

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

The New York Times

American Consumers, Not China, Are Paying for Trump's Tariffs

New York Fed and academic researchers found that U.S. consumers and companies have borne the brunt of the president's trade war.



New research finds that American businesses and consumers are paying the price for President Trump's tariffs on Chinese goods. Jeannah Moon for The New York Times



By Jeanna Smialek and Ana Swanson

Published Jan. 6, 2020 Updated Dec. 31, 2020

- \$4.6 billion per month during 2018 (Amiti, Redding, and Weinstein 2019)
- Exacerbated by global supply chains that amplify and conceal effects of tariffs (Flaen and Pierce 2020)

How Did Businesses Respond?

Try to change policy



Apply for exemption



Do nothing



How Did Businesses Respond?

Try to change policy



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

Apply for exemption



Do nothing



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

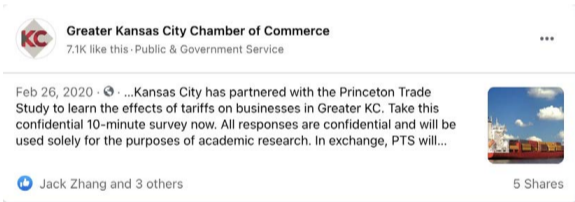
Information mobilizes opposition among those who previously thought the trade war was harmful, but depresses opposition among those who thought they were helped.

Significance

First field experiment on corporate political action.

Building a Sample of U.S. Business Managers

Ad Through KC City of Commerce



A screenshot of a Facebook post from the Greater Kansas City Chamber of Commerce. The post is dated February 26, 2020, and contains text about a survey partnership with the Princeton Trade Study. It includes a small image of a shipping port and shows 5 shares.

Greater Kansas City Chamber of Commerce
7.1K like this · Public & Government Service

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...

Jack Zhang and 3 others

5 Shares

(N = 66)

Facebook Ad Targeting Managers



A screenshot of a Facebook advertisement for the Princeton Trade Study. The ad features a woman working on a laptop in an office setting. Text on the ad asks for survey responses and offers a \$100 Amazon gift card. It includes a 'Learn More' button and the website NYU.QUALTRICS.COM.

Princeton Trade Study
Sponsored · Paid for by Princeton Trade Study

Tell us what people at your company think of the China trade war and win a \$100 Amazon gift card!

About this ad

NYU.QUALTRICS.COM
The Trade War with China Is Still On [LEARN MORE](#)

(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).

The Use Table (Supply-Use Framework), 2012 [Millions of dollars] Bureau of Economic Analysis						
Commodities/Industries		Oilseed farming	Grain farming	Vegetable and melon farming	Fruit and tree nut farming	Greenhouse, nursery, and floriculture production
Code	Commodity Description	1111A0	1111B0	111200	111300	111400
1111A0	Oilseed farming	2,507	145	4		
1111B0	Grain farming		7,731			
111200	Vegetable and melon farming			909	8	
111300	Fruit and tree nut farming				189	
111400	Greenhouse, nursery, and floriculture production					3,970
111900	Other crop farming	458	223			0
112120	Dairy cattle and milk production					
1121A0	Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	38	225	4	24	12
112300	Poultry and egg production	10				
112A00	Animal production, except cattle and poultry and eggs	24	134	2	11	6
113000	Forestry and logging					
114000	Fishing, hunting and trapping					
115000	Support activities for agriculture and forestry	2,554	9,807	1,173	2,724	767
211000	Oil and gas extraction					
212100	Coal mining					
212230	Copper, nickel, lead, and zinc mining					
2122A0	Iron, gold, silver, and other metal ore mining					
212310	Stone mining and quarrying	74	449	31	21	18
2123A0	Other nonmetallic mineral mining and quarrying	1	1,163	1	4	
213111	Drilling oil and gas wells					
21311A	Other support activities for mining					
221100	Electric power generation, transmission, and distribution	154	160	115	168	37

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).

	commodity	naics
29	1,207,990,000	111120
30	1,207,400,000	111120
31	1,207,600,000	111120
32	1,207,910,000	111120
33	1,206,000,030	111120
34	1,207,100,000	111120
35	1,204,000,000	111120
36	1,205,000,000	111120
37	1,206,000,050	111120
38	713,101,000	111130
39	713,501,000	111130
40	713,334,040	111130
41	713,394,030	111130
42	713,401,000	111130
43	713,392,010	111130
44	713,394,050	111130
45	713,201,000	111130
46	713,905,000	111130
47	713,102,000	111130
48	713,906,000	111130
49	713,392,030	111130
50	713,901,000	111130
51	713,391,000	111130
52	713,394,060	111130
53	713,322,000	111130
54	713,331,000	111130

	hs10	year	init232Steel
977	7217901000	2017	1
978	7217905030	2017	1
979	7217905060	2017	1
980	7217905090	2017	1
981	7218100000	2017	1
982	7218910015	2017	1
983	7218910030	2017	1
984	7218910060	2017	1
985	7218990015	2017	1
986	7218990030	2017	1
987	7218990045	2017	1
988	7218990060	2017	1
989	7218990090	2017	1
990	7219110030	2017	1
991	7219110060	2017	1
992	7219120002	2017	1
993	7219120006	2017	1
994	7219120021	2017	1
995	7219120026	2017	1
996	7219120051	2017	1
997	7219120056	2017	1
998	7219120066	2017	1
999	7219120071	2017	1
1000	7219120081	2017	1
1001	7219130002	2017	1
1002	7219130031	2017	1

Control

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:

[Copy](#)[CSV](#)[Excel](#)[Print](#)

Input to Your Firm	Tariff	Average Tariff Rate (%)	Number of Products with Tariff	Proportion of Total Products with Tariff (%)
Cement and Concrete Product Manufacturing	Section 301 (China)	17.5	12	85.2
Motor Vehicle Parts Manufacturing	Section 301 (China)	17.5	147	93.6

“Dynamic” Treatment

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 actions 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 this data and calculation, 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 (2-digit NAICS code):

Your Firm's Top-level Industry:



A screenshot of a web application's dropdown menu for selecting a firm's top-level industry. The menu is open, showing a list of industry options. The currently selected option is "Construction". Other visible options include "Accommodation and Food Services", "Administrative and Support and Waste Management and Remediation Services", "Agriculture, Forestry, Fishing and Hunting", "Arts, Entertainment, and Recreation", "Construction", and "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

tasccan.com, 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 (2-digit NAICS code):

Your Firm's Top-level Industry:

Then select your firm's industry sub-group (6-digit NAICS code):

Your Firm's Industry Sub-group:

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](#)

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

Cement and Concrete Product Manufacturing

Plastics Product Manufacturing

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

Summary of Tariff Costs

	Input Name	Proportion Industry Products with a Tariff	Tariff Breakdown	Number of Products with This Tariff	Average Tariff Rate	You Spent	Tariff Cost
1	Cement and Concrete Product Manufacturing	85%	Section 301 (China)	12	18%	\$10,000.00	\$1,491.12
2	Plastics Product Manufacturing	67%	Section 301 (China)	108	18%	\$50,000.00	\$5,869.34

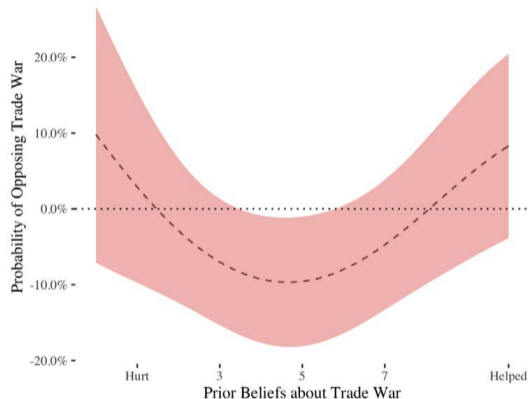
Outcomes

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:

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

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?

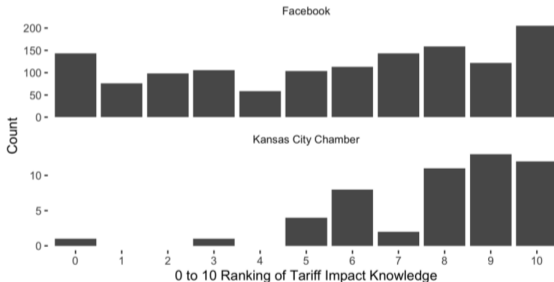
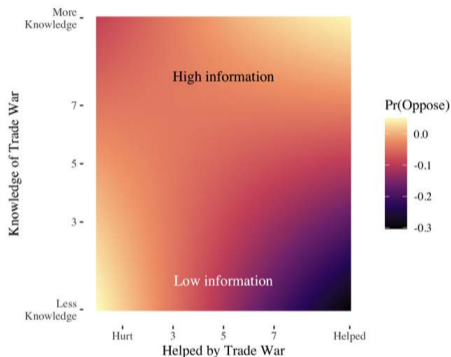


Figure 1: Comparison of Facebook and Kansas City Samples for Knowledge about Trade War

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

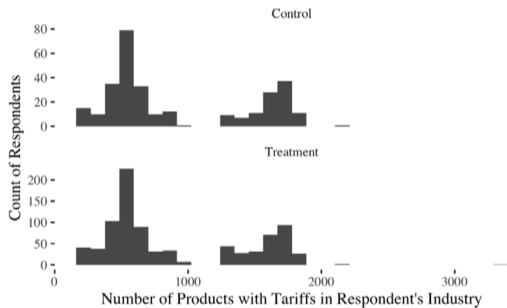
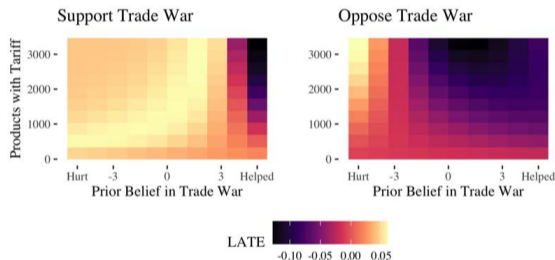


Figure 6: Histogram of Respondent's Industry Products with Tariffs

Both Logical and Puzzling Findings!

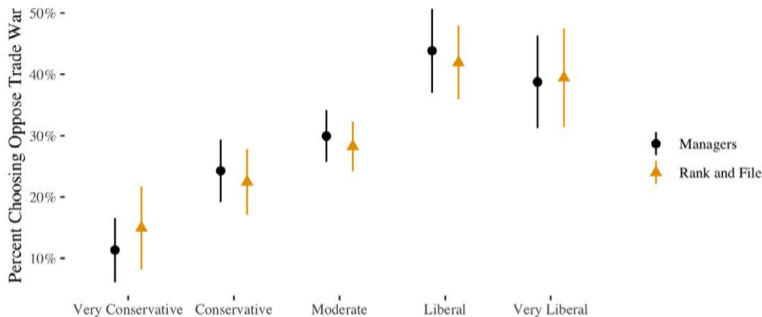


- If managers believed the trade war extremely *hurt* them, more tariffs \uparrow opposition. ✓
- If managers believed the trade war extremely *helped* them, more tariffs \downarrow support. ✓
- For most managers with middling beliefs, more tariffs \downarrow opposition.

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.