# Why Legislators are Protectionists: the Role of Majoritarian Voting in Setting Tariffs

Gerald Willmann[*]

Department of Economics

Christian-Albrechts-Universität zu Kiel

24098 Kiel, Germany

gerald@email.uni-kiel.de

January 11, 2005

Based on the observation that industries are often geographically concentrated, this paper proposes a new political economy model of trade protection. We associate the sectors of a specific factors model with electoral districts populated by continua of heterogeneous voters who differ in their relative factor endowments. We show how strategic delegation leads each district to elect a representative who is more protectionist than the median voter. The legislature formed by these representatives then sets tariffs that are strictly positive. Introducing additional policy instruments reveals a trade-off between efficiency and regional targetability.

*Keywords:* trade policy, political economy, representative democracy.

*JEL classification:* F10, F13, D72.

# 1 Introduction

Economists like to preach free trade, yet legislators often turn a deaf ear. Whenever the optimists sigh relief that the GATT/WTO has finally brought tariffs down, another tariff or non-tariff-barrier appears under a different guise. More often than not, the political representatives who push hardest for these protectionist measures come from districts that are also home to the industry in question.[1] While the geographical concentration of industries has been included in many empirical studies, we are not aware of any theoretical work that has rigorously established the important role of this geographical correlation. True to the motto "all politics is local",[2] we fill this gap by proposing a political economy model of trade that is based on two tenets: the geographical concentration of industries and the prevalence of majoritarian or *first past the post* voting. One of the attractive features of our model is that it provides a straight-forward explanation for the often noted fact that the U.S. president is less protectionist than the congress.

Our starting point is an off-the-shelf specific factors model, slightly modified as in Grossman and Helpman (1994).[3] We associate the different sectors of the specific factors model with electoral districts in order to highlight the geographical concentration of industries. Each district is populated by a continuum of heterogeneous voters who differ in their relative factor endowments. That is, they own different amounts of the sector specific factor. These endowments represent the individuals' stake in the local economy or, loosely speaking, their local allegiance. The residents of each district elect one of their own to represent the constituency at the national level. We assume that these citizen-candidates cannot credibly commit to a policy platform but instead pursue their own objectives once in office. The national legislature, formed by all these representatives, then decides on trade policy. In doing so, it seeks to maximize the sum of its members' welfare. Solving the model backwards, we first analyze the tariffs chosen by a given legislature. We find that in the (counter-factual) benchmark case, where every district is repre-

---

[1] Take U.S. senator John D. Rockefeller IV of West Virginia, for example. His website `www.senate.gov/~rockefeller` tells us all about the senator's many and temporarily successful efforts to obtain protection for the U.S. steel industry. It will not surprise the reader to hear that West Virginia is home to a large steel mill.

[2] A saying attributed to the late Thomas P. (Tip) O'Neil, former speaker of the U.S. house of representatives.

[3] We essentially use the same economic model. This has the additional advantage of making our results more easily comparable to theirs.

sented by its average voter, the outcome is free trade. Were it the median voter of each district, there could even be negative tariffs if the wealth distribution is positively skewed. In local elections, however, the all-important median voter, realizing that the benefits of a (sector-specific) tariff accrue only to her district whereas the costs are born by everyone, desires a positive tariff because she ignores the negative externality. Anticipating the consensual decision making at the national stage which would force her to internalize those externalities, she strategically delegates representation of the district to someone who is more protectionist. The actual legislators are hence more protectionist than their respective median voter and set tariffs that are strictly positive. The extent of strategic delegation and the ensuing level of protection can be shown to be increasing in the number of districts. This comparative static result is due to the fact that the more numerous the districts, the wider the cost of a particular tariff can be spread and the lower the cost share born by the benefiting district itself.

The theoretical predictions that we derive from the model seem to be broadly in line with the empirical evidence. While the prediction that legislators are more protectionist than median voters cannot be tested directly, the comparative static aspect that this effect depends positively on the number of districts provides a very intuitive explanation for why the U.S. president is less protectionist than the congress. Testing the same comparative static result for the equilibrium tariff rates, a back-of-the-envelope cross-country regression produces a significantly positive coefficient on the number of districts, which confirms our prediction. The empirical importance of geographical concentration, finally, is documented in several empirical studies. Busch and Reinhardt (1999), for instance, add a separate measure of political concentration and find positive coefficients on both geographical and political concentration.

There is, of course, a long tradition of explaining tariff protection along political economy lines.[4] Reignited by their seminal contribution, the field has come to be dominated by the "protection for sale" approach of Grossman and Helpman (1994). Applying the theoretical framework of Bernheim and Whinston (1986), they explain trade protection as the outcome of a menu auction where lobbying sectors submit conditional bids to the government, who then chooses

---

[4]Recent surveys of this literature include Rodrik (1995), Helpman (1997), Ursprung (2000), and Gawande and Krishna (2003).

the tariff vector and collects the contributions.[5] Despite the empirical support this approach has found in the data,[6] we want to explore alternative ways of how the political process affects tariff protection. Baldwin and Magee (2000), who empirically investigate trade related votes in Congress, conclude that "while campaign contributions [...] were important, they were not the only significant factors determining how representatives voted on the trade bills." We find this hardly surprising, given that the protection for sale approach does not directly account for, among other things, the geographical correlation alluded to above.[7]

This paper provides a complementary explanation, continuing where Mayer (1984) leaves off. He focuses on factor endowments in traditional trade models and combines these with a median voter political process. We take this one step further and use a more elaborate political process in line with recent work on political economy in the field of public finance. As in Besley and Coate (1999) and Ferretti and Perotti (2002), our political process features regional elections under majoritarian voting rules and, subsequently, the ultimate policy decision is taken by the national legislature. Unlike those contributions, we combine this political process with a general equilibrium (trade) model[8] instead of working with ad hoc objective functions.

Virtually all political economy explanations of trade protection rely on the redistributive role of tariffs, despite their well-known inefficiency at the task. This leads Rodrik (1995) to pose the fundamental question as to how to explain the use of tariffs when more efficient instruments are available. Our approach provides a partial answer by pointing to regional targetability as the second relevant policy dimension. The availability of an additional, more efficient and equally targetable instrument — sector specific production subsidies, for example — dominates the use of tariffs in our model as well. As soon as the second, more efficient instrument is less targetable, however, both instruments will in general be used. This implies that there exists a trade-off between efficiency and regional targetability when it comes to the choice of policy instruments.

The plan of the paper is as follows. Section 2 presents the underlying trade model and

---

[5]Ursprung (2000) calls it the "corruption approach" because such contributions tend to be illegal in many countries.

[6]See the recent empirical studies by Goldberg and Maggi (1999), Gawande and Bandyopadhyay (2000), Eicher and Osang (2002) and McCalman (2002).

[7]It also fails to answer the fundamental question posed in Rodrik (1995) why to use trade policy when other instruments are more efficient, a point we return to below.

[8]Admittedly, the simplifications borrowed from Grossman and Helpman (1994) somewhat qualify this statement.

Section 3 lays out the political process. Solving the model backwards, we analyze the policy choice of a given legislature in Section 4, determine the outcome of the regional elections in Section 5, and combine both to obtain the equilibrium tariff rates in Section 6. In Section 7, we discuss the testable implications of the model and Section 8 introduces additional policy instruments. Section 9, last but not least, offers concluding remarks.

## 2 The Underlying Trade Model

This section introduces the trade model that will form the basis for the subsequent political analysis. We choose a (slightly modified) specific factors model because it lends itself to a regional interpretation in the context of majoritarian voting. As in Grossman and Helpman (1994), we assume quasi-linear, additively separable utility in order to keep the model tractable. Using this simplification offers the additional benefit of making our analysis comparable to theirs. The model outlined below differs from theirs, however, in that it introduces a more explicit ownership structure necessary for our version of the political process.

The small, open economy under consideration consists of $1 + n$ sectors, indexed by $i = 0, ..., n,$ that produce under constant returns to scale. These sectors will be interpreted as electoral districts once we turn to the political side. Sectors $i = 1, ..., n$ each uses its own sector specific factor plus one common mobile factor. We denote the domestic price of its respective output good by $p_i$ and the corresponding price on the world market by $p_i^w$. Differences $p_i - p_i^w$ between both price vectors represent import tariffs (subsidies if negative) or export subsidies (taxes). Sector zero is special in that it only uses the mobile factor. By appropriate choice of units, sector zero turns the mobile factor into output one-to-one. Using its output as the numéraire allows us to normalize the price $p_0$ to one. Strictly positive production in sector zero then implies that the wage of the mobile factor also equals one, as does the world market price $p_0^w$ if we abstract from trade protection for this sector. The production possibilities of the other $n$ sectors are summarized by profit functions $\pi_i(p_i)$ that, at the same time, stand for the factor rewards of their specific factors.

Each sector specific factor $i$ is owned by a continuum of agents. There are $n$ such continua

— one for each sector — resulting in a total population of mass $n$. While all of them own one unit of the mobile factor, individuals within sectors differ in how much they own of their sector specific factor. We denote the amounts they own of the specific factor by $\theta_i$ and allow $\theta_i$ in each sector to be distributed according to any statistical distribution with positive support. By appropriate choice of units, we normalize the first moments of these distributions to one, i.e. $\bar{\theta}_i = 1$. For future reference, let us denote the median of these distributions by $\theta_i^m$. In a sense, $\theta_i$ measures the degree of sector or local specificity of an individual's factor endowment or, in other words, her stake in the local economy. Summing over individuals and districts, we have an economy-wide fixed supply of one unit of each specific factor and $n$ units of the mobile factor.

Individuals have quasi-linear, additively separable utility, that is, $u = x_0 + \sum_{i=1}^n u_i(x_i)$, where $x_i$ is the individual's consumption of good $i$ and the $u_i(.)$ are differentiable, strictly concave subutility functions. Optimizing subject to a given income level $I$, every individual demands $x_i = d_i(p_i) \equiv (u_i')^{-1}(p_i)$ of goods $i = 1,...,n$ and $x_0 = I - \sum_{i=1}^n p_i d_i(p_i)$ of the numéraire.

The individuals' indirect utility takes the form $V(p,I) = I + CS(p)$, where $p$ is the domestic price vector $(p_1,...,p_n)$ and $CS(p) \equiv \sum_{i=1}^n (u_i(d_i(p_i)) - p_i d_i(p_i))$ the consumer surplus per capita. Using the individual's actual income, individual $\theta_i$'s indirect utility is given by

$$V_i(p;\theta_i) = 1 + \theta_i \pi_i(p_i) + R(p) + CS(p), \tag{1}$$

where it is assumed that per capita tariff revenue $R(p) \equiv \sum_{i=1}^n (p_i - p_i^w)(d_i(p_i) - y_i(p_i)/n)$ is rebated uniformly and $y_i(p_i)$ is the output supply of sector $i$ derived from $\pi_i(p_i)$ via Hotelling's lemma. Before turning to the political process, note that utilitarian social welfare $W(p) = \sum_{i=1}^n \int V(p,\theta_i)d\theta_i$ attains its global maximum at $p = p^w$. In other words, free trade is indeed the optimal policy for our small, open economy.

## 3 The Political Process

After having laid out the economic side of the model, this section focuses on the political process. Our point of departure is the majoritarian principle enshrined in the electoral rules of most representative democracies, which gives rise to a strong representation of regional interests.

The representative nature of modern democracies is hardly in question.[9] As for majoritarian versus proportional representation, in many countries the former plays a direct and sometimes exclusive role in national elections.[10] Where this is not the case we often see majoritarian elements supplementing an otherwise proportional system. More importantly, similar effects can stem from an intermediate, regional layer of democratic representation. The electoral system at this intermediate level might well be proportional. The end result at the national level still resembles the outcome of a majoritarian system if the federal representatives are selected by the regions.[11]

How do these ubiquitous local influences relate to trade policy? The crucial link is the observation that many industries are geographically concentrated. Examples abound: old industries such as coal mining or ship building have located in the obvious places, other industries cluster in particular locations due to agglomeration effects. Audretsch and Feldman (1996) find an average Gini-coefficient of 0.56 for the location of industries across U.S. states at the four digit SIC level.[12] We do not seek to explain the reasons behind these locational choices.[13] We take this widespread phenomenon as given and investigate its political implications for trade policy.[14] To this end, we associate electoral districts with the $n$ sectors of our specific factors model. The implicit assumption that an electoral district is the sole home to a single industry is clearly extreme. We use this simplification to facilitate our analysis and to elucidate the effects of majoritarian voting. The other extreme, namely a geographically uniform distribution, is at least as unrealistic, and we want to explore the consequences of moving away from it.

The political process of our model involves local elections where each district elects a representative, and a national stage where the legislature formed by the local representatives decides on policy. Let us consider these two stages in turn. The choice of the local representative clearly depends on her behavior once she becomes a member of the national legislature. In our model,

---

[9]Admittedly, most democracies possess direct elements, Switzerland being the prime example, but trade policy is rarely — if ever — submitted to popular vote.

[10]Although the nuances of countries' electoral systems are a fascinating topic, we refrain from offering a detailed discussion, being beyond the scope of this paper.

[11]An important example is the European Council of Ministers.

[12]Brülhart (2001) presents empirical evidence of geographical concentration in Europe.

[13]Cf. Fujita, Krugman, and Venables (1999) for a treatment of the new economic geography.

[14]We acknowledge that companies could possibly choose locations based on where they would wield the most political influence. However, we do not entertain this possibility in the current paper.

so-called citizen-candidates are chosen from among the voters.[15] We assume that they are unable to commit to a particular platform and instead pursue their own personal objectives once in office.[16] Election promises are possible but not credible and therefore irrelevant. The election of the representative in each district basically amounts to choosing her degree $\theta_i$ of local allegiance to the district. Due to the single-crossing property of the voters' objective function (Appendix 1 establishes this property formally), it will be the median voter of each district who picks a citizen-candidate — not necessarily herself.

At the national level, the legislature is made up of the locally elected representatives. This legislature, call it the house of representatives, then decides on trade policy. By assuming that the entire legislature decides, we abstract from parties, coalitions, and the formation of a government.[17] In choosing policy, the house of representatives seeks to maximize the sum of its members' personal welfare. Assuming such an efficient bargaining solution seems natural in the context of rational, self-interested legislators. Formally, it gives rise to the following objective function:

$$W(p;\theta^{rep}) = \sum_{i=1}^{n}(1+\theta_i^{rep}\pi_i(p_i)+R(p)+CS(p)). \tag{2}$$

Note that we implicitly assume that all members of the legislature have equal say in determining policy.[18]

## 4 The Legislature's Policy Choice

Solving the model backwards, this section takes the composition of the house of representatives as given. That is, the selection of representatives in their respective electoral districts has supposedly taken place and we regard the resulting set $\{\theta_i^{rep} : i = 1,...,n\}$ as exogenously given.

---

[15]The term "citizen-candidate" was coined by Osborne and Slivinski (1996) who provide a more explicit analysis of this stage, as do Besley and Coate (1997).

[16]Note that allowing for commitment does not invalidate our results. Instead it leads to an interesting, alternative interpretation. We return to this point below.

[17]A previous version of the paper explicitly modelled the formation of the government. This does not affect our main result, however, and is therefore omitted here.

[18]It is straightforward to relax this assumption and introduce individual weights on each sector's objective which stand for the importance or influence of the sector's representative. In a reduced form way, this allows us to integrate other approaches that provide the micro-foundation for said weights: they could capture the monetary contributions of the "protection for sale" framework or, for example, the advantages of incumbency, were one to model this aspect more explicitly.

We want to analyze how this given legislature chooses tariffs.

When deciding on trade protection, the legislature seeks to maximize its objective function (2) over the price vector $p$ or, equivalently, over the tariff vector $p - p^w$. The corresponding $n$ first order conditions are

$$\theta_i^{rep} - 1 = f_i(p_i) \quad \forall i = 1, ..., n, \tag{3}$$

$$\text{where} \quad f_i(p_i) \equiv -\frac{(p_i - p_i^w)(nd_i'(p_i) - y_i'(p_i))}{y_i(p_i)}.$$

Note that the RHS can be written as a function of one sole argument, the price of commodity $i$, because none of its three terms — the import tariff $p_i - p_i^w$, the domestic supply of good $i$ in the denominator and, in particular, the price derivative of aggregate import demand (the second term in the numerator) — depends on the prices (or tariffs) of other goods.[19, 20] Similarly, the LHS depends on $\theta_i^{rep}$ but not on the types of the other representatives. In terms of political factors, the tariff protection granted to a sector is thus determined — at least at this stage — solely by the preferences of its local representative.

To analyze in greater detail how the political process influences the choice of tariffs, it is convenient to rewrite the first order conditions. First, note that the $f_i(p_i)$ are strictly increasing as long as we impose mild regularity conditions[21] on the subutility and profit functions. We can then rewrite the above first order conditions by inverting the $f_i(.)$ functions

$$p_i = f_i^{-1}(\theta_i^{rep} - 1) \quad \forall i = 1, ..., n. \tag{3'}$$

Clearly, the inverse functions $f_i^{-1}(.)$ will also be strictly increasing. Furthermore, given that the original $f_i(.)$ have their horizontal intercept at $p_i^w$, the inverted functions have their vertical intercept at the world market price.

We are now in a position to discuss the political mechanism at work here. If the representa-

---

[19]This is, of course, due to the separability assumption. Even without it, however, the effects through tariff revenue and consumer surplus would tend to zero as $n$ increases.

[20]Note that the $f_i(.)$ functions closely resemble price elasticities of excess demand, only that they involve tariffs instead of prices in the numerator and domestic production instead of excess demand in the denominator. We will return to their economic interpretation below.

[21]The exact condition is $(p_i - p_i^w)(nd_i'' - y_i'') + f_i y_i'/y_i + (nd_i' - y_i') < 0$, that is, as long as the third derivatives of the subutility and the profit function and the curvature of the latter do not dominate the linear component.

tive of district $i$ were its average voter, then $\theta_i^{rep}$ would equal one — recall that we normalized the first moment to one — and the argument of the $f_i^{-1}(.)$ functions would equal zero. Since the vertical intercept of these functions lies at $p_i^w$, we see immediately that the average voter representing her district would obtain a zero tariff — free trade in other words — for the industry located in that particular district. More generally, since the $f_i^{-1}(.)$ functions are strictly increasing, the domestic price and, hence, the tariff will be strictly increasing in $\theta_i^{rep}$. The tariff protection offered to a sector increases with the local allegiance of its representative. A representative who has an above (below) average stake in the local economy obtains a positive (negative) tariff because the higher (lower) the representative's stake in the sector specific factor, the more she benefits from a positive (negative) tariff.

This argument, of course, applies equally to the one voter who is especially prominent in the political economy arena: the median voter. If the distribution of $\theta_i$ is skewed to the right (left), then the median lies below (above) the average and the median voter's endowment of the sector specific factor will be less (greater) than one. In the case of positive (negative) skewness, the median voter would therefore obtain a negative (positive) tariff. Note that empirical wealth distributions are typically skewed to the right, making it more likely that the median voter would obtain an import subsidy or export tax for the locally produced output good. These results are reminiscent of Mayer (1984) and Helpman (1997). In our analysis, however, they are only intermediate steps because we have not yet determined who will actually represent the $n$ districts.

Before turning to that question, let us take a quick look at the economic forces that so far have been hidden behind the $f_i(.)$ functions. To this end, it proves convenient to rewrite the first order conditions once more:

$$\frac{t_i}{1+t_i} = \frac{(\theta_i^{rep}-1)z_i(p_i)}{\varepsilon_i(p_i)} \quad \forall i = 1,...,n, \tag{3''}$$

where $t_i$ denotes the ad valorem tariff $(p_i - p_i^w)/p_i^w$, $\varepsilon_i$ the price elasticity of import demand in absolute value, and $z_i$ the ratio of domestic supply to imports. Note that the LHS is a monotone transformation of the ad valorem tariff. Written this way, the first order conditions reveal that a higher import demand elasticity reduces tariff protection, as one would expect in the light of Ramsey pricing. On the other hand, a higher ratio of domestic production to imports increases tariffs, as it amplifies the tariff's positive effect on profits. In terms of economic determinants,

these are exactly the same results — albeit still preliminary in our case — as in Grossman and Helpman (1994).[22] The political process, to which we now return, differs substantially though.

## 5 Choosing Representatives

Having analyzed the policy decision of a given national legislature, we now turn to the local elections that precede it. In each district, the electorate selects one of its own to represent the district at the national level. These representatives then constitute the national legislature. Beforehand, when participating in local elections, voters are fully aware of how their choice of representative will influence the resulting tariff to be set by the national legislature. In our model, obtaining the desired tariff is, in fact, the main objective of voting in local elections.[23] The voter pursues this objective by choosing the type of the local representative. Formally, she maximizes her indirect utility function taking into account the dependence of prices on the type of representative:

$$
\begin{aligned}
\max_{\theta_i^{rep}} \quad V_i(p_1(\theta_1^{rep}),...,p_n(\theta_n^{rep}); \theta_i) = {} & 1 + \theta_i \pi_i(p_i(\theta_i^{rep})) + \\
& R(p_1(\theta_1^{rep}),...,p_n(\theta_n^{rep})) + \\
& CS(p_1(\theta_1^{rep}),...,p_n(\theta_n^{rep})),
\end{aligned} \tag{4}
$$

where the $p_i(\theta_i^{rep})$ are shorthand for the inverted first order conditions (3') of the legislature's optimization problem. Their reappearance here shows how the voter anticipates the outcome of the political process at the next stage that was analyzed above.

The first order conditions implied by the voter's optimization problem (4) take the form

$$
p_i(\theta_i^{rep}) = f_i^{-1}(n\theta_i - 1) \quad \forall i = 1,...,n. \tag{5}
$$

Note that, except for the dependence of the price on the type of representative, these are the same

---

[22]We have deliberately chosen their notation for this version of the first order conditions in order to highlight the analogy.

[23]Clearly, we are sidestepping the question of why an infinitesimal voter takes part in elections at all if her influence is nil.

first order conditions that would obtain if the voter maximized her indirect utility function by choosing the price directly. This is due to the fact that selecting the local representative affects the objective solely through the price of the corresponding sector. We can simplify these first order conditions by substituting the actual functions (3') for the prices on the LHS, resulting in

$$\theta_i^{rep} = n\theta_i \quad \forall i = 1, ..., n. \tag{5'}$$

We see that the voter prefers a representative who owns $n$ times as much of the specific factor as she herself. Obviously, the number of districts $n$ is crucial. We leave aside the limiting case $n = 1$ because it corresponds to a proportional system and focus instead on the role played by multiple districts. For $n > 1$, the voter would like to send someone who owns a higher share of the specific factor and is therefore more protectionist than the voter herself. The intuition is straightforward. A higher tariff, by raising the price of the locally produced good, solely benefits the owners of the factor that is specific to the sector in question. The welfare cost, net of tariff revenue, on the other hand, is born uniformly by everyone. Imposing a tariff thus entails a negative externality on other districts that do not share in the benefits but bear part of the cost. At the national stage analyzed previously, these externalities are internalized because when the entire legislature sets trade policy, every representative has to compromise. Anticipating this internalization, the voter prefers to send someone who is more protectionist than herself.

Given the voters' preferences, what will be the political outcome? That is, what type of representative will eventually represent each district? As political economy settings go, the local elections we have modelled are relatively simple. In each district, voters differ along only one dimension, namely $\theta_i$. The policy space is one dimensional as well: voters choose a representative from their own characteristics space. Facilitating matters further, we show in Appendix 1 that the above objective function possesses the single-crossing property. This allows us to invoke the median voter result. For a wide variety of electoral settings, it is thus the median voter in each district who decides the outcome. In other words, the median voter alone chooses who will represent the district. From the above first order conditions (5') we see that

11

the representatives chosen by their respective median voters will be of the type

$$\theta_i^{rep} = n\theta_i^m \quad \forall i = 1,...,n. \tag{6}$$

We have thus established the following proposition:

**Proposition 1** *In a multi-district system (n > 1), legislators are more protectionist than their respective median voters.*

Let us stress the intuition behind this result. The previous discussion of voter preferences obviously applies to the median voter as well. The median voter could in fact decide to represent the district herself. Yet her preferences with regards to the tariff would then be watered down by the legislature's consensual decision-making that obliges every representative to internalize those parts of the cost that are born by her colleagues. Anticipating such compromises, the median voter instead sends someone who owns a higher share of the sector specific factor. That is, she strategically delegates representation of the district to someone who is more protectionist than herself. That representative will, of course, also be forced to compromise and internalize the total cost of protection, but she obtains a higher tariff — as intended by the median voter — because her personal trade-off between costs and benefits favors protection, due to a larger share in the sector specific factor. In broader terms, the consensual decision making process we assume at the national stage would normally act as a built-in commitment device. This device is leveraged, however, by the strategic delegation taking place at the local level. Only in a proportional system ($n = 1$) does the median voter choose to actually represent the district herself. In that case, there are no externalities that could be internalized, and the median voter would be the only representative, free to set the tariff she prefers.[24]

Beyond this special case, the degree of strategic delegation is increasing in $n$, the number of districts, as we can see from equation (6) above. Starting from the proportional case, where there is no strategic delegation, the ratio of the local representative's endowment of the specific

---

[24]Note an interesting re-interpretation of our model if we allow for commitment: the median voter would then always choose to represent the district herself, irrespective of $n$. However, instead of strategically delegating she would strategically misrepresent her true preferences by committing to a protectionist platform that corresponds to $\theta_i^{rep}$ in order to obtain her preferred policy.

factor to what the median voter calls her own increases one-for-one with $n$. This aspect of our result is also quite intuitive. The cost of the tariff is split uniformly across the residents of all $n$ districts. As the number of districts increases, less and less of the cost of a particular tariff has to be borne by the district itself. The rest is paid for by the $n-1$ remaining districts. This stimulates the median voter's appetite for protection and, at the same time, sharpens the Damocles sword of the externalities' internalization. Both effects create an ever greater incentive for strategic delegation.

## 6 Equilibrium Tariffs

We are now in a position to complete the picture we have been developing so far. The main objective of every political economy model of trade — and we make no exception — is to explain the trade protection we observe. So what are the equilibrium tariff rates that will be set in our model by a legislature composed of the above representatives? To answer this question, we draw on the results of the previous sections and combine both stages of the political process. Plugging equation (6) into (3'), we obtain the equilibrium tariffs

$$p_i = f_i^{-1}(n\theta_i^m - 1) \quad \forall i = 1,...,n. \tag{7}$$

What can be said about these equilibrium tariffs? To begin with, we are interested in the sign of each tariff, i.e., whether it will take the form of an import tariff or an import subsidy (export subsidy or tax). In order to determine the sign, recall that the functions $f_i^{-1}(.)$ are strictly increasing and have their vertical intercepts at $p_i^w$, the world market price. Clearly then, the equilibrium tariffs will be positive as long as the median endowment $\theta_i^m$ is greater than $1/n$. Since we normalized the mean of each distribution to one, this inequality is satisfied, especially as $n$ grows large, except for pathologically skewed distributions. For all empirically relevant cases, we have thus established the following proposition:

**Proposition 2** *The equilibrium tariff rates* $p_i - p_i^w$ *are strictly positive as long as the median* $\theta_i^m > 1/n$.

We know that, had the median voter chosen to represent the district in person, the result would have been a slightly negative tariff (in the case of a positively skewed distribution). We see here that, in equilibrium, strategic delegation allows the median voter to obtain the positive tariff she prefers.

We now turn to the comparative statics of our result. Equation (7) and the fact that the $f_i^{-1}(.)$ are strictly increasing clearly show that:

**Proposition 3** *The equilibrium tariff rates $p_i - p_i^w$ are strictly increasing in the number of districts $n$.*

As a way of elucidating the intuition behind this result, let us deduce it from prior insights. We saw in the preceding section that the degree of strategic delegation is increasing in the number of districts. The reason was that, as the number of districts grows, an ever increasing part of the cost of protection is forced upon other shoulders. This prompts the median voter to desire more protection and, at the same time, to become more concerned about the looming internalization of those costs. As a consequence, being keen on strategic delegation, she chooses a representative with a higher endowment of the sector specific factor. This higher endowment tilts the representative's personal trade-off between benefits and costs in favor of protection. Hence, the tariff is increasing in the local representative's endowment, which in turn increases with the number of districts.

The proposition has an interesting corollary in the context of comparative institutional analysis:

**Corollary** *The equilibrium tariffs in a purely proportional system ($n = 1$) are lower than in a majoritarian electoral system.*

Finally, let us revisit the economic forces at work behind the scenes. The $f_i^{-1}(.)$ functions still contain the same economic mechanisms that we analyzed before. Substituting equation (6) into (3") would show that the equilibrium tariff rates depend negatively on the import demand elasticities (Ramsey pricing) and positively on the ratio of domestic production to imports. We thus conclude that our final results exhibit the same economic effects that are present in the

"protection for sale" approach. This is no surprise given that the economic side of both models is identical.

## 7 Testable Implications

In this section, we briefly assess the empirical validity of the model's theoretical predictions. One of its central implications — which in fact gave rise to the title of this paper — is that legislators will be more protectionist than (their respective) median voters. Directly testing this prediction seems difficult. While the protectionist fervor of elected representatives can be gauged from their voting behavior on trade related issues, the stance of the median voter is hard to determine with any degree of accuracy. We can, however, exploit the comparative statics of our result. We saw in Section 5 that the extent of strategic delegation depends positively on the number of districts. In other words, the more numerous the districts, the more protectionist *ceteris paribus* will be the elected representatives. Consider, in this context, the relative protectionism of the U.S. president and the congress. Confirming casual observation, Baldwin (1985) finds that "an abundance of evidence supports the hypothesis that the president tends to be more liberal on trade policy matters than the congress." Our theory provides a straight-forward explanation of this fact. The U.S. president represents (supposedly) the interests of the nation at large, i.e. one large district. Members of congress, on the other hand, represent many districts and consequently, according to our theory, should be — and indeed are — more protectionist. [25]

As we saw in the previous section, the same comparative static result holds for the equilibrium tariff rates. That is, the more numerous a country's electoral districts, the higher the level of protection that we expect the country to set. To the best of our knowledge, there does not exist any direct empirical evidence on this prediction.[26] As *prima-facie* evidence, we thus regress a country's average tariff rate $t_c$ on the number of districts $n_c$ and include GDP to control for the

---

[25]This implication of our model is related to a contribution by Chari, Jones, and Marimon (1997) who derive a similar result in the context of public spending.

[26]Indirect evidence can be found in studies by Rogowski (1987) and Mansfield and Busch (1995). The former finds a positive and significant coefficient regressing the number of districts on trade openness. The latter use NTB coverage ratios as the dependent variable and find a positive and significant coefficient on the number of districts. However, they also include several interaction terms with other variables.

size of the economy.

$$t_c = \underset{(15.72)}{15.208} + \underset{(3.50)}{0.016} n_c - \underset{(-6.85)}{0.415} GDP_c + \varepsilon_c \qquad R^2 = 0.3744 \qquad (8)$$

Equation (8) reports the results of such an OLS regression, where $t$-values are given in parentheses and $\varepsilon$ is a mean zero error term.[27] We see from equation (8) that the coefficient on the number of districts is estimated to be positive and highly significant, confirming the qualitative prediction of our theory.[28] The point estimate of 0.016 implies that an additional 10 districts correspond to an increase in the average tariff rate of 1.6 percentage points. We interpret our finding of a positive coefficient on the number of districts as lending tentative support to the theoretical implication of our model, which seems to be novel in the literature.

Another central implication of the model is the importance of the geographical concentration of industries, which is implicit in our assumption that sectors map into districts. The empirical evidence on the role of geographical concentration is more pervasive. Hansen (1990) reports that industries that operate in fewer US states are more likely to receive favorable rulings by the International Trade Commission on escape clause, anti-dumping, and countervailing duty filings. In a similar vein, Milner (1997) shows that trade barrier reductions in the context of Nafta were smaller for geographically concentrated industries. Both findings support this central claim of our theory. Those studies that do not find a significantly positive role of geographical concentration are criticized by Busch and Reinhardt (1999) on the grounds that they ignore the checkerboard problem[29] and conflate geographical and political concentration. While the checkerboard problem does not apply to our analysis, the role of political concentration is of utmost importance. Busch and Reinhardt (1999), using a measure of geographical concentration that does not suffer from the checkerboard problem, find a highly significant coefficient. Adding a separate measure of political concentration, they also estimate its coefficient to be significantly positive when it is interacted with industry size. In other words, the constitutional channel is most effective for large and geographically concentrated industries. There is also evidence that

---

[27]In terms of data, we use the unweighted average tariff rate for 1990–99 from Wacziarg and Horn Welch (2003) and the 1995 number of electoral districts (the average of both chambers for bi-cameral systems) from the dataset of Lundell and Karvonen (2003). The sample includes all major countries (95 total); only relatively unimportant places, for which this data was not available, are excluded.

[28]Note that the coefficient on GDP is negative in line with the presumption that larger economies are less open.

[29]The checkerboard problem refers to the difference between, for instance, occupying the four corner fields versus the four center fields of a checkerboard, which both produce the same Gini coefficient.

16

geographical concentration goes hand in hand with lower contributions (see Grier, Munger, and Roberts (1994) and also Goldberg and Maggi (1999)) which would suggest that the constitutional channel we emphasize is a substitute for lobbying.

## 8 Additional Policy Instruments

Having developed a new political economy model of tariff protection, we need to investigate whether our approach suffers from the same shortcoming that afflicts other approaches. They rationalise the use of tariffs solely for their redistributive role. Yet, as is well known, tariffs are less efficient at this task than most other instruments. Once such additional instruments enter the frame of alternative models, tariffs perform a disappearing act. Our competitors therefore fail to answer the fundamental question posed by Rodrik (1995), how to explain the use of tariffs when more efficient instruments are available.[30] The model we have developed provides a partial answer to this question by emphasizing a second policy dimension: regional targetability. More precisely, there exists a trade-off between the redistributive efficiency of a policy instrument and its regional targetability. As long as the additional, more efficient instrument is less targetable, our model predicts a policy mix that involves tariffs.

As a first step towards understanding this trade-off, consider another policy instrument that is more efficient but equally targetable. Sector specific production subsidies, for example, are equally targetable, and they are clearly more efficient. As we rigorously show in Appendix 2, individuals prefer the exclusive use of these subsidies and zero tariffs once both instruments are available. Because the representatives have the same preferences, they only enact production subsidies.[31] We conclude that, in the presence of another instrument that is more efficient and equally targetable, tariffs disappear in our model as well. This was to be expected, given that the additional instrument dominates trade policy. Before we move on to less targetable instruments, note one interesting feature of this case (also shown in the appendix): Voters desire and repre-

---

[30]Grossman and Helpman (1994) offer an informal discussion of this question in the context of their model. However, as Helpman (1997) points out, "good answers to this question are not yet available."

[31]Tariffs would have an advantage over production subsidies if we were to consider the social cost of taxation as Maggi and Rodriguez-Clare (2000) do in the context of tariffs and quotas. Such costs could easily be incorporated into our model. We refrain from doing so because the argument depends on the revenue aspect and is not novel.

sentatives enact higher rates of the more efficient instrument (subsidies) than they do of the less efficient instrument (tariffs) when the former is not available.[32]

As soon as the second, more efficient instrument is less targetable, things become interesting. By way of example, consider income taxation, an important channel for redistribution in practice that is clearly less targetable but more efficient. In our model, it is actually distortion-free because, for simplicity, we assume fixed factor supplies. We confine attention to linear income taxation as progressive elements would needlessly complicate matters without offering additional insights. Note that even linear income taxation implies redistribution, because tax revenue tends to be spent uniformly, if it is not biased in favor of low income earners. Let $t$ denote the income tax rate and let the tax base be factor income from the mobile as well as from the specific factors. The per capita revenue from income taxation then amounts to $t(n + \sum_i \pi_i(p_i))/n$, where the first term in parentheses represents the income of the mobile factor. Recall that there are $n$ units of the mobile factor that are each paid a normalized wage of one. To avoid corner solutions, we introduce a small ad hoc inefficiency. This concession to reality takes the form of a function $g(.)$ applied to income tax revenue, where we require $g(0) = 0$, $g'(0) = 1$, and strict concavity. Actual tax revenue available for distribution thus amounts to $g(t(n + \sum_i \pi_i(p_i))/n)$.

A given legislature then maximizes the following modified objective function over the $n$ tariffs and the income tax rate $t$:

$$W(p,t;\theta^{rep}) = \sum_i (1-t)(1 + \theta_i^{rep} \pi_i(p_i)) \quad +$$
$$n(R(p) + CS(p) + g(t(n + \sum_i \pi_i(p_i))/n))).$$

The resulting first order conditions with respect to the $n$ tariff rates are

$$\theta_i^{rep}(1-t) - (1 - f't) = f_i(p_i) \quad \forall i = 1,...,n.$$

One such first order condition is depicted by dashed lines in Figure 1. As before, the higher the representative's endowment of the sector specific factor, the higher will be the tariff she obtains. Only if income is completely taxed away ($t = 1$) does the the endowment $\theta_i^{rep}$ not matter. The

---

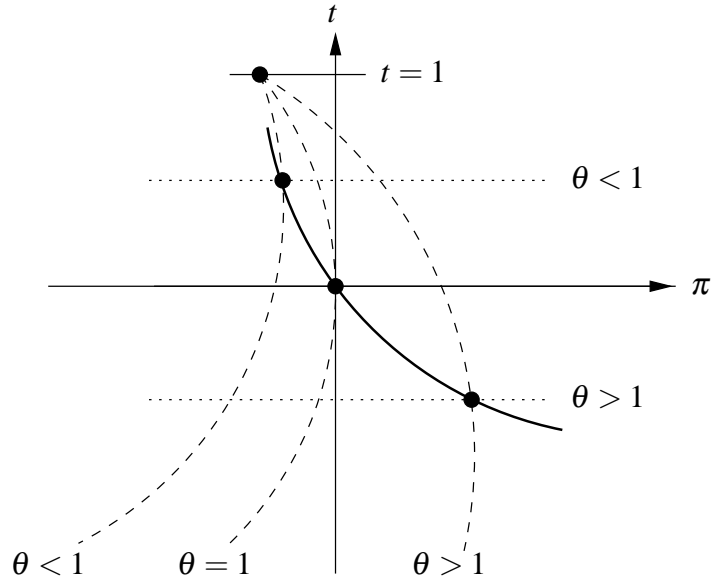[32]This result is reminiscent of Wilson (1990).

18

Figure 1: Optimal policy mix

sickle shape of those curves is due to the ad hoc distortion we assume. As the distortion increases in either direction, obtaining a higher tariff becomes less worthwhile. If there were no distortion, then those dashed curves would be straight lines radiating down from a zero tariff at $t = 1$.

The first order condition with respect to income taxation takes the following form:

$$\left(1 + \frac{1}{n}\sum_i \theta_i^{rep}\pi_i(p_i)\right) = \left(1 + \frac{1}{n}\sum_i \pi_i(p_i)\right)g'.$$

On the LHS of this equation we see the average gross income of a legislator, whereas on the right hand side we have the average pre-tax income of the population at large, multiplied by the derivative of the distortion function. Suppose the representatives earn less income than their average constituent because of a lower endowment of the sector specific factor. They then vote for positive income taxation — giving rise to a derivative of less than one — that redistributes income in favor of low income earners. This plausible relationship is depicted by the dotted lines in Figure 1 where we abstract from the effects of the particular price or tariff because it is negligible as $n$ grows large. Clearly, if the distortion function $g(.)$ were linear with $g' = 1$

everywhere, i.e., if there were no distortion, then we would obtain corner solutions.

Combining these first order conditions reveals the optimal policy mix of tariffs and income taxation. The solid curve in Figure 1 shows this optimal combination as $\theta_i^{rep}$ varies. Tariffs and income taxation turn out to be substitutes in our model because one instrument benefits, while the other harms those at the tails of the wealth distribution. More importantly, though, we see that any policy mix is a combination of both policy instruments. Without explicitly solving both stages of the political process, we can therefore conclude that the more efficient instrument does not obliterate the use of tariffs, as is the case in other models. It does not because, in our model, it matters that the more efficient instrument is less targetable. We have thus established the trade-off we set out to show.

## 9 Conclusion

In this paper, we advance a new political economy explanation of tariff protection. Our starting point is the geographical correlation that exists between representatives voting for protection and the specific industries located in their electoral districts. We account for these regional influences on trade policy by giving a geographical interpretation to the specific factors model of trade. On the political side, we augment this standard trade model with a political process that features two stages. First, in regional elections, voters select one of their own to represent each district. Subsequently, at the national stage, the representatives thus elected form the legislature that sets trade policy. The consensual decision making process at this stage forces legislators to take into account the effects a tariff for their pet industry will have on other districts. In regional elections, on the other hand, voters ignore these externalities and prefer a positive tariff because most of the cost is borne by other districts. Anticipating the internalization of these costs at the national stage, they vote strategically for someone who is more protectionist than themselves. The representatives thus elected are more protectionist than their respective median voter and set tariffs that are strictly positive. It is the regional structure as well as the interplay between the two stages of the political process that bring about tariff protection in our model.

The equilibrium tariffs we derive are partly driven by economic forces that are not unique to

our model. Thus a low import demand elasticity leads to a higher tariff as does a low import share. More innovatively, our contribution shows that tariffs depend positively on the number of districts. As the number of districts increases, the cost of protection is borne on more and more shoulders. Individual districts therefore desire higher tariffs and obtain them by means of strategic delegation. This result conforms well to the differing degrees of protectionism exhibited by U.S. government institutions. More generally, a regression of the average tariff rate on a country's number of districts yields a significantly positive coefficient which also confirms the prediction of our model. The other major innovation of our approach is that it explains the use of tariffs even when other, more efficient instruments are available. Whereas other approaches flounder as soon as another instrument that is more efficient at redistributing income is introduced, we stress a second dimension of policy, namely its regional targetability. As long as the additional, more efficient policy instrument is less targetable — as, for example, income taxation — our approach predicts a policy mix that involves tariffs. That is, the additional instrument does not obliterate the use of tariffs.

As for further work, some of the extensions that have been developed in the context of lobbying could be applied to our model as well. The interaction between two large economies, for example, would add terms-of-trade effects as in Grossman and Helpman (1995). Our analysis could also be applied to international factor mobility as do Facchini and Willmann (2001) within the "protection for sale" framework. In addition, developing an inter-temporal version of our model along the lines of Besley and Coate (1998) would allow us to address dynamic issues, such as the time consistency of trade policy or the possibility of prior commitment to free trade analyzed by Maggi and Rodríguez-Clare (1998). Finally, it would be interesting to integrate lobbying into the political process of our model as do Besley and Coate (2001) in a public finance context.[33] Beyond the trade context, the general principle that we apply in this paper can clearly be brought to bear on other issues as well. One promising direction, pursued in Lorz and Willmann (2004), is to treat the degree of regionalism itself as the decision variable. The allocation of decision making powers in federal structures is a fascinating topic that had previously been subjected mainly to normative analysis. Its relevance reaches back to trade policy, especially in

---

[33]Their examples suggest that the political process we use tends to be robust to the introduction of lobbying.

the E.U. context, an issue we have not touched upon in this paper.

## Appendix 1: Single Crossing Property

As shown by Gans and Smart (1996), a sufficient condition for invoking the median voter result is that the voters' objective function satisfies the single crossing property. Recall the voters' objective function in our case:

$$V_i(p_1(\theta_1^{rep}), ..., p_n(\theta_n^{rep}); \theta_i) = 1 + \theta_i \pi_i(p_i(\theta_i^{rep})) + R(p(\theta^{rep})) + CS(p(\theta^{rep})).$$

We want to check whether this function satisfies single crossing. Gans and Smart (1996) use the following definition, which we restate using our notation:

$$\forall \ \theta_i^{rep'} > \theta_i^{rep} \ \text{ and } \ \forall \ \theta_i' > \theta_i :$$
$$\theta_i^{rep'} \succeq_{\theta_i} \theta_i^{rep} \Rightarrow \theta_i^{rep'} \succeq_{\theta_i'} \theta_i^{rep} \ \text{ and } \ \theta_i^{rep'} \succ_{\theta_i} \theta_i^{rep} \Rightarrow \theta_i^{rep'} \succ_{\theta_i'} \theta_i^{rep}.$$

This definition is clearly satisfied in our application if

$$V_i(\theta_i^{rep'}; \theta_i) \geq V_i(\theta_i^{rep}; \theta_i) \Rightarrow V_i(\theta_i^{rep'}; \theta_i') > V_i(\theta_i^{rep}; \theta_i'),$$

where we have suppressed all but the relevant arguments. Now suppose the first inequality holds. Rewriting it gives

$$\theta_i(\pi_i(p_i(\theta_i^{rep'})) - \pi_i(p_i(\theta_i^{rep}))) \geq R(p(\theta^{rep})) + CS(p(\theta^{rep})) -$$
$$(R(p(\theta^{rep'})) + CS(p(\theta^{rep'}))).$$

Note that the difference in parentheses on the LHS is positive because $\theta_i^{rep'} > \theta_i^{rep}$ and $p_i(.)$ as well as $\pi_i(.)$ are both increasing, the former strictly so. Because $\theta_i' > \theta_i$, it follows that

$$\theta_i'(\pi_i(p_i(\theta_i^{rep'})) - \pi_i(p_i(\theta_i^{rep}))) > R(p(\theta^{rep})) + CS(p(\theta^{rep})) -$$
$$(R(p(\theta^{rep'})) + CS(p(\theta^{rep'}))).$$

But this can be rewritten as the second inequality above:

$$V_i(\theta_i^{rep'}; \theta_i') > V_i(\theta_i^{rep}; \theta_i').$$

This shows that the voters' objective function satisfies the single crossing property which is sufficient to apply the median voter result.

## Appendix 2: Production Subsidies

Let us demonstrate the familiar obliteration of tariffs which occurs in our model only if the more efficient instrument, sector specific production subsidies for current purposes, is equally targetable. There are thus two policy instruments: tariffs $\tau_i = p_i - p_i^w$ as well as production subsidies $s_i = p_i^{prod} - p_i$. The latter drive a wedge between the prices faced by consumers, $p_i = p_i^w + \tau_i$, and those paid to producers, $p_i^{prod} = p_i^w + \tau_i + s_i$. This gives rise to the following modified indirect utility function:

$$V_i(\tau, s; \theta_i) = 1 + \theta_i \pi_i(p_i^w + \tau_i + s_i) +$$
$$R(\tau, s) + CS(\tau) - C(\tau, s),$$

where $C(\tau, s)$ is the per capita cost $\sum_i s_i y_i(p_i^w + \tau_i + s_i)/n$ of the subsides that have to be financed, after all. Individuals' — and *a fortiori* representatives' — preferences with regards to policy are determined by the following first order conditions:

$$\text{wrt} \quad \tau_i: \quad \theta_i - 1/n \quad = \quad -\tau_i \frac{d_i'}{y_i} + \tau_i \frac{y_i'}{ny_i} + s_i \frac{y_i'}{ny_i} \quad \forall i = 1, ..., n,$$

$$\text{wrt} \quad s_i: \quad \theta_i - 1/n \quad = \quad \tau_i \frac{y_i'}{ny_i} + s_i \frac{y_i'}{ny_i} \quad \forall i = 1, ..., n.$$

The first order conditions for tariffs are the same as before, except for the third term on the RHS. This term represents the effect a tariff has on the cost of the subsidies via its effect on output. The first order conditions for production subsidies are similar, only the first term on the right hand side is missing. This is due to the fact that the productions subsidies have no direct

effect on demand. We see that for both (sets of) equations to be satisfied, the tariffs have to be zero. This is because only $\tau = 0$ eliminates the first term on the right hand side of the tariff equations which constitute the only difference between the two sets of equations. So individuals would choose to use production subsidies instead of the less efficient tariffs. Since politicians are citizen-candidates, they have the same preferences. We conclude that, in equilibrium, the more efficient and equally targetable production subsidies obliterate the use of tariffs as we had expected.

Note an additional insight: Compare the level of the production subsidies to the level of tariffs chosen when subsidies are not available. That is, compare the first two terms on the RHS of the tariff equations to the last term of the subsidy equations. We see that agents choose higher rates of the more efficient instrument (subsidies) than of the less efficient tariffs.

## References

Audretsch, D. B. and M. P. Feldman (1996). R&D spillovers and the geography of innovation and production. *American Economic Review 86*(3), 630–40.

Baldwin, R. E. (1985). *The Political Economy of U.S. Import Policy*. Cambridge, MA and London, England: MIT Press.

Baldwin, R. E. and C. S. Magee (2000). Is trade policy for sale? Congressional voting on recent trade bills. *Public Choice 105*, 79–101.

Bernheim, B. D. and M. D. Whinston (1986). Menu auctions, resource allocation, and economic influence. *Quarterly Journal of Economics 101*, 1–31.

Besley, T. and S. Coate (1997). An economic model of representative democracy. *Quarterly Journal of Economics*, 85–114.

Besley, T. and S. Coate (1998). Sources of inefficiency in a representative democracy: A dynamic analysis. *American Economic Review 88*(1), 139–56.

Besley, T. and S. Coate (1999). Centralized versus decentralized provision of public goods: A political economy analysis. NBER working paper 7084.

Besley, T. and S. Coate (2001). Lobbying and welfare in a representative democracy. *Review of Economic Studies 68*, 67–82.

Brülhart, M. (2001). Evolving geographical concentration of european manufacturing industries. *Weltwirtschaftliches Archiv 137*, 215–243.

Busch, M. L. and E. Reinhardt (1999). Industrial location and protection: The poitical and economy geography of u.s. nontariff barriers. *American Journal of Political Science 43*, 1028–50.

Chari, V. V., L. E. Jones, and R. Marimon (1997). The economics of split-ticket voting in representative democracies. *American Economic Review 87*(5), 957–76.

Eicher, T. and T. Osang (2002). Politics and trade policy: An empirical investigation. *American Economic Review 92*(5), 1702–10.

Facchini, G. and G. Willmann (2001). The political economy of international factor mobility. SIEPR discussion paper 00-20. http://siepr.stanford.edu/papers/pdf/00-20.pdf.

Ferretti, G. M. M. and R. Perotti (2002). Electoral systems and public spending. *Quarterly Journal of Economics 117*(2), 609–657.

Fujita, M., P. Krugman, and A. J. Venables (1999). *The Spatial Economy: Cities, Regions, and International Trade*. Cambridge, MA and London, England: MIT Press.

Gans, J. S. and M. Smart (1996). Majority voting with single-crossing preferences. *Journal of Public Economics 59*, 219–237.

Gawande, K. and U. Bandyopadhyay (2000). Is protection for sale? A test of the Grossman-Helpman theory of endogenous protection. *Review of Economics and Statistics 89*, 139–52.

Gawande, K. and P. Krishna (2003). The political economy of trade policy: Empirical approaches. In K. E. Choi, J. Harrigan, and W. M. Aldrich (Eds.), *Handbook of International Trade*, Handbooks in Economics. Basil Blackwell.

Goldberg, P. and G. Maggi (1999). Protection for sale: An empirical investigation. *American Economic Review 89*, 1135–55.

Grier, K. B., M. C. Munger, and B. E. Roberts (1994). The determinants of industry political activity, 1978–1986. *American Political Science Review 88*, 911–26.

Grossman, G. M. and E. Helpman (1994). Protection for sale. *American Economic Review 84*(4), 833–850.

Grossman, G. M. and E. Helpman (1995). Trade wars and trade talks. *Journal of Political Economy 103*, 675–708.

Grossman, G. M. and E. Helpman (2002). *Special Interest Politics*. MIT Press.

Hansen, W. L. (1990). The international trade commmission and the politics of protectionism. *American Political Science Review 84*, 21–46.

Helpman, E. (1997). Politics and trade policy. In D. M. Kreps and K. F. Wallis (Eds.), *Advances in Economics and Econometrics: Theory and Applications*, Volume 2. Cambridge University Press.

Lorz, O. and G. Willmann (2004). On the endogenous allocation of decision powers in federal structures. Kiel Working Paper 1209.

Lundell, K. and L. Karvonen (2003). A comparative data set on political institutions. Technical report, Abo Akademi.

Maggi, G. and A. Rodríguez-Clare (1998). The value of trade agreements in the presence of political pressures. *Journal of Political Economy 106*(3), 574–601.

Maggi, G. and A. Rodriguez-Clare (2000). Import penetration and the politics of trade protection. *Journal of International Economics 51*, 287–304.

Mansfield, E. D. and M. L. Busch (1995). The political economy of nontariff barriers: A cross-ntional analysis. *International Organization 49*, 723–49.

Mayer, W. (1984). Endogenous tariff formation. *American Economic Review 74*(5), 970–85.

McCalman, P. (2002). Protection for sale and trade liberalization: An empirical investigation. *Review of International Economics*. forthcoming.

Milner, H. V. (1997). Industries, governments, and the creation of regional trading blocs. In E. D. Mansfield and H. V. Milner (Eds.), *The Political Economy of Regionalism*. New

York: Columbia University Press.

Osborne, M. J. and A. Slivinski (1996). A model of political competition with citizen-candidates. *Quarterly Journal of Economics 111*(1), 65–96.

Persson, T. and G. Tabellini (2000). *Political Economics: Explaining Economic Policy*. Zeuthen Lecture Book Series. Cambridge, MA and London, England: MIT Press.

Rodrik, D. (1995). Political economy of trade policy. In G. M. Grossman and K. Rogoff (Eds.), *Handbook of International Economics*, Volume 3, Chapter 28. North-Holland.

Rogowski, R. (1987). Trade and the variety of democratic institutions. *International Organization 41*, 203–23.

Ursprung, H. W. (2000). Die Modellierung endogener Handelspolitik: "The Rake's progress". *Aussenwirtschaft 55*(1), 85–119.

Wacziarg, R. and K. Horn Welch (2003). Trade liberalization and growth: New evidence. NBER WP 10152.

Wilson, J. D. (1990). Are efficiency improvements in government transfer policies self-defeating in political equilibrium? *Economics and Politics 2*, 241–58.