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The economic theory of rent seeking

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Abstract Tullock's concept of rent seeking was the first statement of a quantitative principle about the social costs of such activities as lobbying and favor seeking. As such, this part of Tullock's legacy to modern economics is one of his most important contributions.

Keywords Rent seeking · Social costs · Monopolies · Tariffs · Crime

1 Introduction

The concept of rent seeking is the idea that transfers are converted into social costs when individuals expend real resources and efforts to capture them. Prior to the invention of the concept by Tullock (1967), transfers were treated as costless redistributions from losers to winners in activities such as regulation and monopolization. The social costs of monopoly and regulation (and other governmental activities) were considered to be limited to the relevant deadweight cost triangles. Unfortunately, these triangles turned out to be empirically small so that the estimated gains from deregulation and free trade were trivial magnitudes as a percentage of total economic output, hardly justifying the investment of economists in studying such matters.

Tullock's insight went against this conventional wisdom in the strongest possible way. Simply put, the rent-seeking insight put rectangles and trapezoids into play, in addition to triangles, and thereby expanded by several multiples the social costs of government intervention in the economy. Transfers were no longer inconsequential. The social costs of transfers had equal standing with traditional deadweight costs, and indeed were likely to be larger than the smaller triangles.

The purpose of this paper is to take a closer look at Tullock's idea and to examine its development over time. In so doing, the following issues will be covered, albeit in varying levels of detail. What were the major works on rent seeking? What is the idea of rent seeking in its simplest possible form? Are there any examples of rent seeking in the private

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economy? What are the various classes of models of rent seeking and rent dissipation? What does the empirical evidence suggest about the magnitude of rent-seeking costs? What is rent protection? What is the effect of rent seeking on the distribution of income? What are the positive economic implications of rent seeking?

2 Basic literature

Tullock's (1967) paper in the *Western Economic Journal* (now *Economic Inquiry*) is the foundational event in the theory of rent seeking. For sure, earlier writers often talked about the effect of rent seeking and lobbying on public policy, but no one prior to Tullock formulated a quantitative principle of the concept. Adam Smith (1981), for example, offered a trenchant discussion of the activities and effects of mercantile interest groups, but without an analytical framework in which to understand the social costs of lobbying. The lack of a historical precedent for the concept of rent seeking may yet be proven wrong; but so far it has not. As above, Tullock's basic point was that lobbying diverts resources away from positive-sum activities into zero- and even negative-sum efforts to capture transfers, resulting in social costs.

The second basic paper on rent seeking was by Krueger (1974). She was unaware of Tullock's contribution. She lays out a model of rent seeking along with some empirical estimates of the cost of rent seeking in the trade sectors of India and Turkey. She also gave the field its name as the title of her paper was "The Political Economy of Rent Seeking."

Posner (1975) was the third basic paper on rent seeking. He was aware of Tullock's paper. Posner lays out the first model of rent seeking in the form of an example of lobbying for a fixed prize. He posits risk-neutral bidders and a game that is constant-cost in bids and obtains an exact dissipation result. He also finds empirical evidence that the social costs of rent seeking in the regulated sector of the U.S. economy historically rose to substantial levels.

There are numerous other papers and collections of papers that could be mentioned. Notably, Buchanan et al. (1980) published a volume of papers on rent seeking that has been influential on the subsequent development of the field.

3 What is rent seeking?

Tullock's point was simple. He argued that expenditures made to capture a transfer were a form of social cost. The social cost arises because the resources used for transfer seeking have a positive opportunity cost somewhere else in the economy with respect to engaging in positive-sum activities. Transfer seeking is at best a zero-sum activity in that it simply shuffles dollars among people and groups, and is probably negative-sum if traditional deadweight costs result as a by-product of such activities (Tullock 1980b). Rent seeking thus embodies a social cost in terms of the foregone product of the resources employed in rent seeking.

Several points should be kept in mind. The theory of rent seeking does not condemn all types of profit-seeking. As Buchanan (1980) articulated clearly, traditional competitive profit seeking or entrepreneurship in the competitive model does not qualify as rent seeking. Such profit seeking is productive; it creates value such as new products and the allocation of resources to higher valued uses. Rent seeking is unproductive; it destroys value by wasting valuable resources.

Another point to keep in mind is that to the degree that the process of rent seeking involves the provision of utility or real income to participants in the process, these benefits should be netted out against the cost of rent seeking. As Congleton (1988) notes, if the rent seeker takes the regulator out to dinner, the value that the regulator places on the dinner must be subtracted from the social cost of rent seeking.

A final definitional point to bear in mind is that bribes technically are not a rent-seeking cost. A bribe is a transfer, and as such, it represents a method of influencing governmental behavior that does not involve explicit rent-seeking costs since rent seeking involves the expenditure of costly resources to procure a transfer. This is not intended as a defense of bribery; it is simply an analytical distinction.

Moving beyond bribes, however, once artificial rents have been created, it is hard to avoid the implication that rent seeking will occur along some margin. If a tax deduction is offered, tax shelters will be created and used. If civil servants are paid wages in excess of their marginal revenue products, queues will develop for governmental jobs. All of these examples involve the use of scarce resources to seek transfers; the process is relentless.

4 Rent seeking in the private economy

Normally, the concept of rent seeking is applied to cases where governmental intervention in the economy leads to the creation of artificial or contrived rents. Seeking such returns leads to social costs because output is fixed by definition in, for example, a government regulatory regime. Entrepreneurship in this setting can only be said to be negative; it will simply dissipate rents and lead to no increase in output or the allocation of resources to higher valued uses. Nonetheless, it is quite possible to conceive of rent seeking as taking place in a non-governmental setting. Buchanan (1983), for example, argued that the rivalry of siblings for an inheritance can lead to rent-seeking activities within families, and Frank and Cook (1995) have shown how certain labor markets involving competition for position (corporate promotion) or a limited number of openings (admission to Harvard or a spot on a National Basketball Association team roster) can possibly lead to costly rent-seeking activities by participants. Competitive advertising by oligopolists, which serves to maintain market share but does not increase the aggregate demand for industry output, may be another example.

In each case, however, the opposite argument can be made. In competing for a bequest, siblings provide valued services to their parents; kids practicing basketball and dreaming of being a professional player gain from such activity in many ways (health, fun, and so on); the allure of Harvard leads other schools to increase their educational quality; and firms would clearly agree to eliminate "wasteful" advertising but for the antitrust laws. Though it may be a close call in some examples, it does not generally appear to be the case that rent seeking costs inhere in private, competitive processes. Either output and/or utility is increased in some dimension, or government is at the root of the problem (as in the antitrust example above).

5 Theory

Posner (1975) stated the first version of a rent-seeking contest, describing a constant-cost game in which the probability of winning was proportional to investment and the available rents were exactly dissipated. He posited risk-neutral bidders, a fixed prize, a given number

of bidders, and an unbiased process for selecting the winner. Where, for example, the pool of rents equals $100,000 and there are 10 rent seekers, each bidder will offer or expend resources/efforts worth $10,000 to capture the rents. In Posner's model rent seeking is analogous to buying a lottery ticket with a one in ten chance of being successful. Under such conditions rents are exactly dissipated; $100,000 is spent to capture $100,000.[1]

Posner's exact dissipation hypothesis is popular in the literature because it makes empirical work easier. A rectangle and a trapezoid are a definite area whose value can be reasonably estimated. Moreover, Posner's model is robust with respect to the free entry and exit of bidders (Higgins et al. 1985). It generalizes to a concept of a long-run equilibrium of bids and bidders. Rents are perfectly competed away with an endogenous number of bidders.

Two points about this exact dissipation result should be kept in mind. First, it is important to understand that this is an equilibrium prediction under the postulated conditions. Government cannot simply put the regulatory favor or monopoly right up for rebidding later and expect that bidders will not adjust their bids for such unexpected takings. If takings are expected, the original bids will reflect the relevant probabilities. Either way, instability in government policy comes to be reflected in a rent-seeking equilibrium outcome.

Second, the concept of equilibrium in a rent-seeking contest does not mean that an incumbent possessor of a monopoly right will not make expenditures to defend and protect his monopoly. This point goes to the symmetry of rent-seeking and rent-protecting expenditures (discussed below). It does not defeat the concept of equilibrium in the original rent-seeking game; initial bids will be deflated to reflect the expected costs of defending the monopoly right.

This constant-cost rent-seeking game is popular with empiricists. This does not mean, however, that all or even most rent-seeking contests are perfectly competitive in nature. Tullock (1980a) presented classes of models where rent seeking is imperfectly competitive in the sense that the competition for a fixed prize leads to over- or under-dissipation of the available rents. That is, more or less than the value of the rents is expended to capture them. Rent seeking in these models does not take place under constant-cost conditions.

These cases are interesting, and they are generated by assumptions about risk aversion, limitations on the number of bidders, imperfect information, endogeneity of the prize, and so on. They are not very popular with empiricists, however, because imperfect dissipation makes the problem of deriving reduced-form equations with which to estimate rent-seeking costs much more difficult and case-specific. One can no longer simply estimate the area of a trapezoid; the task is now to estimate the area of something more or less than a trapezoid that is a function of behavior in the economy. This is clearly a harder modeling problem.

As between Tullock's analysis of over- and under-dissipation possibilities, the over-dissipation possibility does not seem to be very plausible, although that result is analogous to the "winner's curse" in auctions of a prize whose value is not common knowledge. In this case rent seekers are somehow led to bid more than the value of the prize. That is, they would be better off not playing the game in the first place. While this is perhaps possible once, through the distortion of information to rent seekers about their expected chances of winning, such behavior should not persist for long. The regulator/bureaucrat will be able to mislead rent seekers only once. In the next round of rent seeking, bids will be adjusted to reflect "true" probabilities of winning; bureaucratic manipulation of information will be properly discounted.

[1] Keep in mind that rents in this case are not transfers or bribes but must be expended in real resources or effort devoted to favor seeking.

Underbidding, where rent seekers in the aggregate spend less than the value of the prize, is another matter. As noted above, there are several plausible bases for underbidding equilibria, and such considerations make the problem of analyzing the costs of rent seeking more difficult and case-specific. Be this as it may, under-dissipation seems an intuitively more plausible description of the real world.

The minimalist hypothesis is that rent-seeking costs are approximately zero. Dougan and Snyder (1993) have argued that there are powerful and plausible incentives to convert rent-seeking costs into transfers. Something close to this result seems to underlie Becker's (1983) work on pressure groups. Dougan and Snyder stress that transfers are endogenously determined, so the social costs of transfers are minimized by successful interest groups.

The minimalist approach basically implies that the world is efficient. The problem is to show how a theory that suggests that rent-seeking and deadweight costs are minimized by political competition can be stated in a testable form.

All this is to say that exact dissipation appears to be a useful general conjecture about the nature of equilibrium in rent-seeking contests, but this theory must be adapted to the circumstances of any particular case of rent seeking. Like the model of perfect competition, the model of exactly dissipated rents is a vehicle and starting point for helping us understand actual rent-seeking processes.

6 Empirical estimates of rent-seeking costs

There are numerous empirical results on the social costs of rent seeking, depending on the methodology, coverage, and economy analyzed by the author. Krueger (1974) suggested that 7% of Indian GNP was wasted in rent seeking, and 15% of Turkish GNP was lost due to rent seeking for import licenses. Posner (1975) estimated that as much as 3% of U.S. GNP was lost due to the social costs of monopolization through regulation. These are obviously substantial sums of money in any economy. The case for free trade and free enterprise remains empirically important.

Subsequent empirical work in this area has proceeded along several lines. A reasonable amount of work has followed the lead of Krueger in examining the rent-seeking costs of trade intervention in various economies. In general, these works come up with higher numbers than Krueger. Magee et al. (1989, Chap. 15) provide a survey of this research.

Other work has attempted to estimate the social of rent seeking for economies as a whole. This analysis has taken two general forms. First, there are the lawyer regressions. Various authors, including Murphy et al. (1991), have added lawyers in various regression formats set up to explain GDP or rates of growth in GDP, both in the United States and across countries. The robust conclusion of this work is more lawyers lead to lower growth and lower GNP. Some of these admittedly simplistic regression estimates suggest that lawyers reduce aggregate income by as much as 45%.

Eschewing a regression-based approach, Laband and Sophocleus (1992) attempted an aggregate, sector-by-sector accounting of rent-seeking costs in the U.S. economy. They counted expenditures on such items as locks, insurance, police, and the military as being driven by rent-seeking or rent-protecting incentives. On this basis they estimated that almost one-half of the U.S. GNP in 1985 was consumed by such costs.

As with all empirical work, these various approaches are only as good as the theories and models upon which they are based. Several points are worth making here. One is that lawyers per se may not be the problem; the problem may be the nature of legal processes. The vast expansion of tort and plaintiff-driven litigation is not necessarily due to the fact

that lawyers lobby successfully for such changes in the law. Indeed, the use of the legal process to resolve conflicts may simply have expanded in recent years because other forums for conflict resolution (the church, the family) have become less effective in delivering such services.

Moreover, there is a quotient of trust in any economy. Buying a lock is a response to the security of property rights in a society. This security can be produced in a variety of ways (including moral suasion), but in the face of the relevant probabilities, buying a lock can hardly be seen as an unproductive investment. Given the prevailing ethos, a lock protects property rights, and the protection of property rights enhances the productivity of resources over what they could produce without the lock. To argue that one can be wealthier without locks and lawyers implies that there are feasible reforms in behavior that will reduce such costs.

This is certainly believable, but this is exactly the burden that estimators of the costs of rent seeking face. The lock and the lawyer are only wasteful only to the extent that these resources can be feasibly reallocated to more productive uses. Alternatively, contributions to churches could be regarded as substitutes for locks.

In principle, the cost of rent seeking is simply the increase in GDP that would result if a feasible (and possibly Pareto-superior) way to reallocate resources from locks and lawyers to more productive uses could be found and implemented by a political entrepreneur. This figure could be high or low, but it is probably low given the ability of rent-seeking inputs to resist such reallocations. And the mere resistance of the inputs is yet another reason not to waste resources attempting such reallocation (Tollison and Wagner 1991).

The bias of this argument is apparent—the range and extent of feasible reform in the rent-seeking society is not large, and the logic of this argument is inherent in the theory of rent seeking. Reform will be resisted, and this resistance is a social cost of reform.

7 Rent protection

Not only do individuals use real resources to seek transfers, but, as noted previously, they also sometimes use real resources to protect their rents from encroachment by other rent seekers. In contrast to rent seeking, this behavior is called rent protection. The basis for such behavior is clear. Not all "suppliers" of wealth transfers find it economically rational to allow their wealth to be taken away (why spend a dollar to save a dime?). Some will find it worthwhile to fight back (spend a dollar to save two dollars).

Virtually all welfare analyses of monopoly and regulation ignore the rent-protecting activities of organized beneficiaries of such governmental programs. A more general welfare analytics would include traditional deadweight costs, rent-seeking costs, and rent-protecting costs (see, for example, Baysinger and Tollison 1980). An important contribution to this literature in recent years has been McChesney's (1997) concept of rent extraction. He generated results on rent seeking in which regulation or legislation is threatened and then withdrawn as a way to stimulate the formation of interest groups from which politicians can exact tribute.

Once the concept of rent seeking has been introduced, great difficulties confront any theory of economic reform. The reason is simple—the objects of reform (monopolists and transfer recipients in general) will spend resources to resist reform and to protect their transfers. These rent-protecting expenditures are the simple analogues of rent-seeking expenditures—they are one-for-one social costs just as rent-seeking expenditures are. And the point is not just that such expenditures will defeat reform initiatives in a political setting; rather, such expenditures defeat the utilitarian rationale for such deregulatory effects.

An incumbent monopolist will easily find it worthwhile to defeat a utilitarian reformer by spending enough of its monopoly rents to make deregulation socially unprofitable (Tollison and Wagner 1991). This is the difficulty in achieving an analytical rationale for reform in a rent-seeking society.

There are, of course, alternative ways to model this process. Moreover, reform may still proceed under a distributional rationale about monopoly, regulation, and transfers (consumers are poor, producers are rich). But this is a different story. The moral of this analysis is not completely nihilistic. The important point is to prevent the emergence of socially unproductive transfers in the first place.

8 Rent seeking and the distribution of income

Before Tullock, the effect of monopoly on the distribution of income was clear—the monopolist got richer and consumers got poorer; monopoly rents were simply transfers. In the rent-seeking approach, the impact of monopoly on income distribution is a more complicated issue. Of the original formulators of the theory, only Posner relates his analysis to the distribution of income. He states: "There is no reason to think that monopoly has a significant distributive effect. Consumers' wealth is not transferred to the shareholders of monopoly firms; it is dissipated in the purchase of inputs into the activity of becoming a monopolist" (1975, 821).

Posner's argument seems logical. Rent seeking dissipates monopoly rents, translating potential transfers into social costs. The effect of monopoly on the distribution of income in the rent-seeking society would thus appear to be nil.

Perhaps more realistically, however, there will not be an equal distribution of rent-seeking ability in a society. Thus, the mechanism by which rents are assigned is likely to affect the distribution of wealth to the extent that Ricardian rents are earned in rent seeking. Consider a regulatory-hearing mechanism for assigning rents and suppose that some lawyers or economists earn infra-marginal rents in rent seeking. On average, these individuals will be wealthier than their marginal competitors and wealthier than they would be without a rent-seeking mechanism of the particular type that rewards their skills.

The choice of such a transfer mechanism increases the demand for lawyers (and possibly economists) above that which would hold with (say) an auction mechanism for assigning monopoly rents. So, first of all, the choice of mechanism will alter the distribution of wealth by occupation. Moreover, if the requisite talents of the favored occupation cannot be reproduced at constant cost, the inequality of wealth in society may be further affected. For example, suppose the qualities of a good businessman/speculator are more fungible among the population that the qualities of a good lawyer. Then, infra-marginal rents will accrue to the best of the legal profession in regulatory hearing cases. With an auction no Ricardian rents would be earned. The distribution of wealth would differ between these two societies as a consequence.

9 The positive economics of rent seeking

The theory of rent seeking has been advanced as an evaluatory theory. It is a procedure to evaluate reforms that can lead to potentially lower social costs in the economy. In this sense the theory of rent seeking is a normative theory. The idea that political behavior is motivated

by wealth transfers also has a long tradition as a positive economic theory of regulation and government.[2] A thumbnail sketch of this theory will round out this essay on rent seeking.

One way to think about legislation is in terms of the interest-group theory of government. Individual citizens can want or demand laws for any reason—for example, the law makes the world a better place, the law promotes the production of a public good, the law makes them wealthier, and so forth—but they will generally act in some group context to obtain the passage of a desired law or the defeat of an undesired law.

A basic principle as well as a basic conundrum underlies the demand for legislation. The principle is that groups who can organize for less than a dollar in order to obtain a dollar of benefits from legislation will be the effective demanders of transfers. The conundrum is that economists have little idea about how successful interest groups are formed. That is, how do groups overcome free-rider problems and organize for collective action so as to be able to seek a dollar for less than a dollar? Olson (1965) offered a byproduct theory of interest-group formation in which a private good was provided to members at a monopoly price, with the monopoly profit being used to finance interest-group activities. Stigler (1974) later criticized this theory on the ground that there was no reason to assume that the interest group had any monopoly power over the sales of the by-product. What has not been generally recognized is that this is a testable proposition. The Sierra Club, for example, may very well face a downward sloping and relatively inelastic demand curve for its calendars. Some empirical research would be quite useful to test the importance of Olson's byproduct theory of interest-group formation.

Indeed, for whatever reason that organization is undertaken, lobbying for special-interest legislation becomes a relatively low-cost byproduct of being organized. Lawyers may agree collectively to a code of ethics to address such matters as attorney-client privilege and then proceed to adopt provisions in their code that restrict competition among lawyers (advertising restrictions). A firm is an example of an organization that can be used for lobbying purposes at very low marginal cost, and so is a labor union.

In the interest-group theory, the supply of legislation is an inverse demand curve. Those who "supply" wealth transfers are individuals who do not find it cost-effective to resist the expropriation of a dollar. In other words, it costs them more than a dollar to resist having a dollar taken away.[3] This concept of a supply curve of legislation or regulation suggests that the costs of political activity to some individuals exceed the potential gains (or avoided losses). The supply of legislation is, therefore, grounded in the unorganized or relatively less-organized members of society.

The individuals who monitor the supply-demand process are politicians, bureaucrats, and other political actors. These individuals may be conceived of as brokers of legislation, and they essentially act like brokers in a private context—they pair demanders with suppliers of legislation. That is, they seek to pair those who want a law or a transfer the most with those who object to it the least. In the usual logic of the interest-group theory, brokers will concentrate on legal arrangements that benefit well-organized and concentrated groups for whom the pro rata benefits are high at the expense of diffuse interests, each of whom is taxed a little bit to fund the transfer or legislation. By efficiently pairing demanders and suppliers

[2] See Stigler (1971) and the references cited there. Also, see Peltzman (1976), McCormick and Tollison (1981), and Becker (1983).

[3] "Supply" as used in this context is not the ordinary concept of voluntary supply at higher prices. It is voluntary in the sense that giving up a dollar is cheaper than spending 10 dollars to resist giving up a dollar. It is not voluntary in the sense that the state is a coercive mechanism.

of legislation, the political brokers establish an equilibrium in the market for legislation, and this equilibrium is disciplined by periodic elections.

This positive theory of government simply applies the elementary principles of the theory of rent seeking. If the social costs of government action are analyzed in terms of rent seeking, it is a natural extension of this logic to suggest that a positive theory of government will be based upon similar principles; that is, government is best explained as a mechanism to redistribute wealth.

10 Conclusion

Beyond the points raised in this paper, Tullock's concept of rent seeking set off a flurry of research and papers using game theory to model the rent-seeking process under various assumptions about the number of bidders, the size of the prize, the information possessed by bidders, and so on. Tullock's concept has also been employed in other areas of economics including international trade, economic history, development economics, public choice/political economy, the Soviet economy, and experimental economics, to name only a few. There is not the time or place to review this work, but the reader is advised of its existence and can fairly easily access this literature if it is relevant or interesting for their work. In particular, Congleton et al. (2008) is an excellent and up to date compendium of papers on rent seeking addressing the theory and evidence on rent seeking.

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