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Political Institutions and Trade Protection

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Abstract

A common claim is that nations should cooperate in environmental policy making. However, there is little empirical support that noncooperative decision making results in too low environmental standards and taxes. We develop a theoretical model and show that if the median voter cares sufficiently for the environment, she has an incentive to delegate policy making to a politician that cares more for the environment than she does herself. By doing so, she mitigates the 'race to the bottom' in environmental taxes. In contrast, if environmental policies are determined cooperatively with other countries, the median voter has an incentive to delegate policy making to a politician that cares less for the environment than she does herself, so as to free ride on international environmental agreements.

Keywords: environmental policy, international policy coordination, strategic delegation.

JEL classification: F12, F18, H77, Q2

1 Introduction

By now it is well known that trade protection is foremost a political phenomenon. As there are few economic explanations for the persistence of tariffs and quota, or for the recent rise in anti-dumping measures, most researchers have focussed on political factors. The political economics literature provides many possible answers to the question why policy makers implement protectionist trade policies (see e.g. Rodrik 1995, Helpman 1999 for surveys). However, in answering that question, one important element seems to be underexposed. If trade policies are to be explained by political economics, why do these policies differ so much across countries?

This paper addresses that question. We argue that differences in political institutions may explain the variation in trade policies across countries. We show that a majoritarian electoral system generates higher levels of protection if compared to a proportional electoral system. Further, we argue that a presidential system results in lower trade protection if compared to a parliamentary system. To support these claims we show that, in a sample of 66 countries, political institutions are a significant explanatory factor for the variation in trade policy across countries.

In the theoretical part of the paper we analyze tariff setting by a country that consists of three districts. Each of these districts produces a geographically specific product. For example, one can think of steel production in the US that is clustered in the Mid-West (Ohio, West-Virginia and Pennsylvania), or wine production in the EU that is concentrated in the Mediterranean countries and France.¹ At the heart of our approach is the probabilistic voting model developed by Dixit and Londregan (1996). In this approach, parties announce policy platforms that maximize their chances of being elected in office. By announcing trade policies, parties take account of the amount of swing voters in each district. Announcing a higher tariff than the other party induces swing voters to vote for the party candidate in the district where that product is produced. However, this tariff loses votes in other districts because of a higher consumer price there. We show that if the three districts form one (national) electoral entity - which we call a proportional system - the equilibrium tariff schedule is a weighted average of the amount of swing voters in each district. The district with the highest number of swing voters receives the highest tariff.

In a majoritarian system, by assumption both parties have one safe district each and concentrate their campaign efforts on winning the district that is still undecided. If compared to a proportional system, we show that in a majoritarian election each party announce higher tariffs in the contested district and lower (zero) tariffs in the other districts. The reason is that proposing a high tariff in the contested district does lose votes in the other districts, but these losses

¹Krugman (1991) documents geographical industry clustering for the US, Brulhart (1998, 2001) analyzes industry concentration patterns in the EU, and Traistaru and Martincus (2003) show that economic integration in the Mercosur area has led to geographical clustering of industries.

do not swing the overall result in these districts. The tariffs in the non-contested districts are set to zero so as to avoid vote losses (because of higher consumer prices) in the heavily contested constituency. Because of lower effective counter forces to protection, we show that majoritarian systems have a higher average tariff rate across industries if compared to proportional systems.

The potential risks to favor certain electoral districts may in practice be constrained by a separation of powers. Majoritarian systems mostly have a president who has strong powers, partly from the fact that she is elected in a nation-wide election and therefore has a broader mandate. Hence, if compared to the legislature, presidents prefers lower tariffs that are spread more equally over electoral districts, a fact generally confirmed in the qualitative literature (see for instance Baldwin 1985 and Destler 1992).

These predictions are easily testable.² For a sample of 66 countries we show that countries with a majoritarian electoral systems have higher trade protection if compared to those with proportional systems. However, we find only very weak support for the claim that Presidents have a dampening effect on protectionist trade policies.

It is clear that our work is much inspired by the recent progress in the economic analysis of comparative politics. Persson and Tabellini (1999) show that majoritarian systems lead to high spending on local public goods (roads, swimming pools) and low spending on universal public goods (health care, social security). Helpman and Persson (1999) extend this model to allow for lobbying. Milesi-Ferretti et al. (2002) offer an alternative explanation by focusing on the trade-off between geographical and social constituencies. They show that proportional systems are more biased towards social constituencies and that majoritarian systems are more biased towards geographical redistribution. As a result policy makers in proportional system have a higher propensity to spend tax money on universal public goods. Both Persson and Tabellini (1999) and Milesi-Ferretti et al. (2002) support their claims with empirical evidence. Persson and Tabellini summarizes much of their work in Persson and Tabellini (2003).

For policy makers trade protection is a useful instrument for redistribution. If industries are clustered geographically protection serves as a local public goods. Therefore, it is fair to expect that the success of the comparative politics approach extends into the trade policy domain. Thus, the aim of the paper is to extend recent economic models of comparative politics to include trade policy. Second, our empirical analysis supplements earlier results for public spending and show that majoritarian systems are also politically more ‘predatory’ outside the public goods domain.

²The empirical analysis, which is greatly helped by the recent construction of databases containing data on political institutions by Beck et al. (2001) and Persson and Tabellini (2003), confirms our theoretical findings.

2 Theory

Consider a country where each citizen j lives in one of the three districts, indexed by $i \in [n, m, s]$. It is convenient to read n, m , and s as "north", "middle" and "south" respectively. Districts have equal population size N and there is no migration between districts. Each district produces a good X_i for which it uses labor and a district-specific capital. All goods are produced under perfect competition and constant returns to scale. Also, each of the districts produces a numeraire good X_0 for which it uses labor alone, where one unit of labor makes one unit of X_0 . As the domestic and world prices of the numeraire good are normalized to one, the economy-wide wage rate is at unity as well.

The typical individual receives indirect utility from four sources. First, she derives utility from consumption $v^j(p_i, E) = E + \sum_i S_i(p_i)$, where E are expenditures and $S(p_i)$ is the consumer surplus of good i .³ Second, she earns income from labour. Third she receives an equal share to other inhabitants of the revenues of the district specific capital.⁴ The total rewards to the district specific capital are $\Pi(p_i)$, with $\frac{d\Pi(p_i)}{dp_i} = X_i(p_i) \geq 0$. Fourth, the typical citizen receives her share from national tariff incomes. If we normalize all world market prices p_i^f to one, it then follows that the domestic price of good X_i is one plus the tariff rate ($p_i = 1 + \tau_i$), where τ_i is the tariff rate. In the following we assume that $\tau_i \geq 0$.⁵ The tariff revenues $\sum_i \tau_i M_i(\tau_i)$ on imports M_i are distributed equally over the citizens in a lump sum fashion.

The indirect utility function for individual j in district i is thus given by:

$$v_i^j(\tau_i) = l_i^j + \frac{1}{N} * \gamma \Pi_i(\tau_i) + \frac{1}{3N} \left[\sum S_i(\tau_i) + \sum_i \tau_i M_i(\tau_i) \right] \quad (1)$$

where l_i represents income from labor, the parameter γ takes the value one if j is an inhabitant of district i and zero otherwise. The optimum trade policy from the perspective of individual j maximizes (1) with respect to τ_i . The optimum tariff solves:⁶

$$\frac{\partial v_i^j}{\partial \tau_i} = \frac{2}{3} X_i(\tau_i) + \frac{1}{3} \tau_i M_i'(\tau_i) = 0 \text{ if } \gamma = 1 \quad (2)$$

³Further, in accordance with the surveys mentioned in the introduction we assume a linear demand curve with the property $\frac{\partial S(p_i)}{\partial p_i} = -X_i^d(p_i) < 0$, where $-X_i^d(p_i)$ is the total demand for good i .

⁴We assume that district specific capital is somehow embodied in individuals living within the district. This capital can not be traded on a national or international market.

⁵This implies that the country does not have the option to impose import or export subsidies ($\tau_i < 0$). Outright export subsidies are prohibited under WTO law and rarely observed in practice.

⁶First, $\frac{d(t_i M(\tau_i))}{d(\tau_i)} = M_i + \tau_i M_i'$. Second market clearing requires $X_i^d(\tau_i) = X_i(\tau_i) + M_i(\tau_i)$, so that $\frac{d(S(\tau_i))}{d\tau_i} = -X_i^d(\tau_i) = -X_i(\tau_i) - M_i(\tau_i)$. It then follows that: $\frac{1}{3} \left[\frac{d(S(\tau_i))}{d\tau_i} + \frac{d(t_i M(\tau_i))}{d(\tau_i)} \right] = -\frac{1}{3} X_i(\tau_i) + \frac{1}{3} \tau_i M_i'(\tau_i)$

$$\frac{\partial v_i^j}{\partial \tau_i} = -\frac{1}{3}X_i(\tau_i) + \frac{1}{3}\tau_i M_i'(\tau_i) = 0 \text{ if } \gamma = 0 \quad (3)$$

where $M_i'(\tau_i) < 0$. It follows that the optimum tariff rates for citizen j are:

$$\tau_i^* = 2\frac{X_i(\tau_i^*)}{-M_i'(\tau_i^*)} \geq 0 \text{ if } \gamma = 1 \quad (4)$$

$$\tau_i^* = -\frac{X_i(\tau_i^*)}{-M_i'(\tau_i^*)} \leq 0 \text{ if } \gamma = 0 \quad (5)$$

It is clear that individual j prefers a positive tariff on the product that originates from her district ($\gamma = 1$). She prefers negative tariffs (import subsidy) for products that originate from other regions, of which she only benefits as a consumer ($\gamma = 0$).

By summing over individuals j and districts i , we derive the (unweighted) social welfare function:

$$V^S(\tau_i) = 1 + \sum \Pi_i(\tau_i) + \sum S_i(\tau_i) + \sum \tau_i M_i \quad (6)$$

The first-order condition for maximum social welfare is:

$$\frac{dV^S(\tau_i)}{d\tau_i} = \tau_i M_i' = 0 \quad (7)$$

This condition is satisfied when $\tau_i = 0$. Hence, in accordance with standard theory, free trade maximizes social welfare.

Assume for the moment that the formation of a national trade policy is solely in the hands of a single central legislature. Two parties, "Left" (L) and "Right" (R) compete in a Downsian election for seats in this legislature. The probability that party R wins the election depends only on the ideological bias of the electorate and the expected financial effects of the trade policies. In the campaign, the two parties simultaneously announce trade policy platforms Γ_i^L and Γ_i^R (a vector of tariffs) to maximize their chances of winning the elections. Individual j in district i votes for party R if:

$$v_i^j(\Gamma_i^R) > v_i^j(\Gamma_i^L) + \sigma_i^j \quad (8)$$

where $v_i^j(\Gamma_i^P)$ are the financial benefits that voters in district i derive from voting for party R . The parameter σ_i^j is the ideological bias of voter j for party L (which may be negative).

Ideological preference σ towards party L in district i have a uniform distribution on

$$\left[-\frac{1}{2\alpha_i}, +\frac{1}{2\alpha_i} \right] \quad (9)$$

Hence, districts may differ in their average individual ideology σ_i^{ave} , and in the density α_i of the distribution of this ideology.

Suppose we rank the groups according to their average bias towards party L so that $\sigma_s^{ave} < \sigma_m^{ave} < \sigma_n^{ave}$. This implies that district south s is least biased towards party L (and most to R) and north is most biased towards party L . Further, assume that district middle has the highest density and that $\alpha_m > \alpha_s, \alpha_n$. This means that in middle voters are clustered more closely around the average ideological position, or, in the wording of Dixit and Londregan (1996), that there are more *swing voters* in district m . Stated otherwise, given the promise of the other party, a promise to increase tariffs on the product that originates from middle wins more voters in middle if compared to offering an identical increase tariffs on goods coming from the other districts.

2.1 Proportional elections

In a proportional representation system, the two parties compete for the majority of the aggregate vote share in a national election. The resulting composition of the legislature perfectly reflects the nation wide aggregate vote share of the parties. The party with the largest vote share is allowed to set trade policy. The vote share π^R of party R in an economy-wide election can be expressed as a ‘popularity function’ F^i for each district. This vote share is:

$$\pi_i^R = \sum F^i (v_i(\tau_i^R) - v_i(\tau_i^L), \sigma_i) \quad (10)$$

Here, the arguments in F are the difference between the trade policy promises of party R and L (the first term), and the ideological preferences for party L (the second term). A person in i votes for party R if $v_i(\tau_i^R) - v_i(\tau_i^L) > \sigma_i$. Because of the assumption of heterogenous ideological preferences, F is a smooth function, where $\frac{\partial F^i}{\partial \tau_i} = \alpha_i$. This implies that if party R offers a small monetary benefit over party L , not all voters switch, only those for which this increase in monetary benefits is now larger than their ideological bias towards party L .

The first-order condition for the optimum trade policy platform of party R for district i , given the policy choice of party L , then is:

$$\frac{\partial \pi_i^R}{\partial \tau_i^R} = \sum \alpha_i \frac{\partial v_i(\tau_i^R)}{\partial \tau_i^R} = 0 \quad (11)$$

Recall from (2) that an increase of the tariff on one of the goods wins votes in the district where

that good is produced. However, according to (3), this policy loses swing votes in the two other districts. Substituting (2) and (3) in (11) results in:⁷

$$\alpha_i X_i(\tau_i) - \bar{\alpha} [X_i(\tau_i) - \tau_i M'_i(\tau_i)] = 0 \quad (12)$$

The first term reflects the marginal gain in votes if party R offers a higher tariff to district i because the higher tariff offered by party R increases specific factor income in i . The second term are the marginal cost in votes. Recall that all voters dislike tariffs in their role as consumers, hence, these losses are weighted by the average density $\bar{\alpha}$. It follows that the optimum tariff schedule offered by party R in a proportional election is:

$$\tau_i^{prop} = \left(\frac{\alpha_i}{\bar{\alpha}} - 1 \right) \frac{X_i(\tau_i)}{-M'(\tau_i)} \quad (13)$$

Districts that have a higher than average density $\frac{\alpha_i}{\bar{\alpha}} > 1$ receive a positive tariff, other districts have a zero tariff.⁸ So the tariff a district receives reflects it's electoral responsiveness to a change in trade policies if compared to that of the nation as a whole. Districts that have many swing voters compared to the country average receive trade protection. Those that have a lower than average amount of swing voters pay in the form of a lower consumer surplus.

2.2 Majoritarian elections

With majoritarian elections each district elects one representative so that the legislature consists of three policy makers. The candidate that obtains 50% or more of the vote in a district wins the seat in the legislature. Suppose that, due to the ideological preferences, district south is firmly in the hands of party R and that it is impossible for party L to obtain a majority in that district by offering protection for the local industry. This means that we assume that, although in (8) the total votes for party L in south increases because it promises higher tariffs, in (10) the vote share of L never reaches 50 percent. The reason is that the ideological preferences are so biased in favour of party R (σ_s^{ave} is so small) that it is impossible for party L to obtain a majority of votes by offering trade policy benefits. Hence, irrespective of the trade policy promises of party

⁷For simplicity, focus on the tariff on the product from district "middle" m . Only workers in m have benefits from this tariff, to which they respond by increasing the vote share of party R by $\alpha_m X(\tau_i)$. However, party R loses votes in district m as well (because of the loss in consumer surplus and lower imports) so that the change in votes in m is:

$\frac{d\pi_m^R}{dt_m} = \alpha_m X(\tau_i) - \frac{1}{3} \alpha_m [X(\tau_m) - \tau_m M(\tau_m)]$ In districts s and n , the tariff on the good from m loses votes in he magnitude of $\frac{d\pi_i^R}{dt_i} = -\frac{1}{3}(\alpha_n + \alpha_s) [X(\tau_m) - \tau_m M(\tau_m)]$. Using the definition $\frac{\alpha_m + \alpha_s + \alpha_n}{3} = \alpha^{ave}$ results in (12).

⁸Note that *how many* districts receive a positive tariff depends on the distribution of the densities over the districts. For example, if in our set up district north has a very low α , this may imply that both other districts have a higher than average density and thus receive a positive tariff.

L , the (future) policy maker from south will be the candidate of party R . In contrast, party L holds north, irrespective of the trade policy offered by the candidate of party R . This means that to obtain a majority in the legislature both parties needs her candidate to win district m .

Hence, both parties focus their electoral strategy on middle. They do so by proposing the optimum tariff on product X_m that maximizes votes in middle. Irrespective of their ideological preferences, this is the tariff that follows from (4). Further, both parties propose zero tariffs on the products from both other districts. The reason is that imposing tariffs on products from districts s and n *would lose votes in district m* . The equilibrium tariff rates with majoritarian elections therefore are:

$$\tau_m^{maj} = 2 \frac{X_m(\tau_m)}{-M'_m(\tau_m)} \quad (14)$$

$$\tau_n^{maj} = \tau_s^{maj} = 0 \quad (15)$$

To compare the outcomes of different electoral rules, recall that in our example district middle also has the highest density of ideological preferences. It can easily be confirmed that the tariff in m is always higher with majoritarian than with proportional voting.⁹

To analyze the average tariff rate in each electoral system, first recognize that with proportional elections the tariff rate in south may well be positive. This is the case if the amount of swing voters that can be gained or lost in the north is small. Further, under a system of proportional elections, the district with the lowest density always receives a zero tariff.

Suppose that both parties announce zero tariffs for products from north and positive (but low) tariffs for south. Then, the (unweighted) average tariff rate over the three industries is:

$$t_{ave}^{prop} = \left[\frac{1}{3} \left(\frac{\alpha_m}{\bar{\alpha}} - 1 \right) \frac{X_m(\tau_m)}{-M'(\tau_m)} + \frac{1}{3} \left(\frac{\alpha_s}{\bar{\alpha}} - 1 \right) \frac{X_s(\tau_s)}{-M'(\tau_s)} \right] \quad (16)$$

And in a majoritarian electoral system:

$$t_{ave}^{maj} = \frac{2}{3} \left[\frac{X_m(\tau_m)}{-M'(\tau_m)} \right] \quad (17)$$

Recognize that production $X_m(\tau_m)$ in district middle will be higher with a majoritarian electoral system. Clearly, production in South will be higher with a proportional system, however, lower than production in district middle. Because we can show that with constant demand and import elasticities:

⁹We need that $\frac{\alpha_m}{\bar{\alpha}} - 1 < 2$. This is always true except for the case where α_n and α_s are zero. In that case, a proportional election resembles the majoritarian case.

$$\frac{1}{3} \left(\frac{\alpha_m}{\bar{\alpha}} - 1 \right) + \frac{1}{3} \left(\frac{\alpha_s}{\bar{\alpha}} - 1 \right) < \frac{2}{3} \Leftrightarrow \left(\frac{\alpha_m + \alpha_s}{\alpha_m + \alpha_s + \alpha_n} \right) < \frac{4}{3} \quad (18)$$

it also follows that a majoritarian system has higher average levels of protection than proportional electoral system.

3 Presidents

The previous section of the paper focussed on how the electoral process shapes the objectives of the legislature. A second aspect in which countries differ is how political institutions constrain actions by policy makers after the election. A general conclusion that arises from the literature on government formation concludes that a separation of powers between the legislature and a president increases social welfare (e.g. Cox 1997 Shugart and Carey 1992, and Shugart and Wattenberg 2001). This especially holds in majoritarian systems, where the legislature consist of representatives whose only objective is to fight hard for any piece of pork that might increase their chance of re-election in their constituency. In contrast, the president needs to secure reelection through a nation wide election, thus, he needs the overall support of the majority of voters. This effect may also play a role in parliamentary systems if parties are organized on the basis of social, ethnic or geographic characteristics.

Further, the separation of powers splits the rents from office (Persson et al. 1997). The general idea is that if the legislature and the president have different tasks, this increases competition between policy makers. Competition forces policy makers to propose and implement socially more efficient policies. A common example of such a separation of powers is where the president decides on the size of the budget and the legislature on the allocation of it. A common mechanism for checks and balances in the trade policy domain is to ratify multilateral agreements.

A last mechanism is strategic delegation by voters. Chari et al. (1997) show that at the election stage, in a majoritarian election voters foresee that the legislature will push for excessive spending on public goods because each constituency votes in office a local public goods lover. They then show that in equilibrium voters elect a fiscally conservative president to commit to budgetary discipline so as to avoid overspending on other districts.

For the US, Baldwin (1985) empirically shows that presidents (irrespective of party origin) are substantially more pro free trade than the Senate or Congress. In a qualitative analysis of US trade policy, Destler (1992) confirms this finding.

4 Empirical results

From the previous sections broadly follow three hypotheses. First, countries with majoritarian electoral systems have more protectionist trade policies. Second, presidential systems are more biased towards free trade. Third, president spread protection more evenly over industries. However, in general we are interested in the empirical relation between constitutions and trade policy. To analyze the hypotheses above, we propose the following estimation equation:

$$T_i = \alpha_i + \beta_1 Maj_i + \beta_2 Pres_i + \beta_3 Z_i + \varepsilon_i \quad (19)$$

where T_i is the trade policy of country i . Trade policy can be influenced by three sets of variables. The dummy Maj takes the value of one if country i has a majoritarian system for electing parliament and zero if that election is proportional. $Pres$ takes the value one if the country has a president and zero otherwise. The set Z are control variables.

Our sample consists of 66 countries. For the political variables on the right hand side, we have mainly used the database provided by Persson and Tabellini that accompanies Persson and Tabellini (2003).¹⁰ From that set we have left out countries that belong to a customs union, which, for instance, excludes the 15 countries that belong to the European Union. Of the 65 countries, 43 have a majoritarian system and 23 a proportional system. For the control variables that are included in Z , we have used World Bank data from the World Development Indicators.

For the dependent variables on the left hand side of (19), our source is Welch and Wacziarg (2003) for average tariff rates (ATR) for the 1990s. For broader measures of trade policy we have used the Heritage Foundation index for trade policy (HFD) for the year 1999 and the openness (OPEN) score again from Welch and Wacziarg (2003). OPEN is an updated version of the Sachs and Warner score for trade policy. From the World Bank development indicators SDT measures standard deviation of tariffs for 1995.

4.1 OLS results

Table 1 below shows the OLS results. In all regressions we have included in Z ; the log of income level (Income) and the log of population size (Population); the Gastil index for political freedom (GASTIL); the OECD dummy (OECD); and the regional dummies for Latin American, African, and South-Asian countries

Table 1 here.

¹⁰These data can be downloaded on the authors webpages.

Columns (1) and (2) show the results for the average tariff rates (ATR) and the log of average tariffs (ATR log). The results in column (1) confirm that majoritarian electoral systems are correlated with higher average tariff rates. The effect also is economically significant and indicates that majoritarian systems have on average a 5 percent higher tariff. The dummy for presidents, however, is insignificant.¹¹

Columns (3) and (4) report on the effect of political institutions on the (normalized) standard deviation of tariffs.¹² In column (3), it can be observed that, in line with our predictions, the presidentialism reduces the standard deviation of tariffs. A surprising result occurs in column (4). Here, by including the interaction-term, to shed more light on the partial effect of presidents in various electoral settings, the results indicate the presidents raise the deviation of tariffs in a majoritarian system if compared to a proportional system (as the sign of the interaction term is positive and that of Pres itself negative). Also, the coefficient for Maj is negative, indicating that districts reduce the standard deviation of tariffs. This last effect, as can be seen in columns (5) and (6), is robust to logistic-transformation.¹³

Many would argue that average tariff rates do not capture protectionist policies (see e.g. Feenstra 2004 for a discussion). Hence, most studies that compare the protection across countries also use broader trade policy indices (e.g. Dutt and D.Mitra 2002, Dutt and Mitra). Table 2 reports on these broader trade policy measures.

Table 2 here

In Table 2, columns (1) and (2) show the probit results for the Wazciarg (2003) OPEN score. The OPEN dummy takes the value of one for protectionist trade policies and zero otherwise.¹⁴ Clearly, in column (1) majoritarian system have a higher chance of being included in the closed economy category. Column (2) incorporates the interaction effect. The results in this column

¹¹Although the OECD dummy is highly significant and negative, the correlation between income and tariff protection is positive. A closer look at the data reveals that this is caused by high protection rates for middle income countries. Also, as we will show below, the result indicates that high income countries predominantly use tariffs as a means for protection. In contrast, low income countries primarily use non-tariff barriers as we will see below that in Table 2 the correlation between OPEN (and HFD) and Income is negative.

¹²Because the standard deviation is typically higher for countries that have a high average level of protection (which is easily confirmed in our data), we have normalized the standard deviation by dividing it by the mean average tariff. Clearly, the denominator effect is influenced by political institutions as well, as can be confirmed in columns (1) and (2) of Table 1.

¹³One may think that this is due to the denominator effect, where majoritarian systems increase the average level of tariffs, thereby reducing the normalized standard deviation. However, the effect is quite robust for alternative specification, including not normalizing the standard deviation. Then again, one may argue that tariffs are determined in a post-electoral setting where in majoritarian systems logrolling increases the average level of tariffs while at the same time reducing the standard deviation.

¹⁴Wazciarg (2003) updates and augments the well known Sachs-Warner index on trade policy. This index includes measures for tariffs, non-tariff barriers, black market premium and export marketing boards. Out of the 61 countries, 36 have an open regime (0) and 25 a closed regime (1).

indicate that in proportional systems, presidents increase the chance of a country being protectionist. However, in a majoritarian system, presidents reduce the chance that a country belongs to the protectionist group. Also, if compared to column (1), the coefficient of *Maj* is much larger in column (2), indicating that majoritarian systems have a much bigger chance of belonging to the protectionist group in the absence of a president. Further, in contrast to the tariff results, observe the negative correlation between income and (the chance) of protectionist policies.

Columns (3) and (4) of Table 2 show the results for the Heritage Foundation score (HFD), where a higher HFD-score means a more protectionist trade policy.¹⁵ As can be confirmed, for *Maj* the results are in-line with our predictions, as majoritarian systems in the ordered probit analysis increase the chance of protectionist trade policies. Again, when the results in column (4) are compared to those in (3), the coefficient of *Maj* increases.

4.2 Instrumental Variables

A common concern with respect to the OLS presented in Table (1) is that political institutions are endogenous. Both majoritarian electoral systems and presidentialism are, with the exception of Latin American countries, for instance closely related to British colonial origin. To correct for the non-random distribution of political systems, we check the robustness of the OLS estimates by instrumenting the constitutional variables.¹⁶

Table 3 shows the two-stage least squares estimates where we use as instruments for *Maj* and *Pres*: (i) the time periods in which the present constitution was adopted (CON2150, CON5180, CON81); (ii) the age of the country (AGE); and (iii) the fractions of the population whose mother tongue is English or some other European language (ENGFRAC and EURFRAC).¹⁷

Table 3 here

As can be observed in column (1) of Table 3, the t-values for average tariffs (ATR) drops if compared to the OLS estimates in Table (1). However, the logistic specification performs much better, where *Maj* now has significant effect and economically much larger when compared to the OLS estimates. On top of the rather weak second stage results as presented in table (1), the two-stage regression for the standard deviation runs into severe data-restrictions, however, broadly confirming that the correlation between electoral rules and the deviation of tariffs is weak at best.

¹⁵The score is ordered between 1 and 5, where 1 indicates extreme open trade policies and 5 extreme protectionist trade policies.

¹⁶Persson and Tabellini (2003) evaluate various instruments that explain a large part of the variation in political institutions across countries.

¹⁷We have run various versions in which we include different instruments such as colonial origin and regional dummies. The results are broadly in line with the ones presented in Table 2.

5 Conclusion

In this paper we have argued that political institutions matter for trade policy. In the theoretical part of the paper we show that majoritarian elections may result in higher trade protection if compared to proportional electoral rules. The intuition behind this result is that in a nation-wide election there will be many forces against granting trade privileges to certain industries which are located in specific regions. In contrast, in majoritarian election, political parties and their candidates focus on swing districts. By doing so, if parties need to win states, these parties care less for the swing votes in districts who do not shift the overall balance. So, in general, with a majoritarian electoral system less industries are awarded with on average higher protection if compared to a majoritarian system. In the empirical part of the paper, this hypothesis is broadly confirmed.

From the theoretical literature emerges the idea that pork-barrel politics in the legislature is constrained by the role of the Executive, in many cases a President. This Executive has much broader concerns than the individual members of the legislature, possibly because she is elected in a general election. In the empirical part of the paper we investigate if presidents indeed constrain protectionist forces and we find only weak support for this. What may be the reason? A main worry is that the president may also target the same swing districts if he is elected in a majoritarian way. For instance, the federal government under President Bush has been the driving force for the safeguard measures for US steel companies. The overriding motive for this is that reelection of Bush may crucially depend on winning steel producing states, not so much swing voters *within* states all states. Hence, if the president is also elected in a majoritarian election, then his motives are well aligned with parties in the legislature. A second reason for the weak evidence on presidential influence may be that Presidents may have only limited powers to counterbalance protectionist pressures. To investigate that, on top of the estimations discussed in the paper, including variables that differentiate presidential power across countries in our runs does not significantly improve results. However, if the dummy for majoritarian electoral systems is dropped, then there is a big, but only very weakly significant dampening effect of presidents on trade protection.

Concluding, the main result is that majoritarian electoral systems are biased against free trade. How do our result relate to those of Persson and Tabellini (2003) and Milesi-Ferretti et al. (2002) on public goods? We argue that when industries are geographically clustered, trade protection can be regarded as a local public good. Because trade policies serve as income protection policies, it reduces the need for welfare spending on social insurance. Hence, differences in political institutions may provide a theoretical underpinning for the Rodrik (1998) finding that more open countries have larger governments.

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Table 1: OLS results

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------|
| Dependent | ATR | ATR (log) | SDT | SDT | SDT (log) | SDT (log) |
| Maj | 4.99 (2.77)*** | 0.29 (1.43) | -0.39 (1.46) | -0.81 (2.27)** | -0.58 (2.52)** | -0.48 (1.51) |
| Pres | 0.88 (0.44) | 0.09 (0.43) | -0.53 (1.75)* | -1.06 (2.49)** | -0.41 (1.53) | -0.27 (0.70) |
| Maj*Pres | | | | 0.96 (1.72)* | | -0.24 (0.47) |
| Income | 96.5 (3.40)*** | 21.8 (6.90)*** | 15.26 (2.79)*** | 17.24 (3.16)*** | 3.18 (0.69) | 2.79 (0.58) |
| Population | 153.0 (2.78)*** | 19.0 (3.11)*** | 3.33 (0.37) | 1.96 (0.22) | -8.54 (1.03) | -8.52 (1.01) |
| GASTIL | -0.95 (1.09) | -0.16 (1.19) | 0.02 (0.18) | 0.05 (0.42) | 0.13 (1.12) | 0.12 (1.06) |
| OECD | -10.1 (3.22)*** | -1.07 (3.07)*** | 0.46 (0.93) | 0.60 (1.21) | 0.85 (1.98)* | 0.83 (1.89)* |
| Lat. Am. | 2.39 (1.06) | 0.51 (2.03)** | -0.29 (0.83) | -0.02 (0.06) | -0.74 (2.38)** | -0.82 (2.31)** |
| Africa | 6.80 (2.46)** | 1.06 (3.42)*** | 0.14 (0.31) | 0.02 (0.04) | 0.01 (0.02) | 0.03 (0.08) |
| South-Asia | 22.58 (7.08)*** | 1.22 (3.46)*** | -0.40 (0.87) | -0.26 (0.56) | -0.57 (1.47) | -0.61 (1.52) |
| Adjusted R ² | 0.66 | 0.37 | 0.18 | 0.22 | 0.41 | 0.40 |
| N | 61 | 61 | 46 | 46 | 44 | 44 |

Note: t-values in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 2: Probit analysis

| | (1) | (2) | (3) | (4) |
|------------|--------------------|--------------------|--------------------|--------------------|
| Dependent | OPEN | OPEN | HFD | HFD |
| Maj | 0.90 (2.54)*** | 1.48 (2.79)*** | 0.48 (1.67)** | 0.74 (1.97)*** |
| Pres | 0.29 (0.85) | 0.80 (1.65)** | 0.35 (1.15) | 0.58 (1.56)* |
| Maj*Pres | | -0.15 (1.56)* | | -0.63 (1.09) |
| Income | -0.11 (2.51)*** | -1.18 (2.78)*** | -0.47 (2.90)*** | -0.52 (3.07)*** |
| Population | 0.05 (0.48) | 0.05 (0.46) | -0.10 (1.30) | -0.11 (1.34) |
| N | 61 | 61 | 64 | 64 |

Note: z-statistics in parentheses.

* significant at 15%; **significant at 10%; ***significant at 5%

Table 3: Two-stage least squares results

| | (1) | (2) | (3) | (4) |
|----------------|---------------|------------------|---------------|---------------|
| Dependent | ATR | ATR (log) | SDT | SDT (log) |
| Maj | 5.79 1.59 | 0.95 (2.20)** | -0.54 0.93 | -0.44 0.91 |
| Pres | -1.45 0.31 | 0.35 0.64 | -0.78 1.06 | 0.04 0.05 |
| R ² | 0.64 | 0.13 | 0.14 | 0.35 |
| N | 55 | 55 | 42 | 40 |

Note: t-values in parentheses. The estimation equation is similar to the one used in Table 1. Table

3 only reports the constitutional variables.

* significant at 10%; ** significant a 5%; ***significant at 1%