Estimating Market Power Exertion under Bilateral Imperfect Competition

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Background
- Food processing and retailing industries increasingly concentrated.
- Empirical models have not been flexible enough to consider the full range of bilateral relationship between buyers and sellers.

Objective
- Develop a market power estimation procedure for bilateral imperfect competition between retailers and processors.
- Test true market power estimation model against alternative model.

Extension from previous studies
- Previous NEIO methods assume only on one-side of market transactions.
- Consider bilateral relationship between sellers and buyers for potential oligopoly/oligopsony market power exertion.
- Monte Carlo simulation to test for estimation bias from inappropriately modeling market structures.

Methodology and procedure

Data generating equation

<table>
<thead>
<tr>
<th>Equation</th>
<th>Perfect competition</th>
<th>Four way bilateral imperfect competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ p = p + \alpha_1 w + \alpha_2 + \beta_1 (b_1 + b_2) + \gamma_1 (c_1 + c_2) + \epsilon ]</td>
<td>[ p = p + \alpha_1 w + \alpha_2 + \beta_1 (b_1 + b_2) + \gamma_1 (c_1 + c_2) + \epsilon ]</td>
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Econometric specification

<table>
<thead>
<tr>
<th>Simulated (true) market structure</th>
<th>True market power parameter (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect competition</td>
<td>[ \phi_1 = 0 ]</td>
</tr>
<tr>
<td>Stackelberg duopoly</td>
<td>[ \phi_1 = 0.6 ]</td>
</tr>
<tr>
<td>Monopsony</td>
<td>[ \phi_1 = 1 ]</td>
</tr>
<tr>
<td>Four way bilateral imperfect competition</td>
<td>[ \phi_1 = \phi_2 = \phi_3 = 0.2 ]</td>
</tr>
</tbody>
</table>

Results

Conclusions

References