Political Messaging and Voter Learning: the case of the WTO

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Abstract

We study selective sharing of WTO news by politicians. The state of the world is either that US sovereignty is under threat or not, and news from the WTO serves as partially informative private signals to politician about the state of the world. Politicians are either nationalists or globalists and voters want to elect politicians who will enact policy consistent with the true state of the world. Politicians types are fixed and state independent, and they selectively share WTO signals that will convince voters of the state of the world that supports their policy stance. In equilibrium, politicians share only information consistent with their preferred state, and suppress information inconsistent with their preferred state. We examine all news items issued by the WTO and all statements issued by politicians between 1992 and 2020. We show that representatives that vote less frequently for trade agreements, and receive more funding from anti-trade PACs, are more likely to make statements when news arrives from the WTO suggesting more positive selective sharing as anti-trade PAC contributions increase. These patterns are not statistically significant for the Senate. Democrats generally suppress WTO news more relative to Republicans, but Democrats' WTO news sharing response to both pro- or anti- trade PAC contributions are more pronounced than that of Republicans. The WTO news topic generating the most positive selective sharing from both pro- and anti-trade PAC recipients is Dispute Settlement, while Trade in Services and Gender and Trade have positive selective sharing for anti-trade PAC recipients and negative selectivity for pro-trade PAC recipients, suggesting suppression of information on these topics by pro-trade PAC recipients.

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1. Introduction

In an era defined by information overload and media bias, understanding how voters learn from news and form beliefs is crucial (Allcott and Gentzkow 2017; Angelucci and Prat 2024). In this paper, we examine the dynamics of voter learning from news through the lens of political messaging, using the World Trade Organization (WTO) as a case study. We explore how politicians strategically communicate information about the WTO to shape voter beliefs, focusing on the interplay between international affairs and politicians' domestic political objectives.

To gain leverage on this topic, we formalize a voter learning model (based on Bowen, Dmitriev, and Galperti (2023)) which captures the incentives for politicians to send messages about the WTO. The model has two politicians, a Nationalist and a Globalist, who strategically share information with voters about the WTO. Politicians receive private signals about the state of the world, and then strategically choose whether to share these signals with voters. We show that, in equilibrium, politicians share only information consistent with their preferred state and suppress information inconsistent with their preferred state. Supported by the theoretical predictions of our model, our paper sheds light on the strategic use of information in political discourse and contributes to a broader understanding of voter learning in the context of international affairs.

To empirically evaluate the model, we leverage machine learning techniques and a novel dataset to analyze the strategic communication of political actors. Drawing from the WTO's website, which contains a comprehensive archive of WTO "news and events," we compiled a new dataset of over 5,600 WTO news items from 1997 to 2023, categorized into 32 topic areas using natural language processing (NLP) tools. We then link this dataset to political messages from members of the U.S. Congress, drawing data on politician messaging from the VoxGov interface. VoxGov aggregates over 75 million federal government documents and media items, including social media posts from members of Congress. By connecting WTO news to Congressional social media activity, we provide insights into how politicians selectively message about international events.

The WTO offers several clear advantages as a case study for analyzing political messaging. The first is data availability: the WTO provides extensive, transparent information on its website for all news and events that emanated from the organization from its founding in 1995 to the present. From it, we create a new, comprehensive dataset on WTO news items and link it to a comprehensive dataset on social media messaging by members of Congress, thereby contributing valuable data to the field. A crucial research design advantage is that the WTO is an international organization that operates by a consensus rule, which means it lacks a specific U.S. political agenda. This neutrality allows us to analyze how politicians selectively engage with WTO news free from the biases that arise when the news source itself has a distinct political agenda. In this way, the WTO case study can illuminate general patterns of political communication and voter learning about international affairs.

2. Model

We present a stylized model of voter learning based on Bowen, Dmitriev, and Galperti (2023), to capture the motivations for politicians' messages about the WTO. Time is discrete and finite $t = 0, \ldots, T$, and a continuum of voters $j \in [0, 1]$ vote at time T for a politician.

Politicians There are two politicians $i \in \{\alpha, \beta\}$. Politician α is a *nationalists* and β is a *globalists*. Nationalist politicians always prefer to enact isolationist policies, such as raising trade barriers, increasing domestic production, expanding the military, etc. Globalist politicians always prefer to enact policies to increase global integration and cooperation, such as promoting trade agreements. Once elected, a politician will enact a policy $x \in \{x_\alpha, x_\beta\}$, where policy x_α is preferred by nationalists and serves to weaken the WTO, while policy x_β is preferred by globalists and serves to strengthen the WTO. Politicians' are assumed to be influenced by special interests—payoff depend on campaign contributions or the revolving door so they are policy- rather than office-motivated. Their types are fixed and public information to politicians and voters. Once elected, a politician receives a payoff of 0 if their preferred policy is enacted and -1 otherwise.

Voters Voters are also policy-motivated and policy enacted that is consistent with the true state of the world $\omega \in \{A, B\}$. The state of the world is either that the WTO threatens US sovereignty ($\omega = A$), or does not threaten US sovereignty ($\omega = B$). The Nationalist's policies x_α are beneficial to the voter when the true state of the world is that US sovereignty is under threat. The Globalist's policies x_β are beneficial to the voter if the state of the world is that US sovereignty is not under threat. More specifically, voter j's payoff when policy x is implemented is

$$u_j(x) = -(x - y(\omega))^2,$$

where $x_\alpha = 1$, $x_\beta = 0$, $y(A) = 1$, and $y(B) = 0$. Thus voters wish to match enacted policy with the correct state of the world. Denote voter j's vote by $v_j \in \{0, 1\}$, where $v_j = 1$ is a vote for party α, and $v_j = 0$ is a vote for party β.

Information Events at the WTO in period t serve as partially informative signals $s_t \in \{a, b, 0\}$ that the state is either A or B, i.e., that the WTO is a threat to US sovereignty or not. Events that require changes to US domestic policy $s_t = a$ are partially informative that sovereignty is under threat from the WTO, while other events $s_t = b$ are partially informative that the WTO is not a threat. No news is indicated by $s_t = 0$. We assume that parties observe the signal because staff or special interests alert them to relevant events. However voters do not see the signal because it is too costly to pay attention to WTO news, or they are unaware of how to access it.

We assume that the arrival of signals are i.i.d. across time. Specifically, with probability $\gamma \in (0, 1]$ politician i observes WTO news in period t, and with probability $1 - \gamma$ no news is

observed. Conditional on observing news,

$$\begin{aligned} \Pr(s_{it} = a \mid \omega = A) &= \Pr(s_{it} = b \mid \omega = B) = q, \\ \Pr(s_{it} = b \mid \omega = A) &= \Pr(s_{it} = a \mid \omega = B) = 1 - q, \end{aligned} \tag{1}$$

where $\frac{1}{2} < q < 1$ so that the signals are informative about the state of the world.[1]

Politician messaging After receiving a signal s_{it}, each politician chooses to convey the signal to all voters $j \in [0, 1]$ through public messages, or stays silent. Examples of messages are Tweets, Facebook posts, press releases, or statements at rallies. We denote message from politician i in period t by m_{it}. Note that message m_{it} is verifiable, so signals cannot be fabricated, only omitted by staying silent. The assumption is that WTO *events* cannot be fabricated, even if politicians can convey the messages with a negative tone. More formally, denote the message space by $M = \{-1, 0, 1\}$. Message 1 means that an a-signal was shared, message -1 means that a b-signal was shared and message 0 means that no signal was shared (or silence). If no event signal is received, no message can be shared, i.e., a message cannot be shared about a non-existent event. Thus, message $m_{it} = 0$ can result either because i received no signal, or i received a signal, but decided not to share. Importantly, we assume that voters cannot distinguish between these two events. We assume that delivering a message (or not) about a WTO event can be done without economic cost to the politician.

Learning Voters have heterogeneous priors π_j that the state is A, so there is a distribution of beliefs in society that the WTO threatens sovereignty. Beliefs of parties do not affect decision-making given that their preferences are state-independent, so they are ignored. Let $m_t = (m_{\alpha t}, m_{\beta t})$ be the profile of messages that voters receive in period t, and $\mathbf{m}_t = \{m_s\}_{s=1}^{t}$ is the sequence of messages received up to period t. After t rounds of sharing, voter j has posterior belief $\mu_{jt}(\mathbf{m}_t)$ that depends on message sequence $\mathbf{m}_t$. Each period $t \in \{1, \ldots, T\}$ signals are received, messaging occurs and beliefs are updated. After sharing at the end of period T, policy is enacted by the winning party, and payoffs are received by voters and politicians after policy is enacted. Voters thus aim to infer the state of the world from politician messaging, so that they can elect the candidate at date T who will enact the most suitable policy, i.e., the policy that matches the expected state.

3. Equilibrium

We consider Bayes' Perfect Equilibrium and solve by backward induction. Politicians are purely policy-motivated, so if politician i is elected in period T they enact their most preferred policy x_i in equilibrium. No voter is pivotal, thus we assume they vote sincerely in equilibrium, i.e.,

[1] This signal structure is based on Dye (1985) and ensures signals are not immediately unraveled by Bayesian agents.

they vote for the party that will enact policy consistent with their belief about the state. Thus, if $\mu_{jT} > \frac{1}{2}$, then voter j votes for party α, and if $\mu_{jT} < \frac{1}{2}$, then voter j votes for party β. If $\mu_{jT} = \frac{1}{2}$ then voters randomize and vote for either party with probability $1/2$. Each period t, after politicians' messages are observed, voters' update their beliefs via Bayes' rule.

3.1. Politician Messaging Strategy

We assume each party's messaging strategy is time-homogeneous. A (mixed) messaging strategy for party i is denoted $\sigma_i : \{a, b\} \to [0, 1]^2$. Conditional on signal a or b, party i will assign probabilities (σ_i^a, σ_i^b) to reporting the signal. Since no signal requires silence by assumption, it is omitted from party strategies. Reporting probabilities (σ_i^a, σ_i^b) will be best responses to the voters' voting strategies. The equilibrium messaging strategy is summarized in Proposition 1.

Proposition 1 (Selective Messaging). *There is an equilibrium in weakly dominant strategies where party α reports the signal with probability 1 if and only if an a-signal is received, and party β reports the signal with probability 1 if and only if a b-signal is received. In all other events, parties do not send a message. Formally,*

$$\sigma_\alpha^a = 1 \qquad \sigma_\beta^a = 0$$
$$\sigma_\alpha^b = 0 \qquad \sigma_\beta^b = 1.$$

The proof of Proposition 1 follows from Bowen, Dmitriev, Galperti (2022), Appendix D.

Proposition 2 (Comparative Statics). *When T is finite, expected votes for party α increases with the realized number of a- signals received by party α and decreases with the realized number of b- signals received by party β before the election at period T.*

The empirical analysis focuses on testing Proposition 1.

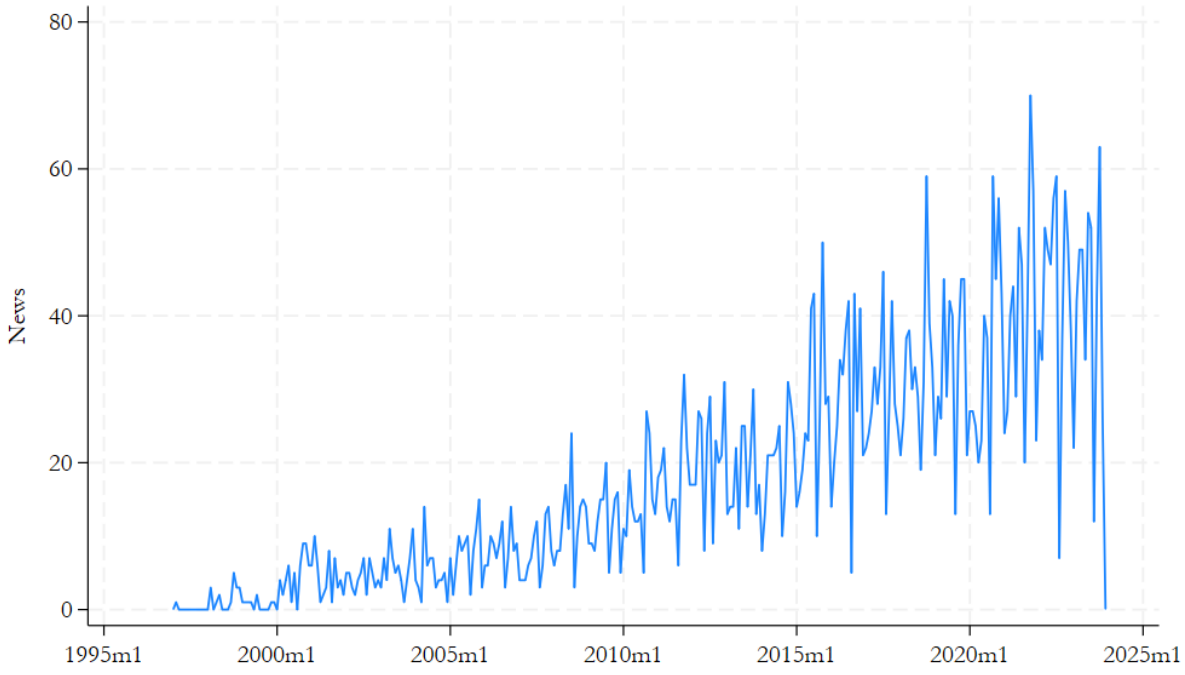
4. Data

4.1. WTO news signals

4.1.1. WTO data collection

To collect news publications from the WTO, we developed a web crawler using Python's Selenium package to archive all content from the WTO's *News and Events* section. As of January 2024, the crawler extracted 10,110 unique URLs, encompassing textual, audio, and video content. We filtered English-language content using SpaCy's language detection and identified news articles by selecting URLs containing `"news_e/news"`. For further analysis, we retained only articles with complete date formats (day, month, and year). The final dataset comprises 8,926 English-language articles published between 1991 and 2023, with each entry including the title, date, abstract, and full content. Of these, 5,639 are news articles, while 2,657 fall into the non-news category.

Figure 1 shows the time series for the news articles published by the WTO. Roughly, the WTO has published at least one article every month since the early 2000's. The figure also highlights the seasonality of news, with less news being published in August and during winter months.



Notes: Own calculations based on data from the WTO.

Figure 1. *Monthly news issued by WTO*

4.1.2. WTO Topic Classification

To enhance efficiency and ensure all news articles are categorized into meaningful topics, we applied Non-negative Matrix Factorization (NMF) to extract coherent themes from the dataset. Originally introduced by Lee and Seung (1999), NMF is a widely used dimensionality reduction technique in text mining and topic modeling. This unsupervised learning algorithm factorizes a given non-negative matrix V into two lower-rank non-negative matrices, W and H, such that:

$$V \approx WH$$

where:

- V is the original $m \times n$ data matrix, representing the dataset to be classified.
- W is an $m \times k$ topic-term matrix, where each column defines a topic as a weighted distribution of words.
- H is a $k \times n$ document-topic matrix, where each column represents a document as a

weighted combination of topics. The parameter k denotes the number of latent topics extracted.

By requiring all values in W and H to be non-negative ($W \geq 0$ and $H \geq 0$), NMF ensures that topics are formed using only additive combinations of words rather than complex subtractions. This makes the resulting topics more interpretable, as the dataset is decomposed into meaningful components that align more naturally with the structure of language. Given that NMF directly relies on factorization rather than probabilistic inference (as in Latent Dirichlet allocation; LDA), it reduces computational overhead and converges more quickly. This enables it to scale well with large datasets, making it a more efficient choice for high-dimensional text analysis.

To determine the optimal number of topics (k), we calculated coherence, diversity, and reconstruction error, then took their average as a combined score. **Coherence** measures how semantically related the top words in a topic are, ensuring interpretability. **Diversity** evaluates how distinct the topics are from one another, preventing redundancy. **Reconstruction error** quantifies the difference between the original data and its approximation by NMF, reflecting how well the model captures the underlying structure. A higher combined score indicates a balance between topic interpretability, distinctiveness, and accurate data representation, making it a reliable criterion for selecting k.

Figure 2 presents the scores for different topic numbers (k) ranging from 30 to 50. The experiment identified $k = 46$ as the optimal number of topics for modeling.

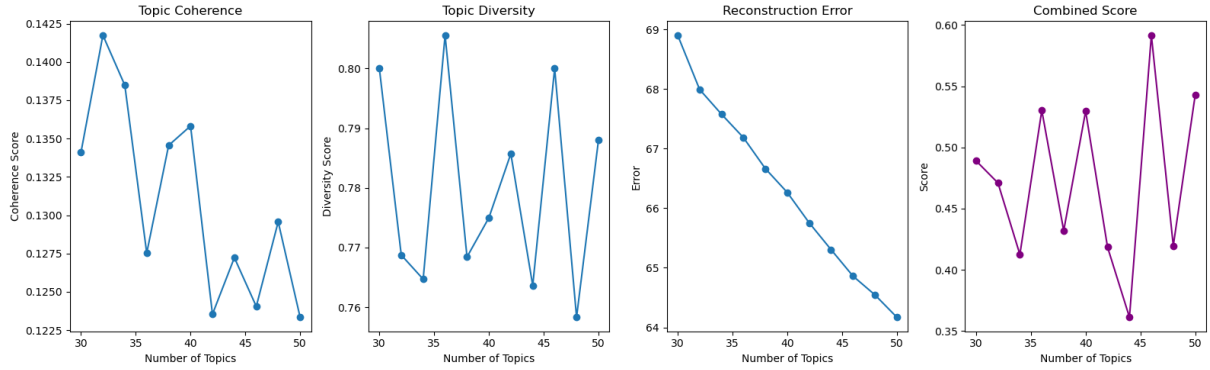


Figure 2. *Evaluation scores for different values of k in topic modeling.*

4.1.3. Result of Topic Modeling for the WTO

The algorithm generates topic representations using five keywords for each topic. To enhance interpretability, we used ChatGPT to automatically suggest topic names based on these keywords. As a result, we identified 46 topics, as listed below:

1. China and Global Trade Relations
2. Growth and Export Performance
3. Workplace Negotiations and Issues

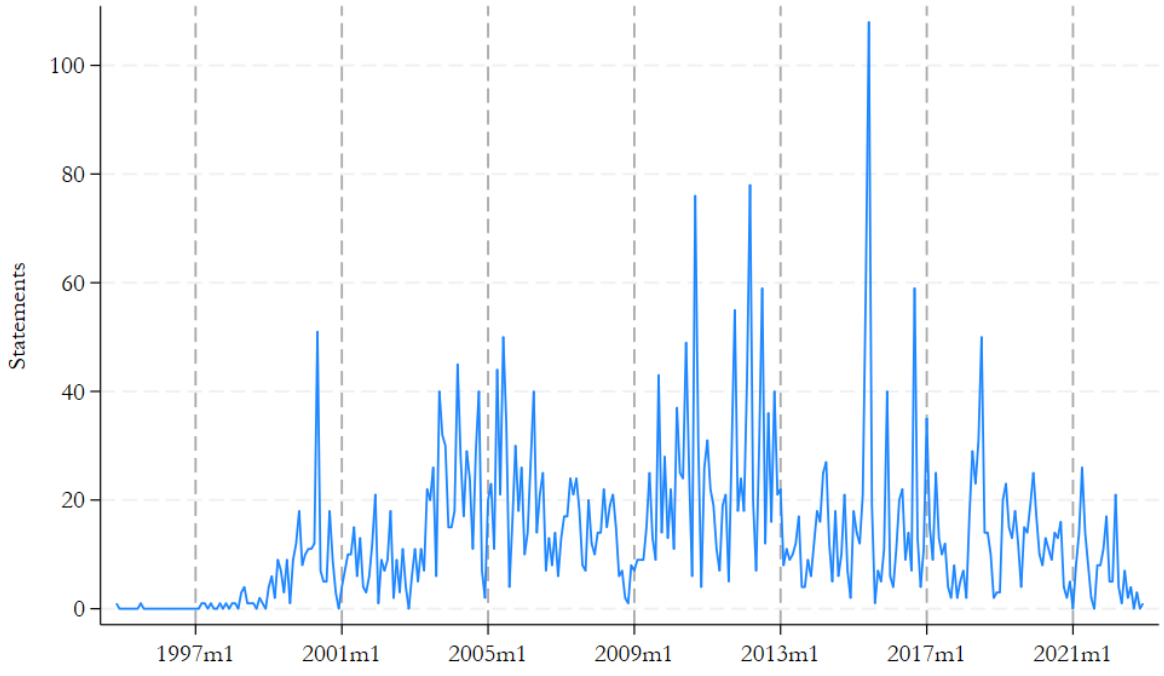
4. Health and Animal Standards
5. Cotton and Agricultural Support
6. Annex and Legal Documents
7. Intellectual Property and TRIPS
8. Public Forums and Sessions
9. WTO and Member Organizations
10. European Union and Political Concerns
11. WTO Member Reviews and Tariffs
12. Training and WTO Participation
13. LDCs and Preferential Trade Programs
14. University Research and Academia
15. Food Security and Agricultural Exports
16. Ministers and Government Titles
17. Azevêdo and WTO Leadership
18. Safeguard Investigations and Disputes
19. WTO Member Meetings and Reviews
20. Business and MSME Growth
21. Aid and Trade Development
22. Council Decisions and WTO Committees
23. WTO Accession and Membership
24. Government Procurement and Agreements
25. Fishery Subsidies and Negotiations
26. Meeting Notices and Proposals
27. Global Trade and World Economy
28. Policy Reviews and Reports
29. GATS and Service Sector Negotiations
30. Report on Restrictive Measures
31. TBT Notifications and SPS Concerns
32. Plastic Waste and Environmental Dialogues
33. Trade Facilitation and Development
34. Dispute Consultations and Requests
35. Panel Reports and Findings
36. Gender, Trade, and Women's Research
37. EIF and Donor Support Projects
38. Appellate Body and Dispute Appeals
39. COVID-19, Pandemic, and Vaccine Distribution
40. International Trade and Ministry Facilitation
41. Fundraising and Development Projects

42. Tariffs and Technology Agreements
43. DSB Panels and Dispute Requests
44. WTO Chairman Reports and Statements
45. Climate Change and Environmental Issues
46. Economic Policy, Trade, and Investment Reforms

4.2. Politician messaging about WTO news

We use data from VoxGov to collect statements from politicians regarding the WTO. The raw data contains over 72,000 statements mentioning the WTO from more than 2,000 politicians, offices or agencies in the U.S. between 1994 and 2022. We limit our analysis to members of Congress during their time in office since they are salient political actors and we have data to categorize them by "politician type", as we describe in the next section. This gives us a dataset with nearly 6,000 statements from 1,379 Congress members. Nearly 75% of the statements were shared through traditional channels (e.g. Press releases, news or speeches) and 25% through social media (e.g. YouTube, Facebook and Twitter).

Figure 3 plots the number of statements per month from members of Congress while in office. We can observe multiple spikes during high discussion periods, such as China's accession to the WTO in May 2000, disputes with China about currency manipulation and the auto industry in 2010 and 2012, and debates on the Trade Promotion Authority (TPA) in June 2015.

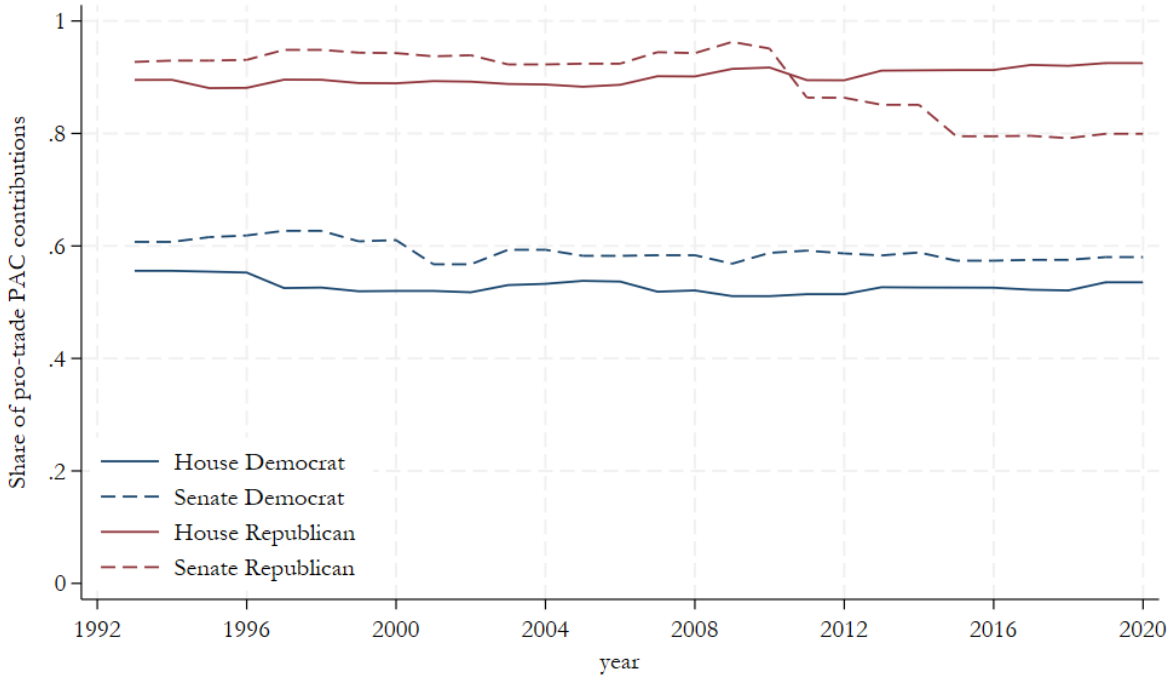


Notes: Own calculations based on data from VoxGov.

Figure 3. *Monthly statements from in-office Congress members about the WTO*

4.3. Classification of politician type

We use total PAC contributions that Congress members ever received from pro-trade and anti-trade groups as a measure for their trade inclination. We also consider other proxies such as their share of pro-trade votes for trade bills, and a binary variable constructed by Kim and Osgood (2019). Figure 4 shows the average share of pro-trade PAC contributions that in-office Congress members ever received by Party and Chamber.[2] Democrats have received a larger share of PAC contributions from anti-trade groups than Republicans, specially in the House. Although these patterns appear relatively stable over time, Republicans in the Senate have started receiving more contributions from anti-trade groups since 2010.



Notes: The graph displays the average share of pro-trade PAC contributions across in-office Congress members. PAC contributions are the total a congress member ever received from either pro- or anti-trade groups. Data from Kim and Osgood (2019).

Figure 4. *Share of pro-trade PAC contributions, by party and chamber*

5. Empirical Analysis

To shed some light on how politicians react to new information, we use a two-way fixed effect model where we regress the probability a politician p issues a statement in week t on the interaction between the number of news articles the WTO posted that week and a measure of the politician's trade inclination ($Trade_p$). As usual, we control for politician time-invariant

[2]Because the data is only available at the politician level and doesn't vary over time, we show shares rather than total PAC contributions.

characteristics and week fixed effects, as shown in equation 2.

$$\mathbf{1}\left[Statement_{pt}\right] = \beta_0 + \beta_1 News_t \times Trade_p + \gamma_p + \gamma_t + \epsilon_{pt} \tag{2}$$

Table 1 estimates these regressions for the full congress and for each chamber separately. Surprisingly, we observe that the probability a politician issues a statement with an additional WTO news does not change with higher PAC contributions from pro-trade groups, but is increasing in the amount of PAC contributions from anti-trade groups. In particular, among politicians from both houses, receiving an additional million dollars from an anti-trade group increases the probability a politician issues a statement by 0.002 standard deviations with every additional news he or she observes (table 1, Col 3).

Table 1. *Politician's reaction to WTO news according to PAC contributions*

	Full Congress			Senate			House		
Dep. Var.: 1[Statements$_{it}$]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
News$_t$ × pro-trade PAC$_i$ ($M)	-0.000		-0.000	-0.000		-0.000	0.000		0.000
	(0.000)		(0.000)	(0.001)		(0.001)	(0.000)		(0.000)
News$_t$ × anti-trade PAC$_i$ ($M)		0.002***	0.002***		-0.000	-0.000		0.004***	0.004***
		(0.001)	(0.001)		(0.001)	(0.001)		(0.001)	(0.001)
N	665,587	665,587	665,587	129,467	129,467	129,467	536,120	536,120	536,120
Adjusted R^2	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.03
Politician FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: Regressions at the politician-week level. Dependent variable is normalized to have mean 0 and standard deviation of 1. PAC contributions are in millions of dollars, according to Kim and Osgood (2019). * p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.

In the Appendix, we explore politicians' reactions using alternative measures of pro- and anti-trade fondness (table 4). Overall, we observe that more anti-trade politicians are more likely to issue news statements mentioning the WTO following news from this organization, while this is not the case for more pro-trade congress members. However, this reaction is only present among House representatives; Senators don't seem to react differentially to more news from the WTO.

Is the differential reaction to news by pro and anti-trade PAC contributions simply reflecting behavior along party lines? As seen in figure 4, Democrats tend to receive a larger share of anti-trade PAC contributions than Republicans, so it could just be that Democrats are more vocal surrounding events at the WTO. Table 2 explores this by studying reactions to news by each politician's party affiliation and it's interaction with PAC contributions. Democrats tend to issue more statements than Republicans following news events (Col 1) but, once we account for the amount of pro- and anti-trade PAC contributions (Col 2), we see that it is not Democrats who issue more statements, but those that receive more anti-trade PAC contributions. Digging further into this pattern, we find that Democrats tend to make less statements than Republicans, but they increase them with each anti-trade PAC contributions they receive (Col 3). As seen before, the differential reaction of politicians is only present among House representatives and not Senators.

Table 2. *Politician's reaction to WTO news according to PAC contributions*

	Full Congress			Senate			House		
Dep. Var.: 1[Statements$_{it}$]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
News$_t$ × Democrat$_i$	0.002**	0.001	-0.004**	-0.001	-0.001	0.001	0.003***	-0.001	-0.005**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.004)	(0.001)	(0.001)	(0.002)
News$_t$ × pro-trade PAC$_i$ ($M)		-0.000	-0.000		-0.001	-0.000		-0.000	-0.001
		(0.000)	(0.000)		(0.001)	(0.001)		(0.000)	(0.001)
News$_t$ × anti-trade PAC$_i$ ($M)		0.002**	0.000		-0.000	-0.000		0.005***	0.000
		(0.001)	(0.001)		(0.001)	(0.000)		(0.002)	(0.002)
News$_t$ × Democrat$_i$ × pro-trade PAC$_i$			0.000			-0.001			0.002*
			(0.001)			(0.002)			(0.001)
News$_t$ × Democrat$_i$ × anti-trade PAC$_i$			0.006***			-0.000			0.006*
			(0.002)			(0.002)			(0.003)
N	662,885	662,885	662,885	128,117	128,117	128,117	534,768	534,768	534,768
Adjusted R^2	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.03
Politician FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: Regressions at the politician-week level. Dependent variable is normalized to have mean 0 and standard deviation of 1. PAC contributions are in millions of dollars, according to Kim and Osgood (2019). * p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.

5.1. Reactions by news topic

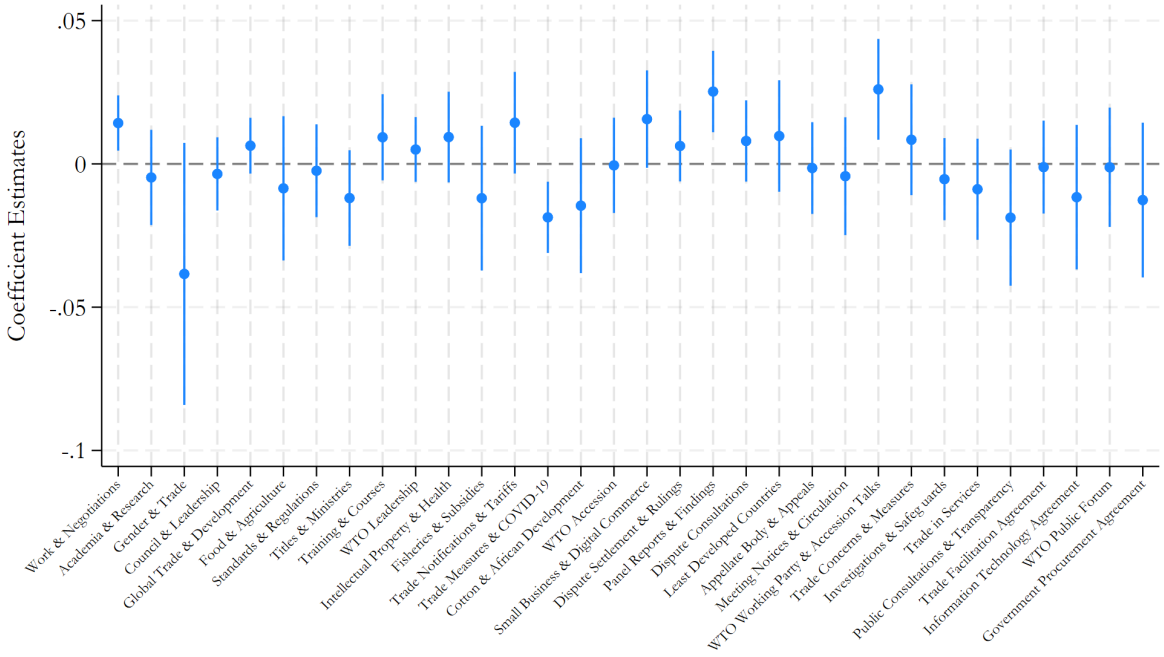
We now analyze how politicians react differently to individual news topics, as classified according to the methodology described in subsection 4.1. For this purpose, we estimate a new regression where we include the interaction of all individual news topics in a given week with a trade inclination measure of the politician, as described by equation 3.

$$\mathbf{1}\left[Statement_{pt}\right] = \beta_0 + \sum_j \left(\beta_j News_{jt} \times Trade_p\right) + \gamma_p + \gamma_t + \epsilon_{jpt} \tag{3}$$

Is there a differential reaction to the topics discussed by the WTO across party lines? We shed light on this question by estimating equation 3 using Democrat party affiliation in the interaction term (and Republican as the leave-out category). Figure 5 shows that Democrats are nearly 0.02 standard deviations more likely to issue a statement compared to Republicans when an additional news comes out related to "Work & Negotiations", "Panel Reports" or "Accession Talks". Meanwhile, Republicans are more likely to issue a statement following a news related to "Trade Measures & COVID-19". Figures 7 and 8 in the Appendix show the results for members of the Senate and the House, respectively. Again, most of the action comes from members of House, while senators only differentially react to "Trade Measures & COVID-19".

[**SCC:** I guess the point is discussing how these results align or not with the theory predictions]

We now turn to ask whether there is a differential reaction to topics discussed by the WTO according to PAC contributions. We estimate equation **??** using an interaction with news topic



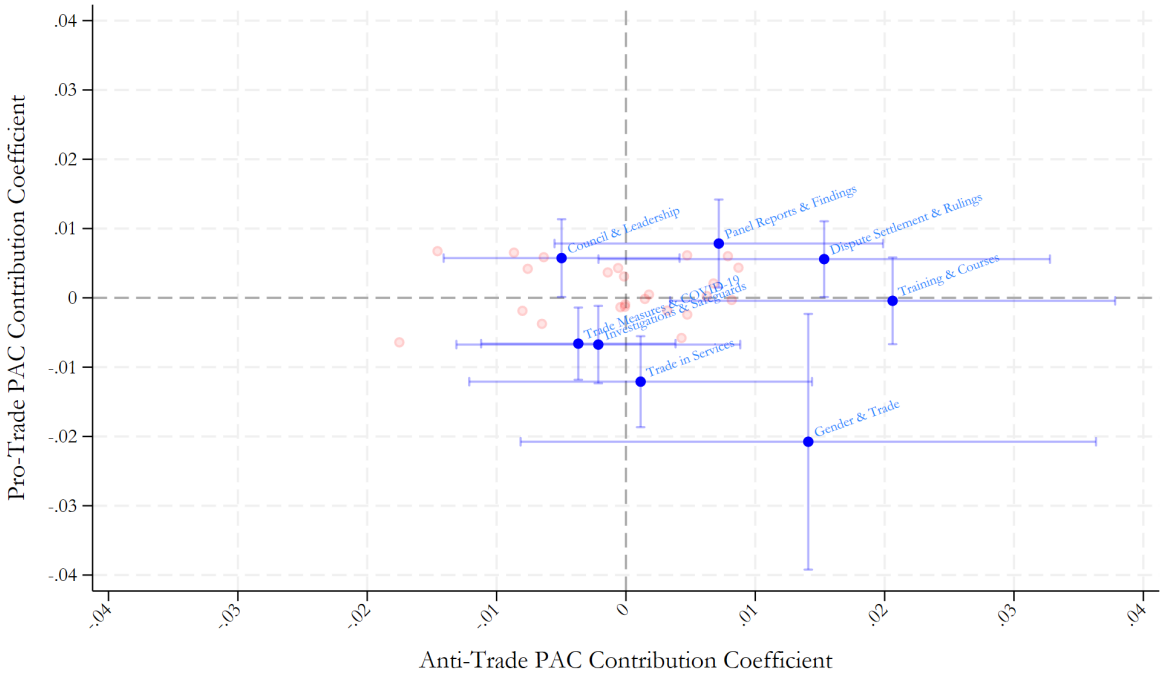
Notes: The graph shows estimates from equation 3 using $Trade_p = Democrat_p$ and shows how Democrats differentially react to news topics compared to Republicans. Lines represent the 95% confidence intervals from robust standard errors.

Figure 5. *Reactions to news topics by Democrats relative to Republicans*

for both pro- and anti-trade PAC contributions.[3] Figure 5 plots the coefficients for each news topic, showing the coefficient for the interaction with pro-trade PAC contributions on the y-axis and anti-trade PAC contributions on the x-axis. Topics that have statistically significant point estimates for at least one of the two interactions with the PAC contributions are displayed in blue with their confidence intervals. At the 95% significance level, we see that more anti-trade PAC contributions only increase reactions to news from "Training & Courses". However, an additional million of dollars in PAC contributions from pro-trade groups increases the probability a statement is issued following news on "Council & Leadership", "Panel Reports" and "Dispute Settlements", while it decreases the probability following news on "Trade Measures & COVID-19", "Investigations & Safeguards", "Trade in Services" and "Gender & Trade". Figures 7 and 8 in the appendix show the results for members of the Senate and the House, respectively.

[3] Concretely, the equation we estimate is

$$\mathbf{1}\left[Statement_{pt}\right] = \beta_0 + \sum_j \left(\beta_{j1} News_{jt} \times ProTradePAC_p + \beta_{j2} News_{jt} \times AntiTradePAC_p\right) + \gamma_p + \gamma_t + \epsilon_{jpt}$$



Notes: The graph plots the coefficients from estimating $\mathbf{1}[Statement_{pt}] = \beta_0 + \sum_j (\beta_{j1} News_{jt} \times ProTradePAC_p + \beta_{j2} News_{jt} \times AntiTradePAC_p) + \gamma_p + \gamma_t + \epsilon_{jpt}$. Each dot is a news topic and the y-axis represents the coefficient for the interaction with pro-trade PAC contributions, while the x-axis does so for anti-trade PAC contributions, both in millions of dollars. Coefficients in blue are significant for the interaction with either one of the PAC contributions and the lines represent the 95% confidence intervals from robust standard errors (vertical: pro-trade; horizontal: anti-trade). Coefficients in red are not significant for either interaction.

Figure 6. *Reactions to news topics by pro- and anti-trade PAC contributions*

References

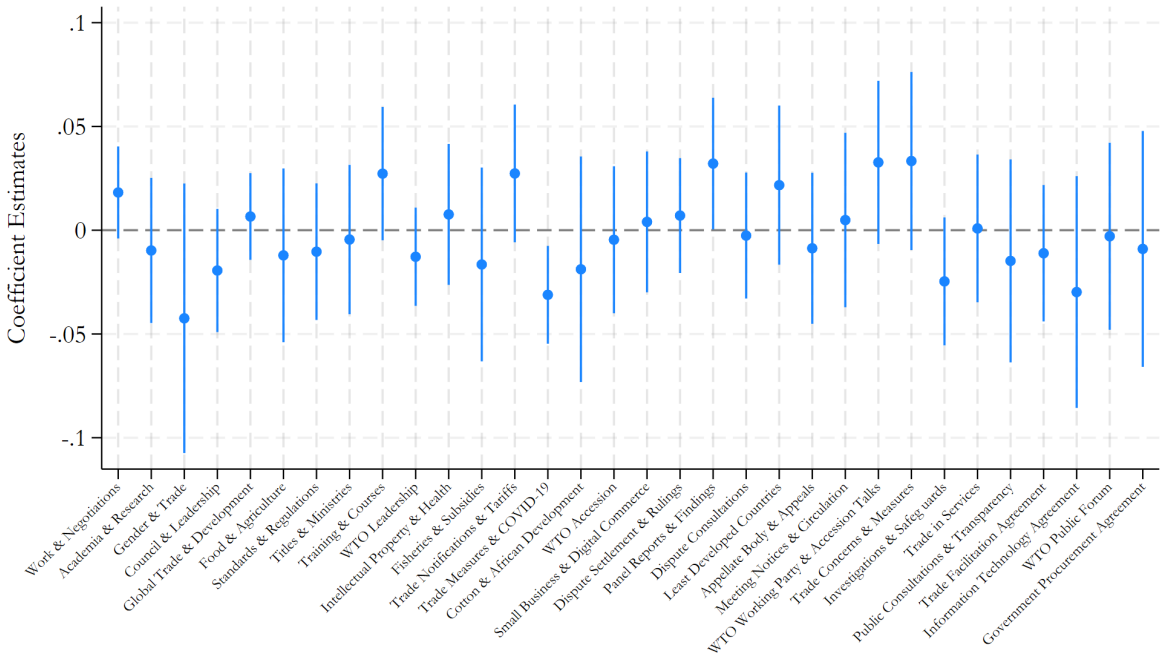
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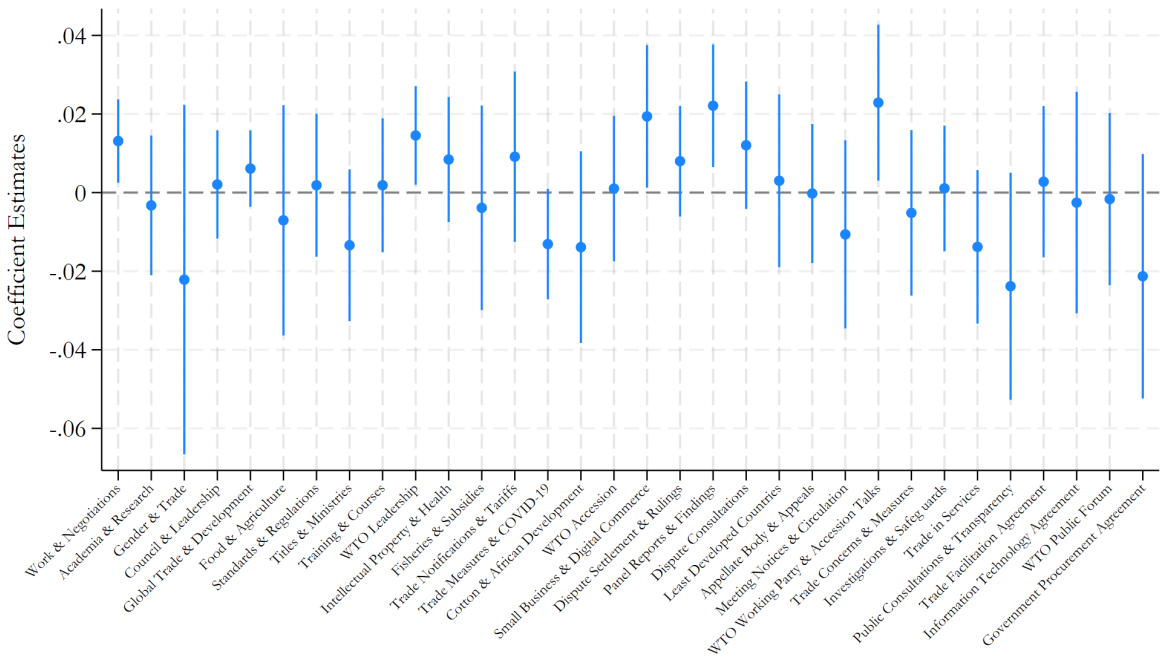
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6. Data Appendix



Notes: The graph shows estimates from equation 3 using $Trade_p = Democrat_p$ and shows how Democrats differentially react to news topics compared to Republicans. Lines represent the 95% confidence intervals from robust standard errors.

Figure 7. *Reactions to news topics by Democrats relative to Republicans in Senate*



Notes: The graph shows estimates from equation 3 using $Trade_p = Democrat_p$ and shows how Democrats differentially react to news topics compared to Republicans. Lines represent the 95% confidence intervals from robust standard errors.

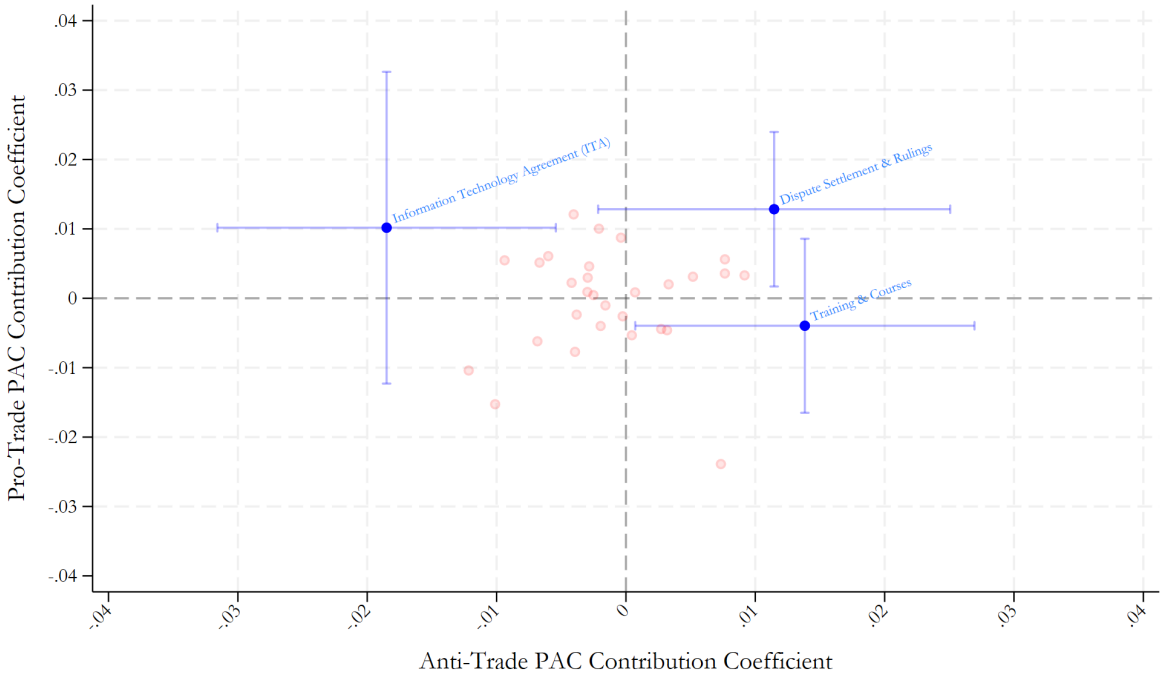
Figure 8. *Reactions to news topics by Democrats relative to Republicans in House*

Topic Representation	Suggested Name
Topic 0: china, chinese, states, united, hong	China and Global Trade Relations
Topic 1: growth, merchandise, export, quarter, cent	Growth and Export Performance
Topic 2: work, doha, negotiation, round, issue	Workplace Negotiations and Issues
Topic 3: stdf, sps, health, animal, standard	Health and Animal Standards
Topic 4: cotton, agriculture, african, country, support	Cotton and Agricultural Support
Topic 5: kb, page, annex, ab, ii	Annex and Legal Documents
Topic 6: trips, property, intellectual, ip, health	Intellectual Property and TRIPS
Topic 7: forum, public, session, participant, org	Public Forums and Sessions
Topic 8: wto, member, organization, information, centre	WTO and Member Organizations
Topic 9: eu, say, concern, european, union	European Union and Political Concerns
Topic 10: member, review, tariff, delegation, encourage	WTO Member Reviews and Tariffs
Topic 11: course, participant, training, wto, official	Training and WTO Participation
Topic 12: ldc, ldcs, origin, programme, preferential	LDCs and Preferential Trade Programs
Topic 13: university, research, chairs, academic, paper	University Research and Academia
Topic 14: food, agriculture, security, agricultural, export	Food Security and Agricultural Exports
Topic 15: mr, mrs, miss, ms, ministry	Ministers and Government Titles
Topic 16: azevêdo, director, general, minister, dg	Azevêdo and WTO Leadership
Topic 17: investigation, safeguard, cause, party, interested	Safeguard Investigations and Disputes
Topic 18: member, text, chair, group, meeting	WTO Member Meetings and Reviews
Topic 19: business, msme, commerce, digital, small	Business and MSME Growth
Topic 20: aid, trade, country, development, develop	Aid and Trade Development
Topic 21: council, general, committee, decision, trips	Council Decisions and WTO Committees
Topic 22: accession, party, working, wto, membership	WTO Accession and Membership
Topic 23: gpa, procurement, agreement, government, party	Government Procurement and Agreements
Topic 24: subsidy, fishery, agreement, subsidies, negotiation	Fishery Subsidies and Negotiations
Topic 25: notice, item, circulate, propose, meeting	Meeting Notices and Proposals
Topic 26: world, global, country, trading, rule	Global Trade and World Economy
Topic 27: report, review, policy, meeting, secretariat	Policy Reviews and Reports
Topic 28: service, services, gats, sector, negotiation	GATS and Service Sector Negotiations
Topic 29: measure, report, restrictive, period, mid	Report on Restrictive Measures
Topic 30: committee, tbt, notification, concern,	TBT Notifications and SPS Concerns

Table 4. *Alternative measures of trade-fondness*

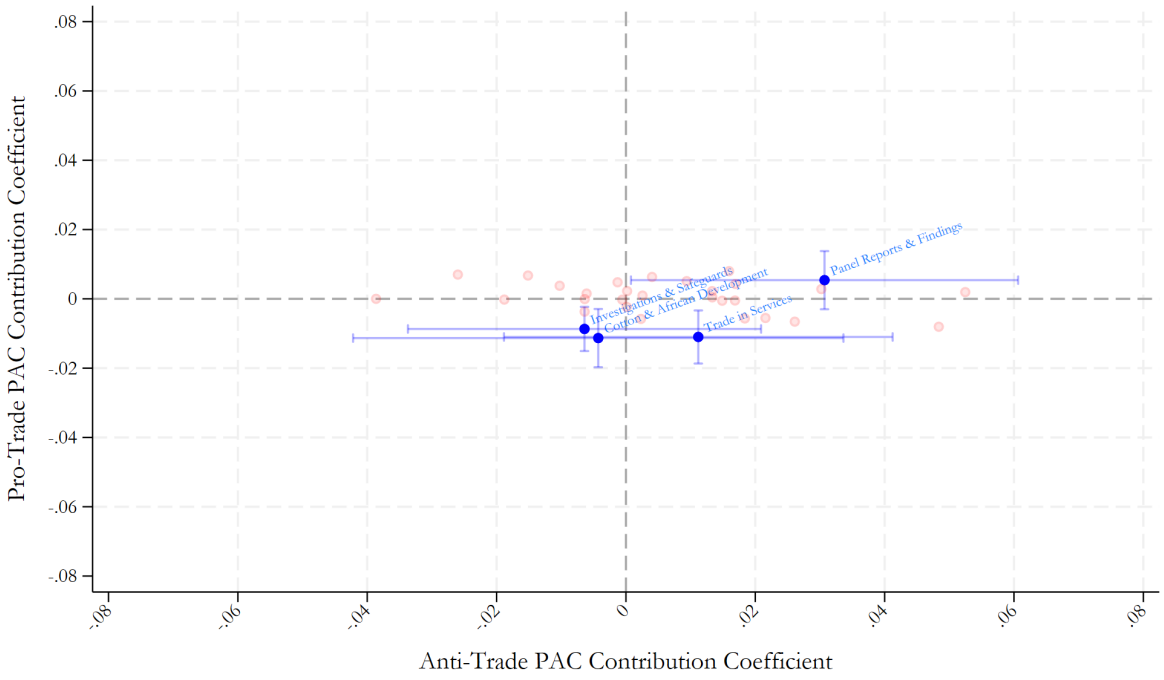
	Full Congress							Senate							House						
Dep. Var.: 1[Statements$_{it}$]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
News$_t$ × votes_pt_share	0.003							0.007							-0.002						
	(0.003)							(0.005)							(0.003)						
News$_t$ × fta_votes_pt_share		-0.003							0.004							-0.004**					
		(0.002)							(0.003)							(0.002)					
News$_t$ × pac_protrade			-0.000							-0.000							0.000				
			(0.000)							(0.001)							(0.000)				
News$_t$ × pac_antitrade				0.002***							-0.000							0.004***			
				(0.001)							(0.001)							(0.001)			
News$_t$ × pac_antitrade_union					0.002***							-0.000							0.005***		
					(0.001)							(0.001)							(0.001)		
News$_t$ × pac_antitrade_nonunion						0.005**							-0.001							0.010	
						(0.002)							(0.002)							(0.007)	
News$_t$ × nationalist							-0.000							-0.003*							0.002**
							(0.001)							(0.002)							(0.001)
N	665,587	577,057	665,587	665,587	665,587	665,587	665,587	129,467	114,465	129,467	129,467	129,467	129,467	129,467	536,120	462,592	536,120	536,120	536,120	536,120	536,120
Adjusted R^2	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Politician FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: Regressions at the politician-week level. Dependent variable is normalized to have mean 0 and standard deviation of 1. PAC contributions are in millions of dollars. Votes, PAC contributions and nationalist measure come from Kim and Osgood (2019). * p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.



Notes: The graph plots the coefficients from estimating $\mathbf{1}[Statement_{pt}] = \beta_0 + \sum_j (\beta_{j1} News_{jt} \times ProTradePAC_p + \beta_{j2} News_{jt} \times AntiTradePAC_p) + \gamma_p + \gamma_t + \epsilon_{jpt}$. Each dot is a news topic and the y-axis represents the coefficient for the interaction with pro-trade PAC contributions, while the x-axis does so for anti-trade PAC contributions, both in millions of dollars. Coefficients in blue are significant for the interaction with either one of the PAC contributions and the lines represent the 95% confidence intervals from robust standard errors (vertical: pro-trade; horizontal: anti-trade). Coefficients in red are not significant for either interaction.

Figure 9. *Reactions to news topics by pro- and anti-trade PAC contributions in Senate*



Notes: The graph plots the coefficients from estimating $\mathbf{1}[Statement_{pt}] = \beta_0 + \sum_j (\beta_{j1} News_{jt} \times ProTradePAC_p + \beta_{j2} News_{jt} \times AntiTradePAC_p) + \gamma_p + \gamma_t + \epsilon_{jpt}$. Each dot is a news topic and the y-axis represents the coefficient for the interaction with pro-trade PAC contributions, while the x-axis does so for anti-trade PAC contributions, both in millions of dollars. Coefficients in blue are significant for the interaction with either one of the PAC contributions and the lines represent the 95% confidence intervals from robust standard errors (vertical: pro-trade; horizontal: anti-trade). Coefficients in red are not significant for either interaction.

Figure 10. *Reactions to news topics by pro- and anti-trade PAC contributions in House*