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Trade uncertainty and U.S. bank lending

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ONLINE APPENDIX

Trade Uncertainty and U.S. Bank Lending

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A-I Appendix: Additional Robustness Checks

This section presents additional tests that validate the identification strategy and examine the robustness of our results to alternative methodological choices.

Additional sample checks We start by adjusting our regression sample to reflect a more restrictive notion of low-uncertainty firms that are even more removed from international trade activities than in the baseline. This approach allows us to strengthen the confidence that we identify spillovers to unaffected sectors across different definitions of "unaffected". We restrict our sample in two dimensions: (i) by limiting it to firms in sectors with no tariff changes in the period of study, and (ii) by dropping not only high-uncertainty firms, but also the few remaining trade finance loans. Our results, shown in panel A of Table OA-12, are robust to these adjustments. We then return to our baseline specifications and remove all fixed effects. As seen in panel B of Table OA-12, we find no material changes to our main findings.

More stringent (loan-type) fixed effects A potential concern is that firms may have different types of loan relationships across banks (e.g., only trade finance loans with one bank and other kinds of loans with another). This possibility would limit the ability of firms×quarter fixed to absorb all the variation in credit due to changes in loan demand. To address this potential concern, we estimate our baseline specifications including loan-type×quarter fixed effects (panel A) and the even more stringent firm×loan-type×quarter fixed effects (panel B), where loan-type refers to (i) trade finance loans, (ii) loans secured by fixed assets and real estate, cash and marketable securities, or blanket liens (roughly capturing asset-based loans) and (iii) loans secured by accounts receivable and inventory (earnings-based loans). These loan categories are important to consider separately because credit dynamics following monetary and financial shocks can vary significantly across these loan types (Ivashina et al., 2021). Our baseline results, reported in Table OA-13, remain unchanged.

Weighted least squares Our results may be influenced by sectors for which trade uncertainty is computed with less precision because of the sparse coverage of public firms for which textual analysis is performed to measure uncertainty. To account for this issue, we estimate our baseline specifications using weighted-least squares that accounts for variations in the precision of sectoral estimates of trade uncertainty. Weights are computed using the bank-specific average firm count of observations used to calculate the trade uncertainty exposure measures. The results in Table OA-14 show that applying this weighting does not materially affect our main findings.

Alternative measures of trade uncertainty Our approach prompts the question of how the index of trade political risk and uncertainty from Hassan et al. (2019) compares with other prominent measures of trade policy uncertainty, such as that of Caldara et al. (2020). Thus, we check if our results hinge on our choice of constructing the baseline measure of bank exposure to trade policy uncertainty based on the Hassan et al. (2019) measures. The trade policy index of Caldara et al. (2020) is similar to that of Hassan et al. (2019) in that it uses similar linguistic libraries, including terms that refer to trade activities and trade policy, as well as uncertainty, risk, and potentiality. However, Caldara et al. (2020)'s index differs in two key dimensions. First, it uses news articles from global newspapers as a basis for the text analysis.[16] Second, it is more focused on measuring trade policy uncertainty, even though the Hassan et al. (2019) index uses policy-related keywords as well. As a result, the two indexes are highly correlated over the period of analysis (Figure OA-2), when trade uncertainty was largely driven by policies, and produce a similar sorting of firms and sectors into high versus low-uncertainty sectors. As seen in the bottom panel of Table OA-14, the results hold up using the Caldara et al. (2020) index: the coefficients on bank exposure to trade uncertainty are negative though imprecisely estimated for loan growth (columns 1-2) and positive and statistically significant for loan spreads (columns 3-4).

[16] Caldara et al. (2020) additionally present a trade policy uncertainty index that uses transcripts from listed firms' earnings calls and show that his index is highly correlated in the time series with their main news-based index.

Figure OA-1. Trade uncertainty index vs. sentiment indexes

This figure depicts the evolution of the trade uncertainty index compared to aggregate indexes of overall, political and nonpolitical sentiment. The trade uncertainty index is described in Section 2. The sentiment measures are constructed using textual analysis of earnings call transcripts by listed firms and count the frequency of mentions of positive words, deduct the frequency of mentions of negative words, and divide by the length of the transcript. Frequently-used positive and negative tone words are defined by include good, strong, great, loss, decline, and difficult, respectively (as in Loughran and McDonald (2011)). In the figure below, individual sentiment indexes are computed from firm-level data as quarterly averages across reporting U.S. firms and are standardized. Sources: Hassan et al. (2019, 2020a,b), and https://sites.google.com/view/firmrisk.

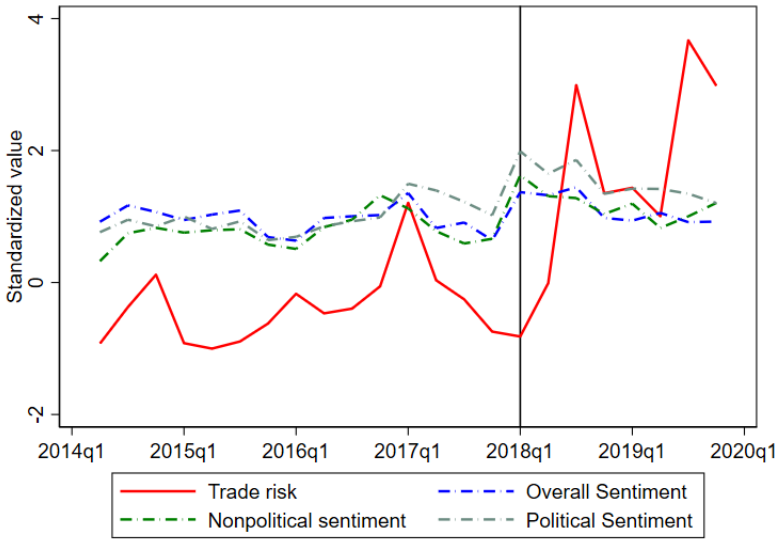

Figure OA-2. Hassan et al. (2019) vs Caldara et al. (2020) trade uncertainty indexes

This figure depicts the evolution of the trade uncertainty index from Hassan et al. (2019, 2020a,b) with that from Caldara et al. (2020). The first index is described in Section 2. The second index is described in Appendix A-I. Time-series for both indexes are obtained by taking the quarterly average of firm-level trade uncertainty indicators. Sources: Hassan et al. (2019, 2020a,b) and Caldara et al. (2020).

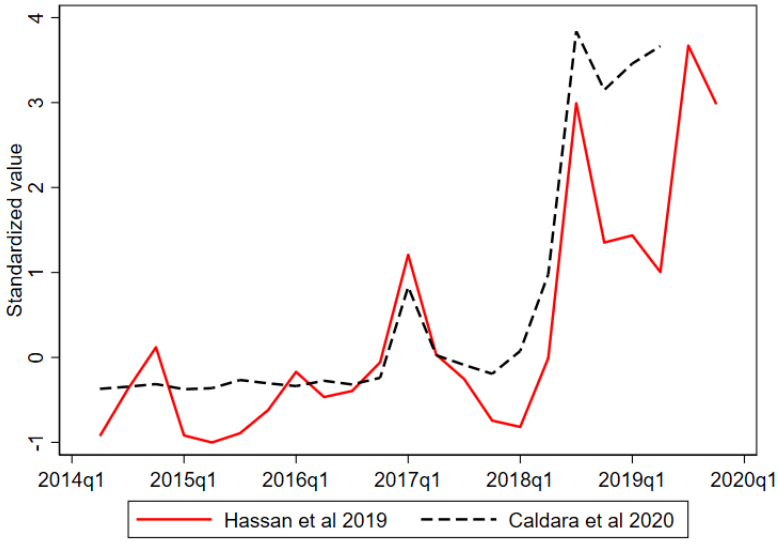

Figure OA-3. Average change in trade uncertainty by 3-digit NAICS sector

The figure depicts the average change in trade uncertainty between 2016-2017 and 2018-2019 by 3-digit NAICS sector. Uncertainty at the sector level is computed as average firm-level uncertainty, which in turn is based on textual analysis of transcripts from quarterly earnings calls of listed companies. The units of measurement for "Difference in trade uncertainty" is the frequency (number) of mentions of synonyms for risk or uncertainty, divided by the length of the transcript, and multiplied by 1,000. The text box lists the five sectors with the highest increases and decreases in trade uncertainty. The sector "Apparel manufacturing" (NAICS code 315) is omitted from the figure due to extreme value for uncertainty driven by earnings transcript of one firm. Sources: FR Y-14Q, Hassan et al. (2019, 2020a,b).

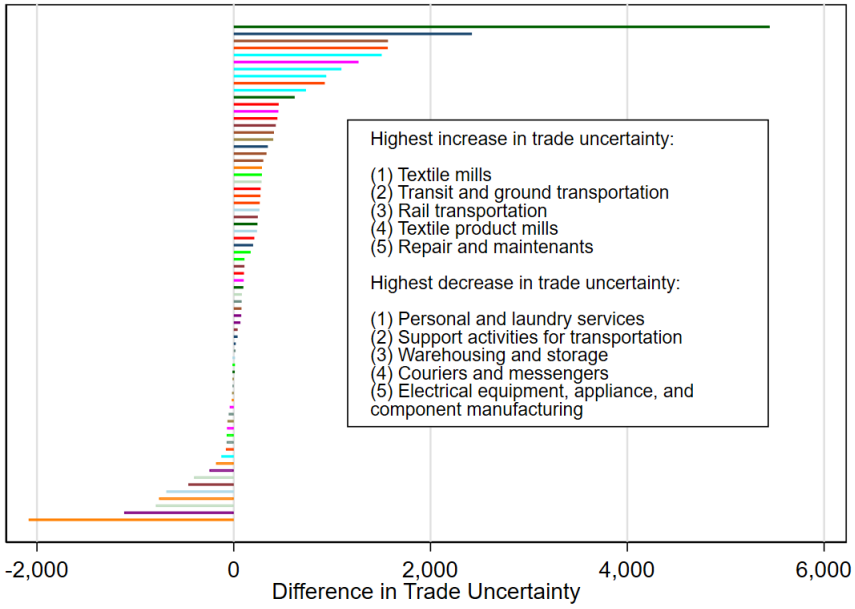

Figure OA-4. Bank exposure to trade uncertainty vs. tariffs-hit sectors and overall uncertainty

The figure depicts a binned scatterplot of bank exposure to trade uncertainty vs. bank exposure to tariffs-hit sectors, constructed as the average share of loan commitments to firms in tariffs-hit sectors over 2014–2015. In the cross-section of banks, this exposure and the baseline exposure to trade uncertainty have a correlation coefficient of 0.37. Sources: FR Y-14Q, Hassan et al. (2019, 2020a,b).

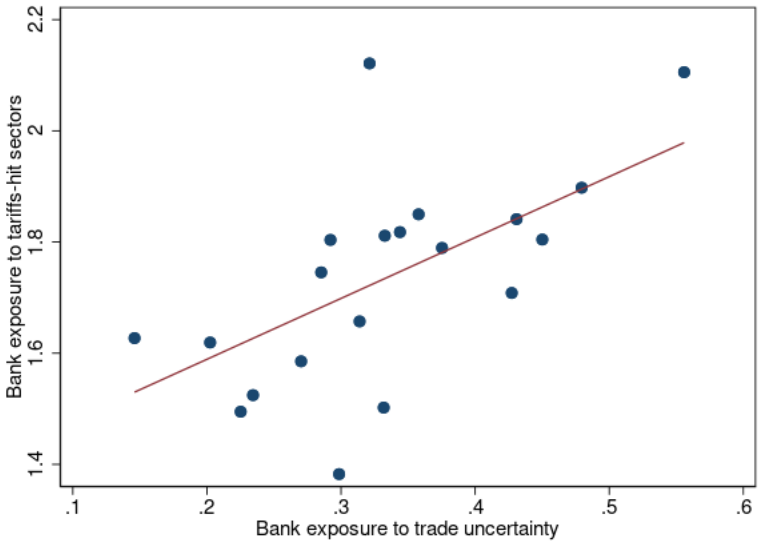

Table OA-1. Changes in trade uncertainty by sector

This table reports the sectors in the top 25th and bottom 25th percentiles of the distribution of changes in average trade uncertainty between 2016–2017 and 2018–2019. The units of measurement for "Change in trade uncertainty" is the frequency (number) of mentions of synonyms for risk or uncertainty, divided by the length of the transcript, and multiplied by 1,000. The sector "Apparel manufacturing" (NAICS code 315) is omitted from the table due to extreme value for uncertainty driven by earnings transcript of one firm. Sources: Hassan et al. (2019, 2020a,b).

Sector code	A. Largest increases in trade uncertainty	Change in trade uncertainty
313	Textile Mills	5447.8
485	Transit and Ground Passenger Transportation	2420.6
482	Rail Transportation	1567.7
314	Textile Product Mills	1565.6
811	Repair and Maintenance	1503.8
532	Rental and Leasing Services	1268.3
525	Funds, Trusts, and Other Financial Vehicles	1094.2
483	Water Transportation	940.3
331	Primary Metal Manufacturing	925.5
516	Broadcasting and Content Providers	734.2
333	Machinery Manufacturing	619.5
523	Securities, Commodity Contracts, and Other	457.2
445	Food and Beverage Retailers	454.0
519	Web Search Portals, Libraries, Archives, and Other Information Services	443.5
621	Ambulatory Health Care Services	427.2
112	Animal Production and Aquaculture	408.9
334	Computer and Electronic Product Manufacturing	401.3
	B. Largest decreases in uncertainty	
812	Personal and Laundry Services	-1113.7
488	Support Activities for Transportation	-792.4
493	Warehousing and Storage	-760.0
492	Couriers and Messengers	-685.4
335	Electrical Equipment, Appliance, and Component Manufacturing	-462.2
236	Construction of Buildings	-404.0
524	Insurance Carriers and Related Activities	-247.6
531	Real Estate	-180.4
623	Nursing and Residential Care Facilities	-126.4
423	Merchant Wholesalers, Durable Goods	-80.3
339	Miscellaneous Manufacturing	-72.4
322	Paper Manufacturing	-71.8
562	Waste Management and Remediation Services	-68.8
622	Hospitals	-64.0
332	Fabricated Metal Product Manufacturing	-51.8
312	Beverage and Tobacco Product Manufacturing	-41.4
722	Food Services and Drinking PlacesT	-20.4

Table OA-2. Covariate balance: Bank exposure to trade uncertainty and bank characteristics

This table reports OLS estimates from a regression of the baseline bank exposure to trade uncertainty on bank characteristics: size (log-total assets), capital (common equity/total assets), deposits (core deposits/liabilities), and specialization. Regressions use bank characteristics for every year of the regressions sample between 2016 and 2019 and stacked as a panel across 2016–2019. Standard errors are robust. *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)	(5)
			Bank exposure		
Year:	**2016**	**2017**	**2018**	**2019**	**2016–2019**
Size (log-assets)	0.050	0.050	0.043	0.053	0.058
	(0.046)	(0.047)	(0.038)	(0.040)	(0.041)
Capital (common equity/total assets)	-0.027	-0.030	-0.038	-0.026	-0.004
	(0.033)	(0.029)	(0.031)	(0.035)	(0.017)
Core deposits (% of liabilities)	-0.003	-0.001	-0.000	0.001	-0.002
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)
Specialization	0.308	0.308	0.216	0.246	0.392
	(0.296)	(0.322)	(0.246)	(0.300)	(0.288)
Observations	30	30	29	28	171
R^2	0.219	0.221	0.205	0.152	0.216

Table OA-3. Additional lending terms: Collateral Requirements

This table shows OLS estimates for a regression of loan collateral requirements on bank exposure to trade uncertainty. The dependent variable is a dummy variable that takes value one for secured loans and zero otherwise. All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan is Secured**			
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
Bank exposure × Post	0.077***	0.087***	0.064***	0.077***
	(0.015)	(0.017)	(0.016)	(0.019)
Observations	927,460	659,952	924,163	657,467
R^2	0.810	0.807	0.892	0.890
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-4. Anticipation effects: Drop loan commitments in 2017

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty changing the sample period to drop all loan commitments in 2017 and move the pre-trade war period back by one year. The new sample period refers to 2015:Q1–2016Q4 (before the Trade War) and 2018:Q1–2019:Q4 (during the Trade War). All specification details and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, *10%, and # 20%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
Bank exposure x Post	-0.071*	-0.065#	0.332***	0.317**
	(0.037)	(0.043)	(0.096)	(0.108)
Observations	912,849	647,925	474,606	332,162
R-squared	0.353	0.362	0.850	0.850
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-5. Placebo Tests

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty on samples that precede the baseline regression sample by one year (panel A) or two years (panel B). All specification details and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
	Loan growth		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
		A. Placebo: 2015-2016 vs 2017-2018		
Bank exposure × Post	0.022	0.034	0.078**	0.044
	(0.031)	(0.033)	(0.036)	(0.037)
Observations	939,016	665,828	491,941	344,075
R^2	0.342	0.349	0.850	0.851
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
		B. Placebo: 2014-2015 vs 2016-2017		
Bank exposure × Post	0.044	0.037	-0.111***	-0.129***
	(0.026)	(0.030)	(0.035)	(0.031)
Observations	930,363	657,446	489,185	340,833
R^2	0.344	0.350	0.844	0.844
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-6. Bank portfolio rebalancing from C&I lending to other types of assets

This table shows OLS estimates for a regression of bank-level total asset growth, loan-to-asset ratio, securities-to-asset ratio, and cash-to-asset ratio on bank exposure to uncertainty. The data are at the bank-quarter level over the period between 2016:Q1 and 2019:Q4 for the banks in our baseline FR Y-14Q sample. Bank exposure to trade uncertainty is measured as the average of the difference in trade uncertainty across sectors (between 2016:Q1–2017:Q4 and 2018:Q1–2019:Q4), weighted by initial bank loans shares to those sectors (See Section 2.2 for the construction of the variable). The dummy variable *Post* takes value of one for the period 2018:Q1-2019:Q4 and zero for the period 2016:Q1-2017:Q4. Standard errors are double clustered at the quarter and bank level. Significance: *** 1%, **5%, and *10%.

	(1) **Total asset Growth**	(2) **Loans % Assets**	(3) **Securities % Assets**	(4) **Cash % Assets**
		A. Baseline		
Bank exposure × Post	0.071	-0.042***	0.003*	0.009
	(0.041)	(0.010)	(0.001)	(0.012)
Observations	448	452	452	452
R^2	0.352	0.995	0.976	0.971
		B. Bank capital: Equity/assets		
Bank exposure × Post × Low-capital	0.080*	-0.045***	0.003*	0.009
	(0.038)	(0.011)	(0.001)	(0.012)
Bank exposure × Post × High-capital	0.084	-0.048	-0.000	0.057
	(0.160)	(0.033)	(0.006)	(0.034)
p-value t-test $H_a : \|1\| > \|2\|$	-	-	-	0.00149
Observations	448	452	452	452
R^2	0.375	0.995	0.978	0.972
		C. Bank capital: CET1 stress test ratio		
Bank exposure × Post × Low-capital	0.055	-0.054***	0.003*	0.012
	(0.047)	(0.015)	(0.002)	(0.014)
Bank exposure × Post × High-capital	0.276***	-0.010	0.002	0.012
	(0.092)	(0.013)	(0.003)	(0.024)
p-value t-test $H_a : \|1\| > \|2\|$	-	-	-	0.1335
Observations	373	374	374	374
R^2	0.553	0.996	0.980	0.978
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Bank FE	Y	Y	Y	Y
Quarter FE	Y	Y	Y	Y

Table OA-7. Horse-race between bank exposure to trade vs. non-trade uncertainty

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty in a horse-race with bank exposure to non-trade uncertainty. Bank exposure to non-tradeuncertainty is obtained in the same way as bank exposure to trade uncertainty, however instead of the trade uncertainty index we use the first principal component of all sectoral uncertainty indexes other than trade (these are economic policy and budget, environment, institutions and political processes, health care, security and defense, tax policy, and technology and infrastructure). All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
Bank exposure to trade uncertainty × Post	-0.103***	-0.115***	0.261***	0.288***
	(0.030)	(0.036)	(0.084)	(0.095)
Bank exposure to non-trade uncertainty × Post	-0.030	-0.036	0.048	0.077**
	(0.029)	(0.032)	(0.031)	(0.034)
Observations	925,465	658,123	481,152	337,955
R^2	0.342	0.350	0.856	0.856
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-8. Control for exchange rate effects through exporting firms

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty controlling for bank exposure to the tradable-goods producing sectors interacted with the USD broad index. We follow Desai et al. (2008) and classify non-tradable sectors to include construction, retailers, transportation, and recreation. (Utilities and financial firms are excluded from our baseline sample.) All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
Bank exposure × Post	-0.098***	-0.107**	0.322***	0.342***
	(0.031)	(0.037)	(0.084)	(0.090)
Bank exposure to tradable-goods	-0.001	0.002	0.105*	0.112**
sectors × USD broad index	(0.008)	(0.011)	(0.049)	(0.050)
Observations	872,735	620,126	450,864	315,130
R^2	0.343	0.352	0.846	0.846
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-9. Effects by loan type: Credit lines vs. Term loans

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty opening up the main difference-in-differences coefficient by loan type: credit lines vs. term loans. All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
Bank exposure × Post × Credit line	-0.061**	-0.049*	0.255***	0.271**
	(0.025)	(0.028)	(0.081)	(0.093)
Bank exposure × Post × Term loan	0.018	-0.033	0.235**	0.272**
	(0.036)	(0.043)	(0.086)	(0.103)
Observations	817,911	580,321	448,606	313,629
R^2	0.380	0.384	0.890	0.892
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-10. Control for bank cyclicality and oil price fluctuations

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty controlling for bank cyclicality in level and interaction with *Post* (panel A) and dropping oil firms from the baseline sample (panel B). Bank cyclicality is a time-invariant bank-level variable representing the correlation between the bank's C&I loan growth and the growth rate of banking sector assets (the correlation is obtained by regressing each bank's C&I loan growth on banking sector asset growth for each bank in the dataset, over the period 1985:Q1–2021:Q2, using quarterly Call Report data and assigning each BHC in the Y-14Q dataset to the main commercial bank in that BHC from the Call Report). Oil firms are defined as those in the 2-digit NAICS sector "Mining, quarrying, and oil and gas extraction." All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
		A. Control for bank cyclicality		
Bank exposure × Post	-0.053*	-0.071**	0.252***	0.284***
	(0.026)	(0.032)	(0.066)	(0.077)
Bank cyclicality × Post	0.029***	0.023***	-0.009	0.001
	(0.006)	(0.005)	(0.029)	(0.029)
Observations	925,465	658,123	481,126	337,942
R^2	0.342	0.350	0.856	0.856
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
		B. Drop oil firms		
Bank exposure × Post	-0.106***	-0.117***	0.236**	0.255**
	(0.030)	(0.036)	(0.086)	(0.101)
Observations	876,802	609,751	451,075	308,043
R^2	0.337	0.343	0.856	0.856
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y

Table OA-11. Additional results: Credit line utilization

This table shows OLS estimates for a regression of credit line utilization rates on a dummy variable for high-uncertainty firms in interaction with *Post*. The estimates are shown for firm-level data where the credit line utilization rates are averaged, for each firm, across its lender banks. High-uncertainty firm is a dummy variable taking value one for firms in sectors above the 75^{th} percentile of distribution of changes in average trade uncertainty between 2016–2017 and 2018–2019, and zero otherwise. Column 2 includes the following firm controls in level and interacted with *Post*: size (log-assets), liquidity (cash and marketable securities/assets), tangibility (tangible assets as a share of total assets), interest coverage ratio (EBITDA/total interest expense), ROA (return on assets) and real sales growth. Standard errors are clustered at the firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)
Dependent variable:	**Credit line utilization rate**	
High-uncertainty firm × Post	0.0048**	0.0043**
	(0.0020)	(0.0020)
Observations	618,160	578,028
R^2d	0.7949	0.7981
State × Quarter FE	Y	Y
Firm FE	Y	Y
Firm controls		Y
Firm controls × Post		Y

Table OA-12. Alternative measures of "spillover" firms and baseline specifications with no FE

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty to low-uncertainty "spillover firms" using alternative definitions of these firms (panel A) and using no fixed effects (panel B). In columns 1–2 "spillover firms" are those firms in sectors that did not receive tariffs. In columns 3–4, they are the low-uncertainty firms from the baseline analysis and we further drop few remaining trade finance loans. All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

Dependent variable	(1) **Loan growth**	(2) **Loan spread**	(3) **Loan growth**	(4) **Loan spread**
	Firms in no-tariff sectors		**Low-uncertainty firms Drop trade finance loans**	
	A. Alternative measures of spillover firms			
Bank exposure × Post	-0.070*	0.238***	-0.091**	0.278***
	(0.033)	(0.078)	(0.036)	(0.091)
Observations	636,703	333,020	649,429	333,894
R^2	0.344	0.857	0.350	0.856
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
	B. Baseline with no fixed effects			
Bank exposure × Post	-0.042***	0.500***	-0.066***	0.596***
	(0.014)	(0.037)	(0.017)	(0.047)
Bank exposure	0.112***	-0.308***	0.136***	-0.694***
	(0.010)	(0.037)	(0.012)	(0.048)
Post	-0.258***	-0.910***		
	(0.081)	(0.186)		
Observations	1,536,325	863,149	1,075,899	596,900
R^2	0.003	0.010	0.005	0.014
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Quarter FE			Y	Y

Table OA-13. Robustness to granular loan-type fixed effects

This table shows OLS estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty controlling for loantype×quarter fixed effects (panel A) and firm×loantype×quarter fixed effects (panel B). Loantype is given by (i) trade finance loans, (ii) loans secured by fixed assets and real estate, cash and marketable securities, or blanket liens (roughly capturing asset-based loans) and (iii) loans secured by accounts receivable and inventory (earnings-based loans). All specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan growth**		**Loan spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
	A. With Loan Type × Quarter FE			
Bank exposure × Post	-0.084**	-0.098**	0.263***	0.287***
	(0.035)	(0.042)	(0.078)	(0.087)
Observations	925,465	658,123	481,152	337,955
R^2	0.359	0.363	0.858	0.858
Bank controls	Y	Y	Y	Y
Bank controls x Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
Loan-type × Quarter FE	Y	Y	Y	Y
	B. With Firm × Loan Type × Quarter FE			
Bank exposure × Post	-0.092**	-0.097**	0.245***	0.272**
	(0.033)	(0.038)	(0.082)	(0.094)
Observations	924,523	657,440	480,489	337,486
R^2	0.362	0.369	0.858	0.858
Bank controls	Y	Y	Y	Y
Bank controls x Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
Firm × Loan-type × Quarter FE	Y	Y	Y	Y

Table OA-14. Baseline regression estimates with WLS and alternative trade uncertainty measure

This table shows Weighted Least Squares (WLS) estimates for a regression of loan growth and spreads on bank exposure to trade uncertainty (panel A) and estimates for the same regression using a measure of bank exposure to trade policy uncertainty from Caldara et al. (2020) (panel B). In panel A, analytical weights are given by the bank-specific average firm count on the basis of which we compute sectoral uncertainty and in turn bank exposure to uncertainty. The WLS estimator gives a greater weight to banks for which exposures to uncertainty are computed from sectors with more listed firms (for which trade uncertainty reports are available) and it gives a lower weight to banks whose exposure measure draws on less uncertainty information. In panel B, bank exposure to trade policy uncertainty is computed in the same way as the baseline measure of bank exposure to trade uncertainty, but using instead the uncertainty data from Caldara et al. (2020). All other specification details, sample period, and controls as in Table 2. Standard errors are double clustered at the quarter and bank-firm level. Significance: *** 1%, **5%, and *10%.

	(1)	(2)	(3)	(4)
Dependent variable	**Loan Growth**		**Loan Spread**	
	All firms	**Low-uncertainty firms**	**All firms**	**Low-uncertainty firms**
		A. Weighted Least Squares		
Bank exposure × Post	-0.128***	-0.130***	0.308**	0.331**
	(0.034)	(0.039)	(0.114)	(0.128)
Observations	925,465	658,123	481,152	337,955
R^2	0.350	0.357	0.861	0.861
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y
		B. Robustnes to Caldara et al. (2020) measure		
Bank exposure to (trade policy) uncertainty × Post	-0.011	-0.016	0.133***	0.127***
	(0.014)	(0.016)	(0.039)	(0.042)
Observations	925,465	658,123	481,152	337,955
R^2	0.342	0.350	0.856	0.856
Bank controls	Y	Y	Y	Y
Bank controls × Post	Y	Y	Y	Y
Firm × Quarter FE	Y	Y	Y	Y
Firm × Bank FE	Y	Y	Y	Y