive taxation are not available.

tion often summarized by the term *Homo economicus*. Understanding why citizens regularly vote for parties endorsing redistributive policies (or vote at all, for that matter), we will show, would be better served by a reconsideration of the behavioral assumptions of economics. By contrast to the conventional economic explanation, we think that people support the welfare state because it conforms to deeply held norms of reciprocity and conditional obligations to others.

Homo Economicus and the Welfare State

Consider the degree of support for redistributive programs. Among those surveyed in 1992 (the most recent year for which comprehen-

sive data are available) by the International Social Survey, majorities in every country except the U.S., Australia and Canada agreed with both of the following statements: “it is the responsibility of the government to reduce differences in income between people with high incomes and those with low incomes” and “the government should provide a job for everyone who wants one.” With only Swedes, Americans, and Canadians excepted, majorities agreed with the statement “The government should provide everyone with a guaranteed basic income.” Large majorities in every country support the statement that “people with high incomes should pay a larger share of their income in taxes than those with low incomes.” Some of the relevant data are presented in Figure. While in some countries

egalitarian sentiment as measured by these responses eroded somewhat between 1987 and 1992 there is no general pattern of diminished egalitarianism.²

The canonical explanation for political support of the welfare state given by economists is based on the conventional preferences of *Homo economicus*: the voters are self-regarding and define their costs and benefits in terms of their access to conventional goods. Two reasons are then offered for majority support for redistributive programs. First, given the skewness of the distribution of incomes the median voter will receive less than the mean income and would thus benefit from any redistribution which has the form of a linear tax on income funding a lump sum transfer to citizens (Meltzer and Richard, 1981). Second, redistributive expenditures are a form of insurance for which risk-averse citizens prefer even if their expected tax liabilities exceed their expected claims during hard times (Sinn, 1995, Moene and Wallerstein, 1996).

A straightforward interpretation of both the skewness and the insurance variants of what we will term the *selfish voter theory* of majority support for redistribution would lead one to expect that countries with more

unequal before-tax and -transfer incomes would exhibit higher levels of support for redistribution. First, given that the distribution of income is skewed to the right (the lower tail is truncated and the upper tail is elongated) increases in inequality will generally widen the gap between the mean and median income and locate a larger fraction of the population below the mean. According to the skewness variant of the selfish voter theory this would lead to larger fractions supporting redistribution.³ Second if the welfare state insures against chance events that might relocate one’s position in the income distribution, and the effect of greater inequality is to enlarge the income distance one might be displaced as a result of these shocks, an individual with a given level of risk aversion will value insurance more in the more unequal economy.⁴ Other interpretations are possible, of course, but we regard the above reasoning as the most compelling in the absence of strong empirical counter-evidence.⁵

The varying degrees of support for redistribution exhibited in Figure 1 are not consistent with this prediction of the selfish voter model. In Figure 2 we plot the degree of inequality of income before taxes and transfers

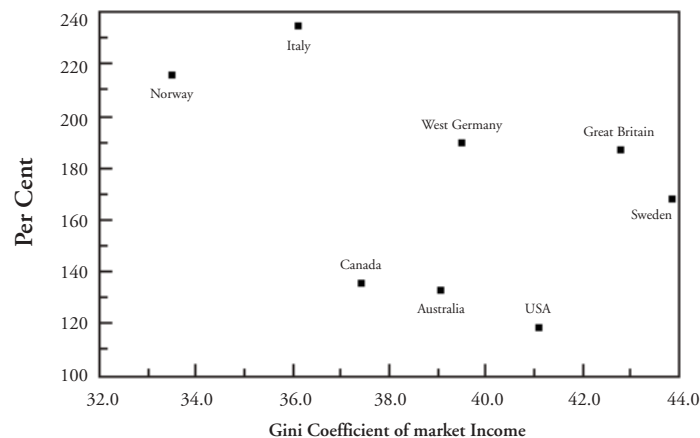
2. For an insightful study of the relationship between economic experience and attitudes towards redistribution, see Fong (1998).

3. This is true, for instance, if income is distributed according to the Pareto distribution. As the degree of inequality increases from very low to very high, the fraction of the population below the mean increases from about 65 to nearly 100, and the median decreases from 95 of the mean to nearly zero.

4. If inequality increases in a neighborhood of the median, the median voter will face a riskier income lottery, and if risk averse, will be willing to pay more to insure against this lottery. If increasing inequality also lowers the median, and if individuals are decreasingly risk averse around the median, the median voter’s insurance motive will be strengthened. With a linear tax schedule, the median voter’s nominal demand for insurance will increase, even if his expected income is lower.

5. The expected positive empirical relationship between inequality and redistributive effort has proven elusive, as Benabou’s survey (1996) indicates. Other explanations have been suggested. In a recent paper, Moene and Wallerstein (1996) show that increased inequality may lead to a reduced demand for insurance among the less well off when welfare benefits are targeted. Bénabou (1998) uses a model in which redistribution can enhance allocative efficiency (because some agents are credit constrained) and political participation rises with income and education to show that increased inequality may reduce demand for redistribution. Rodríguez (1997) presents a model in which unequal incomes lead to unequal political influence, generating a similar result.

Figure 2
Market Income Inequality and Support for the Welfare State



Note: Support for the welfare state is the sum of the first three measures in Figure 1.
Source: Figure 1 and Atkinson et al. (1995)

(measured by the Gini coefficient) against a summary measure of support for redistribution (the first three measures in Figure 1 – we exclude the fourth since the data for Great Britain are missing). The inequality data are the latest available (predominantly late 1980s and none later than 1991) from the Luxembourg Income Study.⁶ The expected positive relationship between pre-tax and -transfer inequality and support for the welfare state predicted by the selfish voter theory is not in evidence. Other measures of inequality of income, such as the Atkinson index, do not alter this result.

We do not doubt that selfish motives often underpin apparently generous actions. Indeed

the economists' explanation of the welfare state is an example of the theory of reciprocal altruism initiated by Trivers (1971) and shown to have wide application to many realms of social behavior. We will thus not argue against the skewness and insurance based accounts of redistribution. Rather, we suggest that they are incomplete, since they fail to give an adequate account either of the reasons for sharing one's income with strangers, or for the resistance that the imposition of such sharing often evokes. In short neither support for the welfare state nor opposition to it can be adequately understood in terms of self-regarding preferences defined over outcomes.⁷

6. See Atkinson et al. (1995). We use their inequality measure for "market income", which includes wages and salaries and self-employment income net of employer contributions for social insurance and other benefits, but gross of employee contributions to such schemes, as well as property income, occupational pensions, and other non-governmental sources of income. Sweden's status as the most unequal country is accounted for by the highly unequal distribution of property incomes.

7. Piketty (1995) assumes Rawlsian citizen preferences (they seek to improve the well being of the least well off) and endogenous beliefs concerning the cost of redistribution to explain the degree of support for the welfare state. Our approach shares with him the assumption of non-selfish preferences but differs in most other respects.

Understanding egalitarian politics today thus requires a reconsideration of *Homo economicus*, the unremittingly selfish prototype whose asocial propensities have provided the starting point for deliberations on constitutions and policies from Thomas Hobbes to the current U. S. debate on welfare reform. We do not wish to replace the textbook *Homo*, however, with a cardboard-cutout altruist, an equally one-dimensional actor unconditionally willing to make personally costly contributions to others. While these motives are much admired by many advocates of the welfare state, we doubt that unconditional altruism explains its success any more adequately than does self-interest. Nor does an absence of altruism explain the current malaise with redistributive policies in the U. S. and elsewhere. In experiments and surveys people are not stingy, but their generosity is conditional. Moreover, they distinguish among the goods and services to be distributed, favoring those which meet basic needs, and among the recipients themselves, favoring those thought to be "deserving." What we term *strong reciprocity*, along with *basic needs generosity*, not unconditional altruism, better explains the motivations that account for the political success of the welfare state. By strong reciprocity we mean a propensity to cooperate and share with others similarly disposed, even at personal cost, and a willingness to punish those who violate cooperative and other social norms, even when punishing is personally costly. We call a person acting this way *Homo reciprocans*. *Homo reciprocans* cares about the well-being of others and about the processes determining outcomes – whether they are fair, for example, or violate a social norm. He differs in this from the self-regarding and outcome oriented *Homo economicus*.

Homo reciprocans is not committed to the abstract goal of equal outcomes, but rather to

a rough balancing out of burdens and rewards. In earlier times – when, for example, an individual's conventional claim on material resources was conditioned by noble birth or divine origin – what counted as "balancing out" might entail highly unequal comfort and wealth. But, as we will see, in the absence of specific counter-claims, modern forms of reciprocity often take equal division as a reference point.

We do not wish to banish *Homo economicus*, however. The evidence we introduce shows that a substantial fraction of individuals consistently follow self-regarding precepts. Moreover most individuals appear to draw upon a repertoire of contrasting behaviors: whether one acts selfishly or generously depends as much on the situation as the person. The fact that *Homo economicus* is alive and well (if often in the minority) is good news, not bad, as people often rely on asocial individualism to undermine socially harmful forms of collusion ranging from price-fixing to ethnic violence. Pure altruists also doubtless exist and make important contributions to social life.

In short, egalitarian policy-making, no less than the grand projects of constitutional design, risk irrelevance if they ignore the irreducible heterogeneity of human motivations. The problem of institutional design is not, as the classical economists thought, that selfish individuals be induced to interact in ways producing desirable aggregate outcomes, but rather that a mix of motives – selfish, reciprocal, altruistic and spiteful – interact in ways that prevent the selfish from exploiting the generous and hence unraveling cooperation when it is beneficial.

The strong reciprocity of *Homo reciprocans* goes considerably beyond those cooperative behaviors that can be fully accounted for in terms of the self-regarding, outcome oriented motives that are the defining characteristics

of *Homo economicus*. We call these self-interested forms of cooperation ‘weak reciprocity.’ Examples include market exchange and cooperation enforced by tit-for-tat behavior – what biologists call ‘reciprocal altruism.’ Such actions are costly to the giver but in fact are self-interested because they involve future repayment. The skewness and insurance interpretations of support for the welfare state are based on weak reciprocity.

By contrast, strong reciprocity, like the biologists’ concept of altruism, imposes costs on *Homo reciprocans* without prospect of repayment. Yet unlike the vernacular usage of altruism, it is neither unconditional nor necessarily motivated by good will towards the recipient. If we are right, the success of the modern welfare state cannot be adequately explained by self-regarding motives stressed by economists; but the unconditional altruism stressed by some advocates of redistribution provides no better account. And as we will see, it is difficult to account for the current resistance to redistribution as an expression of the triumph of selfish motives and a lack of concern for the poor.

Students of cultural and biological evolution have long wondered how individually costly but socially beneficial traits, such as altruism, might evolve in competition with genetically and economically rewarded selfish traits. Like altruism toward strangers, strong reciprocity thus represents an evolutionary puzzle, one that we will seek to unravel. But first we will show that *Homo reciprocans* is indeed among the *dramatis personae* in today’s political arena, and most likely has been for the last hundred thousand years.

The Legacy of a Hundred Thousand Years of Sharing

Support of egalitarian programs, we will show, is not fundamentally self-regarding: egalitarianism is often based on a commitment to what we have termed *strong reciprocity*.⁸ It will come as no surprise that people are considerably more generous than the model in economics textbooks allows. More remarkable, however, is that they are equally unselfish in seeking to punish, often at great cost to themselves, those who have done harm to them and others.

Both historical and contemporary experimental evidence support this position. Consider first the historical evidence. In his *Injustice: the Social Bases of Obedience and Revolt*, Barrington Moore, Jr. (1978) sought to discern if there might be common motivational bases – “general conceptions of unfair and unjust behavior” (21) – for the moral outrage fueling struggles for justice that have recurred throughout human history. “There are grounds,” he concludes from his wide-ranging investigation,

for suspecting that the welter of moral codes may conceal a certain unity of original form...a general ground plan, a conception of what social relationships ought to be. It is a conception that by no means excludes hierarchy and authority, where exceptional qualities and defects can be the source of enormous admiration and awe. At the same time, it is one where services and favors, trust and affection, in the course of mutual exchanges, are ideally expected to find some rough balancing out. (4-5, 509)

8. Ernst Fehr, whose experimental work is described below, call this ‘reciprocal fairness.’ See Fehr and Gächter (1998) and Fehr and Tyran (1996).

Moore termed the general ground plan he uncovered “the concept of reciprocity – or better, mutual obligation, a term that does not imply equality of burdens or obligations...” (506) In like manner James Scott (1976) analyzed agrarian revolts, identifying violations of the “norm of reciprocity” as one the essential triggers of insurrectionary motivations. We do not think that Scott’s or Moore’s assessments are idiosyncratic.

One is tempted to consider strong reciprocity a late arrival in social evolution, possibly one whose provenance is to be found in Enlightenment individualism, or later in the era of liberal democratic or socialist societies – a set of beliefs whose reproduction is secured by the deliberate inculcation of modern concepts of distributive justice through schooling and other intentional means. However, this account does not square with overwhelming evidence of the distant etiology of strong reciprocity.

Christopher Boehm, a primatologist at the University of Southern California, concluded on the basis of an encyclopedic survey that (1993):226

...with the advent of anatomically modern humans who continued to live in small groups and had not yet domesticated plants and animals, it is very likely that all human societies practiced egalitarian behavior and that most of the time they did so very successfully. One main conclusion, then, is that intentional leveling linked to an egalitarian ethos is an immediate and probably an extremely

widespread cause of human societies’ failing to develop authoritative or coercive leadership.

Anthropologist Bruce Knauft of Emory University (1991):393, 395 adds:

In all ethnographically known simple societies, cooperative sharing of provisions is extended to mates, offspring, and many others within the band. ...Archeological evidence suggests that widespread networks facilitating diffuse access to and transfer of resources and information have been pronounced at least since the Upper Paleolithic...The strong internalization of a sharing ethic is in many respects the *sine qua non* of culture in these societies.

Far from a mere moment in the history of anatomically modern humans, the period described by Knauft and Boehm spans something like 100,000 years before the present to the advent and spread of agriculture 12,000 years ago, or perhaps ninety percent of the time we have existed on the planet.

One group of contemporary foragers, the Aché of Eastern Paraguay, have been particularly closely studied, and the amounts and nutritional values of food acquired and consumed by members of the group measured (Kaplan et al., 1984).⁹ Sharing is so widespread, the researchers found, that on average three quarters of what anyone eats was acquired by someone outside the consumer’s nuclear family, and even more remarkable, in the case of meat and honey, the main goods foraged by men:

9. Our assessment of the generality of food sharing in foraging bands is based on our reading of Woodburn (1982), Boehm (1982), Boehm (1993), Blurton-Jones (1987), Cashdan (1980), Knauft (1991), Hawkes (1992), Hawkes (1993), Kaplan and Hill (1985b), Kaplan and Hill (1985a), Kaplan et al. (1984), Lee (1979), Woodburn and Barnard (1988), Endicott (1988), Balıkcı (1970), Kent (1989), Damas (1972), Wenzel (1995), Knauft (1989).

women, children and adult siblings of the acquirer receive no more... from their husbands, fathers and brothers respectively than would be expected by chance, and men eat from their own kills a good deal *less* than would be expected by chance.

The Aché are probably unusually egalitarian, and there is evidence that hunting prowess is rewarded, if not with more food, then with enhanced social esteem and increased mating success. Nevertheless it is typical in foraging societies that families with less successful hunters, and indeed those unable to hunt, are nonetheless adequately provisioned by the group.

The resulting egalitarian distribution of resources is not the unintended byproduct of an ecological or other constraint; rather it is deliberately sought. Using data from forty-eight simple societies, Boehm (1993):239 concluded that

...these societies may be considered to be intentional communities, groups of people that make up their minds about the amount of hierarchy they wish to live with and then see to it that the program is followed. (239)

He found evidence that the following constrained potentially arrogant members of the group: public opinion, criticism and ridicule, disobedience, ostracism and assassination.

It seems likely then, that most of human history has been characterized by what James Woodburn (1982):431 calls “politically assertive egalitarianism.” The modern welfare

state is thus but an example of a ubiquitous social form. Sharing institutions, from families to extended gift giving, to barn raisings and tithing, to egalitarian division rules for the catch of the hunt, have cropped up in human history with such regularity and under such diverse circumstances that one is tempted to place them among Talcott Parsons’ (1964) *evolutionary universals*: social institutions that confer such extensive benefits upon their users that they regularly reappear in course of history in otherwise diverse societies.

Karl Polanyi’s (1957) account of the reaction to the human costs of Nineteenth Century *laissez-faire* capitalism and the eventual emergence of modern protections of the weak from the vicissitudes of the market, as well as the sharing of the national product, records just one of thousands of cases of the independent emergence of institutions of this type. The evolutionary viability of sharing institutions and of the motivations that support them counsels against those who have written off egalitarianism as an idea whose time has come and gone.¹⁰

Our suggestion that these distantly originating behaviors may be important influences on contemporary behavior is not an ethical endorsement of them or the societies from which they originated – indeed some of the baser human motives, such as the desire for revenge, are examples of strong reciprocity. Rather it is a hypothesis that if true has significant bearing on present day egalitarianism, because it can help us understand the pattern of public approval and disapproval of welfare state initiatives. Is it true?

10. On the structural basis of pro-social norms in a game-theoretic framework, see Bowles and Gintis (1998b). On the relationship of market institutions to the development of culture, see Bowles (1998). On the evolution of strong reciprocity, see Bowles and Gintis (1998a). This and other papers can be easily downloaded from the web site www-unix.oit.umass.edu/~gintis.

Homo Reciprocans

An impressive body of experimental evidence, much of it deployed in the first instance to validate the model of the selfish purveyor of market rationality, *Homo economicus*, in fact has served to undermine this model. In its place this body of evidence suggests a new *persona*. A convenient starting point in tracing the birth of *Homo reciprocans* is a tournament involving differing strategies of the play in the prisoner’s dilemma game undertaken two decades ago by Robert Axelrod at the University of Michigan.¹¹ The prisoner’s dilemma requires each of two players to choose simultaneously one of two actions, ‘cooperate’ or ‘defect.’ The payoffs are such that both players do better by cooperating than by defecting, but whatever one player does, the other player does better by defecting (for example, the payoff to mutual cooperation is 10 for each, the payoff to mutual defecting is 5 for each, but the payoff to defecting when the other player cooperates is 15 for the defector and 0 for the cooperator). The iterated prisoner’s dilemma is simply repeated play of the well known game with “winners” being those with high cumulative scores over however many rounds are played.

Axelrod asked a number of game theorists, economists, political scientists, sociologists, and psychologists to submit computer programs giving complete strategies for playing the game. Successive rounds of which were repeated with the same partner. Each program was pitted against every other program, as well as itself and a program that randomly chose to cooperate and defect. Surprisingly, the winner among the fourteen strategies submitted was the simplest, called ‘tit-for-tat’ (submitted by game theorist

Anatol Rappoport). Tit-for-tat cooperates on the first round, and then does whatever its partner did on the previous round.

Following up on this result, Axelrod held a second tournament in which a larger number of participants, including the original contributors, were told of the success of tit-for-tat and asked to submit another program for playing the iterated prisoner’s dilemma. Knowing that tit-for-tat was the strategy to beat did not help the players: once again Rappoport submitted tit-for-tat, and once again, it won.

Speculating on the strong showing of tit-for-tat, Axelrod noted that this strategy for cooperation has three attributes that are essential for successful cooperation. The first is that tit-for-tat is *nice*: it begins by cooperating, and it is never the first to defect. Second, tit-for-tat is *punishing*: it retaliates relentlessly against defection. Finally, tit-for-tat is *forgiving*: as soon as a defecting partner returns to cooperating, tit-for-tat returns to cooperating.

Homo economicus would readily embrace tit-for-tat, of course, at least if there were enough other tit-for-tatters around and there were a reasonable chance that one would interact repeatedly with the same person. Under these conditions tit-for-tat will be the self-interested strategy to follow, and thus is an example of reciprocal altruism rather than strong reciprocity. But for reasons that will become clear immediately, we think that the ubiquity of tit-for-tat sentiments among people (rather than computer programs) is more aptly explained by strong reciprocity motives that violate the tenets of economic man.

There have been many experiments with human subjects involving the iterated

11. See Axelrod and Hamilton (1981) and Axelrod (1984) for details and theoretical development.

prisoner's dilemma. If Axelrod's tournaments showed that nice guys finish first, the experiments reveal that there are lots of nice guys, even among the economics majors who show up for experimental games.

The simplest, but still quite revealing, laboratory experiment is the 'dictator game,' in which one of two players, the 'proposer,' is given a sum of money (typically \$10), is asked to choose any part of the sum to give to the second player (the two players are mutually anonymous), and is permitted to keep the rest. *Homo economicus* gives nothing in this situation, whereas in actual experimental situations, a majority of proposers give positive amounts, typically ranging from 20% to 60% of the total (Forsythe et al., 1994).¹²

The commonly observed rejection of substantial positive offers in what are called ultimatum games is our second piece of experimental evidence. Experimental protocols differ, but the general structure of the ultimatum game is simple. Subjects are paired, one is the responder, the other the proposer. The proposer is provisionally awarded an amount ('the pie' – typically \$10) to be divided between proposer and responder. The proposer offers a certain portion of the pie to the responder. If the responder accepts, the responder gets the proposed portion, and the proposer keeps the rest. If the responder rejects the offer both get nothing.¹³ In experiments conducted in the United States, Slovakia, Japan, Israel, Slovenia, Germany, Russia, and Indonesia the vast majority of proposers offer between 40% and 50% of the pie, and offers lower than

30% of the pie are often rejected (Fehr and Schmidt, 1999). These results have occurred in experiments with stakes as high as three months' earnings (Cameron, 1995).

When asked why they offer more than one cent, proposers commonly say that they are afraid that respondents will consider low offers unfair and reject them as a way to punish proposer's unwillingness to share. When respondents reject offers, they give virtually the same reasons for their actions. The proposers' actions might be explained by selfishness but the respondents' cannot. Because these behaviors occur in single-shot interactions and on the last round of multi-round interactions, they cannot be accounted for by the responder's attempt to modify subsequent behavior of the proposer. Punishment *per se* is the most likely motive. As evidence for this interpretation, we note that the rejection of positive offers is substantially less when the game is altered so that rejection does not punish the proposer (Abbink et al., 1996). Moreover the fact that offers generated by a computer rather than another person are significantly less likely to be rejected suggests that those rejecting low offers at a cost to themselves are reacting to violations of fairness norms rather than simply rejecting disadvantageous offers (Blount, 1995). See also Bolton and Zwick (1995) and Suleiman (1996). Thus the ultimatum game experiments provide evidence for our view that strong reciprocity is a common motivation.

More directly analogous to strong reciprocity in groups however, are findings in

what are called *n*-player public goods experiments. The following is a common variant. Ten players are given \$1 in each of ten rounds. On each round, each player can contribute any portion of the \$1 (anonymously) to a 'common pool.' The experimenter divides the amount in the common pool by two, and gives *each* player that much money. If all ten players are cooperative, on each round each puts \$1 in the pool, the experimenter divides the \$10 in the pool by two, and gives each player \$5. After ten rounds of this, each subject has 50. By being selfish, however, each player can do better as long as the others are cooperating. By keeping the \$1, the player ends up with "his" \$10, plus receives \$45 as his share of the pool, for a total of 55. If all behave this way, however, each receives only \$10. Thus this is an 'iterated prisoner's dilemma' in which self-regarding players contribute nothing.

In fact, however, only a small fraction of players contribute nothing to the common pool. Rather, in the early stages of the game, people generally contribute half their money to the pool. In the later stages of the game, contributions decay until at the end, they are contributing very little. Proponents of the *Homo economicus* model initially suggested that the reason for decay of public contribution is that participants really do not understand the game at first, and as they begin to learn it, they begin to realize the superiority of the free-riding strategy. However, there is considerable evidence that this interpretation is incorrect. For instance, Andreoni (1988) finds that when the whole process is repeated with the same subjects, the initial levels of cooperation are restored, but once again

cooperation decays as the game progresses.

James Andreoni (1995), an economist at the University of Wisconsin, suggests a *Homo reciprocans*-based explanation for the decay of cooperation: public-spirited contributors want to retaliate against free-riders and the only way available to them in the game is by not contributing themselves. Indeed, if players are permitted to retaliate directly against non-contributors, but at a cost to themselves, as in the experiments of Ernst Fehr and Simon Gächter, economists at the University of Zürich, they do so (Fehr and Gächter, 2000). In this situation, contributions rise in subsequent rounds to near the maximal level. Moreover punishment levels are undiminished in the final rounds, suggesting that disciplining norm violators is an end in itself and hence will be exhibited even when there is no prospect of modifying the subsequent behavior of the shirker or potential future shirkers.

Such experiments show that agents are willing to incur a cost to punish those whom they perceive to have treated them, or a group to which they belong badly.¹⁴ Also in everyday life, we see people consumed with the desire for revenge against those who have harmed them or their families, even where no material gain can be expected (Nisbett and Cohen, 1996, Boehm, 1984).

Policy Implications

Moreover strong reciprocity coexists with simple generosity and compassion in many, perhaps most people. Evidence for this comes not only from dictator games, as we have seen, but also from an ingenious set of experiments

12. As in other experimental situations, a significant minority (between 25% and 42% in the Forsythe et al. experiments) behave self-interestedly and give nothing. Moreover, in a double-anonymous study (Hoffman et al., 1994), where not even the experimenter knows the behavior of the proposer, the fraction of proposers who gave nothing increased to two-thirds. This accords with our notion that strong reciprocity is a conditional behavior, in this case weakening in the face of high levels of social anonymity.

13. See Güth et al. (1982), Camerer and Thaler (1995) and Roth (1995).

14. See Ostrom et al. (1992) on common pool resources, Fehr et al. (1997) on efficiency wages, and Fehr and Gächter (2000) on public goods. Coleman (1988) develops the parallel point that free riding in social networks can be avoided if network members provide positive rewards for cooperating.

devised by political scientists Joe Oppenheimer and Norm Frohlich (1992). Twenty-eight groups of subjects engaged in individual work tasks and decided on a principle of redistribution within the group of the rewards associated with successful performance of the tasks. At the conclusion of the experiment, the experimenters distributed cash rewards to the subjects according to their productivity and the rules of redistribution selected by the group, so the stakes were real. As the subjects decided on the redistribution rule before knowing how well they would perform on the task, the experiment would seem to elicit the subjects' abstract notions of just reward, a kind of experimental instance of the Rawlsian veil of ignorance.

By far the most popular principle of distribution was a minimal floor to be granted to every member of the group irrespective of the individual's productivity in the task. Subjects elected to finance the floor by a tax on the individual earnings of the more productive members. High levels of support for the floor principle were expressed by the high productivity (and hence highly taxed) members, and their level of satisfaction with the floor principle increased with repeated play. Of course the rules selected by the group reflect reciprocity as well as generosity, as the principle of individual reward proportional to productivity was only modified, not annulled by the tax. When these rules were imposed on the groups by the experimenters rather than chosen by the groups, the floor principle remained popular, but less so.

These results show clearly that people are not generally the self-interested actors of traditional economics, since they value treating others fairly, and will incur personal

costs to do so. Nor are people the unconditional altruists of utopian thought, since they want to hurt free-riders and other norm-violators. These experiments also show that strong reciprocity is not simply a mechanism for norm-enforcement, but also often includes a powerful concept of *fairness* or *sharing* – the notion that all else equal, there should be a rough balance of rights and obligations in social exchange. Proposers in the dictator game treat sharing as a good in itself, and respondents in the ultimatum game retaliate not against the violation of norms in the abstract, but against norms of equal sharing in particular.

A remarkable aspect of these experiments – and one very germane to our concern with egalitarian policy – is the degree to which behaviors are affected by the experimentally contrived social relationship between players. Communication among participants prior to the game, or experimental conditions that reduce the subjective 'social distance' among participants, lead to higher and more sustained levels of generosity and cooperation.¹⁵ For example, fraternity brothers at University of California, Los Angeles were asked to rank outcomes in a prisoner's dilemma situation given that they were interacting with a fellow fraternity brother, a member of another (unnamed) fraternity, a non-fraternity student at University of California, Los Angeles, a student from the nearby rival University of Southern California and an officer from the University of California, Los Angeles Police Department. They showed a strong preference for mutual cooperation over defection against one's partner when playing with fraternity brothers, with the rankings reversing with increasing

social distance – they were as willing to exploit the University of Southern California students as the University of California, Los Angeles police! (Kollock, 1997).

People care about who they give to: Eckel and Grossman (1997) found that proposers in a dictator game gave more when the recipient was "the Red Cross" rather than another experimental subject. Finally, when the right to be proposer in the ultimatum game is earned by being a winner in a trivia quiz rather than by lot, proposers offered less, and respondents accepted lower offers (Hoffman et al., 1994). It appears that minor manipulations of the social context of interactions may support significant behavioral differences.

In all of the experiments a significant fraction of subjects (about a quarter, typically) conform to the self-interested preferences of *Homo economicus*, and it is often the self-serving behavior of this minority that, when it goes unpunished, unravels initial generosity and cooperation.

These experiments also indicate that strong reciprocity spans all the societies studied, though in somewhat varying strength and content.¹⁶

The following five generalizations sum up the relevance of these experiments to the problem of designing and sustaining programs to promote economic security and eliminate poverty. First, people exhibit significant levels of generosity, even towards strangers. Second, people share more of what they acquire by chance rather than by personal

effort. Third, people contribute to public goods and cooperate to collective endeavors, and consider it unfair to free-ride on the contributions and efforts of others. Fourth, people punish free riders at substantial costs to themselves, even when they cannot reasonably expect future personal gain therefrom.

It would not be difficult to design a system of income security and economic opportunity that would tap rather than offend the motivations expressed in these first four generalizations. Such a system would be generous towards the poor, rewarding those who perform socially valued work and who seek to improve their chances of engaging in such work, as well as to those who are poor through accidents not of their own making, such as illness and job displacement.

The fifth, however, is more troublesome: each of these aspects of reciprocity is more salient, the less is the perceived social distance among the participants. This last generalization may help explain why inequalities are so readily sustained even among apparently generous publics. Economic inequality – particularly when overlaid with racial, ethnic, language, and other differences – increases the social distance that then undermines the motivational basis for reaching out to those in need. Indeed, surveys consistently reveal that the support for those in need is stronger in societies whose before tax and transfer incomes are more equal. The unusually low levels of public support for the U. S. welfare state may reflect these social distance effects.

15. For the communication result, see Isaac and Walker (1988), and for the social distance result, see Kollock (1997) and Hoffman et al. (1996).

16. The only known exception to this statement concerns experiments run by the University of California, Los Angeles anthropologist Joe Henrich, a member of our research group who works with the Machiguenga Indians, a famously individualistic indigenous group living in a remote region of the Peruvian Amazon. In the ultimatum game, he found offers to be small, and even small offers were typically accepted. In the public goods game, contributions to the public account were very low. We believe the most likely explanation of this result is a peculiarity of the subjects: their basic social unit consists of closely-related kin, with extra-kin social relationships being much weaker than typical even of simple societies.

The experimental evidence, casual observation of everyday life, ethnographic and paleoanthropological accounts of hunter-gatherer foraging bands from the late paleolithic to the present and historical narratives of collective struggles have combined to convince us that strong reciprocity is a powerful and ubiquitous motive. But we hesitate to revise *Homo economicus* by elevating the individually costly sharing and punishment of norm violators characteristic of *Homo reciprocans* to a privileged place in the repertoire of human behaviors until we have addressed the evolutionary puzzle posed at the outset. In short we are more prone to believe and to generalize from the experimental and historical evidence we have introduced if we can explain how strong reciprocity motives might have evolved despite the costs these motives seemingly impose on those bearing them.

We have elaborated our attempt to resolve this puzzle in a recent technical paper and we are continuing to explore the issue with a research team of experimentalists, ethnographers, and others (Bowles and Gintis, 1998a). Our reasoning is that strong reciprocity supports the adherence to norms within groups and some of these norms – requiring work towards common ends, sharing, and monogamy for example – are beneficial to most group members. Where reciprocity motives embrace the individually costly enforcement of these group-beneficial norms, strong reciprocity may evolve because *Homo reciprocans* will be disproportionately likely to be in groups that have effective norm adherence, and hence to enjoy the group benefits of these norms. By contrast, where reciprocity motivates the individually costly enforcement of norms that on average confer little benefit on group members, or inflict group costs, of course reciprocity is unlikely to evolve.

Strong reciprocity thus allows groups to engage in common practices without the resort to costly and often ineffective hierarchical authority, and thereby vastly increases the repertoire of social experiments capable of diffusing through cultural and genetic competition. The relevant traits may be transmitted genetically and proliferate under the influence of natural selection, or they may be transmitted culturally through learning from elders and age mates and proliferate because successful groups tend to absorb failing groups, or to be emulated by them. We think it likely that both genetic and cultural transmission is involved. The 50–100,000 years in which anatomically modern humans lived primarily in foraging bands constitutes a sufficiently long time period, and a favorable social and physical ecology, for the evolution of the combination of norm enforcement and sharing that we term strong reciprocity.

The Revolt Against Welfare in the U. S.

This model of *Homo reciprocans* supports our explanation of the political viability of egalitarian policies. Like Petr Kropotkin (1989 [1903]) almost a century ago, we find compelling evidence – both evolutionary and contemporary – for the force of human behavioral predispositions to act both generously and reciprocally rather than self-interestedly in many social situations. While many economists have failed to appreciate the practical importance of these predispositions in policy matters, their salience was not missed by the conservative economist and philosopher Frederick Hayek (1978):18, 20

...wanting to do good to known people will not achieve the most for the community, but only the observation of

its abstract and seemingly purposeless rules....the long submerged innate instincts have again surged to the top. [The] demand for a just distribution...is thus strictly an atavism, based on primordial emotions. And it is these widely prevalent feelings to which prophets, (and) moral philosophers...appeal by their plans for the deliberate creation of a new type of society.

But while strong reciprocity may support egalitarianism, it may also help explain the rising tide of opposition to welfare state policies in some of the advanced market economies in the past decades. Specifically, in light of the experimental regularities outlined above, we suspect the following to be true as well: egalitarian policies that reward people independent of whether and how much they contribute to society are considered unfair and are not supported, even if the intended recipients are otherwise worthy of support, and even if the incidence of non-contribution in the target population is rather low. This would explain the opposition to many welfare measures for the poor, particularly since such measures are thought to have promoted various social pathologies. At the same time it explains the continuing support for social security and medicare in the United States, since the public perception is that the recipients are “deserving” and the policies do not support what are considered anti-social behaviors. The public goods experiments are also consistent with the notion that tax resistance by the nonwealthy may stem from their perception that the well-to-do are not paying their fair share.

These inferences from the experimental evidence find some confirmation in survey and focus group data. We will resist generalizing from this single and possibly atypical case, but opposition to the welfare state in the U. S. is sufficiently important in its own right to warrant attention. Opposition to the U. S. welfare state does not primarily reflect the selfish interests of the economically secure. Indeed, income and social background are very poor predictors of the degree of one’s support for either particular programs or egalitarianism in general. Of far greater import is one’s views of why the poor are poor, and specifically one’s beliefs about the relative importance of effort rather than luck or other circumstances beyond the control of the individual in explaining individual incomes.¹⁷ Christina Fong of Washington University compared individuals’ responses on nationally representative surveys to questions indicating support for increases or decreases in expenditure on welfare with responses to questions about why the poor are poor (“lack of effort by the poor themselves”). In a 1990 sample of the General Social Survey she found that only 18 of those citing “lack of effort” thought too little was spent on welfare, while 49 responded “too much.” By contrast among those who thought that “lack of effort by the poor themselves” was “not important” in explaining poverty 44 thought that we were spending too little on welfare, and only 28, too much. Remarkably, Fong found that the belief that effort is important to “getting ahead in life” has a considerably larger impact on opposition to aid to the poor than one’s income, years of schooling, and parents’ socioeconomic status *combined* – those whose

17. Thomas Piketty (1995) also explores the importance of one’s beliefs about the importance of effort but in his model those who believe effort leads to success oppose redistribution not because the poor are undeserving but because the necessary taxes will discourage effort, thus raising the cost of aid.

effort beliefs differed from the average by a standard deviation were more opposed to aid than those whose level of privilege on all three measures was a standard deviation above the mean!

Fong's research confirms earlier studies. In a 1972 sample of white women in Boston the perceived work ethic of the poor was a far better predictor of support for aid to the poor than one's family income, religion, education, and a host of other demographic and social background variables (Williamson, 1974). Indeed in predicting support for such aid, the addition of a single variable measuring beliefs about work motivation tripled the explanatory power made possible using all of the background variables.

Consistent with our interpretation of these data, support for anti-poverty expenditures varies with economic conditions. Fong found, for example that statistically controlling for race, schooling, income, religion and other variables, the self-employed tend to oppose such policies, and that much of their opposition is statistically associated with a belief – no doubt grounded in their experience – that individual effort makes a difference in getting ahead. Martin Gilens of Yale University found that during recessions people are less likely to explain poverty by “lack of effort by the poor”, and more likely to support egalitarian programs (Gilens, 1999).

A more striking fact about the decline in the support for the former Aid to Families with Dependent Children, Food Stamps, and other means-tested social support programs in the United States, however, is that

overwhelming majorities oppose the *status quo*, whatever their income, race, or personal history with such programs. This pattern of public sentiment, we think, can be accounted for in terms of the principle of strong reciprocity.

We rely mainly on two studies. The first (Farkas and Robinson, 1996) analyzes data collected in late 1995 by Public Agenda, a nonprofit, nonpartisan research organization. The authors conducted eight focus groups around the country, then did a national survey, involving half-hour interviews, of 1000 randomly selected Americans, plus a national oversample of 200 African-Americans. The second, political scientist Martin Gilens' *Why Americans Hate Welfare*, is an analysis and review of several polls executed during the 1990's and earlier by various news organizations.¹⁸

In the Public Agenda survey 63% of respondents thought the welfare system should be eliminated or “fundamentally overhauled” while another 34% thought it should be “adjusted somewhat.” Only 3% approved of the system as is (p. 9). Even among respondents from households receiving welfare only 9% expressed basic approval of the system, while 42% wanted a fundamental overhaul and an additional 46% wanted some adjustments.

The cost of welfare programs cannot explain this opposition. While people generally overstate the share of the Federal budget devoted to welfare (p. 9), this cannot account for the observed opposition.¹⁹ Farkas and Robinson note that

By more than four to one (65% to 14%), Americans say the most upsetting thing about welfare is that “it encourages people to adopt the wrong lifestyle and values,” not that “it costs too much tax money.”...Of nine possible reforms presented to respondents – ranging from requiring job training to paying surprise visits to make sure recipients deserve benefits – reducing benefits ranked last in popularity (Table 4).

The cost, apparently, is not the problem. In focus groups:

Participants invariably dismissed arguments about the limited financial costs of welfare in almost derisive terms as irrelevant and beside the point. (p. 9, 10).

Nor can the perception of fraud account for this opposition. It is true that 64% of respondents (and 66% of respondents on welfare) believe welfare fraud is a serious problem. However most do not consider it more serious than in other government programs, and only 35% of survey respondents would be more “comfortable with welfare” if fraud were eliminated (p. 11, 12).

In commenting on this fact Martin Gilens (1999):1,2 observes that “Politics is often viewed, by élites at least, as a process centered on the question ‘who gets what.’ For ordinary Americans, however, politics is more often about ‘who *deserves* what’ and the welfare state is no exception.” In the Public Agenda study, respondents overwhelmingly consider welfare to be unfair to working people and addictive to recipients. By a more than five to one margin (69% to 13%, and 64% to 11% for people receiving welfare), respondents say that recipients abuse the system – for instance by not looking for work – rather than actually cheating the system – e.g., by collecting

multiple benefits (p. 12). Moreover, 68% object (59% of welfare recipients) that welfare is “passed on from generation to generation, creating a permanent underclass” In the same vein, 70% (71% of welfare recipients) say welfare makes it “financially better for people to stay on welfare than to get a job,” 57% (62% of welfare recipients) think welfare encourages “people to be lazy” and 60% (64% of welfare recipients) say the welfare system “encourages people to have kids out of wedlock” (p. 14, 15)

But this is beside the point. Whether or not, for example, welfare *causes* out of wedlock births, for example, or fosters an unwillingness to work, citizens object that the system provides financial support for those who undertake these socially disapproved behaviors. Their desire is to bear witness against the behavior and to disassociate themselves from it, whether or not their actions can change it.

This interpretation is supported by a careful study by Luttmmer (1998), who matched U. S. General Social Survey (GSS) data with census tract information on the number and characteristics of the GSS subjects' neighbors who were on welfare. He found that the number of people in the surrounding area who were receiving public assistance predicted opposition to welfare spending if those on welfare were predominantly not working (or working very little) and if many of those on welfare were unmarried mothers *and* the subject voiced disapproval of premarital sexual relations. The relevant fact for our interpretation is that opposition was conditioned on the non-working and unmarried mother status of the recipients and the moral beliefs of the subjects.

This then is the moral opposition to welfare in the U. S. Many of the objections to the system, and many of the ethical judgments of the poor are based on misconceptions, a

18. A third study by Weaver et al. (1995), drawing in addition on NORC and General Social Survey data, comes to broadly similar conclusions.

19. As a general rule non-experts vastly overstate the share of the tax revenues devoted to things of which they disapprove, whether it be foreign aid, welfare, AIDS research, or military expenditure – the opposition is generally the cause of the exaggeration, not *vice-versa*.

lack of compassion, and prejudice, fanned by political entrepreneurs of the right. Racial stereotyping and welfare bashing are closely associated. The public agenda survey shows that whites are much more likely than African Americans to attribute negative attributes to welfare recipients, and much more likely to blame an individual's poverty on lack of effort. But even here reciprocity motives are evident. The survey data show, writes Gilens, that

For most white Americans, race-based opposition to welfare is not fed by ill-will toward blacks, nor is it based on whites' desire to maintain their economic advantages over African Americans. Instead race-based opposition to welfare stems from the specific perception that, as a group, African Americans are not committed to the work ethic.

Taking account of the *fact* that many Americans see the current welfare system as a violation of deeply held reciprocity norms does not oblige us to either agree or disagree with these views. Still less does it require that policy makers adopt punitive measures and stingy budgets for the poor. Indeed the public strongly supports income support measures when asked in ways that make clear the deserving nature of the poor: a 1995 NYT/CBS poll, for instance, found that twice as many agreed as disagreed that "it is the responsibility of the government to take care of people who can't take care of themselves."

Like Oppenheimer and Frohlich's experimental subjects, those surveyed by pollsters, exhibit what we have termed 'basic needs generosity,' a virtually unconditional willingness to share with others to assure them of some minimal standard, especially, as the survey data show, when this is implemented through provision of food, basic medical care, housing, and other essential goods. The

interplay of basic needs generosity and strong reciprocity, we think, accounts for the salient facts about public opinion concerning welfare.

Conclusion

If we are right, economists have misunderstood both the support for the welfare state and the revolt against welfare (where it has occurred), attributing the latter to selfishness by the electorate rather than the failure of many programs to tap powerful commitments to fairness and generosity and the fact that some programs appear to violate deeply held reciprocity norms. Egalitarians have been successful in appealing to the more elevated human motives precisely when they have shown that dominant institutions violate norms of reciprocity, and may be replaced by institutions more consistent with these norms.

Many traditional projects of egalitarians, such as land reform and employee ownership of their workplaces are strongly consistent with reciprocity norms, as they make people the owners not only of the fruits of their labors, but more broadly of the consequences of their actions. The same may be said of more conventional initiatives such as improved educational opportunity and policies to support home ownership – there is good evidence, for example, that home ownership promotes active participation in local politics and a willingness to discipline personally those engaging in antisocial behaviors in the neighborhood (Sampson et al., 1997). An expansion of subsidies designed to promote employment and increase earnings among the poor would tap powerful reciprocity motives, as has been suggested by Edmund Phelps (1997). Similarly, social insurance programs might be reformulated along lines suggested by John Roemer (1993) to protect individuals

from risks over which they have no control, while not indemnifying people against the results of their own choices, other than providing a minimal floor to living standards. In this manner, for example, families could be protected against regional fluctuations in home values – the main form of wealth for most people – as Robert Shiller (1993) has shown. Other forms of insurance could partially protect workers from shifts in demand for their services induced by global economic changes.

An egalitarian society can be built on the basis of these and other policies consistent with strong reciprocity, along with a guarantee of an acceptable minimal living standard consistent with the widely documented motives of basic needs generosity. But if we are correct, economic analysis will be an inadequate guide to policy making in the area unless it revises its foundational assumptions concerning human motivation.

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