The political economy of nontariff barriers: a cross-national analysis
Edward D. Mansfield and Marc L. Busch

Much research on the determinants of trade policy has focused on the efficacy of societal and statist approaches. Societal theories typically attribute patterns of protection to variations in demands made by pressure groups, whereas statist theories emphasize the effects of the “national interest” and domestic institutions in determining the level of protection. While both approaches have gained considerable currency, debates concerning their relative merits have been heated and long-standing. Yet very little quantitative evidence has been brought to bear on this topic.

In this article, we provide some of the first results of this sort. Our findings indicate that although societal and statist approaches often are considered mutually exclusive, it is more fruitful to view them as complementary. Moreover, the interaction between factors that give rise to demands for protection and those that regulate the provision of protection by policymakers has not been treated adequately in the literature on foreign economic policy. This gap in the literature is fundamentally important, since our results indicate that the interaction between these factors is a central determinant of trade policy. Thus, analyses of commercial policy that fail to consider both societal and statist variables and the interaction between them are likely to be inadequate.

Our analysis centers on explaining cross-national patterns of nontariff barriers (NTBs). Scholars have conducted little cross-national research on trade policy and virtually none with a focus on NTBs. Instead, single-country studies of tariffs comprise much of the existing literature on the political

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economy of commercial policy. Yet the usefulness of societal and statist theories of foreign economic policy hinges on the ability of these theories to explain variations in protection across states, and NTBs have become increasingly pervasive among the advanced industrial countries. Because the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) limit the ability of contracting parties to impose tariffs, policymakers who view protection as an attractive means by which to meet the demands of pressure groups or advance state interests are likely to rely primarily on NTBs. Many observers have suggested that this is occurring with increasing regularity and that the recent proliferation of NTBs has done much to offset the gains in liberalization made during successive rounds of the GATT. A fuller understanding is therefore needed of the factors that account for variations in NTBs across states.

**Societal approaches to trade policy**

Societal (or pluralist) approaches to the study of foreign economic policy focus primarily on the effects of demands for protection by pressure groups. Societal explanations consider trade policy to be the product of competition among pressure groups and other nonstate actors that are affected by commerce. The impact of these groups on policy depends largely on their ability to organize for the purpose of articulating their demands and on the amount of electoral influence they possess. Societal approaches attribute little importance to policymakers and political institutions for the purposes of explaining trade policy. As G. John Ikenberry, David Lake, and Michael Mastanduno point out, societal theories view the state as “essentially passive; it acts as a disinterested referee for competing groups, and supplies policies to satisfy the demands of successful domestic players.”

Societal approaches to the study of trade policy characterize much of the literature on endogenous protection. Empirical studies of this sort infer the demands for protection based on macroeconomic and/or sectoral fluctuations. Most analyses of endogenous protection conducted by political scientists have been cast at the sectoral level. A large and growing body of literature, however,

centers on the macroeconomic determinants of protection. Much of this research supports the view advanced by certain societal theories that macroeconomic fluctuations strongly influence pressures for protection. Therefore we focus our societal analysis of NTBs on macroeconomic factors.

Chief among the macroeconomic variables that these studies emphasize are unemployment and the real exchange rate. It is widely accepted by analysts of trade policy that high levels of unemployment contribute to demands for protection. Indeed, according to C. Fred Bergsten and William Cline, “Conventional wisdom suggests that high levels of unemployment are the single most important source of protectionist pressures.” Widespread unemployment increases the costs to workers of adjusting to rising import levels. Workers who


are displaced by imports will find it progressively more difficult to obtain alternative employment, and when they do, downward pressure will be placed on their wages. Together these factors promote pressures to restrict the flow of imports.5

In addition to unemployment, variations in the exchange rate are expected to give rise to protectionist pressures. In fact, Rudiger Dornbusch and Jeffrey Frankel argue that “hypotheses concerning the exchange rate may be the most important macroeconomic theories of protection.”6

Central to the effects of the exchange rate on demands for protection is the influence of the price of a state’s currency on the competitiveness of its exports and its import-competing products. An appreciated currency, by increasing the price of domestically produced goods, threatens to undermine both exports and import-competing sectors of the economy. As C. Fred Bergsten and John Williamson point out in a related context, these developments are likely to contribute to “pressure that is generated for protectionist measures. Export- and import-competing firms and workers will tend to seek help from their governments to offset these distortions, which undermine their ability to compete, with some degree of legitimacy since the distortions are accepted—in some cases, even fostered—by those governments. Coalitions in support of trade restrictions will be much easier to form, and much broader in their political clout, because no longer will only the most vulnerable firms and workers be seeking help—and no longer will the countervailing pressures from successful exporters be as effective.”7

Public officials in liberal democracies are expected to meet demands for protection that arise due to high levels of unemployment and an appreciated currency because these variables influence the voting behavior of constituents. There is evidence that voters cast ballots on the basis of their personal economic circumstances, especially if they are recently unemployed.8 However, substantial evidence also indicates that voters cast ballots on the basis of macroeconomic conditions, regardless of whether they are directly affected by these conditions.9 In fact, some studies have concluded that macroeconomic factors are more salient determinants of voting behavior than are personal economic circumstances. Other survey research further suggests that public

5. See Bergsten and Cline, “Trade Policy in the 1980s,” p. 79; and Takacs, “Pressures for Protectionism.”
support for protection increases during downturns in the economy and when domestic industries are under severe pressure from foreign competition. As a result, public officials seeking to enhance their electoral fortunes have incentives to impose protection during periods of high unemployment and currency appreciation because such measures are likely to be popular and may blunt the short-term effects of macroeconomic pressures. These analyses therefore lead us to expect a direct relationship to exist between both the level of unemployment and the real exchange rate, on the one hand, and the incidence of NTBs, on the other hand.

Statist approaches to trade policy

While societal approaches have been especially influential in the field of political economy, they also have been criticized on a number of grounds. Especially important is the charge leveled by statists and others that societal approaches systematically underestimate the effects of two factors that regulate the provision of protection: state interests with respect to trade policy and domestic institutions. Analyses that emphasize state interests generally focus on the roles of politicians and policymakers in the formation of trade policy, holding constant societal pressures. Further, as Ikenberry, Lake, and Mastanduno note, these analyses presume that the preferences of public officials “are partially, if not wholly, distinct from the parochial concerns of either societal groups or particular government institutions, and are tied to conceptions of the ‘national interest’ or the maximization of some social welfare function.”

Many statists conclude that the ability of policymakers to advance the national interest depends in large measure on the extent to which domestic political institutions render them susceptible to demands by pressure groups

and other nonstate actors.\textsuperscript{13} Policymakers who are poorly insulated from, and lack autonomy with respect to, pressure groups will face difficulty advancing the national interest unless (as discussed further below) it converges with the preferences of societal groups. Thus, one hypothesis we will test is that institutional factors that foster the insulation and autonomy of public officials bolster the ability of states to pursue trade policy consistent with the national interest.

\textit{Relative size}

Clearly, the national interest with respect to trade is likely to vary across states; and it is not possible to assess adequately the influence of institutional factors on trade policy from a statist perspective unless each state's interest can be specified. On this score, many analysts have argued that a state's economic size governs its national interest with respect to trade policy.

There is ample reason to expect that larger states will display a more pronounced interest in protection than their smaller counterparts. First, international trade theory suggests that this should be the case. By virtue of their size, large states are likely to be vested with disproportionate market power.\textsuperscript{14} They can exploit their monopoly power through the use of tariffs, as well as quotas and other NTBs that duplicate a tariff's effect.\textsuperscript{15} If the imposition of an optimal quota elicits retaliation, the welfare of both parties will suffer.\textsuperscript{16} This, however, only limits the incentives for a large state to impose NTBs against a state of similar size, since only states with some monopoly power have an incentive to retaliate in response to the imposition of protection. Large states retain an incentive to target small states, since the latter have no incentive to retaliate. In contrast, small states are unlikely to possess the market power necessary to benefit from optimal protection and face the prospect of retaliation by trade partners (thereby reducing foreign commerce on which they tend to be highly dependent) if they impose NTBs. Hence, on average, we expect larger states to display a greater preference for NTBs than their smaller counterparts.

Second, state size is likely to be directly related to patterns of protection due to the time period analyzed in this article. As discussed further below, the empirical analysis conducted in this study is based on the mid-1980s. In the


\textsuperscript{15} For a seminal analysis of the conditions under which tariffs and quotas are equivalent, see Jagdish N. Bhagwati, "On the Equivalence of Tariffs and Quotas," in Robert E. Baldwin et al., eds., \textit{Trade, Growth, and the Balance of Payments} (Chicago: Rand McNally, 1965), pp. 53–67.

opinion of many scholars, this was a period characterized by a moderately skewed distribution of power among a few relatively large nonhegemonic states. A number of studies have concluded that systems of this sort—as well as ones in which hegemony is declining—provide incentives for the dominant states to behave in a commercially predatory manner. 17 Based on these considerations, we expect that economic size will be directly related to the incidence of NTBs.

We measure a state’s relative economic size in two ways: the ratio of its imports to total global imports and the ratio of its gross domestic product (GDP) to total global GDP. The first variable has been used repeatedly as a measure of economic size. 18 The second is also important because states with relatively large GDPS are likely to possess greater market power and to be better able to forgo commerce than are states with relatively small GDPS. 19

Although it is clear that these two measures of relative size should be highly correlated, analyzing both allows us to determine whether our empirical results are sensitive to the measure that is used. Moreover, analyzing both measures of size is important because the ratio of national imports to global imports is closely related to the measure of trade dependence used by Ronald Rogowski; and his analysis implies that any observed effect on NTBs of those domestic institutions on which we focus here (and that are discussed below) might be due to the effects of trade dependence on both domestic institutions and NTBs. Further, including national GDP as a percentage of global GDP is important because Wendy Takacs links the level of national product to macroeconomic cycles that give rise to demands for protection. Contrary to the hypothesis discussed above, however, she finds that national product is inversely related to escape clause investigations and (to a lesser degree) to positive findings by the U.S. International Trade Commission in such cases. Including both measures of size allows us to examine each of these issues. 20

Domestic institutions

From a statist viewpiont, NTBs should be most prevalent in large states characterized by high degrees of institutional insulation and autonomy, since

18. See, for example, Krasner, “State Power and the Structure of International Trade”; and Lake, Power, Protection, and Free Trade.
19. Of course, the aggregate size of a state’s economy may not correspond to its ability to forgo trade in all products. However, since we adopt a macroeconomic and macropolitical approach in this study, the use of aggregate measures of size seems appropriate.
these conditions provide policymakers with an economic incentive to impose NTBs and vest them with the capacity to advance those interests.

Our analysis of institutions draws heavily on an important study by Rogowski. He argues that "insulation from regional and sectoral pressure in a democracy... is most easily achieved with large electoral districts... [This argument is] easily defended, in part because institutional theorists have almost universally accepted it... but more because it is almost self-evident. When automakers or dairy farmers entirely dominate twenty small constituencies and are a powerful minority in fifty more, their voice will be heard in a nation's councils. When they constitute but one or two percent of an enormous district's electorate, representatives may defy them more freely."22

Rogowski therefore relies on the (natural logarithm of the) number of parliamentary constituencies in the most powerful legislative body (or, in those cases where the most powerful body is not obvious, the chamber with the most members) of each democratic state as a measure of institutional insulation and autonomy. It is expected that insulation and autonomy will be inverse functions of the number of constituencies in any democracy. All other things being equal, a larger number of constituencies reduces the size of the average constituency in each state. The smaller is this average size, the more homogeneous is each district, the fewer is the number of special interests that are likely to exist per constituency, and the greater will be the political influence of each pressure group in that district.

As a result, small electoral districts encourage patronage and pork-barrel politics. Since legislators representing small districts are likely to be beholden to a few influential pressure groups, they are likely to attempt to provide those groups with benefits, including trade policies that reflect their preferences. Yet in politics composed of many small constituencies, no single legislator has the capacity to provide these benefits. As Barry Weingast and William Marshall argue, "This, in combination with the diversity of interests they represent, generates a gain from exchange and cooperation among legislators."24 The logrolling to which this situation gives rise is likely to yield trade policy that covers more types of goods and services than would be the case in a country characterized by large electoral districts and less influential interest groups.

22. Ibid., p. 200.
In addition to the number of parliamentary constituencies, another important institutional feature of democracies concerns whether a list-system proportional representation (PR) or a winner-take-all system exists. Rogowski maintains that the autonomy of public officials in democratic states is bolstered by both large constituencies and the existence of a list-system PR regime. As he notes, “Pressure groups are restrained where campaign resources or the legal control of nominations are centralized in the hands of party leaders. Of course, such control is achieved quite effectively in rigid list-system PR.”

We begin the following analysis by focusing on the effects of the number of parliamentary constituencies on NTBs. We then analyze the effects of both the number of constituencies and whether a state’s electoral system is winner-take-all or PR. We take this tack to determine whether our results are robust with respect to the inclusion of PR in our model. Doing so is useful because some studies have found that differences exist in the autonomy of policymakers among various PR systems and that, in certain cases, public officials in PR systems may be vested with less autonomy than their counterparts in winner-take-all systems.

**Effects of the interaction between societal and statist factors on trade policy**

Although the relative merits of societal and statist approaches to the study of foreign economic policy have been hotly debated, quantitative comparisons of them have been rare. Rarer still have been empirical analyses of the impact of the interaction between societal and statist factors on trade policy. The few previous studies of this sort have focused almost exclusively on U.S. commercial policy. Additionally, much of their effort has been directed at explaining

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tariffs, rather than NTBs.\textsuperscript{29} However, its unusual size and institutional structure may limit how broadly conclusions based on studies of U.S. trade policy can be applied.\textsuperscript{30} Further, it is widely recognized that successive rounds of the GATT limited the ability of member states to respond to demands for protection or to advance state interests by imposing tariffs. Since the states we examine are all contracting parties to the GATT, our focus on explaining NTBs (rather than tariffs) is especially important. Indeed, the need to analyze the effects of factors that govern demands for and the provision of protection—as well as the interactions among them—on cross-national patterns of NTBs is a glaring gap in the literature, and one that we seek to redress.\textsuperscript{31}

We focus on two related issues concerning the interaction between societal and statist factors. As noted above, some statists argue that the policies of states in which policymakers are poorly insulated from societal pressures tend to reflect the interests of societal groups rather than the national interest. There is also reason to expect increases in societal demands for protection during cyclical downturns in the economy and when macroeconomic conditions undermine the competitiveness of a state’s goods. Thus, one hypothesis we will examine is that the incidence of NTBs tends to be greatest in states characterized by (1) high levels of unemployment and appreciated currencies and (2) domestic institutions that undermine the insulation and autonomy of public officials with respect to pressure groups.

A second hypothesis we will test is that the incidence of NTBs is greatest in cases where both state and societal actors display a preference for protection. Although much of the literature bearing on the interaction between statist and societal factors has focused on the effects of divergent preferences between state and societal actors, the possibility that their preferences might converge has been raised in a number of studies, although it has not been analyzed in sufficient detail.\textsuperscript{32} If such a convergence is an important determinant of

\textsuperscript{29} Several previous studies have examined the effects of macroeconomic factors and changes in U.S. trade legislation on patterns of escape clause filings in the United States, but none has examined the interaction between macroeconomic and institutional factors. Moreover, we are interested in analyzing a wider variety of both NTBs and countries than considered earlier. For examples of studies of this sort, see Coughlin, Terza, and Khalifah, “The Determinants of Escape Clause Protection”; Feigenbaum and Willett, “Domestic Versus International Influences on Protectionist Pressures in the United States”; Feigenbaum, Ortiz, and Willett, “Protectionist Pressures and Aggregate Economic Conditions”; and Salvatore, “Import Penetration, Exchange Rates, and Protectionism in the United States.”

\textsuperscript{30} For example, it is well-known that the United States’ geographically based, winner-take-all electoral system limits both the ability of parties to control the votes of legislators and their insulation from constituent pressures for protection. In this respect, the United States stands in contrast to PR systems, among other types of regimes. For examinations of these and other variations that are likely to influence trade policy, see Destler, American Trade Politics; and Rogowski, “Trade and the Variety of Democratic Institutions.”

\textsuperscript{31} Among the few studies that address this topic, see Katzenstein, “Conclusion”; Gourevitch, Politics in Hard Times; and Helen V. Milner, Resisting Protectionism: Global Industries and the Politics of International Trade (Princeton, N.J.: Princeton University Press, 1988).

\textsuperscript{32} See, for example, Krasner, Defending the National Interest; Krasner, “United States Commercial and Monetary Policy”; Lake, Power, Protection, and Free Trade; Edward D. Mansfield,
NTBs, then their incidence should be greatest in large states characterized by (1) high levels of unemployment and appreciated currencies and (2) political institutions that bolster the insulation and autonomy of public officials with respect to pressure groups. As noted above, deteriorating macroeconomic conditions elicit demands for protection, and public officials who fail to respond to these demands may suffer accordingly in subsequent elections. Further, in contrast to small states, large states often have an incentive to impose protection; and public officials that are well-insulated and vested with considerable autonomy will be in a position to act on those incentives, and would be expected to do so.

A high degree of institutional insulation and autonomy is essential in this regard. Although we expect high levels of unemployment and appreciated currencies to yield widespread demands for protection, some societal groups are likely to retain an interest in lower trade barriers. These groups include multinational corporations, industries that depend on or are highly sensitive to the price of imports, and industries that depend on exports and fear either that increases in protection by their government will elicit retaliation by foreign governments or that protection will reduce foreign exports and hence the ability of foreign consumers to purchase their imports.\(^{33}\) Moreover, in a study of U.S. trade policy, I. M. Destler and John Odell found that the political pressure exerted by these antiprotectionist forces increased during those periods when macroeconomic downturns led to broad-based societal pressures for protection.\(^{34}\) Their influence, like that of other societal groups, depends on the structure of domestic institutions. Thus, large states characterized by high levels of unemployment and appreciated currencies should experience a higher incidence of NTBs when institutions insulate policymakers from those groups that prefer lower trade barriers than when porous institutions enhance the influence of these groups on trade policy.

**The relationship between tariffs and NTBs**

In addition to the hypotheses described above, we also examine the effects of preexisting tariff levels on NTBs. Doing so is important because preexisting tariff levels may influence both the strength of societal demands for NTBs and the willingness of public officials to meet these demands. Groups already well

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\(^{34}\) Destler and Odell, *Anti-protection*.
protected by tariffs may bring less pressure for new NTBs and face more governmental resistance to their demands than less well protected groups. This suggests that tariffs and NTBs are substitutes, which is consistent with the view expressed by some economists that NTBs are often used to protect industries that have lost tariff protection due to successive rounds of the GATT. Jagdish Bhagwati refers to this dynamic as the “law of constant protection.” As he points out, “The evidence of increased nontariff barriers and administered protection just as tariffs had been reduced to new lows suggests the intriguing possibility that there may be a Law of Constant Protection: If you reduce one type of protection, another variety simply pops up elsewhere. (You then have a Displacement Effect, not evidence of any increase in protectionist pressure.)”

In contrast to this view, another prominent position holds that tariffs and NTBs are complements. Those who advance this argument maintain that NTBs are often used to protect those industries that are also the beneficiaries of high tariffs, while states avoid using NTBs to shield industries that receive little tariff protection. Edward John Ray, for example, mentions that U.S. NTBs may be concentrated in industries least affected by the Kennedy Round of the GATT. In contrast to the law of constant protection, a direct relationship between tariffs and NTBs might suggest that NTBs are used to counter new foreign challenges to important sectors that are already the beneficiaries of tariff protection. Indeed, the results of a number of single-country analyses seem to support this position. Cross-national studies, however, have produced more ambiguous evidence on this score.

A related reason to include tariffs in our model is that they might account for any observed relationship between societal and statist variables, on the one hand, and the incidence of NTBs, on the other hand. Various studies have found that the unemployment rate, the exchange rate, economic size, and institutional factors are related to patterns of tariffs; and the research discussed in this section links tariffs to patterns of NTBs. It is therefore important to determine whether tariffs influence the effects of macroeconomic and institutional factors on NTBs.

A model of non-tariff barriers to trade

Our initial model, then, is:

\[ NTB_{t+1} = A + B_1 \text{SIZE}_t + B_2 (\log \text{CONST})_t + B_3 (\text{SIZE} \cdot \log \text{CONST})_t + \]

\[ + B_4 \text{UNEM}_t + B_5 (\text{UNEM} \cdot \log \text{CONST})_t + B_6 (\text{UNEM} \cdot \text{SIZE} \cdot \log \text{CONST})_t + \]

\[ + B_7 \text{REER}_t + B_8 (\text{REER} \cdot \log \text{CONST})_t + B_9 (\text{REER} \cdot \text{SIZE} \cdot \log \text{CONST})_t + \]

\[ + B_{10} \text{TARIFF}_t + \epsilon_t. \]

The dependent variable, \( NTB_{t+1} \), is the proportion of imports subject to NTBs in each state in year \( t + 1 \) based on the United Nations Conference on Trade and Development's (UNCTAD) "inventory list" of NTBs. As Sam Laird and Alexander Yeats observe, this list includes "Variable import levies and product specific charges (excluding tariff quotas); Quotas; Prohibitions (including seasonal prohibitions): non-automatic import authorisations including restrictive import licensing requirements; quantitative 'voluntary' export restraints; and trade restraints under the Multifibre Arrangement." It is, of course, difficult to gauge the extent of NTB protection within or across states. Unlike tariffs, NTBs have no natural measure of intensity, and calculations of ad valorem equivalents of NTBs have proven to be unreliable. Some analysts have treated NTBs as a dichotomous variable based on whether or not a given sector is protected by them. Others have estimated the level of NTBs based on the difference between the predicted and observed openness of an economy.

In contrast to these approaches, we examine the incidence of NTBs. This measure is chosen because the UNCTAD trade coverage ratios are viewed by many experts as the most reliable estimates of NTBs across states and because it is the most appropriate variable with which to test our theory. For example, polities characterized by many (and therefore small) parliamentary constituencies may be especially prone to pork-barrel politics. Under these conditions, logrolling is likely to be pervasive and the preferences of many different interest groups are therefore likely to be reflected in trade policy. Since the extent and variety of interest-group demands reflected in trade policy bear directly on the


41. Magee, Brock, and Young, *Black Hole Tariffs and Endogenous Policy Theory*, p. 236.

incidence of protection, we focus on explaining the incidence of NTBs. The coverage ratios that we analyze measure the proportion of a state’s imports that are subject to NTBs.\textsuperscript{43}

Turning to the independent variables, $SIZE_t$ is the economic size of each state in year $t$. It was pointed out earlier that both the ratio of national imports to total global imports and the ratio of national GDP to global GDP are used to measure relative state size. Thus, we estimate the parameters in equation (1) using both variables.\textsuperscript{44} In addition, log $CONST_t$ is the natural logarithm of the number of parliamentary constituencies in each state in year $t$ based on Rogowski’s data; $UNEM_t$ is the unemployment rate in each state in year $t$; $REER_t$ is an index of the real exchange rate in each state in year $t$; $TARIFF_t$ is the average national post-Tokyo Round offer rate for each state; and $e_t$ is an error term.\textsuperscript{45} The remaining variables are included in order to determine whether, as we hypothesized above, the interaction between factors that regulate the provision of protection ($SIZE_t \cdot \log CONST_t$), and the interaction between factors that govern demands for protection and those that regulate its supply, are important determinants of cross-national patterns of NTBs.

Data limitations led us to focus on explaining NTBs in 1983 and 1986. UNCTAD provides data on NTBs for fourteen advanced industrial states in these years. The fourteen states are: Belgium-Luxembourg, Denmark, Finland, France, Greece, Ireland, Italy, Japan, the Netherlands, Norway, Switzerland, the United Kingdom, the United States, and West Germany.\textsuperscript{46} Although

\begin{itemize}
\item\textsuperscript{43} These data, as well as an extensive overview of the methods used to measure NTBs, are presented in Laird and Yeats, \textit{Quantitative Methods for Trade-Barrier Analysis}.
\item\textsuperscript{45} On log $CONST_t$, see Rogowski, “Trade and the Variety of Democratic Institutions,” p. 215. Rogowski analyzes the natural logarithm of the number of national constituencies because there exist a few countries with a very large number of constituencies in his sample. It should be noted, however, that the results reported below are relatively robust with respect to whether log $CONST_t$ or $CONST_t$ is analyzed. Data on $UNEM_t$ are taken from Organization for Economic Cooperation and Development (OECD), \textit{Employment Outlook} (Paris: OECD, various years). Data on $REER_t$ are taken from IMF, \textit{International Financial Statistics Yearbook} (Washington, D.C.: IMF, 1988). This is an index of the real effective exchange rate, the base year of which is 1980. Data on $TARIFF_t$ are taken from Alan V. Deardoff and Robert M. Stern, \textit{The Michigan Model of World Production and Trade} (Cambridge, Mass.: MIT Press, 1986), p. 49, for all states except Greece. Leamer reports that average Greek tariffs for 1983 were about 1 percent; and the average nominal tariff for Greece in 1986 was also about 1 percent, based on data in United Nations, \textit{National Account Statistics: Analyses of Main Aggregates} (New York: United Nations, various years). As a result, we use this value for Greek tariffs in the following analysis. See Leamer, “The Structure and Effects of Tariff and Nontariff Barriers in 1983.” Data used in this analysis are available upon request from the authors.
\item\textsuperscript{46} Belgium and Luxembourg are treated as a single state for the purposes of this analysis because the Belgium-Luxembourg Economic Unit stipulates that the two states maintain parity between their currencies, share in integrated foreign trade and balance of payment policies, and maintain a joint central bank. On this point, see The Economist Intelligence Unit, \textit{Belgium, Luxembourg Country Profile 1992–93} (London: The Economist Intelligence Unit, 1992).
\end{itemize}
UNCTAD also provides NTB data for New Zealand, our results indicated that this country was a statistical outlier.\textsuperscript{47} We therefore excluded New Zealand and focus on the aforementioned fourteen states in the following analysis. Because NTBs are measured in 1983 and 1986 (years $t + 1$), the independent variables in equation (1) (except for $\text{TARIFF}$) are measured in 1982 and 1985 (years $t$). The observations for 1983 and 1986 are initially pooled; however, the extent to which the incidence of NTBs varied between 1983 and 1986 is also examined below.

It should be noted at the outset that all of the states analyzed in this study are advanced industrial countries. This precludes, for example, an assessment of whether our findings vary depending on a state’s level of economic development. It is also clear that caution must be exercised when offering generalizations based on an analysis of such a limited time period. But since the tendency for advanced industrial countries to rely on NTBs became increasingly pervasive during the 1980s and virtually no quantitative cross-national research has been conducted on the issues addressed here, our results should provide a useful first cut at the hypotheses presented above.\textsuperscript{48}

\textit{Estimates of the parameters}

We used ordinary least squares (OLS) to estimate the parameters in equation (1). These findings indicate that our model explains about 80 percent of the variation in NTBs. They also indicate that unemployment, the real exchange rate, economic size, and domestic institutions each exert a strong effect on the incidence of NTBs. Further, the nature and strength of the results in Table 1 are extremely robust with respect to the measure of economic size that is used.

The results in Table 1 bear out the statist hypotheses discussed above. First, there is evidence that economic size is directly related to the incidence of NTBs, since the regression coefficient of $\text{SIZE}$ is positive and statistically significant. Second, our results indicate that the number of parliamentary constituencies exerts a strong influence on the incidence of NTBs, since the regression coefficient of $\log \text{CONST}$ is positive and statistically significant.

Third, in addition to their individual effects, the interaction between the number of constituencies and economic size helps to shape patterns of NTBs. More specifically, the regression coefficient of $\text{SIZE} \cdot \log \text{CONST}$ is negative and statistically significant. These results indicate that NTBs are most pervasive in economically large states characterized by a small number of (and, hence,

\textsuperscript{47} This is not surprising, since New Zealand’s economy is considerably different from the other states in our sample. For a discussion of the unique features of New Zealand’s economy, see Economist Intelligence Unit, \textit{New Zealand: Country Profile 1992–93} (London: Economist Intelligence Unit, 1992), p. 8.

\textsuperscript{48} See Bhagwati, \textit{Protectionism}, chap. 3; and Laird and Yeats, \textit{Quantitative Methods for Trade-Barrier Analysis}.
TABLE 1. Regression of the incidence of nontariff barriers on economic size, number of parliamentary constituencies, unemployment, real exchange rate, existence or absence of a proportional representation system, and tariffs, based on pooled data for fourteen states in 1983 and 1986

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<th>GDPb</th>
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<td>Equation (1)</td>
<td>Equation (2)</td>
<td>Equation (1)</td>
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<td>INTERCEPT</td>
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<td>(4.11)</td>
<td>(6.34)</td>
<td>(3.58)</td>
</tr>
<tr>
<td>SIZE · log CONST</td>
<td>-1.311*</td>
<td>-1.252**</td>
<td>-0.0016**</td>
</tr>
<tr>
<td></td>
<td>(2.07)</td>
<td>(2.68)</td>
<td>(3.01)</td>
</tr>
<tr>
<td>UNEM</td>
<td>3.192***</td>
<td>3.884***</td>
<td>3.538***</td>
</tr>
<tr>
<td></td>
<td>(5.14)</td>
<td>(7.21)</td>
<td>(5.26)</td>
</tr>
<tr>
<td>UNEM · log CONST</td>
<td>-1.022***</td>
<td>-1.173***</td>
<td>-1.107***</td>
</tr>
<tr>
<td></td>
<td>(4.44)</td>
<td>(6.13)</td>
<td>(4.98)</td>
</tr>
<tr>
<td>UNEM · SIZE · log CONST</td>
<td>3.342**</td>
<td>2.944**</td>
<td>0.0034**</td>
</tr>
<tr>
<td></td>
<td>(2.13)</td>
<td>(2.28)</td>
<td>(2.43)</td>
</tr>
<tr>
<td>REER</td>
<td>0.0085***</td>
<td>0.0095***</td>
<td>0.0068**</td>
</tr>
<tr>
<td></td>
<td>(3.38)</td>
<td>(4.96)</td>
<td>(2.32)</td>
</tr>
<tr>
<td>REER · log CONST</td>
<td>-0.0023***</td>
<td>-0.0025***</td>
<td>-0.0020**</td>
</tr>
<tr>
<td></td>
<td>(3.45)</td>
<td>(4.94)</td>
<td>(2.50)</td>
</tr>
<tr>
<td>REER · SIZE · log CONST</td>
<td>0.0056*</td>
<td>0.0053**</td>
<td>0.0000063**</td>
</tr>
<tr>
<td></td>
<td>(1.90)</td>
<td>(2.45)</td>
<td>(2.51)</td>
</tr>
<tr>
<td>PR</td>
<td>—</td>
<td>0.184**</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>(2.78)</td>
<td>—</td>
</tr>
<tr>
<td>PR · log CONST</td>
<td>—</td>
<td>-0.025*</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>(1.93)</td>
<td>—</td>
</tr>
<tr>
<td>TARIFF</td>
<td>-1.430***</td>
<td>-2.575***</td>
<td>-1.301***</td>
</tr>
<tr>
<td></td>
<td>(3.14)</td>
<td>(5.62)</td>
<td>(3.31)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.84</td>
<td>.91</td>
<td>.79</td>
</tr>
</tbody>
</table>

* p ≤ 0.10. ** p ≤ 0.05. *** p ≤ 0.01.

T-statistics are reported in parentheses below each regression coefficient. Two-tailed tests were conducted for each coefficient.

Abbreviations are as follows: GDP = gross domestic product; SIZE = economic size; log CONST = the natural logarithm of the number of parliamentary constituencies; UNEM = unemployment rate; REER = index of real exchange rate; PR = proportional representation system; TARIFF = tariffs. Equations (1) and (2) are defined in the text.

large) constituencies. Under these circumstances, the predicted incidence of NTBs is about one-third greater than the incidence based on any other combination of economic size and domestic institutions, holding constant the remaining variables in equation (1) at their mean values.

The results in Table 1 also provide support for the societal hypothesis that high rates of unemployment and appreciated currencies are strongly linked to a high incidence of NTBs, since the regression coefficients of UNEM and REER are both positive and statistically significant.

Further, our findings yield substantial evidence that the interaction between factors related to demands for and the provision of protection is a centrally important influence on NTBs. The interactions between the number of constituencies and both unemployment \((UNEM \cdot \log CONST)\) and the real exchange rate \((REER \cdot \log CONST)\) are strongly related to NTBs. So, too, are the interactions among the number of constituencies, economic size, and both unemployment \((UNEM \cdot SIZE \cdot \log CONST)\) and the real exchange rate \((REER \cdot SIZE \cdot \log CONST)\). Indeed, the regression coefficient of each of these variables is statistically significant and quantitatively large.

The results based on equation (1) demonstrate that the highest (lowest) values of NTB obtain when: (1) states are largest (smallest); (2) policymakers are well (poorly) insulated from societal pressures and most (least) autonomous; and (3) domestic pressures for protection are most (least) pronounced. More specifically, the predicted incidence of NTBs is at least 35 percent greater when SIZE and both UNEM and REER attain their highest observed values and log CONST attains its lowest observed value than when any other combination of these values is assessed. These findings are therefore consistent with the hypothesis that the incidence of NTB is greatest when state and societal interests converge regarding the desirability of protection and policymakers are vested with the institutional capacity to advance these interests.

The strength of our results depends fundamentally on the inclusion of factors concerning demands for and the provision of protection, as well as the interaction between them. Equation (1) explains substantially more of the cross-national variation in NTBs than do models utilizing TARIFF and (1) UNEM and REER, (2) SIZE, log CONST, and SIZE \cdot \log CONST, and (3) all of these variables, but not any other interaction term. These models explain between 1 and 50 percent of the variation in NTBs, depending on whether or not both societal and statist variables are included and the particular measure of economic size that is used. Thus, our model of NTBs is considerably more powerful than a societal model, a statist model, or a model that includes both types of factors but neglects the interaction between them.

Another purpose of this study is to assess the impact of tariffs on NTBs. The results in Table 1 provide considerable evidence of an inverse relationship between tariffs and NTBs, since the regression coefficient of TARIFF is negative and statistically significant. Moreover, tariffs exert a large quantitative effect on NTBs: for every 1 percent reduction in tariffs, the share of imports
subject to NTBs rises by about 1.4 percent, holding constant the remaining variables in the model. Thus, tariffs and NTBs seem to be substitutes.

*Proportional representation and NTBs*

In addition to the number of parliamentary constituencies, whether the state is PR or not also influences the autonomy of public officials. In order to analyze the effects of PR systems on NTBs, we include in equation (1) a dummy variable that takes on a value of 1 if the state in question was classified by Rogowski as a PR regime and 0 otherwise.\(^{49}\) Further, because it has been argued that the autonomy of public officials is bolstered in PR systems characterized by large average-sized parliamentary constituencies, we also include a variable designed to capture the interaction between these institutional factors (*PR* \cdot \log *CONST*) in our model.\(^{50}\) (It should be noted that we also examined whether the interactions between *PR* and *SIZE*, *UNEM*, and *REER*, respectively, contributed to cross-national variations in NTBs. However, because we found no evidence that this was the case, these interaction effects are not analyzed below.)

Our extended model, which is referred to as equation (2) in Table 1, explains about 90 percent of the variation in the incidence of NTBs across the states considered here. Further, in addition to the factors discussed above, whether or not a PR system exists is an important influence on the incidence of NTBs: the regression coefficient of *PR* is positive and the regression coefficient of *PR* \cdot \log *CONST* is negative, and both coefficients are statistically significant. Based on the findings presented in Table 1, the predicted value of *NTB* is greatest (lowest) when *SIZE* and both *UNEM* and *REER* attain their highest (lowest) observed levels, \log *CONST* is lowest (greatest), and a (non) PR system exists. Holding constant *SIZE*, *UNEM*, and *REER* (respectively) at their highest values, \log *CONST* at its lowest value, and *TARIFF* at its mean value, the effect of changing from a winner-take-all to a PR system is to increase the predicted value of *NTB* by about 25 percent. Moreover, the predicted value of *NTB* obtained under these circumstances is at least twice that obtained in any other set of circumstances, given the results in Table 1. Thus, these results continue to support the hypothesis that the incidence of NTBs is greatest when the imposition of protection is in both the national interest and the interest of many pressure groups, and when public officials possess the institutional means necessary to advance those interests.

It should be noted that only the regression coefficient of *TARIFF* changes in any substantial way because of the inclusion of *PR* and its interaction with \log *CONST* in the model. The size of this coefficient doubles, however, when these variables are included. Based on the estimates of equation (2), the effect of

\(^{49}\) Rogowski, "Trade and the Variety of Democratic Institutions,” p. 213.

\(^{50}\) For a discussion of this issue, see ibid.
allowing \textit{TARIFF} to vary from its highest to its lowest observed value is to double the predicted value of \textit{NTB} in the case of both PR and winner-take-all systems (holding constant the remaining variables at their mean values).

\textit{Regression diagnostics}

Before proceeding, a number of issues regarding the regression results presented in Table 1 need to be addressed. First, in a cross-sectional analysis such as that conducted here, one concern is that the errors in the regression \((e_t)\) will not have a common variance. Under these circumstances, the OLS estimates will be heteroscedastic and therefore inefficient. White tests yielded no evidence of heteroscedasticity in the present case.\textsuperscript{51}

Second, as noted above, it is important to ensure that our decision to pool data across 1983 and 1986 was appropriate. It is obvious that if the effects of the independent variables in equations (1) and (2) on NTBs vary over time, this procedure would be inappropriate. However, analysis-of-variance tests yielded no evidence that the model is unstable between 1983 and 1986, and Chow tests also yielded no evidence that any of the individual regression coefficients is unstable across time.\textsuperscript{52}

Third, the use of OLS might be inappropriate because the value of the dependent variable (\textit{NTB}) is a proportion (and therefore is bounded by zero and one). Under these conditions, OLS estimates may be inefficient and predict proportions of \textit{NTB} that exceed one or are less than zero. Since it is well-known that a Tobit model can be used to deal with these problems, we estimated the parameters in equations (1) and (2) using that model.\textsuperscript{53} The results were virtually identical to those in Table 1. Apparently, the fact that the dependent variable is truncated poses no problem here.

Fourth, we should examine the extent to which our results are sensitive to influential observations. To this end, we estimated the parameters in equations

\textsuperscript{51} For descriptions of this test, see William H. Greene, \textit{Econometric Analysis}, 2d ed. (New York: Macmillan, 1993), pp. 392–393; and Halbert White, “A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity,” \textit{Econometrica} 48 (May 1980), pp. 817–38. This test involves regressing the squared residuals from equations (1) and (2) on each independent variable, the square of each independent variable, and their cross products. Because the number of degrees of freedom is negative in the present case, we omitted the cross products for the purposes of conducting this test. On this procedure, see Harry H. Kelejian and Wallace E. Oates, \textit{Introduction to Econometrics: Principles and Applications}, 3d ed. (New York: Harper and Row, 1989), p. 242.


(1) and (2) after deleting observations one at a time.\textsuperscript{54} Our findings indicated that the signs and statistical significance of the regression coefficients in Table 1 are quite robust with respect to the deletion of individual observations. Regardless of which measure of economic size was used, there was no case in which the sign of a regression coefficient changed, and in fewer than 5 percent of the cases did a regression coefficient fail to remain significant once any observation was removed from the sample. Indeed, this number of changes would be expected by chance alone.

Fifth, it is important to ensure that our results are not vitiated by multicollinearity. The results of bivariate correlations and auxiliary regressions indicated that all of those few cases in which multicollinearity might be a problem involved \textit{PR} and \textit{TARIFF}. To determine whether the effects of the remaining variables in the model were sensitive to the inclusion of \textit{PR} and \textit{TARIFF}, we deleted these variables (as well as \textit{PR} · \textit{SIZE}) from the model individually and in combination. The signs, sizes, and levels of statistical significance of the remaining variables in equations (1) and (2) were quite robust with respect to the inclusion or omission of these variables.\textsuperscript{55}

Finally, it is useful to consider the possibility that variables omitted from our model may influence the findings in Table 1. Particularly important in this regard is whether the extent of government intervention in the economy influences the rate of unemployment and its propensity to impose NTBs. We therefore included in equations (1) and (2) the ratio of government expenditures to GDP in year \( t \), which is a measure of government intervention.\textsuperscript{56} The results of this analysis indicate that the regression coefficient of this variable is negative and statistically significant in every case. This may reflect the tendency for states characterized by high levels of government spending to buffer and compensate societal groups disproportionately, thereby reducing demands for protection from groups that are adversely affected by imports. It is important to note, however, that the inclusion of this variable in our models has no effect on the sign or level of statistical significance of any remaining variable, including \textit{UNEM}, \textit{UNEM} · log \textit{CONST}, and \textit{UNEM} · \textit{SIZE} · log \textit{CONST}. Nor are the quantitative effects of the variables in equations (1) and (2)—and, hence, the conditions that maximize and minimize the incidence of NTBs—influenced in any substantial way by its inclusion.\textsuperscript{57}

\textsuperscript{54} On this procedure, see David A. Belsley, Edwin Kuh, and Roy E. Welsch, \textit{Regression Diagnostics: Identifying Influential Data and Sources of Collinearity} (New York: Wiley, 1980).

\textsuperscript{55} Although some sectoral analyses of tariffs and NTBs have examined whether these variables are jointly determined, such an approach is unwarranted here. There is, for example, little reason to expect that the incidence of NTBs in 1983 and 1986 should have influenced tariff levels agreed to during the Tokyo Round of the GATT, which concluded in 1979. See Ray, "The Determinants of Tariff and Nontariff Trade Restrictions in the United States"; and Daniel Trefler, "Trade Liberalization and the Theory of Endogenous Protection: An Econometric Study of U.S. Import Policy," \textit{Journal of Political Economy} 101 (February 1993), pp. 138–60.

\textsuperscript{56} These data are taken from Summers and Heston, "The Penn World Table (Mark 5)."

\textsuperscript{57} Our analysis of this issue was conducted too recently to include these results in Table 1. The results are available upon request from the authors. We are grateful to Robert O. Keohane for suggesting that we conduct these tests related to the ratio of government expenditures to GDP.
Some illustrations of the statistical findings

Having tested our model, it is useful to illustrate how the societal and statist variables on which we focused affected trade policy in the countries considered here. While detailed case studies are beyond the scope of this article, anecdotal evidence suggests that these variables were salient influences on commercial policy during the 1980s.

Consider, for example, the role that the exchange rate played in United States trade policy. Between 1983 and 1986, the incidence of U.S. NTBs rose by over 25 percent. Much of this rise seems to be due to a significant appreciation in the dollar. While the values of the other independent variables in our model changed relatively little from 1982 to 1985 in the case of the United States, the value of REER increased dramatically. The societal view that this appreciation should precipitate an increase in demands for protection accords with a number of accounts of exchange-rate politics in the United States during this period.  

I. M. Destler and C. Randall Henning note that, by the early 1980s, many sectors of U.S. industry had concluded that the dollar's strength was degrading their competitiveness. By 1985, their opposition to the dollar's strength reached a peak. Imports were flooding into the United States at a rate unprecedented during the post--World War II era and Destler and Henning maintain that "most [industries] considered the prime source of their problems [to be] the sky-high dollar." They also argue that "[w]hen the strong dollar triggered a flood of imports, a rise in protectionist bills was a predictable result." U.S. industry and labor petitioned the Reagan administration and Congress to remedy the dollar appreciation. With no direct control over exchange-rate policy, Congress responded by "generat[ing] a veritable explosion of trade legislation initiatives" in 1985. It is also noteworthy that the period from 1982 to 1985 witnessed a rapid surge in the number of petitions for trade-policy relief by U.S. industry and a turn toward managed-trade policies by the United States. These developments both led directly to an increase in the incidence of NTBs and, in the opinion of J. David Richardson, were largely attributable to the dollar's appreciation.


60. Destler and Henning, Dollar Politics, p. 119. See also Destler, American Trade Politics, p. 123.


The effects of unemployment on NTBs are illustrated by the case of West Germany during the 1980s. From 1983 to 1986 the incidence of West German NTBs rose by approximately 15 percent; and from 1982 to 1985, the level of West German unemployment rose by about 25 percent, while the remaining independent variables in our model experienced only very modest fluctuations. Kathleen Thelen points out that throughout the post–World War II era, “the [West German] government sought first and foremost to maintain a stable currency and hold inflation in check, even if it meant higher unemployment.”

By 1983, the West German economy had deteriorated to the point where unemployment had reached its highest level since the end of World War II. Of particular importance for present purposes was the structural nature of West German unemployment. In 1983, over a quarter of those West Germans without jobs had been unemployed for more than one year. The Bundesbank reported that “[t]he prospects for bringing unemployment down quickly to a more bearable level are admittedly slim; this will certainly not happen in the short term.” Labor problems reached a peak in 1984 with the metal workers’ strike, which was designed in part to reduce unemployment. It is interesting that the Organization for Economic Cooperation and Development reported in 1986 that West German NTBs were most pervasive in those sectors where tariffs had been reduced and that among these were sectors in which metal workers were employed in large numbers (such as steel). This suggests that the government responded to mounting unemployment by increasing the incidence of NTBs in 1986. Given the political strength of organized labor, the traditional unwillingness of the government to enact macroeconomic policies to counter unemployment at the risk of undermining monetary stability, and Germany’s mounting unemployment problems, West Germany’s course of action is not surprising.

Further, it is interesting to compare the effects of institutional variations between Japan and the United States on their respective propensities to impose NTBs. It is often argued that Japan is a “strong” state in which policymakers are extremely well-insulated and autonomous with respect to interest groups. The United States, on the other hand, is often portrayed as a “weak” state in which policymakers lack both insulation and autonomy. Yet

69. On organized labor’s political strength, see Katzenstein, Policy and Politics in West Germany, p. 356.
70. See, for example, Chalmers Johnson, MITI and the Japanese Miracle (Stanford, Calif.: Stanford University Press, 1982); and Katzenstein, “Conclusion.”
71. See, for example, Katzenstein, “Conclusion”; Krasner, Defending the National Interest; and Krasner, “United States Commercial and Monetary Policy.”
both of these countries are characterized by a relatively large number of parliamentary constituencies based on our sample of states. This suggests that public officials in both countries are likely to be susceptible to societal pressures (although not necessarily to the same extent); and it jibes with the view expressed in a number of recent studies that Japanese policymakers are far less autonomous and less insulated from interest groups than is implied by those who characterize it as a strong state.\textsuperscript{72} As Kent Calder argues, "Japan's system of medium-size electoral districts forces as many as five members of the largest political parties . . . to run against one another in the same electoral district . . . As a result, . . . legislators tend to be highly sensitive to constituency pressure, especially from relatively well-organized grassroots pressure groups such as agriculture and small business."\textsuperscript{73} A primary foreign policy interest of these groups is the prevention of the loss of domestic markets to imports, and this has led them to form alliances with politicians and bureaucrats that are likely to undermine the insulation and autonomy of these state actors.\textsuperscript{74}

Going a step further, it is useful to consider the results presented in Table 1 in light of this discussion of Japanese and U.S. institutions. In 1986, for example, Japan and the United States were the two largest states in our sample, both countries had appreciated currencies and relatively little unemployment, and neither state's electoral system was PR. From the standpoint of our model, the primary difference between them was that the United States had noticeably more constituencies than did Japan. As a result, it would be expected on the basis of this model that Japanese policymakers would be somewhat better insulated and more autonomous than their American counterparts, and that this institutional feature would better enable them to pursue the national interest. It, therefore, is not surprising that the incidence of NTBs was greater in Japan than in the United States during 1986. At the same time, however, both Japanese and U.S. NTBs were relatively high in 1986 based on the sample of countries considered here. This is consistent with the view described above that, while Japanese policymakers are vested with greater institutional capacity (and therefore are better able to advance the national interest as they see it) than their American counterparts, the institutional characteristics of Japan and the United States are more similar than is often recognized.\textsuperscript{75}


\textsuperscript{74} Ibid., pp. 528–32.

\textsuperscript{75} Kernell, "The Primacy of Politics in Economic Policy."
Clearly, the cases presented in this section can be taken as no more than suggestive of the ways in which societal and statist factors influence trade policy. Yet these examples do illustrate why the variables emphasized in our model are so strongly related to cross-national patterns of NTBs.

Implications and conclusions

Our results have a number of implications for studies of the political economy of trade policy. In recent years, one of the most persistent sources of debate among both economists and political scientists has centered on the relative merits of societal and statist explanations of foreign economic policy. Our findings lend support for the societal argument that macroeconomic fluctuations contribute to demands for protection, which are in turn central determinants of trade policy. Consistent with societal theories, high levels of unemployment and appreciated currencies are strongly related to a high incidence of NTBs. In addition to their effects on NTBs, both of these macroeconomic factors also have been linked to cross-national patterns of tariffs. What is often referred to as the "new" protection (i.e., NTBs) may therefore be newer in form than in cause: it appears to be the product of many of the same factors that explain the "old" protection (i.e., tariffs).

While factors emphasized by societal approaches are strongly related to cross-national patterns of NTBs, factors highlighted by statist approaches also are centrally important in this regard. As statist analyses predict, economic size (which, in the opinion of many statisticians, helps to shape the preferences of policymakers with respect to trade policy) is strongly related to the incidence of NTBs. Large states have a greater incentive to impose protection than their smaller counterparts, and our findings indicate that they do in fact impose NTBs more widely than small states. It is curious that, despite the clear importance of this factor, it has been considered so rarely in empirical research on trade policy. Our results indicate that this omission is likely to yield incomplete and potentially misleading conclusions regarding the determinants of commercial policy.

So, too, is the failure to consider cross-national variations in domestic institutions in analyses of trade policy. Even though studies of political economy increasingly emphasize the need to understand the effects of institutions, few attempts have been made to assess the quantitative impact of institutions on trade policy. Further, no previous study has attempted to link cross-national variations in domestic institutions to patterns of NTBs. We find considerable evidence that institutions help to shape differences in NTBs. Particularly important in this regard is their effect on the relationships between macroeconomic variables and size, respectively, and NTBs.

Our findings bear out the position that the provision of NTBs is at least partially governed by economic size, domestic institutions, and the interaction
between these factors. More specifically, NTBs are highest in large states that are characterized by high levels of institutional insulation and autonomy. Thus, states are most likely to impose NTBs when economic incentives to do so exist and when strong domestic institutions insulate policymakers from interest-group pressures, thereby allowing them to advance the national interest unencumbered by those pressure groups that display preferences for freer trade.

In addition to the interaction between variables that regulate the provision of NTBs, the interaction between these variables and those related to domestic pressures for protection also exerts a significant influence on trade policy. A number of political scientists and economists have argued that this should be the case, but little empirical evidence bearing on this fundamental topic has been accumulated.76 Our results indicate that an understanding of the interaction between these factors is crucial for the purposes of explaining cross-national patterns of NTBs. All other things being equal, the incidence of NTBs is greatest when deteriorating macroeconomic conditions generate widespread demands for protection, a state is sufficiently large to give policymakers incentives to impose protection, and public officials are vested with the institutional capacity necessary to act on these preferences and resist pressures exerted by groups with an interest in lower trade barriers.

These findings stand in stark contrast to predictions based on either societal or statist models of foreign economic policy alone. Societal models—including most endogenous models of protection—emphasize factors related to societal demands for protection, but systematically neglect the factors that regulate the provision of trade barriers. Statist models place considerable emphasis on factors that account for the provision of protection, but often fail to address adequately the influence of pressure groups on trade policy. Each of these approaches correctly emphasizes one type of factor, while giving short shrift to the other type. Rather than considering these approaches as mutually exclusive, it is more fruitful to view them as complementary.

Many studies of foreign economic policy imply that protection is likely to be most pervasive in states characterized by vehement demands for protection articulated by well-organized groups and state institutions that fail to insulate policymakers from the brunt of these demands. This is particularly prevalent in the “state–society” literature that has been the topic of much heated controversy among scholars of foreign economic policy.77 Our findings indicate that these debates have been miscast. Rather than viewing protection as an

76. See, for example, Bhagwati, Protectionism; Gourevitch, Politics in Hard Times; Krasner, Defending the National Interest; Krasner, “United States Commercial and Monetary Policy”; Lake, Power, Protection, and Free Trade; Milner, Resisting Protectionism; and Nelson, “Endogenous Tariff Theory.”

77. See, for example, Gourevitch, Politics in Hard Times; Gowa, “Public Goods and Political Institutions”; Ikenberry, Lake, and Mastanduno, “Introduction”; Katzenstein, “Conclusion”; Krasner, Defending the National Interest; and Milner, Resisting Protectionism.
outcome whereby pressure groups run roughshod over public officials who are inherently liberal with respect to trade, NTBs are greatest when the interests of state and societal actors converge. Similarly, much of the recent disagreement among analysts of foreign economic policy has centered on whether societal demands for protection or domestic institutions that regulate the provision of protection should be emphasized. This debate has served to create a false dichotomy. The issue is not which factor should be emphasized, since both are centrally important determinants of NTBs. Rather, the central issue is how to integrate both factors in a comprehensive manner. Although it is obvious that our results should be taken as tentative, their strength is striking. These findings strongly indicate that it would be fruitful to further integrate societal models—especially models of endogenous protection—and statist models, and that this research strategy is likely to generate new and important insights concerning the determinants of trade policy.

Finally, our results yield substantial evidence that tariffs are strongly related to the incidence of NTBs, and that these forms of protection are substitutes. This finding is consistent with the law of constant protection. Among the states considered here, new tariffs could not easily have been imposed due to GATT restrictions. States with low tariff levels that wish to augment their trade barriers therefore have had reason to rely on NTBs for this purpose. Further, states characterized by high tariff levels are likely to be sufficiently well-protected that they need not supplement tariffs with NTBs. Our findings suggest the possibility that many of the tariff reductions made by the GATT during the Tokyo Round may not have had the intended effect of reducing protection. Instead, these cuts seem to have produced countervailing increases in the incidence of NTBs.

In addition to the implications of this study, it is also important to address its limitations. One limitation of this sort concerns the available data on NTBs. While the coverage ratios on which we relied are viewed by many as the best data of their kind, NTBs are inherently difficult to measure. Further, these data are available for only a few years during the 1980s, and the determinants of NTBs may vary over time. Another limitation concerns the sample of states that was analyzed. As noted earlier, we chose the fourteen states examined in this study because they were the only states for which all of the necessary data were available. It is obvious, however, that these states do not comprise a representative sample for the global economy as a whole. Of central importance in this regard is the fact that they are all advanced industrial and democratic states. The processes that account for NTBs in such countries may differ considerably from those in less developed and/or authoritarian and

78. As noted throughout, our focus has been on explaining the incidence on NTBs. Other studies have focused on the level of NTBs and argued that NTBs and tariffs are complements. It is clear that our results and those based on the level of NTBs need not be incompatible. For one leading attempt to assess the relationship between tariffs and NTB levels, see Magee, Brock, and Young, Black Hole Tariffs and Endogenous Policy Theory, pp. 236-41.
newly emerging democratic states. A state’s factor endowments or level of economic development may also contribute to the nature of its political institutions and patterns of protection. Our focus on advanced industrial states clearly limits our ability to examine this issue, since little variation exists in the capital abundance or the level of economic development among the countries analyzed here. Nonetheless, we believe that this study has shed new light on the conditions that explain cross-national variations in NTBs among these countries.