A Field Experiment on Business Opposition to the U.S.-China Trade War

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Overview

1. Motivation
2. Design
3. Findings
4. Implications
The Trade War Devastated the U.S. Economy

- $4.6 billion per month during 2018 (Amiti, Redding, and Weinstein 2019)
- Exacerbated by global supply chains that amplify and conceal effects of tariffs (Flaeen and Pierce 2020)
How Did Businesses Respond?

- **Try to change policy**
- **Apply for exemption**
- **Do nothing**
How Did Businesses Respond?

Try to change policy

Apply for exemption

Do nothing

only 1.73% of large firms
(Zhu et al. 2021)
Our Project

Research Question

Why would (or wouldn’t) firms engage in collective action to end a trade war?

- Trade produces winners (consumers, export-oriented or GVC-linked businesses) who should support and losers (import-competing or non-GVC businesses) who should oppose free trade (Rogowski 1987; Hiscox 2002)
- Normally, firms better able to overcome collective action problem than individuals, often to support tariffs (Olson 1965)
- But diffuse costs of trade war born by big, diverse group of firms may prevent collective action to oppose tariffs
- Firms, especially small ones, lack information about the potential benefits of collective action
We...

- generated original industry-specific estimates of the costs of the trade war
- developed an interactive web application that allowed firms to further tailor these estimates
- created a novel sample of managers at U.S. firms
- randomly assigned different types of access to our estimates
- measured whether firms were willing to act to oppose trade war

Main Finding

Information mobilizes opposition among those who previously thought the trade war was harmful, but depresses opposition among those who thought they were helped.

Significance

First field experiment on corporate political action.
Building a Sample of U.S. Business Managers

Ad Through KC City of Commerce

Greater Kansas City Chamber of Commerce

Feb 26, 2020 · ...Kansas City has partnered with the Princeton Trade Study to learn the effects of tariffs on businesses in Greater KC. Take this confidential 10-minute survey now. All responses are confidential and will be used solely for the purposes of academic research. In exchange, PTS will...

(N = 66)

Facebook Ad Targeting Managers

(N = 906 validated responses)
Estimating the Costs of the Trade War

We start with the “use” tables from the Bureau of Economic Analysis, which report how much each industry (row) takes as its inputs from other industries (columns).

<table>
<thead>
<tr>
<th>Commodity Description</th>
<th>1111A0</th>
<th>1111B0</th>
<th>1112A0</th>
<th>1112B0</th>
<th>1113A0</th>
<th>1113B0</th>
<th>1114A0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oilseed farming</td>
<td>2,507</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Grain farming</td>
<td></td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Vegetable and melon farming</td>
<td></td>
<td></td>
<td>909</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit and tree nut farming</td>
<td></td>
<td></td>
<td></td>
<td>389</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse, nursery, and floriculture production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,970</td>
</tr>
<tr>
<td>Other crop farming</td>
<td>458</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Dairy cattle and milk production</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming</td>
<td>38</td>
<td>225</td>
<td>4</td>
<td>24</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry and egg production</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal production, except cattle and poultry and eggs</td>
<td>24</td>
<td>134</td>
<td>2</td>
<td>11</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry and logging</td>
<td></td>
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</tr>
<tr>
<td>Fishing, hunting and trapping</td>
<td>2,554</td>
<td>9,807</td>
<td>1,173</td>
<td>2,724</td>
<td>767</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil and gas extraction</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coal mining</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Copper, nickel, lead, and zinc mining</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron, gold, silver, and other metal ore mining</td>
<td>74</td>
<td>440</td>
<td>31</td>
<td>21</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stone mining and quarrying</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other nonmetallic mineral mining and quarrying</td>
<td>1</td>
<td>1,163</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drilling oil and gas wells</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other support activities for mining</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric power generation, transmission, and distribution</td>
<td>154</td>
<td>160</td>
<td>115</td>
<td>168</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Estimating the Costs of the Trade War

Then we look at the commodities associated with each input industry using a concordance from Pierce and Schott (2009) and check whether those commodities appear on the tariff schedules (collected by PIIE).
Please read the following information about the trade war and your company, and then scroll to proceed with the survey. The imposition of tariffs in 2018, recent studies show, cost U.S. consumers and companies $1.4 billion a month and will force companies to redirect $165 billion per year worth of imports affected by tariffs. Furthermore, $121 billion of companies’ exports to foreign markets have been harmed by retaliatory tariffs posed by other countries.
"Static" Treatment

We've crunched some numbers for you. Using data from the Bureau of Economic Analysis, we have identified the most tariff-affected industries that provide important inputs to companies in your industry. These include:

<table>
<thead>
<tr>
<th>Input to Your Firm</th>
<th>Average Tariff Rate (%)</th>
<th>Number of Products with Tariff</th>
<th>Proportion of Total Products with Tariff (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement and Concrete Product Manufacturing</td>
<td>Section 301 (China)</td>
<td>17.5</td>
<td>12</td>
</tr>
<tr>
<td>Motor Vehicle Parts Manufacturing</td>
<td>Section 301 (China)</td>
<td>17.5</td>
<td>147</td>
</tr>
</tbody>
</table>
We have developed an online application to allow you to calculate precisely how much extra your firm may have paid for goods and services as a result of the tariffs. The application is available exclusively to you because of your participation in our study. You can access the application here.
"Dynamic" Treatment

The Princeton Trade Study Impact Report

This web application calculates your firm's potential costs due to recent tariff changes by the U.S. government. The underlying data is derived from the Bureau of Economic Analysis, the U.S. Trade Commission and the Peterson Institute for Economics. For more information about the data and calculations, please contact us at research@princetontradestudy.org.

Please note that this web application is only available to those enrolled in the Princeton Trade Study.

**Step 1: Start By Selecting Your Firm's Industry:**
First select the highest-level classification (e.g., NAICS code).

Your Firm's Top-level Industry:
- Construction
- Accommodation and Food Services
- Administrative and Support and Waste Management and Remediation Services
- Agriculture, Forestry, Fishing and Hunting
- Arts, Entertainment, and Recreation
- Construction
- Educational Services

**Step 2: Select which industries your firm has purchased products from in the list below.**
Select the industries your firm purchased products from since July of 2018:

**Step 3: Enter the amount your firm paid for products from these industries since July 2018.**

**Step 4: Download or copy and paste your data by clicking on one of the buttons below the table.**
“Dynamic” Treatment

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**Step 1: Start By Selecting Your Firm’s Industry:**
First select the highest-level classification (3-digit NAICS code):
*Your Firm’s Top-level Industry:*

Then select your firm’s industry sub-group (4-digit NAICS code):
*Your Firm’s Industry Sub-group:*

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**Step 3: Enter the amount your firm paid for products from these industries since July 2018.**
- Cement and Concrete Product Manufacturing
- Plastics Product Manufacturing

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**Step 4: Download or copy and paste your data by clicking on one of the buttons below the table.**

<table>
<thead>
<tr>
<th>Input Name</th>
<th>Proportion Industry Product with a Tariff</th>
<th>Tariff Breakdown</th>
<th>Number of Products with This Tariff</th>
<th>Average Tariff Rate</th>
<th>You Spent</th>
<th>Tariff Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement and Concrete Product Manufacturing</td>
<td>8%</td>
<td>Section 201 (China)</td>
<td>32</td>
<td>18%</td>
<td>$10,000.00</td>
<td>$1,491.12</td>
</tr>
<tr>
<td>Plastics Product Manufacturing</td>
<td>6%</td>
<td>Section 201 (China)</td>
<td>108</td>
<td>18%</td>
<td>$50,000.00</td>
<td>$9,060.34</td>
</tr>
</tbody>
</table>

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By our calculations, you may have spent up to $7,360.46 due to the recent tariff actions of the U.S. government.

We have prepared a list of possible actions your firm could take. For more information, please click on the button:

[What Can My Firm Do]
### Preference: We will present you with a list of actions you can take to support or oppose the use of tariffs. Would you like to see the support, oppose, or both lists?

### Interest and Action Items:

<table>
<thead>
<tr>
<th>Interest item</th>
<th>Action item (oppose)</th>
<th>Action item (support)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invite someone to participate in this study</td>
<td>Provides their e-mail address</td>
<td>Provides their e-mail address</td>
</tr>
<tr>
<td>Ask your Congressperson to [o] the trade war</td>
<td>Clicks link to Americans for Free Trade (write-in campaign)</td>
<td>N/A</td>
</tr>
<tr>
<td>Donate to governors who [o/s] tariffs</td>
<td>Clicks link to donate to a governor</td>
<td>N/A</td>
</tr>
<tr>
<td>Sign a petition [o/s] the trade war</td>
<td>Clicks link to sign petition “Republicans Fighting Tariffs”</td>
<td>Clicks link to sign petition from American companies seeking protection</td>
</tr>
<tr>
<td>Donate to Congresspeople who [o/s] tariffs</td>
<td>Clicks link to donate to sponsors of Import Tax Relief Act</td>
<td>Clicks link to donate to sponsors of Fair Trade with China Enforcement Act</td>
</tr>
<tr>
<td>Join Facebook groups [o/s] the trade war</td>
<td>Likes “Tariffs Hurt the Heartland”</td>
<td>Likes “American Jobs Build America”</td>
</tr>
</tbody>
</table>
Informational Effects Greater for Those with Stronger Beliefs

Plot shows LATEs for the opposing trade war outcome conditional on the respondents' answers to the question, 'On a scale of 1 to 10, has the trade war helped or hurt your firm?'. The dependent variable is a 1 if the respondent selected any action to oppose the trade war, 0 otherwise. Treatment is a 1 if the respondent received any treatment, 0 otherwise.

Figure 4: LATEs for Opposing Trade War by Prior Beliefs about Trade War
Corrective Effect of Information Depends on Prior Knowledge

On a scale of 0 (very low) to 10 (very high), how much information do you already have about how your company has been affected by the trade war?

Figure 1: Comparison of Facebook and Kansas City Samples for Knowledge about Trade War
Backfiring Happens for Firms with Low Prior Knowledge

Plot shows LATEs for the opposing trade war outcome conditional on the respondents’ answers to the question, “On a scale of 1 to 10, has the trade war helped or hurt your firm?” and the question, “On a scale of 1 to 10, how much knowledge do you have about the trade war?”. The dependent variable is a 1 if the respondent selected any action to oppose the trade war, 0 otherwise. Treatment is a 1 if the respondent received any treatment, 0 otherwise.

Figure 5: LATEs for Opposing Trade War by Prior Beliefs and Knowledge about Trade War
No. of Tariffs in Treatment Varies by Respondent Industry

Figure 6: Histogram of Respondent’s Industry Products with Tariffs
Both Logical and Puzzling Findings!

• If managers believed the trade war extremely *hurt* them, more tariffs ↑ opposition. ✓

• If managers believed the trade war extremely *helped* them, more tariffs ↓ support. ✓

• For most managers with middling beliefs, more tariffs ↓ opposition.
Possible Explanation

• Managers support the trade war *despite* the harms to their businesses (strong preferences)
• Managers concerned that quantifying the harms to businesses might discourage other businesses from sticking it out (counter-mobilization)
• Or perhaps partisan identities trumping information provision
Partisanship A Significant Predictor of Trade War Opposition

Plot shows the survey proportion selecting at least one opposition to the trade war outcome subset by the political culture of the firm reported by the respondent for both management and rank-and-file employees in the company. The dependent variable is a 1 if the respondent selected any action to oppose the trade war, 0 otherwise.

Figure 8: Role of Partisanship in Explaining Opposition to Trade War
Implications

• Some firms face a collective action problem in opposing a trade war, and hard-to-get information encourages them to take action.
• But other firms react in counter-intuitive ways.
• Perhaps firms interpret information through partisan lenses or have political interests besides their bottom lines.