

Chapter 5: Interest Groups and Public Policy

I. Introduction: Interest Groups as a Source of Public Policies

The median voter model can be used as the counterpart to the competitive model of economic markets. We now move away from the perfectly competitive model of politics to others that include effects that are likely to drive political equilibria away from the median voter's preferred policies. These models can be regarded as the political counterparts to the monopoly and monopolistic competition models of economics. Within democratic polities, these models can be regarded as consequences of rational and natural ignorance or the persuadability of voters. Policies that deviate from voter interests may be safely adopted by elected officials as long as voters are likely to remain unaware of them. They may do so in exchange for various forms of support in elections or as part of a coalition building strategy to get bills passed that their own voters favor. In other cases, interest groups may be able to persuade voters to vote against their interests by inducing fiscal or other forms of illusion. If so, they can at least occasionally induce voter-driven policies that advance special interests more than the shared interests of voters.

Note that both cases are possible only insofar as voters are unaware of subsets of the policies that come to be adopted or do not fully understand their own policy interests. Otherwise, they would be inclined to vote for other more trustworthy candidates in future elections.

In addition to providing possible explanations for policies that at least appear not to advance voter interests, interest group models, unlike electoral models, also cast some light on the policies of non-democratic regimes. Both democratic and authoritarian regimes have interest groups that sometimes manage to induce policies that advance their own (often narrow) interests.

A Short Overview of Interest Group Theories of Public Policy

The literature on the political economy of interest groups begins with Mancur Olson's 1965 book, *The Logic of Collective Action*, which grew out of his dissertation. Olson's book took the public goods concept that had emerged in economics in the previous decade and applied it to group action. It noted that "public goods" or "free rider" problems are associated with all manner of collective action. However, Olson focused most of his attention on the political efforts of such groups. Members of large groups are nearly always better off free riding than participating in a group's costly activities to change public policies. They hope to benefit from the efforts of others, without

bearing any of the costs of collective action. Thus, in the absence of an organization, large groups are very unlikely to be politically or otherwise active. Only small groups with relatively strong interests are likely to be politically active.

Thus, whenever lobbying activities alter public policies, public policies tend to favor small, highly motivated interest groups rather than general interests—at least at the margin. The *Logic* includes several references to political theorists who wrote about interest groups, but Olson’s assessment of past work on interest groups is normally critical. For example, he notes that both Marx and Parsons neglected the free-rider problems associated with collective action and so greatly overstated the influence of large unorganized groups.

Stigler (1971) took that logic to its natural extreme and argued that economic regulations did not tend to bind industry and limit their profits as often argued, but rather tend to limit competition, impede entry, and increase industry profits. Firms have narrow and strong interests relative to their consumers—except perhaps in markets for intermediate goods. This conclusion was softened by Peltzman (1976) and Becker (1983), but their papers also implied that firms largely got the regulations they wanted rather than the ones—if any—for which consumers might wish.

From the interest group perspective, economic regulation largely reflects efforts by firms that were termed rent-seeking by Anne Krueger (1974). They redistribute and reduce the net benefits from exchange rather than increase them. Gordon Tullock (1967, 1980) pointed out that efforts to obtain such rents are competitive and that the extent of resources invested in such contests is often nontrivial. He argued that these counterproductive investments should be counted as a social loss from rent-seeking. Such “investments” are used to reduce social welfare, rather than to increase it as measured by the aggregate net benefits of their associated economic and political activities. Together, the problems of collective action and losses from rent-seeking can produce substantial drags on economic development (Olson 1982).

A long series of theoretical and empirical research projects followed those thought-provoking theories and case studies. Rent seeking concepts were integrated into models of international trade restrictions (Hillman 1982) and used to explore the extent to which institutions might evolve to mitigate such losses (Congleton 1980). The effects that alternative contest designs and interests have on losses from rent-seeking contests were explored in a long series of theoretical papers by, for example, Long and Vousden (1987) and Nitzan (1991). Murphy, Shleifer & Vishny (1993)

discuss a broad range of effects that rent seeking can have on economic development in general. Several efforts to estimate the extent of losses from rent seeking also were undertaken using estimation strategies based on Krueger (1974). For example, Cowling and Mueller (1978) estimated losses from resources invested in rent seeking by monopolists in the United Kingdom and the United States. Laband and Sophocleus (1992) estimated losses from all conflicts over real resources in the United States. Losses from rent-seeking activities were found to be substantial even in developed countries.

McChesney (1987) pointed out that opportunities for politicians and regulators to benefit from the creation and extraction of rents may also affect the details of public policy and regulation. Such efforts, in turn, may induce a good deal of economic activity to shift among countries or become part of the underground economy where regulations and taxes can be avoided (Schneider and Enste 2000). A wide variety of regulations and tax exemptions in all parts of the world can be accounted for as instances of successful rent seeking or rent extraction (Congleton and Hillman 2015).

The remainder of this chapter provides an overview of the theory and implications of the political economy of interest groups.

II. Olson's Logic of Collective Action

Olson's conception of interest groups begins with individuals and focuses on their incentives to contribute to advancing the interest of their group. His work on interest groups was part of a broader analysis of collective action to provide public goods. He was the first to note that collective action to solve public goods problems is itself an area of behavior that is prone to free riding. The benefits of collective action are realized by all members of the group of interest, but the costs are borne only by those who are active. Thus, each member of the group who free rides realizes larger benefits than those who are active. This creates a game-like setting in which each member's dominant strategy is to free ride—particularly in large groups. To be successful, large groups need to be organized and incentivized, but this process is also prone to free riding problems. Thus, large groups tend not to organize and tend not to be active in lobbying and other types of activities to alter public policies.

Groups with small numbers and relatively large interests at stake (both ideological and economic) are far more likely to organize. Their organizational problems are smaller and their interests

in overcoming organizational problems are larger. Congleton (2015, 2022) notes that culture—particularly internalized norms—can reduce these problems for some relatively large groups, but acknowledges that, other things being equal, small groups are more likely to organize than large groups.

Olson’s argument implies that various class-based interests are unlikely to generate mass movements, because of free rider problems. Similarly, broad consumer interests are unlikely to prevail over industrial interests, because there are nearly always far more consumers than there are firms in a given industry. Electoral pressures, which are largely neglected in the interest group literature, may allow the interests of consumer/voters to affect policies, but through methods other than collective action (Wagner 1966).

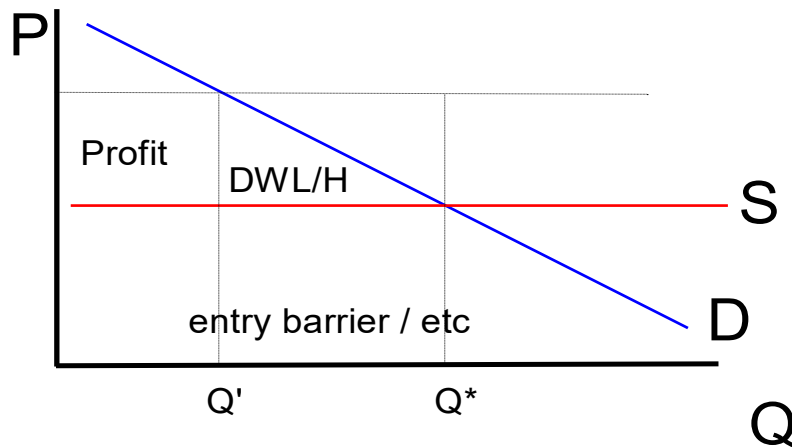
Olson’s model of collective action plays roles in his subsequent research on treaty organizations, economic growth, and the emergence of civilized societies, but these are beyond the scope of this chapter (Congleton 2015 provides brief overviews of those connections).

III. The Chicago School’s Political Economy of Regulation Models

Building off Olson’s insights, **Stigler (1971)** proposed what came to be called the “capture” theory of regulations. Regulatory authorities are often delegated authority to set targets and fines—or at least to propose values for them to legislators who normally defer to their judgement—and to do so they collect information of various kinds from firms in the industry, hold hearings on problems in the industry, and so forth. Naturally the firms regulated are the most active participants in the hearings and the information that they provide is always shaded to advance their interests (short- and long-term profits). Moreover, the regulators themselves are often drawn from persons previously employed in the industry of interest since they tend to have the most expertise in how the industry operates. When regulators expect to return to industry after a few years as regulators (the so-called revolving door), this also creates an incentive for regulators to overweight the interests of the firms that they regulate. In the limit, the interests of consumers are largely ignored and those of firms are given the most weight. Stigler received the 1982 Nobel prize in economics largely for his theory of regulation.¹

¹ The Nobel Prize announcement includes: “As early as the 1940s, Stigler studied the effects of some features of regulatory legislation in the USA, particularly rent controls and minimum-wage

The figure below illustrates the effect of regulatory entry barriers that reduce supply from Q^* to Q' and imply higher prices and firm profits.



Regulatory Entry Barriers, Higher Prices, and Industry Profits

legislation. He indicated that far-reaching, unintended side-effects could arise alongside the primary desired effects. A later study showed that regulation of electricity rates completely lacked observable effects. As a conceivable explanation, Stigler saw that regulation can be based on erroneous perception of real conditions and thus, in practice, be difficult to implement, and on the fact that the intended effects can be neutralized by external pressures. This work on the consequences of regulatory legislation have set a pattern for numerous similar studies, performed by other researchers in many countries.

In later studies of regulatory legislation, Stigler has emphasized its causes rather than its effects. Preliminary observations led him to the hypothesis that, in practice, some regulations protect firms, organizations and professional and occupational groups – *i.e.*, producer interests – instead of the general public that, according to stated motives, they were intended to protect. Stigler himself found firm empirical support for this hypothesis in a number of studies; it is still too early to assess its ultimate scope. But Stigler's results do show that legislation can also be an outflow of market participants' optimizing behavior. To the extent that this is so, legislation is no longer an "exogenous" force which affects the economy from outside, but an "endogenous" part of the economic system itself. This approach constitutes a further step towards extending the sphere of application for the basic assumption of economic theory.

Stigler's studies have opened up a new area of research known as economics of regulation."

A few years later, **Peltzman (1976)** proposed a model in which what might be called the Stigler effect varies with the political setting or the characteristics of the leadership of the regulatory agency of interest. Peltzman's model assumes that regulatory commissions have some discretion over regulations and/or enforcement, but they are politically obliged to take the interests of both consumers and the regulated industry into account. This creates both theoretical and empirical issues about the balance of interests accounted for by regulators.

A mathematically tractable version of the Peltzman model—which was often used as the foundation of empirical follow-ups on Peltzman's paper—simply assumes that the regulator maximizes his or her “political support” (often characterized as a regulator's utility function defined over the welfare of consumers and firms subject to the regulation). Regulators and/or elected representatives need political support to retain their positions. The industry's investors, executives, labor force, and consumers provide additional political support for the regulators (or the elected representatives that oversee the regulatory agency of interest) when regulatory reforms increase their welfare (profits, salaries, consumer surplus). They do so through various forms of campaign contributions, direct support, and votes. According to Peltzman, regulators/legislators set regulations to maximize political support.

Most forms of regulation can be analyzed with a Peltzman model. We'll consider the setting of a regulated price, P , which might be indirectly accomplished by regulating supply or directly accomplished by setting prices. Suppose there are N groups that are affected by the price and who are in a position to provide the relevant form of support (or opposition). Each group's support is assumed to be a strictly concave function of the regulated price, so that their sum is strictly concave as well. The regulator's support can be characterized as:

$$S = \sum_{i=1}^N S_i(P) \quad (5.1)$$

Differentiating with respect to P we find that P^* will be set such that maximizing support requires the sum of marginal increases and decreases in support associated with raising (or lowering) the price to be zero,

$$\sum_{i=1}^N S_{iP} = 0 \quad (5.2)$$

If those in favor of higher prices are separated from those favoring lower prices, the regulated price, P^* , (as in a regulated electricity market) is set so that the marginal reduction in support

from those favoring lower prices equals the marginal increase in support from those favoring higher prices. Thus, in a Peltzman model it is **the balance of groups able to provide or withdraw support that determines the regulated price**, rather than social welfare concerns or electoral pressures alone.

The Peltzman model can be thought of as a model of “mediation” between interest groups and has been widely employed in the industrial organization literature, particularly in the *Journal of Law and Economics* during Peltzman’s period as editor in chief. Robert Tollison and his various coauthors are among those who most widely applied this model. Examples include antitrust (Faith, Leavens, and Tollison 1982), immigration restrictions (Shughart, Tollison, and Kimenyi 1986), and even the early Christian church (Ekelund and Tollison 2011).

The Peltzman model is easy to generalize to all manner of regulations. Insofar as the groups generating support are all Olsonian interest groups, they tend to be small and/or well-organized groups. Large groups may have some influence, but only if their organizational costs are easy to overcome. Such groups may include most affected parties, labor unions, and farm cooperatives—as well as groups subsidized by interested persons or organizations. Such subsidized organizations may claim or actually represent ordinary consumers and voters.

In cases where the policy variable is a vector, rather than a single variable, and many different groups are affected by that policy, all of the interests are balanced off against each other at the margin. (In the above model, there would be a series of partial derivatives, one for each policy/regulatory variable and all of the first order conditions would hold simultaneously).

The Becker (1983) model is a similar but simpler and more general version of the Peltzman model, applied to public policies generally rather than just to regulation. Becker essentially rules out Olsonian free riding, and his model implies that the outcomes of interest group competition tend to increase efficiency rather than reduce it. This is largely because of the absence of Olsonian effects in his model, which tends to make all potential interest groups equally effective regardless of whether or not they are organized. Maximizing a support function (which Becker renames as an influence function) is equivalent to maximizing a social welfare function in his model.

An implication of Becker’s model is that taxes and transfers are undertaken in a manner that minimizes deadweight losses to minimize resistance by those harmed. A quite different conclusion about the effects of interest groups is suggested by the rent seeking literature taken up in the next

section. (There have been very few, if any, direct empirical tests of the Becker model, in part because the predictions of his model conflict with essentially all of normative public economics.)²

IV. Rent Seeking and Better Estimates of the Cost of Interest Group Activities

The term rent seeking was coined by Anne Krueger (1974) in her study of the resources drawn into the import and export businesses of Turkey and India by their monopoly structures. She argued that competition for the “rents” associated with those monopolies consumed scarce resources—talent, time, and training—without increasing the magnitude of those rents. She, thus, regarded competition to participate in import-export monopolies to be a wasteful use of resources, and estimated that rents created by government regulation came to 7.3 percent of national income in India and that the rents from import licenses alone came to about 15 percent of GNP in Turkey.

She called the activity of pursuing the higher wages available in the monopolized sectors “rent seeking,” because she believed that above-market salaries in those sectors were rents in the sense used by classical economics. Unbeknownst to her, Gordon Tullock had undertaken a similar analysis of crime, tariffs, and monopoly privileges nearly a decade earlier (1967). This was pointed out, the literatures joined, and a new field of public policy analysis was launched. Rent seeking, from the perspective of that early literature, was the “wasting” of resources in the pursuit of “unearned” profits or wages, which often were obtained through public policies that were widely acknowledged by economists to be counterproductive.

A Brief Overview of the Research on Rent Seeking

This core idea produced a large literature that spanned both interest group politics and welfare economics. Its contribution to welfare economics was to insist that the estimated losses of inefficient public policies include both the usual deadweight loss triangles and the resources consumed in the pursuit of the rents generated by such policies. Early estimates of rent-seeking losses (which assumed full dissipation) suggested that losses from protective policies and monopoly tended to be far larger than would have been the case without rent-seeking activities. The first empirical estimates of rent-seeking losses put the combined social cost of monopoly and regulation in the United States

² Becker won the Nobel prize in economics in 1992, not for his work on interest groups, but for his application of rational choice models to sociological issues including crime, marriage, and addiction.

at roughly 3.4 percent of GNP (Posner 1975)—about 1.7 percent from regulation and 0.6 percent from monopoly in manufacturing and mining—whereas the older estimates of welfare losses were only about 0.1 percent of GNP. Losses of that magnitude are more than thirty times larger than the original deadweight loss estimates of Harberger (1954).

The core ideas of the early papers on rent seeking also included theoretical developments in what came to be called “contest theory” and efforts to connect the models explicitly with political activities such as lobbying. The theoretical strand of the rent-seeking literature uses game theory to analyze a wide variety of contests in which resources are consumed in the process of competing for a prize of some sort. Some contests are productive, in that competition increases net value, rather than diminishes it, as might be said of competitive markets, contests for political office, or many sporting games. Other contests, in contrast, are net-value reducing for the rivals in the contest and/or for those affected by it. It is in the latter sort of contest that the pursuit of rents or other prizes generates rent-seeking losses.

Contests for government privileges of one kind or another, for example, usually consume resources without increasing overall net benefits for society at large. The resources consumed can thus be regarded as a deadweight loss for society. Some status games have this character. Warfare tends to have this character.

Rules of Rent-Seeking Contests and Losses from Rent-Seeking

Most of the rent-seeking literature has focused on the use of resources to persuade government to adopt policies that reduce competition, or that provide tax breaks or subsidies for members of their group, without producing much of value. Although rarely modeled explicitly, within democratic political systems, this process requires information campaigns, the wining and dining of pivotal decision makers, and the giving of gifts (or bribes). As long as social net benefits are not increased by the policies ultimately adopted, it is clear that all the efforts to secure favors for one’s group can be regarded as a deadweight loss. The resources used in the rent-seeking contest could have been invested elsewhere where they would have produced new net benefits (often for consumers).

Thus, losses from counterproductive contests could be reduced if each competitor could be induced to reduce their efforts. In this sense, rent-seeking losses are avoidable, although it is not

always obvious what changes in contest rules would reduce rent-seeking activities, and often not politically possible to adopt the reforms that would do so.

To demonstrate that “the rules of the game” matter, the theoretical literature explores how different rules affect investments in contests in which no net benefits are produced. Many of the contests examined are all-or-nothing contests for a single prize. Others analyze contests for shares of a fixed pie. Some research analyzes sequential games of various kinds. The results make it clear that the rules of the game—both the manner of selecting the winner or winners and whether and how the prize will be divided—affect the extent to which resources are expended in a contest.

Rent Extraction

Another much smaller strand of the rent-seeking literature explores incentives that governments have to create rent-seeking contests in order to benefit from the efforts of rent seekers. McChesney (1987, 1997) suggests that government officials can often profit in various ways from creating rent-seeking contests or threatening to create such contests. They may for example threaten to impose rules that greatly reduce profits and expect to benefit from the efforts of those affected, who will be willing to reward politicians or regulators for blocking such rules. Some of the benefits may be direct—as with bribery or promises of future employment—and others may be indirect as with campaign contributions for legislators with oversight responsibilities. As in rent-seeking contests that are accidental consequences of a citizen’s right to petition the government, the rules of the game matter. They affect the extent of rent-seeking investments. Persons that benefit from rent seeking would thus tend to favor rules that maximize the extent to which resources are invested in their contests.

Moreover, when rent-seeking contests are intentionally created, a complete model of rent-seeking requires extended models that include both the rent-seeking behavior of potential rent seekers, and of the persons and institutions through which rent-seeking contests are created. For example, Congleton and Lee (2009) suggest that medieval institutions and economic policies provided opportunities for monarchs to engage in rent extracting activities by devising policies (often for various monopoly privileges) that would maximize long-term rent extraction. Such revenues could be an important source of royal revenues that were not (usually) subject to veto by medieval parliaments.

Assessing Rent-Seeking Losses

The usual method of measuring rent-seeking losses relies upon the Kaldor-Hicks measures that dominated most applied work in welfare economics when the first papers were written (as with deadweight loss triangles and their equivalents). However, by focusing on the process through which policies and other transfers take place, new sources of loss had to be brought into the standard analysis.

Tullock's (1967) analysis of theft nicely illustrates the importance of the resource costs of transfers. Theft is not simply a costless transfer of a resource from one person to another—which under the standard Kaldor-Hicks analysis would be difficult to criticize.

To see this, suppose that “Al” undertakes to grow some nice melons in her garden. Her neighbor “Bob” likes melons but does not like gardening. He plans to simply harvest some of the melons grown by Al, when they are ripe. From a Kaldor-Hicks (K-H) perspective, this is mere redistribution and so no change in overall welfare occurs from Bob's action (assuming that Al and Bob's benefits from the melons are similar). However, Al realizes that Bob will attempt to take the melons and diverts time from caring for the melons to building a fence around her melon patch at a cost of R. Bob may reciprocate by purchasing a ladder or fence cutters. The net benefits of the melon have clearly been reduced by this contest for control of the melon and the K-H measure of social welfare is reduced by the amount spent on the fence and fence cutters, even if Al's gardening effort is unaffected by her efforts at fence building. The losses are even greater if the output of Al's garden falls as she redirects her time and energy to fence construction and maintenance. Both sources of loss provide a reason to ban theft from a K-H perspective, but only if the resource costs of the contest over the melon are accounted for.

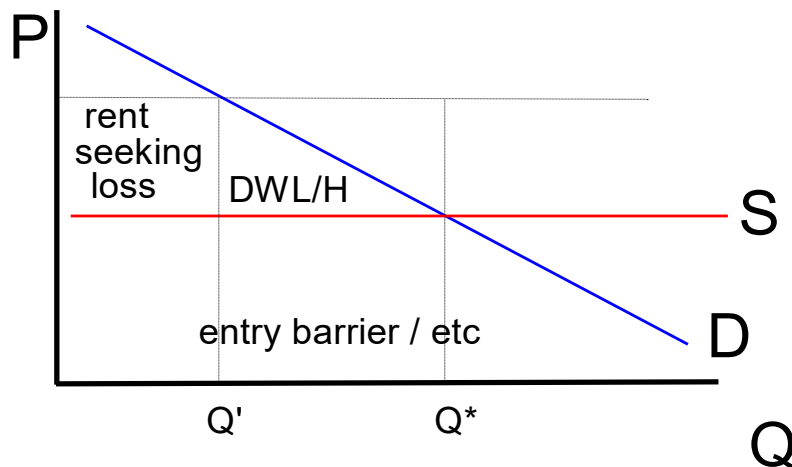
Theft would also be banned from a contractarian perspective, for somewhat similar reasons. Essentially all persons can imagine themselves being in Al and Bob's situation—more than occasionally—and would realize that losses from such conflict can be reduced by establishing clear rights for gardeners over their produce. Similarly, a justice perspective might insist that Al is entitled to the fruits of her labor, rather than Bob. It is she who bore the cost of planting and tending to it, and she that should realize the fruits of that effort, rather than her neighbor. From a fairness perspective, different meanings of fairness might affect one's conclusions, but it seems clear that if Bob

could also raise his own melons at a reasonable cost, fairness would demand that the melons produced by Al should be Al's, rather than Bob's.

All rent seeking involves costly investments to get more than one has “earned,” efforts that tend to run counter to most mainstream normative theories. That it continues to occur, nonetheless, is probably evidence of the relative effectiveness of the efforts of rent seekers relative to all the rest (Olson 1965).

The logic of Tullock's normative analysis is based on the difference between productive and unproductive forms of competition (Congleton 1980). The Tullockian logic runs as follows. Suppose that R units of a scarce economic resource can be employed to produce an output valued at V dollars or employed to create a regulatory barrier to entry valued at B dollars. The social net benefits associated with V are assumed to be greater than zero and those associated with B are assumed to be less than zero. If R is employed to create a barrier to entry, *one can say that the resources have been wasted—that is, consumed in a value-decreasing process.*

Tullock (1967) argues that efforts to establish trade barriers, tariffs, and monopolies all have this property, and tend to be competitive, which increases the extent to which resources are drawn into this process. In the limit, competition for such politically produced profits (rents) takes place until the rate of return falls to that of productive activity. Thus, Tullock argued, the profits secured by rent seeking activities are ultimately competed away, which greatly increases the deadweight losses associated with such policies. The “Tullock” losses have to be added to the “Harberger” deadweight loss triangles to fully account for the losses created by such counterproductive public policies.



Rent-Seeking Losses Added to the Harberger Deadweight Loss Triangle

The “full dissipation” hypothesis was also used in the empirical work of Krueger (1974), Posner (1975), Cowling and Mueller (1978), and Laband and Sophocleus (1992).

However, Kaldor-Hicks is not the only way to assess rent seeking losses. The effects of rent-seeking contests can also be analyzed from other normative perspectives that would support similar conclusions. For example, from a contractarian perspective, those who anticipate being affected by rent-seeking contests would unanimously agree to ban all contests in which the expected net benefits are lower than those of alternative uses of resources. Risk-averse persons would also agree to ban contests in which the expected net benefits are zero, insofar as uncertainty tends to increase for persons caught up in such contests. Similar bans would be agreed to from a justice or fairness perspective insofar as the result of rent-seeking contests tends to be “unearned” income or shifts of net benefits from the relatively poor to the relatively rich, as with trade protection and agricultural subsidies.

V. The Essential Mathematics of Rent Seeking Contests

In 1980, Tullock wrote another important paper on rent seeking that demonstrated that the “full dissipation” hypothesis is a special case, and that the nature of the rent-granting contest affects the extent of the losses. This paper launched a new game theoretic strand of the literature on rent seeking that explored the extent to which conflict is increased or diminished by changes in rules of contests for rents. Not every rent-seeking game has complete dissipation, as noted by Tullock

(1980), Congleton (1980), Hillman and Katz (1984), and dozens of subsequent papers (See for example volume 1 of Congleton, Hillman, and Konrad (2008)).

Suppose that N risk neutral competitors participate in a rent seeking game with a fixed prize, Π . Each player may invest as much as he wishes in the political contest. Suppose that the effects of rent seeking efforts are analogous to purchasing tickets in a lottery—which is to say that one's efforts increase the likelihood of winning the prize (an entry barrier, monopoly privilege, tax preference etc.), rather than guaranteeing it. In effect, the prize is awarded to the player whose name is drawn from a barrel containing all of the political lottery “tickets.” This lottery characterization of rent seeking contests is sometimes referred to as the Tullock contest success function. The expected prize for player i is

$$\Pi \left[\frac{R_i}{R_i + R_o} \right] \quad (5.3)$$

where Π is the value of the prize, R_i is the investment in rent seeking by player i , and R_o is the investment by all other players.

If the rent-seeking resource, R , costs C dollars per unit, player i 's expected reward for a given level of investment by all other players is:

$$\Pi^e = \Pi \left[\frac{R_i}{R_i + R_o} \right] - C R_i \quad (5.4)$$

Differentiating with respect to R_i and setting the result equal to zero allows the number of tickets that maximizes expected income to be characterized:

$$\Pi \left[\frac{1}{R_i + R_o} - \frac{R_i}{(R_i + R_o)^2} \right] - C = 0 \quad (5.5)$$

This implies that:

$$\Pi \left[\frac{R_o}{(R_i + R_o)^2} \right] - C = 0 \quad (5.6)$$

or, equivalently,

$$\Pi \frac{R_o}{C} = (R_i + R_o)^2 \quad (5.7)$$

Taking the square root of each side implies that player i 's best reply function is:

$$R_i^* = -R_o \pm \left(\Pi \frac{R_o}{c} \right)^{0.5} \quad (5.8)$$

(Only the positive root will be relevant in cases where R_i has to be greater than zero.) In a symmetric game, each player's best reply function will be similar, and at least one equilibrium will exist where each player engages in the same strategy.

Thus, if there are $N - 1$ other players, at a symmetric Nash equilibrium $R_o^{**} = (N - 1)R_i^{**}$, and substituting into the best reply function gives:

$$R_i^{**} = -(N - 1)R_i^{**} + \left(\Pi \frac{(N-1)R_i^{**}}{c} \right)^{0.5} \quad (5.9)$$

which in turn implies that:

$$NR_i^{**} = \left(\Pi \frac{(N-1)R_i^{**}}{c} \right)^{0.5} \quad (5.10)$$

Squaring both sides, dividing by R_i^{**} and N^2 , and gathering terms characterizes each player's investment in rent seeking:

$$R_i^{**} = \left[\frac{(N-1)}{N^2} \right] \left[\frac{\Pi}{c} \right] = \left[\left(\frac{1}{N} \right) - \left(\frac{1}{N^2} \right) \right] \left[\frac{\Pi}{c} \right] \quad (5.11)$$

This is the Nash equilibrium investment by each participant in the contest. Total rent seeking effort is N times the amount that each player invests, NR_i^{**} .

$$NR_i^{**} = \left[\frac{(N-1)}{N} \right] \left[\frac{\Pi}{c} \right] \quad (5.12)$$

And the total expenditure on rent seeking is C times that amount:

$$CNR_i^{**} = \left[\frac{(N-1)}{N} \right] \Pi \quad (5.13)$$

The ratio between the total expenditure and the prize is referred to as the dissipation rate, which in this case is simply $\left[\frac{(N-1)}{N} \right]$. Note that this converges to “1” or 100% as N approaches infinity.

Less than full dissipation occurs in contests with relatively few players, but dissipation may still be substantial. For example, in the two-person case when the cost of rent seeking is 1 dollar or

one unit of labor each, $NR_i^{**} = \frac{\pi}{2}$. Half of the value of the prize is consumed by the process of rent seeking. That is to say, if $N = 2$ and $C = 1$, $R_i^{**} = \left(\frac{\pi}{4}\right)$, and $NR_i^{**} = \left(\frac{\pi}{2}\right)$.

The basic model can be generalized to cover cases where the prize is endogenous and where the probability of securing the prize varies, and to cases where the prize is shared rather than awarded to a single winner on a "winner take all" basis. Several of these extensions involve changes in the probability-of-winning function, in the manner in which decisions about winners are made, and in whether contests are one shot, repeated, or sequential. The effects of economies of scale may also be examined in this general framework (as simulated in the Tullock 1980 paper).

The logic of rent seeking can be extended to a wide variety of competitive settings in which resources are used in conflicts over territory (Hobbes 1651) or status (Congleton 1989), or as an explanation for mercantilism (Ekelund and Tollison 1997).

The logic of the deadweight losses generated by such activities has implications for economic development and for the evolution of institutions, which in the long run tend to reduce losses from internal conflict. Recent efforts to measure and monitor the extent of lobbying have made empirical studies much easier to undertake, and in a manner that required fewer assumptions about dissipation rates.

The implications of rent-seeking and Olson's interest group model turned out to be far broader than initial readings of Olson's 1965 book or Tullock's 1967 paper seemed to imply.

VI. Bureaucracy as Another Interest Group: A Short Overview of Political Agency Problems within Governments (and Other Organizations)

We often treat governance in the same way that most economic models treat production within firms: as if it took place mechanically and automatically. The electorate votes for a referendum, a legislature enacts a policy, a court makes a decision, and whatever is specified actually is adopted as government policy. In the end, all such policy decisions are implemented by unelected, and largely invisible, people working within government agencies. Whatever "decision" is reached by an electorate, legislature, or court, it is "the Bureaucracy" that implements it.

If bureaucrats were entirely disinterested in policy, had strong work ethics, and the "decisions" reached by political decision makers were always crystal clear and specific, analysis of

bureaucracy would be a rather uninteresting area of public choice research. However, if none of these assumptions hold, bureaus will often exercise considerable discretion in the design and implementation of policy. In such cases, analysis of bureaucratic decision making will be required to understand public policies.

The Stigler and Peltzman models discussed above are examples of how one might undertake such an analysis for bureaucrats that work in regulatory agencies. The public choice literature generally assumes that bureaucrats are no more public spirited than ordinary voters are and just as interested in income and public policies. Among the classic public choice analyses of Bureaucracy are books by Tullock (1965), Downs (1967), Niskanen (1971), and extended by Breton and Wintrobe (1975). It was subsequently criticized by Migué and Bélanger (1974), who argue that Niskanen's objective function is too narrow and suggest discretionary budgets rather than total budgets are maximized. The implied problem of bureaucratic control was at least partially solved by Weingast and Moran (1983), who suggest that budgets can be used to incentivize bureaus.

Bureaucrats as Lobbyists

Niskanen's model, although not perfect, provides the clearest model with the clearest implications, many of which seem to apply to the bureaucracy, private agencies, and school clubs. Niskanen, while working for the RAND Corporation on the effectiveness of defense procurement noticed that "excessive services" were generally produced, though generally with reasonably high efficiency and concluded that the inefficiency of defense lay in the level of procurement (too much) rather than in the efficiency with which defense services were produced. This led him to propose what would later be called the budget-maximizing model of government bureaucracy. His analysis thus requires the assumption that bureaucrats can lobby for resources by dealing directly with the legislature and often achieve their aims—an expansion of the agency budget and/or policy domain. Breton and Wintrobe suggest that senior agency officials normally have more complete information about the possibilities through which an agency can advance the legislature's interests (which is often simply to be reelected). Bureaucrats can use their informational advantage to attempt to maximize their budgets.

Those employed in government agencies tend to have an interest in larger budgets for a variety of reasons, including: (1) internalization of the agency's mission, (2) that additional resources often imply better working conditions (better computers, secretaries, desks, offices, travel, and so

forth), (3) that additional resources may generate more opportunities for promotion as the agency expands its workforce, and (4) increases in the status associated with working for a relatively large agency.

One mechanism that can be used is the “all or nothing offer” in which a high service level is proposed, and argued to be the minimum one that it makes sense to provide. It may be contrasted with a still more expensive service or one that does not really achieve the aims of the department (a navy composed of row boats). Insofar as the legislature defers to the expertise of the bureaucracy, the bureaucrats will get their way, and the budget will be larger than truly optimal for the legislature (and their supporting majority of voters). In the limit, the service level can be twice as large as optimal, and in the linear case the budget can be twice as large as the budget that maximizes the legislator’s net benefits. (To see this draw a diagram in which the marginal costs and marginal benefits to the pivotal legislator are straight lines and determine the largest service level that such a legislator will ever agree to (rather than zero). It turns out to be exactly twice as large as the service level that maximizes the legislator’s net benefits.)

Bureaucrats and Principal-Agent Problems

This “agency problem” approach to bureaucracy would later be applied to models of economic production in what came to be called the “principal agent” problem. As in those cases, mechanisms through which control over one’s agents (here government employees or bureaucrats) exist and have long been used by firms and governments—Weingast and Moran (1983) for example argue that budgets can be used by legislators to incentivize agencies—but none are perfect. Thus, losses of this sort are inherent to governments and private enterprises, although the losses vary across institutions (governments have weaker incentives to be efficient than most firms) and across countries (normative support for corruption vary among people and societies). Note also that the lobbying efforts of rival bureaus tends to resemble the rent seeking contests above and so consume agency resources that could be used to produce public services.

In addition to the budgetary/lobbying sources of inefficiency, there are also the usual problems with “shirking” at the level of individual governmental employees. Governmental employees may not work as hard as their employers expect them to. Such agency problems exist because neither monitoring systems nor systems of conditional rewards are perfect.

Bureaucratic Discretion and Corruption

A good deal of discretion over policy is explicitly delegated to the bureaucracy. The bureaucracy often has expertise—at the very least knowledge of time, place, and circumstance—that policy makers lack. Because of this, bureaus are often granted significant discretion to interpret and implement "the policy" in the manner that seems appropriate. In many cases, the actual writing of laws (deciding targets for pesticides and food additives) is delegated to the agencies. Politicians may also delegate decisions to the bureaucracy, not because of the bureaucracy's expertise or comparative advantage, but rather to avoid making public commitments on controversial regulations. For both good and bad reasons, all agencies have at least some discretion over the implementation of their assigned duties.

In cases where the aims of bureaucrats differ from those of the legislature or electorate, an agency problem may be said to exist. That is to say, bureaucrats may decide to exercise their discretion in ways that fail to maximize the net advantage of their "sponsors" (the chairman or woman of their oversight committee, the median legislator or median voter of the electorate). Absent such problems, the delegation of rulemaking and enforcement authority to agencies and their workforce improves efficiency by allowing better informed decisions to be made about both regulation and enforcement.

However, the Stigler and Peltzman models suggest that such efficiency gains are not always realized. Moreover, persons that have discretion over rules or enforcement may be influenced directly through bribes, nepotism, and other forms of favoritism, with the result that "good" laws are poorly enforced, although the agents themselves are enriched by their bribes, reciprocal favors from relatives, and what might be called ideological rents.

Political Oversight

Political oversight is limited, because voters, legislators, and most interest groups cannot "afford" to devote very much time to monitoring bureaucracies. Instead, they rely for the most part on "fire alarms" that bring bureaucratic failures to their attention (McCubbins and Schwartz 1984, Lupia and McCubbins 1994, Hopenhayn and Lohmann 1996). In addition, they rely upon the internalized norms of the persons selected for positions of authority within the bureaucracy—trustworthiness turns out to be an important part of the control of corruption. The latter, however, varies regionally and internationally, and consequently some governments are more corrupt than others.

(There are a variety of international and U.S. indices of corruption—mostly based on surveys—that demonstrate this variety.)

VII. Conclusions

Overall, the material surveyed in this chapter suggests that the electoral model of policy formation is incomplete. It is incomplete in large part because of rational and natural ignorance on the part of voters—who cannot monitor all the regulations, budgeting, and bureaucratic behavior that affect their interests. As a consequence, policies are often determined in “smoke filled rooms” out of sight from the public, where lobbyists, partisanship, and in some cases, corruption produce policies that do not advance the interests of moderate voters.

Estimates of the extent of these problems are important politically, because such estimates affect the willingness of voters to ask governments to provide services. If agency problems and corruption are thought to be important (large and counterproductive) voters will demand only services in which the benefits are very large and risks of agency problems very low. If the extent of such problems is deemed small and relatively unimportant, voters will demand a wide range of services, essentially any that may benefit them.

These effects are also important for many normative theories, and for ideas about how economic wellbeing and civil liberties can be improved. When interest group activities are large and counter-productive, economic growth rates tend to be slow and civil liberties are often undermined. When interest group activities are small or productive, economic growth tends to be increased and civil liberties expanded—as arguably occurred in the West during the nineteenth century. In either case, an understanding of the impact of interest groups on public policy is central to understanding how policies come to be adopted, implemented, and enforced.

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