

**COMMITTEE IV**

A Critical Assessment of  
the Achievements of the  
Economic Approach

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**COMMENT ON TULLOCK: RATIONAL CHOICE AND CONFLICT**

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DISCUSSION PAPER

on

Gordon Tullock's

**THE ECONOMICS OF CONFLICT**

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Rational Choice and Conflict

Comments on Gordon Tullock's "The Economics of Conflict"

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1. (a) The contribution of economics is to economics. Its cross-disciplinary use is limited, misleading, distorting. If there is an "economic imperialism" in the social sciences, it is "the imperialism of 19th century social theory" (Ordeshook, p. 10), overtaken by subsequent thought as 19th century empires, bar one, have been overtaken by subsequent history.

(b) The contribution of the economic approach is all-pervasive in the social and, albeit in a different sense, in the natural sciences too. The dwindling credit commanded by induction, the mistrust of ad hoc, Deus-ex-machina assumptions about the world, keep creating a vacuum for the "paradigm" associated with economics to fill.

Statements (a) and (b) are not contradictory but are apt to set us off at cross purposes. I think that, by inadvertence, this has in fact happened.

Tullock marks off the territory of economics as that of very good information (p. 1) and cooperative behaviour (pp. 1, 15), hence being of little help and relevance to the analysis of conflict (p. 6). He defines conflict, if I understand him rightly, as being essentially about the indeterminacy of a bargaining solution falling some place within a determinate range. Though I believe that only certain types of conflict can be assimilated to bargaining, others having binary alternative outcomes, he is probably right that the main body of economic doctrine is not turned towards problems of conflict.

As Tullock does with regard to the sort of conflict he considers, some others also find that economics has little to say on the matter of their central interest. It studies the "particularized forces of markets and the allocation of ... money" (Ordeshook, p. 2), assumes that "individual action (is) motivated by self-interest" (p. 6), proposes "theorems about supply and demand" (p. 31). It is said that "the language of money and prices" is inappropriate for "addressing the nature of... order in human societies" (Ostrom, p. 6) and that one should not assume<sup>1</sup> /but who does/ that even commercial relations are always "constituted in accordance with the neo-classical theory of perfectly competitive markets" (p. 8). Less strange statements about what economics is about, and why it should be kept in its place, crop up in other contributions to this symposium, notably as regards uncertainty and incomplete information and the use of self-interest as the sole or the dominant motivation of action.

Disclaimers from economists and charges by non-economists, can be met on two levels. On the trivial level, it is not hard to make a case that economics as a subject is misrepresented. It does deal extensively with producers' behaviour, imperfect competition, duopoly, imperfect knowledge, expectations, risk, and so forth. It is certainly not confined to consumer behaviour, static equilibrium and certainty; it goes well beyond "theorems of supply and demand", "the allocation of money" and "selfish" conduct. However, for assessing the potential of the economic approach, it is fairly immaterial whether economics is really as narrow, 19th century and naive as some of these characterisations imply. No characterisation of economics as a subject can prejudge the contribution, actual or potential, of the "economic approach" as a method, to areas both within and outside economic subject matter.

This leads me to the second, rather less trivial, level of answer. Coleman's paper, and I think his alone, makes explicit the distinction between subject and method. It is the successful imperialism of the method that is being claimed. It is this claim we should be considering, and not the real or pretended encroachment of the categories of economic subject matter, price, market, money, etc., upon other subjects.

2. Before trying to deal with what I think is the real claim, which I would like to put against the foil of Tullock's treatment of conflict, let me first briefly take issue with the way the 'economic approach' as method, is sometimes defined. It is said to employ a fairly minimal rationality postulate as the regulating principle of all individual actions that is capable of being explained and predicted; it admits explanations of phenomena involving the actions or inactions of many persons only if they are valid deductions from the valid explanations of individual actions ("methodological individualism"); and it restricts the "maximand" in rational action to "self-interested" ends.

Taking the last first, this is now widely rejected as a needless restriction of generality, self-inflicted by those who still adopt it. (Becker's work on the family, a great success despite his self-imposed handicap of a narrow motivation, springs to mind). It is not intrinsic to the method, which merely calls for given ends (whatever people want, whether for themselves or for others), and does not require them to be self-interested, let alone selfish, - whatever these adjectives may mean. (The motivational boot is now on the other foot: since the method allows any motivation, we run the danger of rendering the utility function so unrestricted as to transform it into an empirically empty tautology.) Given the ends, rationality is some straightforward relation connecting ends to means, much as a line is a relation between two points (e.g. the shortest distance between them).

The operation of a mind is inherent in the successful realization of a rational ends-means relation. If this is agreed to be the case, and if there are no collective minds, the assumption of methodological individualism is redundant, for rationality is either individual or a meaningless nothing.

On the other hand, there are environments or types of inquiry where it is a thoroughly sensible short cut to attribute a mind, capable of having ends and calculating ends-means relations, to<sup>a</sup> collectivity, an institution, a legal person. Tullock does this in nuclear conflict between states, Bernholz in international relations and Alan Schwartz, I think, in dealing with corporate litigants. It does not seem to me that respect for methodological individualism should stop us from practising this sort of healthy heuristic holism.

3. Looked at it this way, the "economic approach" really reduces to a consistent application of a workmanlike rationality postulate. It is an approach that recommends itself, not because it can conquer all, but because without the postulate, deductive reasoning about human behaviour is not possible; instead, "anything goes", and no discipline can be imposed to curb prattle and mumbo-jumbo. The achievement of the postulate is not so much in the new knowledge it is producing in fields to which it is a relative newcomer, (notably sociology, political theory and perhaps history too, though the last is a moot point), but in rolling back a little way the vari-coloured fogbanks of historicism, institutionalism, behaviourism, structuralism, functionalism, dialectical materialism, and the rest. Neo-classical economics, which is the rationality postulate employed in a context of economic subject matter<sup>2</sup>, has even succeeded to roll back Marxist Theory from some of its very own home ground. The purifying effect of the rationality postulate is perhaps less conspicuous, but real enough, in

political philosophy (viz. the runaway success of two recent rational-choice initiatives in this field, those of Rawls and Nozick). The mushrooming literature on what started out as the social welfare function, came to be known as the social choice rule and now tends to be called the theory of constitutions, heavily axiomatised lest we should lose sight of its foundations in individual maximizing behaviour, is really conveying the same message.

4. Some of my general musings above, find their specific reflection in Tullock's treatment of conflict. His main points are made through a scenario where Plaintiff sues Defendant for \$30,000 and each litigant spends \$10,000 on the case before they settle for \$15,000. The sum of this game being -\$20,000, their action is said to be socially irrational. Tullock goes further and specifically diagnoses the game as a prisoners' dilemma (p. 3), i.e., one involving a suboptimal dominant strategy for both players. It is a common tendency to call almost any conflictual game a prisoners' dilemma and try and handle it as such. Tullock's Litigation game does not easily shape up as a prisoners' dilemma.<sup>3</sup> In the latter, the pay off structure is symmetrical; Row and Column can change places and their Nash-equilibrium strategies will not change. In Litigation, this is not the case. Let me restate the payoffs and the strategies. If Plaintiff and Defendant both spent \$10,000, two alternative court awards of \$30,000 and 0 to Plaintiff are equiprobable, and costs are borne by the litigants. If Defendant does not choose to incur costs, an award to Plaintiff of \$25,000 is certain. If Plaintiff does not sue, nothing happens and both get a payoff of 0. Plaintiff's expected payoffs, if he sues, are \$5,000 if Defendant defends, and \$25,000 if he folds. Defendant cannot choose not to be sued, i.e., he really has no "cooperative" strategy. His expected payoffs are always -\$25,000, whether he defends or folds. Though Defendant is thus technically

indifferent, it would be (Tullock, p. 2) socially more rational for him to fold (the game sum is 0) than to defend (the game sum is -\$20,000). Would it be socially desirable to pay Defendant a small bribe of \$100 to get him to fold and save society \$20,000? Tullock seems to be saying that while the answer is of course "no", (Finland was right not to "chicken" before Russia in 1939-40), it is the fault of the "economic approach", unable to handle conflict, that the suggested <sup>answer</sup> game-theoretic <sup>answer</sup> seems to be "yes".

The culprit, of course, is not <sup>the</sup> rationality postulate, nor game theory, but the manner of applying it. First, as <sup>the</sup> payoff and strategy options show, the game is not a true "dilemma". Second, it has no sensible solution if set up as a single-play game. The dice are largely cast in the pre-game, in the allocation of the non-symmetrical roles to the players. As it is set up, Plaintiff wins some whatever happens, - though he wins less if Defendant defends. Defendant has lost in the pre-game role-allocation all he was going to lose in the game. His only remaining interest in the game itself, if any, is to affect future games. Given Plaintiffs possible payoffs, there is an extra-game bargaining range from \$5001 to \$24,999 such that a settlement for any sum in this range would leave both litigants better off than if Defendant chose to incur trial costs. Hence Defendant can recoup in the extra-game some of his loss from the game; he would be irrational not to settle.

The snag in this single-play reasoning is that in settling, Defendant would both reward Plaintiff, teaching him to grab the same profitable role in the next pre-game, and he would establish his own reputation as a soft touch, an attractive target to choose for other potential plaintiffs in parallel games. Tullock of course is perfectly aware of this, but appears to think that game theory is helpless in the face of this problem. The proper game solution, of course, is to make full use of the subjective

and cardinal utility probability in Bayesian maximization<sup>4</sup> over a "supergame". Losses will be rationally incurred as the price of deterring future frivolous litigation. If the single game worked as Tullock construed it, everybody would rush to sue to preempt everybody else from suing; the distribution of assets and income would become random as a kaleidoscope; and except for lawyers, life would become "poore, nasty, brutish and short". Over a supergame, it is socially rational for Defendant to defend and not to settle, so as to deter litigation.

5. Some lessons from Tullock's handling of the Litigation game apply more generally to all state-of-nature political theory. Leibniz and Rousseau have taken fatal liberties with rational choice. Hobbes has set up his state-of-nature "game" with a built-in advantage to the attacker.<sup>5</sup> The expected value of attack is always higher than its opportunity cost. Neither peace nor resistance are rationally explicable, and the social contract is the sole possible escape from mayhem. This is not the place to develop this point, except to note that Bernholz's state-of-nature system of international relations works where Tullock's litigation should lead to mayhem, -among other reasons because an unbiased payoff structure is needed for peace (non-litigation) to be logically possible.

6. That nuclear confrontation is a prisoner's dilemma is dubious; this seems to me the main reply to Tullock's complaint that his "good formal analysis" of it (p. 14) is accepted only by an admittedly select minority of himself and Bertrand Russell. There can, of course, be no formal quarrel with his conclusion about nuclear monopoly; destroying a future threat to it pays by definition. The disagreement enters with duopoly, his purported "prisoner's dilemma". Game theory is said to dictate "each of us destroying one city a day of the other", which is "undesirable, but it is the solution to the prisoner's dilemma" (p. 14). Like with



litigation, it seems to me that Tullock seeks to deprecate the rational choice paradigm: it gives no solution or wrong ones, since patently we are not each of us destroying one city a day of the other. Jack Hirshleifer's paper in the original volume on Economic Imperialism<sup>6</sup>, makes the opposite case (the rational choice postulate does explain successful nuclear deterrence) more convincingly.

7. There is an absolutely fundamental observation in Coleman's paper on "the Economic Approach to Sociology" about the contingency of the actions of others on one's own (Coleman, pp 13-14). This notion is, I think, of capital importance and I should like to plead that the "economic approach" make the greatest possible use of it. In Tullock's two-person Lottery Game, each player ends up by paying \$25 for the mathematical expectation of \$50 which was available for \$1. I do not pretend to understand how and why \$25 becomes the Nash equilibrium. It is clear, however, that each player could buy \$50 for \$1 if he could trust the other player to pay no more than \$1 either. Starting from their \$25 equilibrium (or for that matter from any level starting line), each could work backward towards \$1, by making each reduction in his stake contingent on a simultaneous reduction by the other. Under quite undemanding assumptions of visibility, an agreement to proceed in this way is self-enforcing in the same way as "spot" market contracts are self-enforcing.

The potential scope for constructing self-enforcing agreements in conflict situations seems to me greatly underrated, (partly because third-party enforcement is made available by the state as a public good, which makes us lazily rely on it.). Rational-choice approaches do not sufficiently make this clear. The technical reason for this, I believe, is that game theory is better equipped to represent (1) sequential or (2) simultaneous discrete moves than (3) simultaneous continuous ones.

With sequential moves, the first performer in a reciprocal promise is wholly at the mercy of the second performer; a good reason for not performing in the first place. With simultaneous discrete acts, each of the two promisors must simultaneously and irrevocably decide whether to perform, without knowing what the other promisor has decided. (Admittedly, this is a lesser obstacle to cooperation in iterated than in single play). When, however, the two promised performances are simultaneous and continuous acts, (I walk as long as you walk, I work as long as you pay me, etc.), contingency makes for self-enforcement. A sufficient condition for this is that each player's opportunity cost of performing as promised, should be no greater than the value he places on the other player's performance. Quite nasty non-cooperative games can be tamed without third-party enforcement if the moves required can be made simultaneous and continuous, - hence mutually contingent, - hence potentially self-enforcing. The "rampant imperialism" of the rational-choice method would, I think, be even more pervasive if it were more acute in detecting actual or latent self-enforcing contractual solutions to certain conflicts and dilemmas.

## NOTES

- <sup>1</sup> But who does?
- <sup>2</sup> With all the respect due to "Austrian" economics, its latter-day insistence to differentiate itself from the neo-classical mainstream economics seems more important to a small band of its practitioners than to the bystander. What matters is that Menger and Wieser argue within the same rational choice "paradigm" as Marshall and Edgeworth.
- <sup>3</sup> Tullock's Litigation game has more in common with the game of Chicken than with the Prisoners' Dilemma. Defendant having no dominant strategy, he formulates his move as if he made a probability judgment of Plaintiff's alternative strategies and an utility judgment of the resulting alternative payoffs. In other words, a determinate solution implies Bayesian utility maximisation, however it is disguised. However, as Tullock would be the first to recognize, bluff and/or pre-commitment on the part of Defendant can have a bearing on Plaintiff making the "collision threat". Hence it is possible to read litigation as if it were wholly Chicken, with neither player having a dominant strategy; Plaintiff may just blackmail Defendant without ever suing him.
- <sup>4</sup> The rational-choice approach defeats itself if, in the face of the very important class of Chicken games and supergames, it looks for the oxymoron of "known probabilities". Frequency may be known, probability cannot be. One should no more hanker after "objective probability" in expected utility maximisation than after "objective value" in price theory. In the rational choice paradigm, probability is an index (say, on a scale of 0-100), of the truth value of a statement, which we assign to it not because we think "we know enough" to do so, but because we would be worse off if we did not, -however little we know. We do not use sufficient evidence,

but such evidence as we get, given the cost of evidence - getting. Any probability judgment is an ex ante improvement over leaving one's head buried in the sand. Claims of "unknown probability", "uncertainty" and the supposed aversion thereto, which tend to derail or abort much rational-choice reasoning, should be examined in this light. One should always ask the difference in kind between the probability-index shifting from, say, 90 to 91 and from 99 to 100. What is the magic significance of calling numbers of less than 100 "uncertainty" and 100 "certainty"?

<sup>5</sup> The "Invader" always attacks as part of a larger coalition, "with forces united to dispossesse "the invaded. The latter is always alone, he is just "another mans single power". Hobbes, Leviathan, 1651, (ed. by C.B. Macpherson, 1968), p. 184.

<sup>6</sup> Especially Part III on Sophisticated Equilibrium.