An Exploration of Rent-seeking

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I. INTRODUCTION

A vast literature now exists on the topic of rent-seeking. Rent-seeking is the term used by public choice scholars to describe socially wasteful competition. A related but distinct literature developed by Bhagwati prefers to use the term Directly Unproductive Profit-seeking Activities (DUP) to describe similar phenomena.

The aim of the paper is to critically survey the main theoretical elements of the rent-seeking and DUP approaches. There is, in addition, some discussion of the applications which have been carried out to date. No attempt is made to provide an encyclopaedic survey. Rather, we wish to highlight the central themes of the literature, identify current unsolved problems, and indicate the direction we view the literature should take.

The paper is organized as follows. Section II sets the stage by providing a number of definitions of rent-seeking and DUP activities. In section III, the DUP literature is examined with an eye to setting out its basic analytical approach. In section IV rent-seeking theory in a partial and a general equilibrium context is discussed. In section V the literature which deals with these phenomena in a dynamic fashion is explored. In section VI the rent-seeking literature is contrasted with the related literatures on property rights and transaction costs. Some of the competing strands of the alternative approaches are drawn together within the framework of constitutional economics in section VII.

II. DEFINITIONS

The literature has spawned a large number of definitions to describe rent-seeking and DUP activities. In order to appreciate the diversity which exists in the literature it is useful to set out some of the most important ones.

1. "Rent seeking is the expenditure of scarce resources to capture an artificially created transfer" (Tollison, 1982, p. 578).

2. "The term rent seeking is designed to describe behavior in institutional settings where individual efforts to maximize value generate social waste rather than social surplus" (Buchanan, 1980a, p. 4).

3. "... an individual who invests in something that will not actually improve productivity or will actually lower it, but that does raise his income because it gives him some special position or monopoly power, is 'rent seeking'" (Tullock, 1980a, p. 17).

4. "The essential characteristic of the phenomena ... is that they represent ways of making a profit (i.e. income) by undertaking activities which are directly unproductive; that is they yield pecuniary returns but do not produce goods or services that enter a utility function directly or indirectly via increased production ..." (Bhagwati, 1982b, p. 989).

5. "... rent seeking [is] defined as the pursuit of profits via the use of government coercion..." (Anderson, Rowley, and Tollison, 1988, p. 100).

Definitions 1 to 4 are associated with wasteful competition. Definition 1 alludes to the idea that real resources are used to redistributive activities. Since these resources could have been used to <u>increase</u> social product, their use in redistribution constitutes waste. The emergence of social waste is explicitly incorporated into the second definition of rent-seeking; any activity which results in waste is labelled rent-seeking. Definitions 3 and 4 appear to be similar. Both acknowledge that the individual, but not society, will be better off as a result of these activities. The latter definition goes further in that the activities themselves are deemed <u>unproductive</u> at the outset. On the other hand, definition 5 defines rent-seeking in a purely descriptive manner; it does not carry with it any connotation of a welfare loss.[1] This definition indicates also that the notion of rent-seeking is not applicable to private situations. As a result, discussions like Buchanan's (1983) rent-seeking analysis of inheritance would not fall within the rubric of rent-seeking. In such settings there need not be any government involvement or any artificial creation of rents. The idea to define rent-seeking in this fashion is a particularly recent move in this field of enquiry. So recent that it is perhaps best not to place too much emphasis on it. For the most part, definitions 1 to 4 capture the essential spirit of the literature; the field of enquiry on rent-seeking and DUP activities is about the waste which occurs in the competitive process.

III. THE DUP APPROACH[2]

As indicated in definition 4 above, DUP activities are those activities that do not enter anybody's utility function either directly or indirectly. Under this general rubric DUP theorists discuss lobbying for tariffs (tariff seeking), and quotas, competition over the spoils created by these policies (revenue seeking) as well as activities to avoid restrictive government policies. DUP theorists examine these activities under two settings: (i) where the initial situation is undistorted, and (ii) where the initial situation is distorted.

In order to illustrate the basic modelling procedure employed by the DUP theorists, consider the following example of the imposition of a tariff. Here the comparison is between the costless introduction of a tariff and one where the tariff is the result of a resource-using lobbying process. Consider Figure 1 which is taken from Bhagwati (1980, p. 358) with some modifications. A small economy facing the world price ratio P_w would produce along the initial production possibilities frontier (PPF) T_1 at A. Under the orthodox approach, the exogenous introduction of a tariff alters only the domestic price ratio to P_t and the economy continues to produce along the initial PPF, say at B. The tariff results in a fall in national income evaluated at world prices equal to CG.

Under the DUP approach, there are two basic components in the analysis of wasteful competition. The first attempts to take account of the resources used in seeking the form of protection. This is achieved by contracting the PPF to reflect the so-called directly unproductive use of inputs in lobbying. Having done this, the DUP theorists turn to an examination of indirect welfare effects of the unproductive use of inputs in lobbying by employing a social welfare function. Consequently, instead of analyzing the situation along the initial PPF, a contraction of the PPF to T_2 is allowed for and the economy operates at B'. Here a comparison of the exogenous and endogenous tariff cases, reveals that national income evaluated at world prices <u>increases</u> from OC to OD. By using a conventional social welfare function the DUP theorist reaches the apparently paradoxical conclusion that the directly unproductive activity of lobbying has improved welfare. Of course, this result is made possible by the fact that we are comparing two distorted situations. If, on the other hand, the comparison is made between free trade (point A) and unsuccessful lobbying (point A'), then there will be a reduction in social welfare measured in income terms as FG. This reflects the fact that unsuccessful lobbying is both directly and indirectly unproductive.

The basic DUP approach illustrated here has been applied extensively to a host of international trade issues. Some of the more important conclusions derived from this ongoing literature are the following. First, Bhagwati and Srinivasan (1980, p. 1084) generalize Krueger's (1974) refutation of the so-called equivalence result between quotas and tariffs (Bhagwati, 1965). This non-equivalence arises as a result of the possibility of different capital intensities between tariff revenue-seeking and quota rent-seeking activities. Second, Bhagwati and Srinivasan (1980, p. 1075) show that in the presence of revenue-seeking the Metzler paradox may arise even under small country assumptions.

The type of analysis outlined here has been criticized by Tullock (1981) for failing to consider what happens to the revenue raised by the tariff. Specifically, he argues that additional waste can occur if the government does not spend the tariff revenue with perfect efficiency. In his reply, Bhagwati (1982a) acknowledges that one must also examine what happens to the tariff revenue in order to draw out the correct welfare implications. If the government wastes the <u>entire</u> tariff revenue, then Bhagwati agrees with Tullock that DUP activities are welfare reducing. Bhagwati does not put a lot of weight on this possibility, however (1982a, p. 398) as he has relatively more faith in the government process. Instead, Bhagwati moves the margin of analysis back one step by asking what happens to welfare if real resources are used to capture the tariff revenue. The case at hand can be illustrated with the help of Figure 1. As a result of the revenue-seeking the PPF contracts beyond T_2 to T_3. The economy will now produce at B" which implies that national income has increased as a result of the revenue-seeking from OD to OE.

In our view there are a number of deficiencies with the DUP approach quite aside from the problems created by employing the device of a social welfare function. The first lies in the fact that the lobbying process is not analyzed in any detail. For the most part the lobbying process is modelled as a black box. The "input" side is simply modelled as using up a certain amount of labour and capital. The "output" consists of the desired regulation. Exactly how the lobbying process "produces" the regulation is left unspecified.[3] If the regulatory process is modelled as involving political agents, then the distinct possibility exists that these agents may receive rents as a result of the lobbying process itself. These surpluses would have to be taken into account in any comprehensive welfare analysis.[4] One response to this criticism might be to employ the infinite regress argument often put forward elsewhere in the literature on rent-seeking. If rents are indeed created in the political sector, then resources will be unproductively employed in attempting to capture these rents: As in Bhagwati's reply to Tullock, the margin of analysis is simply pushed back one step. Taken to an extreme, the analyst can thereby deflect all criticisms that rents may arise in the rent-seeking process itself by postulating that resources are devoted to capturing rents at every conceivable margin. We accept the substance of this form of argument; we recognize that there can be rent-seeking at the extensive margin. But recognizing the possibility of something does not of course mean that it is so: that all rents have been dissipated is something which needs to be argued rather than merely asserted.

The second major deficiency with the DUP approach is that the assumption is made at the outset that activities like lobbying are unproductive. Yet, as Samuels and Mercuro (1984, p. 60) note, no acceptable criterion is provided by which one could discern whether or not something is unproductive. How would we know whether or not some activity should be left out of the utility function?

One might expect that the literature on rent-seeking is not marred by such problems. By and large rent-seeking theorists are exclusively adherents to the public choice paradigm, and as a result are explicitly concerned with the regulatory political process. Before examining this issue it is useful to set out the basic tenets of the rent seeking approach to wasteful competition.

IV. THE RENT-SEEKING APPROACH

IV-1. Rent-seeking in a partial equilibrium setting

In contrast to the DUP literature, the literature on rent-seeking has for the most part been conducted in a partial equilibrium framework. The seminal article in this tradition is that by Tullock (1967).[5] There he analyzes among other things the welfare cost of a monopoly. The orthodox and rent-seeking cases can be illustrated with the aid of Figure 2. The orthodoxy maintains that the welfare cost of the monopoly is equal to area ABC, and P_mP_cBA represents a transfer from consumers to the producer. In direct contrast. Tullock argues that the resources spent on obtaining the monopoly, asserted to be equal to P_mP_cBA, ought to be counted as part of the welfare cost of a monopoly. Tullock's fundamental insight was that the analyst ought to take into account the resources spent on attempting to capture the monopoly rent. This basic insight, as we have seen in the previous section, formed a central ingredient of the DUP approach. Unlike the DUP theorists, Tullock did not appeal to any a priori specification of the activities as being unproductive in his normative analysis. By Tullock's reasoning, the resources so used represent a cost to the collectivity because they could have been employed in activities which increase value, rather than in redistributive activities (1967, p. 48). The rent-seeking insight, as used by Tullock and for that matter by other public choice economists, placed much more emphasis on the emergent outcomes of a process. The DUP approach on the other hand specifies that the resources so used are socially unproductive at the outset.

It was left to Posner (1975, pp. 73-4, 76), elaborating on suggestions made by Tullcck, to specify under what conditions the entire rectangle, often labelled Tullock costs, would represent the waste due to rent-seeking. These conditions are: (1) obtaining a monopoly is itself a competitive activity, (2) the long-run supply of all inputs used in rent-seeking is perfectly elastic, (3) rent-seeking itself creates no externalities, (4) the monopoly privilege is granted for one period only, and (5) individual rent-seekers are risk-neutral.

Fisher (1985) argues that Posner's conditions (1) and (2) are not sufficient to ensure that all rents are dissipated by rent-seeking, even if conditions (3) to (5) are accepted. Condition (1) is designed to make sure that at the margin the cost of procuring a monopoly is equal to the monopoly rent. It is also formulated to rule out the possibility of inframarginal monopolies. The objective of condition (2) is designed to rule out inframarginal rents on the input side. Fisher maintains that the notion of competition contained in condition (1) can be interpreted in two equally problematic ways. Under the first interpretation it refers to the competitive activity of obtaining monopolies in general. If this is the case, then Posner's result does not hold. There is no mechanism ensuring that the rents earned by the incumbent monopolist in a particular industry will be dissipated by potential monopolists in some other industry. The incumbent's inframarginal rents will be treated as a cost by potential entrants, who will therefore have no opportunity to make above normal profits in this industry themselves (Fisher, 1985, pp. 412-4). To salvage Posner's analysis here one would require the additional assumption that the production of monopolies is subject to constant returns to scale which would ensure that there were no inframarginal rents created on the input side. Under the second interpretation, where the activity is aimed at obtaining a particular monopoly, Fisher uses Rogerson's (1982) results to argue that the idea of competition with free entry is not appropriate since the incumbent enjoys barriers to entry merely by virtue of being the incumbent (1985, p. 412). To rescue Posner's analysis on this score one would have to assume that all agents recognize the same opportunity at the same time, so that there can be no advantages bestowed on an incumbent.

The debate about the conditions which are necessary to achieve perfect rent dissipation has been further complicated by the introduction of game theoretic techniques. For example, Tullock (1980b) has formalized the issue of rent dissipation in the game-theoretic framework of a lottery. Under such a scenario there are, of course, no incumbents and one might expect Posner's results to hold. It is shown by Tullock (1980b), however, that the amount of money spent on lottery tickets can be less than, equal to, or greater than the total prize; the difference in the results arising from the difference in the assumptions made about the technology of rent-seeking. If the granting of a monopoly can be seen as a lottery, as was indicated by Tullock (1967, pp. 48-9, 1988b), then Posner's (1975) claim is misfounded yet again; the welfare cost of a monopoly need not coincide with the area of monopoly rent. The original lottery scenario has formed the basis of a great number of subsequent papers but no clear consensus has emerged about the degree of dissipation. There has been a continuing debate about which scenario best captures the rent-seeking phenomenon.[6]

Up to this point the focus has been on the level of resources spent by individuals in acquiring rents. Drawing on a suggestion by Tullock (1967, p. 48), rent-seeking theorists have recently examined the issue of consumers spending resources to protect their consumer surplus. This aspect has been alternatively labelled rent-avoidance or rent-protection (Tollison, 1987, p. 149). In order to gain some idea of how this aspect of rent-seeking can affect the previous analysis consider the argument presented by Baysinger and Tollison (1980), which can be illustrated with the help of Figure 2. There is a single producer who is required to price at P_c initially, but who wishes to lobby the regulatory agency to charge a higher price, say the monopoly price P_m. Consumers, who wish to keep the price at P_c, are assumed to be perfectly organized and informed. Both parties are represented by outside counsel in the regulatory hearing (1980, p. 22). Under "arbitrary state action" which is defined as the situation in which outcomes are equally likely, the expected price is equal to P_r $[=(P_m+P_c)/2]$. In this case the producer would be willing to spend resources up to P_rEFP_c, the size of his expected rent. On the other hand, the consumers would be willing to devote P_rECP_c, the expected loss in consumer surplus to rent-protection activities (1980, p. 24). The welfare cost due to rent-seeking and rent-protection ignoring the Harberger waste, is now the sum of the two amounts, and exceeds the Tullock rectangle (P_mABP_c) by AHECB.[7]

There are two problems with this sort of analysis. First, there is the distinct danger that the welfare costs arising from rent-protection are overstated. As Browning (1980) argues in the context of a debate about rent-seeking over transfers, lobbying may be subject to the free-rider problem. In the Baysinger-Tollison model the protection of the consumer surplus has the characteristics of a public good. As a result consumers' willingness to contribute to a lobbying effort may be quite low. Therefore, the amount of rent-seeking costs due to rent-protection may be quite low.[8]

The second problem arises if the free-rider problem is alleviated by the existence of political entrepreneurs who represent consumers' interests. This would seem to salvage the sort of analysis carried out by Baysinger and Tollison (1980) for consumers would be represented in regulatory hearings by the political entrepreneur. This argument runs into trouble as well. There is now no reason for the rent-protection costs to coincide with the anticipated change in consumer welfare. This is caused by the fact that the resources spent by a political entrepreneur need not bear any relationship whatsoever with the loss in consumer surplus. The rents accruing from political office depend in part on the "supply" conditions in the market for politicians and not on the "demand" side of the product market subject to potential regulation (e.g., area P_rECP_c in Figure 2).

It might be argued that McChesney's (1987) analysis of rent-extraction by politicians provides the conceptual link between the two markets. McChesney argues that political entrepreneurs do not passively respond to private interest groups. Instead, they actively create rents for themselves by threatening to impose legislation that would hurt private agents. His argument can again be illustrated with the aid of Figure 2. Suppose that the initial price is P_r and the producer earns rents equal to P_rEFP_c. A politician can threaten to impose legislation which will reduce the price to P_c. The maximum amount the producer would be willing to pay to the politician for <u>not</u> enacting the legislation is equal to the capitalized value of the rents (McChesney, 1987, p. 184). Consequently, there is a conceptual link between lost surplus in the product market and rent obtained by the politicians. This argument nevertheless relies on the group spending resources in order to protect its rent. The demand side of the product market is however subject to the free-rider problem; the politician may threaten the consumer surplus, but it is unlikely to elicit much of a response. McChesney's argument cannot therefore be extended to provide the required link between lost consumer surplus and rents earned by pro-consumer political entrepreneurs.[9]

In a recent paper Tullock (1987a) has attempted to direct the literature in yet another direction by arguing that "imperfections" of the political process itself ought to feature more strongly in the rent-seeking argument. In doing so, he argues that the amount of resources invested in rent-seeking may be <u>smaller</u> than much of the previous literature suggests. Tullock claims that lobbyists seeking electoral support may be forced to seek the wealth transfers through the adoption of inefficient policies. A direct transfer of cash from the government to the lobbyist's cause can be easily detected by political pundits and therefore cannot be hidden from even rationally ignorant voters. A restrictive policy can be more easily hidden under the political rhetoric of national pride or health concerns, even though it may be designed to enhance the rents of the protected industry. The implications of this argument for the level of rent-seeking can be easily illustrated with the aid of Figure 3. Initially the industry equilibrium occurs at P_c and Q_c. Suppose some of the inframarginal firms lobby the government successfully for an output quota, Q_1. In addition, assume that this trade restriction, for reasons of political rhetoric, requires all firms to adopt a less efficient technology. As a result the supply curve shifts to the left to S_1.[10] The traditional measure of rent-seeking waste is P_1ABP_c. Tullock argues that the amount of resources spent on rent-seeking must be discounted by the fact that the return from the output quota is reduced by the increase in cost measured by CFGH plus the loss in producers surplus as a result of the reduction in output, equal to GBE. Providing there is no exit from the industry, the total amount of resources spent on rent-seeking is equal to P_1ABP_c minus CFGH minus GBE; say the area P_1AJI. On the basis of this argument, Tullock (1987a) concludes that the waste associated directly with rent-seeking is lower than the traditional measure would have it. Although this is correct, the total level of social waste remains the same as that propounded in the rent-seeking literature elsewhere. The adoption of inefficient techniques causes social loss different in name only from that attributed directly to rent-seeking.

IV-2. Rent-seeking in a general equilibrium setting.

The central proposition behind all the partial equilibrium analysis dealt with so far is that waste arises when resources are used to procure wealth transfers. The level of waste is equal to the social value which could have been created if the resources had been employed in some sector of the economy. The central argument of the rent-seeking literature relies therefore on general equilibrium notions. The partial equilibrium rent-seeking literature sweeps aside however any general equilibrium complications by asserting that what is spent on rent-seeking in one sector accurately reflects what 'society' must forgo. A small number of papers have examined the conditions under which the partial equilibrium model is appropriate.[11]

Varian (1983) considers the welfare cost associated with a subsidy under rent-seeking in a general equilibrium model with two commodities and one variable factor. Varian assumes that a per unit subsidy of s on commodity 1 can be acquired by purchasing S units of the second commodity. These S units are assumed to be used up in the lobbying process (1983, p. 12). Assuming separable utility and profit functions, the situation in the two markets can be illustrated with the help of Figure 4, which is taken from Varian with some modifications. Panel a depicts the markets for commodity 1. The demand curve is represented by D_1 and S_1 is the supply curve. The per unit subsidy shifts the demand curve up to D_1'. The demand for good 2 used for lobbying purposes shifts the demand curve in the second market from D_2 to D_2+S in panel b. This results, of course, in an increase in the price. Leaving aside the issue of the free-rider problem, the total willingness to pay (WP) for rent-seeking purposes is equal to the increase in producers' and consumers' surplus in the market for good 1 (i.e., $WP=P_{1c}ABP_{1r} + P_{1c}ACP_1'$ in panel a). The lobbying effort will be feasible and successful only if S units of good 2 can be bought with WP. This means that only for prices P_2 less than or equal to P_2', where $P_2'$is defined to be equal to WP/S, will the lobbying effort be successful.

The welfare effect of the subsidy equals the increase in producers' surplus (area $P_{1c}ABP_{1r}$ in panel a plus $P_{2c}DEP_{2r}$ in panel b) plus the net increase in consumers' surplus (area $P_{1c}ACP_1'$ in panel a minus $P_{2r}FDP_{2c}$ in panel b) minus the taxpayers' loss (area $P_{1r}BCP_1'$ in panel a). The net loss, Varian (1983, p. 16) argues, is equal to area ABC in panel a (the Harberger cost) plus area $FDEX_{2r}X_2'$ in panel b.

Partial equilibrium analysts would have estimated the rent-seeking cost by the area $P_{1r}BACP_1'$ which equals the total willingness to pay (=WP). This amount overstates the true rent-seeking cost for two reasons. First, the actual amount spent on lobbying, here equal to $FEX_{2r}X_2'$, depends on the supply conditions in the second market and therefore need not coincide with the maximum amount they were willing to pay. Successful lobbying requires only that S units of good 2 be purchased, not that the lobbyists spend their entire total willingness to pay on lobbying. Only if supply had been the dashed curve in panel b, would the exact amount WP have been spent on the lobbying effort. Second, even if WP is entirely spent on rent-seeking efforts, so that $WP=FEX_{2r}X_2'$, it still does not measure the rent-seeking cost accurately. This measure ignores area FED, which represents the net gain in the market for good 2 which goes to producers. The partial equilibrium approach would provide the correct measure in Varian's model, as we know already from Posner's discussion, if the lobbying does not lead to a rent in the second market.This occurs when the supply curve in the second market is perfectly elastic at P_{2c}.

It is worth drawing attention to the fact that Varian obtains his welfare results by assuming that the lobbying expenditure on good 2 is entirely wasted. There is no agent in his model who derives utility from the S units of the second commodity. It is as if these units are burnt outside the offices of the regulator who derives no utility from this act but nevertheless concedes enigmatically to the lobbyists' wishes by setting a per unit subsidy level equal to s. This treatment of the lobbying process is clearly subject to the same criticism as that levelled at the DUP theories above, namely that regulators are assumed to supply policies without furthering their own interests. In doing so, the rent-seeking and DUP approaches have sometimes created models which emasculate the notion of <u>homo</u>

economicus. In order to have a credible model of rent-seeking waste one must model the public choice process by which regulations get adopted, a point also made in a different context by Findlay and Wellisz (1984). And there seems to be little methodological sense in developing models of rent-seeking in which politicians are modelled as economic eunuchs.

One paper which attempts to close the type of model proposed by Varian by explicitly considering the gains to the regulators, is the 2 good general equilibrium account of the rent-seeking process modelled by Brooks and Heijdra (1988). As in Varian (1983) the lobbying effort uses the second commodity. Here the rent-seekers, however, want to establish a monopoly in one of the industries. There are two kinds of agents in the model, politicians who can vote for or against the proposed regulation and ordinary people who have no say in the matter. Units of the second good are used to "bribe" a sufficient number of the politicians to vote in favour of the regulation. For a politician to vote in favour of the regulation the bribe must be sufficiently high to compensate him/her for the higher price in the monopolized industry. With this simple public choice closure of the model, it turns out that the welfare cost of the monopolization is simply equal to the Harberger loss. This result is driven by the fact that Brooks and Heijdra use a modelling procedure which is diametrically opposed to the one used by Varian (1983), the DUP literature, and the partial equilibrium rent-seeking literature. Instead of asserting that rent-seeking simply destroys resources, waste is only determined by an ex post examination of the outcome of a process. Once this is done, the possibility exists that the rents sought have been merely redistributed to other sectors of the economy, here the rents from the monopolized industry have been redistributed to the politicians. And, as is widely known, there is no welfare cost associated with pure redistribution.

Of course this does not mean that there is no such thing as wasteful competition. What the general equilibrium account by Brooks and Heijdra (1988) does show, however, is that provided one is not willing to assert waste from the outset, waste is not the inevitable outcome of rent-seeking activities, at least in the context of a static economy. Part of the puzzle seems to lie in the fact that static resource allocation models do not seem to effectively capture the rent-seeking phenomenon at hand. Recall that the central rent-seeking insight is that one ought to take account of the lost opportunities which occur when there is competition over rents. Rent-seeking activities will surely divert resources away from investment activities, such as, for example, human capital formation, which in turn reduces the productive capacity of the economy. The lost opportunities and the waste from rent-seeking activities are perhaps better viewed from an intertemporal perspective.

V. RENT-SEEKING IN A DYNAMIC SETTING

In fact a close reading of the literature on rent-seeking reveals that the scenarios often used to illustrate the concept involve dynamic considerations. For example, in his initial paper on the issue Tullock (1967) alludes to intertemporal factors[12]. In a subsequent paper he makes the point much more explicitly by referring to the wastefulness of the Chinese civil service examination system which equipped students with unproductive human capital (1980a, pp. 18-19). Although not couched in the terminology of either rent-seeking or DUP, Olson's (1982) theory of redistributive coalitions fits firmly into the mold of dynamic rent-seeking; he argues that the effect of these coalitions is to retard economic growth.[13] However, apart from a mere handful of papers, the literature has ignored dynamic considerations despite the apparent importance to the analysis of wasteful competition.

One recent exception to this is a recent article by Tullock (1988a) in which he argues that the level of waste arising from rent-seeking is greater in a dynamic context than in a static one. He discusses the example of firms which spend resources on setting up a barrier to entry to some potential innovator. In such circumstances the traditional rent-seeking waste arising from this rent-protection has to be augmented by the loss in social surplus caused by the failure to innovate.

Waste as a intertemporal phenomenon arises more clearly in Dennen's (1977) theory of the settlement of public lands in 19th century America. His argument, which employs Barzel's (1968) theory regarding the optimal timing of innovations, relies on partial equilibrium notions and assumes that the interest rate and the price of agricultural output are parametrically given. The latter, P(t), is assumed to rise over time in order to ensure a well defined solution to the decision about the optimal time to settle the land. The essential structure of Dennen's analysis can be illustrated with the help of Figure 5. The opportunity cost of the farmer is constant and equal to W, which implies that the net price of farm output is P(t)-W. For simplicity we have assumed that the net price of farm output is a linear function of time. C represents the fixed cost of breaking-in the land, and output of the land is arbitrarily set equal to unity. The socially optimal time of settling the land occurs at time t_c, where the interest cost of converting the land equals the net price of agricultural output. At this point the present value of the land is at its maximum. The social optimum would be approximated if the land were sold in open auctions (Dennen, 1977, p. 727).[14] The system adopted instead, was that of homesteading. The individual could acquire property rights over the land by paying a nominal fee and residing on the land for a certain amount of time. The result of this policy was that the land would be settled when the present value turns from negative to zero, rather than when it is at its maximum (Dennen, 1977, p. 729). Consequently land was settled "too soon", say at time t_h in Figure 5. At t_h the present value of area I equals the present value of area II. The result of the homesteading system was that the rents accruing from the land were completely dissipated.

At this point it is important to bear in mind that rent-seeking waste and rent dissipation are not always the same thing. As Buchanan (1980a, pp. 5-7) points out, rent dissipation drives the competitive market; rent encourages entry which leads to an expansion of output and social surplus. In the literature this is known as profit seeking. What makes rent-seeking different from profit-seeking is the fact that in the former rents are dissipated <u>without</u> an increase in social welfare. In Dennen's case rent-dissipation did not result in social surplus and therefore constitutes rent-seeking waste.

Dennen (1977, pp. 729-30) points out that under the homesteading system there was an additional source of waste from rent-seeking. Whenever the Federal government released land to be settled under the Homestead Act, a land rush developed. Dennen cites some information regarding this:

> For example, considerable time was spent simply waiting, or jockeying for an advantageous position at the starting line. On occasion special vehicles were constructed which would presumably speed more quickly over the land to claim the site (1977, p. 730).

Individuals used up real resources in order to get to the land first and thereby dissipated the rent.[15] Of course, to have a fully satisfactory analysis of the waste associated with rent-seeking one would have to consider what these resources would have been used for if the land rush had not developed. In that sense the dynamic literature is no different from the partial equilibrium rent-seeking literature; the analysis if not the intuitive discussion is incomplete.

Intertemporal issues arise in McCormick, Shughart, and Tollison (1984) widely cited attempt to explain the apparent disinterest in deregulation from a rent-seeking perspective. Despite the fact that their discussion refers to dynamic considerations their formal analysis is couched in static general equilibrium terms. McCormick et al. (1984) consider the case of rent-seeking, regulation and deregulation over a durable monopoly privilege. Durability refers to the proposition that the rent-seekers believe that once the monopoly franchise has been granted the government will not revoke its decision. In this case rent-seekers will under certain assumptions spend the entire capitalized value of the franchise on lobbying efforts. In time period t rent-seekers in industry A use real resources in order to lobby the government to monopolize their industry. In keeping with the DUP approach, the initial effect of the resource-using rent-seeking is to shift the PPF in period t from T_1 to T_2 in

Figure 6.[16] Here B comprises all other industries in the economy. T_1 is the original competitive or unregulated PPF and the initial equilibrium is at point 1. The competitive price ratio is P_C. Rent-seeking will, in general, change relative factor rewards and thereby income and it is therefore not clear a priori where the economy will move during the lobbying period t. Assume, for example, that the price ratio is such that equilibrium occurs at point 3. At this point, aggregate output valued in terms of the competitive price ratio has clearly fallen (from Y_U to Y_L).

McCormick et al. go on to consider what would happen if the monopoly is deregulated. They claim that the economy will either move north-westerly along T_2 or at best "... the production possibilities curve ... will rotate outwards to become parallel to the initial T_1 frontier" (1984, pp. 1077-8). The reason they give for this is that rent-seeking costs cannot, under most conditions, be recouped. Accordingly, the economy cannot make use of these lost resources and return to position 1; the opportunity to produce somewhere along the T_1 has been lost forever. The returns from deregulation are therefore at worst only equal to Y_D minus Y_L rather than the traditional Harberger measure Y_U minus Y_R. Since the returns from deregulation are lower than has been previously argued, McCormick et al. argue that this goes some way in explaining the apparent disinterest in deregulation.

Their analysis is subject to a number of criticisms. First, Crew and Rowley (1986, 1988) argue that the notion of a durable monopoly is unrealistic. The monopoly franchise can be and is reviewed by subsequent parliamentary or regulatory review boards. The outcome of these hearings is never completely predictable, so that there is always a degree of uncertainty about the durability of any regulation. As a result, rent-seekers are unlikely to spend resources equal to the capitalized value of the future stream of rents (Crew and Rowley, 1986, p. 64). This conclusion is strengthened if the rent-seekers are risk-averse. Consequently, the returns from deregulation are higher than McCormick et al. (1984) suggest.

Second, as we argued above in section IV-1, regulation may include clauses leading to the adoption of inefficient production methods and higher costs. To the extent that deregulation results in the adoption of efficient techniques and lower costs, the return from deregulation will be higher than that suggested by McCormick et al. (1984); resources used inefficiently under the regulation will now be released into other sectors of the economy.

Third, even if the capitalized monopoly rents have been spent on rent-seeking, and in that sense cannot be recouped, this should not feature in the decision to deregulate. This is because these rent-seeking outlays represent sunk costs (Crew and Rowley, 1986, p. 61).

Fourth, the fact that the rent-seeking outlays are sunk does not mean that the factors once used in the rent-seeking stage cannot be usefully re-employed. Consider their example of lawyers that have acquired regulation-specific human capital (McCormick et al., 1984, p. 1078). Deregulation releases these lawyers into the market for legal services at which they are relatively less efficient. This means that after deregulation the PPF may not shift back to P_1 immediately. Eventually, however, the lawyers with worthless regulation-specific human capital will either retire or retrain and the PPF will return to

P_1. The argument about the gains from deregulation is therefore one of relative adjustment speed and the costs of adjustment, and not one of permanent non-adjustment, as McCormick et al. (1984) would have it.

Five, as Libecap (1986, p. 73) and Crew and Rowley (1988, p. 167) point out, deregulation arises from distributional concerns of different special interest groups, not from the overall welfare gain to the nation as McCormick et al. (1984) would have it. So even if one accepts their argument that the gain from deregulation is small, this does not mean that there will therefore be no or little incentive for special interest groups to lobby in favour of it.

VI. PROPERTY RIGHTS, TRANSACTION COSTS, AND RENT-SEEKING.

In some of the examples of rent-seeking and DUP activities discussed above, the lobbying was aimed at urging governmental bodies to redefine existing property rights, or to establish new property rights. For example, in the case of a proposed monopolization of an industry all but one of the existing firms will lose the rights to produce and sell a certain commodity. In the case of the land rush described individuals spend resources to establish property rights over land that was previously owned by the government. In fact, the underlying notion here is a general one. In the case of a non-exclusive resource some writers have argued that rent-seeking activities will take place when there is an attempt to institute private property rights (e.g. Buchanan, 1980b; Anderson and Hill, 1983, and Brooks and Heijdra, 1987b). In a radically different context, Buchanan (1983) applies the notion of rent-seeking to bequests. Since bequests are perceived as rents by the potential recipients, rent-seeking can emerge aimed at changing the donor's intentions. This is again a case in which rent-seeking is associated with the attempt to change property rights.[17] On the basis of the examples it is clear that there is a relationship between the rent-seeking and property rights literatures.

Samuels and Mercuro (1984) have, in fact, used certain aspects of the property rights literature to criticize the entire rent-seeking literature. First, they argue that rent-seeking theorists ignore the fundamental importance of property rights. They ascribe to rent-seeking theorists the view that rent-seeking can be identified in terms of changes in physical output only; rent-seeking occurs when resources have been used for redistributive activities rather than for output increasing activities. On the basis of this interpretation, Samuels and Mercuro argue that rent-seeking theorists measure waste incorrectly. Rent-seeking theorists are amiss in their preoccupation with the physical dimension of production (1984, p. 60) because individuals are also concerned with the property rights they have over the output. If there is a change in property rights as a result of rent-seeking, then the individuals' willingness to pay may be affected. Rent-seeking cannot be measured merely by changes in output but needs to be put in value terms. This much is entirely correct. But their point misses the mark in our opinion. Both the DUP and the rent-seeking school analyze waste in value terms.

Samuels and Mercuro (1984, pp. 62-3) accuse public choice theorists of also implicitly postulating a well-defined status quo structure of property rights in their calculations of waste.

Samuels and Mercuro appear to accuse rent-seeking theorists of adopting the following position. Under a well-defined status quo only voluntary exchange of entitlements are deemed to be acceptable and welfare improving. Rent-seeking activities which are wasteful by definition are modelled as involving involuntary changes in the structure of entitlements. Accordingly, all government intervention which is associated with an involuntary change in property rights is wasteful. Samuels and Mercuro believe this position is fundamentally flawed. They perceive the history of government action as the continual need to define property rights in response to emergent social problems.[18] In cases in which the status quo is not well-defined and the subject of rent-seeking and rent-protecting activities, legislative action

> ...is a vehicle for economic gain and advantage....To say that this type of competition, in contrast to that over the production and exchange of 'real' goods and services is wasteful, appears naive and certainly is presumptive with regard to both wastefulness and the problems of legal change (Samuels and Mercuro, 1984, p. 65).

There is some truth, but equally some distortion in their argument.

Samuels and Mercuro are on firm ground with their charge that rent-seeking theorists overstate the case against government intervention. Public choice economists reacting against the dominant Pigovian strand of normative economics have been overzealous in stating the case for voluntary exchange. Yet as always there is some danger in generalizing. Buchanan (1975, ch. 5) himself has acknowledged the need for the state to clarify the property rights inherent in the status quo in the face of emergent problems. He recognizes that the judiciary will need to lay down the limits of property rights in order to provide an institutional environment in which the gains from trade may be exhausted. Mercuro and Samuels overstate their case when they argue that rent-seeking theorists believe that all coercive behaviour is wasteful.

Samuels and Mercuro are on weak ground when they argue that rent-seeking is solely associated with coercion. To be sure, it is easy to fall into the belief that rent-seeking is only about involuntary transfers of property. In Tullock's (1967) initial paper on the concept of wasteful competition theft is used as a prime example of the concept at hand. And much of the literature on the rent-seeking costs of monopoly assumes an institutional environment in which the government is granting a monopoly franchise to the detriment of existing competitors. It is true therefore that rent-seeking theorists have dealt with coercive exchanges of entitlements. A close reading of the literature suggests that the involuntary nature of a particular transfer is by no means a necessary condition for rent-seeking to emerge. As indicated above there is a small literature on the rent-seeking waste which may emerge when potential beneficiaries of a will change their behaviour in order to influence the benefactor's intentions. There need not be anything coercive about their behaviour. Waste arises here from the fact that the potential beneficiaries may have spent so much on attempting to influence the benefactor that they have completely dissipated the rents associated with the terms of the will. Rent-seeking will have taken place, even when the terms of the will are at the complete volition of the benefactor. Samuels and Mercuro (1984) are wrong therefore in their contention that the phenomena of coercion and rent-seeking are by necessity interwoven. Rent-seeking is related to the amount of resources used in attempting to affect a transfer rather than whether the transfer is achieved by coercion. Under this interpretation the phenomenon of rent-seeking appears to be closely related to the concept of transaction costs.

In fact the literature on rent-seeking has recently been criticized for its failure to address the issue of transaction costs (e.g. Barzel, 1985; North, 1986, 1987). Barzel (1985) argues that in a world of positive transaction costs, resources are inevitably used in redistributive activities. In a world with positive transaction costs individuals can redistribute wealth at each other's expense by acting in an opportunistic manner. Individuals will therefore spend resources and erect institutions in order to reduce the degree of rent-seeking. The fundamental importance of all this is that, contrary to the claims made in the rent-seeking literature, redistributive activities are not wasteful by definition. To see this consider Barzel's (1985, p. 15) example of occupational licensing, which is often designated by rent-seeking theorists as a typical example of rent-seeking (e.g. Lott, 1987). In a world of zero transaction costs, which is the model implicitly used by rent-seeking theorists, occupational licensing can only be understood as an attempt to establish monopoly rents. In the world of costly information, however, occupational licensing can be interpreted as a device which economizes on the costs of search and information; imperfectly informed consumers are assured of at least a minimum quality standard. In a world of positive transaction costs there is no necessary relationship between wasteful and redistributive activities. The Walrasian world of costless transactions is simply not the relevant benchmark against which to calculate waste. Once this point is accepted then many of the generalizations made in the existing literature on rent-seeking fall by the wayside. Rent-seeking and DUP theorists have by and large failed to consider the relevant alternative.

A pertinent example of this widespread problem is provided by Tullock's (1967) widely cited discussion of the welfare costs of theft. There he refutes the traditional argument that theft can be seen as a pure transfer. Instead, theft causes resources to be used in order to protect and steal property. From a social viewpoint, Tullock argues that these resources represent pure waste. They have not been spent on increasing wealth, but rather on attempts to redistribute existing wealth (1967, pp. 44-6). The problem here is that the proper comparative institutional analysis has not been drawn. We live in a world populated by knaves. It is necessary therefore to have some protective activity. Our world is not the Walrasian one in which all "property rights are complete and costlessly enforced" (Barzel, 1985, p. 7) and where by implication all protective activity is wasteful. To argue that all resource expenditure on locks, close circuit cameras, and safe cracking devices represent waste, is only interesting if there exists a feasible institutional form in which theft would not exist. Rent-seeking activities should be analyzed by means of a comparative institutional perspective.

One implication of all this is that rent-seeking activities can be interpreted as a subset of transaction costs. In a comparative institutional framework rent-seeking waste would refer to that proportion of transaction costs which could be avoided under the best feasible alternative institutional form.

In a recent article, Rowley (1988, pp. 23-4) recognizes the merits of the transactions costs approach in discussing rent-seeking theory, but feels that such an approach is not operational. This is because the relevant transactions costs are subjective and of an ex ante nature, and therefore only known to the individual. The costs that can be observed by other individuals relate to ex post numbers that result from choice. It is well known that the two types of costs need not bear any correspondence at all to each other. The transaction cost perspective on rent-seeking is unlikely, so Rowley argues, to bear any fruit. One way in which the study of rent-seeking can be performed in a comparative institutional analysis, even if Rowley's criticism is accepted, is by appealing to the concepts of constitutional economics. It is to that topic we now turn.

VII. CONSTITUTIONAL ECONOMICS AND RENT-SEEKING.

The constitutional approach[19] maintains that efficiency ought to be evaluated from two perspectives. The first refers to the so-called in-period stage in which outcomes emerge under a given set of rules. An outcome is inefficient here if the economic agents fail to exhaust the gains from trade. The second perspective refers to the constitutional stage where each individual is asked to make a decision about the set of rules he would like to see applied at the in-period stage. Decision making at this level circumvents Rowley's criticism that the transaction cost perspective is of little use to rent-seeking theorists. The analyst does not face the problem of how to measure subjective costs since it is the individuals themselves who are asked to evaluate the alternative institutional forms. At this constitutional stage an existing institution or set of rules is presumed to be inefficient if a unanimous decision is made to adopt an alternative institutional structure.

If rent-seeking activities are examined from the transaction costs perspective at the in-period stage, it is easy to fall into the Panglossian position that nothing can ever be wasteful. In our discussion of occupational licencing, for example, it was argued that this type of legislation could be rationalized as a response to the costs arising from imperfect information. What appears to be wasteful rent-seeking from the zero transaction costs perspective can be rationalized as socially valuable legislation from the transaction costs approach and in that sense the concept is irrelevant.

The concept of rent-seeking comes to the fore, however, when it is analyzed at the constitutional stage. Consider the case of a collectivity which "plays" a negative-sum rent-seeking game at the in-period stage. Here it is individually rational to devote resources to either rent-seeking or rent-protecting activities. Although there will be some winners and some losers, in net terms the collectivity loses. Now imagine that the individuals are placed in a constitutional setting. Each individual will not be sure which group he/she will belong to once the game is played. In such a setting it may be rational for each and every individual to choose an alternative set of rules which will abolish the existing institution or at least eliminate the costs associated with rent-seeking. If the individuals at this constitutional stage unanimously adopt the new set of rules, then we can presume that the original set of rules which allowed the negative-sum game to proceed was inefficient. Under this interpretation the level of waste from rent-seeking would be conceptually determined as the difference between the combined individual payoffs under the new and the old sets of rules. Perhaps a few examples will help illustrate the argument here.

In the inheritance case, if a constitutional rule is adopted in favour of primogeniture or a 100 percent inheritance tax which would reduce the rent-seeking activities, then we can presume that the original system of unassigned beneficiaries was wasteful by comparison.

In settings in which the government is required to clarify property rights in the face of emergent problems, as raised above in Section V, the constitutional debate would be about whether the judiciary would be subject to less rent-seeking activity than the legislature or its regulatory agencies in such circumstances.[20]

Finally, consider the issue of rent-seeking over tax revenue (Lee, 1985; Lee and Tollison, 1985, 1988; Brooks and Heijdra, 1987a). From the constitutional perspective, rent-seeking is wasteful, if an alternative set of tax rules exists which would receive unanimous support. Much of the recent work on tax reform in the presence of a Leviathan form of government would seem to apply equally to the analysis of rent-seeking. In an environment without rent-seeking Brennan and Buchanan (1980) have argued that there is a case for narrow-based taxes in order to reduce the excess burden imposed on the collectivity by an in-period revenue-maximizing government. Equally, if individuals dissipate the tax revenue in rent-seeking activities, then there is a constitutional case for a narrow-based tax in order to reduce the government's revenue raising potential and thereby the associated rent-seeking.

It is worth noting that the constitutional perspective has its own share of problems[21]. It is not altogether clear how individuals can be expected to invest time and effort in constitutional reform which has the properties of a pure public good, or how they can overcome the difficulties associated with getting agreement on what constitutes the status quo at the constitutional level (Buchanan, 1980c). So in arguing that constitutional economics offers an appropriate perspective in which to examine rent-seeking activities we have been able to overcome the Panglossian dilemma raised by the transaction costs perspective. If rent-seeking theorists adopt this approach, and we believe they should, the theory of rent-seeking will have to deal fully with the conceptual and practical problems raised by constitutional economics.

FOOTNOTES

1. A number of writers argue that rent-seeking should be defined without regard to welfare effects. See, for example, Samuels and Mercuro (1984).

2. The main contributions in the DUP tradition are Bhagwati (1980, 1982b), and Bhagwati and Srinivasan (1980, 1982a). Other contributions include Anam (1982), Bhagwati, Brecher and Hatta (1985), Bhagwati and Srinivasan (1982b), and Dinopoulos (1984). A relative recent survey article is Bhagwati, Brecher and Srinivasan (1984). Articles on the relationship between DUP and rent-seeking are Bhagwati (1982a, 1983), Brooks and Heijdra (1988), Rowley (1988), and Tullock (1981). Lighthearted applications of DUP theory to religion are given by Bhagwati and Srinivasan (1986) and Dixit and Grossman (1984).

3. Hence in the DUP literature lobbying tends to be exogenous. There is a large literature on endogenous tariff theory, surveyed by Magee (1984), in which lobbying is not treated exogenously. For example, in Findlay and Wellisz (1982, 1986) the tariff that is set is assumed to be a function of the quantity of labor used by the pro-tariff and anti-tariff interest groups. How exactly these resources influence the politicians one way or another is not modelled, and in the welfare analysis the total amount of resources used in lobbying is again simply asserted to have been wasted. It would therefore seem that their approach is subject to the same criticism as the DUP theory.

4. This point is developed in more detail in Brooks and Heijdra (1988).

5. The historical roots of rent-seeking activities can be traced back at least as far as Adam Smith's Wealth of Nations. For example, in his description of the mercantilist system he writes that "... the cruelest of our revenue laws,..., are mild and gentle, in comparison of some of those which the clamour of our merchants and manufacturers has extorted from the legislature, for the support of their own absurd and oppressive monopolies" (1776, p. 648). Baysinger, Ekelund and Tollison (1980, p. 267n) point out that Smith's theory of rent-seeking was not well developed since the self-seeking aspects of the rent-seeking Monarch were not elaborated upon. Euzent and Martin (1984) argue that the modern rent-seeking notion can be found in a more developed form in the writings of J.-B. Say. Say identified lawyers as the executors of the rent-seeking activities, with the lawyers themselves capturing some of the rent (1980, p. 258). If this is a correct interpretation of Say, then his theory was very modern indeed.
The much maligned (at least by public choice theorists) Pigou seems to be an early proponent of the modern theory of rent-seeking. In his discussion of bilateral monopoly, he makes the point that bargaining uses up real resources which are wasted from society's point of view (Pigou, 1946, p. 201). Bhagwati (1982b, p. 990n2) relates the rent-seeking phenomenon to the Leninist notion of the "rentier state".

6. Extensions to the literature have been made by allowing for entry. Examples are Higgins, Shughart and Tollison (1985), Appelbaum and Katz (1986b), Corcoran (1984), Corcoran and Karels (1985). Other extensions include risk-aversion, e.g. Hillman and Katz (1984), rent avoidance, e.g. Appelbaum and Katz (1986a, 1987), and non-identical players, e.g. Allard (1988) and Rogerson (1982). Tullock (1984, 1985, 1987b, 1988b) presents a sobering view regarding this literature.

7. The second case discussed by Baysinger and Tollison is that where state action is predictable (1980, p. 25). In such a case the rent-seeking will be at a minimum level, since there is little uncertainty as to what the decision will be and therefore little incentive to attempt to change the regulator's mind.

8. This is consistent with the Stigler-Peltzman model of regulation where it is argued that producers are more likely to overcome the free-rider problem than the consumers.

9. Recent examples of the kind of argument presented by McChesney (1987) are Wenders (1987), Appelbaum and Katz (1987), and Benson and Faminow (1986).

10. In the context of the rent-seeking debate, see the paper by Lott (1987) for an additional discussion on why restrictive trade policies can lead to the adoption of inefficient technologies.

11. Apart from the ones mentioned in the text, the main general equilibrium models including rent-seeking phenomena are Findlay and Wellisz (1982), Feenstra and Bhagwati (1982), and Magee and Brock (1983). These papers all deal with international trade issues. Brooks and Heijdra (1987b) and Furubotn (1987) analyze the welfare effects of privatization of a common property industry under rent-seeking in a general equilibrium model.

12. Tullock (1967) uses concepts such as "resource investment", "wealth", and "capital value" which only make sense in a dynamic setting.

13. Brock and Magee (1984) present several models of the "invisible foot" economy in which real resources are being used in redistributive efforts. The main conclusion to be drawn from all their models is that in the long-run there is no relationship between the rate of economic growth and the level of redistributive waste (1984, p. 178). Readers are referred to Mueller (1983), and Pryor (1984) for attempts to test the Olson model.

14. As Lee and Kreutzer (1986) point out in the context of a privatization of the commons, if there is rent-seeking over the revenue of the auction then it is no longer guaranteed that the auction system will produce the socially optimal outcome. This point was also made by Buchanan (1980a, p. 13).

15. This additional resource use cannot easily be incorporated in Figure 5 since Dennen's (1977) analysis does not include transportation costs. There have been some tentative attempts to incorporate the resources dissipated in a rush. Examples are Anderson and Hill (1983, pp. 441-2), Southey (1978, pp. 553-7), and Dnes' (1985).

16. Figure 6 is a modified version of Figure 2 presented by McCormick et al. It incorporates Cherkes, Friedman and Spivak's (1986, p. 562) criticism that McCormick et al. did not correctly measure the returns from deregulation.

17. Subsequent contributions criticising Buchanan (1983) are Anderson and Brown (1985), and Sisk (1985).

18. See Samuels (1971) for an extended discussion of the notion that the status quo needs to be continually redefined.

19. The argument in the next few paragraphs was made by Buchanan (1986) in the context of externality theory. It is surprising that Buchanan has to date not fully integrated the same type of argument in his work on rent-seeking. More extensive discussions of the constitutional approach are found in Brennan (1987) and Brennan and Buchanan (1985)

20. See Baysinger, Ekelund, and Tollison (1980, p. 245) for an argument that rent-seeking costs will be lower under a

judicial than under a legislative structure.

21. See Brennan and Buchanan (1985, ch. 9) for an extensive discussion of the limitations and problems associated with constitutional economics.

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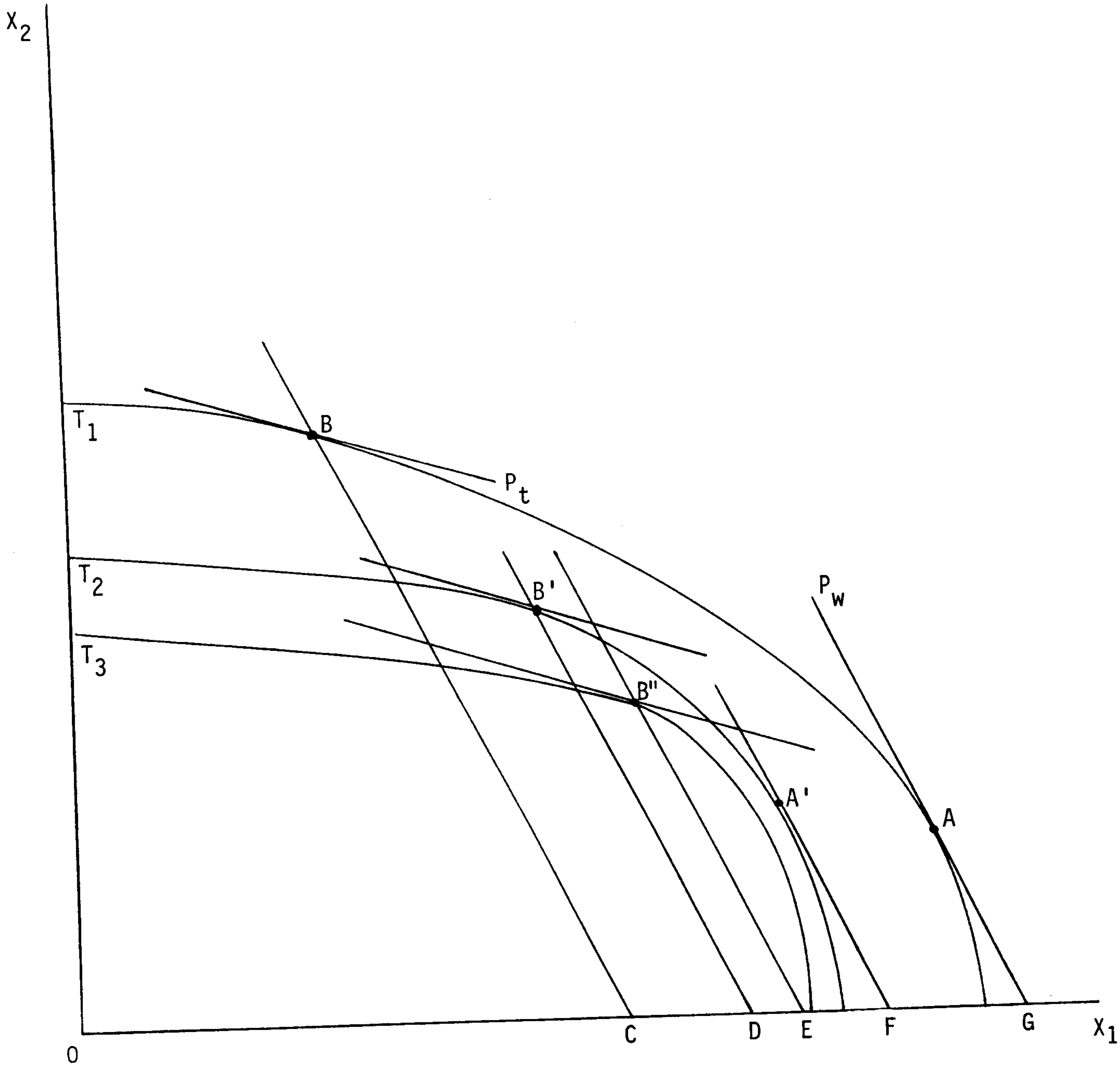

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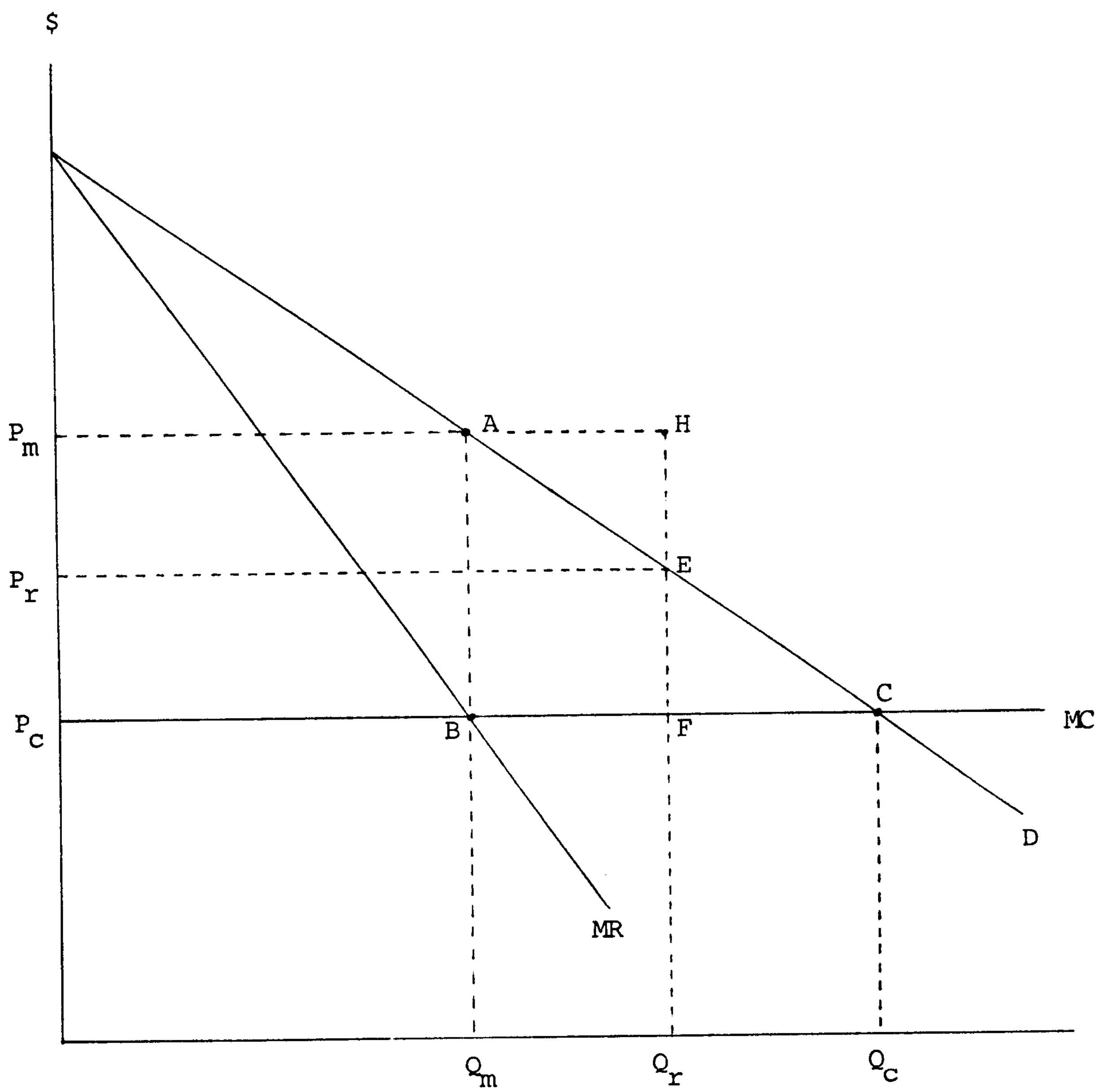

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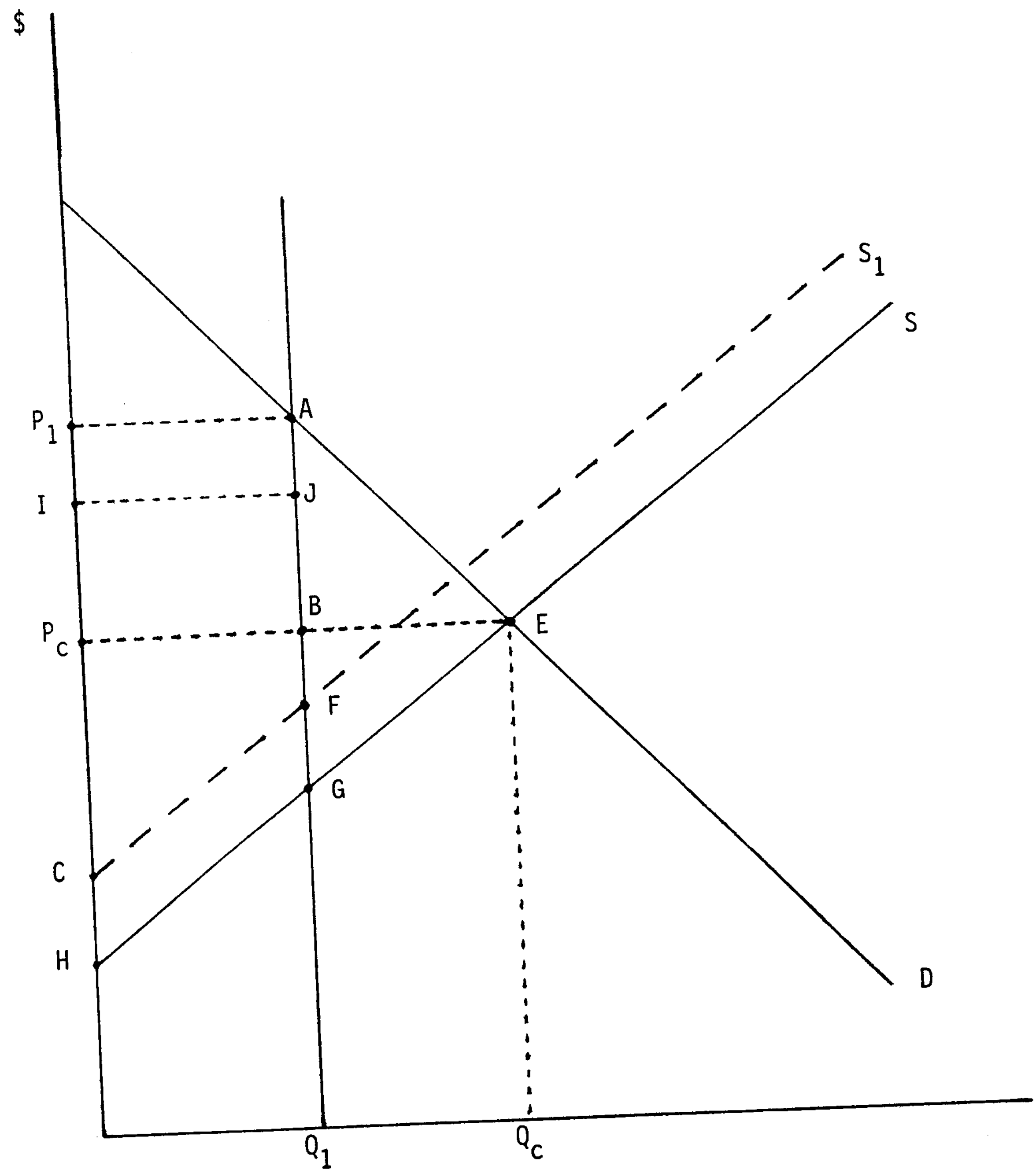

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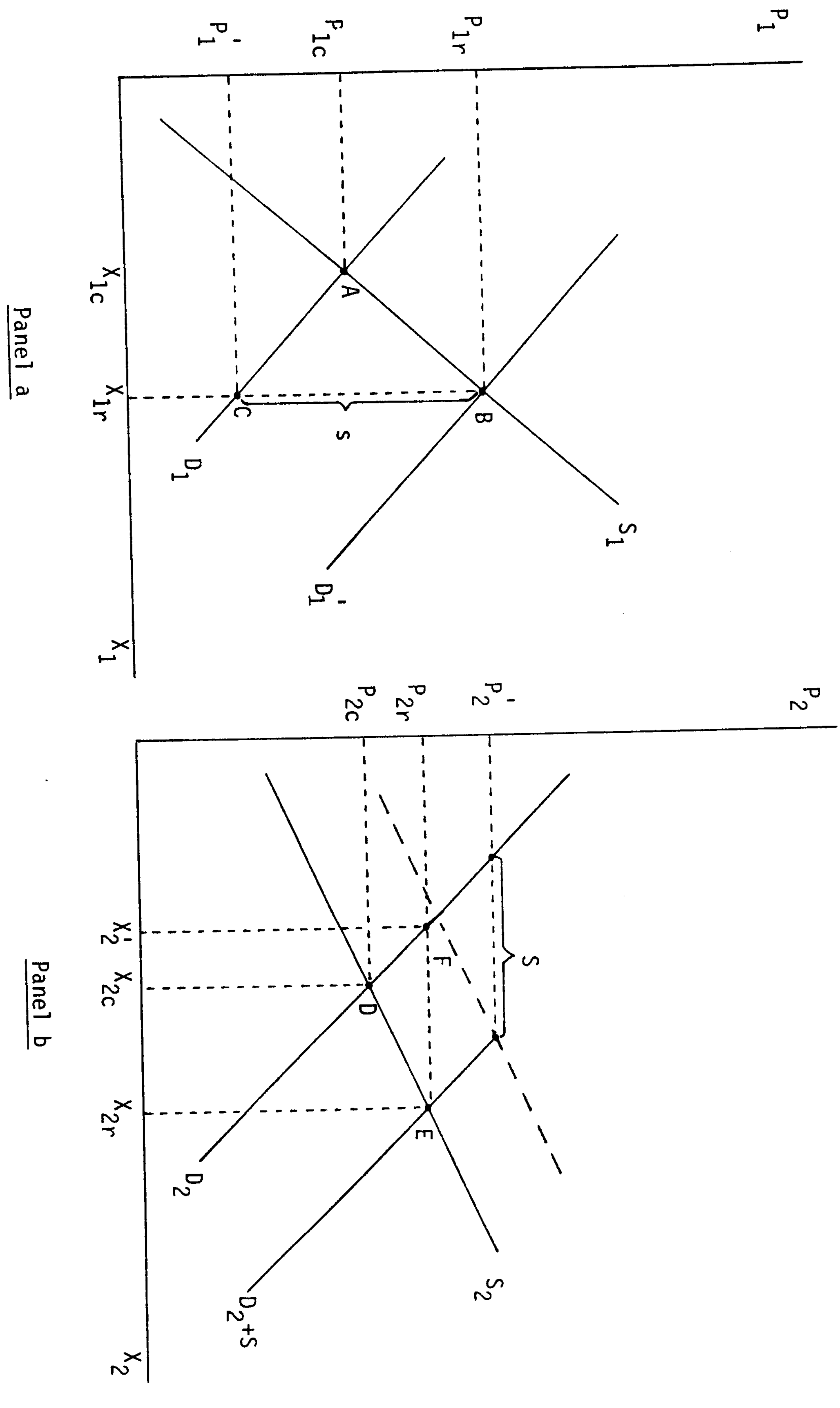

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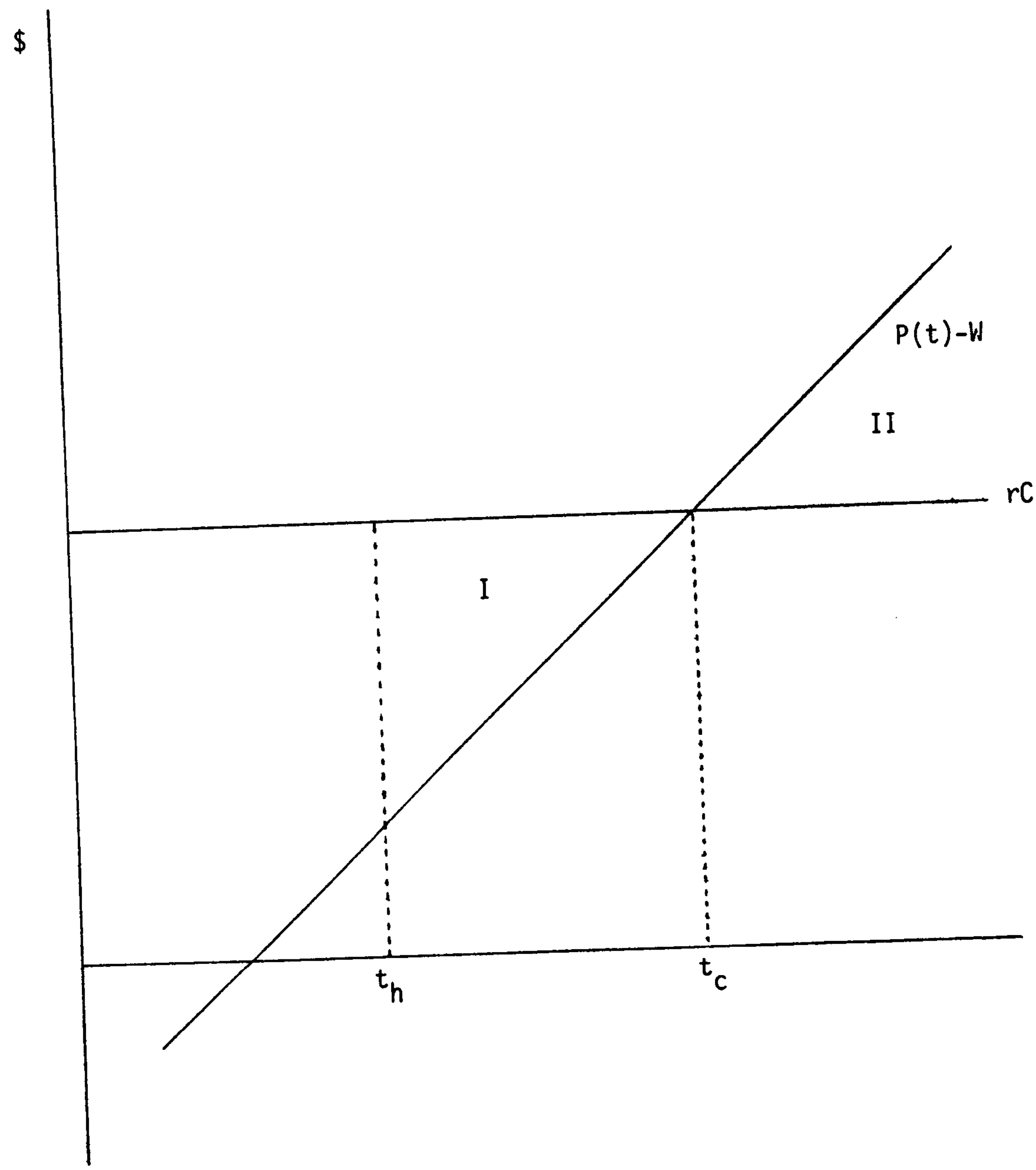
Figure 5



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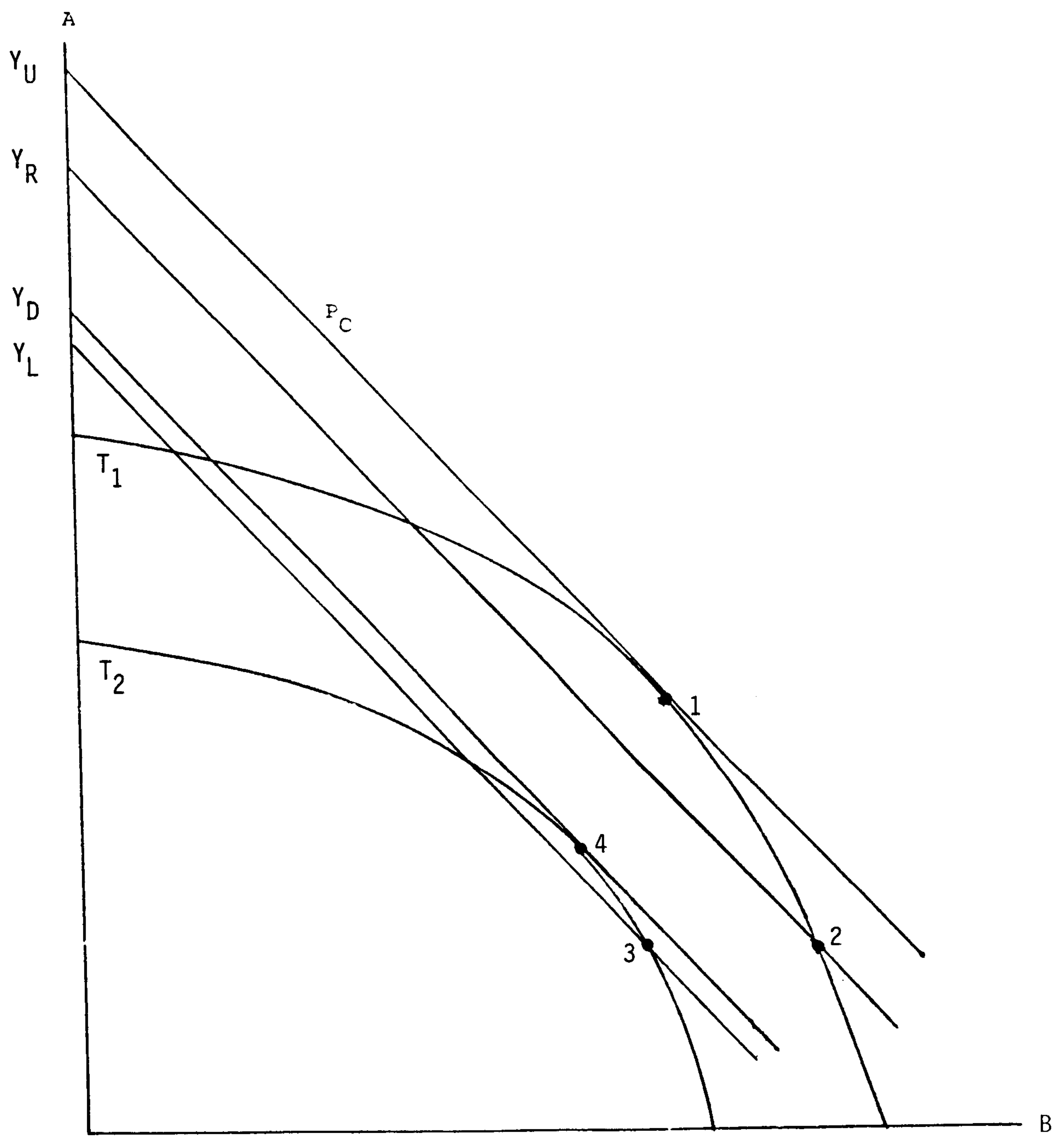

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