Help in a Foreign Land: Internationalized Banks and Firms' Export

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Research question

Effect of banks on firms' export → at the center of the economic debate that followed the financial crisis and the trade collapse of 2009

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Research question: is there also an information-sharing channel?

- Large sample of Italian SMEs' custom data mapped with lender banks
- novel identification strategy

Motivation

Export entails sizable fixed entry costs (Melitz, Econometrica 2003; Bernard et al., AER 2003; Melitz and Ottaviano, ReStud 2008):

- identify export markets and gather data
- adapt their products to foreign tastes or regulations
- set up distribution networks

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$\Rightarrow$ Lack of information: major barrier to entering new markets (especially for SMEs)

- Provision of export-related information a central objective of export-promotion initiatives worldwide:
  - most OECD governments have export-promotion programs (market research gathered by local offices in foreign markets)
  - Obama (2010): National Export Initiative $\rightarrow$ information and support to first-time exporters (226 offices and 100 embassies in 80+ countries)

Rationale

Besides provision of credit and trade-finance instruments → reduce informational asymmetries about foreign markets:

- banks specialize in acquiring and processing information (Petersen and Rajan, JF 2002; Degryse and Van Cayseele, JFI 2000)
- not only a deep knowledge of their client firms but also of their operating markets and potential opportunities abroad

We build on this strand of research:

- local presence through foreign subsidiaries and branches → higher accumulation of knowledge that can be passed on to client companies

⇒ bridge informational distance → informational barriers to trade → reduction in entry costs

Existing literature

1. Banks convey informational advantages and reduce export risk (macro):
   - Portes and Rey (JIE 2005) → proxies for information transmission correlate with trade in goods and assets
   - Michalski and Ors (JFE 2012) → removal of U.S. interstate banking restrictions affects aggregate trade
   - Caballero et al. (JIE 2018) → banks' connections (participation in syndicated loans) increase trade flows between countries involved

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   - Caballero et al. (JIE 2018) → banks' connections (participation in syndicated loans) increase trade flows between countries involved
2. Banks' provision of trade finance on export (Antras and Foley, JPE 2015):
   - Niepmann and Schmidt-Eisenlohr (JIE 2017a,b) → adverse shocks to a country's supply of letters of credit affect U.S. exports
3. Credit on export (micro): Amiti and Weinstein (QJE 2011), Paravisini et al. (ReStud 2015), Manova et al. (ReStat 2015), Minetti and Zhu (JIE 2011)

Existing literature/2

Only micro evidence: Paravisini et al. (JF 2023) → when an exporter expands its sales in a market, it tilts its credit demand towards a bank specialized in that country

- Similarity: banks have market-specific advantages and knowledge that can be passed on to client firms
- Differences:
  - emphasis on firms' credit demand and endogenous choice of the lender to satisfy firms' export needs → imperfect substitutability of credit sources
  - identification of the shock: role of banks' foreign branches
  - sample and research question: first-time exporters

Contributions

- First firm-level analysis explicitly on information sharing
- Bank-side shock that is orthogonal to firms' choices:
  - ⇒ preexisting banking relationships & acquisition of a *domestic* lender from an *internationalized* group → no endogenous selection from the firm's side
  - ⇒ first-time exporters to rule out reverse causality & selection of the targeted bank in the acquisition process

Implications:

- positive role of internationalized banks in a firm's decision to export (seen as a pass-through of adverse global shocks)
- role of export-related information is an indirect validation of export-support programs worldwide even if channel is different

Outline of the main results

- Treated firms start *exporting* and have *lower exit* rates in countries where the consolidated bank has a foreign branch (proxying accumulated information)
- Especially so in case of products for which information is more important
- Intensive margins of previously-exporting companies largely unaffected

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$\Rightarrow$ information spillovers mainly reduce firms' fixed entry costs in a foreign market

$\Rightarrow$ unlikely driven by credit or trade finance (confirmed by survey-based measures)

Data

- 2008-2019 MET surveys on Italian firms:
  - 7 waves with large panel component
  - representativeness: manufacturing/production services, NUTS2 level, all size classes (including micro-sized companies)
  - information on bank relationships 2006–2019 (+900,000 firm-year obs)
- Confidential custom data at the 6-digit product level (COE, ISTAT): values, quantities, destination countries
- Orbis Bank Focus (Bureau van Dijk) & Bankit supervisory register: bank balance sheets and information on branches and subsidiaries
- CRIF-Cribis D&B: firms' balance sheets

Summary stats

The Italian framework

Ideal laboratory for our research question

- Mostly SMEs (account for 53% of total export):
  - very bank dependent
  - rely on single banking relationships (65%)
  - suffer from sizable information costs jeopardizing their export activity (2010 Unicredit survey on Italian small businesses)
  - underdeveloped use of trade finance: fixed costs $\rightarrow$ large transactions

Some data

- Italian banking system underwent a substantial restructuring in the period:
  - 38 acquisitions of local banks from internationalized groups (Intesa, BNP, CA, MPS, BPM, UBI, BPER)
  - top-five banks passed from 26% to 50% of total banking assets
  - 15.9% of treated firms in the cross-sectional sample

Branches worldwide Acquisitions Stats on treated

Econometric analysis: country-specific

$$pr(y_{i,c,t}|y_{i,c,t_0} = 0) = \alpha + \beta \text{Branch}^{b}_{i,c,\tau-1} \times \text{Post}_{i,t} + \mu_{i,t} + \lambda_{c,t} + \varepsilon_{i,c,t}.$$

- $y_{i,c,t}$: export of firm i at time t in country c (top 50 markets) List
- $\text{Branch}^{b}_{i,c,\tau-1}$: treatment variable $\Rightarrow$ value of one if lender bank of firm i acquired by a banking group with a branch in country c before the M&A $(\tau - 1)$
- $\mu_{i,t}$: firm-specific time fixed effects (observable and unobservable time-varying characteristics of the firm)
- $\lambda_{c,t}$: country-specific time fixed effects:
  - A common (bilateral exchange rates)
  - B specific to the 6-Digit sector of the product (ct-varying demand shocks)
  - C specific to NUTS-3 area of the firm
  - D both b and c

Estimated via linear-probability models with clustered s.e.

Empirical challanges and how they are handled

- **Self selection**: firms that already intend to start exporting cherry-pick their lender bank (Paravisini et al., NBER 2020)

$\Rightarrow$ preexisting lending relationships with local banks later acquired by an internationalized banking group $\rightarrow$ outside a firm's choice

Empirical challanges and how they are handled

- **Reverse causation**: banks follow their customers abroad to avoid losing business (Goldberg and Grosse, 1994) or selection of the targeted bank in the acquisition process

$\Rightarrow$ focus on non-exporting companies and date international branches $\tau - 1$

$\Rightarrow$ $\lambda_{c,t}$ country-product specific demand shock (629,300), NUTS3-specific country-time components (99,350): relevant if acquired bank specialized in financing sectors with a higher export probability or certain areas

$\Rightarrow$ $\mu_{i,t}$ controls for the match between a firm and its bank in each time

isolates *within firm* variation $\Rightarrow$ in each i, t differential effect of starting export in a country where the consolidated bank has a foreign branch

controls for credit availability to exclude a relevant channel (credit is fungible)

Extensive margins: country-specific

	Export				
	(1)	(2)	(3)	(4)	(5)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00884***	0.00243***	0.00194***	0.00275***	0.00192***
	[0.000287]	[0.000284]	[0.000279]	[0.000294]	[0.000305]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.223	0.231	0.256	0.235	0.284
Observations	46,926,330	46,926,330	45,247,037	45,278,495	38,654,394

Unconditional prob: 0.0155 $\Rightarrow$ Treatment increases firms' baseline probability by 12.4% in the most conservative specification

Heterogeneity by geographic area

	$\text{AvgExport}_{i,c,t}$				
	(1)	(2)	(3)	(4)	(5)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.0468*	0.200***	0.197***	0.192***	0.0443*
	[0.0277]	[0.0229]	[0.0716]	[0.0363]	[0.0258]
Firm×T FE	Y	Y	Y	Y	Y
Country×Sector×T	Y	Y	Y	Y	Y
Market:	Eurozone	Non-EU countries	North America	Asia	Other countries
Adj R-squared	0.417	0.217	0.329	0.305	0.214
Observations	15,594,785	30,212,147	1,698,858	9,160,299	18,340,220

y: extensive margin of export rescaled by the unconditional probability of the group

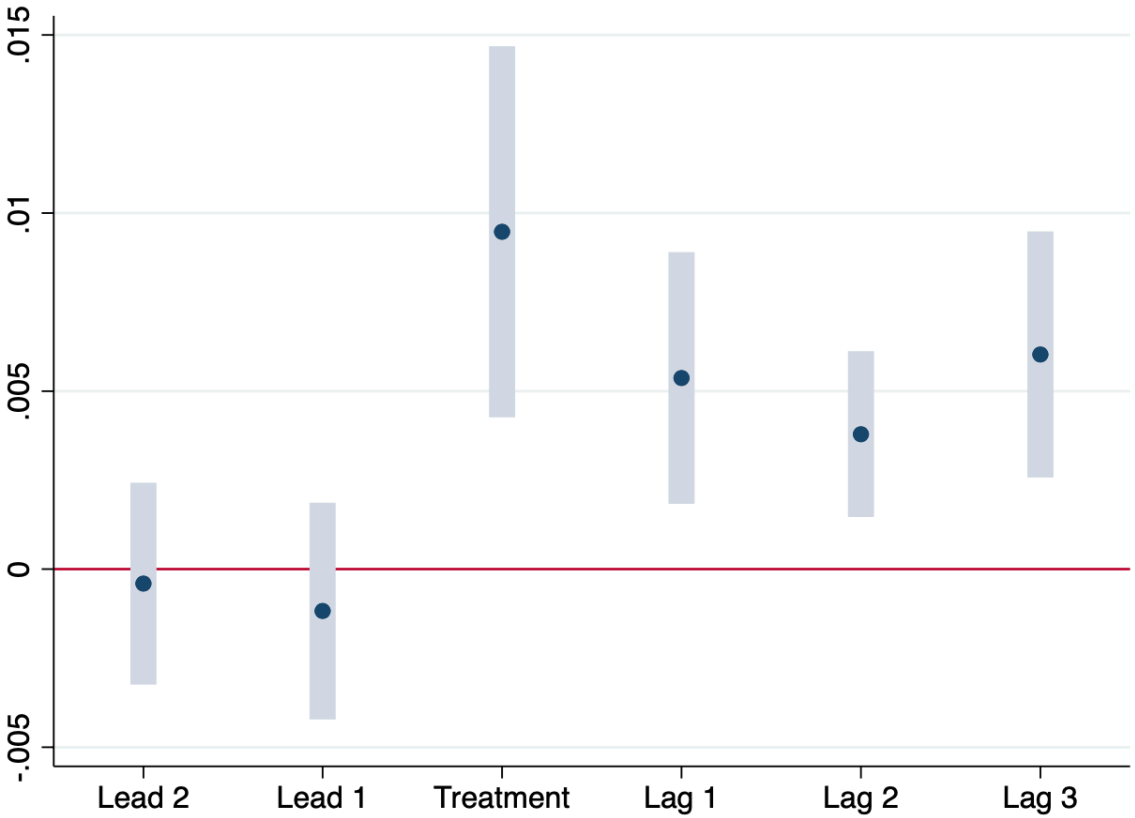
- Not driven by Eurozone countries for which information should be less relevant
  - not limited to headquarter country (France for BNP and CA)
- Stronger effects North America and Asia

Parallel trends

Acquisition of local banks may be endogenous to firms' export activity:

- even if $\mathbb{1}_{i,c,t_0}$ → M&A may target banks with more efficient client portfolios

⇒ ex-ante more likely to export, but it still does not explain within-firm variation



Robustness

Alternative clustering: Table

A. firm & lender bank

B. firm & country-year

C. firm & lender bank & country-year-sector

D. firm & lender bank & country-year-NUTS3

Alternative samples: Table

A. exclude borrowers of previously-internationalized banks

B. using only observed firm-bank relationships

C. sample of single banking relationships

D. longer banking connections (cross-sectional median, 10 years)

E. exclude bank switchers

F. all restrictions a-e

Robustness (cont'd)

Alternative specification/estimator:

- never exporting before $t-1$ (intermittent exporters) Table
- control for the role of import Table
- autoregressive model with no sample constraint Table
- allowing for delay in the treatment Table
- conditional logistic model (only μ_i and $\lambda_{c,t}$) Table
- staggered DID techniques (Callaway and Sant'Anna, JEconom 2021) Table
  - not preferred because of μ_{it} and the interaction analysis that follows

Heterogeneities by firms' characteristics

	$\text{AvgExport}_{i,c,t}$			
	(1)	(2)	(3)	(4)
Panel A:	Firms' size (N of employees)			
	Q1	Q2	Q3	Q4
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.449***	0.574***	0.180***	-0.0158
	[0.130]	[0.0917]	[0.0350]	[0.0148]
Firm×T FE	Y	Y	Y	Y
Country×Sector×T	Y	Y	Y	Y
Adj R-squared	0.155	0.162	0.204	0.300
Observations	9,290,137	14,039,499	11,520,824	10,185,088
Panel B:	Firms' creditworthiness (Z-score)			
	Q1	Q2	Q3	Q4
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.229***	0.101***	0.0700***	0.0920***
	[0.0405]	[0.0256]	[0.0230]	[0.0323]
Firm×T FE	Y	Y	Y	Y
Country×Sector×T	Y	Y	Y	Y
Adj R-squared	0.245	0.258	0.265	0.280
Observations	11,067,525	10,770,411	10,778,343	11,079,904
Panel C:	Firms' liquidity			
	Q1	Q2	Q3	Q4
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.0434	0.0709***	0.112***	0.210***
	[0.0333]	[0.0227]	[0.0240]	[0.0473]
Firm×T FE	Y	Y	Y	Y
Country×Sector×T	Y	Y	Y	Y
Adj R-squared	0.264	0.262	0.273	0.253
Observations	11,066,184	10,756,793	10,855,604	11,289,151

- Stronger for small and micro; no role of Z-score; but liquidity matters

Further excluding endogeneity in banks' acquisition

Findings driven by spurious relationship with banks' choice of localization for their foreign branches? E.g., firms and banks may have similar choice criteria

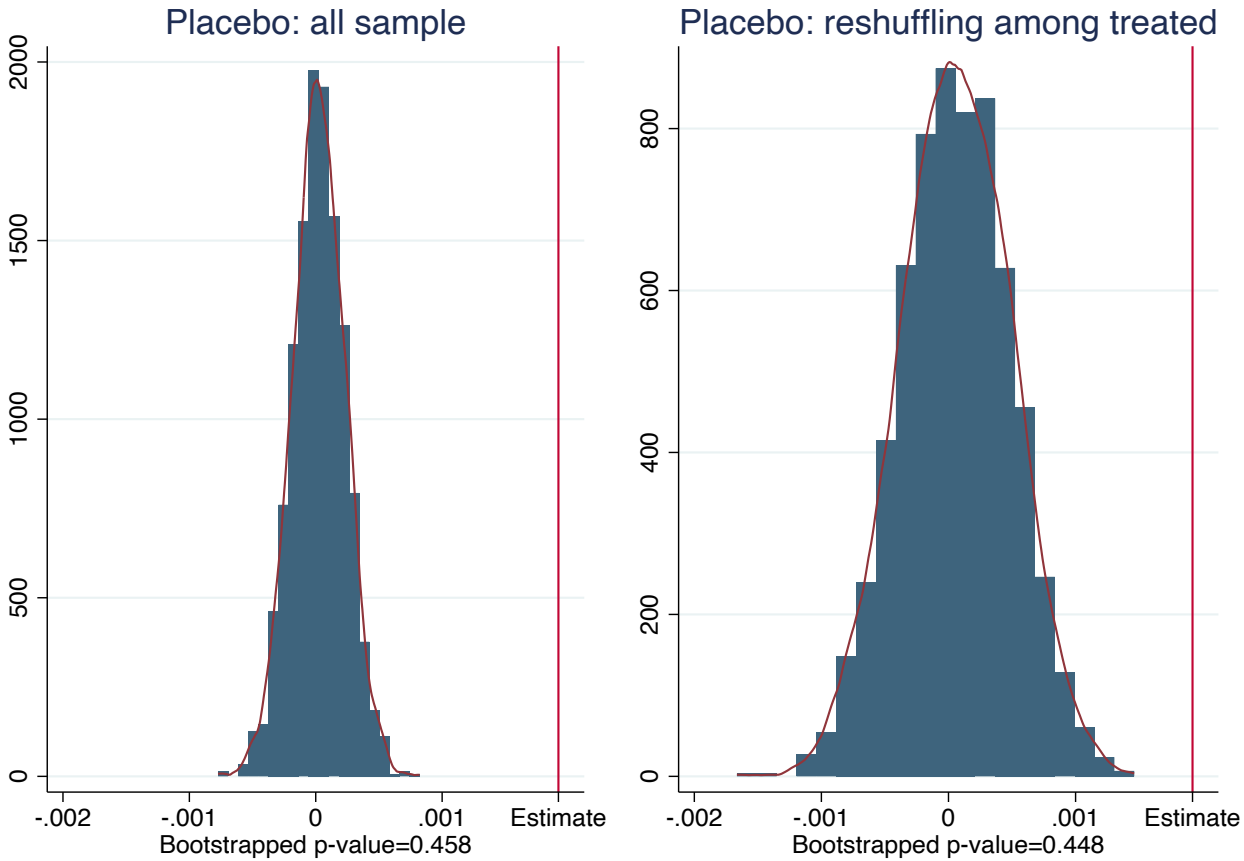
- Same results if we exclude the top-five, ten, 15, 20, or 25 destination countries for Italian exporters Table

$\Rightarrow$ not driven by correspondence of branch localization with firms' most popular destination markets

- placebo experiment scrambling firms' relationships with the banks:
  - in each c, t randomize to match the observed frequency of first treatment
  - construct $\text{Placebo}_{i,c} \times \text{Post}_{i,t}$
  - 2,000 times $\rightarrow$ recover the empirical distribution of the placebo effect
- Alternative placebo reshuffling country branches only among treated firms

Placebo

Distribution is centered around zero, and p-value of H_0: $\beta_{\text{placebo}} \leq 0$



Panel B: effect limited to countries where the bank has some deep roots

Ex ante probability of export

Assume effect driven by targeting banks' clients more likely to export in country c

- for each c compute ex-ante export probability for firm i → focus on low-probability firms (i.e., not targeted by the acquiring bank)
- focus on provinces (or sectors) with low probability of export (less information available through other channels)

	$\text{AvgExport}_{i,c,t}$					
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.444***	0.709***	1.869***	0.314***	0.372***	0.388***
	[0.120]	[0.220]	[0.521]	[0.0333]	[0.0550]	[0.109]
Firm×T FE	Y	Y	Y	Y	Y	Y
Country×Sector×T	Y	Y	Y	Y	Y	Y
Criteria	$\Pr(\text{Export}_{i,c,t}\|X_{i,t},\lambda_{c,t}) < p(.)$			$\Pr(\text{Export}_{i,c,t}\|\lambda_{c,t}) < p(.)$		
Pctile p(.)	50th	25th	10th	50th	25th	10th
Adj R-squared	0.083	0.083	0.083	0.234	0.211	0.165
Observations	23,615,736	11,862,906	4,755,216	23,386,891	13,331,152	6,494,254

Possible channels

Emphasize information-sharing channel $\rightarrow$ evidence that it is unlikely to be about:

- credit channel:
  - $\mu_{i,t}$ if credit is fungible;
  - no differential effect for creditworthy firms
  - A. no heterogeneity by bank characteristics (bank-lending channel)
  - B. differential effects by type of good
- trade-finance:
  - SMEs in the sample (and stronger for medium)
  - C. differential effects by country riskiness

\+ survey-based evidence in favor of information sharing

Heterogeneity by bank characteristics

	Export					
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00190***	0.00213***	0.00202***	0.00179***	0.00185***	0.00194***
	[0.000298]	[0.000319]	[0.000303]	[0.000297]	[0.000293]	[0.000295]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times X^b(\text{High})$	0.000224	-0.000593	-0.000278	0.000733	0.000456	-0.00000999
	[0.000420]	[0.000428]	[0.000479]	[0.000460]	[0.000491]	[0.000502]
Firm×T FE	Y	Y	Y	Y	Y	Y
Country×Sector×T FE	Y	Y	Y	Y	Y	Y
X^b(High)	Tier-1 K	Liquidity	Rollover	Interbank	Risk weight	Loans to assets
Adj R-squared	0.256	0.256	0.256	0.256	0.256	0.256
Observations	45,247,037	45,247,037	45,247,037	45,247,037	45,247,037	45,247,037

- No heterogeneity by bank ratios associated with the lending channel

Heterogeneities by product and destination country

	Export (1)	Export (2)	Export (3)	Export homog (4)	Export heterog (5)	Export (6)	Export (7)	Export (8)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	-0.000325	-0.000210	-0.0000264	0.000662***	0.00188***	0.00556***	0.00491***	0.00529***
	[0.000317]	[0.000326]	[0.000328]	[0.000165]	[0.000273]	[0.000902]	[0.000909]	[0.000725]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times X_{i/c,t}$	0.00487***	0.00762***	0.00290			-0.00126***	-0.000968***	-0.00164***
	[0.00169]	[0.00263]	[0.00237]			[0.000207]	[0.000187]	[0.000216]
$X_{i/c,t}$	Firm innovativeness			–	–	Country risk		
	$\%\text{Innovation}_{i,t-1}$	$\%\text{Radical}_{i,t-1}$	$\%\text{Incremental}_{i,t-1}$			Socio economic$_{c,t-1}$	Investment profile$_{c,t-1}$	Law & order$_{c,t-1}$
Firm×T FE	Y	Y	Y	Y	Y	Y	Y	Y
Country×Sector×T FE	Y	Y	Y	Y	Y	Y	Y	Y
Adj R-squared	0.258	0.258	0.258	0.294	0.260	0.268	0.268	0.268
Observations	17,914,489	17,914,489	17,914,489	45,247,037	45,247,037	43,349,380	43,349,380	43,349,380

- Stronger when information channel should be more relevant: more innovative firms and differentiated goods (+10% vs +13%)
  - but also export risk higher for differentiated goods (Berkowitz et al., ReStat 2006; Nunn, QJE 2007): trade finance?
- Effect decreases with the riskiness of a country (not a cure-all):
  - insign at the 75th pctile → trade finance used where contracts are less likely to be honored (Antras and Foley, JPE 2015; Caballero et al., JIE 2018)

Channels: direct evidence

Survey measures on factors that limited or prevented a firm's penetration into international markets in the past (projected backwards) Question

$y_{i,c,t}$:	Export					
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00288***	0.00292***	0.00246***	0.00340***	0.00336***	0.00309***
	[0.000606]	[0.000590]	[0.000591]	[0.000665]	[0.000637]	[0.000676]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times \text{Finance}_i$	-0.000233					-0.00108
	[0.00225]					[0.00755]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times \text{Risk}_i$		-0.00230				-0.00223
		[0.00399]				[0.00401]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times \text{Information}_i$			0.00688**			0.00671**
			[0.00311]			[0.00318]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times \text{Product}_i$				-0.00245*		-0.000167
				[0.00138]		[0.00791]
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t} \times \text{Other}_i$					-0.00331**	-0.00300
					[0.00155]	[0.00776]
Firm×T FE	Y	Y	Y	Y	Y	Y
Country×sector×T FE	Y	Y	Y	Y	Y	Y
Adj R-squared	0.254	0.254	0.254	0.254	0.254	0.254
Observations	15,004,421	15,004,421	15,004,421	15,004,421	15,004,421	15,004,421

Intensive margins and exit

$y_{i,c,t}$:	Export €		Export Q		Export N		Exit	Import
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.0144***	0.00772	0.00941***	-0.0179	0.0130***	0.00787	-0.00278**	0.00125
	[0.00410]	[0.0204]	[0.00271]	[0.0159]	[0.00281]	[0.00642]	[0.00126]	[0.000811]
Sample:	$y_{t-1} = 0$	$y_{t-1} > 0$	$y_{t-1} = 0$	$y_{t-1} > 0$	$y_{t-1} = 0$	$y_{t-1} > 0$	Entrants	$y_{t-1} = 0$
Firm×T FE	Y	Y	Y	Y	Y	Y	Y	Y
Country×T FE	Y	Y	Y	Y	Y	Y	Y	Y
Adj R-squared	0.564	0.557	0.580	0.663	0.611	0.567	0.273	0.135
Observations	41,636,932	2,010,403	41,636,932	2,006,868	41,637,334	5,929,101	2,518,910	46,571,763

- Driven by new entrants → no effect on previously-exporting firms
- Significant effect on exit rates
- Information provided by banks lowers the fixed entry cost of exporting (which only affects the extensive margins)

Concluding remarks

- Lack of information relevant obstacle to trade activity of SMEs
- Besides the provision of credit and trade finance, banks can support firms' export by reducing informational asymmetries about foreign countries
- Firms have a significantly-higher probability of starting export in countries where their lender bank has some deep roots

  $\Rightarrow$ bright side of international banks (advocated as important transmission channel of adverse shocks)
- Policy perspective: results give indirect insights on the effectiveness of export-promotion initiatives implemented by governments worldwide
  - Some form of information sharing is already embedded in the free market

Backup slides

Acquisitions in the sample

Back

BNP PARIBAS GROUP	
Bca Nazionale del Lavoro (BNL)*	February 2006
CREDIT AGRICOLE GROUP	
CR di Parma e Piacenza (Cariparma)	March 2007
Bca Pop FriulAdria	March 2007
CR della Spezia (Carispezia)	February 2010
CR di Rimini (Carim)	December 2017
CR di Cesena (Caricesena)	December 2017
CR di San Miniato (Carismi)	December 2017
INTESA SANPAOLO GROUP	
CR di Forlì e della Romagna (Cariforlì)	March 2007
CR di Firenze	July 2007
CR di Civitavecchia (through CR di Firenze)	July 2007
CR di Pistoia e della Lucchesia	January 2008
Bca CIS (Credito Industriale Sardo)	March 2009
Bca Monte Parma	October 2010
Fideuram	July 2015
CR dell'Umbria (CR di Spoleto)	November 2015
CR di Terni e Narni (through CR Umbria)	November 2015
CR Città di Castello (through CR Umbria)	November 2015
CR di Foligno	November 2015
Bca ITB (Bca 5)	December 2016
Veneto Bca	June 2017
CR di Fabriano e Cupramontana (CARIFAC, through Veneto Bca)	June 2017
Bca Pop di Vicenza	June 2017
Bca Nuova (through Bca Pop di Vicenza)	June 2017
Bca Apulia	June 2017
MPS GROUP	
Bca Antonveneta	May 2008
BPM GROUP/Banco BPM	
Bca Pop di Mantova	December 2008
Bca di Legnano	September 2013
CR di Alessandria (through Bca di Legnano)	September 2013
Bco Popolare GROUP (merge)	January 2017
UBI GROUP	
Nuova Bca delle Marche	January 2017
CR di Loreto (through Bca delle Marche)	January 2017
Bca dell'Etruria e del Lazio	May 2017
Bca Federico del Vecchio	May 2017
CR di Chieti (Carichieti renamed Bca Teatina)	May 2017
BPER GROUP	
CR di Bra	January 2013
Serfina Bca	January 2013
CR di Ferrara	June 2017
Unipol Bca	January 2019

Stats on treated

15.9% of the sample are treated firms:

- 12.6% of treated firms already exporting before the M&A → in line with share of exporting firms connected with other domestic banks (11.8%)
- After the M&A: jump to 21.8% → get closer to companies of internationalized banking groups (24.7% exporters)

Back

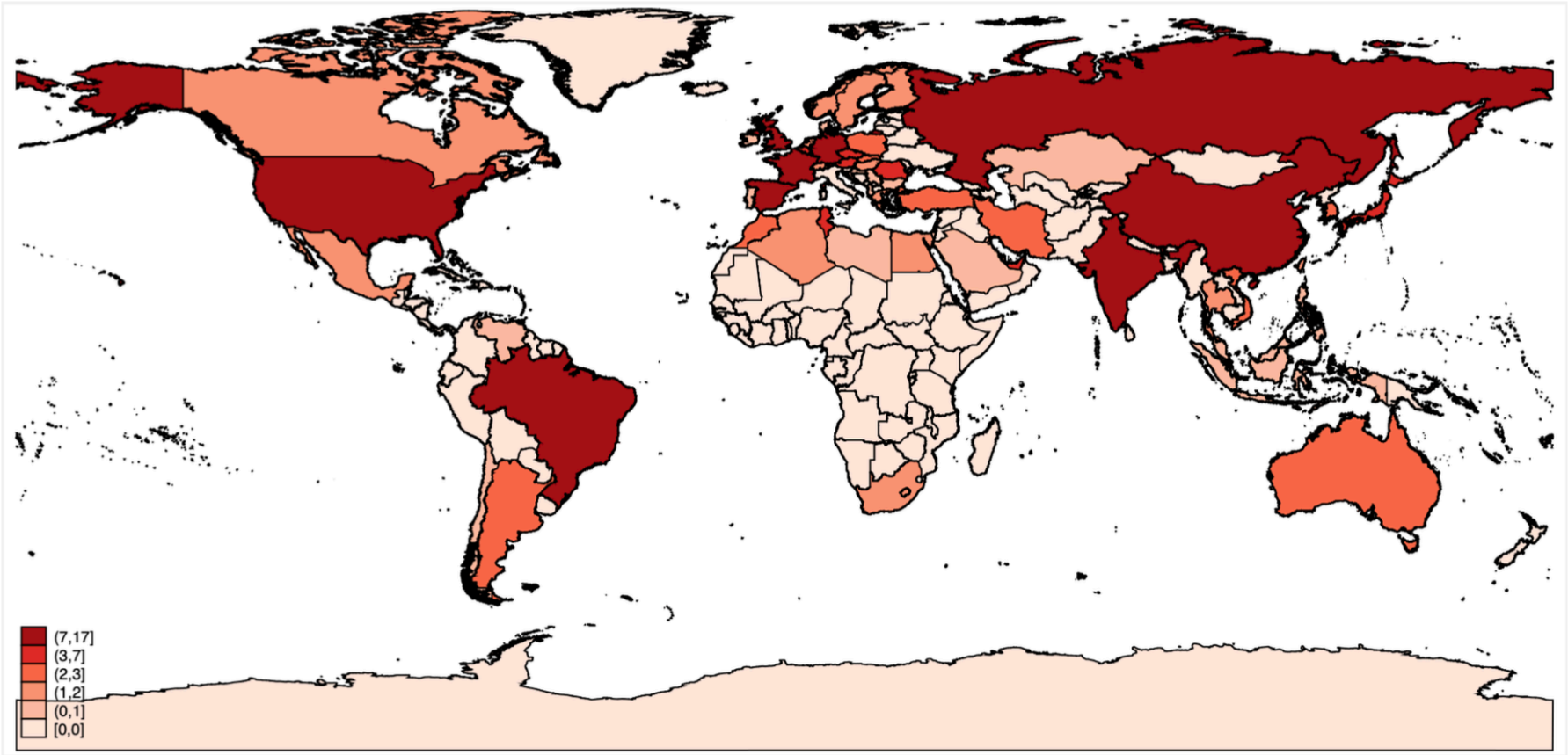
Diffusion of trade-finance products

Source: Niepmann and Schmidt-Eisenlohr (JIE 2017a)

- Somewhat limited use: LCs cover only 13% of the world trade (1.8% for DCs)
- Even less so for Italy (6%), lowest share among the top-ten exporting countries
- Sizable fees and fixed costs → mainly used by large companies
- Average value of export transactions employing LCs is \$680k (\$120k for DCs), more than 13-times the median trade transaction in our sample (\$50k)

Back

Foreign branches involved in the acquisitions



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Top-50 destination markets

Rank	Country	Rank	Country
01	Germany	26	India
02	France	27	South Korea
03	United States	28	Slovenia
04	United Kingdom	29	Portugal
05	Spain	30	Canada
06	Switzerland	31	Algeria
07	Belgium	32	Tunisia
08	China	33	Egypt
09	Poland	34	Croatia
10	Turkey	35	Denmark
11	Netherlands	36	Slovakia
12	Austria	37	Libya
13	Russia	38	Israel
14	Romania	39	Singapore
15	Japan	40	South Africa
16	Czech Republic	41	Finland
17	Sweden	42	Morocco
18	Greece	43	Bulgaria
19	Brasil	44	Norway
20	Hungary	45	Islamic Republic of Iran
21	Australia	46	Ukraine
22	United Arab Emirates	47	Malta
23	Saudi Arabia	48	Lebanon
24	Mexico	49	Ireland
25	Hong Kong	50	Thailand

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Descriptive statistics (firm-level) Back

	Mean	SD	Min	Max
Employees	31.53	111.42	1.00	2,028
Banking relationships: 1	0.65	0.48	0.00	1.00
Banking relationships: 2	0.21	0.41	0.00	1.00
Banking relationships: ≥ 3	0.14	0.35	0.00	1.00
Length of the relationship (years)	14.07	9.34	1.00	49.00
Treated	0.16	0.37	0.00	1.00
Treated: no intz bank	0.08	0.28	0.00	1.00
Always intz bank	0.64	0.48	0.00	1.00
Always domestic bank	0.28	0.45	0.00	1.00
Extensive margins of export				
Export	0.23	0.42	0.00	1.00
Export: Europe EU	0.16	0.37	0.00	1.00
Export: Europe extra-EU	0.15	0.36	0.00	1.00
Export: North America	0.10	0.30	0.00	1.00
Export: Center/South America	0.08	0.26	0.00	1.00
Export: Asia	0.11	0.31	0.00	1.00
Export: Other countries	0.14	0.35	0.00	1.00
Intensive margins of export				
Export M€	2.02	30.66	0.00	5,298.26
Export M€: Europe EU	1.14	17.80	0.00	3,865.05
Export M€: Europe extra-EU	0.22	6.35	0.00	2,017.28
Export M€: North America	0.17	3.96	0.00	1,265.47
Export M€: Center/South America	0.07	1.59	0.00	525.11
Export M€: Asia	0.18	3.68	0.00	959.31
Export M€: Other countries	0.24	7.13	0.00	2,092.20

Alternative clustering

	Export				
	(1)	(2)	(3)	(4)	(5)
Panel A:	Firm & Bank				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00884***	0.00243**	0.00194**	0.00275***	0.00192**
	[0.000919]	[0.00117]	[0.000886]	[0.00102]	[0.000786]
Panel B:	Firm & Country-year				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00884***	0.00243***	0.00194***	0.00275***	0.00192***
	[0.00121]	[0.000665]	[0.000558]	[0.000702]	[0.000547]
Panel C:	Firm & Bank & Country-year-sector				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00906***	0.00245**	0.00194**	0.00275***	0.00192***
	[0.000913]	[0.00115]	[0.000883]	[0.00102]	[0.000721]
Panel D:	Firm & Bank & Country-year-NUTS3				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00906***	0.00245**	0.00194**	0.00275***	0.00192***
	[0.000924]	[0.00115]	[0.000889]	[0.00102]	[0.000723]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3

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Alternative samples

	Export				
	(1)	(2)	(3)	(4)	(5)
Panel A:	Excluding borrowers of previously-internationalized banks				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00685***	0.00384***	0.00334***	0.00357***	0.00263***
	[0.000376]	[0.000377]	[0.000367]	[0.000396]	[0.000452]
Adj R-squared	0.192	0.197	0.224	0.199	0.258
Observations	17,376,029	17,376,029	16,834,021	16,888,477	12,298,670
Panel B:	Observed firm-bank relationships only				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.0106***	0.00387***	0.00319***	0.00424***	0.00328***
	[0.000337]	[0.000332]	[0.000320]	[0.000340]	[0.000347]
Adj R-squared	0.218	0.227	0.254	0.230	0.283
Observations	38,218,143	38,218,143	37,351,233	37,386,808	31,362,045
Panel C:	Single banking relationships only				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00597***	0.00242***	0.00233***	0.00269***	0.00229***
	[0.000300]	[0.000302]	[0.000303]	[0.000318]	[0.000328]
Adj R-squared	0.208	0.212	0.236	0.215	0.273
Observations	31,495,591	31,495,591	30,141,640	30,179,095	24,326,762

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Alternative samples (cont'd)

Panel D:	Longer banking relationships only				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.0128***	0.00312***	0.00213***	0.00369***	0.00136**
	[0.000500]	[0.000493]	[0.000471]	[0.000508]	[0.000592]
Adj R-squared	0.214	0.226	0.255	0.229	0.276
Observations	15,731,109	15,731,109	15,588,414	15,642,733	11,481,849
Panel E:	Excluding firms that switched banks				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00782***	0.00297***	0.00259***	0.00332***	0.00245***
	[0.000320]	[0.000321]	[0.000322]	[0.000338]	[0.000379]
Adj R-squared	0.210	0.217	0.242	0.219	0.277
Observations	29,260,296	29,260,296	27,693,230	27,729,423	21,973,779
Panel F:	All restrictions A-E				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00926***	0.00673***	0.00537***	0.00649***	0.00523***
	[0.000969]	[0.000974]	[0.000907]	[0.00101]	[0.00168]
Adj R-squared	0.174	0.179	0.234	0.177	0.239
Observations	2,458,309	2,458,309	2,358,773	2,443,803	1,077,300
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3

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Never exporting before t − 1

	Export				
	(1)	(2)	(3)	(4)	(5)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00391***	0.00222***	0.00204***	0.00237***	0.00197***
	[0.0000846]	[0.0000847]	[0.0000837]	[0.0000878]	[0.0000933]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.095	0.097	0.108	0.098	0.137
Observations	41,934,652	41,934,652	40,403,573	40,433,010	34,393,089

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The role of import

	$\text{Export}_{i,c,t}$				
	(1)	(2)	(3)	(4)	(5)
Panel A:	Controlling for past import from country c				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00786***	0.00224***	0.00184***	0.00256***	0.00178***
	[0.000289]	[0.000290]	[0.000286]	[0.000300]	[0.000314]
$\text{Import}_{i,c,t-1}$	0.150***	0.140***	0.129***	0.137***	0.128***
	[0.00175]	[0.00171]	[0.00163]	[0.00169]	[0.00183]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.234	0.240	0.263	0.243	0.290
Observations	43,173,092	43,173,092	41,637,334	41,666,644	35,557,589
Panel B:	Restring the sample to firms non-importing from country c				
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00816***	0.00236***	0.00193***	0.00265***	0.00183***
	[0.000278]	[0.000277]	[0.000271]	[0.000286]	[0.000296]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.223	0.230	0.254	0.233	0.282
Observations	46,543,449	46,543,449	44,869,808	44,901,329	38,307,448

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Autoregressive model (no sample constraint)

	$\text{Export}_{i,c,t}$				
	(1)	(2)	(3)	(4)	(5)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00725***	0.00253***	0.00206***	0.00286***	0.00226***
	[0.000161]	[0.000160]	[0.000159]	[0.000166]	[0.000184]
$\text{Export}_{i,c,t-1}$	0.712***	0.703***	0.681***	0.699***	0.670***
	[0.00102]	[0.00101]	[0.00102]	[0.00101]	[0.00116]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.704	0.705	0.710	0.706	0.717
Observations	45,223,600	45,223,600	43,669,900	43,698,350	37,513,950

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Delay in the treatment

	Export$_{i,c,t}$				
	(1)	(2)	(3)	(4)	(5)
Branch$_{i,c,\tau-1}$ × Post$_{i,t+1}$	0.0135***	0.00695***	0.00603***	0.00782***	0.00580***
	[0.000389]	[0.000384]	[0.000374]	[0.000402]	[0.000411]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.223	0.231	0.256	0.235	0.284
Observations	46,926,330	46,926,330	45,247,037	45,278,495	38,654,394

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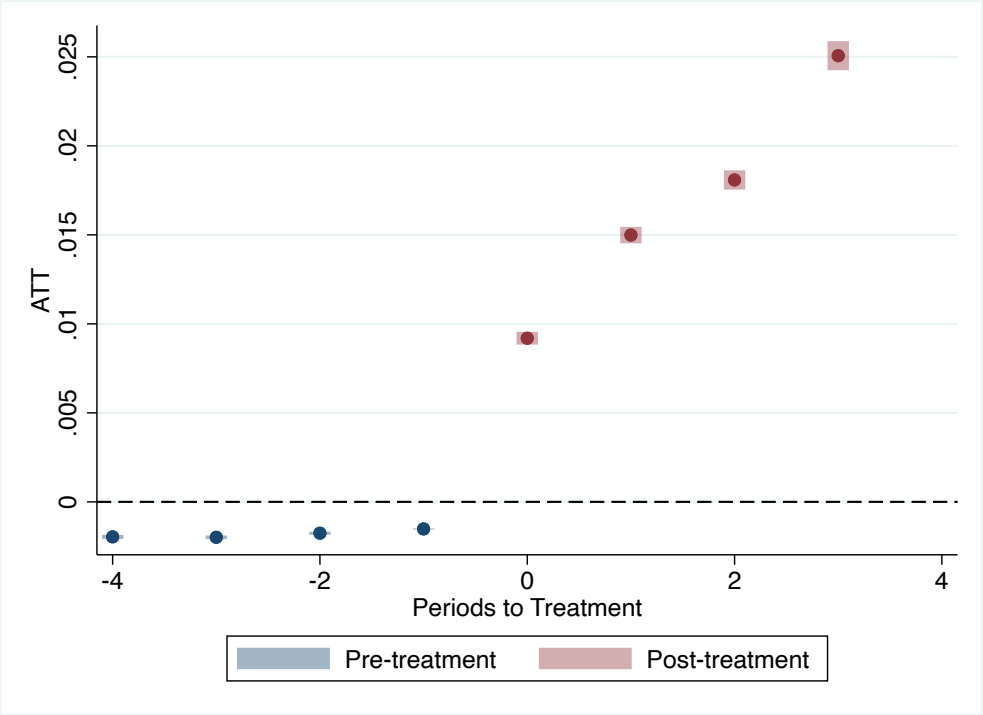
Callaway and Sant'anna (2021) staggered DID

	(1)	(2)
	y =Export$_{i,c,t}$	
ATT	0.0215***	0.0218***
	[0.000298]	[0.000298]
Control group	Never treated	Not yet treated



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Robustness: logistic model

	Export				
	(1)	(2)	(3)	(4)	(5)
$\text{Branch}_{i,c,\tau-1} \times \text{Post}_{i,t}$	0.00391***	0.00222***	0.00204***	0.00237***	0.00197***
	[0.0000846]	[0.0000847]	[0.0000837]	[0.0000878]	[0.0000933]
Firm×T FE	Y	Y	Y	Y	Y
Country×T FE	N	Common	by sector	by NUTS3	by sector & NUTS3
Adj R-squared	0.095	0.097	0.108	0.098	0.137
Observations	41,934,652	41,934,652	40,403,573	40,433,010	34,393,089

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Robustness: excluding top destination countries

	AvgExport$_{i,c,t}$				
	(1)	(2)	(3)	(4)	(5)
Branch$_{i,c,\tau-1}$ × Post$_{i,t}$	0.117***	0.125***	0.116***	0.140***	0.183***
	[0.0182]	[0.0196]	[0.0214]	[0.0235]	[0.0258]
Firm×T FE	Y	Y	Y	Y	Y
Country×sector×T	Y	Y	Y	Y	Y
Excluded destination markets	Top-5	Top-10	Top-15	Top-20	Top-25
Adj R-squared	0.242	0.232	0.222	0.209	0.203
Observations	40,985,641	37,439,273	33,004,770	28,519,852	24,889,241

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Survey-based measures

A) Were there any factors that in the past limited or prevented the firm's penetration into international markets?

In case of a positive answer, firms were allowed to choose among the following options:

i) lack of financial resources (Finance, 7.8% of the sample)

ii) excessive riskiness of trade (Risk, 6.7%)

iii) lack of specific information on the destination country (Information, 6.3%)

iv) characteristics of the goods produced by the firm that are not suitable for foreign markets (Product, 11.5%)

v) a residual option for other factors (Other, 14.9%)

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Bank credit

$y_{i,t}$	ln(bank credit)				
	(1)	(2)	(3)	(4)	(5)
Branch	-0.00510				
	[0.0396]				
Branch × Q1(X)		0.291	-0.0487	-0.213***	-0.0301
		[0.262]	[0.0860]	[0.0686]	[0.115]
Branch × Q2(X)		-0.0272	-0.0564	0.0410	0.00145
		[0.123]	[0.0994]	[0.0555]	[0.0893]
Branch × Q3(X)		0.0222	-0.0647	0.0797	-0.0674
		[0.0524]	[0.0592]	[0.0632]	[0.0613]
Branch × Q4(X)		-0.0120	0.0192	0.0512	0.00180
		[0.0409]	[0.0416]	[0.0636]	[0.0402]
Interacting variable (X):		Size	Productivity	Z-score	Length rel.
Firm FE	Y	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y	Y
T FE	Common	Common	Common	Common	Common
Adj R-squared	0.207	0.207	0.207	0.215	0.215
Observations	196,986	196,986	196,986	196,986	196,986

Extensive margins: explorative (firm-level)

$y_{i,t}$:	Export					
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Branch}_{i,\tau-1} \times \text{Post}_{i,t}$	0.0414***	0.0388***	0.0349***	0.0457***	0.0469***	0.0463***
	[0.00290]	[0.00284]	[0.00323]	[0.00433]	[0.00432]	[0.00446]
Firm FE	Y	Y	Y	Y	Y	Y
Firm controls	N	Y	Y	Y	Y	Y
Firm × Bank FE	N	N	N	Y	Y	Y
Bank controls	N	N	Y	Y	Y	Y
T FE	Common	Common	Common	Common	Sector-6D	NUTS-3
Adj R-squared	0.482	0.544	0.551	0.577	0.585	0.577
Observations	772,670	649,940	549,018	542,803	541,956	542,793

Pre-trends (firm-level)