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For Sale: Trade Policy in Majoritarian Systems

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Abstract

We provide a theory of trade policy determination that incorporates the protectionist bias inherent in majoritarian systems, suggested by Grossman and Helpman (2005). The prediction that emerges is that in majoritarian systems, the majority party favors industries located disproportionately in majority districts. We test this prediction using U.S. tariff data from 1993, and House campaign contribution data from two electoral cycles. We find evidence of a protectionist bias due to majoritarian system politics that is comparable in magnitude to the payoff from being an organized industry.

Journal of Economic Literature Classification: F13

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“to the victors belong the spoils”

-- Republican majority leader Richard Armey, commenting on reports that the Republican party re-directed spending to Republican districts after the 1994 election.¹

I. Introduction

In majoritarian electoral systems such as the U.S., politics is particularly grounded in local interests (Milesi-Feretti, Perotti, and Rostagno, 2002). Grossman and Helpman (henceforth, G-H) (2005) argue that the pattern of protectionism will be influenced by the majority legislation’s home districts’ industry structure. We provide a simple theory of the determination of trade policy that merges G-H’s (2005) view of majoritarian system trade politics with the lobbying approach pioneered by G-H (1994).

In our model, the majority delegates consider the welfare of their own home districts (only), simultaneously as organized industry lobby groups offer the majority delegation campaign contributions in return for favorable trade policies. Our approach facilitates a comparison of the influence of electoral rules (majoritarian system) relative to the impact of lobbying. The novel predictions are: (i) if an industry is relatively concentrated in majority districts, it receives positive protection (even without an organized lobby); (ii) on the other hand, industries primarily located in minority districts suffer from lower, even negative, trade protection.

We test these predictions using a newly assembled unique data set with U.S. tariff data for 332 manufacturing industries in 1993 and House campaign contributions data from the 1989-90 and 1991-92 electoral cycles. Only political contributions to the majority party (the Democrats during this sample period) are considered, consistent with our theory. Industry-level employment by state is used to construct the extent of majority bias, i.e., the extent to which the majority party represents each industry. All explanatory variables are instrumented similarly to Goldberg and Maggi (1999) (G-M),

¹ Quoted by David Pace, “1994 Shift Seen to Aid GOP Areas,” *The Boston Globe*, August 6, 2002, page A5 (reported by Ansolabehere and Snyder, 2006).

Gawande and Bandyopadhyay (2000) (G-B), Eicher and Osang (2002), and Matschke and Sherlund (2006).²

Using a two-step GMM approach, we find estimates broadly consistent with the model's predictions. The majority bias in U.S. trade policy is of a magnitude comparable to the payoff from being an organized industry. The predicted tariff for an industry located exclusively in majority districts is 6.1 percentage points higher than for an industry entirely situated in minority districts, while the predicted tariff for an organized industry is 2.4 percentage points higher than for an unorganized industry. The results are robust across three lobby group organization classification methods.

To our knowledge, no empirical study exists of the impact of majoritarian systems on trade policy outcomes as suggested by Grossman and Helpman (2005). Our results indicate that electoral rules are an important determinant of trade policy. Thus, our paper complements, e.g., Lizzeri and Persico (2001), Milesi-Feretti, Perotti, and Rostagno (2002), and Persson and Tabellini (2004), who found policy effects of electoral rules on public spending.³

The paper is organized as follows. Section II sets up the theoretical model and derives the predictions. Section III describes the data. Section IV outlines the empirical approach and reports the results. Section V concludes. Appendix A provides further details on variable construction.

II. Model

A small open economy has individuals living in N geographically separate political districts indexed by j . The population is normalized to unity. Each individual i in this economy consumes $n+1$ goods, and has quasi-linear preferences given by $x_0^i + \sum_{g=1}^n u(x_g^i)$, where x_0^i represents i 's consumption of the numeraire good 0, and $u(\cdot)$ is a differentiable and strictly concave function of consumption x_g^i

² Gawande and Krishna (2003) provide an excellent survey of the empirical literature on the political economy of trade policy.

³ See Persson and Tabellini (2003) for an extensive survey of the related literature.

of good g , $g \in \{1, 2, \dots, n\}$. Good 0 has world and domestic price equal to unity, while other goods g have world and domestic prices p_g^w and p_g , respectively. Sector g is protected by a specific import tariff or export subsidy; i.e. $p_g = p_g^w + t_g$.

Individual i living in district j with budget E_j^i spends $\sum_{g=1}^n p_g d_g(p_g)$ on non-numeraire goods, where demand for good g is given by $d_g(p_g) = [u'(x_g)]^{-1}$; we drop individual-specific superscripts (consumption quantities of all non-numeraire goods and associated consumer surplus are equal across individuals). The remaining budget share is spent on good 0; this amount is assumed positive.

Good 0 is produced from labor only with constant returns to scale and an input-output coefficient equal to unity; assuming positive production, the wage rate equals one. Good g requires labor and a sector specific input. With a fixed wage rate, the aggregate factor reward in sector g , $\pi_g(p_g)$, depends on p_g only. Each individual receives wage income. The consumer surplus derived from good g consumption equals $s_g(p_g) \equiv u[d_g(p_g)] - p_g d_g(p_g)$. Tariff revenue collected in sector g equals $r_g(p_g) = (p_g - p_g^w)m_g(p_g)$, where $m_g(p_g) = [d_g(p_g) - X_g(p_g)]$ is the net import demand function, and $X_g(p_g) = \pi_g'(p_g)$ is the domestic supply of good g , by Hotelling's Lemma.

Individuals may own sector-specific input factors in at most one sector g . In some or all of the n sectors, denoted by L , the factor owners organize national lobby groups incorporating capital owners across districts. In organized sectors, sector g 's lobby seeks to influence trade policy by offering campaign contribution schedules $C_g(p_g)$ to the majority legislative delegation (G-H, 1994). With highly concentrated ownership, factor owners value only factor reward. Thus, the gross welfare of the sector g lobby equals

$$W_g(p_g) \equiv \pi_g(p_g). \quad (1)$$

Denote the district j population share by β_j , and the share of industry g capital located in district j by α_{jg} . Then, the aggregate income level of district j equals

$$Y_j = \beta_j + \sum_{g=1}^n \alpha_{jg} \pi_g(p_g) + \beta_j \sum_{g=1}^n r_g(p_g), \quad (2)$$

where the RHS terms equal labor income, capital income, and net transfer income, respectively. Adding consumer surplus to Eqn. (2) yields district j residents' aggregate social welfare level,

$$W_j^A = \beta_j + \sum_{g=1}^n \alpha_{jg} \pi_g(p_g) + \beta_j \sum_{g=1}^n [r_g(p_g) + s_g(p_g)]. \quad (3)$$

Each district j is represented by one single legislator who is affiliated with either the majority or minority party. Majority delegation legislators value average citizen welfare in their home districts. This assumption receives empirical support from the literature on the relationship between distribution of public funds and party control. Levitt and Snyder (1995) report that when the Democrats had a majority in Congress, federal spending in an area increased with its Democratic vote. Ansolabehere and Snyder (2006) find that jurisdictions providing the largest vote share to the incumbent party receive the highest shares of state transfers to local government. Moreover, the distribution of funds is redirected towards the new governing party's core supporters as a result of a change in the state government.⁴ For example, Joanis (2007) shows that in Québec, Canada, the geographic allocation of spending is highly dependent on districts' party loyalties.

The majority party is represented by $\geq(N/2 + 1)$ legislators; the set of such legislators is denoted by K . Majority party representatives may compensate each other with political side payments or inter-temporal trades; they maximize their joint welfare,

$$W^M = \sum_{g \in L} C_g(p_g) + a \sum_{j \in K} W_j^A, \quad (4)$$

where the weight $a > 0$ is the majority legislators' relative weight on social welfare.

⁴ Ansolabehere and Snyder (2006) argue that this spending strategy raises turnout.

The equilibrium trade policy is determined as the outcome of a two-stage, non-cooperative game. In stage one, each organized lobby $g \in L$ simultaneously and non-cooperatively offers the legislative majority a contribution schedule $C_g(p_g)$, taking the other lobbies' strategies as given. In stage two, the legislative majority selects its favored trade policy and collects the associated contribution from each organized lobby. The lobbies are assumed not to renege on their promises in this stage. The political equilibrium characterization and derivation is standard (G-H, 1994); we omit this to conserve space.

We now derive the equilibrium trade policy. Let “ $*$ ” denote an equilibrium value, and let δ_g be an indicator variable equal to 1 if firms in sector g are organized, and zero otherwise. Summing Eqns. (3) and (4) over all legislators in K , the equilibrium characterization equals

$$\delta_g X_g(p_g^*) + a \left(X_g \sum_{j \in K} (\alpha_{jg} - \beta_j) + \sum_{j \in K} \beta_j t_g^* m_g'(p_g^*) \right) = 0, \forall g, \quad (5)$$

which yields

$$t_g^* = \frac{\delta_g + a \sum_{j \in K} (\alpha_{jg} - \beta_j)}{a \sum_{j \in K} \beta_j} \frac{X_g(p_g^*)}{-m_g'(p_g^*)}, \forall g. \quad (6)$$

Tariff protection is a function of industry size (X_g) and the slope of the import demand function (m_g'). Sector g unambiguously receives a positive level of protection if the majority party districts' share of sector g capital is greater than the population share of these districts, $\sum_{j \in K} \alpha_{jg} > \sum_{j \in K} \beta_j$.

Moreover, if the sector lobby is organized ($\delta_g = 1$), sector g receives positive protection, even if these shares are exactly equal. Finally, even if the majority districts' share of sector g capital is smaller than their population share, sector g may receive positive protection due to lobbying. This occurs only if the majority legislation values campaign contributions sufficiently highly relative to social welfare (low a).

III. Data

To estimate the model and test the above predictions, we use 1993 data on U.S. manufacturing industries. Since this represents a substantial update over much of the previous empirical G-H literature, our results are not directly comparable. Variable construction is discussed further in Appendix A.

Our measure of trade protection is tariffs, following the theory. Our tariff and import data come from Schott's (2007) trade database. Data on other industry characteristics are primarily from the Bartelsman, Becker, and Gray (2000) NBER productivity database. The import demand elasticity measures come from Kee, Nicita, and Olarreaga (2006). Import demand elasticities are estimated by industry at the 6-digit HS level, which we concord to SIC4 based on import weights (see Appendix A.II).

We use contributions to House campaigns during the 1989-90 and 1991-92 election cycles to classify industries as organized, and experiment with alternative classification methods (described further in Appendix A.IV), based on G-B, G-M, and Ederington and Minier (2008) (henceforth, E-M). We present results for all three; they are not particularly dependent on the classification method used. The G-M classification involves identifying a break in the distribution of the contributions data, while G-B involves regressing contributions data on 2-digit industry dummy variables interacted with bilateral import penetration data for trading partners and interpreting the coefficient estimates on these interaction terms. Finally, E-M criticize the practice of considering some industries that make positive contributions as unorganized, so we allow all industries with positive contributions to be considered organized. Since our focus is on majority bias in trade policy, we use contributions to Democratic (majority) House candidates only.

We use state-level data to construct the variables measuring the extent to which an industry is represented by the majority party. County Business Patterns provides data on industry-level employment by state; we follow Busch and Reinhardt (2000) in imputing data as described in

Appendix A.III. As an estimate of $(\alpha_{jg} - \beta_j)$, we use the difference between the percentage of an industry's employment located in a given state and the population share of that state (from the 1990 Census). This gives a measure of the extent to which an industry is over-represented (as measured by employment) in a state.

In the model, each district is represented by one legislator, and $(\alpha_{jg} - \beta_j)$ is summed over the majority districts. We do not have sufficiently rich data at the electoral district level, so we use states as the regional unit. States are usually represented by several legislators who may belong to different parties. We present results for two alternative summations over majority districts: the first includes only those states in which the House delegation is over 50% Democratic (the majority party in 1993); and the second weights each state by the percentage of its House delegation that is Democratic.⁵

IV. Empirical Approach

The econometric model is derived from Eqn. (6), which we rewrite in terms of observables

$$t_g^* \tilde{m}_g' = \frac{\delta_g}{a \sum_{j \in K} \beta_j} \tilde{X}_g + \frac{\tilde{z}_g}{\sum_{j \in K} \beta_j} \tilde{X}_g, \quad (7)$$

where $\tilde{X}_g$ is the value of industry shipments, and $t_g^* \tilde{m}_g'$ can be calculated by noting that

$t_g^* \tilde{m}_g' = -t_g^* m_g'(p_g^*) p_g^* = \tilde{t}_g e_g \tilde{m}_g / (1 + \tilde{t}_g)$ where $\tilde{t}_g$ is the ad-valorem tariff rate in the industry, $\tilde{m}_g$ is the value of imports, and e_g is the absolute value of the price elasticity of import demand. Finally,

$\tilde{z}_g = \sum_{j \in K} (\alpha_{jg} - \beta_j)$ is our measure of the extent to which the industry is located in majority districts.

To simplify the interpretation of the coefficient estimates, we define $\hat{X}_g = \tilde{X}_g / \sum_{j \in K} \beta_j$. Thus, our

estimating equation becomes:

⁵ Results are robust to summing over states with at least 50% Democratic representation (12 states had exactly 50% Democratic representation in 1993).

$$t_g^* \tilde{m}_g' = \gamma_0 + \gamma_1 \delta_g \hat{X}_g + \gamma_2 \tilde{z}_g \hat{X}_g + \varepsilon_g, \quad (8)$$

where, according to our derivations, $\gamma_2=1$.⁶ Thus, our testable prediction is that the marginal impact of industry size on tariff protection should be conditional on the proportion of the industry located in majority districts. Intuitively, greater industry production in majority districts is valued more highly in the government's welfare function. Thus, the marginal impact of industry production on tariff protection is increasing in the majority representation of the industry.

A standard complication that arises in such G-H estimation is that the value of shipments (and perhaps also whether an industry is organized) is endogenously determined, requiring instrumental variables estimation. Thus, we estimate the above specification using two-step optimal GMM. The instruments for our explanatory variables $\delta_g \hat{X}_g$ and $\tilde{z}_g \hat{X}_g$ are comparable to those in G-M, G-B, Matschke and Sherlund (2006), and Matschke (2008): physical capital's share of output, industry concentration (8-firm concentration ratio; Herfindahl-Hirschman index), industry unemployment rate, and the value of the total real capital stock. In addition, we also use the majority variable $\tilde{z}_g$ as instrument since this variable is presumably exogenous; results do not differ significantly when also utilizing δ_g as instrument.

Estimating the above specification requires constructing measures for both the extent of majority representation of an industry, $\tilde{z}_g$, and the organization, δ_g , of the industry. Details are provided in Appendix A; we present results for two alternative definitions of $\tilde{z}_g$ and three classifications of δ_g . The G-H model itself provides little guidance about classifying industries into organized/unorganized. First, following G-M, we identify a noticeable split in the data between (Democratic) House contributions; the results based on this approach are labeled GM in Table 1, implying that 69.6% of industries in our sample are classified as organized.⁷ Second, following the procedure used by G-B, we classify 64.5%

⁶ The other predictions of the G-H model are that $\gamma_0 = 0$ and $\gamma_1 > 0$. We are less concerned with testing the former prediction.

⁷ Results are very similar when other feasible cutoffs are used (we consider seven alternatives).

of the sample as organized.⁸ Finally, we also run a specification treating all industries with positive contributions as organized, labeled EM in Table 1, which results in 96.7% classified as organized (focusing only on contributions to Democrats in 1992).

The coefficient estimates in Table 1 are supportive of our empirical prediction of a majority bias in U.S. tariff policy. Specifically, we find that our estimate of γ_2 is positive and statistically significant in all specifications. This is consistent with our prediction that industries located primarily in majority districts are favored in the political process. This result is robust to the method used to characterize politically organized industries.

In addition, the estimated effect of being represented by the majority party is fairly large in magnitude, and comparable to the well-established benefit from being an organized industry. Taking the EM estimates from Panel A, for example, we compute the predicted tariff ($\tilde{t}_g$) based on the means of all other variables. The predicted increase for an industry that switched from being located exclusively in *minority* districts to being located exclusively in *majority* districts is 6.1 percentage points, while the predicted tariff increase for an industry that switched from unorganized to organized is 2.4 percentage points.⁹

While our results are supportive of majority bias being a significant determinant of trade policy, they are not completely supportive of the G-H model with majority bias. Specifically, contrary to our specification, $\gamma_0 > 0$ (the constant term is not zero), and the estimate of γ_1 implies a high value for a , suggesting that the government places a low weight on lobby contributions compared to social welfare. This finding is common in the literature (see, for example, G-B; Mitra, Thomakos, and Ulubaşoğlu, 2002).¹⁰ The puzzle of a high a is accompanied by the statistical rejection of the theoretical prediction that γ_2 is equal to unity. The value of γ_2 is statistically different from zero, but small, suggesting that

⁸ Despite the similarity in the percentage of industries classified as organized, the correlation between the two measures is only 0.34.

⁹ The mean tariff in the sample is 5.5%, with a standard deviation of 3.9%.

¹⁰ Our approach may provide a partial explanation for this finding, however, since the majority legislation here values only majority district welfare.

majority representation of an industry plays a role, but is less important for trade policy than predicted by the model. Thus, our results can only be interpreted as evidence that both representation by the majority party and lobbying influence are significant determinants of trade protection, but not as empirical confirmation of the GH framework with regard to tariff policy.

V. Conclusion

We have incorporated majority bias, as suggested by Grossman and Helpman (2005), into a standard Protection-for-Sale model. Trade policy is determined by the majority legislative delegation, which cares about domestic majority-district welfare as well as campaign contributions. In this case, in addition to the industry's lobbying influence, the extent to which the industry is concentrated in majority districts matters for trade policy. If an industry's capital share in majority districts exceeds the districts' population share, it will receive positive protection even if it does not have an active lobby. Industries that are only weakly represented in majority districts receive lower trade protection.

We test these predictions using a newly assembled data set of U.S. manufacturing industries in 1993, using tariffs as the measure of trade protection. The results are supportive of the theoretical model in the sense that both the coefficients for the standard Protection-for-Sale lobbying variable and the majority bias variable are statistically significant and of the theoretically predicted signs. We conclude that the structure of the legislative decision-making process – in addition to lobbying influence – matters for the determination of trade policy.

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Appendix A: Data

I. Majority Representation Variable

We constructed a series of variables measuring the extent of an industry's majority representation as follows. For each state, the difference between the percentage of industry employment located in that state and the population share of that state is computed; this is our measure of $(\alpha_{jg} - \beta_j)$. See Section III of this Appendix for a description of the construction of industry employment by state.

For *Maj_over50*, this measure is summed over only those states in which more than 50% of the House delegation is in the majority party.

For *Maj_50*, this measure is summed over only those states in which at least 50% of the House delegation is in the majority party.

For *Maj_pct*, this measure is summed over all states, weighted by the percentage of the state's House delegation from the majority party.

The construction of the sum of betas is constructed analogously in each case. For *Maj_over50*, this is the sum of the population shares of the states with more than 50% majority-party Representatives ($\sum \beta_j = 0.78$). For *Maj_50*, this is the sum of the population shares of the states with at least 50% majority-party Representatives ($\sum \beta_j = 0.90$). For *Maj_pct*, we weight the population share of each state by its percentage of majority-party Representatives ($\sum \beta_j = 0.52$).

Table A1-A: Industries with highest majority representation, 1993

SIC	Description	Value of <i>Maj_over50</i>	Value of <i>Maj_pct</i>	States with highest employment relative to population
2895	Carbon black	0.22		MI (13.6), OH (11.4)
2067	Chewing gum	0.22		IL (11.3)
2252	Hosiery, n.e.c.	0.20		NC (21.3), AL (10.1)
3996	Linoleum, asphalt-felted base, and other hard surface floor coverings, n.e.c.	0.20		NJ (9.1)
3795	Tanks and tank components	0.20		MI (6.9)
2076	Vegetable oil mills, except corn, cottonseed, and soybean		0.18	ND (120.6), MT (22.1)
3334	Primary production of aluminum		0.14	MT (20.5), WA (14.2)
2436	Softwood veneer and plywood		0.11	OR (26.1), MT (13.4)
2074	Cottonseed oil mills		0.10	MS (19.6), AR (10.3)
2512	Wood household furniture, upholstered		0.09	MS (18.0), NC (11.1)

Notes: The Democratic party had the Congressional majority in both houses in 1993. The numbers following the states give the ratio of the percentage of industry employment in that state to the population share of that state. The states in the table were represented by the following percentages of Democrats (the majority party) in their House delegation in 1993: MI (63%), OH (53%), IL (60%), NC (67%), AL (57%), NJ (54%), ND (100%), MT (100%), WA (89%), OR (80%), MS (100%), AR (50%).

Table A1-B: Industries with lowest majority representation, 1993

SIC	Description	Value of <i>Maj_over50</i>	Value of <i>Maj_pct</i>	States with highest employment relative to population
2874	Phosphatic fertilizers	-0.43	-0.09	ID (20.9), WY (10.8)
3961	Costume jewelry & costume novelties, except precious metal	-0.37		RI (104.4)
3484	Small arms	-0.36		VT (25.0), NH (17.6)
2083	Malt	-0.30		WI (25.6), ND (18.4)
3331	Primary smelting & refining of copper	-0.28		NM (25.8), AZ (23.2), UT (20.5)
3633	Household laundry equipment		-0.10	IA (22.1)
2046	Wet corn milling		-0.08	IA (26.4)
3951	Pens, mechanical pencils, & parts		-0.06	RI (26.4)
2043	Cereal breakfast foods		-0.05	IA (8.4), NE (8.0)

Notes: See notes to Table A1-A. The states in the table were represented by the following percentages of Democrats (the majority party) in their House delegation in 1993: ID (50%), WY (0%), RI (50%), VT (0%), NH (50%), WI (50%), ND (100%), NM (33%), AZ (50%), UT (67%), IA (20%), NE (33%).

II. Import Demand Elasticities

Import demand elasticities at the HS6 level are taken from the updated version of Kee *et al.* (2006). We assign this elasticity to each associated HS10 industry (a concordance exists only from HS10 to SIC4). Using imports from 1993 (from Robert Feenstra's website) as weights, we then concord from HS10 to SIC4, using the concordance from Peter Schott's website. (Any HS6 with missing elasticity is excluded from the industry total for calculating the weights, so that the weights sum to one for each industry). This yields import demand elasticity estimates for 374 manufacturing industries.

Table A2: Import Demand Elasticities

Most elastic import demand			Least elastic import demand		
SIC		Elasticity	SIC		Elasticity
3446	Architectural and ornamental metal work	-18.6	2951	Asphalt paving mixtures and blocks	-0.16
2631	Paperboard mills	-13.4	2067	Chewing gum	-0.16
2111	Cigarettes	-10.5	3713	Truck and bus bodies	-0.31
2436	Softwood veneer and plywood	-8.90	2761	Manifold business forms	-0.35
2043	Cereal breakfast foods	-8.87	3221	Glass containers	-0.36

III. State-Level Employment by Industry

County Business Patterns gives, for each state, employment by 4-digit SIC. Since many observations are censored, it also gives the number of establishments in various size classes. These data are also available at the national level (with far fewer censored observations). Following Busch and Reinhardt (2000), for each industry, we compute the mean establishment size at the national level for each size class. Then, for each state, we estimate total employment by industry using the national industry averages for each size class, and the number of firms in each size class by state. Following Busch and Reinhardt, we use the imputed data even when the actual data are not censored. The percentage of industry employment in each state is estimated using the sum across states as the denominator (so that the percentages sum to one for each industry).

IV. Organized Industries

For all classifications, we use contributions only to Democrats (the majority party) running for the House of Representatives. Results do not differ substantially when we use contributions to all candidates: the correlation between contributions to Democrats and total contributions in the representative 1991-92 cycle is 0.98.

G-M: For the 1991-92 electoral cycle, we identify significant breaks in the distribution of industry-level contributions, and of contributions scaled by industry shipments. We consider 8 possible classifications, ranging from classifying all industries with positive contributions as organized (resulting in 321 organized and 11 unorganized industries) to a break based on contributions scaled by shipments between 3.96 and 4.22 (79 organized and 253 unorganized). The results reported in Table 1 are based on a noticeable split in the data between (Democratic) House contributions of \$21,400 and \$25,367.

G-B: We use contributions to Democratic House candidates scaled by industry value shipments in 1989-90 and 1991-92. These (4-digit) industry-level contributions are regressed on 2-digit industry dummy variables interacted with bilateral import penetration data for each of five trading partners (France, Germany, Italy, Japan, and the U.K.). An industry is “organized” with respect to a trading partner if the coefficient estimate on the interaction term is positive. This is repeated for each of the trading partners; an industry is classified as “organized” if it is organized with respect to any trading partner. This results in 118 unorganized and 214 organized industries.

E-M: All industries with positive contributions are organized.

Table 1: Coefficient Estimates

	GM	GB	EM
Panel A: <i>Maj_over50</i>			
γ_0	19.9 (7.21)***	19.2 (8.03)**	15.2 (7.75)*
γ_1	0.006 (0.001)***	0.006 (0.001)***	0.005 (0.001)***
γ_2	0.017 (0.006)***	0.015 (0.007)**	0.013 (0.006)**
<i>p</i> -value for Hansen's <i>J</i>	0.06	0.14	0.14
First stage <i>F</i> -statistics:			
$\delta_g \hat{X}_g$	10.77	9.25	13.42
$\tilde{z}_g \hat{X}_g$	7.41	7.41	7.41
Panel B: <i>Maj_pct</i>			
γ_0	18.0 (8.55)**	16.8 (9.66)*	13.8 (9.05)
γ_1	0.004 (0.001)***	0.004 (0.001)***	0.004 (0.001)***
γ_2	0.062 (0.018)***	0.056 (0.019)***	0.052 (0.017)***
<i>p</i> -value for Hansen's <i>J</i>	0.12	0.22	0.23
First stage <i>F</i> -statistics:			
$\delta_g \hat{X}_g$	9.02	7.45	9.93
$\tilde{z}_g \hat{X}_g$	13.58	13.58	13.58
Percent Organized:	69.6	64.5	96.7

Notes: Standard errors in parentheses. ***, **, and * indicate statistical significance at the 99%, 95% and 90% level, respectively. GM/GB/EM refers to the method used to classify industries into organized/unorganized. For the summation of $(\alpha_{ig} - \beta_i)$ over majority states, *Maj_over50* includes all states with over 50% Democrats (majority party) in the House delegation; *Maj_pct* weights all states by the percentage of Democrats in their House delegation. The number of observations in each regression is 332. First-stage *F*-statistics are heteroskedasticity-robust.