

Geopolitical Pressure, Consumer Demand, and Corporate Responses

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Motivation

Russia's 2022 invasion of Ukraine placed multinational firms' Russian operations under public scrutiny

- Contrary to many social controversies, the environment was beyond firm's control
- Also, politically bipartisan (at least, at first)
- The Yale CELI list, first published in early March 2022, publicly classified firms as exiting Russia's market or continuing their operations
- This classification helped turn inaction into a public position
- Stakeholders (consumers, investors, social media) amplified the news
- Many firms subsequently withdrew operations from Russia

Research Question

Do firms respond to noisy domestic stakeholder reactions in the presence of geopolitical scrutiny?

- We track multinational firms' decisions to withdraw from Russia after its 2022 invasion of Ukraine
- Link firms' action to withdraw to three stakeholder signals around Yale list and around their own prior announcements:
 - consumer demand
 - public attention
 - stock-market reactions
- Look at the consumer-facing brands that did not face direct sanctions and largely had operational flexibility on whether to continue operations

Data

- **Yale list:** March 8, 2022 public classification of firms as remained or curtailed
- **KSE LeaveRussia:** panel data on withdrawal status for Russia-exposed firms
- **SafeGraph Spend:** anonymized card-based point-of-interest level spending data at U.S. brick-and-mortar locations
 - Restaurants, apparel, retail, grocery/pharmacy, hotels, entertainment, and services
 - Matched to firm brands and aggregated to the county-week level
 - Supplemented with Nielsen retail scanner data
- **X/Twitter:** firm mentions linked to Russia/Ukraine conflict keywords
 - E.g., "Rolex" (Russia OR Ukraine OR boycott OR "leave Russia" OR "exit Russia")
lang:en -is:retweet
- **CRSP:** stock returns data

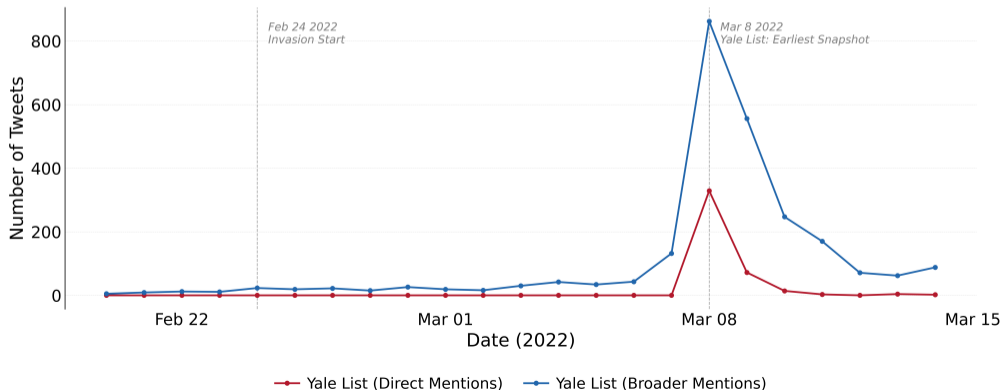
Sample

220 firms with observable U.S. brick-and-mortar consumer demand:

	Number of Firms
Full KSE universe	4,257
with SafeGraph presence	220
in March 8 Yale snapshot	64
classified <i>Curtailed</i>	54
classified <i>Remained</i>	10
with CRSP linkage	53

Yale List as a Public Salience Event

- Classified a subset of public-facing firms as *Curtailed* or *Remained*
- Made firm positions visible, comparable, and easy to circulate
- We treat the week containing March 8, 2022 as the Yale salience window



Responses to Yale List: Empirical Strategy

We estimate whether stakeholder outcomes change after the Yale list becomes salient.

$$Y_{it} = \beta^R(\text{Post}_t \times \text{Remained}_i) + \beta^C(\text{Post}_t \times \text{Curtailed}_i) + \text{FE} + \varepsilon_{it}$$

- **Outcomes**

- Consumer demand: log SafeGraph spending
- Public attention: normalized X/Twitter mentions
- Financial markets: market-adjusted CARs

- **Comparison groups**

- Demand: matched non-Yale, non-KSE brands in same county and category
- Attention/CARs: non-Yale KSE firms

Responses to Yale List: Estimates

Remained firms attract more attention and weaker demand, but only a limited stock market response following the initial release of the Yale list:

	Log Spending	Tweets	CAR
Post × Remained	-0.123** (0.037)	1.084*** (0.253)	0.003 (0.0033)
Post × Curtailed	0.013 (0.033)	-0.323*** (0.077)	0.001 (0.0044)
Outcome FE	Brand–county	Firm	Firm
Time FE	Cohort–week	Day	Day
Obs.	318,284	3,300	4,253

Were Markets Already Pricing Russia Exposure?

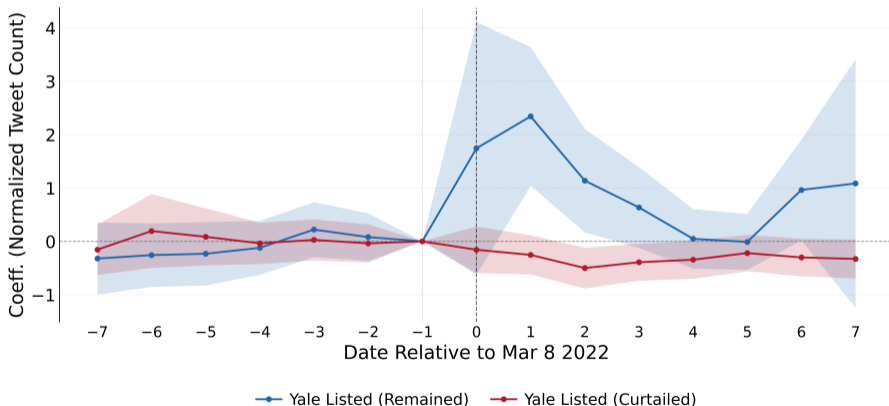
Exposure to Russia was priced at the invasion, rather than on the Yale list release:

	[-1,+1]	[0,+1]	[-1,+3]	[-3,+3]
High Exposure	-0.0222*** (0.0077)	-0.0228*** (0.0065)	-0.0323** (0.0143)	-0.0273* (0.0152)
Observations	431	431	431	431
R^2	0.017	0.030	0.017	0.011

- (Based on a broader KSE–CRSP sample with observed Russia exposure based on the employees, assets, or sales)

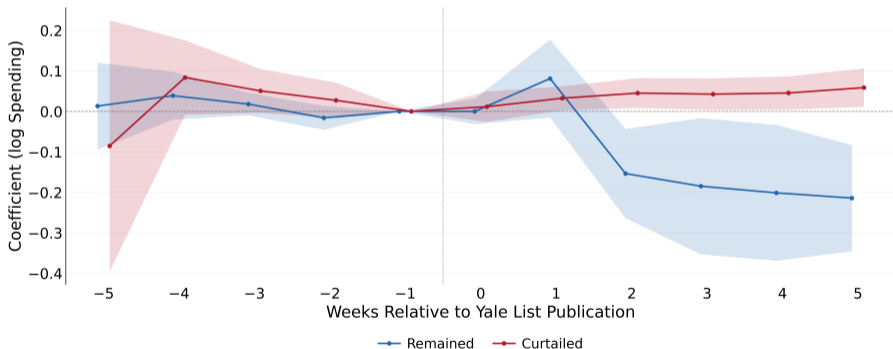
Responses to Yale List: X/Twitter Event Study

An increase in the public chatter on the *Remained* firms around Yale list release:



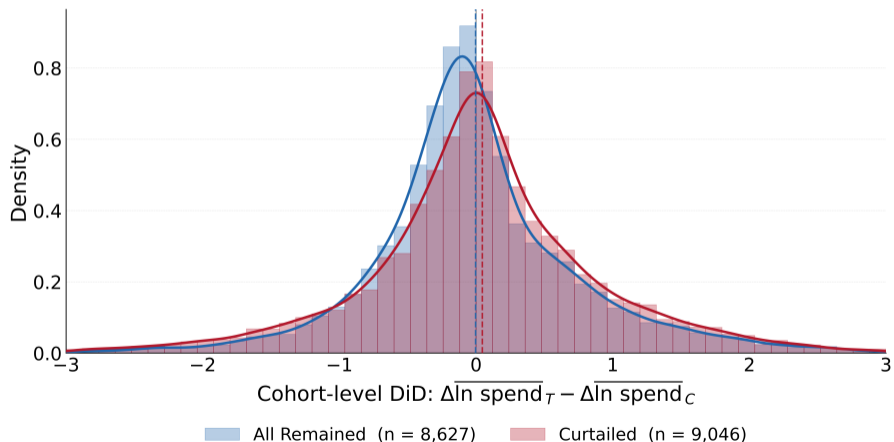
Responses to Yale List: Demand Event Study

On a spend-weighted basis, remained firms appear to lose 12% in weekly spend:

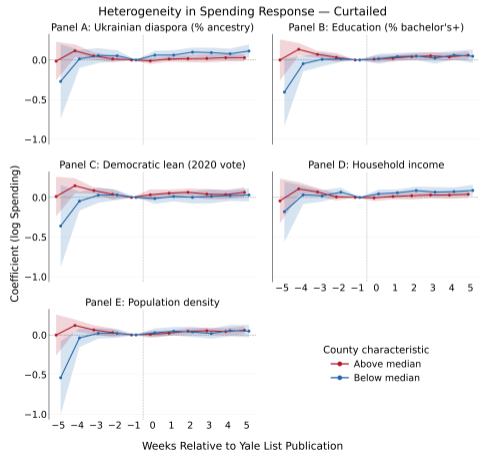
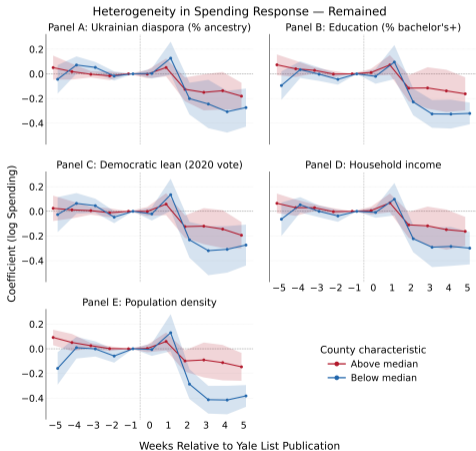


Equal Weighting

For equal-weighted spends, *Remained* vs. *Curtailed* are statistically indistinguishable:

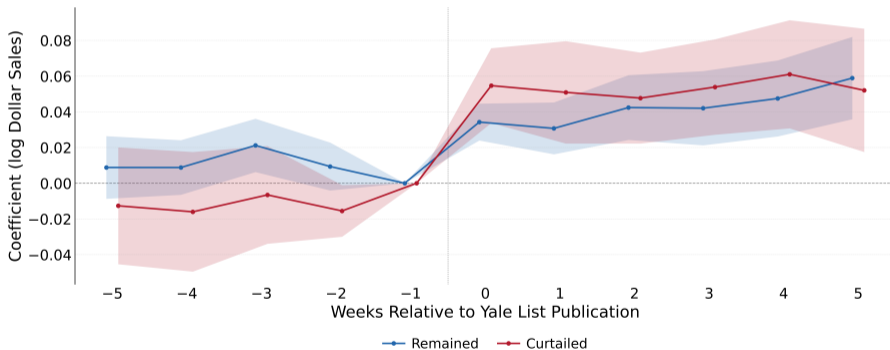


Heterogeneity



How about Nielsen Data?

Both groups rise, statistically indistinguishable, no evidence of boycott:



Maybe It Only Matters for More Visible Firms?

We test this using two pre-event firm characteristics:

- **Pre-invasion X/Twitter mention volume**
 - Mean daily firm-name mentions during the 92-day pre-invasion window
- **Log 2021 SafeGraph spending**
 - Total 2021 U.S. brick-and-mortar spending across linked brands

We test these interactions on whether Yale list responses are stronger for firms with larger consumer footprints or higher pre-invasion mention volume

Yale Responses by Pre-Invasion Mentions

Demand declines are concentrated among higher-pre-invasion mention *Remained* firms:

	Spend	Tweets	CAR
Low pre-inv. mentions × Post × Yale Remained	-0.067 (0.054)	1.376*** (0.343)	0.0166*** (0.0032)
High pre-inv. mentions × Post × Yale Remained	-0.149*** (0.042)	0.791** (0.370)	0.0019 (0.0107)
Low pre-inv. mentions × Post × Yale Curtailed	-0.051** (0.022)	-0.357*** (0.122)	-0.0027 (0.0092)
High pre-inv. mentions × Post × Yale Curtailed	0.073 (0.045)	-0.289*** (0.079)	0.0009 (0.0079)
Outcome FE	Brand–county	Firm	Firm
Time FE	Cohort–week	Day	Day
Obs.	318,284	3,300	3,505
Within R^2	0.005	0.028	0.0004

Yale Responses by 2021 Spending

Consistent with pre-invasion mention split, demand declines are stronger for higher-spending *Remained* firms:

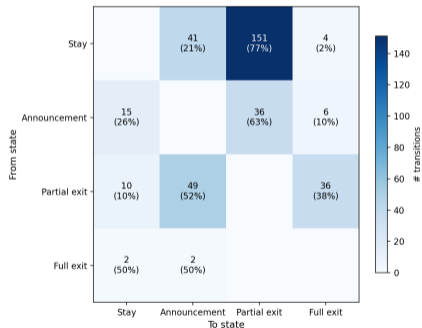
	Spend	Tweets	CAR
Low 2021 spending × Post × Yale Remained	0.067** (0.029)	0.935*** (0.201)	0.0166*** (0.0032)
High 2021 spending × Post × Yale Remained	-0.160*** (0.033)	1.453** (0.578)	0.0019 (0.0107)
Low 2021 spending × Post × Yale Curtailed	-0.087*** (0.025)	-0.192** (0.075)	-0.0011 (0.0092)
High 2021 spending × Post × Yale Curtailed	0.054 (0.037)	-0.518*** (0.164)	-0.0004 (0.0080)
Outcome FE	Brand–county	Firm	Firm
Time FE	Cohort–week	Day	Day
Obs.	318,284	3,075	3,505
Within R^2	0.006	0.030	0.0004

Capturing Exit

We use KSE as a public-information panel of firms' Russia responses

- KSE tracks firms dynamically using public announcements, filings, media reports, and other open-source information
- We collapse detailed KSE labels into a three-step withdrawal ladder, tracked weekly:

Stay → **Announcement** → **Exit**



Stakeholder Response Construction

We measure stakeholder reactions around two event margins:

- **Yale list release:** when the Yale list first became publicly salient (March 8, 2022).
- **First announcement:** first move from **Stay** to **Announcement**

We construct stakeholder response signals around these events as follows:

- **Consumer demand:** change in SafeGraph spending relative to total spending in the same county-brand category pair, from weeks $[-2, -1]$ to $[0, +1]$
- **Public attention:** abnormal firm name + Russia-related X/Twitter mentions relative to the four-week pre-invasion baseline
- **Financial markets:** cumulative market-adjusted returns over weeks $[0, +1]$

Firm-Level Controls

- **U.S. consumer footprint**
 - 2021 SafeGraph spending
 - number of U.S. counties with linked locations
- **Russia exposure**
 - log 2021 Russia revenue and log 2021 staff measures from KSE
 - *High Exposure* indicator when Russia exposure data is missing
- **Pre-invasion X/Twitter mention volume**
 - mean daily firm mentions during the 3-month (92-day) pre-invasion window

Exit Hazards: Empirical Strategy

We test which stakeholder signals predict firms' first move into **Exit**

$$Y_{it} = 1 \quad \text{if firm } i \text{ first enters Exit in week } t$$

$$\log[-\log(1 - \Pr(Y_{it} = 1))] = \alpha_t + \gamma_{g(i)} + X'_{it}\beta$$

- Discrete-time complementary log-log hazard model at the firm-week level
- X_{it} includes stakeholder signals, Russia exposure, and U.S. consumer footprint
- Week fixed effects absorb common shocks; industry/category fixed effects absorb baseline firm differences

Exit Hazards: Estimates

	Yale Only	+ Yale Resp.	+ Prev. Ann.	+ Ann. Resp.	+ Russia
Yale Curtailed	1.587***	1.471***	1.462***	1.536***	1.717***
Yale Remained	0.540*	-0.068	-0.037	0.409	0.100
Demand Shift (Yale)		0.126	0.126	0.098	0.481**
Ab. X/Twitter Vol. (Yale)		0.276***	0.276***	0.307***	0.329***
CAR (Yale)		0.939	0.928	2.714	7.468**
Prev. Announce			-0.087	0.250	0.666*
Prev. Ann. × Dem. Shift (Ann.)				0.085	-0.250
Prev. Ann. × Ab. X/Twt. (Ann.)				-0.300*	-0.442***
Prev. Ann. × CAR (Ann.)				-17.905***	-20.847**
High Exposure	0.495**	0.458*	0.468*	0.410	
SafeGraph Controls	Yes	Yes	Yes	Yes	Yes
Russia Exposure Controls	High Exp.	High Exp.	High Exp.	High Exp.	Rev./Staff
Week FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Firms	204	204	204	204	92
Events	144	144	144	144	76

Exit Hazards: Takeaways

- *Curtailed* firms exit faster across all specifications
- Yale-window X/Twitter attention consistently predicts exit
- Demand response and CARs around Yale list release are less consistent
- Post-announcement feedback predicts later exit
 - Higher X/Twitter attention and more favorable CARs after announcement are associated with lower subsequent exit hazards
 - Consistent with firms gauging whether announcement alone was sufficient

Does Public Attention Amplify Demand?

Motivated by the Yale list release response results, we ask whether the demand responses are more predictive of exit among firms with:

- **Higher pre-invasion X/Twitter mention volume**
 - firms already more frequently discussed before the invasion
- **Higher 2021 SafeGraph spending**
 - firms with larger observable U.S. consumer footprints

Exit Hazard: Demand × Pre-Invasion Mentions

Yale-window demand shifts predict exit more strongly among firms with higher pre-invasion mentions:

	Mentions (z)	+ Interact.	High Mentions	+ Interact.
Demand Shift (Yale)	0.103	0.181	0.126	-0.023
Prev. Ann. × Demand Shift (Ann.)	0.106	-0.269	0.092	0.373**
Ab. X/Twitter Vol. (Yale)	0.282***	0.318***	0.273***	0.311***
Prev. Ann. × Ab. X/Twitter Vol. (Ann.)	-0.294*	-0.291	-0.307*	-0.324**
Prev. Ann. × CAR (Ann.)	-17.158***	-24.114***	-16.142**	-27.075***
Pre-invasion X/Twitter Mentions	0.090	0.114	0.289	0.338
Dem. Shift (Yale) × Pre-Inv. Mentions		0.256**		0.593*
Prev. Ann. × Dem. Shift (Ann.) × Pre-Inv. Mentions		-0.437*		-1.477***
Week FE / Industry FE	Yes	Yes	Yes	Yes
Firms	204	204	204	204
Events	144	144	144	144

Suppressed: Yale Curtailed, Yale Remained, high exposure, log 2021 spend, log counties, missing CAR, Prev. Ann × Pre-Inv. Mentions

Exit Hazard: Demand \times 2021 Spending

Similar for firms with higher pre-invasion U.S. consumer spending:

	Spending (z)	+ Interact.	High Spending	+ Interact.
Demand Shift (Yale)	0.098	0.394*	0.096	0.069
Prev. Ann. \times Demand Shift (Ann.)	0.085	0.619**	0.084	0.088
Ab. X/Twitter Vol. (Yale)	0.307***	0.319***	0.304***	0.303***
Prev. Ann. \times Ab. X/Twitter Vol. (Ann.)	-0.300*	-0.396**	-0.303*	-0.396***
Prev. Ann. \times CAR (Ann.)	-17.905***	-24.099***	-18.032***	-21.431***
Log 2021 Spending	-0.196	-0.224	0.345	0.398
Dem. Shift (Yale) \times Log 2021 Spend		0.366*		1.047
Prev. Ann. \times Dem. Shift (Ann.) \times Log 2021 Spend		0.436*		0.407
Week FE / Industry FE	Yes	Yes	Yes	Yes
Firms	204	204	204	204
Events	144	144	144	144

Suppressed: Yale Curtailed, Yale Remained, high exposure, log counties, missing CAR, Prev. Ann \times Log 2021 Spend

Full Exit

On the other hand, full exit appears driven by operational exposure (costs/risks of continued operation in Russia), rather than consumer- or market-side responses

	High Exposure		Total
	No	Yes	
No full exit	55	122	177
Full exit	0	43	43
Total	55	165	220

- All 43 full exits occur among *High Exposure* firms, i.e. those with measurable Russian revenue and staff
- No low-exposure firm completes a full exit

Exit Hazards: Nielsen

	Yale Only	+ Yale Resp.	+ Prev. Ann.	+ Ann. Resp.	+ Russia
Yale Curtailed	2.010***	1.658***	1.641***	1.635***	1.904***
Yale Remained	-0.127	-0.909*	-0.759	-0.634	-0.147
Demand Shift (Yale)		0.192	0.134	-0.194	-0.042
Ab. X/Twitter Vol. (Yale)		0.410***	0.419***	0.506***	0.458***
CAR (Yale)		3.496	3.126	2.809	6.837*
Prev. Announce			-0.468*	0.102	0.632
Prev. Ann. × Dem. Shift (Ann.)				1.375	-0.290
Prev. Ann. × Ab. X/Twt. (Ann.)				-0.315**	-0.535***
Prev. Ann. × CAR (Ann.)				0.577	-6.618
High Exposure	0.586	0.613*	0.603*	0.551	
Nielsen Controls	Yes	Yes	Yes	Yes	Yes
Russia Exposure Controls	High Exp.	High Exp.	High Exp.	High Exp.	Rev./Staff
Week FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Firms	178	178	178	178	120
Events	110	110	110	110	79

Exit Hazards: Robustness Checks I

- **First action hazard**
 - Outcome: first move into Announcement, Partial Exit, or Full Exit
 - Finding: Yale classification and Yale-window X/Twitter attention predict initial response
- **Durable exit hazard**
 - Outcome: Exit that persists through the sample (i.e., not reversed)
 - Finding: Yale Curtailed, Yale-window X/Twitter attention, Announcement-window CARs and X/Twitter attention remain predictive
- **Linear probability model**
 - Re-estimates the main Exit specification using a linear probability model
 - Finding: patterns are qualitatively similar to the cloglog hazard

Exit Hazards: Robustness Checks II

- **Alternative signal definitions**
 - Replace CAR windows, X/Twitter scaling, and demand normalization
 - Finding: outcomes remain broadly consistent
- **Signal alignment**
 - Interact Yale-window attention with demand pressure and market pressure
 - Finding: interaction terms are insignificant, suggesting X/Twitter attention is not proxying for demand/market pressure dynamics.
- **Alternative explanations for attention**
 - Interact Yale labels with attention, and introduce invasion-window CARs
 - Finding: attention is not just Yale classification or market-priced Russia exposure

Conclusion

- The Yale list made continued operation in Russia visible and comparable
- Abnormal public attention predicts multinational firm exit from Russia's market
- Announcements appear to serve as a gauging step before withdrawal
- Demand shifts only predictive of exit for more visible firms – those with larger pre-invasion consumer spending or X/Twitter mention volume
- Full exit is primarily constrained by operational exposure to Russia
- “Governance by the masses”?