

An Electoral Rules Analysis of how Labor Unions Influence Trade Policy:  
A Comparative Study of 18 OECD Countries

Abstract

*This research attempts to determine whether, within democracies, variations in electoral rules influence the amount of barriers to trade that countries erect. Using pooled (time series cross-sectional) data and 18 countries over a 31 year time-span; I run several models that suggest that trade openness is indeed impacted by electoral rules. I argue that democracies with electoral rules that allow for greater labor union access to the policy-making process will tend to favor more protectionist measures. The findings and theoretical argument put forth in this paper contributes towards a better understanding of how electoral rules allow labor unions to impact trade policy.*

Denis Rey

University of Tampa

Paper prepared for Trade-Labour Linkages and Networking System of Rules Conference, Montreal, Canada, March 15, 2011.

## *Introduction*

Why are some democracies inclined to pursue protectionist trade policies, while others are more likely to rely on policies that promote trade openness? By focusing on electoral institutions, this research examines whether constitutionalism affects trade policy outcomes. The underlying argument is that democracies vary institutionally, and those differences should account for divergence in trade policy. This study investigates whether variations in democratic structure relate to policy differences. Using literature on political institutions to help identify two distinct types of democracies, consensus and majoritarian, I lay the foundation of my argument that political institutional variation contributes to deviations in protectionism.

Many attributes differentiate democracies. Arend Lijphart (1999) identifies ten dimensions when distinguishing between consensus and majoritarian democracies. Electoral rules directly impact a majority of the most important dimensions, those he classifies as executives-parties. Therefore, the focus of this research is placed directly on electoral rules. Differences in representation and accountability are produced by the resulting disparities between the constitutionally prescribed electoral rules. I will seek to determine whether disproportionality affects the degree to which democracies adopt trade openness. I argue that as disproportionality decreases states will trade more with other countries. Past research has found that PR systems are better able to deal with voter sentiments by providing more public goods than plurality or majority-based systems. I argue that PR systems are more apt to engage in foreign policies that, again, help deliver prosperity and security domestically and internationally because they practice more trade openness.

The mechanism that drives states to seek trade openness revolves around self-interested politicians that will do whatever it takes to remain elected, even if that entails responding with

private goods to narrow interests instead of with broader public goods. I equate party-centered systems as being less liable to these narrow interests and, therefore, more appealing to a wider audience that tends to favor public goods over private goods. When party leaders are given authority they tend to produce policies that benefit the entire nation, as opposed to narrower geographical or issue-oriented interests. I argue that electoral rules that promote party-centered systems are better able to deliver public goods and will pursue policies that extend trade openness. The fact that parliamentary forms of government produce more representativeness also augurs greater trade openness. Parliamentary democracies should be more successful in providing public goods that satisfy voter preferences because the fate of the entire party, including the executive, centers on whether electoral demands are met. As the literature suggests, presidential systems tend to provide accountability, but to whom? Presidents who are accountable to narrow interests are more than likely to favor private goods.

### *Assessing Democratic Institutions*

An important component of this research includes employing the theories developed by comparativists to support the argument that institutional differences should indeed translate into policy differences. As noted above, according to Lijphart's (1984, 1994, 1999) analysis, political systems displaying the procedural characteristics of democracy differ along ten major dimensions. Lijphart employs these dimensions to characterize types of democracies, and he identifies two major types. The two types are majoritarian democracy on one side, and consensus democracy on the other. Majoritarian democracies require only a simple majority to enact policy measures. By contrast, the consensus model strives for the largest possible majority. A simple majority or a winning plurality is only the minimum requirement whereas the goal for consensus democracy is to maximize the size of the majority in favor of a given course of action. In

practice, consensus democracy is more common than majoritarian democracy, and in many respects consensus is more democratic than majority rule. Lijphart's work and other studies show that behavioral differences do occur as democratic type varies.

The significance of electoral systems for explaining policy choices has been well documented. It has been found that PR systems tend to produce parties that exhibit greater degrees of coherence, ideological foundations, discipline, and that are better able to deal with changes in voter sentiments than plurality or majority-based systems (Duverger 1959; Rae 1971; Katz 1980). Proportional representation systems are also conducive to multiparty systems and higher voter turnout (Rae 1971). When it comes to economics, electoral systems correlate highly with varieties of capitalism (Gourevitch 2003; Gourevitch and Shinn 2005). Some studies suggest that PR systems are more likely to produce center-left governments, greater government spending, more equality, and higher redistribution (Iverson and Soskice 2006; Bawn and Rosenbluth 2006; Persson and Tabellini 2004; Crepaz 1998; Rogowski and MacRae 2004; Austen-Smith 2000).

Representativeness, which is closely related to disproportionality, is believed to increase when electoral rules prescribe PR elections (Shugart and Carey 1992). Lijphart puts forth that single-member district plurality or majority systems are typical of majoritarian democracies while PR systems are typically used by consensus democracies.

The plurality and majority single-member district method are winner-take-all methods—the candidate supported by the largest number of voters win, and all other voters remain unrepresented—and hence a perfect reflection of majoritarian philosophy. Moreover, the party gaining a nationwide majority or plurality of the votes will tend to be overrepresented in terms of parliamentary seats. In sharp contrast, the basic aim of proportional representation is to represent both majorities and minorities and, instead of overrepresenting or underrepresenting any parties, to translate votes into seats proportionally (1999, 143).

Previous research finds that democracies that utilize single-member districts tend to favor the distribution of private goods over public goods. Focusing on fiscal policy, several studies have found that majoritarian democracies spend more on government consumption and less on transfers, thus providing opportunities for elected officials to make decisions regarding private sector purchases of goods and services (Persson and Tabellini 1999; Persson and Tabellini 2000; Lizzeri and Persico 2001). In other words, first-past the-post electoral systems allow politicians greater opportunities to dole out private goods. This might matter in regard to foreign policy because, theoretically speaking, if multilateralism is a vehicle used by politicians to attain public goods, then politicians that place private goods over public goods may forgo multilateral efforts. A case in point, Kaempfer and Lowenberg (1992) argue that majoritarian democracies are more likely to impose economic sanctions to satisfy the narrow interests of those groups who benefit from such legislation.

Past research indicates that collective action problems arise when rank-and-file politicians do not delegate authority to party leaders and/or executives. When party leaders exercise power, such as allocating seats, over rank-and-file legislators they create the ability to pass reforms that benefit the entire party (Cox and McCubbins 2001; Myerson 1994; Carey and Shugart 1995). Party-centered systems exist when: (a) electoral rules give party leaders authority over who has access to the ballot, (b) votes are cast for a party list, and (c) votes are pooled at the party level” (Nielson 2003, 472). Candidate-centered, on the other hand, tend to “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” (Nielson 2003, 473). The shortcoming of this arrangement is that politicians with greater autonomy from the party tend to repay supporters with private goods (Weingast, Shepsle and Johnsen 1981; Cain,

Ferejohn and Fiorina 1987; Ames 2001). But when the success of individual politicians is directly tied to the success of the party, more collective goods are provided (Cox and McCubbins 1993). Therefore, electoral rules that determine whether a system is party-centered or candidate-centered will impact the amount of public or private goods that are doled out by political leaders.

These studies also have shown that presidential systems provide greater accountability to the electorate than parliamentary systems, which provide greater representation. Direct accountability to the electorate compels the president to be sensitive to the special interests that form his or her base, or face defeat in the next election (for himself or for his party). It is less difficult to vote a president out of office than to vote the majority in parliament out of power; therefore presidents must cultivate a loyal following. And more often than not this is done by doling out private goods. Shugart and Carey (1992, 44) agree that “on the principle of maximizing direct accountability between voters and elected officials, presidentialism is clearly superior to parliamentarism, since voters vote directly for an executive that cannot be removed by shifting coalitions in the assembly.” Some argue that because presidents have more secure offices than prime ministers, enjoy independent popular constituencies from the legislature, and have greater policy control than prime ministers, they are better able to provide private goods.

On the other hand, others such as Bueno De Mesquita, Smith, Siverson and Morrow (2003) argue that presidential democracies do a better job of providing some public goods. They find that when it comes to core public goods (civil liberties, political rights, transparency, peace, and prosperity); presidential systems are distinctly better able to dole them out. One reason to question Bueno De Mesquita, Smith, Siverson and Morrow’s findings is the measure used in their analysis of electoral rules. They concede:

...our indicator *Parl\_Pres* is far from adequate. Specifically, it fails to distinguish between parliamentary systems with proportional representation or multimember districts

and those with single-member district, first-past-the-post electoral systems, although their coalition-size requirements vary markedly (199).

Could there be disparities in the sets of international norms that govern majoritarian and consensus democracies, similar to (but perhaps less pronounced than) the differences found between democracies and non-democracies? The findings of political economists who have discovered discrepancies in fiscal policies between the two types of democracies suggest that trade policy differences may also exist. This question merits investigation.

### *Electoral Rules and Labor*

It has been argued that unionization leads to a stronger left and enhanced political demands for redistributive policies (Visser 1989, 1996). As the previous section illustrated, a plethora of research suggests PR systems are more inclined to produce left-center governments that favor redistribution. What do these findings suggest about electoral rules and the role of labor in trade policy? The prominence of trade unions with democratic polities has been widely researched. However, little is known as to how their interests are affected by electoral rules. A study by Vernby (2007) finds that labor strikes are more common in democracies with majoritarian electoral systems; therefore suggesting that electoral rules indeed impact labor policies. Cusack, Iverson and Soskice (2007), using simple regression analyses, explain the historical relationship between electoral rules and economic interests as follows:

Where local economic coordination had traditionally been low and employers were in conflict with craft-based unions, the primary division of conflict centered on class and redistribution, and right parties chose to maintain majoritarian institutions as the best protection against the rising left. Where right parties chose PR, it was because the economy grew out of locally coordinated economies where employers and skilled workers, the latter organized in industrial unions, had common interest in a regulatory system, as well as in a system of social insurance, that would protect investment in co-specific assets (388).

What is described above as having taken place within countries that adapted to a PR system resembles what today is termed corporatism. Corporatist policies have been talked about in Europe since the late 19<sup>th</sup> century, and came into vogue in a handful of countries in the first-half of the 20<sup>th</sup> century (Wiarda 1997). The most important difference between corporatism and pluralism is that in corporatism groups are enfranchised as well as individuals. Corporatism stresses a cooperative relationship between business, labor, and government, each wielding substantial power, where all three pursue the public interest (Wachter 2007). In this section I will provide a theoretical sketch of how electoral rules and labor interests interact to impact trade policy.

It has been well documented that globalization has resulted in the movement of capital and goods, but not labor. For many workers in industrialized democracies, the result has been job loss and multinational corporations seek to find the most efficient use of labor and outsource jobs to labor intensive countries, all of which appear to be developing nations. Thus globalization has come to represent job insecurity and a loss of wages for organized labor in industrialized nations. What has subsequently occurred, due to these developments, is that organized labor has made a push for protectionist trade policies. This effort has not been uniform across all industrialized democracies, however. Corporatist democracies have achieved greater gains in their efforts than pluralist systems, which may explain why majoritarian democracies tend to experience more labor strikes than consensus democracies. Democracies with electoral rules that provide less consensus, and thus less focus on public interests (and allocations of public goods), are the one that are more likely to erect greater barriers to trade; mostly due to labor and other special interests that benefit from protectionism. It is in these democracies that labor would have the greatest chance of impacting trade policy. As described

by the Stolper-Samuelson theorem, trade lowers the real wage of the scarce factor of production, and protection raises it. In all 18 capital-intensive countries used in this analysis, labor is a scarce resource; therefore, labor unions would support stronger protections.

### *Methodology*

I have argued that institutional variations within democracies may influence trade openness. Turning to the work of comparativists, I have identified two distinct types of democracies, majoritarian and consensus. In the previous section I developed a theory of how electoral rules and labor interests relate to one another to develop specific outcomes regarding trade openness. In this section I will address the selection of cases, specify the models, introduce the variables, and describe the statistical methods used in my analysis.

I use pooled (time series cross-sectional) data to test the hypotheses described in the previous chapter. I use the Polity IV data set (Marshall and Jaggers 2002), and apply the threshold of  $>6$  used by Oneal and Russett (1997, 1999) to identify democracies. One way of ensuring reliable findings is through the use of a large number of cases. The goal of maximizing the number of observations will be achieved by including a large number of time points in the data set. A larger time span will also allow for variation in the variables within countries as well as between them. The data set used is comprised of 18 countries over a 31 year span, which results in a total 558 cases. Table two below lists the democracies and years that comprise the data set.

Table 1. Countries and Years Included in the Data Set

Country	Year	Country	Year
Australia	1970-2000	Italy	1970-2000
Austria	1970-2000	Japan	1970-2000
Belgium	1970-2000	Netherlands	1970-2000
Canada	1970-2000	New Zealand	1970-2000
Denmark	1970-2000	Norway	1970-2000
Finland	1970-2000	Sweden	1970-2000
France	1970-2000	Switzerland	1970-2000
Germany	1970-2000	United Kingdom	1970-2000
Ireland	1970-2000	United States	1970-2000

The measure for trade openness is attained from the World Development Indicators (WDI) data set. The variable, *Tariff*, measures the percentage of current revenue comprised of taxes on international trade. Higher percentages are indicative of protectionist policies (World Bank).<sup>1</sup> Next I will discuss the independent variables of interest. I have argued above that electoral rules and forms of government affect how democracies conduct foreign policies. Specifically, I hypothesize that democracies with electoral rules that prescribe low disproportionality, PR systems, and are party-centered will have increased trade openness. *District Magnitude* will be used to measure disproportionality. This measure will be attained from the Database of Political Institutions (DPI) of the World Bank, and is measured by the weighted average of the number of representatives elected to the lower house by constituency size (Beck, Clarke, Groff, Keefer and Walsh 2001).<sup>2</sup> The relationship between *District Magnitude* and *Tariff* should be negative, meaning that tariffs on trade should decrease as district magnitude increases.

Two dummy variables will serve as measures for type of electoral system. Both will be attained from the DPI data set. The variable *Proportional* is coded 1 if it is a proportional

<sup>1</sup> A variable controlling for the level of trade is included in the models.

<sup>2</sup> I ran models using a logged district magnitude measure and no significant differences occurred.

electoral system and 0 if it is not. The code 1 represents candidates that are elected based on the percentage of votes received by the party (Beck, Clarke, Groff, Keefer and Walsh 2001). The relationship between *Proportional* and *Tariff* should be a negative one. The second dummy variable, *Plurality*, is coded one if the electoral system is plurality and 0 if it is not (Beck, Clarke, Groff, Keefer and Walsh 2001). Plurality systems are those in which legislators are elected using a winner-take-all or first-past-the-post procedure. As *Plurality* increase so should *Tariff*, making the relationship a negative one.

Electoral rules that produce party-centered systems are operationalized through the employment of three individual measures (and an index comprised of the three). The measures are taken from the Political Particularism Around the World (PPAW) data set. The variable *Ballot* specifies the relative strength of parties and citizens in shaping candidates' access to the ballot and a plausible chance to be elected. The variable is coded 0 if voters choose only a party, 1 if voters can choose from a limited set of candidates, and 2 if voters can choose from an unrestricted set of candidates (Sheddon, Gaviria, Panizza, and Stein 2001). The relationship between *Ballot* and *Tariff* should be positive. The variable *Pool* measures if a candidate for national office can expect to benefit from the electoral support given to other candidates in his or her party. The variable is coded 0 if votes cast are pooled across the whole party to determine the allocation of seats. It is coded 1 if votes are pooled at the sub-party level. And the variable is coded 2 if votes cast for a candidate contribute only to that candidate's electoral fortune (Sheddon, Gaviria, Panizza, and Stein 2001). As *Pool* increases so should *Tariff*, indicating less party control and greater protectionism. The variable *Vote* measures limitations on the number of individuals that voters can support. The variable is coded 0 if voters cast a single vote for a party, 1 if voters cast multiple votes across candidates who could or could not be from the same

party, and 2 if voters cast a single vote for a single candidate (Sheddon, Gaviria, Panizza, and Stein 2001).<sup>3</sup> As *Vote* increases so should *Tariff*. This would suggest that party-centered systems are more open to trade. The variable *Index* is comprised of the variables ballot, pool and vote. Ballot, pool, and vote are computed as the weighted averages of the coded values for each group of legislators that is elected under a different set of rules. *Index* is then calculated by averaging the scores of these three variables to create a summary index of particularism for each set of legislators who are elected via a certain electoral system (Seddon, Gaviria, Panizza and Stein 2001). I anticipate a positive relationship where *Index* and *Tariff* increase concurrently.

The variable *System*, obtained from the DPI, measures whether countries have presidential, presidential elected by assembly, or parliamentary systems. Direct presidential systems are coded 0, systems with a strong president elected by the assembly are coded 1, and parliamentary systems are coded 2 (Beck, Clarke, Groff, Keefer and Walsh 2001). *System* and *Tariff* should interact inversely. To summarize, the following independent variables are used to gauge representativeness in my study: *District Magnitude*, *Proportional*, *Plurality*, *Ballot*, *Pool*, *Vote*, *Index*, and *System*. These variables successfully measure differences in electoral rules and forms of government among democratic countries. The measures have been used widely by comparativists and political economists. The table below provides a summation of the expected relationship between the electoral rules variables and the dependent variable.

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<sup>3</sup> Electoral systems that allow voters to cast two votes (one for a local and another for a national candidate) are coded as 1.

Table 2. Relationship Between Independent Variables and Dependent Variables

<i>Tariffs on Trade</i>	
↑ District Magnitude-----	Tariffs ↓
↑ Proportionality-----	Tariffs ↓
↑ Plurality-----	Tariffs ↑
↑ Index-----	Tariffs ↑
↑ Ballot-----	Tariffs ↑
↑ Pool-----	Tariffs ↑
↑ Vote-----	Tariffs ↑
↑ System-----	Tariffs ↓

Lijphart (1999) has argued that a country’s population may affect its foreign policies. This argument appears plausible since population can affect the combination of public and private goods that governments produce. The variable *Pop Total* will be used to control for a country’s total population. The measure is attained from the WDI data set. I expect that *Pop Total* will have a negative relationship with *Tariff*. A country’s wealth may also impact foreign policy outcomes. I account for wealth by including the variable *GDP Per Capita*, which captures a country’s per capita GDP, a widely used measure for wealth.<sup>4</sup> This variable is obtained from the WDI data set as well. I argue that *GDP Per Capita* will have a negative relationship with *Tariff*. These expectations are driven by past research which has shown that wealth correlates highly with democracy (Lipset 1959).

An exceptional amount of literature looks towards corporatism as a mitigating factor that may impact trade and other international commitments. Garrett and Lange (1991) have argued, for instance, that corporatism can affect the degree to which policies are altered by governments. For the variable, *Corporatism*, I use the Hicks-Kenworthy composite corporatism measure.<sup>5</sup> Kenworthy (2003, 43) describes the measure as the mean score of 0, .5 and 1 “for 7 types of

<sup>4</sup> *GDP Per Capita* will be lagged for theoretical as well as statistical reasons.

<sup>5</sup> Aside from being an appropriate measure, the Hicks-Kenworthy measure was selected over other similar measures because the time span and countries that it measured resulted in the least amount of missing cases. The variable covers all OECD countries between 1960 and 1994.

economic cooperation: business centralization, wage setting coordination, cooperation between government and interest groups, tripartite neocorporatism, cooperation between investors and firms, and cooperation between labor and management.” I expect the relationship between *Corporatism* and *Tariff* to be negative. Corporatist countries should embrace more trade openness.

The ideology of the government in power has also commanded plenty of attention. Past research associates left-leaning governments with the welfare state, and the welfare state to greater economic and trade openness (see Cameron 1978, Katzenstein 1985). The necessity to account for ideological factors, and their effects, is evident as these factors may have an effect on the extent of international commitments countries make. The variable, *Ideology*, is attained from the DPI data set. It indicates the ideological orientation of the largest government party. It is coded 1 for liberal, 2 for centrist, and 3 for conservative. I anticipate a positive relationship between *Ideology* and *Tariff*. Arguably, liberal, or left-leaning, governments should pursue more multilateralist policies. A second variable that is closely linked to ideology and the welfare state will also be included in the model. Research has shown that leftist governments and welfare states impose higher taxes on the citizenry. *Revenue*, attained from the WDI data set, measures tax revenue as the percentage of GDP. I expect to find a negative relationship between *Revenue* and *Tariff*. I reason that governments with higher revenues formulate more multilateralist policies.

Systemic effects may influence international commitments and must also be incorporated into the models. Structural realists argue that power is central in an anarchic system that compels the less powerful to succumb to the will of the mighty. Therefore, whether a state is powerful or not could impact the level of international commitments. I will use the Composite

Index of National Capabilities (CINC) variable from the *Correlates of War* data set as a measure for *Power*. The measure indexes six sources of power: military expenditures, military personnel, iron and steel production, energy consumption, urban population, and total population. I anticipate a negative relationship between *Power* and *Tariff*, thus suggesting that powerful states will be more multilateralist.

The literature also points out that past trade can affect future trade. Therefore, I include the variable, *Trade (lagged)*, in the models. This measure, obtained from the WDI data set (and later lagged), indicates trade as percentage of GDP. I expect to find that as trade increases so does multilateralism. To reiterate, the following group of indicators will be included in the models: *Pop Total, GDP PC (lagged), Corporatism, Ideology, Revenue, Power, and Trade (lagged)*. These measures are included in the models because past literature has identified them as mitigating factors that may influence the findings. Incorporating these indicators alongside the electoral rules variables should not only reduce the level of omission bias, but also helps produce more robust and reliable findings. Table four provides the summary statistics for each variable.<sup>6</sup>

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<sup>6</sup> Country-effects will be controlled by a dummy variable, *US*, coded 0 if the country is the US and 1 if it is not will also be used. This measure mitigates the effects of the United States' preponderance of political, military, and economic capabilities in the world. Temporal and spatial effects are also controlled by using variables in the model for each year in the time series and country in the cross-sections.

Table 3. Summary Statistics for Dependent and Independent Variables

Variable	Observations <sup>7</sup>	Mean	Std. Dev.	Min/Max
<i>Dependent Variable</i>				
Tariff	505 (53)	1.98	3.12	-.16-18.25
<i>Independent Variables (electoral rules)</i>				
District Magnitude	334 (224)	.93	1.04	0-2.56
Proportional	414 (144)	.76	.43	0-1
Plurality	414 (144)	.56	.50	0-1
Ballot	346 (212)	.84	.32	0-2
Pool	346 (212)	.92	.83	0-2
Vote	346 (212)	1.29	.63	0-2
Index (B,P,V)	346 (212)	1.87	.62	0-1.67
System	414 (144)	1.89	.46	0-2
<i>Independent Variables (other indicators)</i>				
Pop Total	558 (0)	39.8m	58.3m	2.8m-282m
GDP PC (lagged)	539 (19)	22904.22	7871.22	7908-45952
Corporatism	450 (108)	.52	.34	.01-.99
Ideology	412 (146)	2.12	.95	1-3
Revenue	514 (44)	28.01	8.41	0-44.21
Power	558 (0)	.02	.03	.00-.18
Trade (lag)	538 (20)	61.28	29.34	11.24-162.25
US	558 (0)	.06	.23	0-1
Tariff (lag)	499 (59)	1.99	3.14	-.16-18.25

As stated above, several empirical models will be run. The literature is inconclusive when it comes to the use of lagged dependent variables on the right-hand-side. Beck and Katz (1995) argue that including the lagged variables will reduce the possibility of autocorrelation in pooled time-series analysis. Achen (2000), on the other hand, contends that including lagged dependent variables on the right-hand-side distorts results. He argues that the lagged variables should only be included if they can be theoretically justified. Otherwise they should be excluded from the models. I posit that the inclusion of the lagged dependents on the right-hand-side can be theoretically substantiated. Democracies that have imposed barriers to trade in the past are more likely to do so in the future. The three sets of autoregressive models are summarized as follows:

<sup>7</sup> The numbers in parenthesis illustrate the number of missing observations.

$$\begin{aligned}
\text{Tariff}_{i,t} = & \beta_0 - \beta_1(\text{District Magnitude})_{i,t} - \beta_2 (\text{Proportional})_{i,t} + \beta_3 (\text{Plurality})_{i,t} + \\
& \beta_4 (\text{Index})_{i,t} - \beta_5 (\text{System})_{i,t} - \beta_6 (\text{Pop Total})_{i,t} - \beta_7 (\text{GDP PC})_{i,t-1} - \\
& \beta_8 (\text{Corporatism})_{i,t} + \beta_9 (\text{Ideology})_{i,t} - \beta_{10} (\text{Revenue})_{i,t} - \beta_{11} (\text{Power})_{i,t} - \\
& \beta_{12} (\text{Trade})_{i,t-1} + \beta_{13} (\text{Tariff})_{i,t-1} + \beta_{14} (\text{US})_{i,t} + u_{i,t}
\end{aligned}$$

where  $u_{i,t}$  is a normally distributed error term.<sup>8</sup>

Beck and Katz (1995) also argue that OLS regression is not the most accurate method of testing panel data. OLS regression does not correct for the spatially or temporally correlated errors or panel heteroskedasticity (allowing the error variances to vary from unit to unit while holding them constant within each unit). The authors argue that methods of overcoming these problems that employ generalized least squares (GLS), as OLS regression does, lead to unreliable estimates of standard errors (1995). They also state that the cross-sectionally heteroskedastic and timewise autocorrelated (CHTA) model also proves inferior when compared to their panel corrected standard error (PCSE) method (1996). Taking this suggestion to heart, I use PCSE in my analysis. In summary, I will use PCSE to test the model that I have specified. Before proceeding with the statistical analyses, however, I present the characteristics of two countries from our study to better comprehend the nature of this inquiry.

#### *A Look at the Data: The Cases of the United States and Switzerland*

I have chosen two countries on which to base a comparative analysis, one majoritarian and the other consensus. The United States will serve as the “majoritarian” country. The United States is a great power located in the western hemisphere that had an average population of 280 million between 1970 and 2000. It has a long history of political stability. The United States is a presidential democracy that elects its 435 members of the House of Representatives and 100 senators through a strictly pluralist electoral system. The mean district magnitude score is 1, indicative of high disproportionality. The mean ballot, pool and vote scores are 1, 2 and 1.5

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<sup>8</sup> I will test the dependent variable using three different iterations.

respectively; with a particularism index score of 1.5. These scores reveal that voters cast ballots for individual candidates as opposed to political parties, and that parties cannot really dictate how elected officials vote. The mean ideology score for the United States between 1970 and 2000 is 2.2, illustrating that governments tended to be slightly conservative. The United States is not corporatist. Its economy, having gradually shifted from manufacturing to service-based, is one of the strongest in the world. Over this 30 year span, the average per capita GDP was \$23,536, trade amounted to 19% of GDP, and tax revenues averaged 17.6% of GDP. And taxes on international trade amounted to 1.26% of current revenues.

To exemplify a consensus democracy I selected Switzerland. Switzerland is an established democracy from a stable, democratic region. It has a history of pacificism, and can best be described as having limited capabilities. Between 1970 and 2000 the average population was 6.6 million. It is a parliamentary democracy, and elects its 200 members of the National Council by popular vote using proportional representation, and allows each canton to determine how members of the Council of States are elected. The mean district magnitude score in the lower house is 8, which illustrates very low disproportionality. The mean ballot, pool and vote scores are 1, 1.02, and 1.5 respectively; with a mean particularism score 1.175. This signifies electoral rules that allow voters to choose from a limited set of candidates, calls for pooling votes mostly at the party level, and that allows voters to cast multiple votes for candidates who may or may not be from a single party. Candidates elected to the lower house of parliament tend to be centrists. Switzerland is a corporatist state, and an industrialized nation that has also seen significant growth in its service industry. During the time span between 1970 and 2000, it had a mean per capita GDP of \$41,171, trade encompassed 68.7% of GDP, and revenue from taxes

amounted to 18.5% of GDP. Taxes on international trade averaged 7.26% of current revenues.

Table five below summaries these figures.

Table 4. Descriptive Statistics for the United States and Switzerland.

Category	United States	Switzerland
District Magnitude	1	8
Plurality	Yes	Yes
PR	No	Yes
Ballot	1	1
Pool	2	1.025
Vote	1.5	1.5
Index	1.5	1.175
System	Pres	Par
State Power	.146	.002
Population	240m	6.6m
Ideology	2.22	2.09
Corporatist	.041	.550
Per Capita GDP	\$23536	\$41171
Trade (%GDP)	19	68.7
Revenues (%GDP)	17.6	18.5
Tariffs (%CR)	1.46	7.26

### *PCSE Results for Trade Openness*

The first PCSE model, which only includes the variables of interest, had a Wald chi2 score of 984.66 that proved significant at the 0.0000 level. The results appeared very encouraging. *District Magnitude* achieved significance at the 0.05 level. This measure and the dependent variable were inversely related. This finding suggests that less disproportionality and greater number of parties equates with less tariffs on trade. *Plurality* proved significant at the 0.001 level. The relationship between this variable and *Tariff* appeared positive. This finding is indicative of higher tariffs from democracies that use plurality systems. *Index* also achieved significance at the 0.001 level. The positive relationship with trade tariffs implies that democracies with party control over candidates erect more barriers to trade. This was not the

relationship that had been anticipated. *System*, which was significant at the 0.001 level, did achieve the relationship that had been anticipated. The inverse relationship between *System* and the dependent variable suggests that parliamentary democracies impose fewer trade tariffs. The only variable that did not achieve significance was *Proportionality*.

Table 5. Panel Corrected Standard Errors Results of Trade Tariffs<sup>9</sup>

Tariffs	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Electoral Rules</i>			
District Magnitude	-0.018 (0.009)**	0.047 (0.073)	0.258 (0.091)***
Proportional	0.626 (1.027)	0.686 (0.279)**	0.793 (0.276)***
Plurality	2.659 (0.699)****	1.461 (0.421)****	2.043 (0.344)****
Index	3.316 (0.794)****	-0.249 (0.409)	
Ballot			1.290 (0.610)**
Pool			0.643 (0.305)**
Vote			-0.920 (0.345)***
System	-3.445 (0.187)****	-4.700 (0.624)****	-4.741 (0.680)****
<i>Other Indicators</i>			
Trade (lag)		0.024 (0.005)****	0.023 (0.004)****
GDP PC (lag)		-0.000 (0.000)	-0.000 (3.590)**
Population		-6.82e009 (1.30e-08)	-1.35e-08 (1.70e-08)
Ideology		-0.402 (0.081)****	-0.339 (0.069)****
Power		79.673 (26.142)***	-114.084 (36.583)***
Corporatism		-2.223 (0.929)**	-1.324 (0.930)
Revenue		-0.210 (0.028)****	-0.229 (0.030)****
US			
Constant	7.847 (1.157)****	18.260 (1.893)****	17.431 (1.779)****
R <sup>2</sup>	0.1330	0.6277	0.6449
N	591	222	222

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01; \*\*\*\*p<0.001

The full model had a Wald chi2 score of 4233.30 which achieved significance at the 0.0000 level. Once again the results appeared favorable. *Proportionality* proved significant at the 0.05 level. The positive relationship with trade tariffs was not the one that had been anticipated, however. Such a relationship indicates that proportional representation correlates with higher tariffs. *Plurality* also achieved significance, at the 0.001 level, and had the

<sup>9</sup> Models were run that included a control variable for IGO membership, and even though that variable was highly significant, it did not notably alter the findings.

anticipated inverse relationship with the dependent variable. This relationship suggests that plurality systems impose more tariffs to trade. From these two findings we see conflicting results. *System* appeared significant at the 0.001 level. The relationship between this and the dependent variable was negative, as expected. This finding indicates that parliamentary systems put up fewer barriers to trade. *District Magnitude* and *Index* did not achieve significance.

*Trade* appeared significant at the 0.001 level. The positive relationship, again, suggests that democracies that trade more have a higher percentage of current revenue from taxes on international trade. *Ideology* also proved significant at the 0.001 level. This measure and the dependent variable had an inverse relationship. This result implies that the more liberal the government with the most seats in the lower house the more tariffs are put in place. *Power* was significant at the 0.01 level and also had an inverse relationship with trade tariffs. This finding suggests powerful democracies impose fewer barriers to trade. *Corporatism* was significant at the 0.05 level. It exhibited a negative relationship with the dependent variable. This result is indicative of less corporatist democracies imposing greater tariffs on trade. *Revenue* was significant at the 0.001 level. It also exhibited an inverse relationship with *Tariff*. This result shows that as tax revenue as a percentage of GDP goes up, current revenue as a percentage of international tax decreases.

The full model that replaces the particularism index with the individual measures had a Wald chi2 score of 3335.87 that proved significant at the 0.0000 level. Every one of the variables of interest achieved significance. *District Magnitude* appeared significant at the 0.01 level. The positive relationship with *Tariff* was not the one that had been anticipated. This finding suggests that democracies with less disproportionality and a greater number of parties put in place more trade barriers. *Proportionality* was also significant at the 0.01 level, and similarly

had a positive relationship with trade barriers that was the reverse of what had been anticipated. This result indicates that democracies that use proportional representation erect more trade barriers. *Plurality* achieved significance at the 0.001 level. The positive relationship with the dependent variable was, once again, the one that had been anticipated. This finding suggests that plurality systems impose more trade barriers. *Ballot* proved significant at the 0.05 level. The positive relationship with the dependent variable was the one that had been anticipated. This finding suggests that party control over candidates correlates with less tariffs on trade. *Pool* showed to be significant at the 0.05 level. The positive relationship with *Tariff* was the one that had been expected. This result implies once more that party control over candidates leads to less trade tariffs. *Vote* proved significant at the 0.01 level. Unlike the other two particularism measures, however, it had an inverse relationship with the dependent variable. This result contradicts the previous two findings, and suggests that party control over candidates produces more barriers to trade. *System* achieved significance at the 0.001 level and had the anticipated inverse relationship with trade tariffs. This implies that parliamentary democracies erect fewer barriers to trade.

*Trade* appeared significant at the 0.001 level, and showed a positive relationship with the dependent variable. This finding suggests that democracies that trade more collect a higher percentage of current revenues from international taxes. *GDP PC* was significant at the 0.05 level. It had an inverse relationship with *Tariff*. This finding suggests that wealthier democracies erect fewer trade barriers. *Ideology* was significant at the 0.001 level. The relationship between these two variables was negative. This result implies once again that the more liberal the government with the most seats in the lower house the more tariffs are put in place. *Power* achieved significance at the 0.05 level. The relationship between the two variables

was negative. The implication is that less powerful democracies put fewer trade barriers in place. *Revenue* appeared significant at the 0.001 level, and showed to have an inverse relationship with the dependent variable. This finding suggests that democracies that collect larger revenues, place less barriers on trade. *Population* and *Corporatism* failed to achieve significance. The former had a positive relationship with trade barriers and the latter had a negative one.

### *Discussion and Conclusion*

The results suggest that the electoral rules indeed impact trade openness. Even though some of the measures appeared inconclusive, others appeared consistent across three models. The findings suggest that majoritarian systems are more apt to promote protectionist trade policies. I had theorized earlier that majoritarian democracies would erect greater barriers to trade because it is under such systems that labor and other anti-globalization interests can influence policy through lobbying and mobilizing voters so that elected officials respond to those demands. It is more than likely that strikes occur in majoritarian systems as a consequence to elected officials not being responsive to labor interests, which is another tool that labor has at their disposal to influence trade policy. This conclusion is further supported by the consistent findings across the three models that first-past-the-post systems also result in higher tariffs. The remaining electoral rules indicators were less consistent indicators; nonetheless, they also hint at the impact that electoral rules have upon trade policy among industrialized democratic states.

Of the other indicators that were included in the models, the measures for government ideology was also indicative of labor's influence in promoting trade protectionism. The correlation between the predominance of labor and left-of-center parties has been well established. I argue that labor and other anti-globalization interests with values that are also

presented by the left have a significant impact when it comes to promoting policies that encourage labor standards. And even though the measure for corporatism only proved significant in one of the two models that included it, that finding also supports my earlier contention that labor unions in pluralist states are seeking their narrow self interests as they compete against pro-business interests to influence trade policy.

This research speaks towards the influence that labor and other anti-globalization interests have in shaping trade policies within democracies. It is important to realize that democracies vary in the capacity that those interests have in shaping trade policies. Nevertheless, much more needs to be learned before a clear understanding of the relationship between electoral rules and labor unions in regards to trade. This research suggests that within democracies with a scarcity of labor, the majoritarian democratic prototype is better able to sustain protectionism.

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