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Promotions, Elections, and Other Contests

Comment

by

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1. Introduction

Sherwin Rosen is one of the originators of the theory of contests, and we should be grateful to him for receiving an authoritative and informative survey from his pen. ROSEN [1988] has concentrated, however, on the theory of contests proper and offers only a few asides as to its impact for our understanding of economic institutions. Whereas I largely agree with the survey, these asides leave me slightly uneasy. Since my role as a commentator requires me to spell out my points of criticism rather than those of agreement (which would add no information), I have decided to focus my comment on these asides, i.e. on the interrelationship between the theory of contests and the theory of institutions.

2. Two Central Issues

The theory of contests is usually presented as a normative theory which answers the question: How contests of maximum efficiency be devised? and: under what conditions are contests more efficient than market solutions? These discussions start from a given definition of efficiency (usually Pareto-optimality) and given technological and behavioral assumptions (tastes plus utility maximization).

To convert these normative considerations into building blocks for positive institutional theory, two points must be made:

1. The technological and behavioral assumptions must grasp essential aspects of reality, and the results of the theory should be robust with respect to changes in these assumptions in the direction of greater realism.
2. A mechanism must be spelled out which leads to a tendency towards efficiency in organizations, and of organizational forms.

Before discussing these two points in Sections 4 and 5 below, however, a semantic distinction may be introduced.

* I thank Sherwin Rosen for helpful comments and suggestions.

3. Selection Contests and Incentive Contests

I would like to distinguish (at least) two types of contests, according to their purpose.

3.1 Selection Contests

The purpose of these contests is to select one alternative from a set of offers. The contest is relevant only in so far as it influences the decision and the nature of the alternative actually chosen. It is a matter of indifference what may happen to the other alternatives. [1]

Examples of selection contests are the bidding procedures of large industrial projects or buildings, or applications for job openings in open (i.e. not internal) labor markets.

These examples already illustrate the importance of this type of contests – many markets are contesting, rather than price-taking, markets. It is also evident from these examples that selection contests have important incentive properties in addition to their fundamental informational aspect: were it not that applicants have to prove their qualification in order to win a contest, they would have less incentive to acquire it; were it not that entrants must present a convincing architectual design in order to get the building contract, they would have less incentive to develop such a design. The distinguishing feature of selection contests is, however, that the design which has not been chosen, or the qualification of the worker who has not been employed, is irrelevant for the decision-maker once the decision has been made.

3.2 Incentive Contests

Incentive contests serve a quite different function: high prices are given to a few in the upper ranks in order to provide incentives for the lower ranks, rather than for those who actually receive the money [2]. Rather than finding out who is the best runner, the purpose is here to induce everybody to run.

The formal contest literature to which Sherwin Rosen refers has been mainly concerned with incentive contests rather than with selection contests. An important exception to that is, however, Sherwin Rosen's own work (ROSEN [1986]) where contests are analyzed which simultanously serve both functions. But the incentive function is central also to these "elimination contests".

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[1] Selection contest can also be used to select a subset (several employees) from a larger set (applicants), but I will concentrate here on the simplest case.

[2] See MARSCHALL [1920a], p. 461.

4. Contest Theory and the Theory of Careers

Rosen holds that "one of the main applications of this (contest) theory is the motivational and selection properties of promotions to jobs of higher rank over a person's career" (ROSEN [1988], Section 4), but the thrust of the literature (with the exception of ROSEN [1986]) has been the motivational, rather than the selection aspect, whereas the selection aspect seems to me to be much more important.

1. The motivational aspect of contests can apply only to pure internal labor markets: if a firm also recruits from the outside, and if its employees change to other firms, higher wages for higher-ranking jobs would provide incentives for the rest of the world rather than for that firm's own low-ranking employees, who are highly unlikely to remain with it. Wage differentials among ranks might be better explained here by the desire to reduce turnover and tie human capital to the individual firm (CARMICHAEL [1983], SCHLICHT [1981]). Incentives must be provided in a different way in this situation.

2. As ROSEN [1988, Section 5.1] has noted, heterogeneity plus certainty causes problems. If workers differ in their ability, and if the less able know that they will not win, they will shirk from the outset (NALEBUFF and STIGLITZ [1983], p. 40). This problem is of particular relevance for internal labor markets, where lifetime employment precludes selection of a homogeneous work force, and where uncertainty is reduced through a law of large numbers applying to random performances over the years.

3. With different rates of time preference and risk aversion, contests might sort the workers according to these criteria, rather than provide optimal incentives for all of them. Contests, it seems, should first sort workers according to their characteristics, and it is only after this has been done that incentive contests can be optimally implemented. Yet these contests should be different for the different groups, involving different handicaps, different prices, and even different criteria.

4. There will often be a choice between risky and less risky strategies on the side of the contestants. In an all-or-nothing contest, the more risky strategy would be chosen, whereas a piece rate might lead to a less risky strategy with a higher average pay-off. If this is important, the role of contests would be to induce certain types, rather than certain levels, of effort.

5. Contests seem to be not very desirable if cooperation among contestants is important, since they render sabotage individually profitable (NALEBUFF and STIGLITZ [1983], p. 40). Cooperation appears to be important within a firm, however, and some even consider it a hallmark of the firm (e.g. DEMSETZ [1987], p. 5). This seems to be particularily important in the case of pure internal labor markets where incentive contests might otherwise be most appropriate: internal labor markets are created by firm-specific human capital formation which is usually acquired through on-the-job training. On-the-job training requires cooperation. In an incentive contest, however, individuals will not teach their

skills to the newcomers, since this would reduce their chances of winning the contest (THUROW [1975], p. 81).

6. I might cite NALEBUFF and STIGLITZ [1983], p. 40 with approval: "The use of competitive compensation schemes seems less widespread than their evident advantages would suggest. This may be a result of important aspects of worker satisfaction which traditional models ignore. These considerations (i.e. work environment, group homogeneity) are probably less important in the analysis of competition between firms than in the competition *within* a firm".

In addition, workers simply might like (or dislike) contests, and these are preferences which are as valid as any other preference. Further, psychological research suggests that contest-type competition may increase the performance of algorithmic tasks but will reduce creativity (AMABILE [1983], p. 101). In short, the motivational issues within firms seem to be very complex, and there is some evidence that a simple utility-maximization assumption is rather inadequate. This does not imply that people behave irrationally; rather, their rationality seems to be of a more refined sort, involving a change in the meaning of certain activities in response to changes in the environment, including remuneration schemes. This does not imply, either, that evolutionary arguments are infeasible since they do not depend on assumptions of utility maximization (as ALCHIAN [1950] has noted).

Apparently, much needs to be done to develop a more useful empirical theory with regard to this subject, but it seems to me to be not at all clear that contest theory is the best starting-point for a theory of the firm.

5. On the Efficiency of Institutions

Rosen suggests that one important purpose of the analysis is "to find those rules that determine the optimal game, for this is the structure to which the market for contests evolves by natural selection" (ROSEN [1988], Section 3). Yet to my mind this argument is untenable. [3]

To take an example first: consider two economies with different property rights structures which are identical in other respects. Economy A has an incomplete property rights structure such that many external diseconomies of growth are present, whereas in economy B, all diseconomies of growth, including effects on ALCHIAN's [1984, p. 34] royalities, are fully internalized. Economy B grows optimally in the sense that no contracts are available which change the rate of growth and make someone better off without harming someone else. In economy A, the private costs of growth are smaller, and growth will be faster than optimal. Economy A will dominate economy B after a time, and might even compete resources away from economy B, thus destroying this economy along with its optimal property rights structure.

[3] I am uncertain as to whether Rosen is correct in referring to ALCHIAN [1950] here.

It could be argued against this example that economy A must have an optimal property rights structure, too, although property rights are not fully specified: if the costs of specifying and enforcing these property rights in economy A were less than the associated efficiency gains, the agents in economy A would specify them.

This counter-argument simply asserts that everything can be declared efficient if an appropriate rationalization is chosen.[4] The argument stresses, however, what I want to stress: namely, that economy B, although efficient, could be eliminated by competition. So long as evolutionary fitness and economic efficiency are considered to be different concepts, their connection must be proved, rather than assumed; if they are construed as referring to the same thing, any statement as to their interrelationship seems to be redundant. In other words, contests might be perfectly individually rational, but it seems to me to be a rather daring position to maintain their social efficiency in view of the problems and externalities mentioned in Section 4. above.[5]

Rosen himself concedes that competition, if improperly channelled, might have destructive effects, and the desire to mitigate these might lead to collective action[6]. These collective initiatives often have quite undesired and unexpected effects, and are frequently misused for other, and again quite unintended, strategic purposes. It is not clear, therefore, that even collective actions aimed at establishing efficiency will actually succeed, thus determining institutions as collectively efficient solutions. It might be preferable to explain institutions by a historic rather than an efficiency argument, in these cases: why have certain actions been taken, and which (possibly mistaken) convictions and (possible divergent) interests gave rise to that particular collective action? On the level of society, after all, selective pressure is weak, and many institutions satisfy a survival criterion: Western institutions differ quite a lot. The survival criterion will not give us much information here.

There is still another reason why the link between economic institutions and contest theory seems rather weak: contests do not require any particular institutional setting. They might be organized within firms or among firms. Further, contests do not preclude the use of the price system, rather they can be used together with prices, i.e. on top of ordinary market transactions.

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[4] The analogy to "Hicks-d'Alembert's Principle" is evident, and I would draw the same conclusion, namely that "efficiency" is a theoretical rather than an empirical notion: the same real situation might be efficient from one theoretical point of view, but inefficient from another (SCHLICHT [1985], p. 45). This loosens the tie between evolutionary fitness and economic efficiency.

[5] See also MARSHALL [1920b], p. 175.

[6] ROSEN [1988, Section 7]. In other words: The work of the economist might provide the link between evolutionary fitness and efficiency if he succeeds in devising feasible efficient solutions.

In conclusion I think that contest theory is very interesting but I am uncertain as to precisely why this is so. Let me add, however, a quite general remark. With regard to the theory of economic institutions, I simply do not believe in the "Alchian conjecture" that competition among many small firms will yield practically the same result as intrafirm competition within one large firm which comprises all the small firms as single units (ALCHIAN [1984] p. 47). This is to visualize any insitution as a nexus of contracts, as a legal fiction (JENSEN and MECKLING [1976]). In contrast to that view, I think that institutions *do* matter, but this would require a different notion of economic institutions which does not preclude an independent impact of institutions from the beginning, and by definition. The rationality and efficiency stories proposed by economists seem to do just that. This is not, of course, a criticism of Rosen; rather it is a self-criticism by an economist, induced by reading Rosen's paper which is particularly explicit with regard to this point.

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