

# REGIME TYPE, VETO POINTS, AND PREFERENTIAL TRADING ARRANGEMENTS

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Preferential trading agreements (PTAs) are proliferating rapidly. Scores of these institutions have formed over the past half-century and almost every country currently participates in at least one. By 2006, according to the World Trade Organization (WTO), nearly 300 PTAs were in force, covering approximately half of the overseas trade conducted worldwide.<sup>1</sup> Why states have chosen to enter such arrangements and what bearing the spread of PTAs will have on international affairs are issues that have generated considerable controversy. Some observers fear that these arrangements have adverse economic consequences and have eroded the multilateral system that has guided international economic relations in the post-World War II era. Others argue that such institutions are stepping stones to greater multilateral openness and stability. This debate has stimulated a large body of literature on the economic and political implications of PTAs. Surprisingly little research, however, has analyzed the factors giving rise to these arrangements. The purpose

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<sup>1</sup> Pascal Lamy, *Foreword* to *OPENING MARKETS FOR TRADE IN SERVICES: COUNTRIES AND SECTORS IN BILATERAL AND WTO NEGOTIATIONS* xx (Juan A. Marchetti & Martin Roy eds., 2009), available at [http://www.wto.org/english/res\\_e/booksp\\_e/open\\_markets\\_e.pdf](http://www.wto.org/english/res_e/booksp_e/open_markets_e.pdf).

of this article is to help fill that gap.

Although nearly every country now belongs to a PTA, some states have rushed to join many of these arrangements, whereas others have joined very few. Moreover, states have entered them at different points in time. What explains these variations? Some studies have emphasized that states enter PTAs to generate economic gains. Taken as a whole, however, there is considerable evidence that preferential arrangements have ambiguous welfare implications, shedding doubt on claims that countries join PTAs for economic reasons alone.<sup>2</sup>

Instead, we emphasize the domestic political benefits and costs for leaders contemplating membership in such an arrangement. First, leaders cannot credibly commit to ignore special interest pleading for trade protection. Consequently, voters may hold heads of state responsible for bad economic times even if these economic conditions were not caused by policies stemming from the demands of special interests. Leaders can help address this problem by entering a PTA. Since this problem is more severe in more competitive electoral systems, democratic chief executives are especially likely to join preferential arrangements. Second, we argue that leaders face transaction costs when making trade agreements. The domestic ratification process contributes heavily to the magnitude of these costs. As the number of "veto points" expands, domestic ratification of an international agreement becomes more difficult. These two different domestic political factors—the nature of the regime and the number of veto points—play a significant role in determining whether countries are willing and able to establish a PTA.

The results of our statistical tests furnish considerable support for these arguments. Based on an analysis of all PTAs formed since World War II, we find that more democratic states are more likely to establish PTAs than their less democratic counterparts. We also find that states are less likely to enter a trade agreement as the number of veto points increases.

## I. WHAT ARE PREFERENTIAL TRADING ARRANGEMENTS?

PTAs are international agreements that aim to promote economic integration among member-states by improving and stabilizing the access that each member has to other participants' markets. There are five different types of PTAs.<sup>3</sup> First, some arrangements grant each participant preferential access to select segments of the other members' markets. Second, a free trade area (FTA) is marked by the elimination of trade barriers on many (if not all) products within the arrangement. Third, customs unions (CUs) are arrangements in which members eliminate trade barriers on other participants' goods and impose a common external ta-

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<sup>2</sup> See generally Richard E. Baldwin & Anthony J. Venables, *Regional Economic Integration*, in HANDBOOK OF INTERNATIONAL ECONOMICS (Gene M. Grossman & Kenneth Rogoff eds., 1995); Robert C. Hine, *International Economic Integration*, in SURVEYS IN INTERNATIONAL TRADE (David Greenaway & L. Alan Winters eds., 1994); JACOB VINER, *THE CUSTOMS UNION ISSUE* (1950) (explaining the ambiguous welfare implications of PTAs).

<sup>3</sup> See generally Jagdish Bhagwati & Arvind Panagariya, *Preferential Trading Areas and Multilateralism: Strangers, Friends, or Foes?*, in THE ECONOMICS OF PREFERENTIAL TRADE AGREEMENTS (Jagdish Bhagwati & Arvind Panagariya eds., 1996); Jaime de Melo & Arvind Panagariya, *Introduction to New Dimensions in Regional Integration* (Jaime de Melo & Arvind Panagariya eds., 1993); RICHARD POMFRET, *UNEQUAL TRADE: THE ECONOMICS OF DISCRIMINATORY INTERNATIONAL TRADE POLICIES* (1988) (addressing the different types of PTAs).

riff (CET) on the goods of third parties. Fourth, a common market is a CU that is augmented by similar product regulations and the free flow of factors of production among members. Fifth, an economic union is a common market in which members also coordinate fiscal and monetary policies. Despite the differences among these institutions, empirical studies generally analyze PTAs as a group. We will do likewise since the argument we advance is focused primarily on why states join a PTA rather than on the particular type that they enter.

## II. THE EFFECTS OF REGIME TYPE AND VETO POINTS ON PTA FORMATION

All political leaders depend on the support of constituents to stay in power. However, the means by which leaders retain office depends on the type of political regime. In democracies, leaders must stand for office in regular and competitive elections. In autocracies, by contrast, they must maintain the allegiance of small, select groups within the country, often including the military, labor unions, key members of the ruling party or economic elites. Autocracies may hold elections, but such contests are much less likely to lead to leadership turnover than those held in democracies. Greater political competition for office spurs democratic leaders to sign international trade agreements.

Leaders in many polities are caught between the pressures exerted by special interest groups and the preferences of voters. Special interests often press for policies—such as protectionist trade policies—that adversely affect the economy. Leaders may want to satisfy some interest groups in order to generate benefits like campaign contributions. But giving in to all interest group demands would have very harmful economic consequences and could imperil their hold on office. Leaders face a credibility problem. They have a hard time convincing the public that they will not accede to special interest demands. When elections take place in combination with poor economic circumstances, voters may blame incumbents for economic problems and turn them out of office. Leaders prefer to remain in office and to do less for interest groups if they can credibly convince voters of their actual behavior.

Trade agreements provide such a mechanism. They allow leaders to commit to a lower level of protectionism than they might otherwise desire, but to signal to voters that they will not allow trade policy to be guided by special interests. Voters, if reassured that leaders are generally abiding by the terms of the agreement, have reason to believe leaders who claim that their policies did not cause bad economic times. In turn, leaders are more likely to remain in office since voters will choose to reelect them even during economic downturns. The more electoral competition there is, the more leaders have to worry about being ejected from office and the greater the problems they face from their inability to make credible commitments about trade policy.

Of course, voters do not display much interest in many policy issues, but economic policy and performance are typically of great concern.<sup>4</sup> Voters may not

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<sup>4</sup> See generally RODERICK D. KIEWIET, *MACROECONOMICS & MICROPOLITICS: THE ELECTORAL EFFECTS OF ECONOMIC ISSUES* (1983); MORRIS P. FIORINA, *RETROSPECTIVE VOTING IN AMERICAN NATIONAL ELECTIONS* (1981); MICHAEL S. LEWIS-BECK, *ECONOMICS AND ELECTIONS: THE MAJOR WESTERN DEMOCRACIES* (1988); Ray Fair, *Presidential and Congressional Vote-Share*

know much about trade policy, but we do expect them to know something about economic conditions. When the economy sours, voters will be more likely to reject incumbents, unless leaders can furnish information that the downturn was due to circumstances beyond their control rather than rent seeking or incompetence. PTAs can provide such information, either by directly monitoring and reporting on members' behavior or because the participating countries have reason to publicize any deviation from the arrangement by a member. Hence, we argue that democracies—where the voting public determines whether the incumbent retains office—should be more likely to sign such agreements than other regime types.

For autocracies, the calculations differ. Interest group pressures for protectionism in autocracies vest leaders of these countries with an incentive to resist entering PTAs that reduce the rents they can provide to supporters. Equally, electoral competition is less likely to determine their fate. Consequently, autocrats have less incentive to enter into agreements than their democratic counterparts.

Like most international agreements, PTAs do not have direct effects in signatory countries. In order for the terms of the arrangement to take hold, it has to be ratified by some set of domestic veto points.<sup>5</sup> We argue that the number of veto points in a country affects the transaction costs that governments bear when ratifying a PTA. More veto points increase these costs, thereby reducing the incentives of leaders to try to negotiate and ratify PTAs.

In this study, we view the state as an aggregation of institutions populated by actors with varying preferences who share decision-making authority. The distribution of decision-making power among these actors and the extent to which their preferences diverge define the number of veto points. Veto points have the ability to block policy change and their assent is necessary to alter existing policies.<sup>6</sup> Conceptually, regime type and veto points are distinct and we treat them as such. Veto points exist in all types of regimes. Even in non-democratic countries, domestic politics is rarely a pure hierarchy with a unitary decision-maker and no constraints on the leaders. Domestic groups with varying preferences who have veto power often compete for influence over policy, and dictators depend on them in making policy and retaining office. Democratic regimes are even more likely to have veto points than non-democratic regimes, although the number of such points varies considerably among democracies. Generally, the legislature and the executive vie for control over decision-making in democracies. Sometimes two or more political parties or coalitions compete. Domestic political institutions determine how such control is distributed among the relevant actors.

In most countries, the executive branch sets the agenda in foreign affairs and has the power to initiate foreign economic policy. However, veto points must ratify policy choices made by the executive, such as joining a trade agreement. Formally, the head of state in a democracy—the prime minister, president, chancellor, or premier—is often required by the national constitution to obtain the approval of the legislature for international agreements, including PTAs. He or she will

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*Equations*, 53 AM. POL. SCI. REV. 55 (2009).

<sup>5</sup> BETH V. YARBROUGH & ROBERT M. YARBROUGH, COOPERATION AND GOVERNANCE IN INTERNATIONAL TRADE: THE STRATEGIC ORGANIZATIONAL APPROACH 35 (1992).

<sup>6</sup> George Tsebelis, *Decision Making in Political Systems: Veto Players in Presidentialism, Parliamentarism, Multicameralism and Multipartyism*, 25 BRIT. J. POL. SCI. 289 (1995). See generally GEORGE TSEBELIS, VETO PLAYERS: HOW POLITICAL INSTITUTIONS WORK 2 (2002).

therefore need to anticipate the legislature's (or any other veto point's) reaction to the proposed arrangement and ensure it is domestically acceptable.

Ratification can also be less formal. In dictatorships, shifts in foreign economic policy frequently require the support of groups like the military or local leaders; implicitly, these groups ratified a trade agreement if they had the ability to veto it and chose not to. Informal ratification also occurs in democracies. If a leader needs to change a domestic law, norm, or practice in order to implement a PTA, even if no formal vote on the arrangement itself is required, a legislative vote on any necessary domestic change becomes a vote on the agreement.

Because of this ratification constraint, veto points affect the formation of PTAs. As the number of veto points increases, so does the likelihood that at least one such point will have a constituency that is adversely affected by the PTA and therefore will block its ratification. To ratify an agreement when many veto points exist is costly for political leaders. They either have to modify the agreement to fit the preferences of the veto groups or they have to bribe the veto groups into accepting it. These means of securing ratification pose transaction costs for leaders. The greater these transaction costs, the less likely leaders are to enter into trade agreements and the more difficult it will be to secure ratification.

One might argue that leaders could simply craft an agreement in ways to purchase the acquiescence of veto points. That is, a government could build enough flexibility into an agreement that its terms would be weakened where domestic groups opposed it, or the government could exclude all sensitive sectors which affected veto points. In this way a government could negotiate any agreement so that its veto points did not oppose it. Research has suggested that governments do indeed respond to domestic conditions when designing international agreements.<sup>7</sup> However, there are several constraints on such behavior. First, the government cannot expect to successfully negotiate whatever terms its domestic veto points want, since foreign countries have to sign on to the agreement. They are likely to want exactly those concessions that the domestic veto points oppose most fiercely. Second, as the number of veto points increases, the demands of these groups for exclusions or flexibility must also grow, making it more difficult for the executive to find an acceptable agreement with its foreign partners. Hence, as the number of veto points rises, the transaction costs of concluding an international agreement are likely to grow, and the possibility of forming a PTA falls.

In addition to regime type and veto points, various studies have identified interest groups as key influences on PTA formation.<sup>8</sup> These groups, however, are not the focus of our attention. PTAs have distributional consequences and so we

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<sup>7</sup> See generally George W. Downs, David M. Rocke & Peter N. Barsoom, *Is the Good News about Compliance Good News about Cooperation?*, 50 INT'L ORG. 379 (1996); Barbara Koremenos, Charles Lipson & Duncan Snidal, *The Rational Design of International Institutions*, 55 INT'L ORG. 1 (2001); Peter B. Rosendorff & Helen V. Milner, *The Optimal Design of International Trade Institutions: Uncertainty and Escape*, 55 INT'L ORG. 829 (2001).

<sup>8</sup> See, e.g., KERRY A. CHASE, *TRADING BLOCS: STATES, FIRMS, AND REGIONS IN THE WORLD ECONOMY* (2005); MICHAEL J. GILLIGAN, *EMPOWERING EXPORTERS: RECIPROCITY, DELEGATION, AND COLLECTIVE ACTION IN AMERICAN TRADE POLICY* (1997); HELEN V. MILNER, *INTERESTS, INSTITUTIONS, AND INFORMATION: DOMESTIC POLITICS AND INTERNATIONAL RELATIONS* (1997); Gene M. Grossman & Elhanan Helpman, *The Politics of Free Trade Agreements*, 85 AM. ECON. REV. 667 (1995); Pravin Krishna, *Regionalism and Multilateralism: A Political Economy Approach*, 113 Q.J. ECON. 227 (1998).

expect certain coalitions to favor freer trade and others to favor protectionism. Determining the composition and power of these distributional coalitions across the range of countries and the time period covered in this study is extremely difficult. Instead, we follow many existing models of veto points in assuming that interest groups affect trade policy indirectly.<sup>9</sup> One way they do so is by shaping the preferences of the executive, since he or she requires their support to retain office. The executive communicates with interest groups about whether to enter into international negotiations and the terms of any prospective PTA prior to sitting down with foreign governments. By lobbying the government, interest groups can influence the government's bargaining position in negotiations over a PTA. The executive's position *ex ante* already reflects the influence of politically important interest groups.

Besides influencing the preferences of heads of state, interest groups have indirect effects through veto points. The distributional consequences of PTAs generate pressure for interest groups to organize and lobby for or against membership. In the trade policy literature, there is a long tradition of associating parties with the trade policy preferences of different interest groups.<sup>10</sup> Preferences over trade policy often structure political cleavages that are represented in party systems. Hence, we expect interest groups to operate through parties, and leaders of such parties constitute the executive and legislature. The structure of the legislature and its partisan composition are key elements in the measure of veto points that we use in the following analysis. Thus, interest groups are represented here indirectly by their impact on the preferences of the executive and the parties.

### III. EMPIRICAL TESTS OF THE HYPOTHESES

In the remainder of this article, we conduct a series of statistical tests of our two hypotheses. Our empirical analysis centers on explaining whether, in a given year, a pair of countries will enter a PTA. More specifically, we examine whether the regime type of, and the number of veto points in, each state comprising the pair affect the likelihood that they will conclude a preferential arrangement. In addition, certain economic and international factors are also likely to influence the probability that countries sign and ratify a trade agreement. We will account for these factors in our empirical analysis.

We begin by estimating the following model:

$$(1) \text{PTA RATIFICATION}_{ij} = \beta_0 + \beta_1 \text{REGIME TYPE}_i + \beta_2 \text{VETO POINTS}_i + \beta_3 \text{EXISTING PTA}_{ij} + \beta_4 \text{TRADE}_{ij} + \beta_5 \text{GDP}_i + \beta_6 \Delta \text{GDP}_i + \beta_7 \text{DISPUTE}_{ij} + \beta_8 \text{ALLY}_{ij} + \beta_9 \text{FORMER COLONY}_{ij} + \beta_{10} \text{CONTIGUITY}_{ij} + \beta_{11} \text{DISTANCE}_{ij} +$$

<sup>9</sup> See generally Witold J. Henisz, *The Institutional Environment for Economic Growth*, 12 *ECON. & POL.* 1 (2000); Daniel Y. Kono, *Optimal Obfuscation: Democracy and Trade Policy Transparency*, 100 *AM. POL. SCI. REV.* 369 (2006); Edward D. Mansfield, Helen V. Milner & Jon C. Pevehouse, *Democracy, Veto Players and the Depth of Regional Integration*, 31 *WORLD ECON.* 67 (2008); Edward D. Mansfield, Helen V. Milner & Jon C. Pevehouse, *Vetoing Cooperation: The Impact of Veto Players on Preferential Trading Arrangements*, 37 *BRIT. J. POL. SCI.* 403 (2007).

<sup>10</sup> See generally RONALD ROGOWSKI, *COMMERCE AND COALITIONS: HOW TRADE AFFECTS DOMESTIC POLITICAL ALIGNMENTS* (1989); Helen V. Milner & Benjamin Judkins, *Partisanship, Trade Policy and Globalization: Is there a Left-Right Party Divide on Trade Policy?*, 48 *INT'L STUD. Q.* 95 (2004).

$$\beta_{12}\text{HEGEMONY} + \beta_{13}\text{GATT}_{ij} + \beta_{14}\text{POST-COLD WAR} + \beta_{15}\% \text{DYADS RATIFYING PTA} + \beta_{16}\text{GDP RATIO}_{ij} + \beta_{17} - \beta_{23}\text{REGIONAL FIXED EFFECTS}_i + \varepsilon_{ij}$$

#### IV. THE DEPENDENT VARIABLE: PTA RATIFICATION

Our dependent variable, PTA RATIFICATION<sub>ij</sub>, is the log of the odds that state *i* ratifies a PTA in year *t* with state *j*, where we observe 1 if this occurs and 0 otherwise. Our analysis covers the period from 1950 to 2005. We focus on reciprocal arrangements, which involve policy adjustment on the part of all members, and exclude non-reciprocal arrangements. The observed value of PTA RATIFICATION<sub>ij</sub> is 1 only when states initially ratify a PTA, not in subsequent years when the agreement is in force. It takes on this value if the country is joining an existing PTA or if it is forming a new one with other partners. It also equals 1 for an existing member of a PTA when a new country enters the arrangement.

If the exact year of ratification could not be determined, we rely on the date that state *i* signed the PTA with state *j*. Since most agreements are ratified relatively soon (on average, slightly less than a year) after they are signed and since we are missing ratification dates in fewer than 30% of the cases where a PTA was signed, this is reasonable approach. Because states *i* and *j* need not—and, indeed, often do not—ratify a preferential arrangement in the same year, our unit of analysis is the annual “directed dyad.” Thus, for each dyad in each year, there is one observation corresponding to state *i* and a second observation corresponding to state *j*. For example, in the case of the United States–Canada dyad in 1985 we include one observation where the United States is *i* and Canada is *j*, and a second observation where Canada is *i* and the United States is *j*. Each monadic variable, as we explain below, is included in this model only once, for the country listed as *i* in each particular observation. Of course, analyzing directed dyads doubles the number of observations in the sample, thereby producing standard errors that are too small. To address this issue, we cluster the standard errors over the undirected dyad.

#### V. THE KEY INDEPENDENT VARIABLES: REGIME TYPE AND VETO POINTS

We focus on two main independent variables. First, we examine country *i*'s regime type in year *t*, REGIME TYPE<sub>*i*</sub>. To measure each state's regime type, we rely on a widely-used index constructed by Gurr, Jagers, and Moore.<sup>11</sup> This index combines five factors that help to capture the institutional differences between democracies and autocracies that we emphasized earlier: the competitiveness of the process for selecting a country's chief executive, the openness of this process, the extent to which institutional constraints limit a chief executive's decision-making authority, the competitiveness of political participation within a country, and the degree to which binding rules govern political participation within it. Following Gurr, et al. and Jagers and Gurr, these data are used to create an 11-point index of

<sup>11</sup> See generally TED ROBERT GURR, KEITH JAGGERS & WILL H. MOORE, *POLITY II: POLITICAL STRUCTURES AND REGIME CHANGE, 1800–1986* ICPSR doc. 9263 (1989); Ted Robert Gurr & Keith Jagers, *Tracking Democracy's Third Wave with the Polity III Data*, 32 J. PEACE RES. 469 (1995) (discussing the composition and construction of this index).

each state's democratic characteristics (DEMOCRACY) and an 11-point index of its autocratic characteristics (AUTOCRACY).<sup>12</sup> The difference between these indices,  $\text{REGIME TYPE} = \text{DEMOCRACY} - \text{AUTOCRACY}$ , yields a summary measure of regime type that takes on values ranging from -10 for a highly autocratic state to 10 for a highly democratic country. In order to ease interpretation, we convert this scale by adding 11 to each value, resulting in a range from 1 (highly autocratic) to 21 (highly democratic).

There are three principal reasons to rely on this measure in our empirical analysis. First, our argument treats regime type as a continuous variable, with the competitiveness of elections ranging from perfectly competitive to completely uncompetitive. As noted above, the index developed by Jagers and Gurr has a range of 21 points, unlike some other measures that treat regime type as a categorical variable.<sup>13</sup> Second, Jagers and Gurr's index highlights a number of institutional dimensions of regime type that we stress. The ability of voters to choose the chief executive, which is central to our theory, is expected to rise as the process for selecting the executive becomes more competitive; as that process becomes more open; and as political participation becomes increasingly competitive. Jagers and Gurr's index captures each of these three institutional elements, whereas various alternative measures do not.<sup>14</sup> Third, their index covers more countries during the period since World War II than most other measures of regime type.<sup>15</sup>

From the standpoint of testing our theory, the second major independent variable in equation (1) is VETO POINTS<sub>*i*</sub>. This variable, which is measured in year *t*, indicates the extent of constitutionally mandated institutions that can exercise veto power over decisions in state *i* as well as the alignment of actors' preferences between those institutions within the state. The data are taken from Henisz,<sup>16</sup> who measures the presence of effective branches of government outside of the executive's control, the extent to which these branches are controlled by the same political party as the executive, and the homogeneity of preferences within these branches.<sup>17</sup>

Henisz's measure is well-suited to testing our theoretical model. The index is theoretically derived from a spatial model of veto points. The theory underlying his measure is very similar to our theory: it is a single dimensional, spatial model of policy choice that allows the status quo and the preferences of the actors to vary across the entire space. Since we focus on trade policy, a single policy dimension is

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<sup>12</sup> GURR ET AL., *supra* note 11, at 36–39; Gurr & Jagers, *supra* note 11, at 471–76.

<sup>13</sup> See, e.g., ADAM PRZEWORSKI, MICHAEL ALVAREZ, JOSE ANTONIO CHEIBUB & FERNANDO LIMONGI, *DEMOCRACY AND DEVELOPMENT: POLITICAL INSTITUTIONS AND WELL-BEING IN THE WORLD, 1950–1990* (2000).

<sup>14</sup> See, e.g., RAYMOND D. GASTIL, *FREEDOM IN THE WORLD: POLITICAL RIGHTS AND CIVIL LIBERTIES* (1990).

<sup>15</sup> See, e.g., *id.*; Kenneth A. Bollen, *Issues in the Comparative Measurement of Political Democracy*, 45 AM. SOC. REV. 370, 387–88 (1980); Mark Gasiorowski, *An Overview of the Political Regime Change Dataset*, 29 COMP. POL. STUD. 469, 480–82 (1996).

<sup>16</sup> See generally Henisz, *Economic Growth*, *supra* note 9; Witold J. Henisz, *The Institutional Environment for Infrastructure Investment*, 11 INDUS. & CORP. CHANGE 355 (2002) (discussing these data).

<sup>17</sup> We use the most recent version of these data, which were updated in 2006. Henisz has developed two measures of veto points, one that includes the judiciary and one that does not. We use the latter measure since there is little reason to believe that the judiciary would influence the decision to enter a PTA. However, our results are quite similar when we use the alternative measure.



useful; preferences range from protectionist to free trade. His measure thus captures nicely what our argument represents as a veto point. Henisz's research reveals that:

- (i) each additional veto point (a branch of government that is both constitutionally effective and controlled by a party different from other branches) provides a positive but diminishing effect on the total level of constraints on policy change and (ii) homogeneity (heterogeneity) of party preferences within an opposition (aligned) branch of government is positively correlated with constraints on policy change.<sup>18</sup>

The resulting measure is a continuous variable ranging from 0 to 1. When VETO POINTS<sub>*i*</sub> equals 0, there is a complete absence of such points in state *i*. Higher values indicate the presence of effective political institutions that can balance the power of the executive. In cases where effective institutions exist, the variables take on larger values as party control across some or all of these institutions diverge from the executive's party. For example, in the United States, the value of this measure is larger during periods of divided government. Because of this variable's theoretically-based construction and its attention to both domestic institutional arrangements and the preferences within those arrangements, it is appropriate for testing our hypotheses.

## VI. CONTROL VARIABLES

We also include a number of variables that previous studies have linked to the formation of PTAs to ensure that any observed effects of regime type or veto points are not due to other international or domestic factors. Some of these variables also help us to control for differences in preferences between countries. For instance, countries without ongoing disputes and ones that are allies or that trade extensively may be much more likely to make agreements since they tend to share political and economic interests. Holding these factors constant is important for testing our argument about the effect of domestic political factors. We also need to account for a set of systemic factors that previous studies have linked to PTA formation.

First, TRADE<sub>*ij*</sub> is the logarithm of the total value of trade (in constant 2000 U.S. dollars) between countries *i* and *j* in year *t*.<sup>19</sup> Various observers argue that increasing economic exchange creates incentives for domestic groups that benefit as a result to press governments to enter PTAs, since these arrangements help to avert the possibility that trade relations will break down in the future.<sup>20</sup> Moreover, high-

<sup>18</sup> Henisz, *Infrastructure Investment*, *supra* note 16, at 363.

<sup>19</sup> We add .001 to all values of trade since some dyads conduct no trade in particular years and the logarithm of zero is undefined. Note that we use the International Monetary Fund's (IMF's) *Direction of Trade Statistics*, available at: <http://www2.imfstatistics.org/DOT/> as the main source for the trade data. Missing data on trade flows are filled in with Kristian Skrede Gleditsch, *Expanded Trade and GDP Data*, 46 J. CONFLICT RESOL. 712 (2002). Both the IMF data and Gleditsch's data are expressed in current dollars. We deflate these data using the U.S. gross domestic product (GDP) deflator.

<sup>20</sup> See, e.g., Joseph S. Nye, *Neorealism and Neoliberalism*, 40 WORLD POL. 235, 245–48 (1988).

tened overseas commerce can increase the susceptibility of firms to predatory behavior by foreign governments, prompting firms to press for the establishment of PTAs that limit the ability of governments to behave opportunistically.<sup>21</sup>

Besides economic relations between countries, economic conditions within countries are likely to influence PTA formation. Particularly important in this regard is a state's economic size. Large states may have less incentive to seek the expanded market access afforded by PTA membership than their smaller counterparts. We therefore analyze  $GDP_i$ , the logarithm of country  $i$ 's gross domestic product (in constant 2000 U.S. dollars) in year  $t$ . Moreover, fluctuations in economic growth may affect whether states enter preferential arrangements. On the one hand, some research indicates that downturns in the business cycle lead states to seek membership in such arrangements.<sup>22</sup> On the other hand, increased growth is likely to increase a country's demand for imports and supply of exports, creating an incentive to gain preferential access to overseas markets. To address this issue, we introduce  $\Delta GDP_i$ , the change in  $GDP_i$  from year  $t-1$  to year  $t$ .<sup>23</sup>

In addition, political relations between states may influence whether those states join the same PTA, independent of their respective domestic political structures. Commercial cooperation also depends on the extent of differences in preferences between countries' leaders. The further apart these preferences are, the less likely the states are to cooperate. We therefore include a number of variables that tap the foreign policy differences between states. Military hostilities between states signal large differences in preferences between countries and may discourage them from signing a PTA. As such, we include  $DISPUTE_{ij}$ , which is coded 1 if countries  $i$  and  $j$  are involved in a dispute during year  $t$  and 0 otherwise. Many studies of political disputes rely on the militarized interstate disputes (MIDs) dataset.<sup>24</sup> However, these data do not extend beyond 2000. To analyze the longest possible time frame, we therefore use the PRIO data on interstate armed conflict, which covers the period from 1950 to 2005.<sup>25</sup> Just as disputes may inhibit PTA formation, close political-military relations may promote it.<sup>26</sup> We therefore analyze  $ALLY_{ij}$ , which equals

<sup>21</sup> YARBROUGH & YARBROUGH, *supra* note 5.

<sup>22</sup> WALTER MATTLI, *THE LOGIC OF REGIONAL INTEGRATION: EUROPE AND BEYOND* 51–52 (1999).

<sup>23</sup> GDP data are also taken from Gleditsch, *supra* note 19.

<sup>24</sup> See, e.g., Daniel M. Jones, Stuart A. Bremer & David Singer, *Militarized Interstate Dispute, 1816–1992: Rationale, Coding Rules, and Empirical Patterns*, 15 *CONFLICT MGMT. & PEACE SCI.* 163 (1996); Faten Ghosn & Glenn Palmer, *Codebook for the Militarized Interstate Dispute Data, Version 3.0* (April 14, 2003), available at [http://www.correlatesofwar.org/COW2%20Data/MIDs/MID\\_v3.0.codebook.pdf](http://www.correlatesofwar.org/COW2%20Data/MIDs/MID_v3.0.codebook.pdf).

<sup>25</sup> We use v4–2008 of the data, available at <http://www.prio.no/CSCW/Datasets/Armed-Conflict/UCDP-PRIO/old-versions/4-2007/>. Their data includes four types of conflict: (1) extra-systemic armed conflict that occurs between a state and a non-state group outside its own territory; (2) interstate armed conflict occurs between two or more states; (3) internal armed conflict occurs between the government of a state and one or more internal opposition group(s) without intervention from other states; and (4) internationalized internal armed conflict occurs between the government of a state and one or more internal opposition group(s) with intervention from other states (secondary parties) on one or both sides. The third type of conflict was dropped. We retained the other three types and expanded the data so that all possible dyads between the countries on side A and those on side B of each conflict were included. See UCDP/PRIO Armed Conflict Dataset Codebook Version 4-2008, available at: <http://www.prio.no/sptrans/1664678440/Codebook.pdf> at 7.

<sup>26</sup> See generally JOANNE GOWA, *ALLIES, ADVERSARIES, AND INTERNATIONAL TRADE* (1994); Edward D. Mansfield, *Effects of International Politics on Regionalism in International Trade*, in *REGIONAL INTEGRATION AND THE GLOBAL TRADING SYSTEM* 210 (Kym Anderson & Richard Black-

1 if countries  $i$  and  $j$  are members of a military alliance in year  $t$ , 0 otherwise. We code this variable using the Alliance Treaty Obligations and Provisions (ATOP) data.<sup>27</sup> To ensure that our results are robust to the measures of disputes and alliances that are used, however, we conduct some additional tests after using the MID data to measure disputes and the Correlates of War (COW) data to measure alliances. Since previous research has found that a former colonial relationship between  $i$  and  $j$  increases the likelihood that they will enter the same PTA, we also include FORMER COLONY<sub>ij</sub>, which equals 1 if countries  $i$  and  $j$  had a colonial relationship that ended after World War II, 0 otherwise.<sup>28</sup> Adding these variables allows us to account for some international factors that affect interstate commercial relations while analyzing the domestic political sources of international economic cooperation.

Geographic distance is another important influence on PTA membership. States often enter PTAs to obtain preferential access to the markets of their key trade partners. These partners tend to be located nearby, since closer proximity reduces transportation costs and other impediments to trade. We introduce two variables to capture distance. CONTIGUITY<sub>ij</sub> is a dummy variable that is coded 1 if countries  $i$  and  $j$  share a common border or are separated by 150 miles of water or less. DISTANCE<sub>ij</sub> is the logarithm of the capital-to-capital distance between  $i$  and  $j$ . It is useful to include both variables since some states have distant capitals (for example, Russia and China) yet share borders, while other states do not share borders but are in relatively close proximity (for example, Benin and Ghana).<sup>29</sup>

Further, systemic conditions are likely to affect the prospects of PTA formation. Many studies have found that declining hegemony contributes to the proliferation of preferential arrangements.<sup>30</sup> We therefore include HEGEMONY, the proportion of global GDP produced by the state with the largest GDP (in our sample, the United States for each year) in year  $t$ . In addition, we include POST-COLD WAR, which equals 0 from 1950 to 1988 and 1 thereafter, to account for the spike in PTAs after the Berlin Wall's collapse.<sup>31</sup> These variables take on the same value for each country in  $t$ . We also examine whether power disparities influence the establishment of preferential arrangements. To address this issue, we include GDP RATIO<sub>ij</sub>, which is the natural logarithm of the ratio of the country GDPs for each dyad in

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hurst eds., 1993).

<sup>27</sup> Brett Leeds et al., *Alliance Treaty Obligations and Provisions, 1815–1944*, 28 INT'L INTERACTIONS 237 (2002). For the ATOP data, we use version 3.0, specifically the atop3\_oddtyr.dta file. Because the data end in 2003, we use data from 2003 to fill in 2004.

<sup>28</sup> Edward D. Mansfield, Helen V. Milner & B. Peter Rosendorff, *Why Democracies Cooperate More: Electoral Control and International Trade Agreements*, 56 INT'L ORG. 477, 499 (2002); Edward D. Mansfield & Eric Reinhardt, *Multilateral Determinants of Regionalism: The Effects of GATT/WTO on the Formation of Preferential Trading Arrangements*, 57 INT'L ORG. 829, 849 (2003). Data on former colonial relations are taken from GEORGE THOMAS KURIAN, *ENCYCLOPEDIA OF THE THIRD WORLD* (1992).

<sup>29</sup> Data on distance and contiguity are taken from D. Scott Bennett & Allan Stam, *EUGene: A Conceptual Manual*, 26 INT'L INTERACTIONS 179 (2000).

<sup>30</sup> See, e.g., Jagdish Bhagwati, *Regionalism and Multilateralism: An Overview*, in NEW DIMENSIONS IN REGIONAL INTEGRATION 40 (Jaime de Melo & Arvind Panagariya eds., 1993); Paul R. Krugman, *Regionalism Versus Multilateralism: Analytical Notes*, in NEW DIMENSIONS IN REGIONAL INTEGRATION 74 (Jaime de Melo & Arvind Panagariya eds., 1993); Edward D. Mansfield, *The Proliferation of Preferential Trading Arrangements*, 42 J. CONFLICT RESOL. 523, 524 (1998).

<sup>31</sup> Edward D. Mansfield & Helen V. Milner, *The New Wave of Regionalism*, 53 INT'L ORG. 589, 610–11 (1999).

year  $t$ . In computing this variable, the larger GDP is always in the numerator; hence, a negative sign on the coefficient of this variable would indicate that a greater disparity between the countries decreases the likelihood of PTA ratification.

Various studies have concluded that PTA formation is marked by a diffusion process, whereby the decision by one set of countries to join a preferential arrangement prompts others to do likewise.<sup>32</sup> If a set of states joins a PTA, their economic rivals (outside the bloc) may fear that preferential access to an expanded market will furnish those states with a competitive advantage, thus inducing their rivals to join other PTAs to obtain similar benefits. In the same vein, the appearance that a PTA is benefitting members can lead third parties to join existing arrangements or form new ones in an attempt to realize similar gains.<sup>33</sup>

To address the possibility of diffusion in PTA formation, we include several variables. First, we add the percent of all dyads in the system that ratified a PTA in year  $t-1$ , %DYADS RATYFING PTA. This variable is intended to tap global pressures for the diffusion of PTAs. After conducting some initial estimates of our model, we include a measure of regional diffusion pressures (REGION PTA<sub>*i*</sub>). It is calculated as the number of PTAs in country  $i$ 's geographical region—excluding those arrangements to which country  $i$  is a party—divided by the total number of countries in that region. We also include EXISTING PTA<sub>*ij*</sub> to indicate whether countries  $i$  and  $j$  are already in a PTA, since there is reason to expect that participating in one is likely to affect a state's proclivity to create or join another arrangement with the same partner.

Because the GATT and the WTO recognize and attempt to govern the establishment of PTAs, members of these global institutions may also be disproportionately likely to enter preferential arrangements.<sup>34</sup> Consequently, we introduce GATT<sub>*ij*</sub> in the model. It equals 1 if countries  $i$  and  $j$  are both members of GATT in each year,  $t$ , prior to 1995 or if they are both members of the WTO in years from 1995 on, and 0 otherwise.<sup>35</sup> We also include regional fixed effects, using the eight regional categories identified by the World Bank.<sup>36</sup> Finally,  $\varepsilon_{ij}$  is a stochastic error term.

Descriptive statistics for all of these variables are presented in Table 1. The sample in the following analyses is comprised of all pairs of states during the period from 1950 to 2005. Because the observed value of the dependent variable is dichotomous, we use logistic regression to estimate the model. Tests of statistical significance are based on robust standard errors clustered on the dyad to address any heteroskedasticity in the data, as well as other problems associated with the di-

<sup>32</sup> See, e.g., de Melo & Panagariya, *supra* note 3, at 5–6; KENNETH A. OYE, ECONOMIC DISCRIMINATION AND POLITICAL EXCHANGE: WORLD POLITICAL ECONOMY IN THE 1930S AND 1980S (1992); POMFRET, *supra* note 3; YARBROUGH & YARBROUGH, *supra* note 5; Raquel Fernández & Jonathan Portes, *Returns to Regionalism: An Analysis of Nontraditional Gains from Regional Trade Agreements*, 12 WORLD BANK ECON. REV. 197, 207–13 (1998); Mansfield, *supra* note 30.

<sup>33</sup> POMFRET, *supra* note 3; YARBROUGH & YARBROUGH, *supra* note 5.

<sup>34</sup> Mansfield & Reinhardt, *supra* note 28.

<sup>35</sup> Data are taken from the WTO web site. WTO, Understanding the WTO: Members, [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm) (last visited March 5, 2010).

<sup>36</sup> The World Bank does not give a region for advanced industrial countries, such as those in Western Europe, as well as the United States, Canada, and Japan. We assign them to their appropriate geographic regions. We also deviate from the World Bank in distinguishing South America from Central America and the Caribbean.

rected dyad research design. To account for temporal dependence in the formation of PTAs, we include a spline function of the number of years that have elapsed (as of  $t$ ) since each dyad last formed a PTA, with knots at years 1, 4, and 7, as suggested by Beck, Katz, and Tucker.<sup>37</sup> In the following tables, however, the estimates of this function are omitted to conserve space.

## VII. RESULTS OF THE EMPIRICAL ANALYSIS

Table 2 presents the initial parameter estimates of our model. The first set of results is based on data from 1950 to 2005; it includes the PRIO disputes variable and the ATOP alliance measure. The second set of results relies on the MID and COW alliance data. As such, it covers the time span from 1950 to 2001. We present both sets of results to address whether our findings are consistent across different samples and different measures of disputes and alliances.

The results provide strong evidence that, consistent with our argument, democracy promotes the establishment of PTAs and a higher number of veto points inhibits PTA formation. In each model, the estimated coefficient of REGIME TYPE<sub>*i*</sub> is positive and statistically significant, indicating that more democratic countries are more likely to ratify PTAs than less democratic countries. Moreover, the effect of regime type is relatively large. To assess this effect, we calculated the “relative risk” of state  $i$  entering a PTA with state  $j$  if the former state is democratic or if it is autocratic. More specifically, this risk is the predicted probability of state  $i$  entering a PTA with state  $j$  if state  $i$  is democratic (which we define here as REGIME TYPE<sub>*i*</sub> = 19) divided by the predicted probability of state  $i$  entering a PTA if it is autocratic (which we define here as REGIME TYPE<sub>*i*</sub> = 3), holding constant the remaining variables in the model.<sup>38</sup> If we focus on the first column of estimates in Table 2, a democracy is about 50% more likely to enter a PTA than an autocracy. Figure 1 shows the effects of regime type on the predicted probability of ratification. As democracy rises, the probability of a PTA grows and the number of PTAs ratified rises rather quickly. In fact, holding the other variables constant, a global system composed of autocracies would yield almost 60 dyads ratifying PTAs per year. In a system composed of democracies, this predicted number exceeds 85.

On the other hand, veto points are inversely related to the probability of ratifying a PTA. As reported in Table 2, the coefficient estimates of VETO POINTS<sub>*i*</sub> are negative and statistically significant. To assess the quantitative effects of these variables, we compare the predicted probability of state  $i$  forming a PTA when it has few veto points—which we define as the 10<sup>th</sup> percentile in the data—to the predicted probability when it has many such points—which we define as the 90<sup>th</sup> percentile in the data—holding constant the remaining variables in the model. Based on the results in the first column of Table 2, a state with few veto points is about 40% more likely to form a PTA than one with many veto points. Figure 2 shows that veto points have a substantively large, as well as statistically significant, effect on PTA ratification.

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<sup>37</sup> Nathaniel Beck, Jonathan N. Katz & Richard Tucker, *Taking Time Seriously: Time-Series—Cross-Section Analysis with a Binary Dependent Variable*, 42 AM. J. POL. SCI. 1260 (1998).

<sup>38</sup> The continuous variables are held constant at their mean values and the dichotomous variables are held constant at their modal values.

In addition to domestic politics, various international factors are also important influences on PTA formation. The findings in Table 2 indicate that allies are more likely to sign trade agreements than other countries. Equally, the positive and statistically significant coefficient estimates of  $\text{TRADE}_{ij}$  indicate that states are more likely to enter PTAs with states as the flow of trade between them rises. States that are contiguous and those that are located a long distance from one another are unlikely to form PTAs, since the coefficient estimates of both  $\text{CONTIGUITY}_{ij}$  and  $\text{DISTANCE}_{ij}$  are negative and statistically significant. This suggests that PTAs are most likely to form between states that are nearby but do not share a border.

Power relations among the potential partners in a PTA are also consequential. While some researchers assert that PTAs are usually formed between a large, rich country and a small, poor one, our results indicate otherwise. The coefficient estimate of the ratio of the countries' GDPs ( $\text{GDP RATIO}_{ij}$ ) is negative and statistically significant, implying that greater imbalances in national income discourage the ratification of PTAs. The effects of former colonial relations point in the same direction. Power relations between a former colony and its former metropole tend to be highly asymmetric, and the estimated coefficient of  $\text{FORMER COLONY}_{ij}$  is always negative and significant. As such, dyads marked by a former colonial relationship are less likely to form reciprocal PTAs than other country-pairs. Until 1990 or so, many PTAs were composed of either poor, developing countries or advanced industrial ones. Recently, however, this tendency has changed: many more PTAs now involve a developed and a developing country.<sup>39</sup> Since countries that are equally powerful may be better able to conclude agreements that involve reciprocal concessions, this result may not be terribly surprising. But the idea that most small countries are forced into PTAs with larger ones against their will does not seem to be borne out.<sup>40</sup>

Further, we find that states that already participate in the same PTA are more likely to form another one than states that are not PTA partners. In fact, a large number of dyads enter into a PTA, having already participated in a trade agreement with the same partners. In 2005, 1,165 dyad pairs were parties to two agreements; 415 pairs to three PTAs; 82 pairs to four PTAs; 27 dyads to five PTAs; and three pairs to six PTAs. In 1976, for instance, Papua New Guinea and Australia inked a bilateral agreement, followed by both countries joining the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) in 1980. Singapore and New Zealand signed a bilateral agreement in 2000, after which both countries entered the Trans-Pacific Strategic Economic Partnership Agreement in 2005. In 1997, the Greater Arab Free Trade Agreement (GAFTA) was signed. Among the members were three countries (Morocco, Tunisia, and Libya) that were also in the Arab Maghrib Union, as well as six members (Iraq, Egypt, Syria, Yemen, Kuwait, and the United Arab Emirates) that were already joined under the Council of Arab Economic Unity (CAEU).

The GATT/WTO influences preferential arrangements as well. Members of the multilateral regime are more likely to form PTAs than other states. At first

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<sup>39</sup> Jaime de Melo, *Regionalism and Developing Countries: A Primer*, 41 J. WORLD TRADE 351, 351-52 (2007).

<sup>40</sup> LLOYD GRUBER, *RULING THE WORLD: POWER POLITICS AND THE RISE OF SUPRANATIONAL INSTITUTIONS* 28 (2000).

blush, this result might seem surprising since this institution was intended to combat regionalism and bilateralism. However, the GATT's Article XXIV made specific provisions for such agreements. More generally, though, countries with an interest in open trade unilaterally are likely to be drawn to both the GATT/WTO and PTAs.<sup>41</sup>

Interestingly, conflict has a much less consistent effect on PTA formation. When we focus on MID<sub>*i*</sub>, conflict has a statistically significant, dampening impact on PTA ratification. When we focus on the PRIO measure, by contrast, the effect of conflict is both smaller and weaker.

Domestic economic conditions also influence the probability of ratifying a PTA. That the estimated coefficient of GDP<sub>*i*</sub> is positive indicates that economically large countries are more likely to form PTAs than their smaller counterparts, although it is statistically significant in only one of the two sets of results. Further, there is some evidence that PTAs form in reaction to dips in the business cycle. The estimated coefficient of ΔGDP<sub>*i*</sub> is negative and significant when the analysis is restricted to the period from 1950 to 2001. For the 1950 to 2005 period, the coefficient is positive but insignificant.

Finally, PTAs tend to form in response to system-wide factors. They are especially likely to form, for example, when hegemony erodes. Each estimated coefficient of HEGEMONY in Table 2 is negative and statistically significant, indicating that the odds of ratifying a preferential arrangement rise as the portion of the world's output accounted for by the leading economy declines. This result may reflect a tendency for hegemony to organize and manage the multilateral economic system, thereby reducing the incentives for states to form additional preferential arrangements.<sup>42</sup> In addition, we find strong evidence that the likelihood of a dyad forming a PTA spiked in the Cold War's aftermath. In each case, the estimated coefficient of POST-COLD WAR is positive and statistically significant. This result is also interesting because many observers argue that the bipolar structure of the international system that marked the Cold War gave way to a unipolar system once the Soviet Union imploded.<sup>43</sup> Yet hegemony inhibits PTA formation. One possibility is that our measure of hegemony reflects economic rather than political power and that economic hegemony inhibits PTAs whereas political-military hegemony promotes them. Another possibility, though, is that the effects of POST-COLD WAR reflect the efforts by countries that were part of the Soviet orbit to become more tightly integrated into the global (especially the Western European) economy once the Berlin Wall fell and the Soviet Union collapsed. One way that these countries tried to accomplish this goal was by forming PTAs with each other and with the advanced industrial countries of Western Europe.

Our results also furnish evidence that PTA formation is marked by a diffusion process. The percentage of all dyads forming PTAs in the prior year has a positive effect on the ratification of PTAs. The estimated coefficient of %DYADS RATIFYING PTA is always positive and significant, indicating that PTA formation

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<sup>41</sup> Helen V. Milner & Keiko Kubota, *Why the Move to Free Trade? Democracy and Trade Policy in the Developing Countries*, 59 INT'L ORG. 107, 134–35 (2005).

<sup>42</sup> ROBERT GILPIN, WAR AND CHANGE IN WORLD POLITICS 127–45 (1981); Stephen D. Krasner, *State Power and the Structure of International Trade*, 28 WORLD POL. 317, 318 (1976).

<sup>43</sup> William C. Wohlforth, *The Stability of a Unipolar World*, 24 INT'L SECURITY 5, 5 (1999).

tends to cluster over time. This implies a global diffusion process. States may be either strategically conditioning their behavior on what their counterparts do or simply following the herd. However, the other measure of diffusion that we described earlier (REGION PTA<sub>i</sub>) points in a different direction. As a country's regional neighbors form PTAs, there is a reduction in the likelihood that this country will enter one, which implies that diffusion pressures do not exist at the regional level.<sup>44</sup> Thus, our results provide some indication of diffusion pressures at the global level, but not regionally.

In comparing different regions of the world, our results indicate that African countries have been most likely to ratify PTAs, followed by Latin American countries, Middle Eastern countries, and North American countries. Countries in Asia (including both East Asia and South Asia) tend to be least likely to enter PTAs, although a few of these differences are not statistically significant. This finding is not unexpected since most Asian countries did not participate in PTAs until after 1998. Since then, however, PTAs have blossomed across Asia.<sup>45</sup> As such, we expect that this regional difference has probably attenuated of late. Indeed, the tendency for Asian countries to eschew PTA membership is less evident when we focus on the period from 1950 to 2005 (the first column of Table 2) than when the temporal coverage ends in 2001 (the second column of Table 2).

Perhaps the most surprising cross-regional finding is that European states—both Eastern and Western—have formed PTAs less frequently than countries in various other regions. However, it is important to recognize that Eastern European countries were part of the Warsaw Pact for most of the time period examined in this study. They only began seeking out other PTA partners after the Soviet Union collapsed. Equally, various Western European countries have granted unilateral preferences to their former colonies through agreements such as the Lomé Convention. These PTAs are not included in our data, since our theory pertains to agreements in which all of the participants make trade concessions.

Our analysis shows that a wide variety of factors influence PTA formation. Even after accounting for domestic economic conditions, regional factors, and international influences, however, we find strong evidence that regime type and veto points shape the political calculus of governments contemplating PTAs. Our argument is not that the effect of domestic politics is larger than that of these other influences. In fact, some international factors have a more sizable impact than either regime type or veto players. Countries were almost three times as likely to enter a PTA after the Cold War, for example, as during this era. Equally, if the geographical distance between a pair of states is at the 90<sup>th</sup> percentile found in our data set, then they are about eight times less likely to form a preferential agreement than a pair whose distance is at the 10<sup>th</sup> percentile in the data. However, the effects of GATT/WTO membership, alliances, trade, GDP, the change in GDP, conflict, existing PTA membership, and hegemony are roughly the same or smaller than those of regime type and veto points. Moreover, in light of the short shrift that the existing literature on PTAs has given domestic politics, the strong and fairly sizable im-

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<sup>44</sup> These results are not reported in Table 2 to conserve space.

<sup>45</sup> S.N. Katada & M. Solis, *Cross-Regional Trade Agreements in East Asia: Findings and Implications*, in *CROSS REGIONAL TRADE AGREEMENTS: UNDERSTANDING PERMEATED REGIONALISM IN EAST ASIA* 147–51 (Saori N. Katada & Mireya Solis eds., 2008); John Ravenhill, *The New Bilateralism in the Asia Pacific*, 24 *THIRD WORLD Q.* 299, 299 (2003).



fact of regime type and veto points is important.

### VIII. ROBUSTNESS CHECKS

Before concluding, we conduct some additional tests to assess the robustness of our initial results. To begin, we analyze whether our results are sensitive to the particular measures of regime type and veto points that we have used. We replace Henisz's measure of veto points with one developed by Beck et al.<sup>46</sup> We also recode our measure of regime type in various ways. First, we express our 21 point scale as a dichotomous variable, by coding states as democratic if the value of REGIME TYPE<sub>*i*</sub> exceeds 16 and nondemocratic otherwise. Second, we use a dichotomous measure of regime type developed by Przeworski and his colleagues.<sup>47</sup> There is very little evidence that these changes influence the observed effects of regime type or veto points.<sup>48</sup>

We also analyze whether our results are being driven by the European Community (EC) and the European Union (EU), institutions that are composed of democratic members. We find, however, that excluding members of the EC/EU has little bearing on our results. Nor does the rarity of PTAs affect our findings. Our results are virtually unchanged when we estimate our model using a rare events logit specification.<sup>49</sup> Our key findings are also much the same when we rely on a Cox event history model and recode the dependent variable as the number of years until a PTA is ratified, or when we include dyad-specific fixed effects in the model to account for any unobserved heterogeneity across country-pairs.<sup>50</sup>

Next, we examine whether accounting for the similarity of foreign policy preferences between states *i* and *j* affects our results. We add UN SCORE<sub>*ij*</sub>, which is a measure of the similarity of United Nations voting patterns between members of the pair.<sup>51</sup> As expected, its estimated coefficient is positive and statistically significant, indicating that states with more similar foreign policy preferences are especially likely to enter into PTAs. But adding this variable has no bearing on the re-

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<sup>46</sup> Thorsten Beck, George Clarke, Alberto Groff, Philip Keefer & Patrick Walsh, *New Tools in Comparative Political Economy: The Database of Political Institutions*, 15 WORLD BANK ECON. REV. 165 (2001) (explaining this measure and the data used to construct it). Henisz's measure has some advantages compared to this alternative measure. For example, Beck et al.'s measure is available for fewer countries than Henisz's measure and it only covers the period from 1975 onward. Using the Beck et al. measure rather than Henisz's measure cuts the size of our sample in half, which is clearly undesirable. However, there is a good deal of agreement between Henisz's measure and Beck et al.'s measure where those samples overlap. The correlation between a country's annual score based on Henisz's measure of veto points and its score based on the Beck et al.'s measure is about .75, suggesting that our results are not driven by the choice of measure.

<sup>47</sup> PRZEWORSKI, ET AL., *supra* note 13.

<sup>48</sup> See Edward D. Mansfield & Helen V. Milner, *The Politics of International Cooperation: Trade, Democracy, and Veto Points*, ch. 4 (provides a fuller discussion of these results, as well as the other tests described in this section) (unpublished manuscript, on file with author).

<sup>49</sup> Gary King & Langche Zeng, *Explaining Rare Events Bias in International Relations*, 55 INT'L ORG. 693, 702–06 (2001).

<sup>50</sup> The dependent variable in the Cox regression is the time from when the dyad first enters the sample until ratification of the first PTA between the pair. Once a PTA is ratified, the dyad drops out of the sample.

<sup>51</sup> Curtis S. Signorino & Jeffrey M. Ritter, *Tau-b or Not Tau-b: Measuring the Similarity of Foreign Policy Positions*, 43 INT'L STUD. Q. 115, 140 (1999).

maining coefficients in our model.

As a final robustness check, we drop pairs of countries from the data once they sign a PTA. This helps address concerns about endogeneity between regime type and PTAs that might arise if, for example, PTA membership promotes the consolidation of democracy. We find that removing such pairs has no effect on our two variables of interest, suggesting that endogeneity is not driving our results.

## IX. CONCLUSIONS

Preferential trading arrangements have become increasingly important features of the international economy. In this article, we have argued that domestic politics plays a central role in the formation of these arrangements.

First, a country's regime type affects its propensity to enter a PTA: democracies are more likely to accede to these arrangements than other states. National leaders face the prospect of being turned out of office when the economy performs badly because voters think that the head of state is either incompetent or engaged in excessive rent seeking when the downturn is actually due to factors beyond his or her control. Leaders lack domestic instruments that allow them to credibly commit not to become captured by special interests and to provide information to voters about their economic policy. However, entering a trade agreement helps leaders to address these problems. Further, both the PTA itself and member-countries have incentives to publicize deviations from the trade accord. Thus, competent leaders have reason to enter such arrangements. Equally, leaders are more likely to rely on trade agreements to address these domestic political problems in more competitive political settings, where they can be turned out of office fairly easily. As such, chief executives of more democratic countries are particularly likely to sign PTAs.

Second, one of the domestic impediments to entering a PTA is the transaction costs associated with ratifying the agreement. Trade accords involve the exchange of market access among countries. Some agreements also aim to coordinate members' trade regimes. These policy changes have domestic consequences. Certain groups gain from trade barrier reductions; other groups lose. If these distributional losers have political clout, they can delay or block such policy change.

Veto points represent political interests other than the leader's party and have the institutional capacity to prevent change. Assuaging these groups can be time consuming and expensive. Leaders may have to alter the trade policy changes they would prefer and they may have to bribe veto points to gain their acquiescence. The more veto points that exist, therefore, the greater are the potential costs for leaders and the harder it is to gain the ratification of a PTA.

Based on a battery of tests covering all country pairs from 1950 to 2005, we find strong support for our hypotheses. States become more likely to ratify PTAs as they become more democratic and as the number of veto points shrinks. Both factors have a statistically significant and substantively important impact. Moreover, these results are quite robust.

Clearly, we need to be cautious in interpreting these findings. There could be variables that we did not include in our statistical models that influence either regime type or the number of veto points, on the one hand, and PTA formation, on the other. However, we have tried to account for as many of these variables as possible. Alternatively, PTA ratification may be affecting regime type or the num-

ber of veto players. Some scholars have argued that joining an international institution can help a country become more democratic.<sup>52</sup> Yet it is hard to think of more than a small handful of cases where a PTA had an influence on a country's domestic political institutions. Even in these cases, such change is likely to happen over a long period of time, not the short time periods that we analyze in this study.

In addition to domestic politics, economic conditions and international factors guide PTA formation. Eroding hegemony and the end of the Cold War have prompted states to form PTAs. Very distant states are unlikely to form PTAs, but so are states that are contiguous. States with a former colonial relationship seldom form (reciprocal) PTAs, but allies tend to form such arrangements. GATT/WTO members tend to enter PTAs, and countries tend to be more likely to ratify agreements with equals than with those of much greater or smaller capability. Global diffusion pressures are evident, although regional ones are not. But in addition to these influences, we find strong evidence that domestic politics has a strong and sizable impact on the proliferation of PTAs since World War II.

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<sup>52</sup> See JON C. PEVEHOUSE, *DEMOCRACY FROM ABOVE: REGIONAL ORGANIZATIONS AND DEMOCRATIZATION* 3 (2005).

Table 1. Summary Statistics

	N	Mean	Std Dev	Min	Max
PTA RATIFICATION	1272014	0.008	0.087	0	1
VETO POINTS	1192458	0.199	0.216	0	0.71
REGIME TYPE	1091682	11.121	7.506	1	21
TRADE (LOGGED)	1272014	-2.370	5.006	-6.908	12.926
GDP (LOGGED)	1233415	16.893	2.106	9.397	23.090
$\Delta$ GDP (IN 100 BILLION)	1219823	0.058	0.373	-18.627	5.090
DISPUTE (PRIO)	1272014	0.001	0.030	0	1
DISPUTE (COW)	1155512	0.004	0.064	0	1
ALLY (ATOP)	1272014	0.096	0.295	0	1
ALLY (COW)	1049760	0.070	0.255	0	1
FORMER COLONY	1272014	0.006	0.075	0	1
CONTIGUITY	1213780	0.032	0.177	0	1
DISTANCE (LOGGED)	1213780	8.253	0.781	1.609	9.421
HEGEMONY	1272014	0.221	0.019	0.204	0.287
GATT/WTO	1272014	0.345	0.475	0	1
GDP RATIO (LOGGED)	1195656	2.382	1.800	0.000	13.679
EXISTING DYADIC PTA	1272014	0.060	0.238	0	1
% DYADS RATIFYING PTA	1272014	0.007	0.008	0	0.031
POST-COLD WAR	1272014	0.453	0.498	0	1

Table 2. Logistic Regression Estimates of the Effects of Regime Type, Veto Points, and Other Economic and International Factors on PTA Ratification

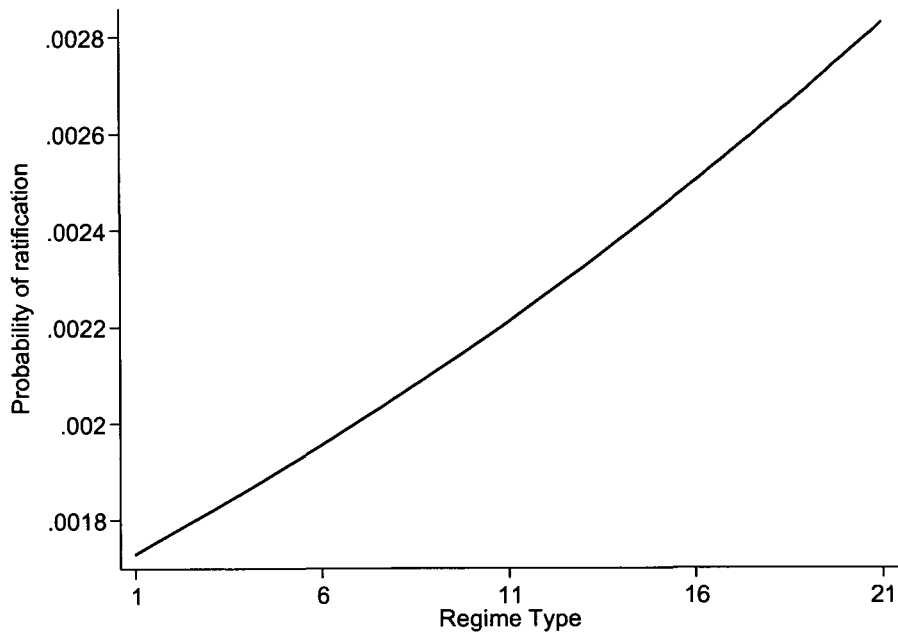
	1950–2005	1950–2001
VETO POINTS	-0.628* (0.095)	-0.653* (0.103)
REGIME TYPE	0.0246* (0.003)	0.0318* (0.003)
TRADE (LOGGED)	0.0179* (0.003)	0.0132* (0.004)
GDP (LOGGED)	0.0197 (0.014)	0.0582* (0.015)
ΔGDP (IN 100 BILLION)	0.058 (0.053)	-0.078* (0.010)
DISPUTE (PRIO)	-0.441 (0.342)	
DISPUTE (COW)		-0.999* (0.236)
ALLY (ATOP)	0.469* (0.061)	
ALLY (COW)		0.404* (0.070)
FORMER COLONY	-1.298* (0.339)	-1.116* (0.339)
CONTIGUITY	-0.619* (0.064)	-0.508* (0.071)
DISTANCE (LOGGED)	-1.118* (0.057)	-1.176* (0.058)
HEGEMONY	-5.605* (1.044)	-4.884* (1.043)
GATT/WTO	0.190* (0.030)	0.104* (0.031)
GDP RATIO (LOGGED)	-0.150* (0.010)	-0.169* (0.011)
EXISTING DYADIC PTA	0.199* (0.047)	0.215* (0.053)
% DYADS RATIFYING PTA	37.03* (1.320)	45.25* (1.368)
POST-COLD WAR	0.840* (0.033)	0.892* (0.034)
SOUTH ASIA	0.0244 (0.133)	-0.223 (0.141)
MIDDLE EAST	0.581* (0.090)	0.684* (0.103)
SUB-SAHARAN AFRICA	1.433* (0.075)	1.653* (0.091)
CENTRAL EUROPE	0.274*	0.124

	(0.086)	(0.108)
LATIN AMERICA	0.823*	0.902*
	(0.094)	(0.110)
NORTH AMERICA	0.389*	0.425*
	(0.085)	(0.102)
WESTERN EUROPE	0.0996	0.0505
	(0.088)	(0.107)
CONSTANT	3.303*	2.751*
	(0.532)	(0.512)
N	1032447	914784
Clusters	32324.00	32167.00
Log-likelihood	-39901.68	-33525.13

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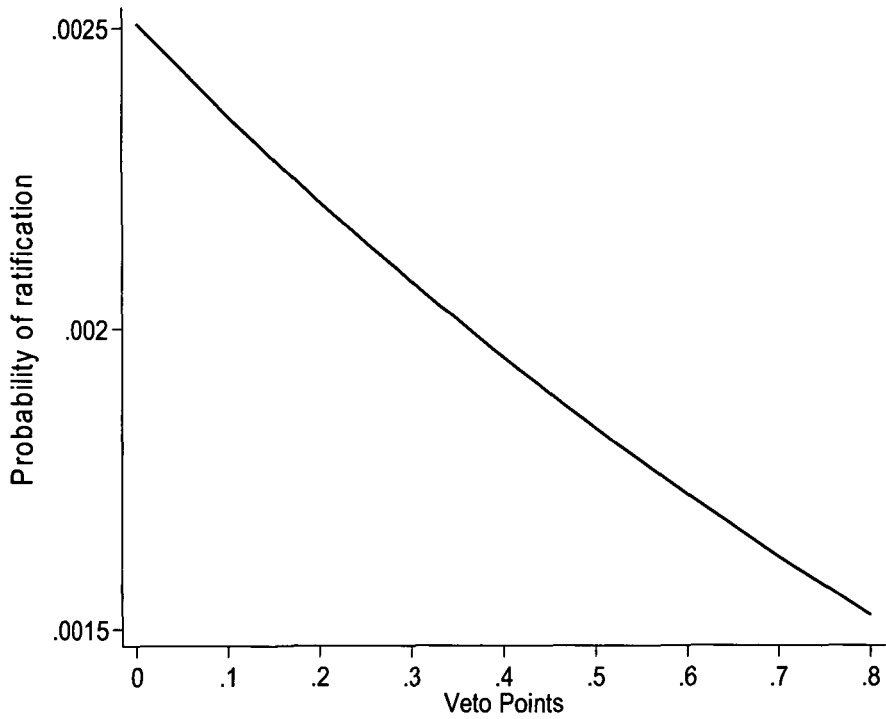
Note: Entries are generated using logistic regression. Robust standard errors clustered on dyads are in parentheses. The omitted region is Asia. An asterisk indicates that the estimated coefficient is statistically significant at the  $p < 0.05$  level.

Figure 1. The Effect of Regime Type on the Probability of PTA Ratification



Note: Higher (lower) values of REGIME TYPE correspond to more democratic (autocratic) countries. To compute these predicted probabilities, we use the estimates in the first column of Table 2. We set VETO POINTS to its mean and the other continuous variables to their medians. We set POST-COLD WAR to 1 and the remaining dichotomous variables to 0.

Figure 2. The Effect of Veto Points on the Probability of PTA Ratification



Note: To compute these predicted probabilities, we use the estimates in the first column of Table 2. We set REGIME TYPE to its mean and the other continuous variables to their medians. We set POST-COLD WAR to 1 and the remaining dichotomous variables to 0.