

PUBLIC CHOICE AND ALTRUISM

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“If I knew for a certainty that a man was coming to my house with the conscious design of doing me good, I should run for my life ... for fear that I should get some of his good done to me.” —Henry David Thoreau [1854, 65]

“If men were actuated by self-interest...the whole human race would cooperate. There would be no more wars, no more armies, no more bombs.” —Bertrand Russell [1954, 173-74]¹

The assumption that individuals are motivated by selfishness is central to most public choice literature. Four of the key works within public choice are limited entirely to this assumption: In *An Economic Theory of Democracy*, Anthony Downs [1957] praises altruistic behavior, but nevertheless declares, “We accept the self-interest axiom as the corner stone of our analysis.” In *The Logic of Collective Action*, Mancur Olson [1965] warns that his theory has little to say about groups that form for purely altruistic reasons. Dennis C. Mueller [1989] states in *Public Choice II*, “The basic behavioral postulate of public choice, as for economics, is that man is an egoistic, rational, utility maximizer.” *The Calculus of Consent* [Buchanan and Tullock, 1962] states the possibility that people are either altruistic or egoistic, and warns that because of this, “The theory of collective choice can explain only some undetermined fraction of collective action.”² The entry on public choice in *The New Palgrave: A Dictionary of Economics* goes farther saying, “By using a model in which voters, politicians, and bureaucrats are assumed to be mainly self-interested, it became possible to employ tools of analysis, that are derived from economic methodology” [Tullock, 1987]. This quote implies that it is not rationality, but the more restrictive assumption of selfishness, that makes the use of economic tools possible.

Selfishness is not an essential part of the assumption of rationality; any item could go into a utility function, including consumption by other people or other people’s utility. And if utility functions are derived solely from revealed preference, individuals could reveal a preference for anything. In most instances, however, economists create utility functions not from rigorous behavioral observations but by using assumptions that often limit the items in a utility function to the individual’s own consumption. At least one public-choice problem—the problem of rational nonvot-

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ing—is a problem only if individuals are assumed to be not only rational but also selfish. Voting is irrational (for a selfish individual) but collectively rational. A large amount of literature has tried to find a way to explain voting as being somehow in an individual's selfish interests [Aldrich, 1997] rather than simply being satisfied that the act of voting reveals a preference for thinking collectively. Mueller suggests that when models do not fit the notion of rational egoism, “we retain the egoistic portion of rational egoism, and drop, or better modify the rationality assumption” [1989]. If that is the normal practice, it is worthwhile to examine the ramifications of doing things the other way around—dropping egoism and retaining rationality. In other words, although selfishness is not an essential part of rationality, it is a very common assumption, which if relaxed could potentially change the predictions of models.

Many authors have called for economics in general, or public choice in particular, to relax the selfishness assumption [Sen, 1977; 1995; Margolis, 1982; Mansbridge, 1990; Simon, 1993; Brittan and Hamlin, 1995; Udehn, 1996; Eichenberger and Oberholzer-Gee, 1998; Ostrom, 2000; Fehr and Schmidt, 2001]. Recent work in experimental economics has shown that the assumption that people behave selfishly does not always hold and that the possibility of altruistic actions or preferences exists [Dawes et al., 1990; Dawes and Thaler, 1988; Eichenberger and Oberholzer-Gee, 1998]. Others have argued theoretically that altruism is an evolutionarily stable behavior and therefore there is no reason to expect egoism to be the only possible behavior [Boyd and Richerson, 1990; Bergstrom and Stark, 1993; Samuelson, 1993; Ostrom, 2000; Fehr and Schmidt, 2001].³ Many authors believe that relaxing the selfishness assumption will greatly change the predictions of public choice models, but at least one believes that it does not make much difference. Margolis observes that Downs [1957] states the pure self-interest of voters and politicians as his fundamental hypothesis, but “there turns out to be almost nothing in Downs's analysis that actually relies on the axiom of selfishness” [1982, 97].

Some critics have reached the mistaken conclusion that some public-choice problems would disappear if people behaved less selfishly in politics. Tideman [1994], for example, supposes that the difficulties experienced with majority rule would diminish substantially if people were to act as judges of what is just rather than as advocates for their own self-interest. Young [1988], citing Condorcet and Rousseau, supposes that if voters are, on average, competent judges of what is just, injustice decreases as the number of voters increases. But these views suppose that justice is some objective truth that can be discovered by reason, rather than a matter of individual judgment on which people disagree. This view does not recognize that people have many different ideological beliefs about what is best for society, creating conflicts that may be as difficult to resolve as those created by self-interest.

It is tempting, but incorrect, to think of altruists as a group of “Mother Thesas.” Even if it were difficult to aggregate their preferences on some issues mathematically, a group of Mother Thesas would have few joint decision-making problems, because they would have a very similar notion of what is good for the group, allowing them to find compromises that they all agreed were equitable. They would probably not be worried about trusting a dictator selected at random. But imagine Mother Theresa in a group with John Calvin, Malcolm X, Margaret Sanger, Robert Nozick,⁴

Karl Marx, the Dalai Lama, John Stuart Mill, and L. Ron Hubbard. All of these people have strong beliefs about morality and social justice that are diametrically opposed to one another. Would this group of moral individuals find it easier or more difficult to make a joint decision than a group of purely selfish people with disagreements stemming only from their material interests? The selfish group would find many areas for mutual benefit, but the group of moralists may not find any, and they certainly would be foolish to trust a dictator selected at random.

Many, if not most, public-choice problems stem ultimately from disagreement. Opposing selfish interests are the most commonly given reason for disagreements, but differing ideologies can cause similar disagreements as many, if not most, economists are at least tacitly aware. This paper explicitly examines how public choice can be applied to pure altruists with ideological differences. I begin by defining altruism in this context and examining how altruism has been used in public choice literature. I then discuss how to model altruism and continue by examining some common public-choice problems. Although some of the problems change in interesting ways, many of the same basic problems exist whether people are egoistic or altruistic. I conclude that although attention should be paid to altruism in instances where predictions change, the assumption of rational egoistic preferences is often a reasonable simplification for rational preferences that may be either altruistic or egoistic.

DEFINITION AND REVIEW

An altruist, for the purposes of this paper, is a person who will not seek her own personal gain at another's expense, but seeks the good of society as a whole as she sees it. That is, an altruist acts in accordance with some universal principle(s) of justice and does not violate those principles even when it would be to her own advantage. Under this definition, a person need not be an egalitarian nor a generous person to be considered an "altruist." Terms such as socially concerned, public minded, unselfish, moral, ethical, or principled could work just as well and are used interchangeably. As Sen [1992] observed, all systems of justice seem to imply the equality of something, whether it is income, opportunity, libertarian freedoms, or adherence to a religious code. Basically, any behavior that applies some principle of justice to everyone is in this one sense altruistic, even if the principle applied to everyone is the right to be selfish.

This definition leaves considerable room for people to act in ways that benefit themselves, while still being considered altruistic as long as they behave consistently with some principle of justice. For example a wealthy business owner may espouse the principles of free trade, low taxes, and minimal government either because such policies benefit her or because she believes they are truly just. Similarly, a labor union member may espouse principles of welfarism and activist government either because such policies will benefit her or because she believes they are truly just. Klein [1994] demonstrates that individuals tend to join groups in which their principles and their self-interest do not conflict, so that people often sincerely believe in principles that benefit their own group. But whether people's principles are in line with or in opposition to their own self-interest is inconsequential to the question at

hand, which is: what public-choice problems can exist if people behave consistently with *some* principle of justice?

This definition of altruism is in some ways more and in some ways less altruistic than more commonly used definitions. Usually, altruism is modeled to examine the ramifications of the tradeoff between selfish and unselfish motives [Harsanyi, 1953; 1955; 1977; Hochman and Rogers, 1969; Becker, 1974; Goodin and Roberts, 1975; Arrow, 1981; Etzioni, 1986; Dowell et al, 1998]. These works model individuals who include the utility of others in their objective functions but usually weight the utility of others differently than their own utility. These papers deal with what Jencks [1990] calls "partial" altruists. By assuming individuals follow a universal principle in all public decision-making, this paper assumes what Jencks calls "complete" or even "extreme" altruists, or what Brittan [1995] calls "hard core" altruists.

The models cited in the previous paragraph abstract from any ideological differences among people's beliefs about what constitutes the public interest and assumes that individuals know and care directly about the utility of others and/or that there is some universally shared notion of the public good. This assumption is a useful simplification for examining the tradeoff between selfish and unselfish motivations, but because of it, the joint-decision-making problems in these models ultimately flow from selfish motives. Altruism is found to be either capable or incapable of solving these problems. These models do not ask whether altruistic motives can themselves cause public-choice problems. To focus on that question, it is necessary to focus entirely on ideologically opposed conceptions of the public interest. In this way, actors are less altruistic in this model than in other models; they may care little or nothing about the preferences of others. Like Lewd and Prude in Sen [1970], they care about each other without necessarily caring about each other's utility.⁵ This approach is similar to Margolis, "the group-utility the individual seeks to maximize is his own perception of group-interest, and by no means necessarily identical to someone else's perception" [1982]. However, Margolis also focuses on the tradeoff the individual faces between group- and self-interest. The focus here is on those instances in which the individual is wearing her group-interest hat.

Works that assume altruism without focusing primarily on the tradeoff between selfish and unselfish desires seldom examine ideological differences. Fehr and Schmidt [2001] use the assumption of other-regarding preferences to examine incomplete contracts and the optimal distribution property rights, but they do not examine the effect of different other-regarding preferences on public decision-making. Binmore [1994; 1998] and Fender [1995] have both shown that altruism cannot solve all game theory problems.⁶ Tullock [1984] considers selfish and unselfish motives, and argues, as do Eichenberger and Oberholzer-Gee [1998], that voters often vote for what they see as the public interest because they have no perceived self-interest in the matter in question. He concludes that the tendency to overlook public-interest motives in voting should be changed, but argues that the greater attention to special-interest motives is justified because voters are apt to pay more attention to issues in which they have a special interest. He argues that in some cases (such as pure public goods and transfers to a wide class of people) *self-interest motives are easily mistaken for public-interest motives*. He does not mention, however, that the reverse is also

true; *public-interest motives could be mistaken for selfish motives*. We may not be able to distinguish whether a person votes for (or against) military appropriations because she believes they are beneficial to her or because she believes they are beneficial to society as a whole, and we may not need to distinguish between the two. People who align their selfish and unselfish motives (as Klein [1994] described) can be considered selfish for Tullock's analysis and altruistic for the analysis here. Thus, there is already a great deal of overlap between the actions of people with egoistic goals and people with altruistic, but differing, goals.

What happens to public-choice problems if unselfish people have ideological differences? The closely related discipline of social choice, which does not include selfishness in its definition, provides some help [Sen, 1987; 1999]. But Sen [1977; 1995] also speaks of the need for economics in general (including the study of public goods) to pay greater attention to the role of morals and values in economic decisions, and complains that game theorists too often attribute unselfish behavior to an inability to understand strategy rather than to unselfishness. Arrow [1951] did not assume selfishness, only rationality, to arrive at his impossibility result, and most works on the preference aggregation problems use similar assumptions. If it is impossible to aggregate unselfish preferences in a way that meets simple conditions for rationality and democracy mathematically, certainly public-choice problems would exist when people act on unselfish preferences.

The paradox of rational nonvoting is one topic for which the competing assumptions of unselfishness and egoism lead to strikingly different conclusions. Using selfish assumptions, there is an apparent anomaly. Why should a rational voter expend any effort to vote if the chance that her vote will be decisive is negligible? Economists have tried to maintain the selfishness assumption and explain this behavior as the desire to express one's preferences or as a misunderstanding of the true negligibility of one's own vote [Aldrich, 1998]. However, the fact that people vote is an anomaly only if all motivations are selfish. The apparent paradox can be resolved quite simply by inserting concern for others into the individual's objective function [Margolis, 1982; Aldrich, 1998]. Margolis also extends the same kind of reasoning to explain individuals' contribution to groups in which Olson's [1965] theory would predict zero contributions. If the act of going out and voting reveals a preference for unselfishness, it is hardly reasonable to then say that people only vote in their own self-interest once they get to the voting booth.

MODELING ALTRUISM

This section discusses how altruistic objectives can be modeled to allow for ideological differences. Begin with the standard assumption of a pure egoist, whose utility includes only her own consumption and no variables associated with any other people:

$$U_i = U(g_1, g_2, \dots, g_n), \quad \text{or} \quad U_i = A g_1 + B g_2 + C g_3, \dots$$

Even a person who maximizes her own utility could be considered a principled altruist under some conditions. Suppose she believes that the existing political process is a perfectly fair, just, and rational method to aggregate individual preferences into social preference (or at least the best available method), but that doing so requires everyone to push for their own individual preferences. With these beliefs, even an egoist could be an altruist, as it is defined here, but this is clearly not the type of altruist we are most concerned with.

Arrow [1981] uses a utilitarian model of partial altruism that he traces back to the Bergson-Samuelson approach to social welfare functions [Samuelson, 1947]. As Arrow characterizes it, an individual maximizes her own personal social welfare function $[W_i(x_p, \dots, x_n)]$ composed of her own utility $[U_i(x_i)]$ plus the sum of everyone else's utility $[\sum U(x_j)]$, under the assumption that $u_i(x_i) > u(x_j)$. That is, starting from an equal distribution, the marginal utility of one's own consumption is greater than the marginal utility of another's consumption.

$$W_i(x_p, \dots, x_n) = U_i(x_i) + \sum U(x_j), \text{ for all } j \neq i$$

He also assumes that everyone evaluates each others' utility in the same way according to some social norms or a code of ethics (there are no ideological differences). Certainly, if this assumption is relaxed, there is room for ideological conflicts even within the utilitarian characterizations of social welfare functions depending how utilities are weighted and summed. But, to examine conflicting ideologies, there are four reasons to look beyond utilitarian characterizations: First, utilitarianism is only one of many ideologies. Second, to the extent that people are concerned with the utility of others, they are often bad at assessing other people's preferences. Third, utilitarian social welfare functions show concern only for outcomes and not for the process by which those outcomes are determined. Fourth, using the utility of others implies that to be concerned with others' well-being is to be concerned with their well-being *as they see it*. Economists routinely make the assumption that an individual is the best judge of her own welfare, but many moral systems believe the individual is an inherently poor judge of her own welfare, and is better off the more she represses her desires. The do-gooder at Thoreau's door or the person who does not want his neighbor reading *Lady Chatterly's Lover* both display an unselfish concern for others, but care little about the utility of others.

Buchanan and Tullock [1962] discuss a social scientist who comes up with an axiomatic social welfare function based on his beliefs about what are or what ought to be the shared goals of society. Suppose each individual behaves like this social scientist. Whenever she participates in the public-decision-making process, she puts aside her own egoistic preferences, and seeks to maximize her own axiomatic social welfare function. In other words, replace Mueller's [1989] "rational, egoistic, utility maximizer" with a "rational, altruistic, welfare maximizer," using Margolis's [1982] assumption that this notion of the public interest need not be the same or even very similar to anyone else's. It will not be necessary here to look at any more than two goods (g_1 and g_2), which could stand for one private good and one public good or two public goods. Two people (1 and 2) would have the following social welfare functions

(W_1 and W_2). The weights person 1 puts on the two goods are shown by A_1 and B_1 , and the weights person 2 puts on the two goods are shown by A_2 and B_2 .

$$W_1 = A_1g_1 + B_1g_2$$

$$W_2 = A_2g_1 + B_2g_2$$

These welfare functions can be as different as:

$$W_1 = -g_1 + g_2$$

$$W_2 = g_1 - g_2.$$

That is, one person's good is another person's bad.

These social welfare functions are similar to utility functions except that individuals don't give any special weight to their own consumption. They make choices on public-goods issues based on their assessment of society's needs and they make choices on distributional issues based on principles of entitlement or desert.

These functions can work for utilitarians as well; they would simply derive their axiomatic social welfare function from their assessment of others' utility functions. But they may not work as well for a deontologist, who does not care directly about outcomes but only about the rights or responsibilities of individuals. A deontologist's social welfare function might not contain any goods at all but only the vector of rights or responsibilities (r_i) accorded to each individual (j).

$$W_i = r_{ij}$$

Often, beliefs about rights and responsibilities can be expressed as beliefs about the desired levels of public goods spending that are likely to go along with them. For example, a libertarian anarchist would simply weight all publicly produced goods as zero. A worshiper of Apollo would place a large coefficient on the public good of Greek temples. Thus, the axiomatic welfare function seems to work fairly well to describe deontological beliefs. But at least one responsibility cannot be characterized by a coefficient on the goods in the welfare function: the belief that the decision-making process should be fair or that one person's action in the political process should conform to some code of behavior, even at the expense of reaching the just level of spending on a public good. Hylland describes these kinds of preferences in this way, "I would prefer living in a democracy and not getting my way in issue y than being a dictator" [1986]. Except for the strictest deontologist, the desire for fairness need not be an overriding ethical concern; individuals may face a tradeoff between behaving fairly in the decision-making process and achieving their most desired outcome. I might prefer losing on issue y to being a dictator, but I might be willing to commit a small breach of ethics to get my way on y , if the end benefit to society is great enough to justify the means. To show this tradeoff, add a fairness function [$f^{(*)}$] to the individual's social welfare function, making it a broader objec-

tive function. The fairness function depends on the actions (a_i) of the various participants and of the institutional setting (I).

$$O_i = Ag_1 + Bg_2 + f(a_i, I)$$

The relationship between individual i 's actions and her fairness function is obvious; all else equal she prefers more to less fairness. But the relationship between others' actions or the institutional setting and i 's fairness function is less certain. The mostly intuitively appealing relationship is that if others don't play fair or if the institutional setting is unfair, i feels released from her obligation to play fair. But the opposite reaction is also possible: Seeing others playing dirty i might feel self-righteous and play as fair or even fairer than before, allowing the decisions on issue y to go against her, but keeping her integrity.

Aggregating individual social welfare functions into a true social welfare function poses problems. And of course, the question of how to aggregate the social welfare functions of people with different ideologies is itself an ideological question, about which people will have opposing beliefs, which would need to be aggregated to determine a group preferences for determining group preferences. Without passing judgment on what is the best way to aggregate preferences, the next section follows Fender [1995] and Hammond [1987] in using purely egoistic preferences as a benchmark for comparison.

ALTRUISM AND JOINT-DECISION-MAKING PROBLEMS

A true altruist will not intentionally seek personal gain at the expense of others. Therefore, rent seeking cannot exist in a purely altruistic society, but many of the problems associated with rent seeking can be caused by unselfish ideological differences. This section examines manipulation of the political process, the Ostrogorski paradox, the principle-agent problem, free riding, and the prisoners' dilemma, showing that, among altruists, behavior so similar to rent seeking exists that at times altruism is almost indistinguishable from rent seeking.

Manipulation of the Political Process: Logrolling, Cycling, Agenda Manipulation, and the Misrepresentation of Preferences

People tend to think of altruists as people who not only want the best for society but also always play by the rules, never lie, and never attempt to manipulate the process.⁷ Mueller [1989, 82] asserts that the existence of *logrolling* in the U.S. congress despite the moral stigma attached to it is evidence that members of Congress pursue selfish interests. Even Buchanan and Tullock [1965, 13], who otherwise define rational behavior quite broadly, say that the need for constitutional limitations on power comes from the fear that someone will exploit power for their own gain. But what does an altruist do when her beliefs about what outcome is best for society conflict with her reluctance to manipulate the political process? Apparently these authors assume that all altruists are extreme deontologists, who believe that it does

not matter what the outcome is as long as they behave fairly. In terms of the objective function: there is no amount of public benefit that she would accept in trade against her desire to behave fairly:

$$f(a_i) > W(g_j) \text{ for all } i, \text{ all } j, \text{ and all quantities of } g.$$

This is a one-sided conception of altruism. It is equally plausible that altruists are so committed to their beliefs about what outcomes are desirable, that they will use any means necessary to achieve their goals. It seems more reasonable that altruists care about both process and outcome, and that they must consider tradeoffs between the two.

Tullock [1984, 96-97] shows that unselfish desires of voters are no less likely to be traded by legislators than selfish desires of voters. He first demonstrates that it is difficult for a legislator to tell, and unimportant for her to know, whether the goals of her constituents are selfish or unselfish. In either case, candidates engage in both implicit and explicit vote trading to win enough support to get elected and reelected. Therefore, even if voters are ethical, representatives who are willing to trade votes are likely to replace those who are unwilling. But Tullock does not ask whether the legislator is herself ethical. Even if logrolling is not evidence of selfishness of voters, is it, as Mueller supposes, evidence of the selfishness of legislators? The following example shows that neither the willingness to trade votes nor any other manipulation of the political process provides any such evidence.

Consider the familiar problem of cutting the cake [Skaperda, 1998; Baron and Kalai, 1993]. Moe, Larry, and Curly have one cake and must decide by majority-rule how to divide it. If they vote selfishly, cycling results: Any two can divide the cake in half and cut out the third, but then the person left out can break the coalition by offering a better deal to either of the members. The person who is newly left out then offers a deal to break that coalition, and the process can go on forever without reaching a decision. Some mechanisms can deal with this problem in the presence of selfishness, but clearly the problem would disappear if voters were unselfish. If each of the three cared about the others as he cared about himself, and if the three did not differ in terms of some criteria of need or desert, the solution of cutting the cake into three even pieces is obvious—no voting paradox and no cycling.

But, with a slight change in the assumptions, three principled judges of what is just could have as much difficulty reaching a rational, democratic decision as the three self-interested voters. Assume a different situation: there is a kitchen that contains all the ingredients necessary to bake a cake. Moe arrives at the kitchen first, plants a flag, and claims the kitchen and all of its contents as his property. Then he steps out to buy a lock. While he's gone, Larry arrives, and bakes a cake with ingredients he finds in the kitchen. Finally, Curly arrives; through no fault of his own, he has been wandering in the desert for several weeks, and is on the verge of starvation.

A panel of three disinterested judges must decide who takes the cake or in what proportions to divide it. Their only goal is that the outcome is just. They all have a strong fairness function, so that each votes only for what he believes to be the most

TABLE 1
The Refusal to Logroll Paradox

Proposal	Judge A	Judge B	Judge C	Outcome
1 Moe takes the cake	Yes	No	No	No (2 to 1)
2. Larry takes the cake	No	Yes	No	No (2 to 1)
3. Curly takes the cake	No	No	Yes	No (2 to 1)
Result				No decision

just outcome. Judge A believes in pure property rights based on the principle of first-come-first-served; he votes that Moe take the entire cake. Judge B believes that a worker is entitled to the entire product of his labor and votes that Larry take the entire cake. Judge C believes in the principle from each according to their abilities, to each according to their needs, and noticing that both Moe and Larry are a little overweight and have no need for dessert, she votes that Curly take the entire cake. Table 1 shows the only possible outcome under these assumptions.

If each of the three judges votes only for what she believes to be just, they cannot give the cake to anyone; the only result is no decision. They can only make proposals, and have them defeated time after time or until the cake goes bad. Call it “the paradox of sincere voting” or “the refusal-to-logroll paradox.” The only way to reach a decision is to compromise, but that requires logrolling. At least two of the judges have to say to each other, “I will vote to distribute some of the cake based on your principle, if you vote to distribute some of the cake based on my principle.” It would be irrational for a judge to vote only for the most just outcome if doing so meant that the actual outcome was the worst possible outcome. Therefore, Mueller [1989, 82] is mistaken in his contention that vote trading is evidence that members of Congress pursue selfish interests. Rationality will force the fairest judge to trade votes.

If logrolling is something that the fairest judge in the world must do sometimes, what is the root of the moral stigma against it? Perhaps, each vote-trader resents the other legislators who forced him to trade a just vote for an unjust vote. If Judge A compromises with Judge B, whom he believes to be immoral, he may feel that he’s made a deal with the devil. He is disappointed that the outcome is not as just as it *should* be even though, given the immoral beliefs of the other judges, no fairer outcome is possible. People have a tendency to identify their own ideology with the good of society as a whole, and others’ ideologies with selfishness, and may believe that vote trading stems ultimately from the selfishness of others. Therefore, constituents may feel resentment that legislators must engage in vote trading while simultaneously being pleased in their legislator’s adeptness at doing so.

Cycling, which Tideman [1994, 350] supposes will arise when the majority asserts the public interest as a cover for private interests, can also happen among these disinterested judges. Judge A and B can decide to split the cake 50-50 between the owner and the worker, but Judge C can offer Judge A a 60-40 split between the owner and the needy, and so on. Thus, the same kind of cycling can exist between disinterested judges just as it can between Moe, Larry, and Curly. Both

Tideman and Young [1988] believe that cycles will be less likely and that competent judges will be more able to resolve them than self-interest advocates. I can see no reason, however, why the three disinterested parties (arguing from moral beliefs) would any more easily reach a three-way compromise, than the three interested parties (arguing from selfishness).

In fact, solutions that could work for selfish negotiators would not work for unselfish judges. Brams and Taylor [1995] extended the incentive-compatible “cut-and-choose” decision protocol to a multi-person setting. Three selfish people, who would like as much as they can get but who have some willingness to accept their “fair share” may well agree to a decision rule that will lead to all three being treated equally. But three disinterested judges who believe only their own judgment represents justice may not be willing to accept a process that treats different moral judgments as equally valid and that tries to obtain a “fair division” between the three. Only when there is some underlying agreement about what division constitutes fairness can such a solution be acceptable to opposing parties. Without it, a division of the spoils between only two parties may seem morally superior to equal division.

Cycling may be slightly less likely with a group if the judges differ in their moral distaste for vote trading. There are of course many explanations for stability using selfish assumptions [Tullock, 1981], but unselfishness may provide another. As a purely selfish person, the only object in Moe’s objective function is his own consumption:

$$U_M = C_M.$$

Therefore, Moe (like Larry and Curly) will have an incentive to make any trade that makes the final outcome more desirable. But, altruists have to deal with a fairness function. Thus, Judge A’s objective function would be:

$$O_A = C_M + f(\text{vote trading})$$

If Judge A has a greater moral repugnance against vote trading than the other judges, she will be more reluctant to compromise. The additional units of consumption she gets for Moe may not offset the disutility she receives from trading her vote. If Larry and Curly make a deal to split the cake in half, Moe goes home with nothing, and therefore he has every incentive to break that coalition. If Judges B and C make a deal, Judge A goes home with the satisfaction of believing that she was the only judge who behaved justly. It is hard to say whether this sort of tradeoff would lead to significantly less willingness to trade votes, when the vote trading of others is likely to lead one to have less respect for the purity of the political process and more willingness to trade votes. But for whatever it is worth, she has less incentive to break the coalition. To the extent that the fairness function affects behavior, the same unwillingness to logroll that made it more difficult to reach any outcome also makes it more likely that the decision, once reached, will be stable—not any more rational or democratic, but more stable.

Although logrolling may be necessary to reach a rational outcome in some cases, *misrepresentation of preferences* and *agenda manipulation* are not. Yet, the same

kinds of tradeoffs between a more just outcome and a more just process may make altruists willing to use these strategies. Suppose that Judge C is actually an egalitarian (prefers an equal distribution of cake) instead of an entitlement theorist. Seeing that A wants all the cake to go to Moe and B wants it all to go to Larry, it may be wise of A to pretend that she wants all of the cake to go to Curly in order to make the egalitarian solution appear to be a compromise. Again her willingness to do this depends on how she weighs the justness of the outcome against the fairness of her action. Similarly if she could manipulate the agenda in some way to reach her desired outcome, she may be willing to do so.

Thus, although unselfish people may have some desire to play by the rules, there is not one dirty trick (that we can say with certainty) an altruist will not play. Thus, the need for constitutional limits on power comes not only from the fear that someone will manipulate it for personal gain but also from the fear that someone will exploit it to promote her own conception of the public interest.

The Ostrogorski Paradox

The Ostrogorski paradox shows how the fulfillment of the majority's preferences can make everyone worse off, such as electing a candidate who holds a minority opinion on all issues [Kelly, 1989; Nermuth, 1992]. In one version, three voters use the majority rule to redistribute income. Each of the three possible majority coalitions votes to take two dollars from the third voter and redistributed it among themselves, but one dollar is lost in transactions costs. Thus, although each decision benefits the majority that votes for it, every voter is worse off than they would have been if none of the votes had taken place. This example involves pure rent seeking, and cannot happen if people are unselfish. Something very similar, however, can happen. Milton Friedman [1962] used an informal example in his book *Capitalism and Freedom* that was in fact an Ostrogorski paradox motivated solely by concern for the public interest. He argued that many different majority coalitions could be persuaded to ban many other kinds of speech and nearly everyone would find herself wanting to say something that had been banned by the majority. Thus, it would be possible, he hoped, for a majority coalition of voters to see that it is in the interest of society to ban the banning of any kind of speech.

The Ostrogorski paradox may be more difficult to resolve when individuals are altruistic than when they are selfish. Tullock [1984] argues that intellectuals could make a real contribution by pointing out the costs of special interest legislation, and hopefully the bulk of such legislation would not pass. Economists have made efforts for many years to point out these costs with little success. If voters are motivated purely by self-interest and these government actions are inefficient forms of rent seeking, it would be in the interest of everyone to form a broad coalition to ban all such government actions. Why has no such coalition formed?

The answer could be in public interest voting. If individuals see the government decisions that they favor as good for society as a whole and they see the government decisions that they oppose as unethical or as wasteful rent seeking, they may not see the connection between the two, or they may not feel that they should agree to ac-

cept reduced spending on just programs simply to get rid of wasteful programs. A broad ban on whatever spending might be motivated by rent seeking is bound to ban at least one program that each voter believes is just, and it may be impossible to form the broad coalition necessary to pass such legislation. Also, the belief in the social desirability of small government is itself an ideology that may be favored by those who have the least to gain from redistribution motivated by altruism and the most to lose from redistribution motivated by rent seeking. Proposals to reduce government waste (no matter how sincere) from a group with a small-government ideology are likely to be viewed suspiciously by people with other ideologies.

The Principal-Agent Problem

Would an altruistic politician be more or less faithful than a selfish politician to the concerns and desires of her constituents? The answer depends on how the politician views her role. If she believes she has been elected by her constituents to serve their interest, she may feel a duty to vote for their ideology over her own, and she would face a tradeoff between achieving the best outcome for society as she sees it and being fair to her constituents. If instead she believes she has been elected to use her own judgment, she will pursue her own vision of what is best for society constrained only by her desire to be reelected (so that she can continue to do what's best for society in her next term). That is, she would be no more constrained by the desires of her constituents than the selfish representative.

Yet, society's expectations of elected representatives seem to be schizophrenic. On the one hand, we want representatives who are faithful to their constituents' desires; on the other hand, we want bold leaders who are not afraid to take unpopular stands. Even some public choice economists who study problems of mechanism design recognize the desire for leaders who act on their own principles. Downs [1957] and Tullock [1984] both praise representatives who take unpopular stands as rare examples of principled behavior. This statement seems to imply that mechanisms are designed too well. If, on some issue, a representative knows better than the majority about what is in the long-term interests of society, she should have discretion to follow her own beliefs. But, from a constituent's point of view it makes little difference whether a representative misrepresents her preferences because of ideological differences or because of selfishness. Allowing representatives to have more discretion would also allow the representative to pursue her own agenda (whether selfish or ideological). Given that tradeoff, the much-berated pandering politician might be the best option available.

Will the principle-agent problem exist between legislatures and bureaucrats if both are altruistic? The usual model of bureaucracy assumes that a bureaucrat gains prestige by increasing the size of her own agency. Thus, she will mislead legislators about the needs of her agency in an attempt to make it as large as possible [Mueller 1989]. An altruistic bureaucrat would not seek to improve her prestige at the expense of society. However, having committed her career to an agency, a bureaucrat is likely to favor a larger version of her agency than the median legislator or the median voter. If these are differences of sincere belief about the net benefit to soci-

ety, the altruistic bureaucrat has an incentive to mislead legislators just as the prestige-seeking bureaucrat would (as long as her commitment to the fairness of the process doesn't get in the way).

Free Riding and the Prisoners' Dilemma

The classic case of a *free rider* (who believes that the benefits of a public good are greater than its cost, but still does not contribute to its production because she has no selfish incentive to do so) could not exist with purely altruistic individuals. Under some circumstances, however, altruists may take a free ride. For example, Tim would rather see public television disappear than pay any amount to support it. But as long as others are generous enough or foolish enough to create it, he has no guilt about receiving the signal, which clearly does no harm to anyone else. This is free riding without the free-rider problem: the free-rider problem is not that someone consumes something without paying for it but that someone who *would be willing* to pay for something has no incentive to do so. The guilt-free free rider is not willing to contribute voluntarily under any incentive structure, and so his lack of contribution is not a free-rider *problem*. The only efficiency problem here is that supporters of public television might waste effort trying to create a mechanism to give Tim an incentive to contribute. Supporters may believe that everyone who watches has a responsibility to contribute regardless of his personal preferences. This is a problem, but it is not the free-rider problem; it is the problem of agreeing to a group preference.

The *prisoners' dilemma* changes character when players are altruistic. Take for example the classic prisoners' dilemma above with two players—George and Jerry. Table 2 shows their payoffs from a purely egoistic standpoint. Suppose George and Jerry are both altruists who maximize the following objective function:

$$O_i = P_G + P_J + f(a_i),$$

where, P_J = Jerry's payoff, P_G = George's payoff, and $f(a_i)$ is the fairness function. Assume player i 's fairness function is affected only by her own actions, with the following payoff structure:

$$\begin{aligned} f(a_i) &= 1, \text{ if player } i \text{ cooperates.} \\ f(a_i) &= 0, \text{ if player } i \text{ does not.} \end{aligned}$$

Table 3 shows the payoff structure of this game in terms of the unselfish payoff structures (with the egoistic payoffs in parentheses).

This is not a very interesting game. Cooperation always dominates. There is no prisoners' dilemma. Many authors before have shown that altruism can solve the prisoners' dilemma [Parfit, 1984]. Sen criticizes economists for ascribing cooperative behavior in prisoners' dilemma experiments not to unselfishness but to the inability to understand the game [Sen, 1977]. Fender [1995] draws the same conclusion about altruism and the standard prisoners' dilemma, but also shows a case in which extreme altruism can cause a prisoners' dilemma. All that is necessary to create this

TABLE 2
Simple Prisoners' Dilemma

		George (2)	
		Cooperate	Don't cooperate
Jerry (1)	Cooperate	1, 1	-1, 2
	Don't cooperate	2, -1	0, 0

TABLE 3
Altruists Play the Prisoner's Dilemma Game

		George	
		Contribute	Don't contribute
Jerry	Contribute	3 (1), 3 (1)	0 (2), 2 (-1)
	Don't contribute	2 (-1), 0 (2)	-1 (0), -1 (0)

TABLE 4
The Altruists' Dilemma

		George	
		Cooperate	Don't cooperate
Jerry	Cooperate	1, 1	2, -1
	Don't cooperate	-1, 2	0, 0

altruists' dilemma is to assume that each player wants to maximize the other player's egoistic payoff, and to reverse the benefits from not cooperating, as in Table 4.

If both George and Jerry are willing to sacrifice their own private benefits to maximize the other's, neither cooperates, and both end up with nothing. Unselfishly trying to benefit your neighbor at your own expense can create the same kind of problems as selfishly trying to benefit yourself at your neighbor's expense. But such a result relies on a very strong desire to sacrifice oneself for others: why do the two players care so much about the other's egoistic payoffs when neither cares much about their own? Fender concludes that it is not a situation that is very likely to happen.

Could a prisoners' dilemma exist with individuals who cared equally about themselves and others, but had ideological differences? One could imagine a wealthy egalitarian giving his money to a poor libertarian who gives it right back rather than violate his distaste for charity. If they lose some money in transactions costs, both end up worse off, but that again doesn't sound very likely. It does not seem possible to create a prisoners' dilemma without either selfishness or very extreme unselfishness. However, people who care equally about each other can face a closely related problem. Assume George and Jerry are both strict utilitarians who maximize the total payoff to society as a whole, with no concern for distribution, and they face a game with the payoff structure in Table 5. If one fails to cooperate, while the other cooperates, the increase in his own benefit would outweigh the cost to the other. But if both attempt to increase the benefit to society by failing to cooperate, both become worse off. However, if one does not contribute, the other has the incentive to contrib-

TABLE 5
The Utilitarians' Dilemma

		George	
		Cooperate	Don't cooperate
Jerry	Cooperate	1, 1	0, 4
	Don't cooperate	4, 0	-1, -1

TABLE 6
Jerry's Perception of the Game

		George	
		Contribute	Don't contribute
Jerry	Contribute	-1, -1	-1, 0
	Don't contribute	0, -1	0, 0

TABLE 7
A Contribution Game among Altruists
Who Have Different Perceptions of the Value of
Contributions

		George	
		Contribute	Don't Contribute
Jerry	Contribute	-2 (-1), 3 (1)	-1 (-1), 0 (2)
	Don't Contribute	-1 (0), 2 (-1)	0 (0), -1 (0)

ute (as long as she maximizes the total payoff to society as a whole), and the game has two Nash equilibriums [(0,4) and (4,0)], and which to choose becomes a coordination problem, and both Fender [1995] and Binmore [1994; 1998] have demonstrated that altruism does not solve coordination problems.

The more interesting case, from the perspective of differing visions of what is good for society, is that in which the two fundamentally disagree about what the cooperative outcome is. In such a case, the prisoners' dilemma does not exist, but can appear to exist. Suppose George and Jerry consider voluntarily contributing to a joint project; George believes the project is good for both of them, while Jerry believes the project is worthless. George perceives the game as a typical prisoners' dilemma, just as in Table 2. Jerry perceives the game very differently with the purely egoist payoffs shown in Table 6.

George seeks to maximize the social welfare function as he sees it, which is the same as the one specified in Table 3. Jerry seeks to maximize a social welfare function based on the egoist payoffs as she sees them in Table 6. Because he sees no benefit at all from contributing to this project, he need not have any fairness function in his social welfare function. His social welfare function is simply:

$$W_2 = P_1 + P_2.$$

If both players seek to maximize their own social welfare function, the payoff structure is shown in Table 7. The number in parentheses shows their purely egoistic payoffs.

The equilibrium in this game is in the lower left cell: George contributes and Jerry does not. If George thinks Jerry's behavior comes from selfishness rather than from a differing view of what's good for society, he might try to punish Jerry by not contributing, but that is hardly punishment for Jerry, and won't introduce any change in his strategy. George would be better off from an egoist perspective if he stopped cooperating, but his fairness function prevents him from doing so. This kind of commitment to fairness could explain the observation in game theory experiments, in which some players continue to contribute to the cooperative fund after it is apparent that they will not induce others to contribute. If George's fairness function is affected by Jerry's action, his payoffs could change to make neither contributing the equilibrium. Jerry's behavior does not reveal to George whether he truly disagrees with the goals of the cooperative project or whether he is playing his selfish payoffs in a normal prisoners' dilemma. Thus, George may misidentify a free-riding problem where none exists.

Disagreement about the value of the goal of a project can also cause gradual desertion from voluntary cooperation, just as selfish free riding can. Suppose Jerry, George, and Cosmo are three altruists considering voluntary contributions to a joint project. Jerry opposes the project and will not contribute. George contributes as long as everyone contributes. Cosmo contributes as long as at least one other person contributes. If Cosmo and George contribute in the first round, George will desert in the second, which will induce Cosmo to give up in the third. From all appearances, this coalition fell apart because of free riding. Nothing in Jerry's behavior reveals that he is a dissenter and not a free rider.

George and Cosmo might try to solve the free-rider problem by using their power as the majority to force everyone to contribute. From George and Cosmo's perspective, they have simply found a socially beneficial solution to the free-rider problem, but from Jerry's perspective he is the victim of *rent seeking*. Whether rent seeking exists or not depends on whether the definition of rent seeking requires malice. If rent seeking means seeking selfish benefit at the expense of someone else, there is no rent seeking here, but if rent seeking means imposing your vision of the good society on someone else against his will, there is rent seeking here.⁸ Thus, some part of what we call free riding and rent seeking is actually the results of ideological clashes.

It may be almost impossible to solve the free-rider problem without committing this form of rent seeking. To see this, depart from the assumption of pure altruism, and suppose that every person except one believes that a certain public good is desirable and worth the cost. The large coalition of those willing to contribute cannot sustain voluntary contributions because of the free-rider problem. They are willing to sign an agreement to contribute if everyone else contributes, but they cannot leave out the one person who is ideologically opposed, because that would give anyone in the coalition the ability to free ride by claiming ideological opposition. The coalition of supporters cannot solve their own free-rider problem without harming

the one who is truly opposed to the project. That is, as long as someone is ideologically opposed, the majority cannot solve its free-riding problem without being guilty of ideological rent seeking, or conversely society cannot eliminate rent seeking (by leaving public goods spending to voluntary contributions only) without allowing public goods to be under-produced because of free riding.

CONCLUSION

The assumption of selfishness is often justified on the grounds that people very often behave selfishly. But that assumption is also justifiable on the grounds that as long as people disagree about what the public interest is, the assumption of selfishness works pretty well as a simplification. A close look at public-choice problems under the assumption of altruism shows that altruism doesn't eliminate most public-choice problems, although it changes the character of some. Any manipulation of the political process (including logrolling, agenda manipulation, and misrepresentation of preferences) can exist even if altruists are less willing to do these things than egoists. To say that these actions cannot exist would be to assume that participants always care more about the fairness of the decision-making process than they do about the justness of the outcomes of that process. Ideological differences can create the Ostrogorski paradox and make it more difficult to resolve than if interests were purely selfish. The principle-agent problem is not likely to be much different under the altruistic assumption. The prisoners' dilemma exists if people are either selfish or extremely selfless, but generally goes away if people care equally about themselves and others. However, it takes only a small amount of selfishness to make free-riding and prisoners'-dilemma situations reappear, and therefore the attention to them is justified. Free riding can exist, however, even if the free-rider problem does not. Under altruistic assumptions in many cases, people who appear to be "free riding" or "rent seeking" are actually behaving unselfishly according to their own ideology.

As long as individuals are rational, public choice is irrelevant only in those very few issues on which a majority of citizens, bureaucrats, and politicians not only behave unselfishly but also share a wide agreement about what constitutes the public interest. Why consensus exists on some issues and not others is an interesting question to the theory of preference formation. But how altruists behave once a true consensus exists is not very interesting from the standpoint of a theory of public decision-making. The hope that Tideman [1994] and Young [1988] have for a reduction in the extent of joint decision-making problems is premature. As long as participants are rational and disagree, public choice theory cannot be safely ignored, whether participants are selfish or unselfish.

NOTES

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1. As quoted by Brittan [1995, 3].
2. Buchanan and Tullock [1965] do say that utility maximization need not be narrowly hedonistic, and that as long as utility functions differ, the theory of collective choice should be of some positive worth, but they do not examine what worth it would be and how it would be need to be adapted for such cases.

3. For summaries of both theoretical and empirical evidence, see Ostrom [2000] and Fehr and Schmidt [2001].
4. Nozick [1974] uses a similar list of personalities to illustrate the difficulty of determining one utopia for everyone.
5. But since this paper deals with the public sphere, these preferences need not be nosy, although they may be arrogant.
6. For example no amount of altruism will tell you whether it is better for you to drive on the right or the left side of the road.
7. Tideman [1994] and Young [1988] are examples.
8. The difference between this point and Klein [1994] is important. He explains how people believe in principles that are consistent with their self-interest so that behavior that appears to be cynical may actually be principled. (Such as the lobbyist for the defense industry who sincerely believes that a nuclear defense shield is necessary.) The argument here is that policies based on a principled belief of what is good for society are just as harmful to those who oppose those policies on principle as selfish policies are to people who oppose those policies out of self-interest. (Such as the hawk with no personal connection to the defense industry who forces a nuclear defense shield on society as a whole solely because she believes it to be best for society, even though she knows that society includes doves who do not agree that a defense shield is best for society as a whole.)

REFERENCES

- Aldrich, J.** When Is It Rational to Vote? in *Perspectives on Public Choice*, edited by D. C. Mueller. New York: Cambridge University Press, 1997, 373-90.
- Arrow, K.** *Social Choice and Individual Values*. New York: John Wiley and Sons, 1951.
- _____. Optimal and Voluntary Income Distribution in *Economic Welfare and Economics of Soviet Socialism: Essays in Honor of Abram Bergson*. Edited by S. Rosefielde. Cambridge: Cambridge University Press, 1981, 267-88.
- Baron, D. and Kalai, E.** The Simplest Equilibrium of a Majority-Rule Division Game. *Journal of Economic Theory*, December 1993, 290-301.
- Becker, G.** A Theory of Social Interactions. *Journal of Political Economy*, November-December 1974, 1063-93.
- Bergstrom, T. and Stark, O.** How Altruism Can Prevail in an Evolutionary Environment. *American Economic Review*, May 1993, 149-55.
- Binmore, K.** *Game Theory and the Social Contract Volume 1: Playing Fair*. Cambridge, MA: The MIT Press, 1994.
- _____. *Game Theory and the Social Contract Volume 2: Just Playing*. Cambridge, MA: The MIT Press, 1998.
- Boyd, R. and Richerson, P.** Culture and Cooperation, in *Beyond Self-Interest*, edited by J. Mansbridge. Chicago: University of Chicago Press, 1990.
- Brams, S. and Taylor A.** An Envy-Free Cake Division Protocol. *American Mathematical Monthly*, January 1995, 9-18.
- Brittan, S.** Economics and Ethics, in *Market Capitalism and Moral Values*, edited by S. Brittan and A. Hamlin. Brookfield, VT: Edward Elgar Publishing Company, 1995, 1-23.
- Brittan, S. and Hamlin, A.**, eds. *Market Capitalism and Moral Values*. Brookfield, VT: Edward Elgar Publishing Company, 1995.
- Buchanan, J. and Tullock, G.** *The Calculus of Consent*. Ann Arbor: University of Michigan Press, 1962.
- Dawes, R. M., van de Kragt, A., and Orbell, J. M.** Cooperation for the Benefit of US—Not Me, or My Conscience, in *Beyond Self-Interest*, edited by J. Mansbridge. Chicago: University of Chicago Press, 1990.
- Dawes, R. and Thaler, R.** Cooperation. *Journal of Economic Perspectives*, Summer 1988, 187-97.
- Dowell, R., Goldfarb, R., and Griffith, W.** Economic Man as a Moral Individual. *Economic Inquiry*, October 1998, 645-53.
- Downs, A.** *An Economic Theory of Democracy*. New York: Harper & Row, 1957.
- Eichenberger, R. and Oberholzer-Gee, F.** Rational Moralists: The Role of Fairness in Democratic Economic Politics. *Public Choice*, January 1998, 191-210.
- Etzioni, A.** A Case for a Multiple Utility Conception. *Economics and Philosophy*, October 1986, 159-83.
- Fehr, E. and Schmidt, K.** Theories of Fairness and Reciprocity—Evidence and Economic Applications. Discussion Paper No. 2703, Center for Economic Policy Research, London, 2001.

- Fender, J.** Altruism, Ethics, and Economics: The Significance of Non-egoistic Preferences for Economics, in *Market Capitalism and Moral Values*, edited by S. Brittan and A. Hamlin. Brookfield, VT: Edward Elgar Publishing Company, 1995, 120-36.
- Friedman, M.** *Capitalism and Freedom*. Chicago: The University of Chicago Press, 1962.
- Goodin, R. E. and Roberts, K.** The Ethical Voter. *American Political Science Review*, December 1975, 926-28.
- Hammond, P.** Altruism, in *The New Palgrave: A Dictionary of Economics*, edited by J. Eatwell, M. Milgate, and P. Newman. New York: Stockton Press, 1987, 85-87.
- Harsanyi, J.** Cardinal Utility in Welfare Economics and the Theory of Risk-Taking. *Journal of Political Economy*, October 1953, 434-35.
- _____. Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility. *Journal of Political Economy*, August 1955, 309-321.
- _____. *Rational Behavior and Bargaining Equilibrium in Games and Social Situations*. New York: Cambridge University Press, 1977.
- Hochman, H. and Rogers, J.** Pareto Optimal Redistribution. *American Economic Review*, September 1969, 542-57.
- Hylland, A.** The Purpose and Significance of Social Choice Theory: Some General Remarks and an Application to the 'Lady Chatterly Problem,' in *Foundations of Social Choice Theory*, edited by J. Elster and A. Hylland. New York: Cambridge University Press, 1986, 45-74.
- Jencks, C.** Varieties of Altruism, in *Beyond Self-Interest*, edited by J. Mansbridge. Chicago: University of Chicago Press, 1990, 54-67
- Kelly, J.** Conjectures and Unsolved Problems: 6. The Ostrogorski Paradox. *Social Choice and Welfare*, January 1989, 71-76.
- Klein, D.** If Government Is So Villainous, How Come Government Officials Don't Seem Like Villains? *Economics and Philosophy*, April 1994, 91-106.
- Mansbridge, J.**, ed. *Beyond Self Interest*. Chicago: University of Chicago Press, 1990.
- Margolis, H.** *Selfishness, Altruism, and Rationality: A Theory of Social Choice*. Chicago: University of Chicago Press, 1982.
- _____. Dual Utilities and Rational Choice, in *Beyond Self-Interest*, edited by J. Mansbridge. Chicago: University of Chicago Press, 1990.
- Mueller, D.** *Public Choice II*. Cambridge University Press. New York, NY, 1989.
- Nermuth, M.** Two-Stage Discrete Aggregation: The Ostrogorski Paradox and Related Phenomena. *Social Choice and Welfare*, April 1992, 99-119.
- Nozick, R.** *Anarchy, State, and Utopia*. New York: Basic Books, 1974.
- Olson, M.** *The Logic of Collective Action*. Cambridge, MA: Harvard University Press, 1965.
- Ostrom, E.** Collective Action and the Evolution of Social Norms. *Journal of Economic Perspectives*, Summer 2000, 137-58.
- Parfit, D.** *Reasons and Persons*. New York: Oxford University Press, 1984.
- Russell, B.** *Human Society in Ethics and Politics*. London: Routledge, (1854) 1992.
- Samuelson, P.** *Foundations of Economic Analysis*, 1947.
- _____. Altruism as a Problem Involving Group versus Individual Selection in Economics and Biology. *American Economic Review*, May 1993, 143-48.
- Sen, A.** The Impossibility of a Paretian Liberal. *Journal of Political Economy*, January-February 1970, 152-57.
- _____. Welfare Inequalities and Rawlsian Axiomatics. *Theory and Decision*, 1976, 243-62.
- _____. Rational Fools: A Critique of the Behavioral Foundations of Economic Theory. *Journal of Philosophy and Public Affairs* 6, Summer 1977, 317-344.
- _____. Social Choice, in *The New Palgrave: A Dictionary of Economics*, edited by J. Eatwell, M. Milgate, and P. Newman. New York: Stockton Press, 1987, 382-93.
- _____. *Inequality Reexamined*. Cambridge, MA: Harvard University Press, 1992.
- _____. Moral Codes and Economic Success, in *Market Capitalism and Moral Values*, edited by S. Brittan and A. Hamlin. Brookfield, VT: Edward Elgar Publishing Company, 1995, 23-34.
- _____. On the Status of Equality. *Political Theory*, August 1996, 394-400.
- _____. The Possibility of Social Choice. *The American Economic Review*, June 1999, 349-78.
- Simon, H.** Altruism and Economics. How Altruism Can Prevail in an Evolutionary Environment. *American Economic Review*, May 1993, 156-61.

- Skaperda, S.** On the Formation of Alliances in Conflict and Contests. *Public Choice*, July 1998, 25-42.
- Thoreau, H.** *Walden or Life in the Woods*. New York Oxford University Press, (1854) 1906.
- Tideman, N.** Capacities and Limits of Democracy. *The American Economic Review*, May 1994, 349-52.
- Tullock, G.** Why So Much Stability? *Public Choice*, 189-202, 1981.
- _____. A (Partial) Rehabilitation of the Public Interest Theory. *Public Choice*, 1984, 89-99.
- _____. Public Choice, in *The New Palgrave: A Dictionary of Economics*, edited by J. Eatwell, M. Milgate, and P. Newman. New York: Stockton Press, 1987, 1040-44.
- Udehn, L.** *The Limits of Public Choice*. New York: Routledge. 1996.
- Young, H. P.** Condorcet's Theory of Voting. *American Political Science Review*, December 1988, 1231-44.

