POLITICALLY IMPOSED ENTRY BARRIERS

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INTRODUCTION

A major determinant of the antitrust implications of a merger is ease of entry into the industry. Theory suggests that this factor should be very important¹, and current practice in the antitrust enforcement agencies follows theory in giving this element paramount attention [U.S. Department of Justice and U.S. Federal Trade Commission, 1992, 11-13]. In merger investigations under the Hart-Scott-Rodino (HSR) Premerger Notification Act, the antitrust authorities consider an examination of entry conditions to be essential.

Although entry barriers may be natural or technological, there are often politically imposed barriers as well. Antitrust authorities generally take these political barriers as given in deciding upon policy for particular mergers and analyze the merger assuming that the constraints will be maintained in their current form. This practice of taking political constraints as given has not been analyzed, and its implications have not been fully examined.² This paper provides such an analysis. We find that there are important counterintuitive policy implications from considering the political determinants of entry barriers.

One example of such political barriers is the imposition of import quotas. The "Merger Guidelines" state that:

If shipments from a particular country to the United States are subject to a quota, the market shares assigned to firms in that country will not exceed the amount of shipments by such firms allowed under the quota. [U.S. Department of Justice and U.S. Federal Trade Commission, 1992, 7, footnote omitted]

Clearly, the policy assumes that the quotas are exogenous and fixed and that antitrust authorities should maximize consumer welfare subject to these restrictions. This is a second-best approach. Second-best analysis looks for optimal solutions when there is a fixed, inviolable constraint. This type of analysis is appropriate only when the constraint is truly fixed. When the policy under consideration will itself interact with the constraint, as we show to be true of antitrust enforcement, the problem becomes more complex.

Modern economic scholarship does not generally take governmental restrictions as exogenous. Rather, economists realize that political constraints are partially the result of economic forces, so it is necessary to investigate the interaction between the political and economic systems [Mueller, 1989]. While there have been analyses of antitrust from

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a public choice perspective [Faith, Leavens, and Tollison, 1982; Benson, Greenhut, and Holcombe, 1987; Shughart, 1990; Buchanan and Lee, 1992; Hazlett, 1992], we are not aware of any attempts to deduce optimal antitrust policy with explicit consideration of likely responses of the political system to policy initiatives.³ This paper provides such an examination. In particular, we consider the possibility that antitrust decisions will be followed by political responses.

It may seem inconsistent to analyze optimal (efficient) antitrust enforcement policy in a world where policy itself is viewed as the outcome of political forces. However, we view the antitrust authorities as having been delegated the task of determining an efficient market structure in markets where the political authorities have not intervened to affect this structure. This would minimize privately determined (non-political) deadweight losses, allowing the political system to increase the amount of (deadweight-loss creating) rent it can allocate. Allowing the antitrust authorities to determine market structure when there is no political involvement would mean that those who wanted to change market structure in an inefficient direction would be forced to rely on the political authorities. This is consistent with Becker's [1983] argument, discussed below, and with the Landes and Posner [1975] argument that the political system delegates to the judiciary the role of contract enforcement. Buchanan and Lee [1992] argue that there is a public choice justification for efficient antitrust laws.

The next section analyzes import quotas as politically imposed entry barriers. We show that current antitrust policy — which assumes quotas are fixed — is incorrect, since these quotas may change as a result of increasing domestic concentration. We then provide empirical evidence that politically-imposed import restrictions do respond to changes in domestic market concentration. The next section briefly applies this analysis to other political barriers. We obtain several paradoxical policy implications. Finally, a few concluding remarks and some suggestions for further research are presented in the conclusion.

PURE TRANSFERS: IMPORT QUOTAS

Import quotas are the major political entry barrier explicitly mentioned in the "Guidelines" and, as indicated above, current policy takes these as given. An import quota given to an industry by Congress is a form of subsidy. As there are no credible public interest justifications for quotas, they are a paradigm case of a pure transfer. More importantly, the existence of a quota is evidence that the industry involved has sufficient political power to obtain a transfer.

At any given time, the pattern of taxes and subsidies⁵ observed in an economy is a political equilibrium determined by the power of each interest group. Anything which changes one part of this equilibrium will have repercussions throughout the system. In particular, an increase in subsidies paid to some group from one source will change other subsidies paid to another group. Thus, it is important to analyze this pattern of responses to determine the optimal merger policy in an industry which has obtained a subsidy.

At this point, we may make either a weak or a strong argument. The weak argument is simply that there will be a response to a change in market power. For example, if a merger leads to increased market power, an existing equilibrium would be destroyed. Rational public policy would examine the likely political response and would not merely assume the import constraint constant. At a minimum, the antitrust

authorities should consider the possibility of some countervailing response of the quota to an increase in concentration. In some instances, we would expect the quota to increase, and this would, at least partially, mitigate any increase in market power. Without stronger assumptions, we cannot determine the final outcome.

A model which does make stronger assumptions is Becker [1983]. The strong form of the argument would rely on Becker's analysis of equilibrium in a political market with interest groups. Becker provides an analysis of the pattern of subsidies and taxes which prevails at equilibrium in an economy. He considers the equilibrium which will be reached in a political economy with many interest groups competing to receive benefits and avoid taxes. The major result of his analysis is that the observed pattern will be efficient, in the sense that those receiving benefits will receive them in the form with the lowest possible deadweight loss. For example, his Proposition 4 is: "Competition among pressure groups favors efficient methods of taxation." In other words, for a given level of political power, the form of subsidies received by a pressure group will be that with the lowest possible deadweight cost.

Since we are analyzing an industry with existing import quotas, it is apparent that domestic firms in this industry have sufficient political power to achieve this quota. The size of the quota is determined by exactly the factors that Becker identifies. As the quota gets smaller, the subsidy to the domestic industry increases, but the tax in the form of a deadweight cost to the rest of society increases. The political process balances these costs and benefits (with the balance being a measure of the political power of gainers and losers) and determines an equilibrium size for the quota.

Now, suppose two firms in this industry propose a merger. We argue that if the merger is approved, there is likely to be a change in the political equilibrium that ultimately results in a change in the import quota for this industry. However, even in Becker's model, it is not possible to predict the direction of change in import quotas when there is a merger. Instead, this will depend on whether the merger is pro- or anticompetitive and on any change in political power resulting from the change in market structure. The following examples will illustrate how one might analyze the effect of a merger on the political equilibrium.

"Inefficient" Mergers

For this class of mergers, from society's standpoint, the increasing cost of the market power created by the increase in concentration in the industry outweighs the benefits of any economies of scale, given the current level of import restrictions. (This is the well known Williamson [1968] criterion for inefficiency.) The antitrust authorities examine this proposed merger to determine its effect on competition. Their ultimate concern is with the possibility of monopolization or collusion. If there is currently a binding quota and the merger leads to sufficient concentration, the authorities assume that sales by foreign suppliers will remain constant and that domestic firms will restrict output and raise prices. This is standard second-best analysis.

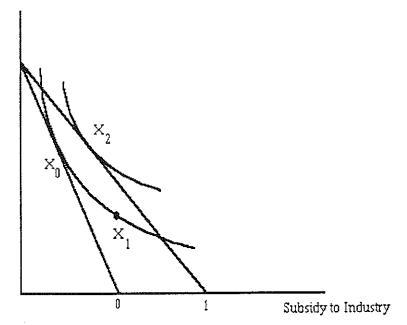
If collusion occurs, the initial effect of the merger is to increase the deadweight costs imposed on consumers and to increase the rents earned by firms in the industry. The merger and the associated reduction in output will destroy the existing political equilibrium so the political process will readjust to the merger. The adjustment will increase the quota so that output will be higher than it was immediately after the merger. This will restore the relative position of gainers and losers in this market.

The welfare implications of this two-step process (increased concentration followed by relaxation of import quotas) are ambiguous under the weak form of our hypothesis. Under the strong form, relying on Becker's model, the implications are clear; there will be a net reduction in inefficiency. Becker shows that efficient taxes and subsidies will be politically preferred to inefficient ones. That is, the political process will favor those policies which transfer wealth with the smallest possible deadweight cost. The worst case effect of allowing the merger (if it creates some market power) is to replace output reduction from a quota with output reduction from anticompetitive behavior (either a monopoly or cartel). Both are inefficient (from the perspective of a competitive market, not from a political perspective). Therefore, if industry chooses to replace an inefficient quota by an inefficient monopoly or cartel, the net result must be, by Becker's argument, a net reduction in inefficiency, since an industry will choose that form of subsidy with the lowest deadweight cost.

The process is shown in Figure 1, which represents the politician's decision calculus. The vertical axis represents a reduction in deadweight costs, and the horizontal axis is the total rent the industry receives. The politician prefers higher reductions in deadweight loss (as it results in stronger consumer support) and higher industry rents (as it results in more industry support). Thus, the isoquants represent equal levels of net

FIGURE 1
Change in Equilibrium After an Increase in Market Power
(The Politician's Decision Calculus)

Reduction in Deadweight Cost



 $\begin{array}{l} \mbox{Initial Equilibrium: X_0} \\ \mbox{New Equilibrium: X_2} \\ \mbox{Equilibrium Ignoring Political Adjustments: X_1} \end{array}$

political support. The budget lines reflect the total "political cost" to the politician of supporting increases or decreases in industry rents. The initial budget line is 00, and $X_{\rm o}$ is the initial equilibrium with an import quota.

Now suppose two firms propose to merge, increasing the possibility of collusion. Under current antitrust policy, the analyst would assume the result will be X_1 , reflecting higher industry rents and higher deadweight loss. However, this ignores the fact that these higher deadweight losses are inconsistent with the political equilibrium existing in this industry. That is, the industry would not prefer the monopoly to the subsidy unless it is more efficient. Thus, the cost (in deadweight loss terms) of industry rents is lowered — shifting the budget line outward. This is shown as line 01. The new equilibrium will be at X_2 , which generally reflects both a reduction in deadweight costs and an increase in the subsidy.

In other words, the guidelines are incorrect for mergers that decrease competition. Antitrust authorities should not consider the existence of quotas when evaluating a merger by firms in the industry. On the contrary, since quotas indicate that firms have sufficient political power to extract rents, we may plausibly argue that quotas should signal relaxed antitrust scrutiny, on the theory that we want firms with political power to have as many degrees of freedom as possible so that they may seek subsidies in the form with the lowest deadweight costs.

"Efficient Mergers"

Suppose instead that the merger will credibly lead to increased competition or to cost reductions that outweigh the negative effects of decreased competition. Further, suppose the industry already has sufficient political power so that there is an import quota in the industry. The basic point of our paper still holds — one should consider these political entry barriers to be endogenous.

The policy implications of recognizing this effect are somewhat paradoxical. In the case of an efficient merger, consumer surplus increases (as output increases and prices decrease). However, the political equilibrium now supports a higher level of deadweight loss in this industry. Thus, we are likely to see *lower* import quotas (or higher tariffs) than existed before the merger. Thus, for efficient mergers, consideration of the political equilibrium reduces the benefits of the proposed merger. However, the net result of the merger and any changes in quotas is still an increase in welfare, so that consideration of this effect does not lead to any policy implications.

Changes in Political Power

We have not yet considered the reciprocal effect of mergers on political power. A merger will affect the size of the industry, and this will in turn affect the industry's political power. For example, suppose an inefficient merger occurs. From the earlier analysis, one might expect that this will lead to the relaxation of import quotas. However, if the merger leads to layoffs in a unionized firm, there might be increasing political pressure (e.g., union headquarters might spend more resources lobbying for this particular sector of the union membership), and ultimately more sympathy in Congress for domestic job protection. This might shift the political equilibrium in favor of lower quotas, partially offsetting or even outweighing the increase in import quotas expected as a result of the increased industry concentration.

TABLE 1 Change in Tariff Rates, 1977-1980^a

	Average Change	Fraction Decreased	Fraction Unchanged	Fraction Increased
1977-1978	+0.0842	.21	.46	.33
1978-1979	-0.0576	.26	.48	.26
1979-1980	+0.0215	.26	.44	.30

A change of 1.00 would indicate an effective tariff change of 1 cent per dollar of imports.

In practice, the magnitude of the power shift is likely to be second order. A merger is unlikely to have a sufficiently large impact on an industry to radically alter its political power. Moreover, even if we want to consider this effect, we do not generally know what the effects will be. Becker maintains that the relation between industry size and political power is not monotonic. Political power first increases with the size of a group and then decreases. There is a free-rider problem associated with increasing the group size and a merger might reduce this free-rider problem, thus increasing political power [Becker, 1983, 377-8]. On the other hand, the merger may reduce the number of firms and employees in the industry, leading to a decrease in political power. Therefore, we cannot predict a priori how a change in industry structure might affect political power, even if we know that some group at its present size has sufficient power to obtain a subsidy.⁷

A referee has raised the possibility that the merger itself indicates increased political power, so that the industry may seek both the merger and reduced quotas. The Becker analysis is relevant here as well. The industry would be expected to seek that combination of subsidies which will minimize the total deadweight costs associated with the subsidy.

To summarize this section, any public choice model implies that quotas would respond to changes in market power in an industry. A strong form of the argument would rely on Becker's analysis of equilibrium and argue that the political process will fully adapt to such changes, so that mergers should be freely allowed. A weaker form would admit that some adjustment will take place, without being able to compare the two equilibria. Nonetheless, both forms of the argument imply that the current policy is incorrect in ignoring the expected adjustments. Both depend on the existence of a political response to changes in concentration. We now provide some evidence that such a response exists.

SOME EVIDENCE

Although the discussion thus far has focused on import quotas, data on quotas are difficult to obtain. Instead, we have used data on tariff levels. Some theory and evidence suggest that tariffs and quotas are closely related so that this should not bias our results [Godek, 1985]. Moreover, there is ample historical evidence that Congress recognizes the relationship between protective tariffs and domestic antitrust policy and that this has been true since the passage of the Sherman Act [Brewster, 1958; Hazlett, 1992].

TABLE 2 Change in Herfindahl Index, 1976-1979 (1.0 is equal to a HHI of 1000)

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··· · · · · · · · · · · · · · · · · ·	Average Change	Fraction Increased	Average Increase		Average Decrease
1976-1977	+< 0.001	0.55	+0.009	0.45	-0.011
1977-1978	- 0.004	0.43	+0.012	0.57	-0.016
1978-1979	+ 0.003	0.58	+0.011	0.42	-0.009

The data used in this study include the tariff rate and Herfindahl index for 360 industries, both at the 4-digit SIC level for the years 1976-80.8 During the time period of this study, there does not appear to be any general trend in either tariffs or market structure. For example, Table 1 shows the "average" change in tariff rates along with the fraction of SIC's that had increased versus decreased tariffs.

Table 2 shows the change in the Herfindahl Index (HHI) during this time period. ¹⁰ Although the "average" annual change in the HHI during these years was very close to zero, this is because of a relatively equal balance between those markets that became more concentrated and those that became less concentrated.

Table 3 compares changes in tariff rates when the HHI changes. It is assumed that a change in market structure today will have an affect on next year's tariff rates. Thus, the market structure variable is measured as the change in the HHI from 1978 to 1979. The change in tariff rates is measured from the same base year (1978) to the year following the change in market structure (1980). Table 3 shows that if the HHI increases, tariff rates are less likely to change and are less likely to increase than if the HHI decreases. However, there appears to be no difference in the frequency of tariff decreases because of changes in the HHI.

Table 4 examines the effect of changes in industry structure on the magnitude of tariff rate changes. It is based on a subsample of industries — 122 industries that are contained in the U.S. Census Bureau's annual "U.S. Industrial Outlook" series. Admittedly, the use of this subsample is partly for convenience. In particular, the results reported in Table 4 do not hold for the full sample of 360 industries. However, the theory provides an important justification for using this subsample. The industries followed by the Census Bureau tend to be the most visible ones. On average, these 122 industries employ twice as many people and have twice the value added as the other 238 industries in the sample. Thus, they are likely to be the most politically sensitive industries.

The theory predicts that change in the Herfindahl will change tariff rates. It does not predict the sign of these changes. Thus, both the change in tariff rates and the change in HHIs have been expressed in absolute value terms. As predicted, the coefficient is positive and significant. It suggests, for example, that a 100 point change in the HHI leads to a change in tariff rates of 0.6 cents per dollar of imports. A 100 point change in the HHI for a "moderately" concentrated industry will "raise significant competitive concerns" in the antitrust agencies [Guidelines, 8], and 0.6 cents per dollar is the average level of tariffs. Thus, this relationship means that our data predict that a merger which would create concerns in the antitrust agencies would lead to a complete

TABLE 3 Frequency of Change in Tariff Rates, 1978-1980

Dependent Variable	Frequency when HHI decreased from 1978-1979	Frequency when HHI increased from 1978-1979	
	(n=153)	(n=207)	t-value ^a
Any change in Tariffs			ī.
(1978-1980)	.640	.502	2.63^{b}
Increase in Tariffs			h
(1978-1980)	.379	.261	$2.41^{\rm b}$
Decrease in Tariffs			
(1978-1980)	.261	.241	0.43

^a A significant t-value indicates the two columns are significantly different from one another.

elimination of the tariff. While we would not predict that this would in fact occur, the data does indicate that the relationship between concentration and tariffs (and thus presumably quotas as well) is substantively as well as statistically significant.

Several other "political" variables were included in Table 4. First, a measure of the existence of significant foreign trade barriers was multiplied by the change in the Herfindahl. This variable was significant and negative. Presumably, the tariffs in these industries are partly in retaliation for foreign trade barriers. Thus, in these industries, there is less likely to be a significant change in tariffs when the domestic market changes.

As mentioned in the previous section, mergers might cause a shift in political pressure and power of the various interest groups. This is expected to be particularly important for heavily unionized industries where the threat of layoffs might cause increased political pressure by union leaders to impose more stringent import restrictions. Since we are concerned with changes in tariff rates, the percent unionized in each industry was multiplied by the change in the Herfindahl. As expected, this variable is negative (and significant), indicating that the presence of unions partly offsets the effect of increasing concentration on tariff levels.

If data were available, we would include nontariff trade barriers as a dependent variable in a simultaneous equation model, as they are a substitute for tariffs. Unfortunately, we do not have a measure of the change in nontariff barriers. Instead, the only measure available is a one-time, outdated variable from the 1960s, included as a political control variable.

Finally, it should be noted that the regression equation reported here is considerably different from those reported in earlier studies of tariff rates and market structure. Previous studies have focused on the magnitude of tariffs and the existing market structure — not on the magnitude of change brought about by a change in market structure [Caves, 1976, 278; Godek, 1985]. One critique of this literature notes that the

TABLE 4
Change in Tariff Rates, 1978-1980
(Dependent Variable: Absolute Value of Change in Tariffs)

		Coefficient	t-statistic
Independent Variables	<u>i</u>		
Constant Absolute Value of		1,124	(1.68) ^a
Change in Herfindah	•	429,022	$(3.14)^{b}$
Foreign Trade Barriers Percent Unionized		-4,017	(-1.98) ^b
		-8,401	$(-2.75)^{b}$
U.S. Nontariff Trade B	arriers	110	$(1.88)^{a}$
Sample	122		
Adjusted R-squared	0.07		

Note: Foreign Trade Barriers and Percent Unionized expressed as interaction variables with the change in Herfindahl. See text. *significant at the .10 level. *b significant at the .05 level.

determination of political outcomes and market structure is a *simultaneous* process, thus requiring a two-stage estimation procedure [Noam, 1984]. The approach taken here estimates a lagged relationship between changes in industry structure and tariff rates. Since this is a recursive process, the estimation technique does not suffer from the deficiency pointed out by Noam. Further examination of the effect of tariff rates changes on changes in industry structure might be of interest, but is beyond the scope of this study.

ADDITIONAL IMPLICATIONS

There are several other types of entry-limiting regulations which may be analyzed in a manner similar to that used for tariffs. The general point remains that if a regulation is a pure special-interest regulation with no social benefit, then the antitrust authorities should discount it when deciding on merger policy. On the other hand, if a regulation serves some purpose, then the antitrust authorities are correct in treating the regulation as given and fixed.

Suppose there is a true public interest rationale for entry limitation into some activity, such as a true health or safety benefit. If so, the purpose of this regulation is not simply the creation of rents. Now, suppose two firms in this industry propose a merger. There is no reason to expect those who would benefit from monopolization or collusion to trade off this benefit against other political benefits, nor is there any reason to expect the political process to respond to increased market power. Referring to Figure 1 again, the antitrust authorities are now correct in assuming that the new equilibrium will be at point X_1 , since there is no political force to readjust to the new equilibrium. Paradoxically, to the extent that some limitation on entry is brought about by true

b Indicates significance at p at the .01 level.

public interest motivations, such limitations should not lead to relaxed antitrust standards, and second-best analysis is appropriate.

Some regulations are aimed at reducing the quantity of something which is politically viewed as a "bad". One example is landfilling. Many local jurisdictions view landfills as undesirable and regulate them to reduce the amount of the activity. The antitrust authorities might take the existence of these regulations as a given. Such a policy is unwise. The existence of these restrictions means that some politically powerful group (in this case, a consumer, rather than an industry group) has sufficient power to limit the size of the industry, and an adjustment in regulation can be expected if market power leads to output restrictions.

Sometimes the government will refuse to purchase supplies from an otherwise acceptable seller; the prototypical example is "buy American" policies in defense procurement. Thus, while there may be many potential sellers of the product in the world, a merger may nonetheless create market power since the buyer (the military) has voluntarily excluded many of these sellers. The relevant question for the antitrust authorities is the source of these restrictions. There may be legitimate defense reasons for preferring domestic suppliers. On the other hand, it may be that domestic suppliers have used their political power to achieve a subsidy in the form of these restrictions.

Again, the policy implication is paradoxical. If the restrictions are inefficient and a political transfer to defense suppliers, then the antitrust authorities should discount them and view the merger more favorably. On the other hand, if the restrictions are legitimate and not aimed at achieving a transfer, the merger should be analyzed as if the restrictions are binding. This is because the group does not have sufficient political power to achieve a transfer, and therefore creation of a monopoly or cartel will not be offset by other political responses.

SUMMARY

Current antitrust policy takes political barriers to entry as given and analyzes mergers under a second-best scenario. It is assumed that political entry barriers will be maintained at their current level after the merger. However, in a larger context these barriers are themselves endogenous, and this endogeneity should be considered when determining the welfare implications of mergers. In particular, if the pending merger leads to market power, there may be a political response offsetting the social welfare loss from increased industry concentration. This is more likely if the existing entry barrier is the result of special-interest legislation, and less likely if it is based on a true efficiency rationale. This leads to paradoxical implications. Antitrust authorities should pay more attention to efficient entry barriers, such as true health or safety concerns, and less attention to inefficient barriers, such as import quotas, since the latter are more likely than the former to adjust to changed market conditions.

We have confined our analysis to mergers. Clearly, there are other antitrust issues which are also affected by political considerations of the sort introduced here. For example, in recent years the antitrust authorities have begun challenging various practices of professional groups, such as doctors and lawyers. These challenges have come about both directly and through various intervention programs which provide advice to state governments. However, there are severe entry restrictions into both the medical and legal professions. This suggests that the professions have sufficient political power to achieve a subsidy. It would be useful to analyze current antitrust practices realizing that there will be political responses to these interventions.

NOTES

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- See Bain [1956] and Stigler [1968]. More recently, the theory of contestable markets is based on ease of entry [Baumol, Panzer, and Willig, 1982].
- 2. A partial exception is McKee and West [1981].
- However, there have been a few attempts to estimate the impact of market structure on political outcomes [Salamon and Siegfried, 1977; Noam, 1984].
- 4. In discussing entry, the Guidelines also mention "permitting, licensing, and other approvals" (12).
- 5. Following Becker [1983] taxes include all costs imposed on an industry, including deadweight costs, and subsidies include all benefits, including regulatory benefits such as entry limitations.
- 6. It is assumed in this and the next section that the merger does not affect the political power of the merging firms. This possibility is considered below. Consideration of this effect does not lead to a significant modification of our results.
- 7. Not only does the theory lack a prediction concerning the effect of industry concentration and size on political power, but the existing empirical literature yields conflicting results [Siegfried, 1981].
- 8. The original data set is the same as that compiled for and published by Hilke and Nelson [1988]. The authors gratefully acknowledge the assistance of the FTC and John Hilke in providing the raw data.
- 9. The "average" tariff rate is an unweighted average rate for all SIC's so that small and large industries receive equal weighting. This method of averaging is necessitated by the data set.
- 10. The Herfindahl Index used in this study was compiled by EIS (Economic Information Systems). These data ignore foreign competition and compute market shares solely on the basis of domestic production. Thus, any observed changes in the Herfindahl can be attributed to actual changes in domestic industry structure. They could not be explained, for example, as increasing or decreasing import penetration.
- 11. Although a one-year time lag (between the change in Herfindahl and the assumed change in tariff rates) is reported throughout this paper, other time lags were also tested. A two-year lag was generally consistent with the findings reported here.

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