Competition and Political Organization
Together or Alone in Lobbying for Trade Policy?

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June 2008
Motivation

- General agenda: how special interest groups organize within sectors and how they affect policy choices, e.g. trade policy
- Large literature on political economy of trade policy (Magee, Brock and Young (1989), Findlay and Wellisz (1982), Grossman and Helpman (1994, 1995)) mostly takes sector as unit of analysis
  - in this literature a sector is either “politically organized” or not
  - in reality such stark classification is not possible (participation, mode of lobbying varies, etc.)
- In Bombardini (2008) focus is on individual firm political contributions and how participation in political activity varies across sectors
- Other papers have recognized that the collective action problem (Olson (1965)) applies to lobbying for trade policy:
  - lobbying for tariffs as public good provision problem (e.g. Gawande (JPubE 1997) application of Bergstrom, Blume and Varian (JPubE 1986))
In this paper we maintain non-cooperative behavior, but allow for different modes of lobbying:

- Lobby as an individual firm
- Lobby through a trade association (sector specific)

Questions:

- This paper: what determines the mode of lobbying?
- Ongoing/future work: does the mode of lobbying affect trade policy?
More “competitive” sectors lobby more as a trade association:

- Sectors with less differentiated products lobby more as a trade association
- Sectors with lower concentration lobby more as a trade association
- Counterintuitive:
  - collective action problem would suggest lack of political organization in more competitive sectors
  - we find competitive economic environment can lead to more political organization

Preliminary evidence: controlling for the total amount of lobbying, the higher the ratio of trade association to individual lobbying, the higher the level of protection
Take an oligopoly with differentiated products

Two modes of lobbying:

- As a trade association: lobby for a tariff covering the entire sector $T$
- As an individual firm: lobby for a product-specific tariff $t$ (above $T$)

Given $T$, look at incentives of individual firm to lobby for increase in $t$

- In imperfectly competitive market: $t \uparrow \implies$ increase in costs of direct foreign competitor
- $t \uparrow$ translates into price $\uparrow$ and profits $\uparrow$ only if:
  - product is not very substitutable with other domestic varieties
  - if number of other domestic varieties is low
- If products are very substitutable or if there are many varieties joint lobbying more desirable than individual
Empirical Evidence
Lobbying Expenditures

- **New data set:** lobbying expenditures
  - Money given by companies (and other agents) to lobbying firms (both in house and outside lobbyists)
  - Imposed filing requirement for lobbyists
  - Lobbyists have to file registration and six-month reports
  - Data available at Senate Office of Public Records

- **Advantages** of this data over data on campaign contributions:
  - Much larger: in 2006 2.59 billion dollars (versus 345 million in campaign contributions to Senate and House combined in cycle 2005-2006)
  - Lobbyists have to indicate the issue the are lobbying for can isolate lobbying money spent for trade (not there for campaign contributions)
  - mainly given by firms and trade associations (no individuals “Snyder’s critique”)
LOBBYING REGISTRATION
Lobbying Disclosure Act of 1995 (Section 4)

Check if this is an Amended Registration □ 1. Effective Date of Registration August 25, 1999

2. House Identification Number __________________________ Senate Identification Number __________________________

REGISTRANT
3. Registrant name Schramm, Williams & Associates, Inc.

Address __________________________

City __________________________ State __________________________ Zip 20002

4. Principal place of business (if different from line 3)

City __________________________ State/Zip (or Country)

5. Telephone number and contact name

(202) 443-4435 Contact Nancy Williams E-mail (optional)

6. General description of registrant’s business or activities

Government Relations Consultants

CLIENT A Lobbying firm is required to file a separate registration for each client. Organizations employing in-house lobbyists should check the box labeled “Self” and proceed to line 10. □ Self

7. Client name California Association of Winegrape Growers

Address __________________________

City __________________________ State __________________________ Zip 95825

8. Principal place of business (if different from line 7)

City __________________________ State/Zip (or Country)

9. General description of client’s business or activities

Growers Association

LOBBYISTS
10. Name of each individual who has acted or is expected to act as a lobbyist for the client identified on line 7. If any person listed in this section has served as a “covered executive branch official” or “covered legislative branch official” within two years of first acting as a lobbyist for the client, state the executive and/or legislative position(s) in which the person served.

<table>
<thead>
<tr>
<th>Name</th>
<th>Covered Official Position (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nancy Williams</td>
<td></td>
</tr>
<tr>
<td>Anita Brown</td>
<td></td>
</tr>
</tbody>
</table>
LOBBYING ISSUES
11. General lobbying issue areas. Select all applicable codes listed in instructions and on the reverse side of Form LD-1, page 1.

12. Specific lobbying issues (current and anticipated)

   H. R. 194

AFFILIATED ORGANIZATIONS
13. Is there an entity other than the client that contributes more than $10,000 to the lobbying activities of the registrant in a semiannual period and in whole or in major part plans, supervises or controls the registrant’s lobbying activities?

   ☐ No ☰ Go to line 14.
   ☐ Yes ☰ Complete the rest of this section for each entity matching the criteria above, then proceed to line 14.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Principal Place of Business (city and state or country)</th>
</tr>
</thead>
</table>

FOREIGN ENTITIES
14. Is there any foreign entity that:

   a) holds at least 20% equitable ownership in the client or any organization identified on line 13; OR
   b) directly or indirectly, in whole or in major part, plans, supervises, controls, directs, finances or subsidizes activities of the client or any organization identified on line 13; OR
   c) is an affiliate of the client or any organization identified on line 13 and has a direct interest in the outcome of the lobbying activity?

   ☐ No ☰ Sign and date the registration.
   ☐ Yes ☰ Complete the rest of this section for each entity matching the criteria above, then sign and date the registration.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Principal place of business (city and state or country)</th>
<th>Amount of contribution for lobbying activities</th>
<th>Ownership percentage in client</th>
</tr>
</thead>
</table>
Data on Lobbying

- Registration and report forms
  - Client (firm)
  - Registrant (lobbyist)
  - Issue (76 issues: agriculture, aerospace, insurance, roads and highways, etc.)
  - Money spent on lobbying every six months

- Our coding
  - Consider only observations with issue = TRD
  - Classify in trade association/government/firm/foreign entity/labor union
  - Match firms and trade associations to sectors (4-digit SIC or 3-digit SIC) using Compustat, registration form (General Description of Client’s Business), company website, online business directories (Goliath, Manta, Websters Online, etc.)
  - About 4000 entries
Empirical Specification

Individual Fraction equation

\[ \text{IndFrac}_i = \rho_0 + \rho_1 \text{Elast}_i + \rho_2 \text{Conc}_i + \rho_3 \left( \frac{K}{L} \right)_i + \text{Controls} + \nu_i \]

- Variables: \( i \) is a 4-digit SIC sector
  - \( \text{IndFrac}_i \): share of total lobbying expenditure done by individual firms in sector \( i \)
  - \( \text{Elast}_i \): elasticity of substitution or dummy for low, medium and high elasticity of substitution (Broda and Weinstein (QJE 2006))
  - \( \text{Conc}_i \): is measure of concentration (share of output produced by largest 4 firms)
  - \( \left( \frac{K}{L} \right)_i \): is capital to labor ratio in sector \( i \)

- Right censoring of \( \text{IndFrac}_i \) \( \implies \) estimation by Tobit
Table 1: Summary Statistics

<table>
<thead>
<tr>
<th></th>
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<tr>
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<td>0.23</td>
<td>0.31</td>
<td>0.63</td>
<td>0.42</td>
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<td>0.04</td>
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<td>0.00</td>
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<td>1.00</td>
<td>6.09</td>
<td>3.63</td>
<td>4.66</td>
<td>1.00</td>
<td>63.70</td>
<td>781.24</td>
<td>3.25</td>
<td>100.00</td>
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</table>

Notes: Lobbying Amounts and Firm Size are in USD$ Millions. Elasticity of Substitution data are from Broda and Weinstein (2006).
<table>
<thead>
<tr>
<th>Marginal Effect on Latent Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>log Total Amount Lobbied</th>
<th>log Total Amount Lobbied</th>
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</thead>
<tbody>
<tr>
<td>MEDIUM SIGMA</td>
<td>-0.282</td>
<td>-0.352</td>
<td>-0.282</td>
<td>1.195</td>
<td>-0.352</td>
<td>[0.100]***</td>
<td>[0.099]***</td>
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<tr>
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<td>-0.254</td>
<td>3.471</td>
<td>-0.254</td>
<td>[0.094]*</td>
<td>[0.100]**</td>
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<td>[0.005]*</td>
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<td>0.004</td>
<td>0</td>
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<td>[0.002]***</td>
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<td>0.001</td>
<td>0.01</td>
<td>0.001</td>
<td>[0.002]***</td>
<td>[0.000]***</td>
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<tr>
<td>Average Firm Size</td>
<td>0.926</td>
<td>0.24</td>
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<td>-0.771</td>
<td>-0.337</td>
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Table 2: Differentiation, Competition and Political Organization. Unconditional Results.
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<th>IndFrac</th>
<th>IndFrac</th>
<th>IndFrac</th>
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<th>IndFrac</th>
<th>TotLob</th>
<th>TotLob</th>
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<td></td>
<td></td>
<td>[0.0184]*</td>
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<td></td>
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<td>[0.00001]***</td>
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<td></td>
<td>[0.0004]***</td>
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<tr>
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<td>0.00002</td>
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<tr>
<td></td>
<td>[0.00008]***</td>
<td></td>
<td>[0.0001]***</td>
<td>[0.0001]***</td>
<td>[0.00001]***</td>
<td></td>
<td>[0.00001]***</td>
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<tr>
<td>Average Firm Size</td>
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<td>[0.0827]***</td>
<td></td>
<td>[0.0496]</td>
<td>[0.0405]</td>
<td>[0.00230]</td>
<td></td>
<td>[0.00223]</td>
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</tbody>
</table>

| Left-censored | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 97 | 97 |
| Right-censored | 130 | 130 | 141 | 143 | 141 | 122 | 122 | . | . |
| Observations | 323 | 323 | 338 | 345 | 345 | 285 | 285 | 382 | 382 |

Notes: Tobit estimator with robust standard errors in brackets. Marginal effects on the latent variable reported in the upper panel. Marginal effects on the realized dependent variable in the lower panel. * significant at 10%; ** significant at 5%; *** significant at 1%. The omitted group for the elasticity of substitution dummies (SIGMA) is the low percentile (<33%) dummy.
Magnitudes

- Using marginal effects on latent variable:
  - going from high/medium to low elasticity $IndFrac \uparrow$ by 28.2%
  - starting from mean elasticity a decrease by one standard deviation in $Elast \implies IndFrac$ by 3%

- Using marginal effects:
  - going from high/medium to low elasticity $IndFrac \uparrow$ by 5.5%
  - starting from mean elasticity a decrease by one standard deviation in $Elast \implies IndFrac$ $\uparrow$ by 0.6%
<table>
<thead>
<tr>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Fraction of Total Lobbied by Firms</th>
<th>Total Lobbied log</th>
<th>Total Lobbied log</th>
</tr>
</thead>
<tbody>
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<td>MEDIUM SIGMA</td>
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<td>-0.419</td>
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<tr>
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<td>[0.105]***</td>
<td>[0.103]***</td>
<td>[0.104]***</td>
<td>[0.974]***</td>
<td>[0.974]***</td>
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<tr>
<td>HIGH SIGMA</td>
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<td>2.557</td>
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<td>-0.021 (0.007)**</td>
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<td>Sigma</td>
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<td>0.028</td>
<td>0.031</td>
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<tr>
<td></td>
<td>[0.005]*</td>
<td>[0.003]***</td>
<td>[0.005]**</td>
<td>[0.023]**</td>
<td>[0.023]**</td>
</tr>
<tr>
<td>K/L</td>
<td>0.001</td>
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<td>0.017</td>
<td>0.018</td>
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<tr>
<td></td>
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<td>[0.001]**</td>
<td>[0.005]**</td>
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<tr>
<td>Average Firm Size</td>
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<td>-7.628</td>
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<tr>
<td>Geo Concentration</td>
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<td>-0.066</td>
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<tr>
<td></td>
<td>[0.374]</td>
<td>[0.382]</td>
<td>[0.379]</td>
<td>[0.382]</td>
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<td>Pol Conc Herf</td>
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<td></td>
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<td>[1.118]</td>
<td>[1.243]</td>
<td>[1.162]</td>
<td>[1.162]</td>
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<td>[0.036]**</td>
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<td>No. HS8 Tariff Lines</td>
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<td>-0.001</td>
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<td>-0.001</td>
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<tr>
<td></td>
<td>[0.000]</td>
<td>[0.000]**</td>
<td>[0.000]***</td>
<td>[0.000]**</td>
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<tr>
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<td>0.436</td>
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<td>248</td>
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<td>245</td>
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<tr>
<td>Notes: Tobit estimator with robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. The omitted group for the elasticity of substitution dummies (SIGMA) is the middle percentile (33%) dummy. Political and Geographic Concentration measures are from Busch and Reinhardt (1999), Economic SIC 4 level Controls are from BEA and US Census Bureau.</td>
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</tbody>
</table>
Two-firm model: the effect of product differentiation
Demand side

- Representative consumer’s utility is quasi-linear with quadratic subutility:

\[ U = \alpha (Q_1 + Q_2) - \frac{\beta}{2} (Q^2_1 + Q^2_2) - \beta \sqrt{\eta} Q_1 Q_2 + q_0 \]

- Numeraire \( q_0 \), and differentiated varieties indexed by \( i \) where \( i = 1, 2 \)

- Parameterization as in Singh and Vives (RAND 1984)
Demand functions:

\[ Q_1 = \frac{1}{\beta (1 - \eta)} \left( \alpha (1 - \sqrt{\eta}) - p_1 + \sqrt{\eta} p_2 \right) \]

Substitutability parameter \( \eta \) with \( 0 \leq \eta < 1 \)
As \( \eta \uparrow \) goods are more substitutable
Indirect utility function:

\[ V = I + C(p_1, p_2) \]

with \( I \) income and
\[
C(p_1, p_2) = \frac{2\alpha^2 (1 - \sqrt{\eta}) - 2\alpha (1 - \sqrt{\eta}) (p_1 + p_2) + p_1^2 + p_2^2 - 2\sqrt{\eta} p_1 p_2}{2\beta (1 - \eta)}
\]
Production side

- Bertrand game among two domestic firms and two foreign competitors:

\[
\begin{align*}
q_1^* & \quad q_1 \\
q_2^* & \quad q_2
\end{align*}
\]

- Symmetric unit cost \( \phi \) (for domestic and foreign producers)
- Foreign competitors can be charged tariffs: \( T + t_1 \) and \( T + t_2 \)
- We have \textbf{limit pricing}: \( \phi + T + t_1 \) and \textbf{no imports}
Government

- Government objective function a la Grossman-Helpman with lobbying expenditures:

\[ G = V(t_1, t_2, T) + \frac{1}{\tau}L + \frac{1}{\theta}I \]

- \( V(t_1, t_2, T) \) aggregate welfare

\[ V = 1 + \pi_1 + \pi_2 + C \]

- \( L \) are trade association lobbying expenditures (services provided by lobbyists, information, legislation drafting, etc.)

- \( I \) is individual firms lobbying expenditure

- allow for government to have different trade-off between lobbying expenditures and welfare depending on source of lobbying expenditures \( \tau \neq \theta \)

Timing of the sequential game

- **Stage 1:**
  - Firms 1 and 2 simultaneously set $L_1$ and $L_2$ (contributions to trade association lobbying expenditures)
  - The trade association makes a take-or-leave offer $(T, L)$ to the government, with $L = L_1 + L_2$
  - The government accepts or rejects the offer

- **Stage 2:**
  - Given $T$, firms 1 and 2 simultaneously make take-or-leave offers $(t_1, l_1)$ and $(t_2, l_2)$ to the government
  - The government accepts or rejects the offers

- **Stage 3:**
  - Production and consumption take place
Stage 3 - Bertrand game

- Limit pricing:
  \[ p_i = \phi + T + t_i \]

- Domestic firms:
  \[ \pi_i = q_i \left( (\phi + T + t_i) - \phi \right) \]

- Derive:
  - domestic firms’ profits \( \pi_1(t_1, t_2, T) \) and \( \pi_2(t_1, t_2, T) \)
  - welfare \( V(t_1, t_2, T) \)
Stage 2 - Individual lobbying

- Given $T$, limit the strategy space for the firms to individual tariffs: respectively $t_1$ and $t_2$

**Equilibrium in the subgame**

$$t_1^* = t_2^* = \max \{-T + \Delta, 0\}$$
$$\Delta = \frac{(\alpha - \phi) (1 - \sqrt{\eta})}{2 - \sqrt{\eta} (1 + \theta) + \theta}$$

- Multiple equilibria in expenditure levels
- Focus on symmetric equilibrium

$$l_1^* = l_2^* = -\frac{1}{2} \theta [V(t_1^*, t_2^*, T) - V(0, 0, T)]$$
Incentives for individual lobbying and substitutability
Simple view of trade association:

- constrain policy space to $T$ (common tariff across goods within sector)
- view it as “technology”: $L_1 + L_2 \implies T$
- keep non-cooperative game structure: free-riding and sub-optimal level of $T$
Perfect substitutability of $t_i$ and $T$ delivers \textit{corner solutions}.
Define $\delta = \frac{L_1}{\bar{L}}$. 
Equilibrium - Only Corner Solutions

- If $\tau < \frac{1}{2} \theta$ then only Together lobbying with $\overline{T} > \Delta$
If $\tau \geq \frac{1}{2} \theta$
Bottom line
As $\eta \uparrow$ (goods are more substitutable) $\implies$ lobby Together

Comparative Statics

- If $\tau \rightarrow \frac{1}{2} \theta$ then $\overline{\eta} \rightarrow 0$ and $\overline{\eta} \rightarrow 0$: as trade association lobbying gets cheaper less likely to have individual lobbying
- As $\tau \uparrow$ then $\overline{\eta} \uparrow$ and $\overline{\eta} \uparrow$ (if trade association lobbying very expensive $\overline{\eta} \rightarrow 1$ and $\overline{\eta} \rightarrow 1$)
N-firm model: the effect of concentration
N-firm model

- Utility function with $N$ varieties:

$$U = \alpha \sum_{i=1}^{N} Q_i - \beta \left(1 - \sqrt{\eta}\right) \frac{1}{2} \sum_{i=1}^{N} Q_i^2 - \frac{1}{2} \beta \sqrt{\eta} \left(\sum_{i=1}^{N} Q_i\right)^2 + q_0$$

- All firms are identical
- As $N \uparrow Q_i$ more elastic to $p_{-i} = \frac{1}{N-1} \sum_{j \neq i} p_j$
Concentration and lobbying Together

- Question: as $N \uparrow$ lobby Together or Alone?
- Two effects:
  - standard **free-riding effect**: as $N \uparrow$, each firm gets smaller, trade association tariff $\downarrow$ (we are allowing for full free-riding)
  - **competition effect**: as $N \uparrow$, as individual firm lobbies for its own tariff $t \uparrow$ consumers shift expenditure to many alternative goods $\rightarrow$ if $N$ is large then prefer all firms to raise their tariffs
Equilibrium

If $\theta$ is low relative to $\tau$ then three possible patterns:

- Lobby only Alone if $N < \bar{N}$, lobby only Together if $N > \bar{N}$, lobby all Together or all Alone if $\bar{N} \leq N \leq \bar{N}$ (intermediate $\eta$)
- Lobby Together for all $N$ (high $\eta$)
- Lobby Alone for all $N$ (low $\eta$)
Conclusions and future work

Contributions of the paper

- new data set on trade-related lobbying
- improves on previous measures of political organization by distinguishing between modes of lobbying
- provides framework with richer set of lobbying tools available to firms

Future work

- focus on consequences of mode of lobbying for trade policy (identification strategy)
- we observe both individual and trade association lobbying in the same sector → heterogeneity
- take the model back to the data: find a structural relationship between lobbying expenditures and substitutability parameters that we can estimate