

# Supplying Trade Reform: Political Institutions and Liberalization in Middle-Income Presidential Democracies

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*Correcting the relative lack of attention to the supply side of trade policy, this article addresses how political institutions channel societal demands for protection. I hypothesize that strong presidents with significant legislative powers and strong party leaders—empowered through electoral rules that rein in the personal vote—can help overcome protectionist biases. These arguments compare with two institutional alternatives: first, that protectionism should decrease as electoral district size grows because elections become more proportional; and second, that the collective-action problems in fragmented party systems thwart trade reform. I evaluate these hypotheses empirically using pooled time-series–cross-sectional data involving 18 developing countries from 1971 to 1997. I find that delegation to presidents and party leaders is significantly related to trade liberalization, and some evidence suggests that the effective number of parties and the size of electoral districts may also influence levels of protectionism.*

Economists tout the law of comparative advantage as the great contribution of their discipline. They believe that applying the law through free trade produces significant welfare gains across the board. Yet, if free trade is so beneficial, then why do policymakers so often ignore it in favor of protection?<sup>1</sup> Particularly in relation to the recent reforms in developing countries, why have some leaders liberalized trade, while others have left protectionist barriers in place, and still others have raised some tariffs higher than before? For many international economists the answer is politics. Interest group demands push and pull trade policy often in direct contrast to the general good, causing deadweight losses that the entire society must bear.

Yet, how governments weigh and balance those demands for protection—the supply side of trade liberalization—goes largely unspecified in economic

models (see Rodrik 1995). Economists have particularly ignored the way in which political institutions channel and mediate interest-group demands. Fortunately, political science can contribute to understanding the effects of government institutions on economic policy (see Mansfield and Busch 1995). This particularly applies to trade policy in developing countries. In fact, under common developing-country conditions of economic crisis, high policy uncertainty and significant international pressure, supply-side factors may matter more than the traditional demand-side variables usually studied in international economics.

I argue that trade reforms can occur when significant powers are delegated to legislative party leaders or to executives, both of whom are usually charged with the pursuit of public goods. Trade liberalization is a public good for voters/consumers because it engenders lower prices,

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<sup>1</sup>Economist Dani Rodrik states this puzzle well in Rodrik (1994).

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greater product variety, and higher-quality merchandise. Once leaders believe that free trade is optimal, authority delegated to central agents should allow the agents to pursue public goods and to check the particularistic interests of rank-and-file politicians pursuing personal votes. Delegation should thus produce freer trade.

Alongside these factors, this article also evaluates alternative hypotheses. Most importantly, I model the effects of economic crisis and the spread of neoliberal ideas on trade policy. I also examine the effects of other institutional variables. Specifically, I examine the effects on trade policy of electoral-district size and party fragmentation. This study marks the first instance where several supply-side variables—stemming from political institutions—have been evaluated statistically along with conventional economic controls in a multi-country study.

## A Theoretical Perspective on the Supply of Trade Policy

Economists argue that free trade benefits societies generally. Yet policymakers continue to ignore this economic lesson. What explains the disconnect between theory and practice? Politics, of course. Economists have focused on the role that interest groups play in shaping trade policymaking.

Internalizing politics into economic models of trade policy, endogenous tariff theory tries to model how the preferences of politicians making trade policy are derived. Magee, Brock and Young capture the essence of endogenous protection theory: “In an endogenous policy model, [tariff] policies play the same role in politics as prices play in an economy: Both are equilibrating variables that adjust until opposing forces are balanced” (1989, 3). They thus explain protection as a balance between protection-seeking interest groups and self-interested politicians, whose policy preferences are influenced both by lobbyists and by general societal welfare. Societal welfare, of course, declines with the deadweight losses that accompany protection.

In his comprehensive review of the theoretical and empirical literature, Rodrik (1995) notes that most theoretical attempts to endogenize protection have focused on politicians’ preferences being heavily influenced by interest groups. Interest groups apply this pressure through lobbying, organization of votes in hypothetical referendums, or campaign contributions. In a leading model put forward by Grossman and Helpman (1994), interest groups “buy” protection through paying significant campaign contributions. Politicians, then, sell tariffs and quotas to the highest bidders. This example underscores the

strengths of trade theory. International economics usefully illuminates how politicians’ preferences are shaped by societal demands.

But how different governments in different institutional settings might balance interest-group pressures against general societal welfare is left explicitly unspecified.<sup>2</sup> Given the many important things this model does, we can perhaps excuse the omission. But as a consequence of the intense focus on interest groups, trade theory in economics remains silent in reference to how institutions set up incentives for politicians to act on or suppress societal demands in competition with politicians’ interest in general societal welfare. In short, economics says little about how institutions govern the supply of trade policy.

Again emphasizing the demand side, empirical work in the political economy of trade has filled in several gaps in theorists’ models. For example, protection is likely to grow along with import penetration and is especially sensitive to abrupt increases in imports. Further, human capital and investment capital likely influence protection, with free trade increasing along with professionalization in the workforce and investment in the marketplace. Also, protectionism is affected by the concentration of the industries’ demanding it.<sup>3</sup> Moreover, across countries and time, protection seems to be associated with recessions, increasing with unemployment. Finally, protection declines as country wealth increases, with lower protection associated with greater gross domestic product per capita.

Thus, trade economists have thoroughly explored the demand side of trade policy (Rodrik 1995). I utilize their insights here by including related control variables in the empirical analysis. However, like the theoretical literature, the empirical literature in trade economics poorly illuminates the supply side of trade policy. That undertaking has been left largely to political scientists.

Different institutions aggregate societal demands and channel preferences in different ways. Some institutions—such as the personal vote—can give particularistic interests largely unfettered access to policy tools,

<sup>2</sup>The Grossman/Helpman specification is listed here:

$$G = \sum_{i \in L} C_i(\mathbf{p}) + aW(\mathbf{P}) \quad a \geq 0$$

Where  $G$  is the government’s objective function,  $W(\mathbf{p})$  is the aggregate gross-of-contributions welfare,  $C_i(\mathbf{p})$  is lobby  $i$ ’s contribution schedule, and  $a$  is the weight the government attaches to campaign contributions. The authors focus most of their attention on  $C_i(\mathbf{p})$ , and leave  $a$  mostly untheorized. A core contribution of this article is that  $a$  varies in a specifiable way from country to country and over time.

<sup>3</sup>This variable is not included here as a control because, in economists’ formulations, it applies to specific industries, not to overall economies.

including protection. Other institutions—such as efficient delegation—may motivate and empower government leaders to respond to general societal interest in free trade and to avoid the deadweight losses associated with protection. Free trade has been categorized as a public good (Gowa 1988). However, analysts may overstate the public-good nature of free trade when they ascribe economic growth to it. At best, mixed empirical evidence relates economic growth to free trade (Rodríguez and Rodrik 2000). However, few deny that free trade produces public goods when it comes to consumption. The lower consumer prices, higher product quality, and greater variety of consumer choices brought by imports possess both nonrival and nonexcludable properties.<sup>4</sup> These are the hallmarks of public goods<sup>5</sup> (see Samuelson 1954, 1955; Olson 1965).

In a series of important studies, several scholars have advanced explanations for how political institutions help to supply public goods in economic policy. I examine the three main categories of such institutions that may have discernible effects on trade liberalization: delegation, preference aggregation, and collective action. I emphasize the importance of delegation in affecting the supply of trade policy in contrast to the preference aggregation and collective action alternatives.

## Delegation to Party Leaders and Executives

Perhaps the most important institutional means to overcoming collective-action problems is delegation (see Alchian and Demsetz 1972; Cox 1987; Cox and McCubbins 1993; Kiewiet and McCubbins 1991). Those faced with a collective dilemma can hire a monitor. They

<sup>4</sup>There is growing evidence that free trade policies are highly popular in developing countries, despite the obvious hardships associated with employment dislocations and business failures in the face of global competition. Free trade policies are popular on balance chiefly because of their public goods properties of lower prices, higher-quality goods, and greater consumer choices (see Baker 2001).

<sup>5</sup>Of course, as voluminous work in economics has shown, pure public goods rarely—if ever—exist. Collective goods are almost always excludable, and therefore targetable. Regarding trade, competitive exporters obviously benefit disproportionately from free trade policies, as do intensive importers. But such unbalanced advantage almost always accompanies the provision of public goods—greater benefits to the military (and military contractors) from defense spending, greater benefits to educators for education spending, greater benefits to doctors and hospital administrators for health spending, etc. Free trade does not differ in significant degree from other classic examples of public goods.

can charge that central agent with pursuing their collective interests and empower the monitor with authority to punish defectors. This principle is illustrated by the famous story of the barge-hauling coolies who hired an overseer—and gave him a whip—to keep them from shirking in their labor up the Yangtze (Ramseyer and Rosenbluth 1993, 1, citing McManus 1975). In terms of politics, rank-and-file legislators can choose to delegate either to executives or to party leaders, or both. In terms of trade policy, this delegation argument echoes other work on how delegation to a central agent can help promote a more liberal trade regime (see Haggard 1988; O'Halloran 1994). Delegation can significantly alter actors' incentives and abilities to pursue collective goals.

Along these lines, how do you get a set of politicians to agree to a unified policy for their own collective benefit, given that they represent disparate constituencies? The answer is that often you do not. But when you do, such coordination can result from delegation to a small set of party leaders who act for the collective. This of course presumes that the leadership posts themselves are both attractive and elective (see Cox and McCubbins 1993). Then party leaders have a significant incentive to act on behalf of the entire party in the legislature. While party leaders are similarly motivated to act on the whole's behalf, they are differently empowered to achieve their collective aims. Electoral rules influence leaders' ability to sanction the rank and file and therefore to exact the necessary party discipline to pursue common goals.<sup>6</sup>

Rules that affect internal party discipline and resources for collective action can be categorized as party-centered vs. candidate-centered. Party-centered rules exist when party leaders have control over access to the ballot, votes are cast for a party list, and votes are pooled at the party level. The inverse conditions—candidate control over the ballot, candidate votes, and no pooling—strengthen individual politicians, and result

<sup>6</sup>Pertaining to trade policy, the public-goods properties of lower tariffs—greater variety of consumer choices and lower prices on higher-quality goods—ought to appeal to leaders charged with pursuing the collective electoral welfare of the legislative party. However, this depends entirely on whether or not leaders actually believe that free trade produces public goods, and whether the party as a whole can benefit electorally from a shift toward consumer interests. It may be the case that either the party is beholden to protectionist interests, or that leaders believe that free trade is societally suboptimal, or both. For these reasons, I include the large set of control variables for beliefs and interests in the models tested—including *Neoliberalism*, *Left Share of Legislature*, *Agricultural Imports* and *Exports*, *Industry Value Added*, etc. My contention here is that merely, on average, party leaders—because of their charge to care for the party's general electoral prospects—should be more interested in the public-goods properties of free trade than rank-and-file legislators.

in candidate-centered rules (see Carey and Shugart 1995).

Party leaders that wield electoral sanctioning mechanisms over the rank and file are more able to enact economic and social reforms (Cox and McCubbins 2001; see also Myerson 1994; Carey and Shugart 1995). The continued leadership prospects of party officials rise and fall with the welfare of the party as a whole, and thus they have a greater incentive to ensure the supply of collective goods to constituents (see Cox and McCubbins 1993). If party leaders have been delegated the ability to sanction the rank and file (by denying ballot access or campaign finance to candidates, for example), then they are better equipped to overcome the collective-action problems impeding them from supplying collective goods, including free trade.

On the other hand, electoral institutions that are structured to grant wide autonomy to politicians from party leadership control will likely lead to fewer public goods and, by extension, greater protectionism. Personalistic systems encourage politicians to develop their own clienteles and constituencies—their core support bases—that will finance their campaign and muster the votes required to win office.

These support bases, sometimes geographical bailiwicks, other times issue-specific followings, are often pursued in competition with politicians belonging to the same party. For this reason, politicians compete on promises to very localized or issue-specific constituencies, and not on promises of general, nationally oriented policy. Often, such specific constituencies clamor for protection from foreign competition, whose products are threatening local or sectoral livelihoods. They demand specialized tariffs or quotas. Autonomous politicians hence have greater incentive and ability to retain their stake in the particularistic system and are less able to overcome the collective-action problem that surrounds the provision of nationally oriented public-goods policies (see Weingast, Shepsle, and Johnsen 1981; Cain, Ferejohn, and Fiorina 1987; Ames 2001).

Thus, strong rank-and-file politicians working under candidate-centered rules are able to develop their own clienteles and constituencies. That is, they foster a “personal vote” (Cain, Ferejohn, and Fiorina 1987) and engage in pork-barrel activities and other services for which they can claim credit personally (see Ames 2001; Myerson 1993; Mayhew 1974). These features work against the provision of public goods, especially the trade policy reforms central to this study. Politicians in candidate-centered systems face strong incentives to protect their constituencies from international competition. This suggests the following hypothesis.

**Hypothesis 1.** *The Personal Vote Hypothesis.* As individual politicians’ incentives to cultivate personal votes increase, trade protection should rise. Tariffs should decline as party leaders are delegated more authority by the rank-and-file.

Legislatures do not play the trade policy game alone, however. Executives and legislators often are elected separately and respond to different—though overlapping—constituencies. However, the two branches of government are strongly linked in the policy enterprise. Legislators delegate authority to executives as one of the chief means of overcoming their collective-action problems in pursuing joint goals (Kiewiet and McCubbins 1991; Shugart 1998). Still, legislators face a real conundrum: How do they delegate sufficient authority so that executives have the interest and capability to pursue effective policy that works in legislators’ collective interest, but not so much that the powers can be used against them? This is the classic problem of constitutional design (see Kiewiet and McCubbins 1991). In resolving this problem, different legislatures have delegated executives varying amounts of authority.

However, even strong executive powers may be insufficient to bring about policy reform. Executives must also be motivated to liberalize trade. Two different factors have reinforced one another over recent decades in ways that have likely realigned executive preferences toward free trade. First, executives always serve a single, nationwide constituency. Thus, to be elected, reelected and to ensure the future power of the party, a president is motivated to pursue policy programs that redound to a broad, national cross-section of voters. Given these electoral incentives, the president is more likely than other politicians to pursue public goods. This often stands in stark contrast to the demands of rank-and-file legislators (see Nielson and Shugart 1999).

Second, multiple exogenous economic and political shocks triggered the spread of neoliberal economic ideas. After all, we should expect politicians to liberalize trade if and only if they *believe* that free trade provides public goods and thus accrues to their political benefit. In fact, until recently most developing country policymakers believed that protection—not free trade—fostered development. The prevailing wisdom among developing country policymakers held to the long tradition of import substitution, which entailed significant trade barriers, as the best means of achieving industrialization and development (see Prebisch 1950). A spirited debate persists to this day among analysts over the development effects of protection vs. free trade (see Rodríguez and Rodrik 2000).

But the key to explaining trade liberalization is understanding not the beliefs of analysts, but the beliefs of

policymakers. The 1980s debt crisis upended the conventional wisdom among policymakers that ISI fostered development. With prior strategies in tatters, policymakers cast about for a new economic policy “road map” that could guide them out of crisis (see Goldstein and Keohane 1993). For the vast majority, neoliberalism seemed the most viable map available (see Rodrik 1994; Edwards 1995). Moreover, as executives searched for foreign financing in the face of crisis, liberalized trade was pushed as a condition for structural adjustment loans from the IMF and World Bank (Williamson 1994; Haggard and Kaufman 1995). Some converts to neoliberalism thus were likely forced, many others sincere. But regardless of the motive, by the early 1990s the neoliberal gospel had spread far and wide.

Of course, the ability of executives to actually bring about the neoliberal policy changes they believe in may depend on the policymaking prerogatives delegated them. Substantial central authority, in the form of emergency decree powers, a line-item veto,<sup>7</sup> or largely exclusive domain over economic policymaking, provide the necessary tools to make radical policy adjustments with minimal interference from societal demands. This policymaking latitude is less available to executives strongly constrained by legislatures (Haggard and Kaufman 1995; Shugart and Carey 1992). This logic gives rise to the following hypothesis.

**Hypothesis 2. *The Presidential Powers Hypothesis.*** When presidents are delegated greater powers, they will use them to reduce protectionism.

However, it is possible that strong presidents may also be “captured” by economic interests bent on protection, or clientelism more generally. In fact, legislators may delegate significant powers to presidents not to pursue public goods, but in order to coordinate the distribution of clientelistic goods (Kitschelt 2000; also, see Shugart and Carey 1992). Arguments about executive’s liberal trade interests should thus be made cautiously.

### Preference Aggregation and District Magnitude

As an important alternative to the delegation arguments developed above, other analysts have maintained that trade policy might also be affected by the way political institutions aggregate societal preferences. Rogowski has

<sup>7</sup>While line-item or package vetoes may not help in initiating trade reform, they can prove vital in thwarting attempts by legislatures to reverse tariff reductions; thus, they prove important in an executive-powers index.

theorized about the effects of proportional representation vs. plurality rule on trade policymaking. He argues that, in general, the greater the number of seats per district, the more that system will produce liberal trading policies (1987, 1995). Rogowski worries that the disproportionality produced by systems with low district magnitude will distort constituency pressures, perhaps resulting in a greater protectionist interest than would be produced in proportional systems.

On the other hand, proportional systems are more likely to reflect the interests of larger blocs of voters—their very proportionality leads to the provision of public goods. As Rogowski notes, “the fewer the constituencies, the less likely that a minority of voters can elect a majority of representatives” (1995, 9). Disproportionality will likely result in policies that do not favor broad coalitions and can work against freer trade. This argument gives rise to the following hypothesis.

**Hypothesis 3. *The District Magnitude Hypothesis.*** As the average size of electoral districts grows, and therefore disproportionality declines, protectionism should decrease.

Rogowski does note, however, that while disproportionality may permit protectionist forces to operate, it neither determines their existence nor their success. In fact, several countries with highly disproportional electoral systems—the U.S. and Great Britain being perhaps the most prominent examples—not only liberalized trading relations early in their democratic histories, but also held to liberal practice during economic hard times when protectionist pressures mounted (see Gourevitch 1986). The opposite extreme is Brazil. Since each state in the country serves as an electoral district, the average magnitude is high (roughly 16 seats per district). However, when Brazil has undergone a trade liberalization phase, as it did in the early 1990s, internal pressures mount to reverse the trade opening—resulting in numerous protectionist “exceptions” (*Gazeta Mercantil* 1995).<sup>8</sup> These examples illustrate that other factors are in play beyond electoral disproportionality.

### Collective Action and Party Systems

Once societal preferences are demarcated, interests that represent the preferences must organize to pursue their policy goals, and collective action problems result at the level of party systems. Analysts have argued that

<sup>8</sup>While most of the Brazilian trade liberalization remained intact, the exceptions covered the important sectors of automobiles, consumer electronics, and computers, along with various other finished manufactures. In succeeding years, footwear and several agricultural products were added to the list of exceptions.

party systems affect public-goods provision in developing countries, particularly reform efforts (Geddes 1994; Haggard and Kaufman 1995). This analysis rests on the notion that parties are engaged in constant strategic interaction with one another. The policy process generates a large degree of uncertainty, particularly on the trade reform issue central to this study.

Stable parties can mitigate this uncertainty. Players in the reform game know that they will play again in future rounds, and therefore may be more willing to negotiate with their opponents and reach agreements that are mutually acceptable. If the parties are uncertain that they can survive until the next election, the time horizons of the game shorten severely, and the negotiation may prove much less cooperative. One of the greatest sources of system instability, analysts have argued, stems from the number of parties in the system. The greater the number of parties—or, the more fragmented the party system—the greater grows the instability and the uncertainty over outcomes (Mainwaring and Scully 1994). Thus, it is harder to reach agreements over reform—including trade reform—in fragmented systems (Haggard and Kaufman 1995). This argument results in the final institutional hypothesis.

**Hypothesis 4.** *The Party Fragmentation Hypothesis.* As the number of parties in a given country grows, coordination over trade policy should prove more difficult, and protectionism should therefore increase.

However, it is far from determined that fragmented party systems are worse at providing free trade. Katzenstein's study of the small European democracies illustrates that free trade can be pursued in the context of numerous small parties (1985). How did interests in the fragmented systems of Western Europe not only overcome their dilemma, but thrive despite it? The answer may be that other institutional features defuse problems within fragmented party systems and thus provide a better explanation for public-goods policy. The party system may be fragmented in the small European democracies, but the parties themselves are not. Back-benchers have delegated significant authority to party leaders. And a few strong party leaders in a multi-party coalition likely face less daunting collective-action problems than weaker party leaders in a two-party system confronting a legislature full of atomized politicians who are motivated by personal votes. This example underscores the importance of delegation in overcoming other institutional problems that might heighten protectionism. In the following section, I evaluate these hypotheses empirically along with control variables derived from the political economy literature on trade policy.

## Model Specification, Data and Measurement

I offer here a general specification of the empirical model, reserving the explication of the details of the variables for below. Following the hypotheses outlined above, I evaluate the effect on protectionism of the personal vote, presidential powers, district magnitude, and the effective number of parties, along with a set of controls that are defined subsequently. It can be summarized in the following way:

$$\text{Trade Policy}_{i,t} = f(\text{Trade Policy}_{i,t-1}, \text{Personal Vote}_{i,t}, \text{Presidential Powers}_{i,t}, \text{Average District Magnitude}_{i,t}, \text{Effective Number of Parties}_{i,t}, \text{Control Variables}_{i,t}, u_{i,t}),$$

where  $u_{i,t}$  is a normally distributed error term.

The model summarized above is autoregressive, modeling the prior values of the dependent variable as part of the dynamics of the equation. This entails lagging the dependent variable. I do this for strong methodological and theoretical reasons. While including a lagged dependent variable does not make the model consistent and unbiased, it can diminish problems with autocorrelation in pooled time-series (see Beck and Katz 1995).<sup>9</sup> In terms of theory, trade policy entails incremental adjustment of the status quo. Policymakers *always* consider the current levels of tariffs before altering them. While political considerations may override the prior, they always take it into account. Overly abrupt changes can cause macroeconomic distortions and political backlashes by both importers and exporters. Thus, policymakers deliberately alter trade policy in a gradual fashion, with reforms occurring over a period of a few years at least. Thus, the lag is essential.

The autoregressive model performs another important function, in that it allows for the assessment of changes in trade policy over time and thus generates a picture of the dynamics of trade liberalization. It is important to note here that the specifications below do not address absolute values of tariffs, but only changes in tariff levels relative to the prior levels. Assessing absolute levels would require a cross-section design. And the number of

<sup>9</sup>However, Achen (2000) has noted that a lagged dependent variable can often dominate results, acting as a “kleptomaniac” in absorbing the effects of other independent variables when they are heavily trended. Achen particularly criticizes studies where there is no theoretical reason for the inclusion of a lagged dependent variable. In the present study, Achen's critique ought to work in favor of the reported results. There is a strong theoretical reason for the inclusion of the lag. And, if the results on the core independent variables remain significant in the face of lagged dependent-variable dominance, then confidence in the results should increase. However, it remains possible that the dominance of the lagged dependent variable diminishes the efficiency of the conventional economic controls.

countries in the sample would provide too few degrees of freedom to allow for a fully specified model of protection with adequate controls. Proceeding without the lag in the pooled sample would strain credibility, as autocorrelation would clearly bias the results.

The model thus takes the form of pooled time-series–cross-sectional regression analysis with a lagged dependent variable. This technique has come into vogue in comparative politics. It is useful in that it allows a significant expansion of the number of observations in the regression, thus in part resolving the small-*n* problem. However, this technique suffers from a combination of econometric problems, addressed below. Thus, I have undertaken multiple corrective specifications in an attempt to ascertain the robustness of the model.

The data for the analysis were generally drawn from standard international organization sources, particularly the International Monetary Fund and the World Bank. Applying the general model to actual data required a series of analytical choices in sample selection and operationalization. I narrowed the sample in two ways. First, this model explicitly identifies the trade effects of institutions where elections matter. Yet elections do not matter equally in all middle-income countries. In some, vote fraud and election fixing are pervasive. I expect democratic institutions to condition policy only to the degree that elections matter. Thus, I excluded all country years where elections either were not held or were fraudulent. I employed a conventional method, the Freedom House scores for political rights (various years), which is a general measure of the freedom and fairness of elections.<sup>10</sup> In systems scoring above 4, elections are sufficiently fraudulent (if they occur

<sup>10</sup>Freedom House, while conventional, is also controversial. In fact, a recent study of democracy indices found it wanting in many important respects (Munck and Verkuilen 2002). Attempting to probe the robustness of my models, I employed a prominent alternative index of democracy: the Polity IV dataset, maintained by the ICPSR. Polity received a substantially better evaluation by Munck and Verkuilen (2002). I employed the Polity democracy measure—largely an indicator of the level of democracy in executive recruitment—to delimit the sample, excluding country years where the Polity measure for democracy was less than 2 (the rough equivalent of 4 in the Freedom House index). This delimitation produced qualitatively similar results to those reported for Models 1 and 2, where the dependent variable was the collected tariff and the official tariff, respectively. However, for Model 3, treating tariff dispersion, the deletion of the additional 50 country years (amounting to one-fourth of the sample) altered the results for *Presidential Powers*, which still bore the proper sign but was no longer statistically significant. This noted, to me Freedom House targets overall electoral freedom and fairness more specifically than Polity (which focuses on executive selection exclusively) and also preserves a significantly larger sample. Despite its flaws, I have thus reported the results for the sample selected using the Freedom House measure. Nevertheless, the Polity result does diminish my confidence in my model's ability to explain tariff dispersion, which already showed the weakest results of the three measures of protection.

at all) to render their policy impact negligible. Following Shugart (1998), I excluded such cases.<sup>11</sup>

Second, given that this model requires an independently elected president to employ an index of presidential powers, all parliamentary democracies are by necessity excluded. While this is unfortunate in terms of losing potential observations, the alternative may be worse. When delegating to a prime minister a parliament holds much tighter control due to institutional rules, particularly confidence votes. Delegation to executives likely works through a very different logic in such settings. A different operationalization of executive powers would need to be employed, and making it consistent with the presidential measure would prove very difficult.

Given this domain restriction, nearly all major presidential democracies among middle-income countries are included in the data set.<sup>12</sup> This raises another potential problem of bias. All but two (the Philippines and South Korea) presidential systems in the middle-income set reside in Latin America.<sup>13</sup> Regional bias may be a problem, especially given the trade blocs that have formed in Latin America over recent years. Moreover, in both non-Latin cases, the United States has heavily influenced the countries' political trajectories, as has been the case for countries in the Americas. It is thus possible that the conclusions derived from this study apply only to presidential democracies under U.S. influence. I may, in part, mitigate this potential problem by including control dummy variables for the cases outside Latin America, and for countries' memberships in trade pacts. Nevertheless, the generalizability of the results may be limited, even if this limitation originates more from political geography than research design.

<sup>11</sup>Freedom House began its assessment of political rights in 1972 and has continued to the present. This range does not cover my entire time period. I projected from 1972 back one year, repeating the 1972 score for 1971. Our independent assessment of the political history in each of the 18 cases in the sample indicates that in none of the cases was there a large enough change in political system from 1971 to 1972 to warrant a qualitative change in the political rights category (from 1–4 to 5–7).

<sup>12</sup>Middle-income countries were chosen for their comparability. Problems of extreme poverty found in the low-income group complicate political economy models—particularly those dealing with democratic institutions. The citizen–politician links in such countries likely rely to a much larger extent on patronage and clientelism (see Kitschelt 2000), including protectionism, which could systematically bias my sample. Low-income countries were thus excluded from the sample.

<sup>13</sup>A potential third country in this category is Portugal. While it began the period under study in the middle-income set, it has since moved into the high-income group. Moreover, Portugal's premier-presidential constitution also makes its inclusion dubious. I thus chose to exclude Portugal from the sample. Including it, however, did not qualitatively alter the results.

## Variables Subject to Testing

**Dependent variables: Tariff measures.** I evaluate my model's performance with regard to changes in three indicators of protectionism: collected tariffs, official tariffs, and tariff dispersion. Data for additional measures, including trade-weighted tariffs, quotas, and other quantitative restrictions, were not available. The absence of data on quantitative restrictions is particularly regrettable, given their frequency and the importance of these measures in driving trade policy and outcomes. However, the significance of tariffs, particularly in the aftermath of the debt crisis, has risen dramatically. On the whole, countries have shifted protectionism from less transparent nontariff barriers to the more transparent tariff (see Williamson 1994). The increased importance of tariffs as trade policy instruments perhaps heightens the value of this study.

I operationalized trade policy in the following ways. The *Average Collected Tariff Rate* is the ratio of total tariff revenue to the total value of imports. This is a useful measure in that it indicates the degree to which taxes on imports are actually paid. I gathered data for these statistics from the IMF's *Government Finance Statistics* and *International Financial Statistics* (various years) and the World Bank's *World Development Indicators* (2001). However, collected tariffs can be manipulated by nonpolicy factors, including bribery and contraband, and provide only a partial picture of trade policy.

The second measure of the dependent variable is thus the *Average Official Tariff Rate*, which is the mean ad valorem tariff assessed on all imports in a given year, derived by summing all product types' official tariff rates and dividing by the number of import categories. This is quite different from the collected tariff in that some tariffs are so prohibitive that they completely deter importers; thus they are not reflected in collected import taxes. Yet they provide important additional information about the structure of trade protection.<sup>14</sup> Official tariffs can be quite inflated. That is, once the prohibitive threshold is reached, imports are deterred. But official tariffs often far exceed that threshold. Thus official tariffs are probably best viewed in tandem with collected tariffs.

A third measure of trade policy is *Tariff Dispersion*, or the variance (average squared distance from the mean) in the official tariff rates across product categories. An uneven tariff code is one of the hallmarks of protection. Countries often do not protect all industries at a high level, but only those that are uncompetitive internationally, leaving key manufacturing inputs and competitive

products largely unprotected.<sup>15</sup> Thus, it is not simply the average level of tariffs that signals protection, but the unevenness of the tariff code itself. Tariff variance is closely related to the official tariff, but retains statistical independence.<sup>16</sup> Because of this strong association, results for tariff variance probably reveal less about the structure of trade policy than do the other two measures of protection. The data for average tariff and tariff dispersion came from Morley, Machado, and Pettinato (1999).<sup>17</sup> These data include only countries in Latin America from 1971 to 1995. Morley's tariff dispersion data exclude four additional countries in Central America, reducing the number of observations for this measure.

These three measures of trade policy are interrelated, though not coincident. They should be evaluated as individual measures of trade policy, each providing a different take on the character of protection in given countries. A graph displaying trends in the sample averages for the three measures of protectionism is shown in Figure 1. The trend is downward overall, with an upward bump in all three measures following the debt crisis of the early 1980s.

**Personal vote.** In operationalizing the personal vote, I based my measure on Carey and Shugart's personal vote index (1995). Carey and Shugart identify three areas where the personal vote is manifest: ballot, vote, and pooling. Their measure can be boiled down to three questions: Who controls the ballot? Do voters vote for parties or for individual candidates? Are votes pooled to help the party as a whole, or do they count only for individual candidates? The authors construct an ordinal ranking system, where ballot proves more important than vote in driving incentives for the personal vote, and vote is more important than pooling. In the Carey-Shugart index, electoral systems can take one of three possible values on each of the three components, creating a theoretical index that includes 27 possible steps or ranks.

I have opted to simplify the Carey-Shugart index, asking the dichotomous question: Does the given electoral system in the lower house of congress create incentives

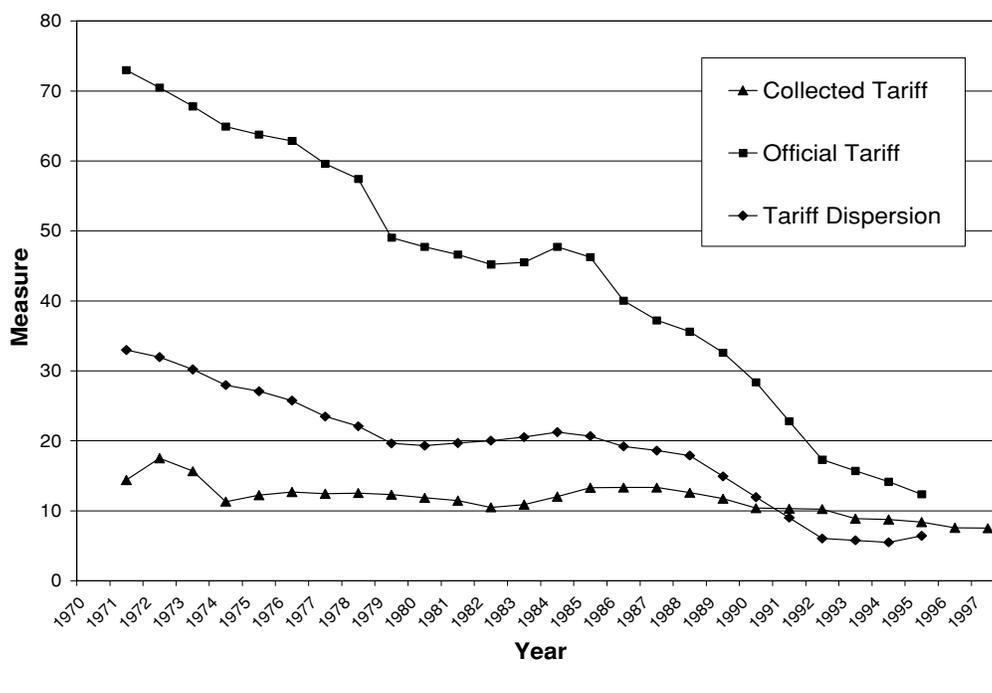
<sup>14</sup>The correlation coefficient between collected tariffs and official tariffs is only .04, but the relationship is statistically significant.

<sup>15</sup>The relevant example for this study is the low agricultural tariffs coupled with high tariffs for finished manufactures common to many countries in Latin America during the early sample years. The large set of low-tariff agricultural commodities depressed the average tariff, even while manufacturing protection remained high. This common structure of protection is reflected better by the tariff variance than by the official or collected tariff rates.

<sup>16</sup>The correlation coefficient is .84.

<sup>17</sup>I thank Samuel Morley for making available his official tariff and tariff dispersion component data from which he and his team constructed their indices of structural reform.

FIGURE 1 Sample Averages of Trade Policy Measures



or disincentives to cultivate a personal vote in each of the components (ballot, vote, pool)? On ballot, if party leaders control access to the ballot, I scored the system “0”; if individual candidates have significant control over their access to the ballot I scored it “1.” On vote, if voters vote for an individual candidate instead of a party list, I scored the system “1” on vote; if they vote for a list, then “0.” This scoring includes single-member district plurality systems, where voters select individual candidates from the ballot, even if this is the only means that allows them to express a party preference. This categorization follows Cox (1997). If pooling exists (where all votes received by candidates are counted toward a party total), I scored the system “0”; systems without pooling scored “1.”

I preserved Carey and Shugart’s ordinal ranking, where ballot > vote > pool. Open-access ballots severely limit leadership control, as leaders have no say over who belongs to their legislative party. Party-leadership control over ballot access limits the personal vote more than allowing candidate-specific vote choices. If the leaders control the ballot, they then can delimit voters’ choices for whom to cast their preference votes. Pooling votes within the party has an even weaker effect on the personal vote, as the effect of pooling will prove marginal if ballots are open access and preference votes are cast, and pooling is largely redundant when ballots are controlled and closed.

Accordingly, systems where leaders did not control the ballot scored highest on this modified personal vote index, vote ranked next, and pooling last. However, in certain systems, seats are allotted both on the basis of candidate votes and party-list totals. These systems employ both proportional representation in very large districts for some portion of the seats and utilize single-member district plurality for the remainder. Thus, the personal votes in the plurality districts make these systems more candidate-centered than straight party lists, but the at-large PR seats push these systems back in the

TABLE 1 Ordinal Ranking for Electoral Systems from Most Party-Centered to Most Candidate-Centered

Ballot	Vote	Pool	Mix-Mem	Rank
0	0	0	0	1
0	0	1	0	2
0	1	0	0	3
0	1	0	1	4
0	1	1	0	5
1	0	0	0	6
1	0	1	0	7
1	1	0	0	8
1	1	1	0	9

TABLE 2 Average Sample Values for Independent Variables

Country	Presid. Powers	Pers. Vote	Aver. Mag.	Eff. No. Parties	Crisis 1 <sup>st</sup> Yr	Recov. 1 <sup>st</sup> Yr	Neolib. 1 <sup>st</sup> Yr	Neoliberalism Source
Argentina	2.9	1.0	6.2	3.1	1981	1991	1983	Huneus 1998
Bolivia	2.0	1.0	12.3	4.7	1981	1988	1985	Conaghan and Malloy 1994
Brazil	3.0	8.0	16.0	6.2	1982	1993	1990	Kingstone 1998
Chile	4.4	4.0	2.6	2.0	1981*	1984	1975	Silva 1991
Colombia	5.2	9.0	6.9	3.1	1981	1990	1991	Ocampo 1999
Costa Rica	1.0	1.0	7.8	2.9	1982	1986	1989	Carranza and Chinchilla 1994
Dominican Republic	2.0	1.0	4.0	3.2	1982	1993	1990	Silié and Colón 1994
Ecuador	2.0	1.0	2.9	8.0	1982	1990	1984	Conaghan and Malloy 1994
El Salvador	2.0	1.0	4.4	2.4	1981	1990	1989	Segovia 1994
Guatemala	2.0	1.0	3.4	4.1	1982	1997	1989	Buttari 1992
Honduras	1.0	3.0	6.5	2.1	1981	1982	1990	Buttari 1992
Korea, Rep.	4.0	3.0	1.2	3.7	None	N.A.	1982	Lie 1998
Mexico	1.0	3.0	20.6	2.3	1981	1989	1982	Lindau 1996
Paraguay	0.0	1.0	4.4	2.2	1981	1993	1989	Sondrol 1992
Peru	1.2	4.0	7.0	3.8	1981	1996	1990	Conaghan and Malloy 1994
Philippines	3.0	8.0	1.1	2.9	1981	1994	1986	Haggard 1990
Uruguay	2.0	8.0	5.2	3.2	1985	1991	1989	Sierra 1994
Venezuela	0.0	1.7	18.4	3.3	1981	1990	1989	Ramos 1997

\*Chile also suffered an economic crisis from 1975 to 1977. However, since those years were during the authoritarian period, they are excluded from the sample.

party-centered direction. I thus created an additional dichotomous marker for such systems, scored countries with mixed-member systems 0 and systems without 1, and tallied it behind the other three categories.<sup>18</sup> That creates one additional step in the ranking of eight, raising the number of ranks to nine. The ranking is seen in Table 1.

For data on pooling and type of vote I relied on Cox (1997) for most of the countries in the study, with the remaining values coming from Nohlen (1993) and Hicken and Kasuya (2003). On ballot, I obtained information for Latin American countries from Nohlen (1993). On the Philippines and Korea, I obtained data from Hicken and Kasuya (2003). A list of the countries and their average values for the sample years on the personal vote and other independent variables is found in Table 2.

**Presidential powers.** In operationalizing executive powers, I searched for a measure that identified and scored the key legislative powers of presidents. Even though presidents in most countries have agenda-setting powers in trade policy, their legislative powers should allow them

to gain greater leverage in pursuing their trade agenda over legislators who usually approve—and nearly always implement—trade policy. Even when legislatures' trade policymaking powers are limited, presidents and legislators engage in legislative battles over an expansive set of additional policies, and it is reasonable to assume that deals and trades involving trade policies occur with frequency. Presidents' holding greater legislative powers give them advantages in such negotiations.

In particular, when presidents can veto specific line items of legislation, their power increases—as it does when they can veto entire legislative packages. In terms of trade policy, vetoes can prove vital in allowing presidents to block efforts by legislatures to reintroduce protectionist measures after trade reforms. Likewise, exclusive presidential abilities to initiate specific legislation increase executive power. Finally, executive decree authority, where policies are issued directly by presidents with delayed legislative approval, enhances presidential agenda-setting power and influence over final policy. Shugart and his coauthors have perhaps thought most carefully about these presidential powers and have accordingly scored countries regime-by-regime (Shugart and Carey 1992; Samuels and Shugart 2001).

The original executive powers measure, detailed in Shugart and Carey (1992), was streamlined and

<sup>18</sup>In the Philippines, parties do not control nominations, though votes are pooled in the at-large district, making the system resemble Brazil's and score 8 after the electoral system change in 1994. See Hicken and Kabuya (2003).

**TABLE 3 Presidential Powers Index****Package veto**

- 0 No veto, or override by majority
- 1 No veto on spending, but veto with extraordinary majority override on other bills
- 2 Veto with extraordinary majority override on all bills

**Item veto** (with promulgation of on vetoed items permitted)

- 0 No item veto
- 1 Item veto on some bills (usually spending), extraordinary majority override
- 2 Item veto on all bills, extraordinary majority override

**Decree**

- 0 No decree authority, or only delegated authority with formal congressional authority to rescind
- 1 Moderate decree power (restricted as to policy area, or only delegated but difficult to rescind)
- 2 Strong decree authority (does not require delegation, few restrictions as to policy area)

**Exclusive authority to introduce some legislation**

- 0 No provision, or applies only to budget bill with no major restrictions on amendment
- 1 Provided also in nonbudgetary bills, but no major restrictions on amendment
- 2 Provided, major restrictions on amendment (such as inability to increase spending on items)

Source: Samuels and Shugart (2001).

updated in Samuels and Shugart (2001).<sup>19</sup> The values were utilized as they reported them. In essence, the Shugart/Carey/Samuels index lists the significant legislative powers of presidents for policymaking—package veto, partial (or line-item) veto, decree authority, and the exclusive ability to introduce certain types of legislation. It scores each constitution 0, 1, or 2 on each of the powers, and then sums the scores for each country for each constitutional period. The coding is listed in Table 3. While this system does not possess the sophistication of the same authors' treatment of the personal vote, in that a cardinal index is generated from discrete data that is not ranked according to significance, it remains the best available measure of executive powers.<sup>20</sup>

This index refers only to *general* executive policymaking powers. It remains possible that executives have been delegated specific powers and prerogatives related to trade policy. In fact, some countries' constitutions bar legislators from voting on trade policy altogether, having delegated exclusive trade policymaking authority to

presidents. This necessitates adding an additional dummy variable to cover specific trade powers. In coding this variable, I examined all of the constitutions and constitutional revisions from 1970 to 2002 in all of the sample countries. In two of the countries, Brazil and Peru (after 1993), constitutions bar legislatures from having any statutory control over trade policy. I thus include the variable *Exclusive Executive Trade Powers* to ascertain the effects of these additional delegated trade policy powers.<sup>21</sup> I expect that systems with this additional delegated authority should evince lower tariffs.<sup>22</sup>

<sup>21</sup>I also found that, currently, in 11 of the 18 countries (Argentina, Bolivia, Colombia, Costa Rica, El Salvador, Guatemala, Korea, Paraguay, Phillipines, Uruguay, and Venezuela), legislatures had dominant control over tariff policy, either because tariffs fell under general legislative taxing authority (Costa Rica, El Salvador, Guatemala, Korea, and Paraguay) or because legislative trade-policy powers were constitutionally specified (Argentina, Bolivia, Colombia, Phillipines, Uruguay, and Venezuela). In the remaining countries (Brazil, Chile, the Dominican Republic, Ecuador, Honduras, Mexico, and Peru), constitutions grant presidents dominant trade-policy powers. These lists have shifted over time, with Chile, Ecuador, Honduras, and Peru transferring trade powers to the president in constitutional revisions, and Colombia relocating dominant trade powers from the presidency to the legislature. However, because in all of these systems, both executives and legislatures hold trade policy powers, and therefore possess negotiating leverage in formulating trade policy, I suspected that adding this additional variable would not significantly affect tariff rates. Indeed, when this additional dummy variable is coded and included, it is not statistically significant in any regression, and the results for the remaining variables remain qualitatively similar to those reported.

<sup>22</sup>It might be argued that I should exclude such cases altogether from analysis. However, legislatures proscribed from trade policymaking still possess substantial policymaking powers in other issue areas,

<sup>19</sup>Shugart and Carey (1992) also suggest that presidential powers may interact in important ways with the personal vote. However, in regression analysis, I found no evidence that the two variables interact to affect trade policy significantly.

<sup>20</sup>The possibility exists that economic crisis may prompt legislatures to delegate greater executive powers. However, while the relationship between the two variables is significant, it bears a negative sign, implying that crisis leads to a retraction of executive powers. However, the correlation coefficient is less than .01, indicating little meaningful relationship. When an interaction term combining the effects of crisis and executive powers is included, it is not statistically significant in any specification, and the results for the models' other variables remain qualitatively similar.

**Average district magnitude.** A standard measure in comparative politics, average district magnitude computes the mean number of seats per electoral district across all districts (see Taagepera and Shugart 1989). I drew data on Latin America from Jones (1995) and Nohlen (1993), updated by *Keesing's Record of World Events*; and on the Philippines and Korea from Hicken and Kasuya (2003).

**Effective number of parties.** Another standard comparative measure, effective number of parties, computes an inverted Hirfindahl-Hirschman fractionalization index for the proportion of votes or seats received by each party in a given election (see Taagepera and Shugart 1989).<sup>23</sup> I drew data on Latin America from Jones (1995), Nohlen (1993), and Schiavon (2001), updated by *Keesing's*; and on the Philippines and Korea from Haggard and Kaufman (1995) and Hicken and Kasuya (2003).

### Control Variables

I also include a large set of controls, which I discuss in the order presented in the regression analysis. The first—and arguably most important—control attempts to code the crucial supply-side variable of *Neoliberalism*. Noted above, the spread of beliefs regarding the desirability of free trade likely influenced trade policy to a significant degree. Unfortunately, ideas are notoriously difficult to quantify. I therefore developed a proxy measure for this variable: the ascension of neoliberal technocrats to positions of policymaking authority. This personnel shift likely indicates the time when free-trade ideas took root in given countries. I thus examined the secondary literature on economic reform in the sample countries and noted the timing of neoliberal technocrats' ascension described by area specialists, coding country years

which they might use to bargain with presidents over areas where they are constitutionally excluded. Indeed, Ames (2001) presents substantial evidence that this is the case in Brazil, one of these special cases. Given this compelling theoretical reason and in order to preserve as many observations as possible, the safest practice seemed to be to include the cases (with the effects of exclusive presidential trade authority controlled for through the dummy). In any event, when the country years with exclusive executive trade powers are dropped from the sample, the results remain qualitatively similar or actually become stronger for my core variables, particularly when the dependent variable is tariff variance. For the theoretical and methodological reasons noted above, I opted to report the weaker results.

<sup>23</sup>The formula for computing effective number of parties ( $N$ ) is:

$$N = \frac{1}{\sum v_i^2},$$

where  $v_i$  is the proportion of votes for the  $i$ -th party.

as “1” beginning when neoliberal technocrats arose; “0” otherwise.<sup>24</sup>

The control variable for *Neoliberalism* may account for a good deal of the sample variance. It seems quite obvious that trade liberalization should follow the appointment of neoliberals to ranking bureaucratic posts. Moreover, technocrats' rising to policy prominence probably involves multiple political factors beyond the persuasiveness of neoliberal ideology, and thus indicates political calculations as well as ideological commitment. Thus, any variance explained by variables beyond this control dummy should indicate important additional factors influencing trade policy. Table 2 lists the years of neoliberal conversion in the sample countries. I also interacted neoliberalism with presidential powers, expecting that protection should especially decrease where the two measures increased in tandem.<sup>25</sup>

The next control addresses the demand-side factor of organized labor in national politics. Labor overwhelmingly associates with leftist political parties, which often—though not always—mobilize for the retention of jobs threatened by free trade. Thus, a more prominent legislative left should result in increased protectionism. *Left Share* indicates the percentage of seats held in the lower (or single) house of the national legislature by leftist parties. Data for this variable came largely from Coppedge (1997) and Haggard and Kaufman (1995), with the remainder from Georgetown/OAS (2001).

I have also included a dummy variable for *Crisis*. This variable is intended to indicate years of extreme economic stress for countries following the dislocations and disruptions that began in the early 1980s, or the debt crisis. I suspected that crisis would result in an immediate increase in tariff rates, as economic stress places pressure on governments for more revenue and less foreign pressure on domestic economies. Concomitantly, crisis recovery should be associated with tariff decreases. While there were general effects of the crisis, it affected each of the sample countries at somewhat different times. In order to approximate this in a relatively simple way, beginning in 1981 I coded years as “1” if three or more of five key macroeconomic indicators—GDP growth, inflation, budget deficit,

<sup>24</sup>I looked at additional sources for each country, in most cases finding multiple sources that agreed with the timing noted by the primary area specialist I consulted. In no case did I discover disagreement with the primary source, noted in Table 2.

<sup>25</sup>I also explored the possibility that neoliberalism may interact with crisis—where crisis may discredit the existing ideology, be it neoliberal or statist. However, in all but one case (Chile, but only in autocratic years excluded from the sample), crisis preceded neoliberalism. The resulting multicollinearity proved intractable, necessitating that either neoliberalism or the interaction term be dropped. I opted to keep the initial specification.

external debt, and net foreign direct investment—were worse than their average values from 1975 to 1980 for at least two years in succession. Otherwise, I coded the country years as “0.”<sup>26</sup> Conversely, when three of the five indicators returned to improve upon their 1975–1980 average values for at least two years, I coded the country years “1” for *Crisis Recovery*; otherwise, “0.” The years when the values changed from 0 to 1 for both variables are listed in Table 1.

The next two dummy variables are included to correct for potential sample biases introduced by looking only at presidential democracies and thus excluding all but two cases outside Latin America. A dummy for *Trade Bloc* was included in the years where countries were part of the two major free trade pacts in the Americas—NAFTA and Mercosul. *Non-Latin*, listed at the bottom of the Model 1 regressions, applies to Korea and the Philippines. This dummy is used only in the Model 1 regressions, since data were not available for countries outside Latin America for the other two measures of protection.

The final set of controls is suggested by the political economy literature on trade. *Tariff Share of Government Revenue* computes the percentage of total government revenues derived from import duties. When tariff share of revenue increases, trade taxes grow in political importance. When tariffs are a key revenue source in addition to a means of protection, this reliance should produce upward pressure on tariff rates. *Import Penetration* is the portion of Gross Domestic Product (GDP) derived from imports. The trade literature suggests that protection should rise when domestic producers face foreign competition. This is especially so when imports surge. Thus, large values in the *Change in Import Penetration*—the difference of the current year’s *Import Penetration* from the prior year’s<sup>27</sup>—should be expected to engender higher tariffs.

<sup>26</sup>This is only one potential specification of *Crisis* and *Crisis Recovery*. As alternatives, I coded crisis years when two of three values for foreign direct investment, inflation, and GDP growth were worse than their 1975–1980 averages for at least two successive years. And I also coded *Crisis* as GDP growth less than the 1975–1980 average. I employed the converse of both codings for *Crisis Recovery*. These alternative specifications of the *Crisis* and *Recovery* variables produced qualitatively similar results to those reported. When I adopted a stricter coding for crisis—say, four of five of growth, inflation, deficit, debt, and FDI, or all three of growth, inflation and FDI—the codings did not show crisis years that were consistent with the secondary literature sources listed on Table 2, where the reported codings match area specialists’ assessments in large measure. I thus opted to retain the codings reported.

<sup>27</sup>It is also possible that policymakers react to changes in import penetration slowly, taking a perhaps a year to set new tariff rates. Regressing a lag in the change in import penetration produced qualitatively similar results.

*Skilled Worker Share of Labor*<sup>28</sup> is the portion of labor employed in the professions and in other occupations judged as “skilled” by categories listed in the International Labor Office’s *Yearbook of Labour Statistics* (various years). According to some arguments, higher skill levels ought to reflect better exploitation of comparative advantage, and, thus, lead to lower protection. *Unemployment*<sup>29</sup> should reflect economic distress associated with import competition, and should impel tariff increases. When jobs are lost to foreign competition, political pressure should mount to raise protectionist barriers.

Higher levels of *GDP Per Capita*,<sup>30</sup> a basic measure of a country’s wealth, may reflect a country’s discovery of a valuable niche in international markets. That is, wealthier countries may better exploit their comparative advantage in the global economy and thus should be prone to freer trade. Greater per capita wealth should thus lead to lower protection. In the literature on advanced industrial societies, increases in the *Industry Value Added as a Share of GDP*<sup>31</sup> should likewise reflect adaptation of production to comparative advantage and thus should lead to less protection. However, in developing countries one might reasonably argue that high industry value added may instead reflect a strong commitment to import substitution and thus lead to higher tariffs. In either event, the control is included here.

As *Inflation* rises—measured by using the log-10 transformation to correct for the skewed sample distribution that hyperinflation causes<sup>32</sup>—politicians come under pressure to halt the damaging price increases. Lower taxes on imports might be used as a hedge against associated price hikes, and thus, inflation should result in reduced tariffs. As a measure of market size, I used *GDP in current U.S. dollars*, expecting that protection would

<sup>28</sup>Data from the Yearbook of Labor Statistics were spotty for some countries. Given that this is a control variable, rather than lose observations for the missing values, the missing values (66 total) were imputed using the *impute* command in Stata 7.0.

<sup>29</sup>Missing values (44 total) were imputed for *Unemployment*.

<sup>30</sup>Missing values (29 total) were imputed for *GDP Per Capita*.

<sup>31</sup>Missing values (20 total) were imputed for *Industry Value Added as a Share of GDP*.

<sup>32</sup>None of the other variables—dependent or independent—had skewness values in excess of 3. However, for two years in the sample, 1971 and 1972, Uruguay displayed extreme values in excess of five times that of the next highest value for official tariffs and tariff dispersion. I tried alternative specifications to solve potential problem of bias here. I truncated the Uruguay values by setting them equal to the next highest values in the sample. The results for this specification are those reported here. I also dropped Uruguay entirely from the sample, which produced qualitatively similar results to those shown. Leaving the values unaltered also ended in qualitatively similar results.

grow as economies expanded demand. That is, larger economies should be able to sustain import substitution for a longer period. Thus, higher GDP should be associated with higher tariff rates. Finally, I include the importance of agriculture in the economy—measured by *Agricultural Imports* and *Agricultural Exports* as shares of GDP—to control for the effects of the agrarian sector on the structure of protection. In particular, when agricultural exports grow more important in an economy, this may reflect competitiveness in the agrarian sector and farmers may successfully press for reduction in tariffs overall. I drew data for these controls, unless otherwise noted, from *World Development Indicators* (2001).

## Results and Discussion

Despite the popularity of employing pooled time-series–cross-section data for evaluating arguments in comparative political economy, several econometric problems plague its successful application. The technique may violate some of the core assumptions of ordinary least-squares regression analysis. First, such data allow for both types of autocorrelation: spatial and serial (see Beck and Katz 1995). Second, pooled time-series data are susceptible to problems of heteroskedasticity. In pooled time-series data, errors may very well have different structures—or unequal variances—across the units. Moreover, this problem of heteroskedasticity is complicated by the fact that practitioners are assuming that error structures also do not vary over time. Clearly, these potential violations of OLS assumptions are problematic (see Beck and Katz 1985).

Beck and Katz instead suggest a procedure for estimating what they call panel-corrected standard errors (PCSEs), which provides estimates of the errors adjusting both for autocorrelation and heteroskedasticity. In a set of Monte Carlo experiments, using simulated data, standard OLS regressions employing PCSEs significantly outperformed other conventional pooled time-series methods, particularly when the number of time points was less than twice that of the number of units, as is the case in this article (Beck and Katz 1995). I performed the regressions using the PCSE routine in Stata 7.0. However, as noted below, I also ran multiple corrective models, attempting to correct for residual autocorrelation and heteroskedasticity using panel-corrected standard errors as well as corrective procedures employing feasible generalized least-squares estimation.

Given the large number of variables employed here, as well as the high R-squared values for all three models, I worried that problems of multicollinearity could

arise. Despite my suspicions, in diagnosing the extent of collinearity I found that it was a serious problem (R-squared value in excess of .80 for the set of independent variables regressed against each explanatory variable) only in a single instance: the interaction term combining *Neoliberalism* and *Presidential Powers*. While multicollinearity does not bias results, it does reduce the efficiency of the estimators. However, removing the interaction term resulted in no qualitative change in the results listed. Since there is a strong theoretical reason for its inclusion, I list the results with this interaction term incorporated.

As a final robustness check, I ran each year for each dependent variable as a cross section. I found that my key delegation variables were reasonably consistent estimators of tariffs. This was not the case for the majority of the conventional political economy controls.<sup>33</sup>

Table 4 presents regression results for three models, one for each dependent variable. Looking overall at how the model performs on the three different measures of protection, *Personal Vote* is significant in the expected direction (at the .05 or .01 levels) in all three regressions, and *Executive Powers* is significant in the expected direction (at the .01 level) for the latter two, where *Official Tariff* and *Tariff Dispersion* are the dependent variables.

A change from the bottom (1) to the top (9) of the *Personal Vote* scale is associated with a 2.2 percent increase in *Collected Tariff*, a 4.5 percent increase in *Official Tariff*, and a 2.4 percent increase in *Tariff Dispersion*. The sample average change from the maximum to minimum values for the three measures is 10, 60, and 27, respectively. An extreme change in the personal vote could be associated with nontrivial portions (22, 8, and 9 percent, respectively) of the average changes in the three tariff measures. Put another way, the results suggest that such an extreme in change *Personal Vote* would account for a similar degree of tariff change as *Neoliberalism*,<sup>34</sup> the most consistent predictor in all three models. But how important are

<sup>33</sup>Due to space constraints I chose not to list the voluminous results of the cross-sections. I report here that in the cross sections, using “efficient” models induced from significant estimators in the fully-specified regressions, the key institutional variables of *Personal Vote* and *Presidential Powers* predicted the correct sign in the majority of cases, sometimes at a statistically significant level. Importantly, in no case did either variable predict the wrong sign at a significant level. Relatively few other variables were similarly consistent. Consistent estimators included *Average District Magnitude*, *Neoliberalism*, *Crisis*, and *Tariff Share of Revenue*. By contrast, *Effective Number of Parties*, *Import Share of GDP*, *Industry Value Added*, *Inflation*, and *Left Share of Legislature* predicted the wrong sign at a statistically significant level in one or more instance.

<sup>34</sup>The *Personal Vote* coefficient times nine is equivalent to 110%, 84%, and 75% of the *Neoliberalism* coefficient for collected tariffs, official tariffs, and tariff variance, respectively, or an average of 90% for all three measures.

**TABLE 4 Regression Results Panel Corrected Standard Errors**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	<b>Dep. Var.:</b>	<b>Dep. Var.:</b>	<b>Dep. Var.:</b>
<b>Dispersion</b>	<b>Collected Tariff</b>	<b>Official Tariff</b>	<b>Tariff</b>
Lagged Dependent Variable	0.5140*** (0.0354)	0.9718*** (0.0063)	0.9711*** (0.0076)
Personal Vote	0.2432*** (0.0543)	0.5048*** (0.1773)	0.2720*** (0.1018)
Presidential Powers	0.0753 (0.1136)	-1.3715*** (0.4520)	-0.6095*** (0.1386)
Excl. Executive Trade Powers	-2.6451*** (0.7466)	-4.9021** (2.0512)	-2.2925* (1.1962)
Average District Magnitude	-0.0526** (0.0219)	-0.0713 (0.0585)	-0.0381 (0.0320)
Effective Number of Parties	0.1266** (0.0585)	1.0059*** (0.1787)	-0.0715 (0.1074)
Neoliberalism	-1.9954*** (0.4172)	-5.4317*** (1.2835)	-3.2628*** (0.8723)
Neolib.*Exec. Powers	-0.0227 (0.1572)	0.5912 (0.6020)	0.6315** (0.2680)
Crisis	1.7990*** (0.2800)	-1.1098 (0.7099)	2.1107** (0.9664)
Crisis Recovery	-0.2395 (0.3528)	-0.4889 (0.5468)	-0.3933 (0.7626)
Left Share of Legislature	0.0251** (0.0098)	-0.0679*** (0.0243)	-0.0227* (0.0136)
Trade Bloc	0.9086* (0.4935)	-0.5142 (1.2480)	1.4734** (0.6982)
Import Share of GDP	-0.1005*** (0.0222)	0.0863* (0.0466)	-0.0245 (0.0394)
Change in Import Share	-0.0439 (0.0349)	-0.0819 (0.0654)	0.0391 (0.0739)
GDP Per Capita	0.0000 (0.0001)	0.0007** (0.0003)	-0.0001 (0.0002)
GDP (in billions U.S. dollars)	0.0023 (0.0020)	0.0023 (0.0056)	0.0062*** (0.0024)
Tariff Share of Revenue	0.2776*** (0.0266)	-0.1003** (0.0454)	0.0696 (0.0618)
Skilled Labor	0.0083 (0.0342)	-0.1011 (0.0977)	-0.0297 (0.0517)
Unemployment	-0.1637*** (0.0356)	-0.0070 (0.0926)	-0.1296* (0.0692)
Industry Value Added	0.1222*** (0.0214)	0.0560 (0.0572)	0.0681* (0.0359)
Inflation (Log 10)	-0.9787*** (0.1928)	-1.1232 (0.7156)	-1.6412*** (0.5348)
Agricultural Exports	-0.0083 (0.0153)	0.0042 (0.0454)	-0.0385 (0.0319)
Agricultural Imports	0.0770 (0.0779)	-0.5817* (0.3410)	-0.2498 (0.2221)
Non-Latin	-1.8069*** (0.6737)		
Constant	0.6564 (1.1816)	1.9890 (2.3223)	3.1896** (1.5738)
Number of observations	306	288	203
R <sup>2</sup>	0.83	0.99	0.98
Wald chi squared	7959***	123240***	259658***

\*p &lt; 0.1; \*\*p &lt; .05; \*\*\*p &lt; .01

these results in substantive terms? For example, looking at collected tariffs, Brazil, the largest economy in the sample, imported goods valued at roughly \$55 billion a year between 1995 and 2000. If Brazil were to shift from its high score of 8 on the personal vote scale to the lowest value of 1, the results imply that the institutional change could be associated with more than a \$1 billion annual decrease in tariff revenue.<sup>35</sup> By contrast, if a small country, say, Costa Rica, with imports valued at \$4.9 billion per year, were to shift from its low personal vote score of one to the highest value of 9, these results suggest that the change could be associated with a \$107 million increase in annual collected tariff revenues.<sup>36</sup> Thus, though the statistical significance of the results is compelling, the substantive impact of personal votes on tariffs, while nontrivial, is more modest.

Next, a change from the bottom (0) to the top (8) of the *Presidential Powers* scale is associated with a 12.3 point decrease in *Official Tariff* and a 5.5 point decrease in *Tariff Dispersion*. These results suggest that such an extreme shift in *Presidential Powers* could account for roughly 20 percent of the total average change in the two measures of tariffs during the sample period. These results may suggest the substantive importance as well as the statistical significance of executive powers for trade reform. *Exclusive Executive Trade Powers* proved significant in all three initial regressions (though only at the .1 level in tariff variance model), with the results suggesting that the constitutional removal of legislatures from trade policy is associated with 2.6, 4.9, and 2.3 point decreases in *Collected Tariffs*, *Official Tariffs*, and *Tariff Variance*, respectively. However, the corrective specifications detailed below moderate my enthusiasm for this variable, at least for the last two tariff measures.

The alternative institutional variables, *Average District Magnitude* and *Effective Number of Parties*, each predicted one measure of protection in the expected direction at a significant level for a single dependent variable. *Collected Tariffs* declined significantly (at the .05 level) as district magnitude increased. And *Official Tariffs* increased significantly (.01 level) as the number of political parties grew. These results, reinforced in the corrective specifications, suggest some evidence for the alternative arguments dealing with the effects of additional political institutions on trade policy.

Not surprisingly, *Neoliberalism* proved the most consistent estimator of tariffs in these regressions. The ascension of neoliberal technocrats was associated with 1.7, 5.6, and 3.5 point decreases in *Collected Tariff*, *Official Tariff*,

and *Tariff Dispersion*, respectively. As noted, this variable was well suited to the task of predicting trade reforms, given that the rise of technocrats in policymaking probably reflects more than ideological commitment to free trade.

Beyond *Neoliberalism*, very few of the controls proved consistent. In particular, the interaction term seeking to assess the combined effects of *Neoliberalism* and *Presidential Powers* is significant (at the 0.1 level) in Model 3, but in the wrong direction. This is a common occurrence with interaction terms. It implies that, at high levels of *Presidential Powers*, a country would get a greater decrease in tariff variance from *Presidential Powers* alone than it would from combining high presidential powers with *Neoliberalism*. The two variables in the interaction term are negatively and significantly related, perhaps suggesting that *Neoliberalism* and *Presidential Powers* are substitutes for one another in some way when it comes to determining protection levels. The corrective specifications may diminish concern over the unpredicted effects of the interaction term, given that this term is significant at a conventional level in only one additional instance.

Of the many controls suggested by the political economy literature on trade, only *Inflation* and *Industry Value Added*<sup>37</sup> estimated tariffs in the expected direction at a statistically significant level in more than one regression. All of the other controls either did not prove significant for more than one measure of protection, they predicted in the wrong direction at a statistically significant level, or their signs flipped from model to model while they predicted at a statistically significant level. Given the underperformance of conventional political economy controls, these results suggest that neglecting the supply side of trade policy in developing countries could lead to serious errors in model specification.

Tables 5–7 display the results for five different corrective iterations of the three models. In Models 1A, 2A, and 3A, the panel-corrected standard errors are further adjusted for residual first-order autocorrelation by assuming a common temporal error structure across the units, which is recommended by Beck and Katz (1995). Models 1B, 2B, and 3B correct the PCSEs for first-order autocorrelation by assuming that the temporal error structures are specific to each panel. Models 1C, 2C, and 3C introduce a different method of estimation, feasible generalized least-squares, which is an additional conventional method of performing pooled time series regression

<sup>35</sup>This is equivalent to roughly 0.8% of Brazilian tax revenues.

<sup>36</sup>Equivalent to roughly 5% of Costa Rican tax revenues.

<sup>37</sup>This assumes that the argument claiming that industry value added reflects import substitution more than it does comparative advantage.

TABLE 5 Corrective Specifications of Model 1—Dependent Variable: Collected Tariff

	Model 1A PCSEs ARI Correction	Model 1B PCSEs PSARI Correction	Model 1C FGLS Hetero. & ARI	Model 1D FGLS Hetero. & PSARI Correction	Model 1E FGLS Correction
Lagged Dependent Variable	0.4208*** (0.0422)	0.4947*** (0.0331)	0.5140*** (0.0394)	0.4117*** (0.0423)	0.4418*** (0.0409)
Personal Vote	0.2990*** (0.0696)	0.3278*** (0.0732)	0.2432*** (0.0747)	0.3135*** (0.0709)	0.3530*** (0.0735)
Presidential Powers	0.0451 (0.1381)	0.0369 (0.1536)	0.0753 (0.1686)	0.0385 (0.1451)	-0.0516 (0.1698)
Excl. Executive Trade Powers	-3.1506*** (0.9711)	-3.2579*** (0.9379)	-2.6451*** (0.9297)	-3.0900*** (0.8173)	-3.3882*** (0.9555)
Average District Magnitude	-0.0644*** (0.0238)	-0.0752*** (0.0249)	-0.0526** (0.0234)	-0.0373* (0.0200)	-0.0517** (0.0217)
Effective Number of Parties	0.1284* (0.0674)	0.0230 (0.0644)	0.1266 (0.0833)	0.1968*** (0.0750)	0.1353* (0.0769)
Neoliberalism	-2.2005*** (0.4741)	-2.2595*** (0.5306)	-1.9954*** (0.5971)	-2.0982*** (0.5039)	-2.2582*** (0.5442)
Neolib.*Exec. Powers	0.0104 (0.1812)	0.2361 (0.2423)	-0.0227 (0.2321)	-0.0035 (0.1856)	0.1134 (0.2319)
Crisis	1.8115*** (0.3361)	2.0109*** (0.2931)	1.7990*** (0.3841)	1.3094*** (0.3305)	1.4579*** (0.3369)
Crisis Recovery	-0.2248 (0.3632)	-0.5453 (0.3633)	-0.2395 (0.4500)	0.3163 (0.3880)	0.0444 (0.3688)
Left Share of Legislature	0.0275*** (0.0106)	0.0317*** (0.0093)	0.0251*** (0.0085)	0.0188** (0.0083)	0.0200** (0.0084)
Trade Bloc	1.0411** (0.5207)	1.2198** (0.5527)	0.9086 (0.6158)	0.2550 (0.4190)	0.5511 (0.4161)
Import Share of GDP	-0.1216*** (0.0243)	-0.0974*** (0.0207)	-0.1005*** (0.0241)	-0.1038*** (0.0222)	-0.1009*** (0.0214)
Change in Import Share	-0.0322 (0.0340)	-0.0532* (0.0317)	-0.0439 (0.0434)	-0.0451 (0.0329)	-0.0486 (0.0307)
GDP Per Capita	-0.0001 (0.0001)	-0.0002* (0.0001)	0.0000 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
GDP (in billions U.S. dollars)	0.0027 (0.0024)	0.0055** (0.0024)	0.0023 (0.0027)	0.0035 (0.0022)	0.0044* (0.0024)
Tariff Share of Revenue	0.3280*** (0.0315)	0.2897*** (0.0274)	0.2776*** (0.0321)	0.3325*** (0.0322)	0.3106*** (0.0297)
Skilled Labor	0.0175 (0.0392)	0.0031 (0.0374)	0.0083 (0.0317)	0.0614** (0.0277)	0.0315 (0.0280)
Unemployment	-0.1776*** (0.0394)	-0.2081*** (0.0379)	-0.1637*** (0.0474)	-0.0572 (0.0425)	-0.0870* (0.0444)
Industry Value Added	0.1389*** (0.0232)	0.1554*** (0.0204)	0.1222*** (0.0239)	0.1004*** (0.0228)	0.1180*** (0.0236)
Inflation (Log 10)	-1.0193*** (0.2165)	-1.3005*** (0.2135)	-0.9787*** (0.2917)	-0.5109* (0.2774)	-0.6405** (0.2725)
Agricultural Exports	-0.0173 (0.0179)	0.0008 (0.0176)	-0.0083 (0.0258)	-0.0027 (0.0184)	-0.0059 (0.0193)
Agricultural Imports	0.0978 (0.0881)	0.1352 (0.1007)	0.0770 (0.1197)	0.0713 (0.0868)	0.0895 (0.0921)
Non-Latin	-2.2347*** (0.7439)	-2.9361*** (0.7260)	-1.8069** (0.8840)	-1.8443** (0.7714)	-2.0511** (0.8188)
Constant	1.1173 (1.2995)	0.9199 (1.0925)	0.6564 (1.2076)	-0.5024 (1.1445)	0.1019 (1.1182)

\*p &lt; 0.1; \*\*p &lt; .05; \*\*\*p &lt; .01

**TABLE 6** Corrective Specifications of Model 2—Dependent Variable: Official Tariff

	Model 2A PCSEs ARI Correction	Model 2B PCSEs PSARI Correction	Model 2C FGLS Hetero. & ARI	Model 2D FGLS Hetero. & PSARI Correction	Model 2E FGLS Correction
Lagged Dependent Variable	0.9578*** (0.0088)	0.9681*** (0.0067)	0.9718*** (0.0082)	0.9610*** (0.0114)	0.9662*** (0.0090)
Personal Vote	0.4739* (0.2441)	0.1902 (0.1942)	0.5048*** (0.1912)	0.6257** (0.2644)	0.3040 (0.2119)
Presidential Powers	-1.5876*** (0.6048)	-0.9804* (0.5467)	-1.3715*** (0.3718)	-1.6419*** (0.4923)	-1.1727*** (0.4430)
Excl. Executive Trade Powers	-3.1515 (2.6719)	-3.5702 (2.8839)	-4.9021* (2.5755)	-2.9793 (3.2646)	-3.1503 (2.7876)
Average District Magnitude	-0.0755 (0.0675)	-0.0732 (0.0653)	-0.0713 (0.0601)	-0.0879* (0.0485)	-0.0771 (0.0513)
Effective Number of Parties	1.1812*** (0.2206)	1.1408*** (0.2205)	1.0059*** (0.2030)	0.6936*** (0.2399)	0.7463*** (0.2410)
Neoliberalism	-6.0793*** (1.8461)	-5.1180** (2.0079)	-5.4317*** (1.4374)	-3.7591*** (1.2727)	-3.2927** (1.2975)
Neolib.*Exec. Powers	0.8013 (0.7842)	0.1777 (1.0067)	0.5912 (0.5989)	0.8689 (0.6581)	0.3895 (0.6774)
Crisis	-1.1097 (1.1252)	-1.3687 (1.2355)	-1.1098 (0.9471)	-0.9651 (0.7945)	-0.9269 (0.8219)
Crisis Recovery	-0.0914 (0.6681)	0.2661 (0.6298)	-0.4889 (1.0340)	-0.0232 (0.7601)	0.1203 (0.7173)
Left Share of Legislature	-0.0727** (0.0312)	-0.0751** (0.0340)	-0.0679*** (0.0194)	-0.0311* (0.0188)	-0.0496*** (0.0186)
Trade Bloc	-0.7856 (1.3104)	-0.5165 (1.5343)	-0.5142 (1.6436)	-0.5758 (1.4483)	-0.9921 (1.4608)
Import Share of GDP	0.0993 (0.0633)	0.0647 (0.0826)	0.0863 (0.0559)	0.0383 (0.0475)	0.0052 (0.0484)
Change in Import Share	-0.1085* (0.0655)	-0.0691 (0.0675)	-0.0819 (0.0993)	-0.0150 (0.0537)	0.0042 (0.0492)
GDP Per Capita	0.0006 (0.0004)	0.0003 (0.0004)	0.0007** (0.0003)	0.0003 (0.0003)	0.0003 (0.0003)
GDP (in billions U.S. dollars)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Tariff Share of Revenue	-0.0769 (0.0596)	-0.1502** (0.0648)	-0.1003* (0.0577)	-0.0465 (0.0486)	-0.0742 (0.0554)
Skilled Labor	-0.0441 (0.1183)	-0.0020 (0.1155)	-0.1011 (0.0890)	-0.1201 (0.0871)	-0.0415 (0.0832)
Unemployment	-0.0255 (0.1120)	-0.0073 (0.1231)	-0.0070 (0.1171)	0.0537 (0.0797)	0.0205 (0.0742)
Industry Value Added	0.0374 (0.0583)	0.0179 (0.0540)	0.0560 (0.0564)	0.0088 (0.0359)	-0.0032 (0.0283)
Inflation (Log 10)	-1.2550 (0.8461)	-1.4623* (0.8807)	-1.1232 (0.7150)	-0.5682 (0.5176)	-0.6183 (0.4801)
Agricultural Exports	0.0634 (0.0455)	-0.0057 (0.0651)	0.0042 (0.0608)	0.0137 (0.0474)	0.0335 (0.0528)
Agricultural Imports	0.0903 (0.4123)	0.0514 (0.4799)	-0.5817 (0.3701)	-0.4140 (0.3094)	-0.3615 (0.2945)
Constant	0.3856 (2.8448)	3.3923 (2.8893)	1.9890 (2.9510)	3.0840 (2.5586)	3.9866 (2.5197)

\*p &lt; 0.1; \*\*p &lt; .05; \*\*\*p &lt; .01

TABLE 7 Corrective Specifications of Model 3—Dependent Variable: Tariff Dispersion

	Model 3A PCSEs ARI Correction	Model 3B PCSEs PSARI Correction	Model 3C FGLS Hetero. & ARI	Model 3D FGLS Hetero. & PSARI Correction	Model 3E FGLS Correction
Lagged Dependent Variable	0.9666*** (0.0082)	0.9735*** (0.0075)	0.9711*** (0.0142)	0.9740*** (0.0128)	0.9752*** (0.0118)
Personal Vote	0.2713** (0.1136)	0.1755* (0.0931)	0.2720* (0.1398)	0.2646* (0.1372)	0.2243** (0.1137)
Presidential Powers	-0.6640*** (0.1622)	-0.4331** (0.1843)	-0.6095** (0.2626)	-0.6393** (0.2475)	-0.6104** (0.2426)
Excl. Executive Trade Powers	-1.7505 (1.2769)	-1.0172 (1.2790)	-2.2925 (1.8031)	-2.3852 (1.8688)	-1.7062 (1.7927)
Average District Magnitude	-0.0385 (0.0318)	-0.0506 (0.0312)	-0.0381 (0.0378)	-0.0314 (0.0342)	-0.0418 (0.0318)
Effective Number of Parties	-0.1049 (0.1150)	-0.2412** (0.1141)	-0.0715 (0.1359)	0.1010 (0.1614)	-0.0647 (0.1714)
Neoliberalism	-3.1963*** (0.9038)	-3.3287*** (0.8496)	-3.2628*** (1.0498)	-3.1775*** (0.9356)	-3.7429*** (0.8750)
Neolib.*Exec. Powers	0.6252** (0.2699)	0.4389 (0.2883)	0.6315 (0.4011)	0.4668 (0.3968)	0.5590 (0.3752)
Crisis	1.9979** (1.0025)	2.2071** (0.9672)	2.1107*** (0.7473)	0.8086 (0.6733)	1.5188** (0.6909)
Crisis Recovery	-0.1959 (0.7927)	0.1104 (0.7207)	-0.3933 (0.8312)	1.1021 (0.6872)	1.1187* (0.6667)
Left Share of Legislature	-0.0241* (0.0138)	-0.0176 (0.0119)	-0.0227 (0.0157)	-0.0186 (0.0135)	-0.0220* (0.0126)
Trade Bloc	1.6241** (0.6926)	2.2361*** (0.7584)	1.4734 (1.1566)	0.7593 (0.9345)	1.0356 (0.8711)
Import Share of GDP	-0.0199 (0.0419)	0.0005 (0.0481)	-0.0245 (0.0490)	0.0072 (0.0380)	0.0234 (0.0403)
Change in Import Share	-0.0155 (0.0660)	-0.0235 (0.0706)	0.0391 (0.0870)	-0.0159 (0.0579)	-0.0152 (0.0541)
GDP Per Capita	-0.0001 (0.0002)	-0.0002 (0.0002)	-0.0001 (0.0003)	0.0000 (0.0003)	0.0000 (0.0002)
GDP (in billions U.S. dollars)	0.0000** (0.0000)	0.0000** (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Tariff Share of Revenue	0.0893 (0.0666)	0.0582 (0.0680)	0.0696 (0.0713)	0.0546 (0.0511)	0.0488 (0.0553)
Skilled Labor	-0.0311 (0.0554)	-0.0565 (0.0504)	-0.0297 (0.0691)	-0.0422 (0.0614)	-0.0446 (0.0546)
Unemployment	-0.1261* (0.0713)	-0.1539** (0.0630)	-0.1296 (0.0884)	-0.0664 (0.0636)	-0.0865 (0.0615)
Industry Value Added	0.0686** (0.0343)	0.0725** (0.0281)	0.0681 (0.0437)	0.0484* (0.0279)	0.0610** (0.0259)
Inflation (Log 10)	-1.6171*** (0.5322)	-1.6238*** (0.4562)	-1.6412*** (0.5198)	-0.8715** (0.3944)	-1.0135*** (0.3701)
Agricultural Exports	-0.0420 (0.0327)	-0.0610* (0.0364)	-0.0385 (0.0469)	-0.0267 (0.0350)	-0.0441 (0.0353)
Agricultural Imports	-0.1190 (0.2376)	-0.0078 (0.2265)	-0.2498 (0.2785)	-0.2559 (0.2436)	-0.1335 (0.2294)
Constant	2.8005* (1.6548)	3.2260* (1.7081)	3.1896 (2.3119)	1.0446 (1.9074)	1.3108 (1.8268)

\*p &gt; 0.1; \*\*p &gt; .05; \*\*\*p &gt; .01

analysis. Models 1D, 2D, and 3D correct the FGLS errors both for heteroskedasticity and first-order autocorrelation assuming a common temporal error structure across units. Finally, Models 1E, 2E, and 3E use FGLS with heteroskedasticity and panel-specific first-order autocorrelation corrections.

The results in Table 5 suggest that *Personal Vote* is a robust predictor of *Collected Tariffs*, significant in all five of the regressions at the .01 level. *Exclusive Executive Trade Powers* proves robust in these specifications, suggesting that removing the legislature's statutory influence over trade policy may significantly reduce *Collected Tariffs*. *Average District Magnitude* is significant again at the .01 level for both PCSE regressions, and at the .05 level for two of the three FGLS regressions. The results suggest that the effects of electoral district size on *Collected Tariffs* are reasonably robust.

Table 6 reveals that *Executive Powers* predicts *Official Tariffs* consistently, though in Model 2B only at the .1 level. The *Personal Vote*'s effects are less consistent for *Official Tariff*, failing significance tests in both panel-specific autocorrelation corrections, although the sign remains consistent. Here, *Effective Number of Parties* proves robust (at the .01 level), suggesting that adding a single effective party to a political system is related to a hike in official import taxes ranging from 0.7 to 1.2 percent. Among the controls, only *Neoliberalism* performs consistently well, with *Left Share of Legislature* also significant in four specifications, but bearing the wrong sign.

Finally, Table 7 suggests that, again, *Executive Powers* is a relatively consistent predictor of *Tariff Dispersion*. The *Personal Vote* variable proves less robust for this model, clearing only the .1 threshold in three of the specifications, and the .05 threshold in the other two. *Crisis*, *Inflation*, and *Industry Value Added* appear to be the only other consistent predictors of *Tariff Dispersion* beyond the core political institutions under study.

The two delegation variables outperform nearly all of the other variables in the models save *Neoliberalism* and, arguably, *Inflation*. Yet the results also suggest that the two forms of delegation may have variable effects on different measures of protection. The results tempt me to posit that perhaps the *Personal Vote*, which is a measure of legislative electoral incentives, has its strongest effect where revenue—a traditionally legislative issue—has the greatest relevance. Collected tariffs may therefore prove responsive to legislative electoral concerns, but relatively unresponsive to executive powers. On the other hand, the results suggest, not surprisingly, that presidents have greater sway over the actual structure of the tariff code—in both its overall levels and its unevenness.

## Conclusion

The regressions are suggestive. As a first cut at quantitative analysis of relationships between political institutions and trade-policy variables in developing countries, these results are encouraging. The significance of the personal vote and presidential powers should encourage further study of the relationship between institutions of delegation and trade policy outcomes. Some of the evidence also suggests that there may be a relationship between the size of electoral districts and protection and the number of parties and tariffs, although this evidence is weaker than the evidence for the importance of the personal vote and presidential powers. Coupled with the strong effects of neoliberalism on trade policy suggested by the regressions, these results point future analysis toward the supply side of the trade policy equation.

I was surprised at the relative underperformance of the conventional political economy controls, particularly in their overall failure to predict official tariff rates and tariff variance. The effects of the lagged dependent variable on these heavily trended controls may account for much of the underperformance. Still, these results suggest that only inflation and industry value added seem to affect developing-country tariffs in a consistent, predicted way, if prior protection is also considered. And this presumes that industry value added affects protection in the opposite way than it is believed to matter in developed economies. Thus, in unstable policy environments, demand-side factors alone likely do not provide a viable explanation for tariffs.

Clearly, there remains much work to do in quantitative analysis of institutions and trade. Institutional variables need to be applied to a larger sample, expanding the observations both over time and cross sectionally. Also, adding additional dependent variables seeking to assess trade policy—such as trade-weighted tariffs and nontariff barriers—would further illuminate these questions in future research. The important conclusion is that effective delegation to party leaders may actually help overcome preference-aggregation and collective-action problems on trade that are embedded elsewhere in a country's political institutions. We may be closer to answering the economists' conundrum: If free trade is such an obvious benefit, why don't more countries employ it? The answer may well lie in the configuration of political institutions.

## References

- Achen, Christopher. 2000. "Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Independent Variables." Paper presented at the Annual Meeting of the

- Political Methodology Section of the American Political Science Association, UCLA, July 20–22.
- Alchian, Armon, and Harold Demsetz. 1972. "Production, Information Costs and Economic Organization." *American Economic Review* 62(5):777–95.
- Ames, Barry. 2001. *The Deadlock of Democracy in Brazil*. Ann Arbor: University of Michigan Press.
- Baker, Andrew. 2001. "Why is Trade Reform So Popular in Latin America?" Paper presented at the American Political Science Association Annual Meeting, San Francisco, September.
- Beck, Nathaniel, and Jonathan Katz. 1995. "What to Do (and Not to Do) with Time-Series Cross-Section Data." *American Political Science Review* 89(December):634–47.
- Buttari, Juan J. 1992. "Economic Policy Reform in Four Central American Countries: Patterns and Lessons Learned." *Journal of Interamerican Studies and World Affairs* 34(Spring):179–214.
- Cain, Bruce E., John Ferejohn, and Morris Fiorina. 1987. *The Personal Vote: Constituency Service and Electoral Independence*. Cambridge: Harvard University Press.
- Carranza, Carlos, and José C. Chinchilla. 1994. "Ajuste Estructural en Costa Rica, 1985–1993." In *Los Pequeños Países de América Latina en la Hora Neoliberal*, ed. Gerónimo de Sierra. Mexico City: Universidad Autónoma de México, pp. 39–68.
- Carey, John, and Matthew Soberg Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formula." *Electoral Studies* 14(4):417–39.
- Conaghan, Catherine M., and James M. Malloy. 1994. *Unsettling Statecraft: Democracy and Neoliberalism in the Central Andes*. Pittsburgh: University of Pittsburgh Press.
- Coppedge, Michael. 1997. "A Classification of Latin American Political Parties." Kellogg Institute Working Paper No. 244.
- Cox, Gary W. 1987. *The Efficient Secret*. New York: Cambridge University Press.
- Cox, Gary W. 1997. *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. New York: Cambridge University Press.
- Cox, Gary W., and Mathew D. McCubbins. 1993. *Legislative Leviathan: Party Government in the House*. Berkeley: University of California Press.
- Cox, Gary W., and Mathew D. McCubbins. 2001. "The Institutional Determinants of Economic Policy Outcomes." In *Presidents, Parliaments and Policy*, ed. Stephan Haggard and Mathew McCubbins. New York: Cambridge University Press.
- Edwards, Sebastian. 1995. *Crisis and Reform in Latin America*. New York: Oxford University Press.
- Freedom House. 1972–1998. *Freedom in the World*. New York: Freedom House.
- Gazeta Mercantil. 1995. "Aliquotas Elevaram até 70%." *Gazeta Mercantil*, 30 March, 1A.
- Geddes, Barbara. 1994. *Politician's Dilemma: Building State Capacity in Latin America*. Berkeley: University of California Press.
- Georgetown/OAS. 1999. Political Database of the Americas. <http://www.georgetown.edu/pdba/>.
- Goldstein, Judith, and Robert Keohane. 1993. "Ideas and Foreign Policy: An Analytical Framework." In *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change*, ed. Judith Goldstein and Robert Keohane. Ithaca: Cornell University Press.
- Gourevitch, Peter. 1986. *Politics in Hard Times: Comparative Responses to International Economic Crises*. Ithaca: Cornell University Press.
- Gowa, Joanne. 1988. "Public Goods and Political Institutions: Trade and Monetary Policy Processes in the United States." *International Organization* 42(Winter):15–31.
- Grossman, Gene, and Elhanan Helpman. 1994. "Protection for Sale." *American Economic Review* 84(September):833–50.
- Haggard, Stephan. 1988. "The Institutional Foundations of Hegemony: Explaining the Reciprocal Trade Agreements Act of 1934." In *The State and American Foreign Economic Policy*, ed. John Ikenberry, David Lake, and Michael Mastanduno. Ithaca: Cornell University Press.
- Haggard, Stephen. 1990. "The Political Economy of the Philippine Debt Crisis." In *Economic Crisis and Policy Choice*, ed. Joan Nelson. Princeton: Princeton University Press.
- Haggard, Stephan, and Robert Kaufman. 1995. *The Political Economy of Democratic Transitions*. Princeton: Princeton University Press.
- Hicken, Allen, and Yuko Kasuya. 2003. "A Guide to the Constitutional Structures and Electoral Systems of East, South and Southeast Asia." *Electoral Studies*, forthcoming.
- Huneus, Carlos. 1998. "Technocrats and Politicians in the Democratic Politics of Argentina." In *The Politics of Expertise in Latin America*, ed. Miguel A. Centeno and Patricio Silva. London: Macmillan Press.
- International Labour Office. 1970–1998. *Yearbook of Labor Statistics*. Geneva: International Labour Office.
- International Monetary Fund (IMF). 1970–98. *Government Finance Statistics Yearbook*. Washington: International Monetary Fund.
- International Monetary Fund (IMF). 1970–98. *International Financial Statistics*. Washington: International Monetary Fund.
- Jones, Mark P. 1995. "A Guide to the Electoral Systems of the Americas." *Electoral Studies* 14(1):5–21.
- Katzenstein, Peter. 1985. *Small States in World Markets: Industrial Policy in Europe*. Ithaca: Cornell University Press.
- Keesing's Record of World Events*. 1995–2000. London: Longman.
- Kiewiet, D. Roderick, and Mathew D. McCubbins. 1991. *The Logic of Delegation: Congressional Parties and the Appropriations Process*. Chicago: University of Chicago Press.
- Kingstone, Peter R. 1998. "Corporatism, Neoliberalism, and the Failed Revolt of Big Business: Lessons from the Case of IEDI." *Journal of Interamerican Studies and World Affairs* 40(Winter):73–95.
- Kitschelt, Herbert. 2000. "Linkages Between Citizens and Politicians in Democratic Polities." *Comparative Political Studies* 33(6–7):845–79.
- Lie, John. 1998. *Han Unbound: The Political Economy of South Korea*. Stanford: Stanford University Press.
- Lindau, Juan D. 1996. "Technocrats and Mexico's Policy Elite." *Political Science Quarterly* 111(Summer):295–322.
- Magee, Stephen P., William A. Brock, and Leslie Young. 1989. *Black Hole Tariffs and Endogenous Policy Theory: Political Economy in General Equilibrium*. Cambridge: Cambridge University Press.

- Mainwaring, Scott, and Timothy R. Scully. 1995. *Building Democratic Institutions: Party Systems in Latin America*. Stanford:Stanford University Press.
- Mansfield, Edward D., and Marc L. Busch. 1995. "The Political Economy of Nontariff Barriers: A Cross-National Analysis." *International Organization* 49(4):723–49.
- Mayhew, David R. 1974. *Congress: The Electoral Connection*. New Haven: Yale University Press.
- McManus, John C. 1975. "The Cost of Alternative Economic Organizations." *Canadian Journal of Economics* 8(August):334–50.
- Morley, Samuel, Roberto Machado, and Stefano Pettinato. 1999. "Indexes of Structural Reform in Latin America." Serie de Reformas Económicas No. 12, Economic Commission for Latin America and the Caribbean, Santiago, Chile.
- Munck, Gerardo, and Jay Verkuilen. 2002. "Conceptualizing and Measuring Democracy: Evaluating Alternative Indices." *Comparative Political Studies* 35(1):5–24.
- Myerson, Roger B. 1993. "Incentives to Cultivate Favored Minorities under Alternative Elective Systems." *American Political Science Review* 87(December):856–69.
- Nielson, Daniel L., and Matthew S. Shugart. 1999. "Constitutional Change in Colombia: Policy Adjustment through Institutional Reform." *Comparative Political Studies* 32(3):313–41.
- Nohlen, Dieter. 1993. *Enciclopedia Electoral Latinoamericana y del Caribe*. San José, Costa Rica: Instituto Interamericano de Derechos Humanos.
- Ocampo, José Antonio. "An Ongoing Structural Transformation: The Colombian Economy, 1986–1996." In *After Neoliberalism: What Next for Latin America?*, ed. Lance Taylor. Ann Arbor: University of Michigan Press.
- O'Halloran, Sharyn. 1994. *Politics, Process, and American Trade Policy*. Ann Arbor: University of Michigan Press.
- Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge: Harvard University Press.
- Prebisch, Raul. 1950. "Commercial Policy in the Underdeveloped Countries." *American Economic Review* 40:251–73.
- Ramos, Joseph. 1997. "Neo-Liberal Structural Reforms in Latin America: The Current Situation." *CEPAL Review* 62:15–39.
- Ramseyer, J. Mark, and Frances McCall Rosenbluth. 1993. *Japan's Political Marketplace*. Cambridge: Harvard University Press.
- Rodríguez, Francisco, and Dani Rodrik. 2000. "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence." Unpublished manuscript, <http://ksghome.harvard.edu/~drodrrik.academic.ksg/papers.html>.
- Rodrik, Dani. 1994. "The Rush to Free Trade in the Developing World: Why so Late? Why Now? Will it Last?" In *Voting for Reform: Democracy, Political Liberalization, and Economic Adjustment*, ed. Stephan Haggard and Steven Webb. New York: Oxford University Press.
- Rodrik, Dani. 1995. "Political Economy of Trade Policy." In *Handbook of International Economics, Volume 3*, ed. Gene Grossman and Kenneth Rogoff. Amsterdam: Elsevier Science.
- Rogowski, Ronald. 1987. "Trade and the Variety of Democratic Institutions." *International Organization* 41(2):203–22.
- Rogowski, Ronald. 1995. "Trade, Economic Concentration and U.S. Political Institutions." Unpublished manuscript.
- Samuels, David, and Matthew Shugart. 2001. "Presidentialism, Elections and Representation." Paper prepared for the Conference on Citizen-Politician Linkages, Duke University, March 30–April 1, 2001.
- Samuelson, Paul A. 1954. "The Pure Theory of Public Expenditure." *Review of Economics and Statistics* 36(4):387–89.
- Samuelson, Paul A. 1955. "A Diagrammatic Exposition of a Theory of Public Expenditure." *Review of Economics and Statistics* 37(4):350–56.
- Schiavon, Jorge. 2001. "Effective Number of Parties in Single or Lower House in Latin America (1980–2000)." Centro de Investigación y Docencia Económicas, Mexico City, Mexico. [http://www.cide.edu/investigadores/jorge\\_schiavon/parties\\_in\\_lower\\_house.htm](http://www.cide.edu/investigadores/jorge_schiavon/parties_in_lower_house.htm).
- Segovia, Alexander. 1994. "La Experiencia Política del Ajuste en El Salvador." In *Los Pequeños Países de América Latina en la Hora Neoliberal*, ed. Gerónimo de Sierra. Mexico City: Universidad Autónoma de México.
- Shugart, Matthew Soberg. 1998. "The Inverse Relationship between Party Strength and Executive Strength: A Theory of Politicians' Constitutional Choices." *British Journal of Political Science* 28(January):1–29.
- Shugart, Matthew Soberg, and John M. Carey. 1992. *Presidents and Assemblies: Constitutional Design and Electoral Dynamics*. New York: Cambridge University Press.
- Sierra, Gerónimo de. 1994. "Crisis, Ajuste y Cambios Sociopolíticos en Uruguay." In *Los Pequeños Países de América Latina en la Hora Neoliberal*. Mexico City: Universidad Autónoma de México.
- Silié, Rubén, and Manuel Colón. 1994. "Ajuste estructural y modelo neoliberal en República Dominicana." In *Los pequeños países de América Latina en la hora neoliberal*, ed. Gerónimo de Sierra. Mexico City: Universidad Autónoma de México, pp. 89–120.
- Silva, Patricio. 1991. "Technocrats and Politics in Chile." *Journal of Latin American Studies* 23(Summer):358–410.
- Sondrol, Paul C. 1992. "The Emerging New Politics of Liberalizing Paraguay: Sustained Civil-Military Control without Democracy." *Journal of Interamerican Studies and World Affairs* 34(Summer):127–63.
- Taagepera, Rein, and Matthew Soberg Shugart. 1989. *Seats and Votes: The Effects and Determinants of Electoral Systems*. New Haven: Yale University Press.
- Weingast, Barry, Kenneth Shepsle, and Christopher Johnsen. 1981. "The Political Economy of Benefits and Costs: A Neoclassical Approaches to Distributive Politics." *Journal of Political Economy* 89(4):642–64.
- Williamson, John, ed. 1994. *The Political Economy of Policy Reform*. Washington: Institute for International Economics.
- World Bank. 2001. *World Development Indicators*. Washington: World Bank.