Forty Years of Research on Rent Seeking: An Overview

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The quest for rents has always been part of human behavior. People have long fought and contended over possessions, rather than directing abilities and resources to productive activity. The great empires and conquests were the consequences of successful rent seeking. Resources were also expended in defending the rents that the empires provided. The unproductive use of resources to contest, rather than create wealth, also occurred within societies in attempts to replace incumbent rulers and in seeking the favor of rulers who dispensed rewards and indeed often determined life and death. Sacrifices made by early peoples to their deities were instances of rent seeking; valuable possessions were given up with the intent of seeking to influence assignment of other rewards. In contemporary times, rent seeking takes place within democratic institutions and also under conditions of autocracy that are akin to the circumstances of the earlier rent-dispensing despots. Incentives for rent seeking are present whenever decisions of others influence personal outcomes or more broadly when resources can be used to affect distributional outcomes.

The search for rents, defined as rewards and prizes not earned or not consistent with competitive market returns, is, thus, clearly ancient. Efforts to understand how wealth, status, and other rewards can be acquired, and how contests for such prizes can be designed to reduce losses associated with unproductive conflict and encourage productive forms of competition, are also likely to have begun at the dawn of social life. The academic rent-seeking literature, however, is relatively new and emerged from papers by Gordon Tullock, Anne Krueger, and Richard Posner published during the course of some 10 years in the 1960s and 1970s (reprinted in these volumes). The early

rent-seeking analyses sought accurate measures of social losses from public policies and monopoly. Tullock, Krueger, and Posner argued that the resources used to establish, maintain, or eliminate trade restrictions and monopolies are part of the social cost of those policies, but had previously been neglected.

The idea that resources are unproductively used in rent-seeking contests has much broader application than the initial rent-seeking papers suggested. The rent-seeking logic has been applied to issues in history, sociology, anthropology, biology, and philosophy. The core idea has also been formalized and analyzed more rigorously, using the tools of modern game theory. The modern rent-seeking literature describes the rational decision to invest in contesting pre-existing wealth or income, rather than undertaking productive activity.

The starting point of this literature is often considered to be Gordon Tullock's paper on the "Welfare Costs of Tariffs, Monopolies, and Theft" in 1967. Tullock focused on the efficiency consequences of income transfers and observed that "Transfers themselves cost society nothing, but for the people engaging in them they are just like any other activity, and this means large resources may be invested in attempting to make or prevent transfers. These largely offsetting commitments of resources are totally wasted from the standpoint of society as a whole." Tullock's observations implied that there was more to inefficiency than deadweight losses. Beneficiaries of inefficient policies have personal incentives to influence creation and assignment of income and wealth created by political decisions. Tullock reasoned that the resources used in activities of persuasion should be counted as a cost to society.

The quests for income and wealth redistribution through public policy are comparable to the activities of thieves, who also use personal resources and initiative in unproductive endeavors to redistribute, rather than create wealth. The act of theft results in an income transfer that does not change total national income, but social losses do arise before a theft takes place, because the aspiring thieves' contest who in the end will be successful in the act of theft, and prospective victims' invest in various means for resisting the thieves' efforts. These resources could have been used to

produce goods and services with a positive value, rather than devoted to distributional conflict. The social loss from rent seeking similarly occurs ex ante, through unproductively used resources and initiative before policy decisions are made. Public policies often directly or indirectly transfer income or wealth among people. Of course, there is no suggestion that all public policies are akin to theft. The theory of rent seeking, however, is based on the possibility of influencing public policies for personal gain. The quest for personal advantage may be masked with the rhetoric of social advantage. A focal question of the rent-seeking literature is the computation of social loss through the value of the resources unproductively used because of the presence of the rents or prizes that are assigned by the personal discretion of others, as when political decision makers determine public policies.

After four decades of research following the publication of Tullock's paper, the literature expanding on the rent-seeking idea is substantial. The *JStor* data base of academic journals reports that 74 papers include the term "rent seeking" in their titles. The *Scopus* on-line search reports 170 papers. The more representative *EconLit* data base of academic journals and books reports 401. The broader *Google Scholar* search engine reports that the titles of more than 1,500 papers on the Web include the term "rent seeking." Moreover, not every paper on rent seeking includes those words in its title. *EconLit*'s data base reports that more than 8,000 published papers and books use the terms "rent seeking" or "rent seeker" somewhere within their pages.

The quite different backgrounds of the editors of these two volumes provide a balance in perspectives on rent seeking and indeed on public choice. Roger Congleton was present from the beginning in the Center for the Study of Public Choice as a member of the Virginia School when the rent-seeking concept developed, and was an editor of a previous collection and contributed to the influential first compendium on rent seeking published in 1980. Arye Hillman, a former president of the European Public Choice Society, has pursued political economy research, but not as a member of the Virginia School. Kai Konrad provides a perspective that includes rent seeking in the more general study of contests.

It was, of course, a difficult task to choose papers for inclusion in these volumes. The decision rule for inclusion of papers was consensus among the editors. The prediction of the theoretical literature (Buchanan and Tullock 1962) that decision costs increase with a consensus rule for collective decision making was borne out in the natural experiment of selecting papers for these volumes, which continued for more than a year. Other scholars were also consulted and recommendations heeded. The two volumes include classics and major extensions of the rent-seeking literature. Papers were valued that expressed informative novel ideas and that directed attention to applications that expanded the scope of the rent-seeking concept. Many were initially published in journals and books to which few readers have easy access. Books that contain seminal contributions are out of print, including the now classic 1980 edited volume. Many papers that have proven to be significant were not published in "leading" journals. Our choice of papers confirms the more general finding of Andrew Oswald (2007) that the most significant papers are not always published in the most prominent economic journals.

The papers are organized to provide a sense of the development of the rent-seeking literature by topic rather than by date of publication. The papers in volume I are analytical developments on the rent-seeking theme. The papers in volume II are applications of the rent-seeking concept. Our introduction provides an overview of the literature and summarizes the contributions of the papers in the two volumes.

Origins of the Literature

In the second half of the twentieth century, there were a variety of efforts to place the normative analysis of public policy on firmer analytical ground. The first efforts, like the positive theories of that time, attempted to rank order allocations of real resources without considering how or why particular allocations might have arisen (Bergson 1938, Samuelson 1947, Harsanyi 1955). Governments and therefore political decision makers were described as seeking social optimality. Yet individuals and firms in the private sector were at the same time viewed as having self-interested objectives. The

argument was that, if governments were making decisions, the decisions were in the best interest of society, because government is socially benevolent. The public choice view proposed consistency in application of the principle of rationality and self-interest. If utility- and profit-maximizing models explain a good deal of private sector behavior, they are also likely to explain a good deal of the behavior of political and bureaucratic decision makers. In applied research, the public choice view could provide an answer as to why governments often adopt economically inefficient policies. In contrast, the mainstream literature used the classic analysis of monopoly by Arnold Harberger (1954) to measure "deadweight" losses of such public policies, ignoring how they might have come to be adopted. The evaluations of deadweight losses were influential and soon found their way into textbooks as the core of modern welfare economics. The perceived benevolence of government made policies in these studies exogenous, rather than endogenous, consequences of choices made under specific legal and political institutions.

Public policies that result in deadweight losses do not come into existence spontaneously. Yet the welfare implications of interest group activities and politically endogenous policies were either not fully appreciated in the mainstream literature or else were simply neglected to avoid confronting the question as to why political and bureaucratic decision makers created and assigned rents—and extracted political rents for themselves. A prime case was the literature on international economics: here the deadweight efficiency losses from protectionist policies were studied, but the mainstream literature of the time did not address the question as to why Pareto-inefficient departures from free trade took place. Yet, the protectionist policies clearly reduced national income while benefiting some people at the expense of others.

In his 1967 paper inaugurating the modern literature on rent seeking, Tullock made the fundamental observation that, if inefficient public policies, such as trade policies, were politically endogenous, part of the social cost of those policies was the use of scarce personal abilities and resources in efforts to influence policy decisions. Tullock thus pointed to a source of social loss beyond Harberger triangles.

The next important step in Tullock's analysis—and for the rent-seeking literature that later emerged—was to investigate the extent to which resources are attracted to rent-seeking activities. Tullock reasoned that, if government could be induced to redistribute wealth, the rate of return from political wealth-enhancing activities would equal the return from other investments in long-run competitive equilibrium. This implies that social losses from contesting rents are equal to the values of observed contested rents. Although profits and other rents could often be measured, the value of the resources used in rent seeking is usually not observable. Tullock's logic suggests that the value of rents generated by public policies can be used as a proxy for the resources used in rent seeking. That is, rent dissipation could be viewed as complete. Given this, the mainstream accounts of losses from monopoly, tariffs, and other public policies that had been carefully worked out in the previous two decades substantially understated the true extent of the losses that a society incurred from inefficient public policies.

Tullock's insight was slow to find its way into print (see Brady and Tollison 1994) and slow to be integrated into new research. The rent-seeking idea was not totally neglected after publication in 1967; however, wider recognition of the worth of Tullock's idea required re-publication and re-expression in a more prominent place and the accompaniment of an appropriate pithy phrase. Anne Krueger (1974: reprinted in volume II) provided the descriptive term "rent seeking" and thereafter the literature could refer to "rent seekers." Krueger set out a general equilibrium model of social loss from contesting quota rents and presented estimates of losses in Turkey and India. She based her measures on the complete dissipation presumption that rents would attract resources of equal value. Richard Posner (1975: reprinted in volume II) used the complete-dissipation presumption to estimate losses from monopoly in U.S. industries. Keith Cowling and Dennis Mueller (1978: reprinted in volume II) followed with estimates of the cost of monopoly for the U.S. and U.K. economies. These and other empirical studies, for example, David Laband and John Sophocleus (1992) and Martin Paldam (1997), suggest social losses considerably greater than the rather small losses

that had been reported from measurement of Harberger triangles.

With its new appellation and evidence of its importance, and also the expression of the idea outside of the public choice school, the literature on rent seeking began to expand, although not very rapidly at first. In the beginning, the rent-seeking concept was, in a sense, proprietary to the Virginia School that Tullock had been instrumental in founding. Much of the early research was by faculty and students associated with the Center for Study of Public Choice, where the new research on rent seeking stimulated several papers that were presented in an evening seminar series in 1978. It was in that seminar series that Tullock noted that the complete rent dissipation presumption that Krueger, Posner, and others had also adopted was not necessarily appropriate. Tullock (1980: reprinted in volume I) set out a rent-seeking game and, with assistance from his colleagues Nicolas Tideman and Joseph Greenberg and his graduate student assistant, characterized the Nash equilibrium for a contest success function that probabilistically designated the winner of a contest according to how much individual contenders spend. The mathematical and simulation results confirmed that complete dissipation was a special case. Actual rent dissipation depended on the number of players and on a returns-to-scale parameter in the contest success function. The seminar inspired many of the papers that appeared in the first rent-seeking volume edited by Buchanan, Tollison, and Tullock (1980), in which Tullock's paper with the probabilistic contest success function first appeared.

The explanatory power of the rent-seeking idea arises from its linkage of neoclassical economics to modern game theory and rational choice politics. Tullock's lottery-based characterization of the contest success function of a rent-seeking game was an important advance in demonstrating that the "rules of the game" matter. The institutions and technologies that determine the parameters of rent-seeking contests affect society's losses from rent seeking. Tullock's 1980 paper was also important for the development of the literature, because his characterization of rent-seeking contests as lotteries was relatively easy to generalize and extend. Intuition and a preference for a simple and elegant mapping that transforms competing players' efforts into

probabilities of success guided Tullock in his choice of a contest success function. Later axiomatic work by Skaperdas (1996: reprinted in volume I), Kooreman and Schoonbeek (1997), and Clark and Riis (1998: reprinted in volume I) confirmed that only the functional form that Tullock chose is compatible with a number of desirable and plausible properties of a contest success function.

The first collection of rent-seeking papers that appeared in the 1980 volume launched the broader literature that emerged during the next 25 years. The 1980 collection included 22 papers, only 10 of which had been previously published. The 12 new papers covered a broad range of topics. The papers in that first collection were for the most part by colleagues and students of Tullock, including James Buchanan and an editor (Congleton) of the present collection. The inclusion of Tullock's *efficient rent seeking* paper, which had now been provided with a natural publication outlet, allowed the research on rent dissipation to begin in earnest.

The 1980 volume influenced scholars in societies outside of the United States. Far away from Virginia, in Israel, where economic liberalization was yet a decade away, another editor of the present collection (Hillman) observed the substantial presence of non-market allocation and non-market-determined personal rewards in the self-managed worker sector of the economy. As in Virginia, the Bar-Ilan School set out to investigate efficiency consequences of the presence of politically assigned rents. The scholarly divisions were amazingly similar to those in the United States where rent seeking was not a topic favored outside of the Virginia School. In Israel, only scholars at Bar-Ilan University or graduates of Bar-Ilan undertook research on rent seeking. The first contribution of the Bar-Ilan School to the study of rent-seeking contests, by Hillman and Katz (1984: reprinted in volume I), investigated rent dissipation in winner-take-all contests, such as those for monopoly. They demonstrated that complete rent dissipation emerges if rent seekers are risk neutral and rent-seeking contests can be freely entered, but not if rent seekers are risk averse or there are barriers to entry into contests. Hillman and Samet (1987: reprinted in volume I) solved the rent-seeking game for the case of an all-pay auction in which the highest spending individual or group

wins the prize. Their results provide another justification for the complete-dissipation presumption. Subsequently Shmuel Nitzan and others at Bar-Ilan made contributions to the rent-seeking literature.

The analysis of rent seeking also attracted the attention of scholars in Korea, including in particular Kyung Hwan Baik. In Korea substantial rent-creating non-market allocation occurred through the interaction between government and vertically integrated conglomerates. Scholars from the Philippines and sub-Saharan Africa where corruption and non-benevolent governments created and assigned significant rents also contributed to the rent-seeking literature. However, in many autocratic societies where rent seeking has been endemic, there appear to have been impediments to analyses and discussion of rent seeking by local scholars.

The post-1980 literature was often theoretical and positive, rather than empirical or normative as the first papers had been. The extent of rent dissipation was studied, often in abstract terms without description of the types of policies that gave rise to the rents and to rent seeking. Other contest success functions were considered and changes were made to incorporate more general assumptions. The analysis gained in precision and increased in complexity. The literature has explored how contest structures affect resource use in rent-seeking activities and has investigated the efficiency properties of alternative methods of allocating "prizes." Collective goods, free-riding incentives in contests, hold-up problems from repeated rent seeking, issues of endogenous timing, budget constraints, nested contests, and the role of incomplete information have been analyzed in this context. The papers in volume I are largely from this theoretical strand of the rent-seeking literature.[1]

The idea of rent seeking has been acknowledged as important for understanding

[1] A strand of more technically oriented research analyzed a large set of formal structures that can be applied to analyze rent-seeking contests. Konrad (2007) surveys the literature focusing on strategic aspects of contests.

a broad range of long-standing applied economic topics encompassing regulation, international trade policy, economic development, the transition from socialism, and communal property. An approach based on political economy of protection, which gradually became part of the mainstream economics literature, clearly pointed out the link between trade policies and rents for protected groups (Hillman 1989). The rent-seeking concept has also been applied to deepen our understanding of topics in economic history, law, sociology, and biology. If rent-seeking contests can be created and conditions of contests revised, many aspects of institutional design and evolution are also part of the applied rent-seeking research program. A broad selection of applications of the rent-seeking concept is included in volume II.

Criteria for inclusion

A general principle for inclusion of papers in these volumes is consistency with the political-economy and institutional origins of the rent-seeking concept. Rent seeking is a political economy concept. The intent of Gordon Tullock, the Virginia-based Public Choice School, and the Bar-Ilan School was to show that societies incur efficiency losses beyond the traditional economic deadweight losses when personal benefits and costs are politically assigned rather than market determined. Their research generally implies that reducing rent-seeking losses requires institutional reform.

Not all contests involve rent-seeking activities, although most involve decisions about how much to invest in a given contest. A decision was therefore confronted whether to include literature in which contests similar in structure to rent seeking are studied outside of the domain of political economy. One such literature involves the theory of the firm. This literature is extensive and revolves around internal principal-agent problems. Another question was whether to include literature that was in principle about rent creation and rent seeking but did not use or acknowledge the rent-seeking concept. Prominent among such cases is again the firm-related literature in

which private-sector internal-firm tournaments or contests for promotion have structures similar to rent seeking.[2] In a literature on research and development (R&D) contests, winners provide productive outputs rather than contests being purely distributional. In sports contests also, effort is a source of benefit for spectators. We have excluded the literature on R&D contests and the literature explicitly on sports contests.[3] We have, however, included representative papers on the rents created and contested within the firm.

Contests are also described in a large body of literature known as conflict theory. We have excluded most of this literature. Conflict theory emerged from the recognition that, without the rule of law and without possibilities for contractual enforcement, property rights are established endogenously by efforts to defend own wealth or efforts to acquire the wealth of others. In the 1990s conflict theory developed for the most part parallel and apart from the theory of rent-seeking literature. Models of rent seeking and models of conflict share the common element of contestability of wealth or income, although conflict models do not in general focus on the core rent-seeking issue of dissipation. There is also a difference in institutional setting: most rent-seeking models are motivated by the *presence of government* that can be influenced to create and assign rents, whereas most models of conflict are motivated by the *absence of government* and thereby absence of the rule of law. [4]

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[2] The literature on tournaments began with seminal contributions of Lazear and Rosen (1981) and Rosen (1986).

[3] Early influential contributions to the R&D contest literature were Loury (1979), Dasgupta and Stiglitz (1980), and Nalebuff and Stiglitz (1983). Fullerton and McAfee (1999) and Baye and Hoppe (2003) provide microfoundations of Tullock's contest success function in applications to R&D contests. On sports contests, see Szymanski (2003).

[4] For elaboration on the distinction between rent seeking due to the response of government and conflict theory based on anarchy and the absence of government, see Hillman (2003, chapter 6). See also Tullock (1974) on conflict in anarchy. Skaperdas (2003) and Garfinkel and Skaperdas (2007) survey the conflict

Questions were faced about how to categorize papers in which authors did not relate their analyses and conclusions to the prior insights of the rent-seeking literature, even though their papers described circumstances in which politically created and assigned rents are contested. A general rule was to exclude papers if they are not described by authors as being about rents or rent seeking. However, exceptions were made in the applications volume when the behavior being described clearly constitutes rent creation by government and rent seeking by interest groups. The principal sources of papers in the present collection are the *American Economic Review*, *Public Choice*, the *Economic Journal*, and the *European Journal of Political Economy*, which in the mid-1990s adopted a political economy focus that attracted authors of papers on rent seeking.

Attitudes to the concept and terminology of rent seeking are of interest for understanding academic economics. As we have observed, in the beginning, rent seeking as a descriptive and explanatory concept was not accepted into the "mainstream" of academic economics. Tullock's 1967 paper appeared in a relatively new regional journal and his 1980 paper had to await the edited volume for publication. In the 1990s rational political behavior and political economy concepts came to be more broadly recognized as descriptive of realities of government decision making. However, there seemed to be a reluctance to acknowledge the antecedents of the public-choice school. For example, a "new" political economy literature emerged in the 1990s that often failed to acknowledge that their research addressed questions that had previously been addressed by public choice scholars. When asked (by one of the present editors) in 1990s why the contributions of public choice scholars were not being acknowledged, a prominent contributor to the "new" political economy literature replied that "we cannot cite everyone since Adam Smith". The answer was not "what is public choice?" Or "what is rent seeking?" The answer suggests that the concept of rent

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literature. See Fearon (1995) on military conflict and Hillman (2004) on conflict between strong and weak under Nietzschean conditions in anarchy.

seeking has had wider influence than indicated by the rent-seeking literature per se.

We proceed now to describe the structure of the two volumes and to link and summarize the papers.

VOLUME I

THEORY OF RENT SEEKING

The focus of volume I is on conceptual and theoretical developments.

THEORY PART I RENTS

1.1 The social cost of rent seeking

The early papers followed Tullock's original exposition in further considering the social cost of contestable rents.

Gordon Tullock, 1967. The welfare costs of tariffs, monopolies, and theft. *Western Economic Journal* 5, 224–32.

James M. Buchanan, 1980. Rent seeking and profit seeking. In James M. Buchanan, Robert D. Tollison, and Gordon Tullock (eds.), *Toward a Theory of the Rent-Seeking Society*. Texas A&M University Press, College Station, pp. 3–15.

Roger D. Congleton, 1980. Competitive process, competitive waste, and institutions. In James M. Buchanan, Robert D. Tollison, and Gordon Tullock (eds.), *Toward a Theory of the Rent-Seeking Society.* Texas A&M University Press, College Station, pp. 153–79.

Arye L. Hillman and Eliakim Katz, 1984. Risk-averse rent seekers and the social cost of monopoly power. *Economic Journal* 94, 104–10.

Tullock (1967) is the seminal paper that points out the social losses from unproductive use of resources in quests to influence political decisions about income distribution. Buchanan (1980) distinguishes socially productive and unproductive competition. Congleton (1980) explicitly analyzes the role of institutions, or "the rules of the game," using deterministic models that would later be called all-pay auctions. His analysis suggests that rent dissipation can be reduced by majority-rule allocation of prizes and by rules that distribute the "prize" in proportion to effort, rather than through winner-take-all contests. Hillman and Katz (1984) use a general contest success function in which the probability of winning increases with own rent-seeking effort and decreases with opponents' effort to show that the complete dissipation presumption (that the value of a contested rent is equal to the value of the resources used in contesting the rent) is valid in contests with large numbers of risk neutral players; however, rent dissipation is incomplete when rent seekers are risk averse.

The early literature thus established that contestable rents create social losses, that we should distinguish between socially productive and unproductive forms of competition, that institutions matter, and that complete dissipation in competitive contests is the predicted outcome when rent seekers are risk neutral and when the rent-seeking game is fully competitive but not otherwise.

1.2 Tullock contests

Tullock (1980) introduced the probabilistic contest success function for which personal expenditures on rent seeking are like buying lottery tickets. Other studies subsequently amended and extended the Tullock contest success function. A primary issue was whether over-dissipation of a rent could ever occur.

> Gordon Tullock 1980. Efficient rent seeking. In James M. Buchanan, Robert D. Tollison, and Gordon Tullock (eds.), *Towards a Theory of the Rent-Seeking Society*. Texas A&M University Press, College Station, pp. 97–112.

Richard S. Higgins, William F. Shughart II, and Robert D. Tollison, 1985. Free entry and efficient rent seeking. *Public Choice* 46, 247–58.

J. David Pérez-Castrillo and Thierry Verdier, 1992. A general analysis of rent-seeking games. *Public Choice* 73, 335–50.

Kofi O. Nti, 1999. Rent seeking with asymmetric valuations. *Public Choice* 98, 415–30.

A scale parameter was included in Tullock's lottery model of rent seeking, which (partly) determines the return from purchasing lottery tickets and implicitly represents institutional aspects of rent-seeking contests. Tullock showed that with constant returns from rent-seeking expenditures two contenders dissipate half of the rent in the unique Nash equilibrium. Rent-seeking losses increase as the number of contenders increase and with increases in the scale parameter. Tullock's results suggest that over-dissipation occurs if there are large economies of scale in rent-seeking. Higgins, Shughart, and Tollison (1985) point out that the value of the scale parameter determines whether the Tullock contest success function is consistent with existence of Nash equilibria. In a generalization that that does not rely on the Tullock contest success function, Higgins et al consider a case in which effort of risk-neutral rent seekers is observed subject to error and rent seekers choose a probability with which to participate in a contest. In a symmetric zero-profit mixed-strategy equilibrium, rents are on average completely dissipated, although ex post, under-, or over-dissipation may be observed (depending on the realizations of the mixed strategies). Over-dissipation is inconsistent with Nash equilibrium when participation in rent-seeking contests is voluntary. Pérez-Castrillo and Verdier (1992) reformulate the Tullock contest using reaction curves and consider consequences of free entry and Stackelberg equilibrium. Nti (1999) extends Tullock's contest to asymmetric valuations of a prize. Equilibria depend on the different valuations of rent seekers as well as on the scale parameter of the contest success function. The asymmetric valuations determine a

favorite and an "underdog." A player with a higher valuation expends more effort to win. The "underdog" values the prize less and in consequence chooses to spend less to obtain the prize. Asymmetry in practice requires either a discriminatory contest design or disagreements about the estimated value of the prize, such as might arise in contests for a mate, for ego rents from political office, or for a non-pecuniary honor bestowed on a winner.

1.3 Contests as all-pay auctions

In the Tullock contest, random elements through the lottery nature of the contest success function determine the identity of the winner. An alternative contest success function designates the participant exerting the highest effort as the winner with certainty.

> Arye L. Hillman and Dov Samet, 1987. Dissipation of contestable rents by small numbers of contenders. *Public Choice* 54, 63–82.
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> Arye L. Hillman and John G. Riley, 1989. Politically contestable rents and transfers. *Economics and Politics* 1, 17–39.
>
> Michael R. Baye, Dan Kovenock and Casper G. de Vries, 1996. The all-pay auction with complete information. *Economic Theory* 8, 299–305.
>
> Simon P. Anderson, Jacob K. Goeree, and Charles A. Holt, 1998. Rent seeking with bounded rationality: An analysis of the all-pay auction. *Journal of Political Economy* 106, 828–53.

The possibility of a contest success function in which the highest effort wins was noted in Congleton (1980) above. Hillman and Riley (1989) introduce the terminology of a discriminating contest to describe such a contest success function. The Tullock lottery implies an inability to discern with precision the efforts of different contestants and accounts for sources of noise. The discriminating rent-seeking contest is an all-pay

auction: contenders bid for the rent, the highest bid wins, and all contenders lose the value of their bids whether they win or not. Hillman and Samet (1987) derive the mixed strategy solution for such success functions. A Nash equilibrium in pure strategies does not exist in such contests, as noted in Congleton (1980).[5] They show that in a mixed-strategy equilibrium, with risk neutrality and equal valuations of the rent, complete dissipation on average holds, in that the expected value of resources used in rent seeking by all contenders is equal to the value of the rent. They conclude that the rent is on average fully dissipated for any number of contestants larger than one. A justification other than competitive rent seeking by risk-neutral rent seekers is thereby provided for the descriptions of social losses from rent seeking by Tullock, Krueger, and Posner, and others, in which it is taken for granted that rent dissipation is complete.

Hillman and Riley (1989) also extend the all-pay auction to cases in which contestants have different valuations of the prize. Only the two highest valuation contenders contest the prize. Others are deterred by the high valuations of competitors for the rent. In this case, the outcome can be less than complete rent dissipation, and an inefficient allocation of the prize (through the low-value contender winning) can occur. Hillman and Riley distinguish between contests for pre-existing rents and contests for transfers (in which one person's gain is another person's loss). Baye, Kovenock, and de Vries (1996) provide a complete characterization of the various types of equilibria that can emerge in an all-pay auction in the case of many players with different valuations of the prize, and when the equilibrium is unique.

The all-pay contest is used as a building block in more complex contests and in

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[5] If everybody makes the same bid (less than the value of the prize), there is an incentive to bid a little more. If someone bids the value of the prize, others bid zero, in which case the contender who bid the value of the prize can reduce his or her bid to a little above zero, but then others will not bid zero – and so on.

many applications. Anderson, Goeree, and Holt (1998) study all-pay auctions when there is bounded rationality. Rational behavior is inconsistent with systematic over-dissipation of rents, yet over-dissipation is observed in experiments. Bounded rationality, in which decisions with higher expected payoffs are more likely to be made, but not with probability one, is proposed as an explanation for the over-dissipation observed in some laboratory experiments. A generalization of Nash equilibrium obtained by incorporating bounded rationality into the determination of equilibrium yields a prediction of over-dissipation similar to that of Tullock's (1980) analysis. The extent of rent dissipation increases with the number of players

1.4 Contest success functions reconsidered

The contest success function was reconsidered in different contexts.

> Jack Hirshleifer, 1989. Conflict and rent-seeking success functions: Ratio vs. difference models of relative success. *Public Choice* 63, 101–12.
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> Stergios Skaperdas, 1996. Contest success functions. *Economic Theory* 7, 283–90.
>
> Ferenc Szidarovszky and Koji Okuguchi, 1997. On the existence and uniqueness of pure Nash equilibrium in rent-seeking games. *Games and Economic Behavior* 18, 135–40.

Hirshleifer (1989) compared the Tullock ratio (lottery) contest success function with a specification based on differences in effort. In the Tullock case, non-conflict cannot be an equilibrium, and there is never an equilibrium in which one side just gives up. Hirshleifer's difference-based specification for the contest success function is consistent with equilibrium outcomes of mutual non-conflict and submission, the latter occurring when there are sufficiently large differences in the valuation of the prize. Skaperdas (1996) shows that the Tullock lottery is the only contest success function that is consistent with seven reasonable axioms about the relationship between efforts and win probabilities. The most important axiom needed is an independence of irrelevant

alternatives property. Szidarovszky and Okuguchi (1997) use a clever transformation to provide sufficient conditions for the existence and uniqueness of equilibrium for contests with contest success functions that are considerably more general than the Tullock contest success function.

THEORY PART II COLLECTIVE DIMENSIONS

2.1 Collective decisions, collective effort, and shared rents

Rent seeking often involves collective choices of various kinds. Collective decisions are often made about who receives rents. There might also be collective effort. Indeed, rent-seeking contests often involve groups, rather than single individuals, and collective action issues can arise, as noted by Mancur Olson (1965). In such cases, the prize might be shared by members of successful rent-seeking teams. Outcomes depend on whether the prize is allocated by casting votes, is a group-specific public good that can be enjoyed in a non-rival manner by all members of the winning group, or is a private good that needs to be allocated among the members of the winning group.

Roger D. Congleton, 1984. Committees and rent-seeking effort. *Journal of Public Economics* 25, 197–209.

Ngo Van Long and Neil Vousden, 1987. Risk-averse rent seeking with shared rents. *Economic Journal* 97, 971–85.

Shmuel Nitzan, 1991. Collective rent dissipation. *Economic Journal* 101, 1522–34.

Joan Esteban and Debraj Ray, 2001. Collective action and the group size paradox. *American Political Science Review* 95, 663–72.

Kyung Hwan Baik, Bouwe R. Dijkstra, Sanghack Lee, and Shi Young Lee, 2006. The equivalence of rent-seeking outcomes for competitive-share and strategic groups. *European Journal of Political Economy* 22, 337–42.

Congleton (1984) extends his 1980 analysis of the effects of institutions on rent dissipation in deterministic contests between two groups. In two-party contests, he shows that investments in deterministic rent-seeking contests tend to be lower when decisions are made by committees through majority rule rather than by a single person, because investing resources to form majority coalitions tends to deescalate, rather than escalate. This conclusion provides an explanation for the widespread use of committees to make decisions within both democratic and non-democratic organizations. Investments in such contests also tend to be smaller under deterministic proportional sharing rules than under winner-take-all rules.

Long and Vousden (1987) analyze the case in which rents are shared and shares are not deterministic and demonstrate that dissipation falls with the extent of risk aversion of rent seekers and with uncertainty about the shares received by individual participants. They also explore the case in which the prize distributed is increased by the total effort of rent seekers. In such cases, individual efforts produce both positive (larger prize) and negative (reduced probability of winning) externalities for fellow players. As a consequence, individual investments increase, because investments provide a higher rate of return by increasing the value of the rent to be distributed to winners. Total resources invested in rent-seeking games thus increase, although overall dissipation rates do not necessarily increase. Nitzan (1991) considered shared rents and showed that rules specifying the division of collectively sought rents within a winning group determine the magnitude of the free-riding problem among group members and determine thereby a group's effectiveness in an inter-group contest. Assignment rules that make a group member's share in the prize an appropriately chosen function of personal and other group members' efforts countervail free-riding incentives and increase equilibrium rent-seeking effort and also overall rent dissipation. A critical role is demonstrated for the rule by which the prize is shared among the members of the winning group, as a function of their number, type, or contest effort. Baik, Dijkstra, Lee, and Lee (2006) synthesize previous portrayals of contests by showing equivalence between contests in which groups compete for shared rents that are assigned to

members of the group through distribution rules and contests in which members of a group compete individually for a rent and a winner is obliged to share with group members.

2.2 Rent seeking for public goods

The above papers are about sharing of benefits when the benefits are private. For example, money might simply be shared. In other cases, however, the rent that is contested provides a public-good benefit to a group. Public expenditure may, for example, provide local public goods that benefit regional populations. The following papers describe rent seeking for public goods.

Heinrich W. Ursprung, 1990. Public goods, rent dissipation, and candidate competition. *Economics and Politics* 2, 115–32.

Kyung Hwan Baik, 1993. Effort levels in contests: The public-good prize case. *Economics Letters* 41, 363–67.

Mark Gradstein, 1993. Rent seeking and the provision of public goods. *Economic Journal* 103, 1236–43.

Khalid Riaz, Jason F. Shogren, and Stanley R. Johnson, 1995. A general model of rent seeking for public goods. *Public Choice* 82, 243–59.

Joan Esteban and Debraj Ray, 2001. Collective action and the group size paradox. *American Political Science Review* 95, 663-672.

Ursprung (1990) embeds rent seeking for a public good in a model of political competition. Individual utility is additively separable so there are only substitution effects when the size of a group supporting a political candidate increases. Free-riding incentives through substitution effects between own-spending and spending by others

reduce a group's total rent-seeking effort. In the Nash equilibrium, the total effort of a group is independent of the size of the group, and there is substantial under-dissipation of the public-good rent that the groups contest.[6] Riaz, Shogren, and Johnson (1995) point out that an income effect would increase total group effort when group size increases. Convex contribution costs have a similar effect of making total contributions to group rent-seeking effort increase in the group size: Esteban and Ray (2001) show this in a model that allows also for a mix between private and public components of the prize. Gradstein (1993) draws attention to the choice between inefficient private, uncoordinated provision of a public good, and governmental provision. Rent seeking uses resources unproductively, but the private supply of public goods is also generally inefficient because of free-riding incentives. Although the government can overcome the free-rider problem by compelling payment, the government may also be lobbied, which is costly in using resources and also does not ensure first-best provision. Baik (1993) describes groups composed of people with different valuations of a public good. The groups compete for the public good. Free riding tends to be complete within each group, with one high valuation contender active on behalf of the group. In effect, the contest becomes one of high-value individuals representing their group. Rent dissipation is clearly low.

THEORY PART III EXTENSIONS

3.1 Opposition

The losers from public policies, such as assigning monopoly rights, protectionist international trade policies, and privileged budgetary allocations, and other cases in

[6] Katz, Nitzan, and Rosenberg (1990, reprinted in Lockard and Tullock 2001) likewise study rent seeking for a public good when there are no income effects, and demonstrate precisely the same result.

which income is transferred, have incentives to resist the transfer. Hillman and Riley (1989) call such cases transfer contests to distinguish them from contests in which a pre-existing prize or rent exists and the providers of the rent are not identified or do not resist. There is a social cost associated with rent seeking, even if the rent seekers are not successful in persuading political decision makers to create rents. Those who have been successful in blocking such policies have nonetheless used resources in their opposition to the rent seekers. These losses highlight the point that the source of the social cost of rent seeking is the ex ante contest, rather than the ex post policy outcome.

Elie Appelbaum and Eliakim Katz, 1986. Transfer seeking and avoidance: On the full social costs of rent seeking. *Public Choice* 48, 175–81.

Tore Ellingsen, 1991. Strategic buyers and the social cost of monopoly. *American Economic Review* 81, 648–57.

Kai A. Konrad, 2000. Sabotage in rent-seeking contests. *Journal of Law, Economics, and Organization* 16, 155–65.

Gil S. Epstein and Shmuel Nitzan, 2004. Strategic restraint in contests. *European Economic Review* 48, 201–10.

Appelbaum and Katz (1986) point out that the size of the stakes and the group of rent seekers need to be considered, as well as whether people can abstain from the contest. Ellingsen (1991) considers the consequences of active transfer-avoidance behavior by consumers opposing the creation of monopoly rents. He shows that pre-existing rent seekers will change their behavior if new players enter and that this will generally prevent the players from over-dissipating the rent. Konrad (2000) explores contests in which there are two types of rent-seeking effort. He distinguishes between efforts that improve one's own competitive position with respect to all other contestants, and efforts that disadvantage a subset of the other competitors. The latter, sabotaging a subset of the other contenders, has the characteristics of a public good, because it

benefits all but the contestants who are sabotaged. For this reason, sabotage as a form of opposition is a phenomenon that is more likely to occur in games with a small number of players. Epstein and Nitzan (2004) show that competition over policy alternatives induces strategic restraint in policy proposals (the prizes sought), which reduces resources used in rent seeking.[7]

3.2 Choice of timing

Nash equilibrium is often based on simultaneity in choice of strategies, but one player may move first and commit to a strategy, which introduces issues of timing.

> Avinash K. Dixit, 1987. Strategic behavior in contests. *American Economic Review* 77, 891–98.
>
> Kyung Hwan Baik and Jason F. Shogren, 1992. Strategic behavior in contests: comment. *American Economic Review* 82, 359–62.

Dixit (1987) investigated the incentives of players to commit to choose a level of effort other than their Nash equilibrium effort if a player can act as a Stackelberg leader, and asked how the choice of commitment depends on the valuations of the prize. Baik and Shogren (1992) showed that Stackelberg-leader-follower behavior emerges endogenously in a non-discriminating probabilistic contest, with the weaker player or "underdog" moving first. The weaker player has a lower valuation of the prize than the stronger player, or has a probability of winning the contest of less than 50 percent in the simultaneous-move Nash equilibrium. Rent dissipation is less than in the simultaneous-move Nash equilibrium.[8]

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[7] See also Leidy (1994) on reduced rent dissipation when monopoly is threatened by regulatory policy.

[8] An equivalent result is derived by Leininger (1993, reprinted in Lockard and Tullock 2001). For observations on the two formulations, see Nitzan (1994, reprinted in Lockard and Tullock 2001).

3.3 Time

Rent seeking can take place sequentially, in the course of time, and in repeated contests. Two important time-related aspects of rent-seeking contests concern asymmetries in living on to compete again and the properties of evolutionary equilibria.

Joerg Stephan and Heinrich W. Ursprung, 1998. The social cost of rent seeking when victories are potentially transient and losses final. In Karl-Josef Koch and Klaus Jaeger (eds.), *Trade, Growth, and Economic Policy in Open Economies: Essays in Honour of Hans-Jürgen Vosgerau*. Springer, Berlin, pp. 369–80.

Nava Kahana and Shmuel Nitzan, 1999. Uncertain preassigned non-contestable and contestable rents. *European Economic Review* 43, 1705–21.

Burkhard Hehenkamp, Wolfgang Leininger and Alex Possajennikov, 2004. Evolutionary equilibrium in Tullock contests: Spite and overdissipation. *European Journal of Political Economy* 20, 1045–57.

Stephan and Ursprung (1998) describe rent seeking in sequential contests over time, with the important asymmetry that one side can lose in a contest and nonetheless return to contest the rent in a future contest, whereas for the other side any loss is permanent. For example, an incumbent once ousted may not be able to return to office or a new policy, once adopted, may not be easily reversed. The possibility that one side wins once and forever does not necessarily reduce the social cost of rent seeking. Kahana and Nitzan (1999) describe a government bureaucracy that procrastinates and does not deliver assigned payments or rents in a timely way, or may never deliver. The uncertainty about timing of payment affects the value of the rent. They examine circumstances in which the rent if delivered has been pre-assigned and the purpose of rent seeking is to elicit the payment from the bureaucracy, and also in which the rent is contestable. They evaluate rent dissipation in each case. When there is no uncertainty regarding timing of delivery of a contestable rent, the model reduces to the standard

Tullock contest.

Hehenkamp, Leininger, and Possajennikov (2004) provide a dynamic analysis of the Tullock contest using the concept of evolutionary stable strategies (ESS).[9] An evolutionary contest is a contest for survival and has a natural rent-seeking connotation. Hehenkamp et al derive the equilibrium in ESS for Tullock contests and show that more resources are used in rent seeking than in the unique Nash equilibrium. Total use of resources in rent seeking does not depend on the number of players and is solely determined by the contest success function and the value of the rent. Whether there is over-dissipation depends on the scale parameter of the contest function. Over-dissipation is interpreted as the consequence of "spite". Given the nature of ESS, it pays to reduce one's own prospects of success by increasing rent-seeking outlays, if this reduces the other strategy's success even more, which is what a person using ESS will do. An equilibrium in ESS is consistent with over-dissipation. Vindication is therefore provided for Tullock's observations on over-dissipation, although not in the usual context of Nash equilibrium.

3.4 Information

Information is expected to affect the outcome of rent-seeking contests. Most of the literature on contests assumes that players are completely informed, or at least symmetrically informed. As in many other games, the information of players may not always be symmetric. Information asymmetries can exist with respect to a number of aspects of a contest.

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[9] An ESS has the property that, if generally adopted by the group, there is no alternative strategy that can give a higher payoff to a member of the group. For finite populations, an ESS can differ from Nash equilibrium.

Karl Wärneryd, 2003. Information in conflicts. *Journal of Economic Theory* 110, 121–36.

David A. Malueg and Andrew J. Yates, 2004. Rent seeking with private values. *Public Choice* 119, 161–78.

Wärneryd (2003) considers a contest for a prize, the value of which is the same for both players, but known only by one of the players. He finds that the less informed player may win with a higher probability. Malueg and Yates (2004) consider the case in which each player's valuation of the prize is private information and drawn from the same binary probability distribution.

THEORY PART IV STRUCTURE OF CONTESTS

4.1 Hierarchies and nested contests

Contests can take place in hierarchies, or similarly can be nested in that the results of one contest give rise to another contest.

Arye L. Hillman and Eliakim Katz, 1987. Hierarchical structure and the social costs of bribes and transfers. *Journal of Public Economics* 34, 129–42.

Eliakim Katz and Julia Tokatlidu, 1996. Group competition for rents. *European Journal of Political Economy* 12, 599–607.

Kai A. Konrad, 2004. Bidding in hierarchies. *European Economic Review* 48, 1301–08.

Hillman and Katz (1987) described rent seeking in bureaucratic hierarchies in which bribes are transferred up the hierarchy (for example, from the corrupt police officer to the senior officer to the minister of police, to the president). Bribes are transfers and do not in themselves indicate social losses through rent seeking. Contests to occupy the

positions to which bribes accrue at each level of the hierarchy, however, attract resources into rent seeking. Katz and Tokatlidu (1996) describe a nested contest in which initially members of a group compete for a rent, and in a second stage the members of the group that has won the rent compete for the rent among themselves. In the absence of risk aversion, whether or not the rent is divisible is of no significance. The rent is a collective benefit in the stage at which groups compete and is a private benefit when members of the winning group compete among themselves. Rent dissipation depends on the relative sizes of the groups. The model describes cases in which, first, a coalition is formed to contest or create a rent and, second, if the rent is won or made available, the personal division of the rent becomes the issue of contention. Konrad (2004) shows that group composition effects become important in nested contests if the group members are asymmetric. For some group compositions, players who value the prize very little may win the prize with high probability and with very little effort.

4.2 Contest design

The structures of contests affect the effort that contenders exert. The consequences are similar to different distributional rules for contenders. The literature demonstrates that fine-grained rules and the structure of contests have a wide variety of subtle effects on the investments in effort made by participants. Under slightly different rules for entry, sequencing, or dividing the prize, the social losses associated with rent-seeking contests can differ substantially. These are important conclusions because structures of rent-seeking contests are not entirely historical accidents. Rather, contests are often contrived with various ends in mind. The rules of the game are often affected by the gains of those who contrive the contests. Although effort used in rent seeking is a cost for rent seekers, and so potentially a source of social loss, those efforts can be a source

of benefit for government officials.[10] In principle, the rules of the game can be revised to reduce or to increase social losses by inducing changes in both the extent and kind of competitive effort (Congleton 1980).

Elie Appelbaum and Eliakim Katz, 1987. Seeking rents by setting rents: The political economy of rent seeking. *Economic Journal* 97, 685–99.

Mark Gradstein and Kai A. Konrad, 1999. Orchestrating rent seeking contests. *Economic Journal* 109, 536–45.

Kofi O. Nti, 2004. Maximum efforts in contests with asymmetric valuations. *European Journal of Political Economy* 20, 1059–66.

Appelbaum and Katz (1987) point out the active role that the "rent setter" may have in devising rent-seeking contests. Gradstein and Konrad (1999) show that organizing a contest in a structure with multiple rounds, in which there are period contests among subgroups of players and only the winners advance to the next round, may induce higher total rent-seeking effort, in particular, if the discriminatory power of the contest at each round is low. Nti (2004) considers the choice of the contest success function that maximizes effort when contestants have asymmetric valuations of the prize. Although the Tullock function with constant returns is optimal in circumstances in which valuations are symmetric and contest success functions are restricted, in the unconstrained case the optimal contest success function is equivalent to an all-pay auction with a reserve price. The optimal design internalizes the incentives to exert effort that derive from different valuations of the prize and discounts the incentive of a high-valuation contestant to evoke more effort.

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[10] See Congleton (1988) for a discussion of the extent to which rent-seeking efforts may be regarded as completely wasteful.

4.3 The structure of prizes

The early studies proposed a single prize for the winner of a contest. The structure of prizes is, however, an important determinant of effort in contests. There can be more than one prize, and the prizes can have different values.

Amihai Glazer and Refael Hassin, 1988. Optimal contests. *Economic Inquiry* 26, 133–43.

Derek J. Clark and Christian Riis, 1998. Competition over more than one prize. *American Economic Review* 88, 276–89.

Benny Moldovanu and Aner Sela, 2001. The optimal allocation of prizes in contests. *American Economic Review* 91, 542–58.

Stefan Szymanski and Tommaso M. Valletti, 2005. Incentive effects of second prizes. *European Journal of Political Economy* 21, 467–81.

Glazer and Hassin (1988) examined the structure of prizes as incentive mechanisms. With prizes allocated in accord with individuals' output or effort rankings, they derived properties of a structure of prizes that maximizes the output (or effort) of contestants and found different optimal structures of prizes in different circumstances. Clark and Riis (1998) and Moldovanu and Sela (2001) investigate the structure of prizes in optimal design of contests under conditions of both complete and incomplete information. They find that splitting the prize into several smaller prizes is typically not a good strategy for inducing higher overall effort. Convex cost of effort is one of the cases for which multiple prizes may, however, generate higher overall effort. Szymanski and Valletti (2005) investigate the effect of introducing a second place prize in contests in which contestants have asymmetric abilities. In a three-person contest, a second prize increases total effort if one contestant is favored to win the first prize. The model directly applies to sports contests in which the efforts of contestants provide

utility for spectators; however, other applications are proposed in which there is asymmetry in the abilities of contenders. The second prize is an alternative to an exclusion rule that would deny participation to a contestant whose likelihood of winning is so high as to make the outcome of a contest almost a foregone conclusion.

THEORY PART V EXPERIMENTS

Many of the predictions of the theory have been tested in experiments.

Jason F. Shogren, and Kyung Hwan Baik, 1991. Reexamining efficient rent seeking in laboratory markets. *Public Choice* 69, 69–79.

Jan Potters, Casper G. de Vries, and Frans van Winden, 1998. An experimental examination of rational rent seeking. *European Journal of Political Economy* 14, 783–800.

Carsten Vogt, Joachim Weimann, and Chun-Lei Yang, 2002. Efficient rent seeking in experiment. *Public Choice* 110, 67–78.

Shogren and Baik (1991) report on experimental behavior in Tullock's efficient rent-seeking game and find outcomes consistent with predicted behavior and rent dissipation. Potters, de Vries, and van Winden (1998) report on experiments using both the Tullock probabilistic and highest-bid (discriminating or all-pay auction) contest success functions. In the Tullock contests, rent dissipation was initially greater than the predicted 50 percent for two contenders but declined toward the predicted outcome as further games were played. In the contests in which the highest bidder won, ex post rent dissipation fluctuated around the Hillman-Samet predicted on-average complete dissipation. Some participants showed learning from experience and changed their behavior, while others in both types of contests did not approach the consistent rational behavior predicted by the models. Vogt, Weimann, and Yang (2002) report rational behavior in variants of the Tullock contest.

VOLUME II APPLICATIONS: RENT SEEKING IN PRACTICE

Volume II focuses on applications of the rent-seeking approach. The earliest applied papers demonstrate that the rent-seeking approach can be used to shed light on the behavior of politically active individuals and interest groups, and to provide a rational choice—based explanation for the wide range of unproductive economic regulations observed in the present and past. The rent-seeking approach has also been used to investigate a variety of other contest-like settings in which the resources invested by participants may be socially unproductive. For example, rent-seeking models have been used to analyze electoral contests, court proceedings, status seeking, terrorism, war, and revolution. Again, the literature is large and selection was required. Our decision was to focus on classics, significant contributions, and to sample the breadth of the applied work. Many more papers could have been included.

In the second volume we have sorted papers into areas of application by institutional setting and sector of the economy: regulation of industry, protectionist rent seeking, soft budgets and moral hazard, rent seeking in the context of economic development, the relationship between rent seeking and economic growth, rent seeking inside the firm, rent seeking between insiders and outsiders, office seeking and rent creation in democratic politics, litigation, history, and the civil society.

APPLICATIONS PART I REGULATION AND PROTECTION

1.1 Monopoly and regulation of industry

Tullock's (1967) observations of the social cost of rent seeking included monopoly. Subsequent studies focused on measuring the social costs of monopoly due to rent seeking.

Richard A. Posner, 1975. The social costs of monopoly and regulation. *Journal of Political Economy* 83, 807-27.

Keith Cowling and Dennis C. Mueller, 1978. The social costs of monopoly power. *Economic Journal* 88, 727–48.

Stephen C. Littlechild, 1981. Misleading calculations of the social costs of monopoly power. *Economic Journal* 91, 348–63.

Posner (1975) set out assumptions consistent with complete dissipation of monopoly rents and computed a formula for the relation between deadweight losses and social costs of full-dissipation rent seeking. The elasticity of demand is critical for evaluating social costs. Estimates of elasticities and social loss were computed for a number of U.S. industries. Posner's calculations suggested that between 1.7 and 3.5 percent of GNP may have been lost through monopolization. He also noted that, in price-regulated industries, rent dissipation occurs through non-price competition.[11] Posner extended his observations to tax policy, the effects of monopoly power on the distribution of income, and the internal practices of labor unions. For example, he argued that taxes that increase government revenue also provide greater incentives for taxpayers to seek means of avoiding the tax payments, and so, when rent avoidance costs are taken into account, broader tax bases can be socially costly. Cowling and Mueller (1978) took the full-dissipation assumption to its logical conclusion and assigned social loss to all profits and all expenditures on advertising. They estimate social losses for relatively large firms and for the economies as a whole in the U.S. and the U.K. Estimated welfare losses ranged from 3.0 to 7.2 percent of GNP. Littlechild (1981) re-evaluated the Cowling-Mueller study and suggested that their estimates overstate the true social cost of monopoly.

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[11] Posner's (1975) description of non-price competition as a form of rent seeking was preceded by studies of structurally similar processes in markets with promotional competition in the form of marketing and advertising effort (e.g., Friedman 1958).

1.2 Protectionist international trade policies

Tullock (1967) also referred to tariffs. Beyond monopoly and regulation, policies that restrict international trade have been a significant source of rents. The following papers view protectionist policies as means of rent creation. Rent seeking is introduced through the issue of who is to be protected.

> Arye L. Hillman, 1982. Declining industries and political-support protectionist motives. *American Economic Review* 72, 1180–87.
>
> Arye L. Hillman and Heinrich W. Ursprung, 1988. Domestic politics, foreign interests, and international trade policy. *American Economic Review* 78, 729–45.
>
> Gene M. Grossman and Elhanan Helpman, 1994. Protection for sale. *American Economic Review* 84, 833–50.

In normative international trade models, protectionism was shown to be socially optimal under various second-best circumstances; in particular, subsidizing domestic firms was proposed as socially optimal when international markets are imperfectly competitive. Hillman (1982) pointed out that protection to industries in decline because of changing comparative advantage could be explained by political-support motives. Protection increased industry-specific rents and benefited an identifiable group. When industries are in decline, new entry does not occur and the beneficiaries of protection can readily identify themselves and express political gratitude, whereas costs of protection of any industry are widely dispersed over the population. The view of protection as politically motivated rent creation and protection contrasted with the prior views of protection as reflecting social welfare objectives in second-best situations.

Hillman and Ursprung (1988) describe trade policy as the outcome of a contest between competing political candidates who have committed to implement the

preferred policies of domestic import-competing and foreign exporting producers. When tariffs are the means of protection, the candidates announce polarized policies that benefit their respective political supporters. Tariff revenue is assumed to be without political value. Voluntary export restraints that replace tariffs transform the tariff revenue to quota rents that are transferred to foreign exporters. Domestic producers gain from protection and foreign producers gain from the quota rents. The rents to foreign producers are compensation – and indeed overcompensation – for the protectionist policies. When voluntary export restraints restrict international trade, political candidates choose identical Hotelling-type policies, so ending the political tensions when tariffs are the means of protection. Grossman and Helpman (1994) describe a policy maker who stands ready to accept offers for "sale of protection" to industry interests. The industry producer groups are perfectly organized and consumers are not organized at all, which is the source of the industry's political advantage. The model solves a common agency problem in which the politician selling protection secures all rents (at the margin). Market characteristics determine the structure of protection chosen to maximize political rents. Each of these papers describes rent creation and rent assignment through political discretion over international trade policy.

APPLICATIONS PART II ECONOMIC DEVELOPMENT AND GROWTH

2.1 Economic development

Anne O. Krueger, 1974. The political economy of the rent-seeking society. *American Economic Review* 64, 291–303.

Jakob Svensson, 2000. Foreign aid and rent seeking. *Journal of International Economics* 51, 437–61.

Philip Verwimp, 2003. The political economy of coffee, dictatorship, and

genocide. *European Journal of Political Economy* 19, 161–81.

Krueger (1974) observed that rents from import quotas attracted resources to rent seeking and computed estimates of the social cost of rent seeking for quota rents in India and Turkey. She set out a general equilibrium model using the compete-dissipation assumption. The rent dissipation arose in the course of the government assigning import quotas based on firms' productive capacities. The method for assigning quotas provided incentives for excessive productive capacity. Resources were also used in seeking to influence government officials' decisions regarding quota assignments. She estimated that rent dissipation accounted for 7.3 percent of national income for India and 15 percent for Turkey. Svensson (2000) points to the evidence that foreign aid has been ineffective in increasing incomes in poor countries and notes that foreign aid made up more than half of the government budgets of the 50 most aid-dependent countries in the 1975-1995 period. He describes a repeated game among competing domestic groups in which aid is provided, and considers an aid policy that takes account of losses from rent seeking. In an empirical section, ethnic diversity is used as a proxy for the number of competing groups and an index of corruption is a proxy for rent seeking. Foreign aid is positively associated with rent seeking (proxied by corruption). Verwimp (2003) describes how the antecedents to the Rwanda genocide centered on government responses to the value of rents that were tied to the price of coffee.

2.2 Property rights and corruption

Conditions are favorable for rent seeking when the rule of law is not present to protect property rights and where there is corruption.

Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny, 1993. Why is rent seeking so costly to growth? *American Economic Review* 83, 409–14.

Arye L. Hillman and Heinrich W. Ursprung, 2000. Political culture and economic

decline. *European Journal of Political Economy* 16, 189–213.

Halvor Mehlum, Karl Moene, and Ragnar Torvik, 2006. Institutions and the resource curse. *Economic Journal* 116, 1–20.

Murphy, Shleifer, and Vishney (1993) observe that effectiveness of protection of property rights determines returns from rent seeking and propose that rent seeking inhibits economic growth for two principal reasons: because of increasing returns to rent seeking relative to productive activity and because bureaucratic rent seeking deters innovation more so than ongoing productive activity. In their model with increasing returns, a "bad" equilibrium exists that is stable and is not affected by minor improvement in property rights protection. Countries can also slide into this equilibrium as the consequence of civil turmoil. With respect to innovation, they note that rent seeking by government officials impedes growth because of the need for licenses, etc. to start new business activities. Also, whereas large pre-existing firms have political influence and can protect themselves from a rent-seeking bureaucracy, innovators are least protected from the rent seeking by government officials and can least afford bribes. Innovative projects are also long-term risky investments that are most vulnerable to rent extraction by government officials. Hillman and Ursprung (2000) use the background of the transition from socialism to address the question as to why rent seeking appears to increase with political liberalization. The transition from socialism offered substantial rents through the processes of privatization. The privatization occurred with initial property rights not defined, and after rounds of privatization property rights could at times remain not well protected. The processes of privatization often involved corruption by political insiders who had the authority and means to designate owners of property and natural resources. Hillman and Ursprung use a nested model to describe the privileged insiders competing for rents, while at the same time outsiders compete to become insiders. Political liberalization gives outsiders

direct access to contests for rents and thereby increases social costs of rent seeking, as long as a political culture of rent seeking persists.[12] Mehlum, Moene, and Torvik (2006) confirm that institutions conducive to rent seeking underlie failures of societies to realize benefits from natural resource wealth. Natural-resource wealth is a "curse," rather than a source of social benefit when property rights are not defined or respected and the wealth becomes a rent-seeking prize.[13]

2.3 Migration

Rents and rent-seeking losses are associated with migration and migration policies. When people emigrate, they may be escaping a rent-seeking society or they may be attracted by rents available in new locations.

> Gil S. Epstein, Arye L. Hillman, and Heinrich W. Ursprung, 1999. The king never emigrates. *Review of Development Economics* 3, 107–21.
>
> Peter Nannestad, 2004. Immigration as a challenge to the Danish welfare state? *European Journal of Political Economy* 20, 755–67.

Epstein, Hillman, and Ursprung (1999) describe a king or ruler who creates and assigns rents by taxing part of the population for both own personal benefit and for the benefit of other privileged parts of the population. Whether people in the population gain or lose depends on the outcome of a contest that determines proximity to the king. People differ in personal comparative advantage in productive and rent-seeking activities. The contest success function determines whether the most productive people or the

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[12] Gelb, Hillman, and Ursprung (1998) describe the institutional background of rent seeking in the transition from socialism.

[13] Ollson (2007) considers the case of diamonds.

superior rent seekers are closest to the king. Those furthest from the king have the greatest incentives to emigrate. Rents provided by welfare systems make immigration a form of rent seeking. Nannestad (2004) describes the creation of rents for immigrants through the welfare budget of Denmark.

APPLICATIONS PART III POLITICAL AND LEGAL INSTITUTIONS

3.1 Electoral politics

Rent-seeking contests within political systems take place at several levels, as noted in volume I. Analysis of the efforts of would-be monopolists, transfer recipients, and beneficiaries of entry barriers to change the policies of standing governments and regulatory agencies is the focus of most of the research described in volume II. In other cases, however, the government and the rent at issue are determined simultaneously. Contests to become the government—through electoral competition in democracies—exhibit some of the properties of rent-seeking games. Moreover, incumbent politicians and political parties may create or threaten to create rent-seeking contests to attract campaign "contributions," insofar as campaign resources increase their prospects for electoral success.

Roger D. Congleton, 1986. Rent-seeking aspects of political advertising. *Public Choice* 49, 249–63.

Fred S. McChesney, 1987. Rent extraction and rent creation in the economic theory of regulation. *Journal of Legal Studies* 16, 101–18.

Michael R. Baye, Dan Kovenock, and Casper G. de Vries, 1993. Rigging the lobbying process: An application of the all-pay auction. *American Economic Review* 83, 289–94.

Yeon-Koo Che and Ian L. Gale, 1998. Caps on political lobbying. *American Economic Review* 88, 643–51.

Kai A. Konrad, 2004. Inverse campaigning. *Economic Journal* 114, 69–82.

Congleton (1986) notes that competition among candidates (and parties) for the votes of their electorates often resembles a rent-seeking contest. Advertising is often used to affect voter expectations about the relative merits of the policies and candidates. To the extent that political advertising is effective, but provides biased information, the quality of voter information may be eroded by persuasive campaigns, at least at the margin. This may occur even in cases in which the efforts of proponents and opponents of a given policy exactly offset each other, because such persuasive campaigns tend to increase the variance of voter estimates of policy consequences. When the informational value of political advertising to voters is less than the expenditures of opposing candidates, at least some political advertising is wasteful in the sense of a rent-seeking contest.

McChesney (1987) suggests that the demand for campaign contributions can induce competing candidates and political parties to create new rent-seeking games. Incumbent politicians, may for example, threaten to eliminate existing rents, or threaten firms with new taxation, to obtain additional political support. Such contests increase rent-seeking losses by creating new contests for political influence with costs greater than benefits. They may also create conventional deadweight losses by affecting the allocation of investment resources and the flow of indirect payments to politicians. Baye, Kovenock, and de Vries (1993) demonstrate how a rent-maximizing official can benefit by creating a two-stage lobbying game when participants disagree about the value of the prize to be awarded. Lobbyists in the second stage actively compete for favor by providing services or campaign contributions, and the closer the lobbyists in the second round are in valuing the prize, the higher the total lobbying expenditure tends to be. Consequently, it is clear that conditions exist in which officials will exclude the highest bidder from the final group of participants. Similarly, Che and Gale (1998) demonstrate that caps on the amounts that may be given to political candidates can increase total expenditures in cases in which substantial valuation disagreements exist.

Konrad (2004) explores a setting in which campaign expenditures are informative, but nonetheless give rise to a deadweight cost through the electoral process. Uninformed voters have sufficient information in the absence of campaign expenditures to make the correct (welfare-enhancing) choice. Voters initially know that a majority benefits from the program of one of the two parties, but not who actually benefits. In a process termed "inverse campaigning", parties each diminish political support for political opponents by informing uninformed voters about the beneficiaries of the opponent's programs. The expected benefits of the uninformed voters from the opponent's program are reduced (the voters realize that they are less likely to be members of the favored subset of voters). In equilibrium, voters become informed, but are no better off because they knew enough in the first place to make the correct decision in the election. Campaign expenditures have been wasted in the political contest.

3.2 The courts, the judiciary, and litigation

A good deal of mainstream economics rests on the assumption that property rights are both secure and clearly understood by one and all. This allows trade to take place and contracts to be negotiated with participating parties all expecting to benefit from exchange. Although this is a useful first approximation of legal systems, disagreements can exist about the nature of a contract and about property rights. The result is then litigation that aims at clarifying or establishing property rights. The outcome of a civil suit redistributes wealth between defendants and plaintiffs. Civil law proceedings are thus rent-seeking contests in which the "prize" is dissipated through conflict.

Gordon Tullock, 1975. On the efficient organization of trials. *Kyklos* 28, 745–62.

Amy Farmer and Paul Pecorino, 1999. Legal expenditure as a rent-seeking game. *Public Choice* 100, 271–88.

Francesco Parisi, 2002. Rent-seeking through litigation: Adversarial and

inquisitorial systems compared. *International Review of Law and Economics* 22, 193–216.

Michael R. Baye, Dan Kovenock, and Casper G. de Vries, 2005. Comparative analysis of litigation systems: An auction-theoretic approach. *Economic Journal* 115, 583–601.

Tullock (1975) developed an early version of his contest success function to describe a legal contest between two sides of a civil law suit. In related research, Tullock used the resources committed to litigation as an index of the cost-effectiveness of legal systems. By that measure, he argues that the judge-run continental system is superior to the adversarial proceedings of the Anglo-Saxon system. The technique of using rent dissipation as an index of court performance was developed further by Farmer and Peccorino (1999), Parisi (2002), and Baye, Kovenock, and de Vries (2005), who highlight different aspects of court procedures and outcomes. Farmer and Peccorino and Baye, Kovenock and de Vries show how the design of the legal system, in particular fee shifting rules, that is, the allocation of litigation fees as a function of the court decision, influences the efficiency of the litigation system. Parisi notes the existence of a continuum of court procedures, rather than the dichotomous Anglo-Continental Europe choice.

APPLICATIONS PART IV INSTITUTIONS AND HISTORY

4.1 Institutions

The rules of a rent-seeking contest determine both the feasible range of rent-seeking methods and the net returns from private investments in rent-seeking contests. The "rules of the game" are simply another name for the array of formal and informal institutions under which the rent-seeking contest takes place. To the extent that existing formal and informal rules can be modified or new formal rules introduced, rent-

seeking expenditures can be reduced (or increased) through institutional design (Congleton, 1980, 1984: reprinted in volume I). Since institutions can both induce and curtail rent-seeking activities, normative research on institutional design attempts to identify rules that reduce or increase unproductive conflict and to suggest reforms that can improve on existing rules. For example, the research on court systems and alternative ownership structures for firms noted above falls into this general category of research. The rent-seeking approach can also be applied to understand the law itself and other civil institutions.

James M. Buchanan, 1983. Rent seeking, noncompensated transfers, and laws of succession. *Journal of Law and Economics* 26, 71–85.

Kevin Sylwester, 2001. A model of institutional formation within a rent-seeking environment. *Journal of Economic Behavior and Organization* 44, 169–76.

J. Atsu Amegashie, 2006. The 2002 winter Olympics scandal: Rent seeking and committees. *Social Choice and Welfare* 26, 183–89.

Buchanan (1983) explores an area of civil law that is one of the oldest and most important, namely inheritance law. Many models assume that agents live forever, although this is not a reasonable assumption for long-term analysis. Even if intra-generational law is efficient in the sense that it minimizes rent-seeking losses by channeling conflict into productive activities, resources may still be dissipated in intergenerational conflict. Such large-scale conflict is most evident in great dynastic conflicts for power and wealth, but may also occur in any household that has wealth that may be passed on to the next generation, or even within governments or bureaucracies insofar as an office may be said to be created and passed on to the next office holder. Buchanan notes that some legal institutions clearly tend to reduce conflict levels, as with primogeniture and requirements for equal division, while others clearly

increase conflict over what he terms uncompensated transfers.

The logic of rent seeking can also be used to explain the emergence of the law and state enforcement of the law itself as a means of avoiding losses from wasteful conflict. This approach to political theory was first clearly stated by Thomas Hobbes in 1651, and rational choice–based analysis of the state as a device for reducing conflict in a setting of anarchy has existed since the early 1970s (see for example Tullock 1974).[14] Sylwester (2001) analyzes an intermediate setting in which a group of producers confronts rent seeking by a large group of pragmatists who can choose either to be productive or to rent seek (steal) from the producers. Additional protection through the rule of law can be provided collectively by the producers to reduce losses from rent seeking, although this is not always consistent with individual producers' incentives, because additional security is a public good for the producers. Sylwester suggests that the larger the initial productive group is relative to the group of rent seekers, and the more productive are the producers, the more likely it is that additional law enforcement will be provided. In a relatively simple model, he demonstrates a clear interdependence between production technology (income), rent-seeking, and effective legal institutions. Societies with effective legal institutions are more prosperous because of reduced rent-seeking activity, although more costly legal institutions can be adopted only by societies that are relatively prosperous. In effect, the results suggest that some societies "boot strap" themselves out of poverty by adopting successively more effective legal institutions that curtail rent seeking and enhance productivity.

Determining the outcome of rent-seeking contests requires the choice of judges. When measures of performance are not entirely objective, but involve subjective aesthetics, the choice of winners can be influenced by extraneous considerations or

[14] As noted, we have elected to exclude the theoretical literature on anarchy from the present volume for space considerations and in order to focus on settings in which a political and legal system of some sort already exists.

corruption. Amegashie (2006) uses the case of the skating judgment scandal at the 2002 winter Olympic Games as background to investigate the consequence of change in the rules of committee decisions.[15] Because of the scandal, not all judges' evaluations were included in determination of winners. Rather, there was random selection of which judges' evaluations were used. Although the identity of which judges' opinions will count is then not known, Amegashie finds no systematic effects that reduce the incentives for rent seeking through influence on judges. If the intent was to diminish rent seeking, this was a case of institutional design that failed.

4.2 Mercantilism

Mercantilism has been studied as an example of a rent-seeking society.[16]

Barry Baysinger, Robert B. Ekelund Jr., and Robert D. Tollison, 1980. Mercantilism as a rent-seeking society. In James M. Buchanan, Robert D. Tollison and Gordon Tullock, (eds.), *Towards a Theory of the Rent-Seeking Society*. Texas A&M University Press, College Station, pp. 235–68.

S. R. H. Jones and Simon P. Ville, 1996. Efficient transactors or rent-seeking monopolists? The rationale for early chartered trading companies. *Journal of Economic History* 56, 898–915.

Oliver Volckart, 2000. The open constitution and its enemies: Competition, rent

[15] This was a case of corruption. If the decisions of an international committee and international organizations reflect the values or behavioral norms of individual national members, we expect corruption to emerge, and rent-seeking contests to replace objective decisions.

[16] Prior to mercantilism, Ekelund et al (1996) describe the medieval church as an economic firm.

seeking, and the rise of the modern state. *Journal of Economic Behavior and Organization* 42, 1–17.

Baysinger, Ekelund, and Tollison (1980) quote Adam Smith that "mercantilism is nothing but a tissue of protectionist fallacies foisted upon a venal parliament by our merchants and manufacturers" based on the idea that "wealth consists in money." They describe mercantilism using a model of the state as a source of private rents, with applications to the different political and legal institutions of England and France. Mercantilism in France persisted into the nineteenth century, whereas mercantilism in England was compromised by a competitive judiciary that created uncertainty about whether monopoly rights could be sustained, and also by the intellectual arguments of economists and philosophers.[17] Volckart (2000) analyzes the emergence of the early mercantilist state in the late Middle Ages as an exercise in rent extraction by lords and vassals providing military protection for peasants in exchange for other services. The rent-extracting ability arose because of reductions in information and transaction costs, along with increasing population, which together shifted bargaining power and military authority to regional lords. In the early Middle Ages, labor had been scarce and competition between large landowners and fortified towns for labor resulted in contracts that were relatively favorable to peasants. As population increased, regional political authorities were able to create and enforce new laws that generated new rents for those controlling large blocks of land and supplying military services. Rents were created for towns, for example, by requiring farmers to sell their grain to the nearest grain dealer, reducing competition among resellers for grain, who in turn would obtain this profitable privilege by accepting the regional lord's provision of military services. Jones and Ville (1996) propose that joint stock companies that emerged in the seventeenth and eighteenth centuries held exclusive trading rights in particular goods and/or regions of the world, not because they reduced transactions costs associated

[17] For an extended study, see Ekelund and Tollison (1997).

with long-distance trade, but because they maximized monopoly rents. This, in turn, maximized the fees that the crown could charge for issuing such charters. For example, in 1687, private traders to West Africa paid a premium of 40 percent of the value of their cargoes for the right to trade. Very few of these companies survived in the more competitive environment that emerged in the late eighteenth century.

4.3 Authoritarian regimes

Rent seeking has historically been prevalent under authoritarian regimes. The following papers describe communism and the Roman Empire.

> Arye L. Hillman and Adi Schnytzer, 1986. Illegal economic activities and purges in a Soviet-type economy: A rent-seeking perspective. *International Review of Law and Economics* 6, 87–99.
>
> Charles D. DeLorme Jr., Stacey Isom, and David R. Kamershen, 2005. Rent seeking and taxation in the Ancient Roman Empire. *Applied Economics* 37, 705–11.

Hillman and Schnytzer (1986) describe the role of rents and rent seeking under communism, under which rewards were non-market determined and market transactions constituted economic crimes. Purges were means of protecting the incumbent ruler from rent seekers. Data from the prosecution of economic crimes reveals the large magnitudes of rents from personal transactions within the planned system. A puzzle is that large rents were contested and secured when there were limited opportunities for spending wealth because of the limited presence of markets. Data is also presented on the value of payments made to obtain positions in the official hierarchy. The payments are indicative of the rents that could be extracted. Delorme, Isom, and Kamershen (2005) describe the role of rent seeking in the demise of the Roman Empire. The change in political institutions from republic to rule by an emperor changed the behavior of the ruling classes. Rent seeking resulted in use of tax

revenue for privileged benefits. Military control by the emperor prevented popular expression of discontent with the privileged assignment of tax revenue.

APPLICATIONS PART V THE FIRM

5.1 Soft budgets and moral hazard

The interface between firms and benefits through public policy introduces the idea of the soft budget, which is closely related to rent seeking. "Soft" budgets are budgets that are not binding and that can thereby be manipulated to create rents. Government subsidies that cover producers' costs provide soft budgets for the subsidy recipients. Soft budgets are associated with moral hazard.

> Jànos Kornai, 1980. 'Hard' and 'soft' budget constraint. *Acta Oeconomica* 25, 231–46.
>
> Arye L. Hillman, Eliakim Katz, and Jacob Rosenberg, 1987. Workers as insurance: Anticipated government intervention and factor demand. *Oxford Economic Papers* 39, 813–20.
>
> Steven T. Buccola and James E. McCandish, 1999. Rent seeking and rent dissipation in state enterprises. *Review of Agricultural Economics* 21, 358–73.

Kornai (1980) described soft budgets in a context in which state-owned firms function in markets but cannot become bankrupt, because of the political unacceptability of unemployment or the closure of a state-owned firm. A state guarantee to cover all losses allows rent creation and rent extraction by managers and workers in the state-owned firms. Kornai's soft budgets also apply in market economies to government departments and bureaucracies, which similarly are protected from bankruptcy.

Hillman, Katz, and Rosenberg (1987) describe a firm whose owners are aware that the political disutility of unemployment and the likelihood of protectionist policies increase with the number of workers who would lose their jobs if the firm were to confront low-cost import competition. Rents in the form of returns to industry-specific capital are protected by employing more than the profit-maximizing number of workers. Firms producing output under conditions of market risk have incentives to produce in peripheral locations where the political disutility of unemployment is greater. Beyond moral hazard, there is therefore adverse selection. Buccola and McCandish (1999) provide a case study from Africa in which a private firm competes against a privatized former state enterprise that retains its ties to government officials and thereby its privileges. The case study is the background for a description of how state-owned firms seek to maximize costs subject to the aid that is provided by international donors. In this case, the source of the soft budget is development assistance.

5.2 Rent seeking within the firm

When rent seeking occurs within the firm, government need not be involved and so political economy issues need not arise. The firm is an institution of economic organization based on the incentives of markets and private property. In principle, the competitive firm is devoid of rents. The logic of the rent-seeking approach suggests, however, that a firm's labor force, management, and owners have incentives to invest resources in socially (and organizationally) fruitless disputes over their firm's profits.

Aaron S. Edlin and Joseph E. Stiglitz, 1995. Discouraging rivals: Managerial rent seeking and economic inefficiencies. *American Economic Review* 85, 1301–12.

David S. Scharfstein and Jeremy C. Stein, 2000. The dark side of internal capital markets: Divisional rent-seeking and inefficient investment. *The Journal of Finance* 55, 2527–64.

Amihai Glazer, 2002. Allies as rivals: Internal and external rent seeking. *Journal of Economic Behavior and Organization* 48, 155–62.

Edlin and Stiglitz (1995) present a model in which managers entrench themselves in their positions by making investment decisions that discourage rivals from applying for or contesting their positions. The rents of entrenchment are achieved by creating asymmetric information and by making acquisitions that require the personal information of the incumbent managers for the realization of potential synergies. Incumbent managers, thus, increase uncertainty about the firm's prospects to reduce competition for their positions, given the reservation rewards of other prospective applicants. Edlin and Stiglitz thereby suggest that acquisitions and mergers reflect rent seeking by incumbent managers.

Scharfstein and Stein (2000) note the empirical evidence that diversified firms or conglomerates trade on the stock market at a discount compared with firms that are more specialized in their activities. A CEO personally gains from empire building or from increasing total investment beyond levels that maximize the value of the firm. Nonetheless the CEO has an incentive to allocate capital efficiently within the firm. Scharfstein and Stein (2000) suggest, however, that the internal allocation of capital within the firm is inefficient because rent seeking by divisional managers results in value-reducing cross-subsidization among the divisions of conglomerates. Rent seeking increases the bargaining power of the weaker divisional managers. Weaker divisions of the firm are subsidized by stronger divisions, because the opportunity cost of allocating time to rent seeking, rather than productive activities, is lower for the managers of the weaker divisions. With accountability constraining the CEO from increasing managerial incomes directly, managerial incomes are increased by increasing investment and thereby managerial responsibility, which can be used to justify increases in manager incomes. Glazer (2002) notes that employees have the option of using their rent-seeking abilities on behalf of the firm in confronting external

competitors, or in rent seeking for personal benefit within the firm, which reduces the firm's profits. The ability or means to use rent seeking in either way reduces the incentives of the firm to hire proficient rent seekers.

5.3 Firm ownership, outsiders, and rents

Rent seeking within the firm provides an explanation for the existence of outside ownership and for unemployment.

> Assar Lindbeck and Dennis J. Snower, 1987. Efficiency wages versus insiders and outsiders. *European Economic Review* 31, 407–16.
>
> Roger D. Congleton, 1989. Monitoring rent-seeking managers: Advantages of diffuse ownership. *Canadian Journal of Economics* 22, 662–72.
>
> Holger M. Müller and Karl Wärneryd, 2001. Inside versus outside ownership: A political theory of the firm. *Rand Journal of Economics* 32, 527–41.

Intra-firm rent-seeking opportunities arise because the institutional structure of the firm is unable to align perfectly the interests of the parties participating in joint production. This may be a consequence of informational asymmetries within the firm, contract and institutional imperfections, and/or a firm's market power. It is clear that intra-firm conflict over profits tends to reduce a firm's efficiency and thereby its prospects for survival in competitive markets. And, it is equally clear that firms with an organizational structure that reduces such losses will be relatively more efficient and more likely to survive. Thus, the rent-seeking approach predicts the emergence of organizational structures that reduce intra-firm rent-seeking activities. Congleton (1989) and Müller and Wärneryd (2001) suggest that a firm's ownership structure is such a device. Congleton (1989) notes that owner efforts to monitor shirking employees create a rent seeking–like contest in which owners may over-monitor their employees. Owners may sacrifice total firm profits, as long as their own share of the profits can be increases sufficiently through monitoring. In some cases, diffuse

ownership can increase a firm's profits by reducing monitoring by owners, because productivity increases as employee profit shares increase. The more profit seeking are employees, the more diffuse ownership should be, if a firm's profits are to be maximized. Müller and Wärneryd explore distinctions between partnerships (inside ownership) and outside owners. They demonstrate that adding outside owners has the effect of creating a hierarchical game in which investments in rent seeking tend to fall relative to the single-level game among partners (insiders). In effect, insiders free ride in the contest, with outside owners leaving less on the insider's table to contest. They explore incentives for insider sell-outs to outsiders and suggest that the common evolution of firm organizational structures from partnerships to corporations reflects diminishing returns to investments in firm-specific human capital and increasing intra-firm distributional conflict.

Lindbeck and Snower (1987) use the firm insider-outsider relation to propose an explanation for unemployment. The "efficiency wage" hypothesis suggests that unemployment is the outcome of a Nash equilibrium in which higher than market-clearing wages are paid to employees to provide incentives for workers not to shirk. Efficiency wages therefore create rents, at the same time that they increase the opportunity cost of shirking. Such rents produce unemployment. Snower and Lindbeck describe rents as created by insiders within the firm, who decide on the number of workers who are hired.

APPLICATIONS PART 6 SOCIETAL RELATIONS

Societal relations involve forms of rent seeking, as expounded by Thorstein Veblen (1899) in his classic book, *The Theory of the Leisure Class*. Veblen described the quest for social status as a rent-seeking contest that involved conspicuously refraining from engaging in productive activity, or if more expedient, conspicuously engaging in consumption or having unwarranted servants for the purpose of conspicuous display. Resources were wastefully used in the display of status. More recent literature extends

Veblen's observations.

6.1 Status

A great many social settings resemble rent-seeking contests, in that a prize of one kind or another is to be awarded in a manner that depends on the relative efforts of the persons seeking the prize. In some cases the prize is distributed among all those seeking it, as might be said of status in a status game. In other cases, the prize tends to be of the winner-take-all variety, as might be said of the quest for sainthood. Whether the resources used in attempting to secure the prize are socially wasted depends upon the nature of the activities that influence the distribution of the prize or probability of obtaining the prize. If status is conferred by good works or public goods, the game may consume resources but external benefits may exceed the cost of seeking the status, in which case the game may be efficiency enhancing. On the other hand, if the resources used produce no positive externalities outside the game, the game is wasteful in the usual sense of a rent-seeking contest. All contestants would benefit from a proportionate reduction in their expenditures, because this would not diminish their relative position (which determines their share of honor or probability of winning), but would free resources for other purposes. The following papers consider the quest for status.

Roger D. Congleton, 1989. Efficient status seeking: Externalities and the evolution of status games. *Journal of Economic Behavior and Organization* 11, 175–90.

Amihai Glazer and Kai A. Konrad, 1996. A signaling explanation for charity. *American Economic Review* 86, 1019–28.

Mario Ferrero, 2002. Competing for sainthood and the millennial church. *Kyklos* 55, 335–60.

Bruno S. Frey, 2003. Publishing as prostitution? Choosing between one's own ideas and academic success. *Public Choice* 116, 205–23.

Congleton (1989) suggests that there is a tendency for status games to evolve toward more productive contests in which games with negative externalities (private duals and criminal competition) are replaced by games producing no or positive externalities for non-participants, as in gift-giving contests. Good deeds and knowledge accumulate as a consequence of the latter contests. Yet this process of social evolution is slow and imperfect. Glazer and Konrad (1996) describe charitable giving as a contest for status. Ferrero (2002) describes contests for the status of sainthood, in which proponents of candidates use resources in post-mortem contests to attract attention to the case for status. Frey (2003) considers status conferred by academic publishing. Rent seeking occurs insofar as personal honor and higher personal income are sought through socially unproductive uses of time and ability. Frey observes that authors seeking publications exhibit a willingness to make any and all changes that an editor or reviewers demand in order to ensure publication of their papers. Frey points out that there is no honor in such quests for honor. Frey also proposes changes in responsibilities of editors to make the quest for publication less like prostitution.

6.2 Civil society and rent seeking

Two final papers consider the role of rent seeking in the context of civil society.

Roger D. Congleton, 1991. Ideological conviction and persuasion in the rent-seeking society. *Journal of Public Economics* 44, 65–86.

Arye L. Hillman, 1998. Political economy and political correctness. *Public Choice* 96, 219–39.

Rent-seeking activity in democracies involves persuasion: directly of voters, and

indirectly of political decision makers who exercise some policy discretion, because of specialization and the rational ignorance of uniformed voters. Inefficient policies that create rents can be adopted at little cost to responsible politicians or bureaucrats, if few voters know about the specific policies at issues. To understand why voters often support policies favoring more wealthy interest groups, however, requires a more finely grained representation of voter interests than provided by models that focus exclusively on economic wealth. Relatively well-informed voters often favor such programs, and it bears noting that the public arguments of economic interest groups rarely directly mention their own economic stakes or those of voters. Rather, political campaigns tend to use arguments based on the interests that voters have in a more attractive society, which usually reflects implications of broadly shared norms and ideology. Congleton (1991) explores how economic and ideological groups conduct advertising and lobbying campaigns to persuade voters and bureaucrats of the merits of particular policies. He demonstrates that persuasive contests among ideological groups are more likely to escalate than are contests among economic interest groups, and so rent-seeking losses tend to be higher for ideological than economic persuasive campaigns. Persuasive campaigns of rent seekers are more likely to be successful during times of ideological confusion or uncertainty, because at such times, voters are more open to persuasion.

Hillman (1998) considers the slow acceptance of the rent-seeking concept in its first two decades. He argues that contemporary ideology requires that democratic government be perceived as acting in the public interest. Consequently, the idea that rent seekers might be able to persuade others that their personal interests are actually the public's interest was simply rejected by the "mainstream orthodoxy," as impossible or at least politically incorrect. The policies that create and assign rents are then left unexplained, as simply part of the error term of democratic theory. It might be argued that the intent of a democratic theory that did not countenance rent seeking was pedagogical. Perhaps, education in the ways of normatively desirable behavior required not exposing students to the possibility of undeserved rewards obtained

through unproductive activities. Yet assuming rent seeking out of existence, or assuming that all assignments of income and wealth affected by democratic governance are meritorious, also teaches students that all politically assigned rewards reflect intrinsic merit. Students are thereby not taught to be wary of political assignments of personal rewards.

Eventually, as these volumes demonstrate, the social costs associated with rent creation, rent assignment, and rent extraction by political decision makers have come to be widely acknowledged among social scientists and in the public domain, where the term "rent seeking" has emerged in an increasingly wide range of academic publications and in newspaper editorial pages around the world. The literature on corruption (for example, Tanzi 1998, Aidt 2003) and the willingness of international organizations, such as the World Bank and the International Monetary Fund, to ascribe ineffectiveness of aid to rent seeking and other political problems has also increased the awareness and application of the rent-seeking approach (for example, Easterly 2001, Abed and Gupta 2002).

The fear of those who acknowledge that rent seeking takes place, but oppose the academic research program, is that democratic institutions will be undermined by that research. In contrast, the hope of those who engage in that research is that, by raising awareness of the problems of political decision making, voters will exercise better oversight of their elected representatives. Democratic governments, although imperfect, sustain more attractive societies than other systems that we are aware of, and their policies are likely to be improved by more informed monitoring of the activities of rent seekers. And, moreover, as suggested in Congleton (1980: reprinted in volume I, 2000, 2003a, 2003b), the research may lead to improvements in our institutions for developing and implementing public policies. Without acknowledging the problems, improvements are unlikely to be forthcoming.

Forty Years of Rent-Seeking Research: A Progress Report

The importance of a theory can be judged in different ways. Within academia itself, the importance of a new idea can be gauged by its ability to capture the attention and imagination of other academics. The breadth and depth of the academic research on rent seeking undertaken in the past 40 years clearly suggests that this test has been passed. The analytical literature on rent-seeking contests represented in volume I demonstrates that the properties of rent-seeking contests are widely regarded to be interesting, subtle, and important. The applied literature represented in volume II demonstrates that the rent-seeking model provides a powerful and versatile tool for understanding a wide variety of social, economic, and political phenomena. The phenomenon identified by Gordon Tullock in 1967 has clearly proven to be both subtle and general.

The collection of papers in these two volumes provides an overview of important contributions of the literature. The result is an especially interesting and broad subset of the literature as a whole that should be of interest to economists, political scientists, and policy makers, whether for their own research or to better understand the world.

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A Prince had some Monkeys trained to dance. Being naturally great mimics of men's actions, they showed themselves most apt pupils, and when arrayed in their rich clothes and masks, they danced as well as any of the courtiers. The spectacle was often repeated with great applause, till on one occasion a courtier, bent on mischief, took from his pocket a handful of nuts and threw them upon the stage. The Monkeys at the sight of the nuts forgot their dancing and became (as indeed they were) monkeys instead of actors. Pulling off their masks and tearing their robes, they fought with one another for the nuts. The dancing spectacle thus came to an end amidst the laughter and ridicule of the audience.

(Aesop, circa 600 BCE, "Fable of the Dancing Monkeys")

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