Recent advances in the field of Trade Theory

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Session 4: Implications of the new-new theory for normative and positive trade policy analysis: political economy
• Motivations

• Endogenous Trade Policy with Heterogeneous firms: Abel-Koch (2010)

• Firm heterogeneity and lobby participation (Bombardini 2008)

• Protection for Sale with Heterogeneous Interests within Industries (Chang and Willmann 2006)
New-new trade theory and the Political Economy of Trade Policy

- Traditional models on the Political Economy of Trade Policy assume heterogeneity of sectors, mainly in terms of concentration as in Grossman and Helpman 1994.

- The main message coming from this literature is that interest groups influence the government’s choice on trade policy through the promise of votes, monetary donations and campaign support.

- The government grants protection from foreign competition to a sector by comparing the benefits that it receives from the industry’s lobby and the welfare loss from the protection measures.
• These models have failed in investigating the behaviour of firms in forming the interest groups; little attention has been devoted to the role played by firms in shaping the structure of protection across sectors.

• The new-new trade theory by giving a crucial role to the single firm suggested new Political Economy of Trade Policy models in which the decision of whether to lobby and how much to contribute is made by individual firms.
Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

• The need for an heterogeneous firms based model of Trade Policy formation comes from the empirical evidence that larger firms make higher contributions to political action committees in the U.S. (Drope and Hansen 2006; Sadrieh and Annavarjula 2005)

• Similarly in EU large firms have often an office in Brussels and to be accredited to lobby the European Parliament (Bernhagen and Mitchell 2006)

• On the other hand, small firms rarely engage in political lobby because of financial constraint
Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

- This model builds on the Melitz (2003) model; assuming a mass of firms producing varieties of differentiated good with heterogeneous marginal costs

- To sell their product in foreign market firms have to pay a fixed entry cost (as the cost for adapting the product to local standards)
Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

- Two different trade policy that governments might set:
  1. “behind-the-border” are non tariff measures as additional regulation which raise the fixed costs of entry the foreign market; these measures leave the ratio of market access cost for foreign exporters to market access cost for domestic producers unchanged
  2. “border measures” affect only foreign exporters raising the ratio of market access costs for foreign exporters to market access costs for domestic producers
Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

• When a country introduces “behind-the-border” measures, domestic potential exporting firms and foreign exporters with relatively high marginal costs cannot afford the entry fixed cost and exit the market.

• This increases the market share (and profits) of surviving firms → within country profits shift.

• But it might also shift profits from domestic to foreign firms if the share of highly productive domestic firms is lower than the share of highly productive foreign firms.
New-new trade theory and the Political Economy of Trade Policy

Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

• As a consequence, if only large firms engage in lobbying their government, they will push for a “behind-the-border” measure that shifts profits towards them.

• If government is interested in monetary contribution from those firms (in addiction on its social welfare interest) it will set “behind-the-border” measures.

• The equilibrium level of “behind-the-border” measure will be the larger, the stronger the profit shifting effect between domestic firms and the lower the government’s concern about the social welfare in the country.
Endogenous Trade Policy with Heterogeneous Firms: Abel-Koch (2010)

- When a country introduces “border measures” it drives the least efficient foreign firms out of its market allowing less efficient domestic firms to start producing → profit shift towards domestic less efficient firms

- As in the former case, the introduction of a border measure reduces the consumer surplus, thus it would never be implemented by a purely social welfare maximizing government

- But if the government is interested also in monetary contribution by domestic lobbying firms, it will set a “border measure”. In particular:
  1. If the largest domestic firm gain a lot from protection, it will exert a strong lobby pressure and the highest possible level of border measure will be implemented
  2. If the largest domestic firm does not gain a lot from protection and the government cares a lot about social welfare, the border measure will not be implemented
Firm heterogeneity and lobbying participation: Bombardini (2008)

- In this model, once the firm decides to participate in political activity, it presents the government with a contribution schedule that associates a monetary contribution to each degree of protection.

- The novelty of this paper (with respect Grossman and Helpman 1994) is that the strength of lobby is not the size of the sector *per se* but the share of the total industry output produced by firms that make positive contributions.

- In this model each firm aiming to participate to the lobby needs to pay a fixed cost as an initial expenses to play an active role in the sector lobby.

- The new marginal firm will be accepted into the sectorial lobby if and only if its marginal contribution to the lobby is higher than its cost for the lobby.
Firm heterogeneity and lobbying participation: Bombardini (2008)

- At the equilibrium, the level of protection $\tau_{ij}$ depends on several factors:
  1. The lower the import penetration the larger the deviation from the free trade condition
  2. For sectors with positive tariff, the size of the output affect positively the level of protection because large firms receive large benefit from the increase in price $p$ and the government can expect large contributions
  3. Since the distortion induced by protection is lower in low price elasticity of imports sectors, in these sector the protection is large
  4. The larger the share of total sector output produced by lobbying firms, the larger are the marginal contributions the government expects, the higher is the level of protection
Firm heterogeneity and lobbying participation: Bombardini (2008)

- Finally, an increase in the dispersion of firms within each sector, holding the mean constant, brings an increase in level of protection.

- The underlying intuition is that in sectors where the size distribution has a larger standard deviation, a larger share of firms willing to pay the fixed cost $F$ could be found, it ends up with a larger group of firms able to participate to the policy game and thus to a higher level of protection.
Firm heterogeneity and lobbying participation: Bombardini (2008)

- Author provides also empirical evidence of the model in four points, finding that:
  1. Sectors characterized by higher dispersion in firm size have an higher level of protection
  2. Larger firms are more likely to take part in the lobby
  3. The participation share is positively correlated with the dispersion in the size distribution
  4. The level of protection depends not simply on the sector’s total output but also on the participation shares
Firm heterogeneity and lobbying participation: Bombardini (2008)

**Sectors characterized by higher dispersion in firm size have an higher level of protection (here measure by NTB)**

<table>
<thead>
<tr>
<th>Dependent variable: NTB</th>
<th>Regression using Gawande organization dummy</th>
<th>Organization dummy FEC data</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>GB* I II III IV V VI VII</td>
<td></td>
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<tr>
<td>$\ln(\sigma_i/\sigma_e)$</td>
<td>1.83 (0.74) 1.97 (0.87) 1.47 (0.75) 1.56 (1.04) 1.53 (0.77) 1.58 (0.81) 2.3 (1.16) 1.55 (0.6)</td>
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<tr>
<td>$z_i/\epsilon_i$</td>
<td>-1.73 (0.70) -1.82 (0.85) -1.38 (0.73) -1.46 (1.022) -1.43 (0.75) -1.44 (0.79) -2.21 (1.15) -1.62 (0.58)</td>
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<tr>
<td>$\sigma_i/(1000)$</td>
<td>0.44 (0.063) 0.37 (0.12) 0.04 (0.018) 0.39 (0.08) 0.48 (0.06) 0.42 (0.06) 0.033 (0.049) 0.024 (0.006)</td>
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<tr>
<td>$\mu/(1000)$</td>
<td>0.04 (0.04) 0.04 (0.05) 0.01 (0.08) 0.05 (0.05) 0.037 (0.047) 0.008 (0.019) 0.021 (0.022) 0.024 (0.006)</td>
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<td>$I_t$</td>
<td>5.6 (7.61) 0.015 (0.007) 1.5 (1.69) -0.015 (0.37) -0.01 (0.099) 0.42 (0.02) 0.031 (0.008) 0.00000</td>
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<td>Total sales (/10 M)</td>
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<td>Total value added (/1 M)</td>
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<td>Concentration4</td>
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<td>Herfindahl</td>
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<tr>
<td>$I_{\sigma_i}/(1000)$</td>
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<td>$I_{\mu}/(1000)$</td>
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<td>$N_{\mu}/(1000)$</td>
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<tr>
<td>F-test joint $\sigma_i \mu$</td>
<td>0.00 0.00 0.00 0.04 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
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<tr>
<td>F-test model**</td>
<td>0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
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<tr>
<td>J-test overidentification**</td>
<td>0.33 0.2 0.26 0.47 0.23 0.19 0.35 0.37 0.35 0.37 0.35 0.37 0.35 0.37 0.35 0.37</td>
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<tr>
<td>Centered $R^2$</td>
<td>0.24 0.32 0.33 0.3 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.33</td>
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<td>Estimator</td>
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Firm heterogeneity and lobbying participation: Bombardini (2008)

- $z_i$ is the inverse of import penetration share; $e_i$ is the price elasticity of imports; $l_i$ is a dummy variable describing whether the sector is politically organized and $\sigma$ is the dispersion of firms size in each sector.

- Thus in non-organized sectors a larger size of the industry output relative to imports (and smaller elasticity) decreases the tariff level (second row in the former table).

- In organized sectors a larger size of the industry output relative to imports (and smaller elasticity) increases the tariff level (first row in the former table).

- Sectors with high dispersion in firms size have an higher protection level (third row in former table).
Firm heterogeneity and lobbying participation: Bombardini (2008)

*Large firms are more likely to take part in the lobby*

<table>
<thead>
<tr>
<th>Unit of observation</th>
<th>Dependent variable</th>
<th>Pooled: all sectors</th>
<th>Coefficients of 3-digit SIC level regressions</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
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<tr>
<td>Panel 1</td>
<td>Firm</td>
<td>Intercept</td>
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<td></td>
<td>Contribution level</td>
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<td></td>
<td></td>
<td>log(Sales)</td>
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<td></td>
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<td>log(Sales) squared</td>
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<td></td>
<td>No. of Firms</td>
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<td>3027</td>
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<td></td>
<td>Estimator</td>
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<tr>
<td>Panel 2</td>
<td>Firm</td>
<td>Probability of participating of individual firm</td>
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</table>
Firm heterogeneity and lobbying participation: Bombardini (2008)

- The amount of contributions by each firm increases as a function of firm size (here measure as the log of sales) both in the linear (column 1) and quadratic (column 2) specification – panel 1 in the former table.

- The probability that the firm participates in the lobby is increasing with the firm size – panel 2 in the former table.
Firm heterogeneity and lobbying participation: Bombardini (2008)

The level of protection depends not simply on the sector’s total output but also on the participation shares

- In sectors that are politically organized ($I_i=1$) the level of protection is higher the higher the output, the lower the imports, the lower the price elasticity of imports and the higher the participation rate ($\theta_i$)
Protection for Sale with Heterogeneous Interests within Industries: Chang and Willmann (2006)

• This paper builds on the empirical evidence that government weigh social welfare more than 95%, leaving very small room for monetary contributions in its maximization function

• If one believes these numbers, why economists should take care about the lobby power in endogenously determined Trade Policies? Why lobby parties seem to have a lot of power in influencing governments decision on trade policies?

• This paper tries to provide an explanation for the gap between empirical evidence and common sense about the power of lobby parties, using the new-new trade theory approach
Protection for Sale with Heterogeneous Interests within Industries: Chang and Willmann (2006)

- New-new trade theory suggests that exporting firms are different from non-exporting firms. The authors focus on this dichotomy (within each industry) to explain different behaviour of exporting vs. non-exporting firms in lobbying for trade policies.

- They show that exporting firms are interested in market access abroad, pushing for lower tariff level.

- However, purely domestic firms desire an high degree of protectionisms.
Protection for Sale with Heterogeneous Interests within Industries: Chang and Willmann (2006)

• If both groups are organized and lobby the government to take into account their interests it gives rise the following scenario:

1. If any of the two groups lobbies, the government sets the pure social optimal policy (contributions are zero in this case)

2. If both groups lobby the same social optimal tariff will be reached because the two lobbying efforts neutralize each other

3. When each group lobbies alone, it is able to divert the government’s policy towards its preferred trade policy: a higher tariff in the case of purely domestic firms and lower protection for exporters
Protection for Sale with Heterogeneous Interests within Industries: Chang and Willmann (2006)

- This model provides a possible explanation on the high weight that governments assign to social welfare in their decision.

- This model allows the possibility of government’s pure social maximization solution even in presence of monetary contribution by lobbying groups.
What we learned

• New-new trade theory and the heterogeneous firms model changed the Trade Policy formation

• Tariff and non-tariff measures are still the results of a lobby game; but it is no more just the industry specific lobby power determining the industry protection level (as in the Helpman Grossman 1994 model)

• In these new models of endogenous trade policy are the firms characteristics (size, productivity, etc) that affect the lobby power by firms and the decision itself of firms to join an interest group