

## WAYS OF CRITICIZING PUBLIC CHOICE: THE USES OF EMPIRICISM AND THEORY IN LEGAL SCHOLARSHIP

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*Public choice theory has been used to explain a wide range of observable facts. It has also been influential in legal scholarship. In Part I of this article, Tom Ginsburg reviews the main premises behind public choice theory and discusses how these premises have fared when tested empirically. In this section, for example, the author discusses how casual empirical observation of the “free rider” problem suggests that individuals do not always seek to maximize their own self-interest. The author further points out that additional studies, like Ostrom’s empirical observations of a Turkish fishery, are necessary in order to explain why individuals cooperate and contribute to public goods—and why they do not.*

*In Part II, the author considers a revised theory of collective action with different implications for the prospect of democratic government. The revised theory models society as made up of three characters: (1) pure rational actors, (2) conditional cooperators, and (3) willing punishers. This model is more consistent with observed behavior than earlier public choice theories and enables researchers to focus on specific problems that would otherwise be difficult to examine. The author goes on to discuss the normative implications of public choice theory and concludes with a discussion of the role of positive and normative theories in law and social science.*

In a classic essay applying public choice to law, Frank Easterbrook utilized Arrow’s theorem to argue that it was not fair to criticize the Supreme Court for inconsistency.<sup>1</sup> Arrow’s theorem holds that, under certain conditions, democratic systems of collective preference aggregation

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1. Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802, 823–29 (1982).

are logically incapable of producing consistent results.<sup>2</sup> Easterbrook argued that we should not criticize the court for inconsistency, for inconsistency is to be expected in collective decision-making bodies using majority rule. To demand consistency over time from the court is to demand that it be a different institution than it is.

Public choice has been influential—and controversial—in legal scholarship. It has been utilized to support a wide range of arguments about statutory interpretation, judicial review of administrative action, and the locus of decision making in the modern state. However, it has been criticized for lack of empirical support and for its methodological approach. It has been accused of having conservative normative implications and a pessimistic view of democracy.

This article considers the role of public choice in legal scholarship along with some of the criticisms of public choice. It begins with a review of the main propositions of public choice and summarizes the empirical literature testing them. The evidence shows that the criticism that public choice lacked empirical support was partly correct, and that the negative implications drawn from public choice theory have not been supported by empirical testing. Rather than abandon the theory, scholars refined their propositions to reflect experimental results and have more explanatory power. These modifications of public choice propositions have very different implications for the prospect of democratic government than the traditional theory. After discussing some of these implications, the article concludes with a discussion of the roles of theory and empiricism in legal scholarship.

## I. WHAT IS PUBLIC CHOICE?

### A. *Public Choice and Its Influence*

Dennis Mueller describes public choice as the application of economics to political science.<sup>3</sup> Although legal scholars usually describe public choice as a unified “theory,” public choice is better thought of as a series of hypotheses about a common subject matter that are linked by a

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2. *Id.* at 824 (“circular preferences, path dependence, and other problems are endemic to collective decisionmaking systems.”). See generally KENNETH J. ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (2d ed., 1963). The five assumptions that cannot all coexist with rational decision making are: (1) range, that all participants can rank all choices; (2) universal domain, that all aggregate rankings are possible; (3) unanimity, that any Pareto optimal proposal will be adopted; (4) nondictatorship, that no preferences are imposed; and (5) independence of irrelevant alternatives, that only pair wise voting proceeds at each step. See also FRANCESCO PARISI, *DESIGN OF LAWMAKING 5* (George Mason University Law and Economics Working Paper No. 00-42, 2000).

3. Dennis C. Mueller, *Public Choice in Perspective*, in *PERSPECTIVES ON PUBLIC CHOICE 1* (Dennis C. Mueller ed., 1997); see also DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE 1* (1991) (stating that public choice is the “application of the economist’s methods to the political scientist’s subject”).

common methodology.<sup>4</sup> The economic pedigree of public choice can be seen in three aspects of its approach: its commitment to methodological individualism; its adoption of the simplifying assumption that individuals act rationally in seeking to maximize given preferences; and its method of proceeding deductively through the development of axiomatic theoretical propositions, rather than developing lower-order theories based on empirical observation.<sup>5</sup> Public choice takes its subject matter from political science. Problems that it addresses include the difficulty of coordinating multiple actors and aggregating preferences in collective decision making. Public choice scholarship has addressed virtually every aspect of the political process including voting, interest group formation, the internal structure of political institutions, and the dynamics of political interaction within a constitutional system.<sup>6</sup>

Public choice theory is now a well developed and influential body of scholarship.<sup>7</sup> As Mueller's description suggests, public choice involves questions that span different social science disciplines, and practitioners of public choice are as likely to be found in political science and economics departments as in law schools. Although public choice has been criticized for lack of empirical support,<sup>8</sup> there is a huge body of empirical work on the propositions put forth by public choice theorists. This literature includes works in economics,<sup>9</sup> sociology,<sup>10</sup> political science,<sup>11</sup> his-

4. See also James Johnson, *How Not to Criticize Rational Choice Theory*, 26 PHIL. SOC. SCI. 77, 81-84 (1996) (reviewing DONALD P. GREEN & IAN SHAPIRO, *PATHOLOGIES OF RATIONAL CHOICE THEORY: A CRITIQUE OF APPLICATIONS IN POLITICAL SCIENCE* 5-7 (1994)) (stating that rational choice theory is a "research tradition" bound together by a few central assumptions).

5. See generally Mueller, *supra* note 3, at 3-8. For a typical statement of economic assumptions, see GARY S. BECKER, *THE ECONOMIC APPROACH TO HUMAN BEHAVIOR* 14 (1976) (stating that people "maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets").

6. See PUBLIC CHOICE AND PUBLIC LAW (Maxwell L. Stearns ed., 1997) (presenting an overview) [hereinafter PUBLIC CHOICE]; Mueller, *supra* note 3, at 1-2 (same).

7. See, e.g., David M. Woodruff, *Power and Prosperity by Mancur Olson*, 10 E. EUR. CONST. REV. 97, 97 (Winter 2001) (book review) (describing Olson's *Logic of Collective Action* as "perhaps the most famous of all twentieth-century monographs in social science").

8. Mark Kelman, *On Democracy-Bashing: A Skeptical Look at the Theoretical and "Empirical" Practice of the Public Choice Movement*, 74 VA. L. REV. 199, 201-05 (1988); see also GREEN & SHAPIRO, *supra* note 4, at 6-7. Although Green and Shapiro criticize the use of rational choice in general, much of their criticism is in fact directed more narrowly at the foundational models of public choice. See *id.* at 47-178 (discussing voting, Arrow's theorem and collective action theory). Compare *id.*, with THE RATIONAL CHOICE CONTROVERSY: ECONOMIC MODELS OF POLITICS RECONSIDERED (Jeffrey Friedman ed., 1996).

9. John O. Ledyard, *Public Goods: A Survey of Experimental Research*, in HANDBOOK OF EXPERIMENTAL ECONOMICS 111, 121 (John H. Kagel & Alvin E. Roth eds., 1995).

10. See, e.g., MICHAEL HECHTER, *PRINCIPLES OF GROUP SOLIDARITY* (1987).

11. See, e.g., DENNIS CHONG, *COLLECTIVE ACTION AND THE CIVIL RIGHTS MOVEMENT* (1991); RUSSELL HARDIN, *COLLECTIVE ACTION* (1982); TERRY M. MOE, *THE ORGANIZATION OF INTERESTS: INCENTIVES AND THE INTERNAL DYNAMICS OF POLITICAL INTEREST GROUPS* (1980); GEORGE TSEBELIS, *NESTED GAMES: RATIONAL CHOICE IN COMPARATIVE POLITICS* (1990); Norman Schofield, *Constitutional Political Economy: On the Possibility of Combining Rational Choice Theory and Comparative Politics*, 3 ANN. REV. POL. SCI. 277 (2000).

tory,<sup>12</sup> international relations,<sup>13</sup> and many other disciplines. Similarly, despite the axiomatic and theoretical way in which the original propositions have been generated, there is now a rich experimental literature that will be discussed below.<sup>14</sup>

Public choice has also been influential in legal scholarship.<sup>15</sup> A search of citations to well-known social scientists in the Westlaw database reveals the extent of the influence of public choice theory. The following table lists several prominent social scientists and the number of citations in the database as of August 1, 2001.<sup>16</sup> To qualify, the social scientist must have done his or her primary research and teaching outside a law school. This disqualified, for example, Ronald Coase (1285 cites). I also limit the choice to social scientists, so the highly influential work of philosophers such as John Rawls, Jurgen Habermas and Michel Foucault is not considered.

TABLE 1  
SOCIAL SCIENTIST CITATIONS IN WESTLAW

Rank	Name	Citations
1	Gary Becker	1320
2	Milton Friedman	1238
3	Max Weber	1179
4	Oliver Williamson	1114
5	George Stigler	1194
6	Kenneth Arrow	1099
7	Friedrich Hayek	1086
8	Karl Marx	1038
9	James Buchanan	979
10	James Q. Wilson	949
11	Mancur Olson	876
12	Sigmund Freud	807
13	Harold Demsetz	748
14	Robert Dahl	743

(Continued on next page)

12. ROBERT H. BATES ET AL., *ANALYTIC NARRATIVES* (1998); John Ferejohn, *Rationality and Interpretation: Parliamentary Elections in Early Stuart England*, in *THE ECONOMIC APPROACH TO POLITICS* 279 (Kristen Renwick Moore ed., 1991); see also Jon Elster, *Rational Choice History: A Case of Excessive Ambition*, 94 *AM. POL. SCI. REV.* 685, 685-91 (2000) (criticizing Bates et al. for failing to address critiques of rational choice scholarship).

13. See ROBERT POWELL, *IN THE SHADOW OF POWER: STATES AND STRATEGIES IN INTERNATIONAL POLITICS* (1999); Stephen M. Walt, *Rigor or Rigor Mortis? Rational Choice and Security Studies*, 23 *INT'L SECURITY* 5 (1999).

14. See *infra* text accompanying notes 53-64.

15. But see Saul Levmore, *The Public Choice Threat*, 67 *U. CHI. L. REV.* 941, 942 (2000) (“[u]nlike law and economics, which has entered a mature phase, public choice is an infant movement in law”).

16. To select scholars, I examined the bibliographies of introductory textbooks and overviews of several social science disciplines. I entered a query for major authors in the form <first name> w/3 <last name> so as to capture instances where a middle initial was included. Of some four dozen prominent names entered, the top twenty are presented in the table.

TABLE 1—*Continued*

Rank	Name	Citations
15	Jon Elster	717
16	Daniel Kahneman	709
17	Clifford Geertz	665
18	Gordon Tullock	664
19	Emil Durkheim	636
20	Paul Samuelson	600

The table demonstrates the influence of economics in general, and public choice in particular, on legal scholarship. Depending on how one characterizes figures such as Marx, between two-thirds and three-quarters of the scholars were trained in, taught, or significantly influenced economics. Five scholars whose ideas are associated with public choice—Arrow, Buchanan, Olson, Stigler, and Tullock—are among the top twenty social scientists cited. Others whose work intersects significantly with public choice are Becker and Demsetz. Finally, it is worth noting that Kahneman, whose work with Amos Tversky in behavioral psychology has been foundational in the new behavioral law and economics movement, is largely responding to assertions found in public choice literature about rational action.<sup>17</sup>

Given the broad influence of public choice ideas, it would be impossible to summarize the entire scope of the relevant literature, which has been central to several social science disciplines in the last three decades.<sup>18</sup> However, the next section provides a brief overview of two strands of the literature and notes that, in many areas, empirical work has produced results that differ from the propositions put forward by the theory. Where the theory has been optimistic, results have been worse than expected. Where the theory has been pessimistic, results have sometimes been better than expected.

### B. *Arrow's Theorem*

The modern version of public choice literature stems from Kenneth Arrow's classic work on the aggregation of individual preferences, mentioned at the outset of this article.<sup>19</sup> Arrow's impossibility theorem generalizes the eighteenth-century Condorcet paradox.<sup>20</sup> With three choices and three sincere voters, whose individual preferences are ranked numerically and transitive (meaning that when a person prefers *A* to *B* and

17. See BEHAVIORAL LAW AND ECONOMICS (Cass R. Sunstein ed., 2000).

18. See GREEN & SHAPIRO, *supra* note 4, at 7 (stating that it is impossible to provide a complete evaluation of the literature on rational choice theory).

19. ARROW, *supra* note 2, at 11–21; see also PUBLIC CHOICE, *supra* note 6, at xvii–xxii (providing a brief history of public choice ideas).

20. This had been recently given attention by Duncan Black, *On the Rationale of Group Decision Making*, 56 J. POL. ECON. 23 (1948). On the relation between Black's work and Arrow's, see Ronald Coase, *Foreword*, in THE THEORY OF COMMITTEES AND ELECTIONS (Ian McLean et al. eds., 1998).

*B* to *C*, she also prefers *A* to *C*), there is no voting mechanism that will prevent cycling among the options in pair wise voting. In other words, any choice that beats another will in turn be beaten when paired against the third. The outcome will depend entirely on the order in which the choices are presented. Thus, control over the agenda is crucial for determining outcomes.<sup>21</sup>

The implication of Arrow's work for the possibility of democracy is highly pessimistic. It suggests that private interests may successfully seek to manipulate the agenda of collective choice institutions, like legislatures, so as to achieve their own narrow goals at the expense of the broader public. This prediction had been apparent in political science studies for some time.<sup>22</sup> Where Arrow's finding went further was to suggest that the very concept of a public interest was theoretically incoherent. Because the outcome of collective choice mechanisms was inherently unstable and reflected mere agenda control or perhaps insincere voting on the part of strategic actors, the idea that collective choices reflected the "true" public interest was suspect.

Arrow's problem also suggested that careful consideration should be given to constitutional design and to the design of political institutions in general.<sup>23</sup> Voting rules, procedures, and norms in the legislature could provide coherence and help overcome agenda control problems.<sup>24</sup> Investigating those mechanisms, political scientists reinterpreted the organization of Congress from a public choice perspective.<sup>25</sup> For example, the committee system of Congress was characterized as a device to help monitor administrative agencies and provide control over the agenda so as to prevent cycling problems. The normative implication was to design agenda control and aggregation mechanisms so as to minimize the possibility of private capture of the process while also ensuring that legislative gridlock did not ensue. This question of optimal design has recently re-

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21. See, e.g., ROBERT D. COOTER, *THE STRATEGIC CONSTITUTION* 43-46 (2000) (describing the process in which agenda setting chooses outcomes).

22. See CHARLES A. BEARD, *AN ECONOMIC INTERPRETATION OF THE CONSTITUTION OF THE UNITED STATES* (1948); ALAN PEACOCK, *PUBLIC CHOICE ANALYSIS IN HISTORICAL PERSPECTIVE* (1992); E.E. SCHATTSCHEIDER, *POLITICS, PRESSURES AND THE TARIFF: A STUDY OF FREE PRIVATE ENTERPRISE IN PRESSURE POLITICS, AS SHOWN IN THE 1920-1930 REVISION OF THE TARIFF* (1935).

23. See Levmore, *supra* note 15, at 942-43.

24. FARBER & FRICKEY, *supra* note 3, at 47-62. For literature discussing the inner workings and structures of Congress, see GARY COX & MATHEW D. MCCUBBINS, *LEGISLATIVE LEVIATHAN: PARTY GOVERNMENT IN THE HOUSE* (1993); MORRIS P. FIORINA, *CONGRESS: KEYSTONE OF THE WASHINGTON ESTABLISHMENT* (1977); KEITH KREHBIEL, *INFORMATION AND LEGISLATIVE ORGANIZATION* (1991); *POSITIVE THEORIES OF CONGRESSIONAL INSTITUTIONS* (Kenneth A. Shepsle & Barry R. Weingast eds., 1995) [hereinafter *POSITIVE THEORIES*].

25. See *CONGRESS: STRUCTURE AND POLICY* (Mathew D. McCubbins & Terry Sullivan eds., 1987); *POSITIVE THEORIES*, *supra* note 24; Jonathan R. Macey, *Public Choice and the Law*, in 3 *NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW* 171, 174-76 (Peter Newman ed., 1998); Barry R. Weingast & William J. Marshall, *The Industrial Organization of Congress; or, Why Legislatures, Like Firms, Are Not Organized as Markets*, 96 *J. POL. ECON.* 132 (1988).

ceived increasing attention in the literature.<sup>26</sup> Other research on Arrow's problem has proceeded primarily through formal modeling and has remained at the level of theory.<sup>27</sup>

One common critique of drawing conclusions from formal work like Arrow's is that values are incommensurable and cannot be aggregated. Some argue that it is impossible to compare preferences interpersonally and even intrapersonally across different sets of values.<sup>28</sup> As Maxwell Stearns points out, this criticism does not seem fatal to the public choice analysis of problems in the legislature where preferences are transitive, such as might be the case concerning the amount of money to be spent on a bridge.<sup>29</sup> Typically, supporters of a bridge would prefer that more money be spent than less. There is no problem in comparing preferences regarding relative budget allocations. Therefore, for many issues considered by collective decision-making bodies, Arrow's theoretical critique of democracy appears robust.

Even if one accepts the incommensurability thesis, it is not clear that it has different implications for the possibility of democracy. The incommensurability criticism strikes at the "public interest" as firmly as Arrow's theorem. If preferences are incommensurable, how can there be a public interest at all? Interpersonal aggregation is impossible. In short, both Arrow and his critics called into question the very possibility of democratic governance.

### C. *The Free Rider Problem and the Theory of Collective Action*

Another branch of public choice focused on the production of public goods and pointed out that in many social situations, the structure of individual incentives would not produce socially optimal behavior. The economic theory of public goods stipulates that nonexcludable, nonexhaustible resources are public goods for which an individual contributor cannot recoup his investment.<sup>30</sup> This gives each individual an incentive to "free ride" on the contributions of others by avoiding investment in production. This should lead to underproduction of public goods; indeed, if

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26. See generally COOTER, *supra* note 21; DENNIS C. MUELLER, *CONSTITUTIONAL DEMOCRACY* (1996); *PUBLIC CHOICE AND CONSTITUTIONAL ECONOMICS* (James D. Gwartney & Richard E. Wagner eds., 1988); Saul Levmore, *Bicameralism: When Are Two Decisions Better Than One?*, 12 INT'L REV. L. & ECON. 145 (1992); Symposium, *Constitutional Political Economy*, 90 PUB. CHOICE 1 (1997).

27. PARIS, *supra* note 2, at 6; James M. Enelow, *Cycling and Majority Rule*, in PERSPECTIVES ON PUBLIC CHOICE, *supra* note 3, at 149–62.

28. Richard H. Pildes & Elizabeth S. Anderson, *Slinging Arrows at Democracy: Social Choice Theory, Value Pluralism, and Democratic Politics*, 90 COLUM. L. REV. 2121, 2145–62 (1990); see also DAVID LUBAN, *VALUE PLURALISM AND RATIONAL CHOICE* (Georgetown Univ. Law Ctr. Working Paper No. 264335), available at [http://papers.ssrn.com/paper.taf?abstract\\_id=264335](http://papers.ssrn.com/paper.taf?abstract_id=264335) (arguing that this critique is overstated with regard to the debate on rational choice techniques); Matthew Adler, *Law and Incommensurability: Introduction*, 146 U. PA. L. REV. 1169 (1998); Maxwell L. Stearns, *The Misguided Renaissance of Social Choice*, 103 YALE L.J. 1219, 1251 n.115 (1994) (citing sources).

29. Stearns, *supra* note 28, at 1251, n.115.

30. ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 40–41 (2d ed. 1995).

every individual were completely rational, there would be no production at all.<sup>31</sup>

The focus on public good production was the central theme of Mancur Olson's classic work, *The Logic of Collective Action*.<sup>32</sup> In contrast with then-fashionable theories of pluralist democracy, which celebrated groups' abilities to act on behalf of their members,<sup>33</sup> Olson provided a skeptical analysis that suggested that groups would be unable to achieve collective interests because contribution to group organization was a public good. Individuals would not rationally contribute to group activities or assume the burden of organizing the group since they would only recover some of the benefits therefrom. The problem is especially difficult where the stakes are small and the number of participants large because there would be little incentive for any individual to take a leadership role.<sup>34</sup> The costs of organization and monitoring increase with the size of the group. Members of smaller groups capture a higher share of the gains, and have lower organizational costs. Thus, small groups with intensely held preferences should dominate more diffuse groups with small stakes, such as taxpayers and consumers.

One might hope that legislators would face sufficient electoral pressures to resist these interest groups on behalf of the broader public. However, the cost of information is a related source of distortion in the legislative "market." Citizens are likely to be affected only marginally by any particular public policy decision and therefore are unlikely to voluntarily bear the costs of gathering information about many issues. Ordinary citizens will remain "rationally ignorant" while interest groups with relatively larger stakes will invest the resources to achieve their goals.<sup>35</sup> Legislative processes, in particular, should be subject to distortions as private interests dominate.

Although this theory has intuitive appeal, there are many real world situations where investments in public goods are made where one would not expect it. Voting is an oft-cited example.<sup>36</sup> A rational person, it is argued, would vote only if the cost of voting was less than the potential

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31. An individual can only receive partial returns to his investment in public goods if he expects others to invest as well. But as long as some individuals choose not to invest, no one will receive full returns. Knowing this, a fully informed individual would not invest at all and, in aggregate, no investment would be made.

32. MANCUR OLSON, JR., *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1965).

33. See, e.g., ROBERT A. DAHL, *WHO GOVERNS?: DEMOCRACY AND POWER IN AN AMERICAN CITY* (1961).

34. OLSON, *supra* note 32, at 36 ("The larger the group is, the farther it will fall short of obtaining an optimal supply of any collective good, and the less likely that it will act to obtain even a minimal amount of such a good."). But see Joan Esteban & Debraj Ray, *Collective Action and the Group Size Paradox*, 95 AM. POL. SCI. REV. 663 (2001) (refining Olson's model and showing that large groups have an advantage under certain conditions).

35. Macey, *supra* note 25, at 172.

36. See DAHL, *supra* note 33; Richard L. Hasen, *Voting Without Law?*, 144 U. PA. L. REV. 2135 (1996).



that the person's vote would be decisive. Because voting always entails some positive effort, and because (outside of a few districts in Florida in the United States' 2000 Presidential election) the probability of one voter's vote making a difference in the outcome is always close to zero, voting should never occur. Yet in election after election, voters do turn out. Thus, casual empirical observation suggested that public choice propositions were overly pessimistic.

One response was to treat voting as a consumption good, that is to say voters voted because they had a taste for doing so. This was rightly criticized as tautological.<sup>37</sup> Others explained voting with a sense of duty.<sup>38</sup> Yet another response was to solve the problem by putting it into a game theoretic framework.<sup>39</sup> If individuals believe that the probability of influencing the outcome is close to zero and respond by not voting, this increases the probability of *other* individuals' votes being decisive.<sup>40</sup> So some voters would turn out. Thus, an equilibrium level of voting was positive, though not 100%.<sup>41</sup> Of course, the revised theory makes empirically dubious assumptions that voters are informed about the costs of voting by other citizens.<sup>42</sup>

In sum, this branch of public choice appeared to be overly pessimistic with regard to voting. Debate over whether the rational voter model is correct continues to rage, and will likely do so for some time to come.<sup>43</sup> Even if the theory was overly pessimistic, it had the constructive contribution of shifting attention to explaining voting as opposed to explaining nonvoting. Earlier scholarship had treated nonvoting as deviant. So now, theories of voting have to focus on the factors that lead an individual to vote, rather than assuming individuals are public spirited.<sup>44</sup>

Casual empirical observation of collective action, like voting, suggested that the theory may have been overly pessimistic. Groups do

37. See FARBER & FRICKEY, *supra* note 3, at 24–27.

38. William H. Riker & Peter C. Ordeshook, *A Theory of the Calculus of Voting*, 62 AM. POL. SCI. REV. 25 (1968).

39. Thomas R. Palfrey & Howard Rosenthal, *A Strategic Calculus of Voting*, 41 PUB. CHOICE 7 (1983) [hereinafter Palfrey & Rosenthal, *Strategic Calculus*]; Thomas R. Palfrey & Howard Rosenthal, *Voter Participation and Strategic Uncertainty*, 79 AM. POL. SCI. REV. 62 (1985) [hereinafter Palfrey & Rosenthal, *Voter Participation*].

40. Palfrey & Rosenthal, *Strategic Calculus*, *supra* note 39, at 8.

41. See Timothy J. Feddersen, *A Voting Model Implying Duverger's Law and Positive Turnout*, 36 AM. J. POL. SCI. 938 (1992); John O. Ledyard, *The Pure Theory of Large Two-Candidate Elections*, 44 PUB. CHOICE 7, 12–19 (1984).

42. Daniel A. Farber, *Toward a New Legal Realism*, 68 U. CHI. L. REV. 279, 293–94 (2001) (reviewing BEHAVIORAL LAW AND ECONOMICS (Cass R. Sunstein ed., 2000)).

43. See, e.g., John G. Matsusaka & Filip Palda, *Voter Turnout: How Much Can We Explain?*, 98 PUB. CHOICE 431 (1999) (evaluating factors in voter turnout and finding support for the rational voter theory); Gordon Tullock, *Some Further Thoughts on Voting*, 104 PUB. CHOICE 181 (2000) (stating that the low cost of voting provides a simple explanation for positive turnout). For a summary of the literature, see John H. Aldrich, *When Is It Rational to Vote?*, in PERSPECTIVES ON PUBLIC CHOICE, *supra* note 3, at 373 (Dennis Mueller ed., 1997).

44. John Ferejohn & Deborah Satz, *Unification, Universalism and Rational Choice Theory*, 9 CRITICAL REV. 71, 75 (1995).

form and articulate the interests of their members. The theory is unambiguous in its prediction that, stakes being equal, smaller groups will be easier to organize than larger groups because it is easier to police members. But it is interesting to note that shortly after Olson's classic work was published, broad-based consumer and environmental groups emerged as important political forces.<sup>45</sup> Other examples of behavior that overcome apparent free riding problems abound—from musicians who earn a living on the street (despite the fact that passers-by can enjoy the music without contributing) to blood banks, to the shareware industry which relies in large part on voluntary payments and an honor system. Casual observation of these and other phenomena suggested that there was a need to examine, in both empirical and experimental settings, the conditions under which participants would and would not contribute to public goods.

#### D. *Empirical and Experimental Work in Collective Choice*

Elinor Ostrom has played a major role in the empirical literature on collective action, especially in examining common-pool resources.<sup>46</sup> Fisheries, forests, and fields all require careful institutional design to overcome the "tragedy of the commons."<sup>47</sup> All over the world, users of shared natural resources have been able to develop a wide range of institutional innovations that have allowed them to avoid race to the bottom, tragic outcomes. These institutional schemes are themselves collective mechanisms that require cooperation to create and sustain. In analyzing the details of particular institutional schemes, Ostrom and her collaborators have determined that two keys to successful collective action have been mechanisms to monitor performance and sanction violators.

For example, one Turkish fishery is managed in a manner that avoids the tragedy of the commons.<sup>48</sup> Initial fishing assignments are assigned by lots, and participants then rotate among the fishing sites. Each participant has an incentive to utilize resources but also has an interest in the resources of neighboring sites. Furthermore, even those with poor fishing assignments are willing to expend effort to monitor and enforce the system of rights, since they may have a good spot on another day.

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45. ALBERT D. HIRSCHMANN, *SHIFTING INVOLVEMENTS: PRIVATE INTEREST AND PUBLIC ACTION* 78 (1982); Edward L. Rubin, *Getting Past Democracy*, 149 U. PA. L. REV. 711, 746 (2001). *But see* Macey, *supra* note 25, at 173 (offering a public choice interpretation of environmental legislation).

46. ELINOR OSTROM, *GOVERNING THE COMMONS* (1990) [hereinafter OSTROM, *GOVERNING THE COMMONS*]; ELINOR OSTROM ET AL., *RULES, GAMES AND COMMON POOL RESOURCES* (1994); Elinor Ostrom, *Collective Action and the Evolution of Social Norms*, 14 J. ECON. PERSP. 137 (2000) [hereinafter Ostrom, *Collective Action*]; Elinor Ostrom, *Coping with Tragedies of the Commons*, 2 ANN. REV. POL. SCI. 493 (1999); James M. Walker et al., *Collective Choice in the Commons: Experimental Results on Proposed Allocation Rules and Votes*, 110 ECON. J. 212 (2000) (effectiveness of alternative voting rules in a situation without face to face communication).

47. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243 (1968).

48. OSTROM, *GOVERNING THE COMMONS*, *supra* note 46, at 18–21.

Although it does not assign permanent property rights, it captures some of the same structures available in property regimes to achieve efficient outcomes. The ability of groups to achieve such innovations, Ostrom argues, will depend on the internal structure of the group and the presence of such intangible factors as trust.<sup>49</sup>

It is worth reflecting for a moment on the role of theory and empirical research here. Turkish fishermen understood the tragedy of the commons problem before academic economists identified it. The fishermen developed institutions to resolve the problem. One might ask, therefore, what is the value of academic theorizing? The theory can be seen as a post-hoc attempt to justify an institution. Such a critique would be misguided, however. A theoretical account of the problem can point out that the same problem exists in other settings, and suggest that certain design principles may be transferable. By determining, as a positive matter, what works, we can draw normative conclusions about how to design new institutions.<sup>50</sup> The research also has important payoffs for positive theory. It also focuses the empirical researchers' attention on certain aspects of the problem to be studied, namely the question of how cooperation can be achieved rather than how competition arises. The *conditions* of successful cooperation become the focus.

The empirical work of Ostrom and her collaborators contributed to the refinement of initial theories. Whereas the foundational work proceeded axiomatically, subsequent work "testing" the theory forced refinement.<sup>51</sup> We now have a more specified theory of the conditions under which cooperation can be achieved. The value of the initial axioms was not so much in their complete specification of empirically accurate results, but in laying out a research program and pointing out important directions for future research. The criticism that the initial work lacked empirical support missed the point. It treated public choice as a completely specified theory rather than as an ongoing research program.<sup>52</sup> In evaluating such a research program, what matters is not the empirical validity of individual components, but rather whether the program as a whole is moving forward and producing new insights.

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49. Note also that these regimes depend on being common-pool resources, rather than open-access regimes available to all.

50. Examples of work in institutional design inspired by public choice include Vernon Smith's work in designing computer-managed markets for an electric power provision and had some impact on the Arizona Stock Exchange which uses a double auction mechanism, wherein buyers and sellers both submit limit orders. Vernon L. Smith, *Incentive Compatible Experimental Processes for the Provision of Public Goods*, in RESEARCH IN EXPERIMENTAL ECONOMICS 59 (Vernon L. Smith ed., 1979); see also Elizabeth Hoffman, *Public Choice Experiments*, in PERSPECTIVE PUBLIC CHOICE 415, 422-24 (Dennis C. Mueller ed., 1997). Thus, the theory of public goods provision has generated some potentially useful models.

51. Ostrom, *Collective Action*, *supra* note 46, at 138 (developing a revised theory of collective action).

52. See *supra* note 4 and accompanying text.

Further exploration of the conditions leading to social cooperation has been conducted in experimental settings.<sup>53</sup> Many experiments involve voluntary contributions to public goods. In a typical experiment, participants (often students) are asked to contribute tokens to either an individual or a group account. The group account is then multiplied by some factor and divided among all members of the group regardless of their contribution. In this situation, a self-interested individual would make no contribution, since she would gain the benefit of the others' contributions without giving up any of her own endowment. However, all parties would be best off by pursuing the Pareto optimal solution of one hundred percent contribution to the group account. This is because the larger the pool of contributions before the multiplication, the larger will be the payoff to all parties after it.

What happens in these experiments? Ostrom recently summarized the results of over two decades of such research.<sup>54</sup> In a one-shot game, subjects contribute to the public good in amounts greater than the theoretical prediction of zero contribution but less than the Pareto-superior outcome of full contribution.<sup>55</sup> In other words, the subjects are initially cooperative.<sup>56</sup> This result appears to be robust across cultures.<sup>57</sup>

What factors influence cooperation? When players believe that others will cooperate, they are more likely to do so as well.<sup>58</sup> Interestingly, when subjects are able to engage in face-to-face communication,

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53. THEO OFFERMAN, BELIEFS AND DECISION RULES IN PUBLIC GOODS GAMES: THEORY AND EXPERIMENTS 81–162 (1997); Hoffman, *supra* note 50, at 420; John O. Ledyard, *Public Goods: A Survey of Experimental Research*, in THE HANDBOOK OF EXPERIMENTAL ECONOMICS 111–94 (John H. Kagel & Alvin E. Roth eds., 1995); Stefan Voigt, *Positive Constitutional Economics: A Survey*, 90 PUB. CHOICE 11, 20–21 (1997).

54. Ostrom, *Collective Action*, *supra* note 46, at 140–41.

55. Hoffman, *supra* note 50, at 419; R. Mark Isaac & James M. Walker, *Communication and Free-Riding Behavior: The Voluntary Contribution Mechanism*, 26 ECON. INQUIRY 585 (1988); R. Mark Isaac & James M. Walker, *Costly Communication: An Experiment in a Nested Public Goods Problem*, in LABORATORY RESEARCH IN POLITICAL ECONOMY 269 (Thomas R. Palfrey ed., 1991); R. Mark Isaac & James M. Walker, *Group Size Effects in Public Goods Provision: The Voluntary Contribution Mechanism*, 103 Q.J. ECON. 179 (1988); Ledyard, *supra* note 53, at 121. A slightly different design has payoffs from the group pool shared only among group contributors. In this design, full contribution and zero contribution are both Pareto optimal. See Thomas R. Palfrey & Howard Rosenthal, *Testing Game-Theoretic Models of Free Riding: New Evidence on Probability Bias and Learning*, in LABORATORY RESEARCH IN POLITICAL ECONOMY 239, 251–54, 257 n.13 (Thomas R. Palfrey ed., 1991) [hereinafter Palfrey & Rosenthal, *New Evidence*]. Again, actual contributions are somewhere in between these extremes. Palfrey and Rosenthal argue that error in these and other games is based on mistaken assumptions about other players' rationality. By underestimating the extent to which other players free ride, players may overcontribute to the common pool. *Id.* at 241.

56. Cf. Dan M. Kahan, *Trust, Collective Action, and Law*, 81 B.U. L. REV. 333, 335 (2001) (stating that the players' initial stance is guarded).

57. See JORDI BRANDTS ET AL., HOW UNIVERSAL IS BEHAVIOR? A FOUR COUNTRY COMPARISON OF SPITE, COOPERATION AND ERRORS IN VOLUNTARY CONTRIBUTION MECHANISMS (revised June 2000) (multicountry study finding only minor differences in behavior across countries), available at <http://www.ssrn.com>.

58. Ostrom, *Collective Action*, *supra* note 46, at 140.

even if agreements are nonbinding, the level of cooperation rises.<sup>59</sup> This is true even if communication is costly, that is, subjects must take the initiative to engage in it. This result seems to undermine the proposition that people are rational maximizers. Another study showed that merely allowing subjects to see other players increases the level of cooperation, even without oral communication.<sup>60</sup> On the other hand, computer-based signals to cooperate were less effective in inducing cooperation than face-to-face communication.<sup>61</sup> Reciprocity, communication, and face-to-face encounters are important to people across cultures.

Other factors that facilitated cooperation included providing the players with information on how their contributions compare with those of others.<sup>62</sup> Similarly, when subjects are told that they might be asked to explain their decision-making process after the experiment, free riding declines. These findings both suggest that simple monitoring can help overcome collective action problems.

Explicit punishment is another factor. The problem here is that rational theory sees punishing misbehavior as costly, so there is a question as to why rational players would ever expend resources to punish noncooperators.<sup>63</sup> Yet subjects in experiments do expend resources on punishment.<sup>64</sup> This in turn increases the level of cooperation among partners.

Another factor that increases cooperation is learning over time. That is, players that become familiar with the game are more likely to cooperate, not less.<sup>65</sup> But other studies show that cooperation declines with repetitions.<sup>66</sup> Over seventy percent of subjects contribute nothing in the last round of a repeated game.<sup>67</sup> Cooperation is also sensitive to increases in marginal per capita return; that is, increased payoffs lead to increased contributions.<sup>68</sup> This shows that there is a certain extent to which players are selfish.

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59. Isaac & Walker, *Costly Communication*, *supra* note 55, at 269–70; Ledyard, *supra* note 53, at 128–29.

60. Iris Bohnet & Bruno S. Frey, *The Sound of Silence in Prisoner's Dilemma and Dictator Games*, 38 J. ECON. BEHAV. & ORG. 43 (1999)

61. Ostrom, *Collective Action*, *supra* note 46, at 140–41.

62. ROBERT E. LANE, *THE MARKET EXPERIENCE* 47–49 (Cambridge Univ. Press, 1991); *see also* Robert E. Lane, *What Rational Choice Explains*, 9 CRITICAL REV. 107, 110 (1995).

63. Ostrom, *Collective Action*, *supra* note 46, at 141. *But see* Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 U. MICH. L. REV. 338, 365 (1997) (modeling granting of esteem as noncostly).

64. Ostrom, *Collective Action*, *supra* note 46, at 141.

65. *Id.* at 140.

66. R. Mark Isaac et al., *Divergent Evidence on Free Riding: An Experimental Examination of Possible Explanations*, 43 PUB. CHOICE 113 (1984). *But see* Palfrey & Rosenthal, *New Evidence*, *supra* note 55, at 251–54 (rejecting hypothesis that players learn about other players' behavior in repeated experiments).

67. Ostrom, *Collective Action*, *supra* note 46, at 140.

68. Ledyard, *supra* note 53, at 149–51. *But see* Ostrom, *Collective Action*, *supra* note 46, at 141 (“[I]ncreasing the size of the payoffs offered in experiments does not appear to change the broad patterns of empirical results obtained.”).

One interesting result showed that economics graduate students were less willing to contribute to group funds than others.<sup>69</sup> This suggested that, like the tree of knowledge of good and evil, awareness of the theoretical problem led to behavioral cynicism. However, a recent study in a natural setting showed that the result was not due to economics training.<sup>70</sup> Rather, economics and business studies drew individuals who were less likely *ex ante* to contribute.

Most of the public goods experiments described here involve laboratory situations. Some have criticized findings generated in the laboratory for their limited external validity, meaning that results in the laboratory do not translate to natural settings in the real world.<sup>71</sup> But Frey and his colleagues used a natural experiment at the University of Zurich, which allowed students to make a voluntary contribution to two social funds at the same time they paid their annual fees.<sup>72</sup> Contributions were anonymous so there was no esteem payoff from contributing. Contributions were positive, despite the fact that no one received returns on their contributions. While there may be general problems in drawing inferences from the laboratory, the broad weight of both casual and experimental evidence is consistent with the notion that people do behave irrationally and cooperate.

### E. Conclusion

This discussion of the main strands of public choice demonstrates that the most dire predictions of public choice have not played out, but that the theory does provide some explanation for forces that affect us. The glass is either half full or half empty, depending on how one looks at it. In general, the theory seems to provide a useful account for behavior in political institutions, but simple collective action theory appeared to

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69. See Gerald Marwell & Ruth E. Ames, *Economists Free Ride: Does Anyone Else?*, 15 J. PUB. ECON. 295, 306–07 (1981); see also Robert H. Frank et al., *Do Economists Make Bad Citizens?*, 10 J. ECON. PERSP. 187, 191–92 (1996); Robert H. Frank et al., *Does Studying Economics Inhibit Cooperation?*, 7 J. ECON. PERSP. 159, 162 (1993); David N. Labard & Richard O. Beil, *Are Economists More Selfish than Other ‘Social’ Scientists?*, 100 PUB. CHOICE 85, 94–97 (1999); Gerald Marwell & Ruth E. Ames, *Experiments on the Provision of Public Goods I: Resources, Interest, Group Size, and the Free-Rider Problem*, 84 AM. J. SOC. 1335 (1979); Gerald Marwell & Ruth E. Ames, *Experiments on the Provision of Public Goods II: Provision Points, Stakes, Experience and the Free-Rider Problem*, 85 AM. J. SOC. 926 (1980); Anthony M. Yezer et al., *Does Studying Economics Discourage Cooperation? Watch What We Do, Not What We Say or How We Play*, 10 J. ECON. PERSP. 177 (1996) (finding that economics students are more cooperative than their counterparts in other fields of study). But see Hoffman, *supra* note 50, at 416–17, for criticisms of this research.

70. See BRUNO S. FREY & STEPHAN MEIER, *POLITICAL ECONOMISTS ARE NEITHER SELFISH NOR INDOCTRINATED* (Ctr. for Econ. Studies & Inst. for Econ. Research Working Paper Series No. 490, 2001) (stating that business students were more selfish than others but that differences in contributions were due to a selection effect rather than economics training *per se*); see also Ledyard, *supra* note 53, at 161.

71. GREEN & SHAPIRO, *supra* note 4, at 93, 139–40; Nikos Siakantaris, *Experimental Economics Under the Microscope*, 24 CAMBRIDGE J. ECON. 267 (2000).

72. FREY & MEIER, *supra* note 70.

be overly pessimistic about people's willingness to contribute to public goods. Casual empiricism is supported by more careful studies of political and legislative behavior, showing that in some cases people overcome collective action problems to organize, and a large volume of experimental research helped identify the conditions of cooperation. Thus, the interaction of theory and empirical work was necessary to advance the program of public choice.

## II. A REVISED THEORY OF COLLECTIVE ACTION

Because it draws from economic theory, public choice traditionally accepted the fundamental postulate of self-interested behavior that informs the economist's vision of the world.<sup>73</sup> A large body of experimental research, some of which was discussed briefly above, has refuted the empirical validity of the self-interest assumption.<sup>74</sup> People are strongly motivated by concerns that are inconsistent with material self-interest or a simple model of utility maximization. Fairness, it turns out, is important to people.<sup>75</sup> This finding can be used to understand the experimental evidence on overcoming collective action problems.<sup>76</sup>

The disjunct between the rationality assumption and observed behavior is, of course, not restricted to public choice scholarship, but also is encountered in other economic theory generally. People are subject to numerous heuristics and biases that affect their reasoning.<sup>77</sup> The behavioral literature has shown convincingly that people are not rational; but they are irrational in fairly predictable ways.<sup>78</sup> For example, principal-agent theory has been used to examine contractual relations and has predicted very complex fee functions in contractual relations.<sup>79</sup> In reality, people tend to use heuristics to save time on negotiating complex contracts. Another example comes from contracts for professional services.

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73. Compare Edward L. Rubin, *Public Choice in Practice & Theory*, 81 CAL. L. REV. 1657, 1665–72 (1993) [hereinafter Rubin, *Public Choice*] (reviewing FARBER & FRICKEY, *supra* note 3), with Edward L. Rubin, *Law and the Methodology of Law*, 1997 WIS. L. REV. 521 [hereinafter Rubin, *Law and Methodology*] (criticizing the self-interest assumption).

74. Ostrom, *Collective Action*, *supra* note 46, at 139 (stating that a standard model of rational individual action works well in explaining market behavior but not social cooperation).

75. See ERNST FEHR & KLAUS M. SCHMIDT, THEORIES OF FAIRNESS AND RECIPROCITY-EVIDENCE AND ECONOMIC APPLICATIONS (Ctr. for Econ. Studies & Inst. for Econ. Research Working Paper Series No. 403, 2000); Ernst Fehr & Simon Gächter, *Reciprocity and Economics: The Economic Implications of Homo Reciprocans*, 42 EUR. ECON. REV. 845 (1998); see also NANCY R. BUCHAN ET AL., UNDERSTANDING WHAT'S FAIR: CONTRASTING PERCEPTIONS OF FAIRNESS IN ULTIMATUM BARGAINING IN JAPAN AND THE UNITED STATES (1999).

76. Kahan, *supra* note 56, at 334–35.

77. BEHAVIORAL LAW AND ECONOMICS, *supra* note 17; JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (Daniel Kahneman et al. eds., 1982); RICHARD H. THALER, QUASI RATIONAL ECONOMICS (1991); RICHARD H. THALER, THE WINNER'S CURSE: PARADOXES AND ANOMALIES OF ECONOMIC LIFE (1992); Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051 (2000).

78. Korobkin & Ulen, *supra* note 77.

79. KENNETH J. ARROW, THE ECONOMICS OF AGENCY 19 (Stanford Univ. Ctr. for Research on Organizational Efficiency Technical Report No. 451, 1984).

The patient-physician relationship is a classic example of a principal-agent relation.<sup>80</sup> The patient-principal delegates the task of medical care to the physician-agent who has superior knowledge of care. One might think the contract should be related to the outcome of the result, but in practice it is not.<sup>81</sup> We pay our doctors regardless of whether their treatments are effective, even though “pure” rational theory predicts otherwise. Literature on these problems is just beginning to come to terms with reputation effects and nonmonetary forms of reward and punishment.<sup>82</sup>

In light of the behavioral research, it is no longer possible to assert that self-interest is an accurate description of human behavior. What then are we to do with public choice? We know that public choice models simplify. Legislators, like other people, are motivated by other things besides interest group preferences, such as ideology and the desire to make good policy. Individuals do find ways to cooperate and overcome free-rider problems. They engage in collective action and form groups to achieve public ends.<sup>83</sup>

Yet these observations do not derail public choice application. Even if people are not self-interested, we may want to follow the course set out in *Federalist 10* and assume that they are for purposes of institutional design.<sup>84</sup> As long as some large proportion of human behavior involves self-interest—and even social constructivists would likely acknowledge that this is the case—it makes sense to take self-interest into account as we design institutions.<sup>85</sup> Public choice-like insights have been utilized in this pragmatic manner for two hundred years.<sup>86</sup> To reject them now would require us to turn our backs on many of the institutions of modern governance.

Scholars have recently advanced a revised theory of collective action that reflects the results of the empirical research described above as

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80. See ERIC A. POSNER, COASE LECTURE: AGENCY MODELS IN LAW AND ECONOMICS 7 (The Chicago Working Paper Series, John M. Olin Law & Economics Working Paper No. 92, 2d Series, 2000), available at <http://www.law.uchicago.edu/publications/working/index/html>.

81. ARROW, *supra* note 79, at 20.

82. *Id.* at 21–22.

83. See Bruce Bender & John R. Lott, Jr., *Legislator Voting and Shirking: A Critical Review of the Literature*, 87 PUB. CHOICE 67 (1996) (analyzing literature related to legislator behavior); Frank B. Cross, *The Judiciary and Public Choice*, 50 HASTINGS L.J. 355, 368–71 (1999); Herbert Hovenkamp, *Legislation, Well-Being, and Public Choice*, 57 U. CHI. L. REV. 63, 88–89 (1990); Dwight R. Lee, *Politics, Ideology and the Power of Public Choice*, 74 VA. L. REV. 191, 197 (1988); Benjamin I. Page & Robert Y. Shapiro, *Effects of Public Opinion on Policy*, 77 AM. POL. SCI. REV. 175 (1983); Daniel Shapiro, *Beyond Public Choice and Public Interest: A Study of the Legislative Process as Illustrated by Tax Legislation in the 1980s*, 139 U. PA. L. REV. 1 (1990).

84. THE FEDERALIST NO. 10 (James Madison).

85. JERRY L. MASHAW, GREED, CHAOS, AND GOVERNANCE: USING PUBLIC CHOICE TO IMPROVE PUBLIC LAW 26 (1997); Geoffrey Brennan & James M. Buchanan, *Is Public Choice Immoral? The Case for the ‘Nobel’ Lie*, 74 VA. L. REV. 179, 188 (1988).

86. Edwin T. Haefele, *Political Applications of Social Choice Theory*, in COLLECTIVE DECISION MAKING 284 (Clifford S. Russell ed., 1979).



well as new attention to social norms.<sup>87</sup> The theory imagines that society includes “pure” rational actors as well as two other types of players: conditional cooperators who are willing to start out cooperating and will continue to do so as long as others around them will do so; and willing punishers who are willing to spend resources punishing noncooperators.<sup>88</sup> Players meet in pairs and engage in a prisoner’s dilemma-type interaction or a voluntary contribution exercise. The game is repeated many times.

The presence of conditional cooperators, who will cooperate in the first round of play, explains why experimental results demonstrate high initial levels of cooperation. But conditional cooperators vary in their tolerance for defection. If some are disappointed in the first round, they will begin to defect, increasing the pool of defectors and encouraging further reductions in contributions. A downward spiral ensues. This explains why many experimental games show declining contributions over time.<sup>89</sup> On the other hand, if conditional cooperators are able to trust each other and produce high levels of cooperation in early rounds, they may enjoy a high-cooperation equilibrium.<sup>90</sup> In sum, there is no single, noncooperative equilibrium but a range of possible outcomes in collective action.

Experiments show that face-to-face communication enhances cooperation.<sup>91</sup> This is true even though talk is “cheap,” meaning that promises of cooperation are not enforceable. Rational individuals should be unaffected by promises of cooperation, but conditional cooperators seem to be, perhaps because of reciprocity-type norms. The revised theory suggests that communication may also provide opportunities for willing punishers to sanction noncooperators.<sup>92</sup> Punishment can help induce conditional cooperators to return to the cooperative strategy after defection, raising the overall level of cooperation. At particular levels of cooperation, such dynamics can “tip” the system back toward a high equilibrium.<sup>93</sup>

This model of a mixed pool of players, combining rational individuals with two other types of players, can accommodate most of the experimental evidence and constitutes a revised theory of collective action. It does not rely on a notion of human goodness; even conditional cooperators will reduce cooperation where it is not reciprocated. But it does

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87. See ERIC A. POSNER, *LAW AND SOCIAL NORMS* (2000); Robert D. Cooter, *Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant*, 144 U. PA. L. REV. 1643 (1996); Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 MICH. L. REV. 338 (1997); Ostrom, *Collective Action*, *supra* note 46, at 141–43.

88. This formulation draws heavily from Ostrom, *Collective Action*, *supra* note 46, at 142. Note that willing punishers may also be conditional cooperators.

89. *Id.*

90. Kahan, *supra* note 56, at 336–37.

91. See Isaac & Walker, *supra* note 55, 269–70.

92. Ostrom, *Collective Action*, *supra* note 46, at 142.

93. See Cooter, *supra* note 87, at 1657–77.

take into account an evident initial propensity to trust as well as various possible dynamics within the group.

Trust becomes a key exogenous variable in this revised account. Trust takes on a role not unlike “leadership” in the original literature on collective action. One explanation for why groups overcame collective action problems was the presence of charismatic leaders who voluntarily bore the costs of organization. But this left the factors contributing to leadership as the key unexplained element. Similarly, the determinants of trust in particular groups and societies are unclear,<sup>94</sup> though research is beginning to show how cooperation emerged in the evolutionary period.<sup>95</sup> Still, the elusive determinants of trust will be the crucial next horizon for collective action research.

Again, the initial public choice models made an important contribution even though they were not fully accurate. The early models allowed precise refinement of the conditions of social cooperation and the roles of communication, trust, and reputation therein. Here the experimental work has been especially valuable in isolating relevant variables and showing the importance of communication and monitoring in facilitating cooperation. We thus have a richer understanding of the world than we did without public choice, and are focused on specific problems that we otherwise might not examine.

### III. NORMATIVE IMPLICATIONS OF PUBLIC CHOICE: OLD AND NEW

#### A. *The Indeterminate Implications of the Old Public Choice*

The original propositions of public choice have been enormously influential in law. One of the primary applications has been as an “economic theory of legislation” that raises implications for how aggressive courts should be in judicial review.<sup>96</sup> The vast majority of law review articles citing “public choice theory” do so for a single proposition, that legislators risk being captured by interest groups.<sup>97</sup> This concern is of course much older than public choice theory, as any reader of James Madison’s argument in *Federalist 10* can attest.<sup>98</sup> But legal scholars seized on Arrow’s theorem and Olson’s collective action theory to justify various positions on the proper extent of judicial review of statutes and administrative action. In their suspicion of legislation, public choice

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94. ADAM B. SELIGMANN, *THE PROBLEM OF TRUST* (2000); FRANCIS FUKUYAMA, *TRUST: THE SOCIAL VIRTUES AND THE CREATION OF PROSPERITY* (1995); *TRUST IN ORGANIZATIONS: FRONTIERS OF THEORY AND RESEARCH* (Roderick M. Kramer et al. eds., 1996).

95. Ostrom, *Collective Action*, *supra* note 46, at 144–48.

96. Robert Tollison, *Public Choice and Legislation*, 74 VA. L. REV. 339, 339 (1988).

97. Levmore, *supra* note 15, at 953–54; *see also* BRIAN Z. TAMANAHA, *A GENERAL JURISPRUDENCE OF LAW AND SOCIETY* 49 (2001).

98. *See* MASHAW, *supra* note 85, at 4–6; David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 GEO. L.J. 97, 102 (2000).

scholars recalled legal realist critiques of legislation and legislative intent as incoherent.<sup>99</sup>

One of the problems with these efforts to draw normative implications from positive theory is that it is not always clear what they should be. For example, public choice theory has been used to argue for a more expansive role for the judiciary in reviewing statutes because collective institutions such as the legislature are hindered from producing rational decisions.<sup>100</sup> Others, however, have used public choice theory to call for a *less* expansive role for the judiciary.<sup>101</sup> After all, it is unclear that *judges* will be able to determine when an agency or the legislature has been captured by special interest groups.<sup>102</sup> Furthermore, the same advantages that benefit groups with intensely held preferences in the legislative arena can function in the context of litigation. Special interest groups can fund litigation, and enjoy the general advantages that accrue to repeat players in the litigation process.<sup>103</sup> Therefore, public choice is not unconditionally supportive of the courts and expansive judicial review.

Similarly, scholars have called for more intrusive review of agency rulemaking because of capture by interest groups.<sup>104</sup> Interest groups will be able to capture bureaucracies by virtue of poor incentives on the part of the public to monitor agency activity. The politicians who nominally act on behalf of the public in supervising the administrative branch, the President and Congress, have their own problems in that they are motivated to seek benefits toward reelection rather than the public interest. Thus, public choice has been used to criticize delegation to agencies<sup>105</sup> and to call for more intensive judicial scrutiny of agency action. But public choice has also been used to defend delegation to agencies.<sup>106</sup> The es-

99. Edward Rubin, *Public Choice in Practice and Theory*, 81 CAL. L. REV. 1657, 1661 n.10 (1993); see also Kenneth A. Shepsle, *Congress Is a "They," Not an "It": Legislative Intent as Oxymoron*, 12 INT'L REV. L. ECON. 239, 239 (1992). But see FARBER & FRICKEY, *supra* note 3, at 88–102 (stating that legislative intent can be discerned).

100. See, e.g., Richard A. Epstein, *The Independence of Judges: The Uses and Limitations of Public Choice Theory*, 1990 BYU L. REV. 827; Richard A. Epstein, *Toward a Revitalization of the Contract Clause*, 51 U. CHI. L. REV. 703 (1984); David A. Skeel, Jr., *Public Choice and the Future of Public-Choice-Influenced Legal Scholarship*, 50 VAND. L. REV. 647, 661–62 (1997); see also Einer R. Elhauge, *Does Interest Group Theory Justify More Intrusive Judicial Review?*, 101 YALE L.J. 31, 33 (1991); Jonathan R. Macey, *Promoting Public-Regarding Legislation Through Statutory Interpretation: An Interest Group Model*, 86 COLUM. L. REV. 223 (1986); Thomas W. Merrill, *Does Public Choice Theory Justify Judicial Activism After All?*, 21 HARV. J.L. & PUB. POL'Y 219 (1997); Geoffrey P. Miller, *Public Choice at the Dawn of the Special Interest State: The Story of Butter and Margarine*, 77 CAL. L. REV. 83 (1989).

101. Cross, *supra* note 83, at 355.

102. FARBER & FRICKEY, *supra* note 3, at 64.

103. Marc Galanter, *Why the "Haves" Come Out Ahead: Speculations on the Limits of Legal Change*, 9 LAW & SOC'Y REV. 95, 97–124 (1974); see also Cross, *supra* note 83, at 360–68.

104. Jonathan Macey, *Separated Powers and Positive Political Theory: The Tug of War Over Administrative Agencies*, 80 GEO. L.J. 671 (1992); Cass R. Sunstein, *Interest Groups in American Public Law*, 38 STAN. L. REV. 29, 62 (1985).

105. See DAVID SCHOENBROD, *POWER WITHOUT RESPONSIBILITY: HOW CONGRESS ABUSES THE PEOPLE THROUGH DELEGATION* (1993).

106. See generally MASHAW, *supra* note 85; Spence & Cross, *supra* note 98.

sence of the pro-delegation argument is that, compared with legislators, bureaucrats are relatively insulated from interest group pressures and have better information on which to make decisions. By comparison, the legislature is seen as inflexible, slow and uninformed.<sup>107</sup>

In short, the normative implications of the original public choice propositions were unclear and contested. Public choice was deployed in longstanding debates, arising out of the legal process school of the 1950s, concerning which legal institution was the best decision maker for different kinds of problems.<sup>108</sup> The lack of clear normative implications undercuts one of the oft-voiced criticisms of public choice: that it is inherently conservative.<sup>109</sup> If there are no determinate normative implications to be drawn from public choice theory, then its function is merely to provide ammunition for other debates. We need not fear its corrupting influence, as there are no clear policy proposals to be drawn from it.

Many legal scholars, however, believe that the assumption of self-interest as a heuristic or organizing concept is itself corrupting, regardless of its methodological value. The fear is that public choice talk will produce more self-interested citizens and thereby result in precisely the kind of behavior the models predict.<sup>110</sup> For example, because it is perceived to be skeptical toward legislative behavior, public choice might further reduce the likelihood of general interest, other-regarding legislation because cynical citizens will stop expecting such legislation. Of course, whether or not public choice poisons public discourse is *itself* an empirical question that can only be answered with the kind of experimental efforts that public choice has engendered.<sup>111</sup> That is, to test whether public choice changes people's propensity to cooperate, we would have to design an experiment whereby two groups played the same game, but one group was exposed to public choice ideas. Some might suggest that in doing so, we would have reached an infinite regress.

Until definitive empirical evidence on this question emerges, we can only speculate as to whether public choice talk poisons public spirited-

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107. Spence & Cross, *supra* note 98, at 135-37.

108. NEIL K. KOMESAR, IMPERFECT ALTERNATIVES: CHOOSING INSTITUTIONS IN LAW, ECONOMICS, AND PUBLIC POLICY 155 (1994).

109. Mark Kelman, *supra* note 8, at 201 (arguing that public choice is "reactionary legal economic ideology").

110. See Steven Kelman, "Public Choice" and Public Spirit, 87 PUB. INT. 80, 93 (1987); Elinor Ostrom, *A Behavioral Approach to the Rational Choice Theory of Collective Action*, 92 AM. POL. SCI. REV. 1, 18 (1998) ("We are producing generations of cynical citizens with little trust in one another, much less in their governments."); see also MASHAW, *supra* note 85, at 3, 23-25; Martin Rein & Christopher Winship, *The Dangers of "Strong" Causal Reasoning in Social Policy*, SOC. SCI. & MOD. SOC'Y, July/Aug. 1999, at 38, 38-46; Thomas W. Merrill, *Capture Theory and the Courts: 1967-1983*, 72 CHI.-KENT L. REV. 1039, 1053 (1997); Abner J. Mikva, *Foreword*, 74 VA. L. REV. 167, 167-68 (1988); Tania Rostain, *Educating Homo Economicus: Cautionary Notes on the New Behavioral Law and Economics Movement*, 34 LAW & SOC'Y REV. 973, 1001-02 (2000) (suggesting that the behavioral law and economics model may contribute to the spread of self-interested behavior).

111. See generally André Blais & Robert Young, *Why Do People Vote? An Experiment in Rationality*, 99 PUB. CHOICE 39 (1999) (describing an experiment showing students voted at lower rates after exposure to rational voter theory).

ness. It is arguable that public choice talk might actually help to *overcome* collective action problems. Because citizens are aware that their political institutions are subject to capture, they should become *more* vigilant of the phenomenon, that is, more willing to expend resources to monitor the legislature. Thus, public choice and interest group analysis might actually contribute to the formation of broad-based groups.<sup>112</sup>

Even if public choice talk *is* corrupting to the public interest, it is important to recognize that the revised theory is much less pessimistic about human behavior than were the original models. Without assuming that “men are angels,” the revised theory draws attention to the roles of social trust in producing cooperation. The theory suggests that there will be some initial levels of social cooperation; the normative task is then to design institutions that exploit these initial levels and allow cooperation to spread to others so that the high trust equilibrium is maintained. Talking about cooperation and trust might actually encourage such behavior, but again, this is an empirical question.<sup>113</sup>

### B. *The Optimism of the New Public Choice*

The revised theory also suggests that where trust has disappeared, it can be difficult to reestablish. One might have thought that the role of the state in the revised theory should be to facilitate trust by rewarding trusting behavior and deterring defection. However, research suggests that formal sanctions and the introduction of material incentives can “crowd out” spontaneous cooperation.<sup>114</sup> If conditional cooperators see the state introduce material sanctions, they might perceive it as a signal that others are not willing to cooperate and *need* the material incentive. This could lead marginal cooperators to defect.<sup>115</sup> Therefore, institutions must be careful not to “crowd out” social norms in their attempts at regulation.

What might the revised theory mean for the classic questions of institutional choice among courts, legislatures and agencies? The first point is that we should be less skeptical about the possibility of interest-group governance than we have been. Smaller interest groups retain an advantage over larger ones because of lower organizational and monitor-

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112. See Edward L. Rubin, *Beyond Public Choice: Comprehensive Rationality in the Writing and Reading of Statutes*, 66 N.Y.U. L. Rev. 1, 13 (1991).

113. See generally MASHAW, *supra* note 85, at 27 (suggesting that the neo-republican critique of public choice takes opposite extreme of seeing individuals as fully socialized altruists); Spence & Cross, *supra* note 98, at 103 (arguing that public choice is not compatible with a Jeffersonian vision of participatory democracy).

114. Bruno S. Frey, *How Intrinsic Motivation Is Crowded Out and In*, 6 RATIONALITY & SOC'Y 334 (1994).

115. Of course, if these cooperators believed that the state understood this dynamic and *still* proceeded with regulation, they might see the intervention as a signal that greater cooperation was possible. The intervention might therefore be effective. This illustrates how game theoretic accounts can be subject to problems of infinite regress. ALASDAIR MACINTYRE, *AFTER VIRTUE* 92-94 (1981) (describing philosophical objections to game-theoretic approaches to predictable behavior).

ing costs, but this does not mean that larger ones will never be able to organize. With the right endowments of social trust, cooperation is possible even on a large scale.

Nevertheless, there is a sense in which the revised theory tempers optimism for heterogeneous societies. Suppose a society is divided among high-trust groups and low-trust groups. The process of public policy will be inordinately influenced by those groups that began with high levels of trust. The source of trust might be ethnic or class solidarity<sup>116</sup> or histories of cooperation that go under the rubric of social capital.<sup>117</sup> These groups have organizational advantages that allow them to gain benefits both economically and politically. These benefits of cooperation, in turn, encourage further cooperation. For these groups, all good things go together. But for those groups that do not start out with high endowments of trust, the revised theory suggests that organizational problems will be hard to overcome. With scarce resources flowing to the high-trust groups, the pool of resources available to conditional cooperators in the low-trust group will be reduced, discouraging any cooperation whatsoever. This raises normative questions about distributive justice among the groups. These normative questions cannot be answered by positive theory such as public choice. The positive theory gives us tools for identifying the problems and thinking about solutions, but cannot answer the ultimate question of what distribution of resources is fair or moral.

What are the implications of the revised model for the capture theory of legislation? Recall that the notion of legislative capture has been treated, incorrectly, as the main contribution of public choice scholarship. Legislative capture results from the relatively great ability of small groups to organize in influencing legislation, combined with the Arrovian lack of any “true” public interest to balance private interests in the legislative process. Although accepted as axiomatic, empirical observation has shown that there is more public-regarding behavior in the legislature than simple theory predicted.<sup>118</sup> This suggests that legislators are able to resist external private influences in certain instances.

One reason that legislators may be able to do so is the existence of reciprocity norms within the legislature. Legislators are subject to repeat interactions with each other, and likely to develop strong norms of recip-

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116. JOEL KOTKIN, TRIBES 4-5 (1994); *see also* JANET T. LANDA, TRUST, ETHNICITY AND IDENTITY: BEYOND THE NEW INSTITUTIONAL ECONOMICS OF ETHNIC TRADING NETWORKS, CONTRACT LAW AND GIFT-EXCHANGE 101-02 (1994) (arguing that ethnicity-based trading groups have high levels of internal trust); Amy Chua, *Markets, Democracy and Ethnicity: Toward a New Paradigm for Law and Development*, 108 YALE L.J. 1, 7 (1998) (arguing that ethnic minorities in developing countries often perform disproportionately well compared to indigenous majorities).

117. JANE JACOBS, THE DEATH AND LIFE OF GREAT AMERICAN CITIES (1961); ROBERT PUTNAM, MAKING DEMOCRACY WORK 182 (1993); Margaret Levi, *Social and Unsocial Capital*, 24 POL. & SOC. 45, 48-49 (1996) (reviewing PUTNAM, *supra*).

118. *But see* NELSON W. POLSBY, CONGRESS AND THE PRESIDENCY 88 (4th ed. 1986) (discussing the decline of collegial norms in the Senate).

rocity over time. While reciprocity can facilitate logrolling behavior and vote-trading, it also can lead legislators to resist external pressures if they are convinced that an alternative course of action is the right one.

Consider the requirement of Senate approval for every bill as a mechanism of reducing interest group pressures. Legislators are asserted to be motivated by the need to win reelection, but Senators are less susceptible to such pressures given their longer time-horizons.<sup>119</sup> Stronger internal norm governance suggests *less* susceptibility to capture by outside interests. The Senate is a high-trust environment full of conditional cooperators, concerned, of course, with their own self-interest, but likely to cooperate with each other. The requirement of Senate approval for every bill may suggest that there ought to be less concern with capture of the legislature than the simple interest-group theory would suggest.

Relations between administrative agencies and private parties might also be subject to the same kind of dynamics of norm-building and reciprocity. As interactions are repeated over time, cooperation might ensue. This could reduce the levels of “adversarial legalism” that are alleged to entail costs for the American economy.<sup>120</sup> The same cooperation that has been criticized as leading to capture might have public benefits in the form of voluntary business cooperation with enforcement regimes. This is really an empirical question.

Courts are the only policy-making institutions that are not engaged in repeat face-to-face interactions with outside interlocutors of the kind that encourage cooperation. Although interest groups can pursue a “repeat player” strategy that can give them some advantage over one-shot litigants,<sup>121</sup> this is qualitatively different than the kind of face-to-face interaction that legislators and agencies engage in with outside interest groups. Because they are not engaged in games of cooperation, courts cannot be captured in the same way as legislators and agencies. This provides support for those who believe courts ought to play an active role in reviewing legislation and administrative action, even though the theory suggests less pessimism about the content of those forms of law-making.

On the other hand, courts may still be subject to Arrovian agenda-manipulation problems. Unlike legislators and agencies, courts are typically seen to have no control over their own agendas. This suggests that

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119. Compare DAVID R. MAYHEW, *AMERICA'S CONGRESS: ACTIONS IN THE PUBLIC SPHERE, JAMES MADISON THROUGH NEWT GINGRICH* xii, 71–128 (2000) (discussing congressional “actions” such as “legislating, impeaching, taking public stands, intruding into foreign policy, and . . . staging opposition to presidential administrations”), with DAVID R. MAYHEW, *CONGRESS: THE ELECTORAL CONNECTION* 13–17 (1974) (discussing reelection as a goal for members of Congress).

120. Robert A. Kagan, *Adversarial Legalism in American Government*, 10 J. POL. ANALYSIS & MGMT. 369, 375 (1991).

121. Cf. Galanter, *supra* note 103, at 97–104 (arguing that repeat litigants often benefit from several advantages over one-time litigants); Cross, *supra* note 83 (arguing that repeat litigants use various techniques to secure favorable outcomes).

strategic interest groups can manipulate the order in which cases are brought to the court to suit their own ends. This strategy has been used by interest groups from the NAACP to business firms.<sup>122</sup> One's view of the desirability of this kind of action tends to depend on one's view of the particular manipulator. In the example of a society made up of two types of groups, a low-trust group may be unable to mobilize to litigate the case in court; thus, the high-trust group's capture of legislation will stand unchallenged. This account suggests that collective action problems will continue to be a problem for public policy and legal scholarship will have to continue to address them. Although the revised theory is less pessimistic than the original public choice, it still suggests that a public policy may be suboptimal.

#### IV. THE ROLE OF THEORY IN LAW AND SOCIAL SCIENCE

The story of public choice has implications for the role of theory in social explanation and legal scholarship. We should recall why it is that legal scholars found public choice so useful in the first instance. It will be helpful here to distinguish between positive and normative functions of theory.<sup>123</sup> Broadly speaking, positive theories exist to organize facts to achieve two purposes.<sup>124</sup> They can *explain* the world as we find it, thus contributing to our understanding. They can also *predict* future occurrences of the phenomenon under consideration.<sup>125</sup> Normative theory, on the other hand, serves to organize recommendations to legal and political decision makers about how institutions should be designed. It focuses on how the world *ought* to be rather than how it is.<sup>126</sup>

Prediction is the aspiration of positivist social science.<sup>127</sup> The social scientist seeks to identify causal mechanisms so as to develop "covering laws" that will govern future occurrences of the phenomena under observation.<sup>128</sup> It is important to recognize that the predictive function can only be played once explanation has succeeded.<sup>129</sup> Only when one has

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122. Galanter, *supra* note 103, at 136 n.101.

123. JAMES B. RULE, *THEORY AND PROGRESS IN SOCIAL SCIENCE* 25 (1997).

124. See generally DANIEL LITTLE, *VARIETIES OF SOCIAL EXPLANATION: AN INTRODUCTION TO THE PHILOSOPHY OF SOCIAL SCIENCE* (1991).

125. Although linked in that both focus on identifying causal mechanisms, the two positive functions of explanation and prediction are conceptually distinct. Explanation seeks to explain what has happened in the past, but need not entail the more ambitious task of prediction. A historian might try to understand the causal forces that led to World War II, without necessarily asserting that the same forces would apply to future wars because each discrete historical event is unique. This is a major question in historiography, with historians divided on the extent to which theirs should be considered a policy science. See Siakantaris, *supra* note 71, at 272.

126. MASHAW, *supra* note 85, at 1-29.

127. Positivism in social science should be distinguished from legal positivism. See, e.g., H.L.A. HART, *THE CONCEPT OF LAW* (1961); HANS Kelsen, *THE PURE THEORY OF LAW* (Max Knight trans., 2d ed. 1967); JOSEPH RAZ, *THE CONCEPT OF A LEGAL SYSTEM* (1980).

128. JON ELSTER, *ALCHEMIES OF THE MIND: RATIONALITY AND THE EMOTIONS* 1 (1999).

129. STEPHEN TOULMIN, *FORESIGHT AND UNDERSTANDING: AN ENQUIRY INTO THE AIMS OF SCIENCE* 24 (1963).



observed regularities and identified a causal mechanism can one assert that the same causal mechanism will operate in a future observance of the same event.

It is an old move to critique the positivist enterprise for failing to articulate its own normative suppositions and offering the image of an objective social science that is impossible to achieve.<sup>130</sup> Scholars using public choice ideas have noted that it is difficult to separate the positive questions of how the world looks from the normative questions of what the world ought to look like.<sup>131</sup> Nevertheless, this is the aspiration of positivist social science: the development of predictive statements.

Legal scholarship is not primarily about empirical prediction. Edward Rubin has argued forcefully that the key distinction of legal scholarship is its normative character.<sup>132</sup> Legal scholarship is addressed to legal decision makers, with particular emphasis on judges who “speak the same language” of the legal scholar. Legal scholars seek to influence decision makers by offering them normative propositions.

Normative propositions, at least those of the instrumental type that legal decision makers typically develop, always involve at least implicit predictive statements about the world. A normative theory says that when confronted with event *X*, legal decision maker should do *Y*. This statement is based on an assumption that actors will respond to decision *Y* in a predictable, desired way. It also implies that *Y* is the best response to *X* in the sense that other possible responses are less useful. And it assumes that *X* will produce undesirable consequences without *Y*. These assumptions rest, ultimately, on probabilistic beliefs about the state of the world.

Normative theory depends on positive theory, but the inverse is not necessarily true. Indeed, the discourse of positivist science seeks to explicitly bracket normative questions and determine the world as it is, not as it ought to be. So the relationship between the two types of theory is not in balance; the one is open to the other, but not the inverse. Thus, normative theory of the type used in legal scholarship has what might be called a commensal relationship with social science. Commensal is the term used in biology to describe a relationship among two organisms where one is benefited and the other is not harmed.<sup>133</sup> Legal discourse

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130. See CLIFFORD GEERTZ, *LOCAL KNOWLEDGE* 174 (1983) (stating that “the legal representation of fact is normative from the start”).

131. Rubin, *Law and Methodology*, *supra* note 73, at 521. Rubin’s view may not be completely correct. The traditional role of doctrinal theory in the civil-law tradition is an illustration of nonpredictive, descriptive theory in law. Civil-law scholars labor within the framework of *wissenschaft*, or legal science, to develop an internally consistent account of the law. Their work strives for normative consistency but is not in the first instance about policy recommendations to legal decision makers. Nevertheless, we accept Rubin’s view of at least the self-conception of the legal scholarship enterprise in the United States.

132. MASHAW, *supra* note 85, at 1–4; Spence & Cross, *supra* note 98, at 105 (although public choice scholars aim to be descriptive, their analyses undermine legitimacy of administrative state).

133. 3 OXFORD ENGLISH DICTIONARY 549 (2d ed. 1989).

needs social science discourse, but social science discourse cannot rely on normative legal discourse, for to open itself up to prescriptive statements would be to lose the stance of objectivity which is its hallmark.

Because legal scholars need to search for normative implications that inherently rely on positive assumptions about behavioral regularities and other states of the world, but have no distinctive positive methodology to examine the world, legal scholars are drawn to theories from various other disciplines for leverage to draw normative conclusions. Thus, calls for greater empiricism in legal scholarship are routine.<sup>134</sup> What binds many of the strains of legal scholarship of the last three decades is the systematic incorporation of insights from other disciplines: economics, literary criticism, and psychology, to name only a few. In this context, legal scholars turned to public choice as a simple set of positive theories on which to base normative recommendations.

The original public choice propositions were predictive and made positive statements about the world. Legal scholars drew on them for normative work. But as the propositions were subjected to empirical testing, it became apparent that the theory had explanatory and predictive power in some areas but also had some shortcomings. What should be done in such circumstances? Some legal scholars proposed rejecting the theory entirely. These scholars seem to have been implicitly accepting Karl Popper's model of the growth of scientific knowledge that relies on an evolutionary interplay between theory and testing. A theory is presented; it persists until falsifying evidence is procured.<sup>135</sup> Serious Popperians might have reacted to the initial failures of public choice by rejecting the theory entirely. Many legal scholars did precisely this when they criticized public choice theory for lack of empirical results and suggested abandoning it.<sup>136</sup>

Others have criticized Popperians as "naïve falsificationists" by noting that a theory can only be falsified by the presence of another theory that is superior in terms of explaining more facts than existing theory.<sup>137</sup> Consider creationism as an example. Creationism provides an internally coherent theory that purports to explain the origins of the world. At a crude level, much evidence is consistent with it. But there is also a growing body of evidence that is inconsistent with it, namely radio-carbon dating and the fossil record. One could look at this situation and argue, as I have done with public choice, that the glass is half full rather than half

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134. See, e.g., RICHARD POSNER, *OVERCOMING LAW* 5, 195 (1995); David Trubek, *Where the Action Is: Critical Legal Studies and Empiricism*, 36 *STAN. L. REV.* 575 (1984).

135. On criticisms of Popper, see, e.g., MARTIN HOLLIS, *THE PHILOSOPHY OF SOCIAL SCIENCE* 76 (1994); Barry O'Neill, *Weak Models, Nil Hypotheses and Decorative Statistics: Is There Really No Hope?*, 39 *J. CONFLICT RESOL.* 731, 734-40 (1995).

136. See *supra* note 8. But see FARBER & FRICKEY, *supra* note 3; MASHAW, *supra* note 85.

137. See CHONG, *supra* note 11, at 47; Imre Lakatos, *Falsification and the Methodology of Scientific Research Programmes*, in *CRITICISM AND THE GROWTH OF KNOWLEDGE* 91, 116 (Imre Lakatos & Alan Musgrave eds., 1970); see also Jennifer Widner, *Comparative Politics and Comparative Law*, 46 *AM. J. COMP. L.* 739, 745 (1998) (stating that falsificationism "still has practical utility").

empty. But the real problem with creationism is that there is another theory, Darwin's theory of evolution, that explains more of the evidence in a plausible way.<sup>138</sup>

With the original public choice propositions, there was no such superior theory to require rejection. In the wake of empirical work, however, Ostrom and others have developed a revised theory of collective action. The revised theory explains more of the evidence without departing from the core public choice assumptions of methodological individualism and optimizing behavior.<sup>139</sup> Thus we may adopt the slightly more complex revised model to explain more of the world.

As a heuristic, we might think about this process of comparing alternative positive theories as evaluating ratios. For each of several alternatives, one can take the amount of data explained by the theory and divide by the conceptual complexity of the theory. The theory with the higher ratio is the better theory.<sup>140</sup> Of course, this assumes that there is indeed a common metric to judge theories and weigh evidence, itself a highly problematic assumption. But the ratio idea does suggest that at some level, alternative theories may lie along an indifference curve, whereby the tradeoffs of more explanatory power are offset by increasing conceptual complexity. Moving along the indifference curve, from simpler theories that explain some data towards more sophisticated theories that explain more, may in the end be a matter of taste. And theoretical eclecticism may be a productive strategy.<sup>141</sup>

We are left then with a middle path. Because legal scholarship must make normative recommendations to legal decision makers, but has no method for discovering the states of the world on which such recommendations must be based, it has no choice but to look outside for "usable knowledge."<sup>142</sup> It must integrate this knowledge with normative and moral considerations. In short, the functions of positive and normative scholarship are not truly separable, even though we find it useful to treat them as separate discourses. They are not only complementary, they must also be integrated in order to produce adequate normative recom-

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138. Note that, in strict Lakatosian terms, one might argue Darwinism was not a superior theory because it did not purport to explain the origins of the entire universe, only the origins of species. But this does not deal with the fact that Darwinism was fundamentally incompatible with the literal interpretation of the Bible. Creation science now focuses on the questions of intelligent design, but only because the major battles have been lost.

139. Cf. Rostain, *supra* note 110, at 981–83 (arguing that introducing behavioral complexity into rationalist model may mean it is no longer economic theory).

140. Gary W. Cox, *The Empirical Content of Rational Choice Theory: A Reply to Green and Shapiro*, 11 J. THEORETICAL POL. 147, 160–61 (1999) (reviewing GREEN & SHAPIRO, *supra* note 4). One of the first to observe this was John Stuart Mill. See JOHN STUART MILL, A SYSTEM OF LOGIC, Book III, ch. IV (1843).

141. Peter Evans, *The Role of Theory in Comparative Politics: A Symposium*, 48 WORLD POL. 1, 5 (1995) ("No single, ready-made theoretical model can provide all the tools necessary to explain the cases I am interested in, but an eclectic combination offers enough leverage to make a start.").

142. MASHAW, *supra* note 85, at 30–31 (explaining the need to use the truths of public choice theory "without succumbing to the excessively negative vision it so often supports").

mendations.<sup>143</sup> But we must also recognize that the two are not to be blended together so easily. Normative work must be open to positive work, but the reverse is not true within the internal structure of positivist thinking.

## V. CONCLUSION

This article has summarized some elements of public choice that have been particularly influential in legal scholarship. It has defended public choice against the charge that it is empirically unsupported and showed how theorists responded to empirical evidence. It has also demonstrated that an alleged conservative bias in public choice is inaccurate: public choice concepts have been deployed for a wide range of legal arguments from many political perspectives. Many of the criticisms of public choice have misunderstood the basic methodological stance of public choice: it self-consciously simplifies to develop clear explanations of causal forces at work.

Perhaps the best way to think about public choice models is as a portfolio of ideal types.<sup>144</sup> Ideal types are not designed to capture a complete picture of reality, but merely to serve as tools for understanding. Even with the developments of behaviorist psychology, our understanding of human motivation remains very crude. By adopting a simplifying assumption of self-interest, we can identify and explore interesting puzzles around core issues of politics and government in modern society.

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143. Cf. EDWARD RUBIN, *WHY IS LEGAL SCHOLARSHIP DIFFERENT FROM POLITICAL SCIENCE* 20 (Univ. of Pa. Law School, 2001).

144. See MAX WEBER, *ECONOMY AND SOCIETY* 212–16 (Guenther Roth & Claus Wittich eds., 1968).