

Signalling and Tariff Policy:  
The Strategic Multistage Rent Reduction Game

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## **Abstract**

This study uses a game-theoretic analysis to suggest that governments can minimize the political risks associated with significant liberalization of trade by employing a multistep process in the reduction of state-supplied rents. The model argues that when governments precede significant reductions in state-supplied rents with a smaller reduction, or with a reduction that can be portrayed credibly as externally imposed, they may be in a position to evaluate, and hence mitigate, costs associated with significant trade liberalization. Substantive implications are explored in the context of US trade policy and the still-curious ability of the Roosevelt administration to engage in strategic rent reductions without suffering meaningful political backlash.

Well-established within international political economy and public choice theory is the principle that policies of significant trade liberalization constitute acts of potentially considerable aggregate economic benefit, but typically involve severe political risk (Baldwin, 1989; Rowley and Tollison, 1988; Tullock, 1967). While trade liberalization provides marginal benefits to a large number of consumers, it imposes substantial costs onto a comparatively small number of producers who typically mobilize to pressure governments to retain state-supplied rents. Such pursuit of wealth transfer (typically through the form of import protect and/or subsidy) is known as rent seeking. Given the potentially high political costs associated with alienating domestic rent seekers, it is interesting to consider conditions under which governments might mitigate the risks of trade liberalization. Moreover, the trend toward the removal of barriers to commerce throughout Europe and Asia over the last decade makes the question of trade liberalization elsewhere especially salient.<sup>4</sup>

This study uses a game-theoretic analysis to build upon the “limits of rent seeking” model (Lusztig, 1998; 2003) to suggest that governments can minimize the political risks associated with significant liberalization of trade by employing a multistep process in the reduction of state-supplied rents. It argues that when governments precede significant reductions in state-supplied rents with smaller reductions, or with a reduction that can be portrayed credibly as externally imposed, they may be in a position to evaluate, and hence mitigate, costs associated with policies of significant trade liberalization. More specifically, initial reductions in state-supplied rents force rent seekers to signal the degree of their ability to compete in world markets, thus giving governments an accurate profile of the competitiveness of the producer population – a profile that domestic producers may try to hide from governments. At the same time, these rent reductions also signal the rent seekers’ ability to mobilize and engage in opposition.

Substantively, this article focuses on explaining and prescribing means by which governments can engage in significant reductions in state-supplied rents while limiting the political

backlash associated with defying protectionist rent seekers. The case of the US during the Great Depression constitutes an excellent illustration of the argument. It also is the basis for an enduring puzzle in the history of this country's political economy: how was the Roosevelt administration able to engineer a sea-change in US trade policy without suffering the political backlash anticipated by public choice theory? To the extent that our study answers this question, it contributes to a rich literature that seeks to address this puzzle (see Ferguson, 1984; Frieden, 1988; Gilligan, 1997; Goldstein, 1993a; Haggard, 1988; Hiscox, 1999).

### **The Limits of Rent Seeking**

The central argument of this article builds upon the limits of rent seeking model. Consider an environment in which producers have two means of earning returns on factors of production: they can dedicate resources to successful competition in world markets (call this *competitive production*), or they can expend resources in the preservation or extension of state-supplied rents (call this *rent seeking*). Competition and rent seeking are obviously ideal types; in the real world most producers will rely on some combination of the two.

As a rule, producers who select production points involving a greater commitment to competition will support government initiatives to liberalize trade. Freer trade facilitates competitive production by lowering the costs of factor inputs (both imported and, by the logic of free market pricing, indigenous). Moreover, the implied reciprocity associated with trade liberalization should provide expanded access to export markets.

Within the rent seeker population, consider a further dichotomy. In an environment that has featured significant levels of state-supplied rents, there will emerge a class of producers who, by virtue of competitive and comparative disadvantage, could not possibly survive free market competition. For an extreme, but illustrative, mythical example think of olive growers in Finland. Given sufficient subsidies for greenhouses and electricity, as well as import barriers that would

protect them from less costly and higher quality competitors in warmer climes, such producers could prosper. However, should state-supplied rents be significantly reduced, these producers would be unable to continue operations. Such producers are styled *inflexible rent seekers*. A minimal level (variant by producer), or *critical threshold*, of state-supplied rents is necessary for economic survival.

The second category of rent seeker consists of producers who prefer rent seeking to competition, but given a sufficient reduction in state-supplied rents – that is, below the critical threshold – could restructure operations to compete in world markets. These are *flexible rent seekers*. Ironically, upon such a change in the environment in which they operate (which, of course, could even be stimulated by exogenous factors such as technological innovation), flexible rent seekers ultimately may join non-rent seeking producers as supporters of, or even advocates for, further trade liberalization initiatives.<sup>5</sup>

Why, if internationally competitive, do flexible rent seekers continue to rely on import protection? There are at least two reasons. First and most obviously, it is easier to accept oligopoly rents, in the form of import protection or subsidy, than it is to capture profits in a more competitive market. Even if economies of scale could be enhanced through liberalization, there is still the risk factor to consider. Second, the costs of adjustment for industries that have benefited from oligopoly rents (particularly if they have done so for a long period of time) can be steep; investing in adjustment, then, is something that flexible rent seekers will avoid if possible (Dixit and Londregan, 1995).

Upon realization, however, that government appears to be committed to rent reduction, flexible rent seekers will dedicate fewer resources to punishing (operationalized as sanctioning electorally, perhaps even by seeking to defeat and replace) leaders who liberalize trade. Instead, because an alternative exists to all-out resistance, the preponderance of resources will be dedicated to restructuring operations to withstand import competition. Such restructuring includes product

and service innovation, rationalization of product lines and personnel, and perhaps most importantly, seeking new markets to replace market shares lost at home. This last imperative minimizes the punishment that flexible rent seekers will inflict on governments. Indeed, such rent seekers will rely on governments to create market opportunities abroad and seek to influence them.

For inflexible rent seekers, the choices are not terribly compelling. First, if they believe that government is strongly committed to rent reductions, they may shift from production of a particular good to importation, or they may move operations offshore to more protected environs (of course, such an option exists for flexible rent seekers as well). In any case, these non-committed inflexible rent seekers voluntarily exit the marketplace without much resistance. Demonstration of commitment on the part of the government, then, is important to the extent that it may persuade some inflexible rent seekers to go quietly. Second, committed inflexible rent seekers, inclined to fight, will lobby for restoration of the status quo. Politically speaking, committed inflexible rent seekers will be disposed toward inflicting severe punishment on governments that reduce rents. Inflexible rent seekers that retaliate against governments reducing rents below the critical level face few opportunity costs; such rent reduction is a “death sentence” for inflexible rent seekers. (For them, the critical level of rents is the minimum required for survival of the firm or industry.) On the other hand, the demise of inflexible rent seekers is not instantaneous across the board. These rent seekers may be expected to dedicate resources to the cause of punishing the government electorally as a means toward reversing the policy decision. Of course, governments that survive the wrath of inflexible rent seekers often find themselves in a stronger position. The most inefficient segment of the producer population is culled, providing greater flexibility with respect to trade policy in the future.<sup>6</sup>

The death of inflexible rent seekers as producers does not translate into their expiration as political players. Voting and other forms of political action still are available. However, to use a play

on words related to Axelrod's (1984) concept formation, these former workers and owners are expected to have a very short "shadow of the past". The decline or even disappearance of an industry is unlikely to create a long memory among its former participants. The final victory of the passenger automobile, for example, did not produce voting blocs that tried to punish political leaders who refused to stand in the way of its proliferation. Those employed in "horse and buggy" industries moved on to other economic activities. The underlying point, which holds for both the preceding example and dislocation caused by trade liberalization, is that employment is not identity-related in the same way as, for example, occupation of a particular territory. Short-term economic losers adapt and change relatively quickly, all other things being equal. Thus political "life after death" for those experiencing dislocation should not be a major worry for a government considering trade liberalization.

The game-theoretic analysis below provides greater insights into the conceptual relevance of flexible and inflexible rent seekers.

### **Forcing Signals and the Question of Rent Reduction**

The dichotomy between flexible and inflexible rent seekers constitutes a refinement of standard public choice theory. Rent seekers axiomatically are committed to the retention of state-supplied rents. However, not all feature the same degree of commitment. Intuitively, governments undertaking significant reductions of rent in a community dominated by flexible rent seekers will absorb less punishment than those that reduce rents in a community dominated by inflexible rent seekers. However, it begs the fundamental question of how governments are able to determine the extent to which their society is made up of flexible or inflexible rent seekers. Without this knowledge, they will have difficulty in assessing the political risk associated with significant liberalization of trade. Indeed, it is this paradox that has made shifts towards free trade comparatively rare phenomena given the inherent economic benefits.

Of course, governments can make objective assessments about the ability of their producer populations to survive increased import competition. They will have some *a priori* knowledge about the international competitiveness of domestic industries, and thus will be able to estimate, with a degree of accuracy, the extent to which industries can withstand the reduction of state supplied rents. It is a standard assumption in the literature on strategic trade theory, however, that firms will know more than governments about costs, demands and other traits within an industry (Brander, 1995: 1423; Herander and Kamp, 1999: 61). Asymmetric information can distort governments' ability to determine accurately the extent to which various industries are flexible or inflexible rent seekers. All rent seekers have an incentive to portray themselves as inflexible. Producer groups rarely (if ever) admit that high tariff or subsidy levels are necessary to ensure high profits. Rather, state-supplied rents tend to be portrayed as necessary for firm or industry survival. In other words, flexible rent seekers have an incentive to mimic inflexible rent seekers.

Given the difficulty that governments have in determining the make up of the rent seeker population, and given that the benefits of free trade tend to manifest themselves over a longer time horizon than the short electoral cycle, governments' default position is typically inertia in the realm of trade politics. We argue, however, that this need not be the case. Governments committed to trade liberalization may seek an identification or screening mechanism that allows them to distinguish largely flexible rent seeking populations from those less flexible.

A clue about the nature of this identification mechanism is found in the literature on international crisis bargaining. One of the problems facing negotiators in a crisis is that those who are irrevocably committed to their position often cannot distinguish themselves from those less committed but with an incentive to mimic committed negotiators: since there is "nothing a nonbluffer can do that a bluffer would not have the ability and incentive to imitate, the recipient of a threat can never be completely convinced that the threatener is not bluffing" (Wagner, 1989: 189).

Both the nonbluffer and the recipient have an incentive to deter the bluffer. One method that nonbluffers use to distinguish themselves from bluffers is to send signals that are costly to communicate as a means of demonstrating commitment to their position (see Schelling, 1960; Spence, 1973). By this logic, bluffers can be distinguished from nonbluffers because the former are unlikely to be willing to bear the price of costly signals.

Another means of separating bluffers from nonbluffers is for the purveyor of the threat to create conditions under which the former are forced to take actions that distinguish themselves from the latter. In such circumstances, the purveyor may be said to *force* signals. It is the concept of forced signals that is of interest at present. Flexible rent seekers represent bluffers (insofar as they mimic inflexible rent seekers) when lobbying for retention of state-supplied rents), while a government interested in liberalizing trade – the recipient of the bluffs – must find a way to force a signal. Put differently, before a government can make an accurate assessment of the risks involved in liberalizing trade, it must accurately assess the proportion of flexible rent seekers within the rent seeker population.

One means by which the government can force signals is to reduce rents, observe the behaviour of the rent seeking population, and then make its calculations accordingly.<sup>7</sup> Provided that rents are reduced below the critical level threshold for most of the rent seeking population, and governments demonstrate sufficient commitment to the rent reduction, the reduction of rents forces a discernible *separation* in the behaviour of flexible and inflexible rent seekers. The obvious flaw, of course, is that while this constitutes an effective identification mechanism, it is no better (and indeed, no different) than the government's original objective. What is required is a means of reducing rents in a *relatively costless* way as a prelude to a more significant reduction that might be undertaken after the government evaluates the costs by observing the behaviour of the rent seeking population. The government can utilize this identification mechanism through at least two means

without absorbing significant countervailing punishment. First, it can take advantage of circumstances under which the decision to reduce rents can be portrayed initially as *structurally* imposed. The second, more risky course of action, is where the government's decision is wholly *strategic* – that is, government weighs the risks of alienating rent seekers against a set of anticipated benefits (see Lusztig, 1996; Verdier, 1994).

Governments occasionally may be forced to reduce the supply of rents due to circumstances beyond their control. Severe economic crisis, such as the one faced by many Latin American countries during the early to mid-1980s, constitutes one example. In such cases, governments are relatively invulnerable to the rent seeking population both because (a) these threats pale in comparison to the larger crisis and (b) crises undermine commitment to the status quo.<sup>8</sup> While crisis does not wholly mitigate risk (see Nelson, 1989), skillful government leaders can take advantage of the fact that the decision to reduce rents may be portrayed as structurally imposed. They subsequently can gauge the makeup of the rent seeker population, and if conditions are favourable, further reduce the level of import protection without forfeiting the political support of the flexible rent seeker population.

Another means by which rent reductions can be structurally imposed is through the mandate of international regimes such as the World Trade Organization (and its predecessor, the General Agreement on Tariffs and Trade [GATT]), the World Bank, or the International Monetary Fund (IMF) (see Przeworski and Vreeland, 2000). Governments often try to represent membership in such organizations as leaving them no choice but to comply with regime-mandated rent reductions.<sup>9</sup> The demonstrable costs of non-compliance – including loss-of-face internationally and potential exclusion from the benefits of the regime – provide governments with a credible claim that they “had” to reduce state-supplied rents. For example, both Canada and Mexico found themselves

subjected to pressure from international regimes to reduce rents, in the 1970s and 1980s, respectively (see Luszti, 1998, 2003).

Such structurally imposed rent reductions provide governments with “plausible deniability” about other options. Each creates circumstances where the status quo is no longer as attractive as before. Moreover, in both countries structurally imposed rent reductions forced flexible rent seekers to signal their activities to adjust to global competition. In turn, this allowed the governments of Canada and Mexico to enter into bilateral trade agreements with the United States relatively secure in the knowledge that there would be limited political backlash from formerly protectionist producer groups. More interesting, however, are circumstances where the government does not enjoy the camouflage of structurally imposed rent reductions. It is for cases of strategic rent reductions that the following game-theoretic analysis becomes important. The basic question is this one: can a gradual approach to reform be used effectively as a screening mechanism?

### **A Rent Reduction Game**

The strategic multistage rent reduction game in Figure 1 illustrates a risky, but potentially effective, means for governments to undertake significant reductions in rents ( $I$ ), while absorbing limited costs.<sup>10</sup>

(Insert Figure 1 about here)

Figure 1 illustrates the multistage rent reduction game that the government plays against each member of the rent seeker population. In this game, the government,  $G$ , actually plays against the rent seeker population in a given industry. The game begins with a chance move by Nature regarding the probability ( $q$  or  $1-q$ ) that the government is playing against a flexible or inflexible rent seeker,  $F$ . The information sets describe the knowledge about  $F$ 's type. Since  $F$  is assumed to know its own type, all of  $F$ 's information sets contain singleton decision nodes (no dashed lines), while  $G$ 's information sets contain multiple nodes reflecting  $G$ 's uncertainty about  $F$ 's type.

An initial reduction in rents,  $t$ , represents a small, not very controversial reduction in rents. This stage of the game, with  $\mathbf{G}$  choosing between  $t$  and  $\sim t$ , may be repeated a number of times. The logic is that each small reduction has the potential to change the behaviour of only the portion of the rent seeker population that falls below the threshold of the critical level of rents. However, the cumulative effect of a number of small reductions should separate flexible and inflexible rent seekers. Over time, the government should be in a position to determine the makeup of the rent seeker population. Moreover, because a number of inflexible rent seekers are culled along the way, the producer population should be increasingly receptive to trade liberalization (see Milner, 1988). In short, this game not only allows the government to determine the size of  $q$ , but also permits it to increase  $q$ 's magnitude. (Put differently, the size of  $q$  presumably is increased with each iteration.)

For  $\mathbf{G}$ , the basic quest is for political capital, understood in the general sense of preserving or even enhancing the prospects of remaining in office. Office holding is assumed to confer a continuing stream of benefits, which will vary in terms of type and magnitude with the political system at hand. In all electoral systems, however, the central decision maker – designated as the Chief of Government (COG) in Putnam's (1988) useful frame of reference – is regarded as self-interested. Thus, all other things being equal, the COG is likely to make choices that are perceived to maximize political capital. For this reason alone the risky path of rent reduction can be expected to remain a relatively uncommon choice among the options available to governments in office.

While it would be beyond the scope of this study to offer a detailed specification of even a generic utility function for a COG (although see Grossman and Helpman, 2002), at the very least the main components and tradeoffs between and among them can be identified:

Let  $u_G = f(\varphi)$ ,  $\varphi = g(\phi, \lambda)$ ,  $du_G/d\varphi > 0$ ,  $d\phi/d\lambda < 0$ ,  
 where  $\varphi$  is the level of political support for government;  
 $\phi$  is economic efficiency;  
 $\lambda$  is the degree of rent.

The dynamic tension involving pursuit of political capital through both macro-economic management intended to please the general public *and* targeted provision of rent to potentially influential groups is clear to see in the preceding expressions. Utility for the COG is a monotonically increasing function ( $f$ ) of political support, which is taken as the indicator of the likelihood of ongoing enjoyment of benefits from office holding.<sup>11</sup> This connection is conveyed by the first of the two derivatives that appear just above. Political support, in turn, consists of both *breadth* and *depth*. The former is regarded as depending primarily on economic efficiency, whereas the latter is enhanced by provision of rents. As noted by the second of the two derivatives from above, efficiency and rent provision are at odds with each other. This is the essence of the dynamic tension facing the COG in setting policy: keeping key interest groups at bay while maintaining a sufficiently positive macro-economic performance to sustain overall welfare.

All things being equal, governments prefer that rent seekers adapt because this obviates the deadweight costs associated with rent seeking and therefore improves the economy's aggregate performance. Governments enjoy a "halo effect" from a strong economy. On the other hand, as mentioned, there is a strong potential for a political backlash (at least in the short term) against governments that reduce rents.

For our game with a limited number of potential outcomes, it is not necessary to define the government's utility function in detail. Rather, it is sufficient to derive government's preference ordering of potential outcomes based on the relationships defined above. Thus we assume the following preference ordering for **G**:

$$U_G(\text{Adapt/Exit}) > u_G(\text{SQ}) > u_G(\text{SQ}_G) > u_G(\text{SQ}_F) > u_G(\text{Conf}_2) > u_G(\text{Conf}_1)$$

We assume that Adapt or Exit is the best outcome for **G**. It is one in which **G** incrementally reduces rents (that is,  $t$ , followed by  $T$ ) and **F** chooses to adapt/exit either with or without minor resistance.<sup>12</sup> We further assume that the three status quo outcomes rank next.<sup>13</sup> Least desirable

among the outcomes are  $\text{Conf}_2$  and  $\text{Conf}_1$ , which respectively refer to outcomes in which rent seekers retaliate once and twice against  $\mathbf{G}$ . The choice of all-out retaliation by  $\mathbf{F}$  suggests potential political disaster for  $\mathbf{G}$ .

Based on the discussion in the second section of this paper, we let  $u_F = b(C, R)$ , where  $C$  is the level of competitive production and  $R$  is the level of rent seeking.

A flexible rent seeker prefers to adapt rather than resist. An inflexible rent seeker prefers to resist rather than exit.

Then we assume the following preference orderings for flexible and inflexible rent seekers:

$$\begin{aligned} U_F(\text{SQ}) &> u_F(\text{SQ}_F) > u_F(\text{SQ}_G) > u_F(\text{Adapt}) > u_F(\text{Conf}_1) > u_F(\text{Conf}_2)^{14} \\ U_F(\text{SQ}) &> u_F(\text{SQ}_F) > u_F(\text{SQ}_G) > u_F(\text{Conf}_1) > u_F(\text{Conf}_2) > u_F(\text{Exit})^{15} \end{aligned}$$

We provide solutions for the multistage rent reduction game in the appendix. As the appendix shows, the game has a number of equilibria, and solving for them is quite a technical endeavour. The solution concept used for signalling games is Perfect Bayesian Equilibrium (PBE) (see Gibbons, 1992). It is interesting to observe that, even with just two players and one-sided incomplete information, the game produces more equilibria than might have been anticipated through intuition.<sup>16</sup>

From the PBEs in the appendix, we can derive the following propositions:

*Proposition 1a: The government can induce the Adapt outcome (that is, induce flexible  $\mathbf{F}$  to adapt) by first introducing a small reduction in rents when the government believes that the probability of industry being flexible is sufficiently high.*

Proof: See [1] (i) (a) and [2] (i) in the appendix.<sup>17</sup>

*Proposition 1b: The government is more likely to achieve the reduction in rents when it values Adapt highly ( $u_G(\text{Adapt})$ ) and/or when the value of the status quo to the government is low ( $u_G(\text{SQ}); u_G(\text{SQ}_G)$ ).*

Proof: See [1] (i) (a) in the appendix.

*Proposition 2: Under all other conditions, the government never introduces even a small reduction in rents and the status quo prevails.*<sup>18</sup>

Proof: See [1] (ii), [2] (ii), and [3] in the appendix.

The government's and rent seekers' decision making under Proposition 2 may not be empirically observable. The absence of tariff reductions, however, does not necessarily mean non-action or non-consideration on the part of the government. Rather, governments calculate benefits and costs of their actions, and under the conditions of Proposition 2, their equilibrium behaviour is the *action* of non-introduction of tariff reductions.

Obviously the game in Figure 1 presents a somewhat simplified snapshot of reality, with each actor having only two moves. In the real world, the situation identified in Proposition 1a above can be fortified with more dynamic and repeated interactions between players. That is, through the repetition of small rent reductions by the government, a number of inflexible rent seekers are culled along the way, and the rent seeker population becomes increasingly flexible. This way, the player behaviour described in Proposition 1a tends to reproduce itself. And the end result is greater free trade.<sup>19</sup>

A drawback to the multistage game from **G**'s point of view is that the game can become a drawn-out process. Indeed, the greater the number of iterations in the game, the safer the ultimate, large scale reduction in rents (**T**) becomes, but the longer it takes for free trade to emerge.

### **Substantive Implications**

A familiar but still controversial example should help to illustrate the logic of the substantive implications. When President Franklin D. Roosevelt came to power in 1933, he was determined to stay the nationalist, protectionist course that had been charted by his predecessor, Herbert Hoover, and that was strongly advocated by his "Brains Trust" of close economic advisers, the bulk of the business and agricultural community, and indeed, the American public. His First New Deal, in fact,

constituted a corporatist alliance of nationalist business and agriculture, anchored by initiatives such as the National Industrial Recovery Act (NIRA, which mandated government-mediated collusion in numerous industrial sectors as a means of maintaining prices), and the Agricultural Adjustment Act (AAA, which was dedicated to the maintenance of agricultural price supports). Neither initiative was market-based, and thus both were inconsistent with the liberalization of trade (see Burns, 1956; Schlesinger, 1958; Skocpol and Finegold, 1982).

By 1934, however, there were signs that FDR's First New Deal coalition was beginning to fragment. The American Liberty League emerged as a big business lobby group dedicated to undermining what it saw as the principal threats to the American way of life: communism, trade unionism, liberal Democrats in Congress, social welfare policies and, above all, the Roosevelt administration (Rudolph, 1950; Wolfskill, 1962). Cognizant of the threat to his First New Deal coalition, Roosevelt quietly began to lay the groundwork for a replacement: what was to become his Second New Deal coalition. The new coalition consisted of labour, the urban underclasses, internationalist business and financial interests, and the agricultural sector.<sup>20</sup>

While by no means committed to jettisoning his First New Deal coalition in the spring of 1934, Roosevelt took steps to ensure that option existed. To that end he sent the Reciprocal Trade Agreements bill to Congress. However, it was not until December 1935 that Roosevelt committed to a policy of unconditionality – whereby a concession to one most-favoured nation was a concession to all such countries -- that Roosevelt can be said to have decided to abandon the nationalist course that characterized the early years of his presidency.<sup>21</sup>

Roosevelt's initial reluctance to embrace internationalism is explicable, in large part, by the protectionist nature of the American business sector in the first three decades of the century. Indeed, the Smoot-Hawley Tariff (1930) had illustrated graphically the hegemony of rent seekers in the trade policy arena. Although as Frieden (1988) points out, the effects of the Depression forced

some conversion of what we have called flexible rent seekers to free trade while rationalizing others out of the market, the majority of the industrial sector that survived the Depression thus far was still nationalist and isolationist (Ferguson, 1984; Hull, 1948).

Even upon his conversion to internationalism in 1935, however, Roosevelt did not commit to radical liberalization. Indeed, wary of provoking the wrath of rent seekers, the Roosevelt administration recognized the importance of gradual and incremental reduction of rents under the RTAA (Hull, 1948: 177). The obvious secondary advantage to Roosevelt, a cautious reformer, was that gradual rent reductions gave him ample opportunity to determine any economic ill effects of preceding reductions.

Under the RTAA, the Roosevelt administration signed 23 reciprocal trade agreements between 1934 and 1940. Eight more were signed between 1940 and 1947. Between 1934 and 1939, *ad valorem* duties fell by about one-third (Brenner, 1978: 157). Thus, in the vernacular of the rent reduction game, the government played strategy t multiple times. Given this fact, according to the logic of Figure 1, we should expect to see rent seeker behaviour changing incrementally as well. We do. Inflexible rent seekers exited the market; flexible ones not only signalled their status as flexible rent seekers, but became supporters of further liberalization of trade.

This claim is supported by two indirect, but collectively compelling, measures. First, the tenor of submissions before the House Ways and Means Committee and the Senate Finance Committee reflects changes in the preferences of a small but axiomatically committed segment of the producer population. In hearings on the RTAA in 1934, and on its renewal in 1937, a majority of those submitting depositions did so in opposition to the RTAA. In 1940, for the first time, and by a rate of more than two to one, non-labour and non-agricultural interests *supported* renewal of the RTAA.

Second, while survey data are limited, those that exist support the claim that flexible rent

seekers shifted their preferences. As early as 1939, the largest manufacturers (presumably, due to opportunity costs, those most sensitive to decreases in the marginal rate of rents) appear to have abandoned protectionism. Indeed, while a 1939 Roper poll suggested that US business in general supported higher tariffs, large manufacturers (those producing \$50 million dollars in goods per year) were largely opposed to higher tariffs (*Fortune*, 1939: 96). While 42 per cent of small producers (those that produced less than \$1 million in goods per year) advocated higher tariffs in 1939, only seven per cent of large manufacturers did so. By the postwar era, with continued reduction in rents under the RTAA, small manufacturers began to conform to the pattern observed by large manufacturers. As Bauer, de la Sola Pool and Dexter (1972: 113-16) found in response to practically the same question as the Roper poll, by 1954 only five per cent of small manufacturers favoured higher tariffs. These findings are replicated in other polls. The April 1955 edition of *Fortune*, for example, showed that over the previous 15 years, the number of executives favouring a lowering of the tariff almost doubled, while the percentage advocating an increase fell from 31.5 per cent to 5.0 per cent. Similarly, a poll of 500 business and labour leaders in the *Saturday Review* (January 23, 1954) conducted by the Research Institute of America found in response to the question “Do you favor further lowering of our tariffs?” that 60.4 per cent answered yes, and 20.9 per cent answered no. Similar findings were reported in the March 1962 issue of *Dun’s Review and Modern Industry*.

The conversion of flexible rent seekers took place gradually. However, the twin mechanisms of RTAA renewal and the numerous iterations of rent reduction gave the Roosevelt administration (as well as subsequent governments) ample opportunity to gauge the reaction of the rent seeker community. By the postwar era, free trade in industrial goods was well entrenched as US policy, with only a few sectors (most notably textiles and, later, steel) fighting rearguard battles. Best of all from a prescriptive stance, there was no meaningful political backlash against the government – a fact that can be contrasted to other instances of radical trade liberalization (see Lusztig, 2003).

Moreover, while it is impossible to demonstrate the counterfactual of how postwar US industrial trade policy would have unfolded in the absence of the shift from the First New Deal to the Second, and hence without the RTAA, inter-sectoral comparison bolsters the case that the logic of the rent reduction game had a decisive impact. While the industrial sector in the United States was subjected to the rigors of market rationalization under the RTAA, the agricultural sector was not. Recall that agriculture was the sole holdover from the First New Deal to the Second. As such, the farming sector was rewarded with the continuation of agricultural subsidies throughout the Depression and the Second World War. By the postwar era, when the international trade regime that was to become the GATT was constructed, powerful rent seekers still existed within the agricultural sector. Thus, even though US farmers were competitive by world standards in the early postwar era, agricultural interests were sufficiently powerful to ensure that agriculture was excluded from the trade regime (Goldstein, 1993b). US industry, by contrast, offered no such resistance.

### **Conclusion**

Building on the “limits of rent seeking” model that distinguishes two basic categories of rent seeker, it has been demonstrated formally that governments can rely on circumstance, as well as political strategy, to effect policies of significant rent reduction without suffering severe political costs. Although the examples have been drawn from the realm of trade policy, the logic of the argument is applicable to other policies of rent reduction as well.

The model accepts one of the key tenets of the international political economy and public choice literature – that rent seeking producer groups tend to be more successful at influencing trade policy than are free traders. However, unlike the extant literature, the paper suggests that where rent seeker populations are largely flexible, governments that liberalize trade can avoid many of the political costs associated with such a policy. Of course, a significant problem is that because flexible rent seekers have no incentive to reveal their true nature, governments are unwilling to risk large

rent reductions.

For governments to gauge whether or not it is politically safe to reduce rents, they require a screening mechanism for forcing flexible and inflexible rent seekers to signal their true positions. One means of doing this is to effect a significant reduction in rents and then observe the behaviour of rent seekers. However, such a strategy buys the government no security against political retaliation. On the other hand, governments may employ two alternative methods to force signals from flexible rent seekers. First, where an initial, substantial reduction in rents can be demonstrably portrayed as structurally imposed, governments may take advantage of the opportunity to observe separation between flexible and inflexible rent seekers, while absorbing limited political cost. Indeed, under such circumstances, flexible rent seekers actually may take the initiative in advancing further liberalization of trade. More prescriptively, in cases where rent reductions are not structurally imposed, governments may reduce rents gradually and incrementally as a means of gauging the makeup of the rent seeker population, without absorbing significant political costs. The experience of the Roosevelt administration demonstrates this point.

While the general benefit of the model is that it allows us to understand better how governments may avoid the political costs of free trade, a specific objective of the article is to provide a complement to existing theories as to why the United States shifted its trade policy after 1934. Existing explanations tend to fall into three categories (Ikenberry, et. al., 1988). Systemic-level explanations, the most prominent being hegemonic stability theory, suggest that US dominance of the world system motivated it to act in the national (and indeed international) interest (see Kindleberger, 1973; Keohane, 1984). The problem here, as Putnam (1988) has pointed out, is that such explanations tend to be insensitive to domestic politics. Indeed, they cannot explain why protectionists no longer were able to exert much influence over US trade policy after 1934. State-level theories maintain that the crisis of the Depression stimulated power plays within the

administrative branch and that this constitutes the dominant explanation for the shift in US foreign economic policy (see Goldstein 1993a; Haggard 1988). Finally, societal-level explanations posit that one pressure group – advocating internationalism – defeated the heretofore dominant nationalist pressure group, which had been weakened by the prevailing crisis (Ferguson, 1984; Frieden, 1988). Like state-level explanations, most societal-level theories are compelling, but fail to account for why there was no reversion to the *status quo ante* in the postwar years, when the effects of the crisis had passed.<sup>22</sup> Our argument, consistent with Milner (1988), is that the business sector, formerly protectionist and now global and free-trading, represents an important force resisting the re-imposition of protectionism.

Three ideas will be put forward with respect to improvement of the existing model. These directions for further theory and research pertain to the dimensions of variations in a given industry, the range of player preference orderings and the number of players involved.

One obvious direction for future research is to relax the assumption of only one-dimensional variation in a given industry. The current model allows for the presence of flexible and inflexible rent seekers in some probability distribution (that is,  $q, 1-q$ ). Factors such as industry structure and relative capabilities are certain to create other dimensions along which choices will vary. Relative concentration, for example, will affect the likelihood of potentially menacing collective action among rent seekers, flexible or otherwise (Olson, 1965). Variation in timing of rent reduction and choice of whether or not to resist could be expected. Thus a model resembling the repeated Chain Store Game, in which a single large player confronts a series of challengers (rent seekers), might be used in further developing the strategic multistage rent reduction game (James, 1999; Selten, 1978). Such a specification would include estimates of  $G$ 's "toughness" (that is, willingness to follow through), which would allow the possession of private information by all players. While a model of this kind lies beyond the scope of the present exposition, it would be a natural project for

further research.

In this paper, we assume one specific set of preference orderings (for government, flexible, and inflexible rent seekers). We believe our choice of preference orderings describes the most common preferences in reality. However, given the number of potential outcomes in the model, there are a number of *possible* preference representations even within the confines of the ordinal preference structure. Obviously different preference orderings would lead to different solutions for the strategic rent reduction game. Then, a more general model could incorporate these possible preference orderings by introducing more extensive sets of inequality conditions than we do in this paper.

Finally, the number of players in the game could be expanded to heighten its connection with the intricacies of rent reduction as a political enterprise. In a democratic political system where trade restrictions are a political issue, neither the government nor the rent seekers constitute a single actor. A two-person game, therefore, should be regarded as a starting point when it comes to modelling the complex interactions among the branches of government, interest groups and the general public.

For example, in the current game the COG decides on a strategy for inducing rent seekers to reveal their true preferences, but it also is known that legislators who represent constituencies dominated by rent seekers will participate in the determination of government policy. This process, among others not included in the present game, could have an impact on how it is solved. For instance, the politics of energy – perhaps the most fundamental sector of the economy – cannot be understood without an assessment of the legislature’s role in the United States and other countries (Uslaner, 1989).

Another example concerns the opening up of the game to participation by foreign governments and firms: how would the game change if a foreign government, along with **G**, had to

be modelled in terms of its tariff policies? Could the actions or reactions of foreign firms alter the equilibria? These and other questions are receiving attention from economists in the context of somewhat different substantive issues, such as the use of export subsidies to signal (un)competitiveness of domestic producers to those abroad as a result of varying motivations (Brander, 1995; Brainard and Martimort, 1996; Collie and Hviid, 1994, 1999; Herander and Kamp, 1999; Kolev and Prusa, 1999). Thus the potential to build further on modelling efforts elsewhere already exists. The present study is an example of that spirit in action because it incorporates both screening and signalling mechanisms in an effort to portray more accurately the interactions of governments and firms with respect to economic rents from protectionism.

Each of the three preceding suggestions is sufficient to generate an ambitious agenda for further research. These ideas, when taken together, indicate that the game-theoretic model presented in this study can provide a solid foundation for learning more about trade liberalization and rent seeking in the context of democratic politics. The model also is quite general and could be applied to other contexts where one actor is trying to find out the type of actor for a rival. These applications could address any number of issues within comparative and international politics.

## Appendix

To present the solutions to the strategic multistage rent reduction game in a clear fashion, we simplify Figure 1 as follows. On the left side of the extensive form (when **F** is flexible) in Figure 1, **F**'s decision to resist or not on its last move (R or  $\sim$ R) leads to the outcomes of Confrontation and Adapt, respectively. From flexible **F**'s preference ordering above ( $u_F(\text{Adapt}) > u_F(\text{Conf}_1) > u_F(\text{Conf}_2)$ ), not resisting constitutes a “dominant” action at these decision nodes. By backward induction, then, we can eliminate the “Resist” option and “trim the tree”. On the right hand side of the extensive form (when **F** is inflexible), **F**'s decision on its last move leads to the outcomes of Confrontation and Exit. From inflexible **F**'s preference ordering ( $u_F(\text{Conf}_1) > u_F(\text{Conf}_2) > u_F(\text{Exit})$ ), resisting constitutes a “dominant” action at these decision nodes. So, we eliminate the “Not Resist” option. This leads to Figure 2.

(Insert Figure 2 about here)

Then we solve for the PBE for the multistage rent reduction game in Figure 2. In doing so, we examine strategies available to **F**, and **G**'s optimal responses to them. Each of **F**'s strategies is composed of a pair of actions, chosen by flexible and inflexible **F**s. With regard to notation, **F**'s strategy of, say  $(r, r)$ , should read “**F** chooses  $r$  when it is flexible; **F** chooses  $r$  when it is inflexible”. **G**'s strategy is composed of “**G**'s initial action; **G**'s response to **F**'s action,  $r$ ; and **G**'s response to **F**'s action,  $\sim r$ ”. For example, **G**'s strategy of  $(t, T, T)$  should read “**G** chooses  $t$  in its first move; in its second move, **G** chooses  $T$  if **F** chooses  $r$ ; **G** chooses  $T$  if **F** chooses  $\sim r$ ”.

### [1] **F** chooses $(r, r)$ , that is, pooling on $r$ .

**G**'s information set corresponding to  $r$  is on the equilibrium path. So **G**'s belief  $(q^*, 1 - q^*)$  at this information set must be determined by Bayes' rule and **F**'s strategy. Since **F** is pooling, **G** learns nothing new about **F**'s type:  $q^* = q$ . Given **G**'s belief of  $q^* = q$ , what is **G**'s optimal response to  $(r, r)$ ? We first calculate

$$\begin{aligned} EU_G(r, T) &= q \cdot u_G(\text{Adapt}) + (1 - q) \cdot u_G(\text{Conf}_1) \\ EU_G(r, \sim T) &= u_G(\text{SQ}_F) \end{aligned}$$

We then can summarize **G**'s optimal strategy as follows:

- (i) (a).**  $(t, T, T)$  and  $(t, T, \sim T)$  are optimal iff  $EU_G(r, T) \geq EU_G(r, \sim T)$ .  
 $\rightarrow q \cdot u_G(\text{Adapt}) + (1 - q) \cdot u_G(\text{Conf}_1) \geq u_G(\text{SQ})$ .  
 Solving it for  $q$  gives,

$$q \geq \frac{u_G(\text{SQ}) - u_G(\text{Conf}_1)}{u_G(\text{Adapt}) - u_G(\text{Conf}_1)}$$

So  $(t, T, T)$  and  $(t, T, \sim T)$  are optimal when the above inequality condition holds. That is, **G** introduces  $t$ , followed by  $T$  when it believes that the probability of **F** being flexible is high.

- (i) (b).**  $(t, \sim T, T)$  and  $(t, \sim T, \sim T)$  are never optimal since  $u_G(\text{SQ}) > u_G(\text{SQ}_F)$ . That is, if **F** always resists  $t$ , **G** is better off not introducing  $t$  (which leads to  $\text{SQ}$ ) than introducing it and backing down later (which leads to  $\text{SQ}_F$ ).

- (ii)**  $(\sim t, X)$  is optimal when

$$q < \frac{u_G(\text{SQ}) - u_G(\text{Conf}_1)}{u_G(\text{Adapt}) - u_G(\text{Conf}_1)}$$

where  $X$  is any pair of **G**'s response to **F**'s action. That is, when **F** always resists the initial  $t$ , and if **G** believes that the probability of a flexible **F** is sufficiently low, **G** might as well not introduce  $t$  in the first place.

The next question is whether **F**'s pooling strategy  $(r, r)$  is optimal given **G**'s strategy of  $(t, T, T)$ ,  $(t, T, \sim T)$ , and  $(\sim t, X)$ .

- (i) (a).** When **F** chooses  $(r, r)$  and **G** chooses  $(t, T, T)$  or  $(t, T, \sim T)$ , then  $\text{Adapt}$  becomes the outcome if **F** is flexible, and  $\text{Conf}_1$  is the outcome if **F** is inflexible. Can **F** do better by moving away from  $(r, r)$ ? We first check how **G** would respond to  $\sim r$ . If **G**'s response to  $\sim r$  is  $T$ , then  $EU_F(\sim r) = u_F(\text{Adapt})$  when **F** is flexible and  $EU_F(\sim r) = u_F(\text{Conf}_2)$  when **F** is inflexible. If **G**'s response to  $\sim r$  is

$\sim T$ , then  $EU_F(\sim r) = u_F(SQ_G)$ . Since  $u_F(SQ_G) > u_F(\text{Adapt})$  and  $u_F(SQ_G) > u_F(\text{Conf}_1)$  for flexible and inflexible  $F$  respectively, it is in  $F$ 's interest to switch to  $\sim r$  if  $G$  responds with  $\sim T$ . Therefore, if there is an equilibrium in which  $F$ 's strategy is  $(r, r)$ ,  $G$ 's response to  $\sim r$  must be  $T$ . Then  $G$ 's strategy of  $(t, T, \sim T)$  cannot be part of an equilibrium. So,  $EU_G(\sim r, T) \geq EU_G(\sim r, \sim T)$  must be satisfied.

Then  $q' \cdot u_G(\text{Adapt}) + (1 - q') \cdot u_G(\text{Conf}_2) \geq u_G(SQ_G)$ .

Solving it for  $q'$  gives,

$$q' \geq \frac{u_G(SQ_G) - u_G(\text{Conf}_2)}{u_G(\text{Adapt}) - u_G(\text{Conf}_2)}$$

$F$ 's strategy of  $(r, r)$  is the optimal response to  $(t, T, T)$  when the above condition is satisfied. Then a pooling PBE for the game is:

$$\{(t, T, T), (r, r), q^* = q \geq \frac{u_G(SQ) - u_G(\text{Conf}_1)}{u_G(\text{Adapt}) - u_G(\text{Conf}_1)}, q' \geq \frac{u_G(SQ_G) - u_G(\text{Conf}_2)}{u_G(\text{Adapt}) - u_G(\text{Conf}_2)}\}$$

- (ii) We can similarly find the range of  $q'$  where  $(r, r)$  is an optimal response to  $(\sim t, X)$ , which leads to a pooling PBE of  $\{(\sim t, X), (r, r), q^* = q < \frac{u_G(SQ) - u_G(\text{Conf}_1)}{u_G(\text{Adapt}) - u_G(\text{Conf}_1)}, q'\}$ ,

where  $X$  represents  $(T, T)$ ,  $(T, \sim T)$ ,  $(\sim T, T)$  and  $(\sim T, \sim T)$ .

## [2] $F$ chooses $(\sim r, r)$ , that is, separation with flexible $F$ playing $\sim r$ .

- (i). We can find a PBE similar to the one found in [1] (i) above. If  $F$  chooses  $(\sim r, r)$  (and  $G$  chooses  $(t, X)$ ), then both of  $G$ 's information sets are on the equilibrium path:  $q^* = 0$  and  $q' = 1$ .  $F$ 's best response given these beliefs is  $(t, \sim T, T)$ , which guarantees the outcome  $\text{Adapt}$  when  $F$  is flexible and  $SQ_F$  when  $F$  is inflexible. Given  $(t, \sim T, T)$ ,  $F$ 's optimal strategy is  $(\sim r, r)$ . Therefore, there exists a separating PBE,  $\{(t, \sim T, T), (\sim r, r), q^* = 0, q' = 1\}$ .

- (ii).  $(\sim t, X)$  guarantees the outcome  $SQ$ . It is easy to show that  $\{(\sim t, X), (\sim r, r), q^* = 0, q' = 1\}$  is a separating PBE (process not shown).

**[3] F chooses  $(r, \sim r)$ , that is, separation with a flexible F playing  $r$ , or  $(\sim r, \sim r)$ , pooling on  $\sim r$ .**

Under these conditions ( $q^* = 1$  and  $q' = 0$ ; and  $q' = q$ , respectively), **G** chooses  $\sim t$  in all PBEs

(process not shown).  $(\sim t, X)$  guarantees SQ, which is **F**'s most preferred outcome.

## Endnotes

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<sup>1</sup> See, for example, Brawley (1993); Conybeare (1987); Dombrowski (1998); Grieco (1990); Meadwell and Martin (1996); Sandler (1997).

<sup>2</sup> In New Zealand a reforming government after 1983 imposed severe rent reductions on the agricultural sector. While there was a great deal of economic dislocation on the part of farmers over the short term, within two to three years the agricultural sector was strongly committed to further liberalization of trade and pressured the government to retain low agricultural rents while at the same time lowering state-supplied rents to the industrial sector (Douglas, 1993; Johnston and Frengley, 1994). Governments also can offset the dislocation costs associated with trade liberalization by providing trade adjustment packages to producers. This strategy was employed in Great Britain, for example, in the legislation that repealed the Corn Laws (see Lusztag, 2003: ch. 2).

<sup>3</sup> Staiger (1995) makes a similar argument, suggesting that even modest liberalization of trade will induce some rent earners within import competing sectors to relocate out of that sector. It also should be noted that position in the economic cycle can affect the calculations made by flexible rent seekers, but that factor is treated as exogenous in the current version of the model. It would be interesting in future research to endogenize the role of the economic cycle.

<sup>4</sup> In this sense the model is separate from so-called “cheap talk”, in which the signaling takes the form of discussion rather than action (Odell, 2000: 133-34).

<sup>5</sup> There is a large literature on the impact of crisis in providing policy maneuverability for political innovators; see Goldstein (1993a), Gourevitch (1986) and Krasner (1984).

<sup>6</sup> Sandholtz (1993) suggests that this “hand-tying” explains why most European governments were willing to sacrifice a degree of national sovereignty by agreeing to monetary union at Maastricht. Union would permit the political costs of monetary discipline to be transferred from democratically elected governments to the more insulated regime. This is not to suggest, of course, that there are not domestic costs associated with regime compliance. Moreover, such costs are variant across countries.

<sup>7</sup> The rent reduction game that appears in Figure 1 is related to models from the vast literature on strategic trade policy but differs significantly from the many treatments that originate in economics. Three prominent issues explored in recent economic literature, in each instance through game-theoretic models with asymmetric information, are (a) strategic trade policy regarding public contracts (Brainard and Martimort, 1996); (b) optimal tariffs or export subsidies as signals of (un)competitiveness (Collie and Hviid, 1999; Herander and Kamp, 1999); and (c) setting tariffs in relation to a foreign monopolist (Collie and Hviid, 1994; Kolev and Prusa, 1999). (The literature on strategic trade policy is reviewed authoritatively by Brander [1995].) While insights from these works will be noted subsequently, the substantive issues and associated game-theoretic models are fundamentally different from those of the present study. To cite one example, the studies from economics are more concerned with (in)efficiencies in domestic production and trade as a result of varying export subsidies and tariffs that might be confronted by a foreign monopolist, whereas the focus of the present investigation is on the *politics* of trade liberalization.

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<sup>8</sup> For a COG with a fixed term in office, the goals substituted for lengthening service would appear obvious. The ability to control policy making for either direct personal benefit or to reward important support groups is enhanced through more autonomy, which logically should correlate with political support for the government. Thus the ability to procure benefits more effectively over each time interval (that is, intensity) would come into play as a consideration rather than extension of time served (that is, frequency).

<sup>9</sup> Player **F** imposes a cost on **G** when minor resistance occurs, but **F**'s ultimate success in that scenario creates an offsetting benefit. The persistence of **G** in the face of minor resistance creates a demonstration effect for other firms and even industries. Thus, the equivalence of the absence and presence of minor resistance recognizes that “costly signalling” by a player can create potentially important external benefits (Fearon, 1994).

<sup>10</sup> The pure status quo ranks ahead of the one marginally adjusted by **G** (that is, through *t*, but not *T*) because the latter, which does not include even a minor act of retaliation by **F**, might encourage observers to think that **G** is lacking in resolve. Even worse is the status quo adjusted by **F** (that is, *t* followed by *r* and no further actions) because it suggests that **F**'s minor act of retaliation discouraged **G** from reducing rents any further. (In the intermediate case of  $SQ_G$  there might at least be some other plausible explanation for why **G** decided to go no further.)

<sup>11</sup> All rent seekers hold identical preferences over the first three alternatives. *SQ* is best, by definition, because rent seekers continue to collect profits without confronting the risks posed by change. The next best alternative is a minor adjustment to the status quo, in which **F** engages in a minor act of retaliation against **G** and the latter takes no further action. After that, a change in the status quo by **G** (that is, *t*), with no further action, is the next most preferred (that is, no major reduction in rents). Adapting to **G**'s major rent reduction ranks next among the alternatives. The confrontation outcomes appear last in the ordering, with two acts of resistance being preferred to one. If **F** follows this path, it must be assumed that it is at electoral “war” with **G** and derives additional utility from attacking at each stage.

<sup>12</sup> One can imagine a second type of inflexible rent seeker who prefers exit to confrontation, described earlier as a non-committed inflexible rent seeker. We do not consider this possibility to maintain simplicity of presentation. Since our goal is to show that the government can reduce rents and still survive in the multistage game, if we can show that the government can do that against a “tougher” adversary – that is, the committed inflexible rent seekers, who prefer confrontation – then it follows that the same can be achieved against the adversary who is not inclined to resist.

<sup>13</sup> One question that might be raised about the game's specification is whether a *single* probe or “trial balloon”, in the form of a limited rent reduction (that is, *t*), truly represents the process of gradualism as described earlier in more impressionistic terms. In a compelling review of research on strategic trade policy, Brander (1995: 1422) warns that, if anything, more is likely to be learned from a model such as that appearing in Figure 1 than one with many stages, because the “folk theorem” intervenes in the latter instance. To be more precise, repeated interactions in strategic trade games will produce a wide and even unwieldy range of feasible outcomes, consistent with the folk theorem as invoked elsewhere.

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<sup>14</sup> The second scenario (scenario [2] (i) in the appendix) presents an interesting case, as the government updates its belief about the industry's type from the latter's response to government's small reduction in rents.

<sup>15</sup> Obviously, the propositions above hold when public officials understand the logic of the multistage rent reduction game.

<sup>16</sup> At this point it is appropriate to point out a type of inflexible rent seeker whose preference ordering does not appear in this section, namely, the one who prefers exit over confrontation. Although not shown in the appendix, it obviously would be much easier to induce trade liberalization in the PBEs with this type of inflexible rent seeker. In this manner, the process of culling the inflexible rent seekers would be much less painful to the government.

<sup>17</sup> For an expanded discussion of the Second New Deal coalition see Lusztig (1996: ch. 3); for more on Roosevelt's desire to ensure the support of internationalist business interests pending full-scale defection of conservatives see Roosevelt's speech to the Bankers' Convention in Washington, October 24, 1934 (Roosevelt, 1938: 435-40).

<sup>18</sup> Most pertinently, the RTAA provided the administration the power to negotiate bilateral trade deals that were not subject to congressional oversight. The logic was that Congress was far more susceptible to rent seeking interests than was the more insulated Department of State.

<sup>19</sup> The most compelling recent account of trade outcomes, which shows how the distribution of political authority, electoral structures and institutional foundations exert influence on trade policy outcomes for the United States and Canada, appears in Bennett and Duchesne (2000).