Superstar Buyers and the Amplification of Financial Crises: Evidence from Firm-to-Firm Trade Data

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Motivation

Motivation

- Modern economies are increasingly dominated by "superstar" firms (Autor et al., 2020)
- It is unclear how being connected to such firms affects suppliers during financial downturns:
  1. Connections to superstar buyers could amplify crises (through dependence)...
  2. ... or dampen them (reliable payers, e.g. Alfaro-Urena et al., 2022)
- Understanding this is important because financial crises are frequent and have negative and persistent effects on employment and output (Schularick and Taylor, 2012; Jordà et al., 2013)
- **Do links to superstar buyers help or hurt suppliers when financial shocks hit?**

This Paper

- Focus on **exports**
  - Highly sensitive to financial shocks (Amiti and Weinstein, 2011; Paravisini et al., 2015)
  - External demand can cushion domestic downturns (Almunia et al., 2021)
  - Identification: foreign buyers are less likely to be hit by the same credit supply shock
- **Credit supply shock**
  - Firms exposed to fragile banks during the Eurozone sovereign debt crisis (government support in 2009)
  - **Firm-level credit shock**: share of loans from these three banks in 2011-Q2
- **"Superstar penalty"**
  - Use firm-to-firm export data to identify superstar buyers and estimate how pre-crisis connections to these buyers shape exporters' responses to the credit shock

Results

- **Credit supply shock**: loans from distressed banks decline by 5% over 4 years (relative to other banks)
- **Overall credit decline**: 4% $\downarrow$ in total credit for exporters exposed to distressed banks
- **Export decline**: exposed exporters see a 12% $\downarrow$ in exports, due to fewer buyers and lower exports per buyer
- **Superstar penalty**: exposed exporters with superstar relationships experience even lower growth
- **Mechanism**: reallocation of sales across buyers
  - Superstar buyers reduce purchases from more exposed firms, as they can rely on a broader supplier pool $\longrightarrow$ lower demand from superstar buyers $\longrightarrow$ larger $\downarrow$ in exports for stressed firms connected to them

Related Literature

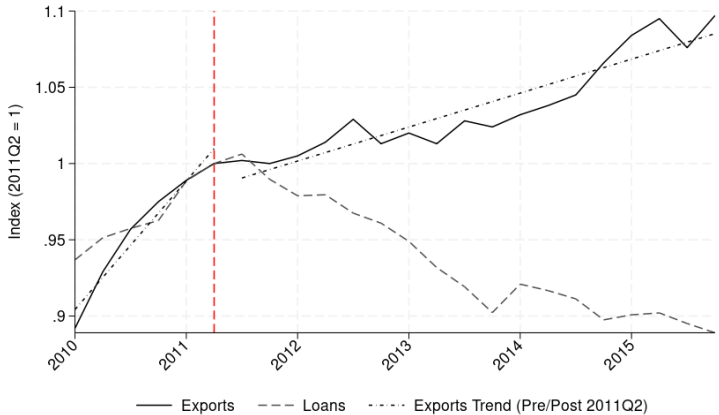
1. Credit supply and export activity
   - Amiti and Weinstein (2011), Manova (2013), Paravisini et al. (2015)
   - **Contribution:** heterogeneous impact across exporters (effect depends on their ties with superstar firms)
2. Amplification of financial crises
   - Schularick and Taylor (2012), Jorda et al (2013), Mian, Sufi and Werner (2017), Sufi and Taylor (2022)
   - **Contribution:** alternative credit supply shock + focus on international transactions and superstar buyers
3. Role of large firms and superstars in the economy
   - Autor et al. (2020), Alfaro-Urena et al. (2022), Amiti et al. (2024)
   - **Contribution:** superstar buyers do not provide insurance against credit supply shocks

Sovereign Debt Crisis in Italy

Risk Premium During the Sovereign Debt Crisis in Italy

Credit and Trade: Causal Link? GDP and Demand

- Slowdown in exports coincides with large drop in bank lending after 2011:Q2[1]



[1] Adjusted loans vis-a-vis euro area NFCs reported by MFIs excl. ESCB in Italy (stocks).

Data and Descriptive Statistics

Data Sources

- We use four different micro data sources:
  1. Bank-firm data (Italian Credit Register): stock of outstanding debt granted to firms
  2. Firm-to-firm trade data: exports to EU buyers over 2010-2015 at the quarterly frequency
  3. Italian firms' balance sheets (Cerved): information on liquidity ratio, employment etc.
  4. Foreign buyers' balance sheets (Orbis): information on liquidity ratio, employment etc.
- Sample: 2010-2015 at the quarterly frequency (except for Cerved and Orbis)
- Aggregate exports over pre- and post-shock periods to reduce noise in trade flows

Identifying (More) Stressed Banks: Government Support

- There are 450 banks in our sample
- Identify banks with *pre-existing fragility* before the sovereign-debt crisis
- Government support as a proxy:
  - 2009 state capital injections offered to recapitalize weaker banks
  - Came with conditions on credit supply, dividend limits, and executive pay
  - *Accepted*: signal of limited market access/ higher fragility
  - *Rejected* (e.g., Intesa Sanpaolo, UniCredit): raised capital themselves; markets reacted positively
- Recipients later faced more downgrades than refusers

Suggestive Evidence

Sovereign Debt Crisis and Credit Supply Shock

Identification of Bank Lending Channel

- We estimate for firms borrowing from at least two banks (Khwaja and Mian, 2008):

$$\ln C_{ibt} = \beta \mathbb{1}\left(DistressedBank_b\right) \times Post_t + \mathbf{X}_b' \delta \times Post_t + \rho Specialization_{ib} \times Post_t + \varphi_{it} + \gamma_{ib} + \varepsilon_{ibt} \quad (1)$$

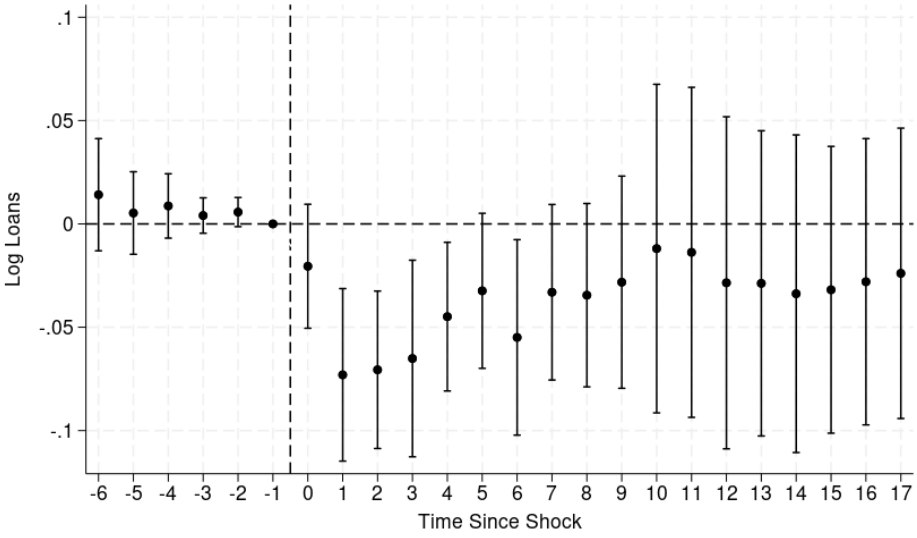
- $\ln C_{ibt}$: log of credit granted by bank b to firm i at time (quarter-year) t
- $\mathbb{1}\left(DistressedBank_b\right)$: dummy equal to one if bank b received government support
- $\mathbf{X}_b$: share of Italian bonds, leverage, interbank lending, liquidity ratio, returns on assets, bad loans to assets, assets
- $Specialization_{ib}$: Share of a bank's total credit allocated to firm i's 2-digit sector, capturing bank-sector specialization
- Also control for length of the relationship up until the shock (2010:Q1 to 2011:Q2)

Robustness

Credit Supply Shock: Bank-Firm Level

Dependent variable:	$\ln C_{ibt}$			
	(1)	(2)	(3)	(4)
Distressed bank$_b$	0.072	-0.006	0.019	
	(0.079)	(0.033)	(0.030)	
Distressed bank$_b$ $\times$ Post$_t$	-0.049***	-0.046**	-0.047***	-0.045**
	(0.016)	(0.018)	(0.018)	(0.023)
Firm-Time FE	Yes	Yes	Yes	Yes
Bank controls	No	Yes	Yes	Yes
Specialization control	No	No	Yes	Yes
Firm-Bank FE	No	No	No	Yes
Observations	2,415,294	2,415,294	2,415,294	2,415,294
Adj. R^2	0.557	0.587	0.594	0.900

Bank-Firm Level: Dynamic Difference-in-Differences



Exposure to Credit Shock

- We define the following **continuous** measure of exposure, based on firms' pre-crisis borrowing from distressed banks: Balancing table

$$Exposure_i = \sum_{b \in \mathcal{B}_i} \omega_{bi} \times \mathbb{1}\left(DistressedBank_b\right) \tag{2}$$

- ω_{bi}: share of firm i's credit received from bank b in 2011:Q2 (before the shock)
- $\mathbb{1}\left(DistressedBank_b\right)$: dummy equal to one if bank b received government support
- $Exposure_i \in [0, 1]$: share of credit from *stressed* vs. *unstressed* banks
- We estimate:

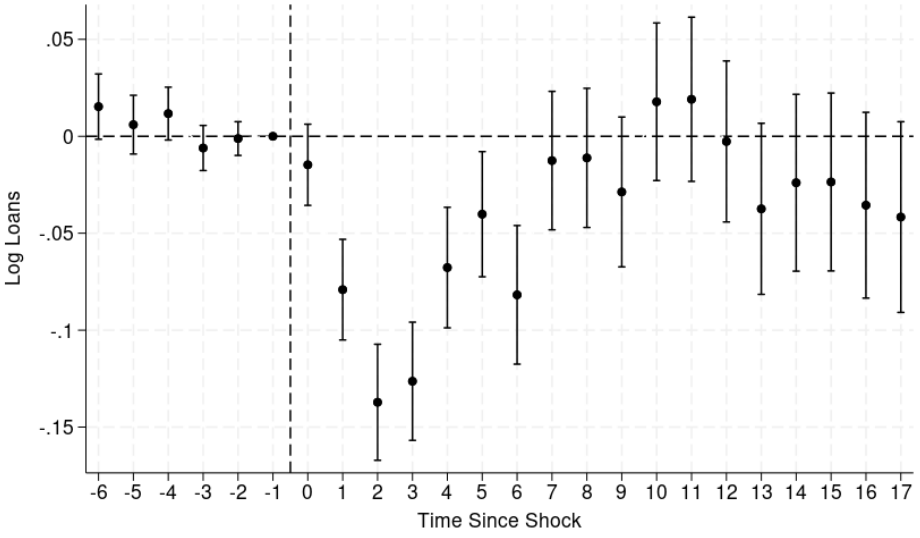
$$\ln C_{it} = \beta Exposure_i \times Post_t + \mathbf{X}_i' \delta \times Post_t + \varphi_i + \gamma_t + \varepsilon_{it} \tag{3}$$

Robustness

Credit Supply Shock: Firm Level

Dependent variable:	$\ln C_{it}$		
	(1)	(2)	(3)
Exposure_i	0.180***	0.188***	
	(0.034)	(0.027)	
$\text{Exposure}_i \times \text{Post}_t$	-0.030	-0.055***	-0.041**
	(0.018)	(0.019)	(0.017)
Bank controls	No	Yes	Yes
Firm FE	No	No	Yes
Time FE	No	No	Yes
Observations	1,266,069	1,266,069	1,266,069
Adj. R^2	0.001	0.506	0.916

Firm Level: Dynamic Difference-in-Differences



The Superstar Buyer Amplification Effect

Definition of Superstar Buyers and Validation

- Superstar buyers: foreign buyers is in the top 0.05% of the import distribution before the shock ($\approx$ 400 superstar buyers)
  - Captures importance of EU buyers from the point of view of Italian exporters
- Connection with a superstar: at least one transaction over 2010:Q1-2011:Q2
  - Goal: capture all relationships, not just long-lasting ones
- We collect information on EU buyers from Orbis for the year 2010 (before the shock) and estimate this specification on the sample of matched buyers:

$$\ln Size_{b(kc)} = \beta \underbrace{SuperstarBuyer_b}_{\text{Dummy}} + \underbrace{\delta_{kc}}_{\text{Industry-country FE}} + \varepsilon_{b(kc)} \tag{4}$$

- Expect $\beta > 0$: superstar buyers are larger than non-superstar buyers Validation

Size-Network Relationship

Do Connections with Superstar Buyers Matter in a Financial Crisis?

- Serving superstar buyers may shape the negative effect of credit crunch
  - Dampening effect: e.g. may offer stable demand, faster payments
  - Amplification effect: dependence risk as cutting orders may make exporters lose an important revenue source
- We estimate the following specification

$$\begin{aligned}\Delta \ln Exports_{id\tau} =& \alpha Exposure_i + \beta SuperstarBuyerConnection_i \\ &+ \gamma Exposure_i \times SuperstarBuyerConnection_i + \varphi_d + \mathbf{X}_i'\delta + \varepsilon_{id\tau}\end{aligned} \tag{5}$$

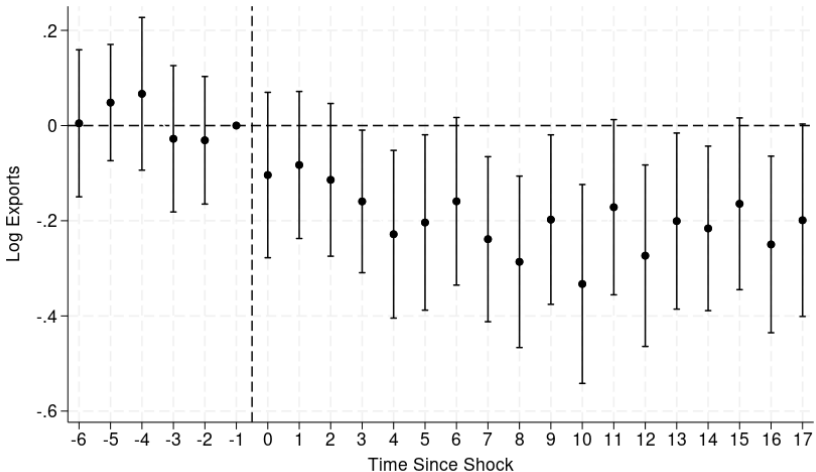
- $\mathbf{X}_i'$: bank-level controls (from previous part)
- $SuperstarBuyerConnection_i$: dummy equal to one if the exporter sells to at least one superstar buyer before the shock

Having a Superstar Buyer Amplifies the Negative Effect

Dependent variable:	$\Delta \ln Exports_{id\tau}$	$\Delta \ln \bar{Exports}_{id\tau}$	$\Delta \ln \#Buyers_{id\tau}$	$\Delta \ln Exports_{id\tau}$	$\Delta \ln \bar{Exports}_{id\tau}$	$\Delta \ln \#Buyers_{id\tau}$
	(1)	(2)	(3)	(4)	(5)	(6)
$Exposure_i$	-0.122***	-0.077***	-0.045***	-0.106***	-0.067***	-0.039***
	(0.027)	(0.021)	(0.013)	(0.029)	(0.022)	(0.014)
$SuperstarBuyerConnection_i$				0.131***	0.107***	0.024***
				(0.012)	(0.010)	(0.006)
$Exposure_i \times SuperstarBuyerConnection_i$				**-0.117****	**-0.078***	**-0.039**
				(0.059)	(0.047)	(0.028)
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	325,628	325,628	325,628	325,628	325,628	325,628
Adj. R^2	0.011	0.007	0.014	0.012	0.008	0.014

Employment and Turnover | Robustness | Working Capital

Dynamic Effect of Exposure for Exporters Connected with Superstar Buyers ($\approx$ 6k firms)



Mechanisms

Explaining Why Superstar Connections Matter

- Why is there a "superstar penalty" on exports?
- If (1) superstar buyers account for a larger export share and (2) exports to these buyers fall more sharply, then being connected to them amplifies the export decline
- (1): We estimate the following specification, in the pre-shock period:

$$ExportShare_{ib} = \beta SuperstarBuyer_b + \nu_i + \varepsilon_{ib} \tag{6}$$

- $\beta > 0$: the export share going to a superstar buyer is, on average, 6 percentage points higher than that for other buyers Table

Do Exports to Superstar Buyers Respond Differently?

- (2): We estimate the following specification:

$$\begin{aligned}\Delta \ln Exports_{ib} =& \beta Exposure_i + \nu SuperstarBuyer_b \\ &+ \gamma Exposure_i \times SuperstarBuyer_b + \mathbf{X}'_{ib}\delta + \varepsilon_{ib}\end{aligned} \tag{7}$$

- $\mathbf{X}'_{ib}$ (measured before shock): bank-level controls, length of the trade relationship, number of products traded, number of EU buyers, number of suppliers of a buyer

- Robustness: Tables
  1. Exporter FEs in FD specification
  2. Controlling for the stickiness of the relationship
  3. Clustering at the exporter-buyer level
  4. Superstar buyers: top 0.1% of import distribution
  5. Weighting by size of the flow before the shock

Exports to Superstar Buyers Decrease More

Dependent variable:	$\Delta \ln Exports_{ib}$		
	(1)	(2)	(3)
$Exposure_i$	-0.107***	-0.105***	-0.114***
	(0.029)	(0.029)	(0.030)
$SuperstarBuyer_b$		0.343***	0.256***
		(0.022)	(0.023)
$Exposure_i \times SuperstarBuyer_b$		-0.198*	-0.207**
		(0.104)	(0.104)
Firm controls	No	No	Yes
Observations	1,305,386	1,305,386	1,305,386
Adj. R^2	0.000	0.001	0.042

Explaining Reallocation across Buyers: Exporter or Buyer-Driven? Role of Supply Network

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.159***	-0.109**
	(0.056)	(0.046)
$Exposure_i \times SuperstarBuyer_b$	0.818*	0.827**
	(0.429)	(0.420)
$Exposure_i \times \ln \#ItalianSuppliers_b$	0.024	-0.002
	(0.019)	(0.017)
$Exposure_i \times SuperstarBuyer_b \times \ln \#ItalianSuppliers_b$	-0.232**	-0.219**
	(0.095)	(0.093)
Firm controls	No	Yes
Observations	1,305,386	1,305,386
Adj. R^2	0.002	0.042

Alternative Interpretations

- No evidence for alternative interpretations:
  - Buyer liquidity: the effect of exposure when selling to superstar buyers does not differ between high- and low-liquidity buyers — exporters do not seem to favor financially stronger buyers Go
  - Exporter liquidity: the effect of exposure when selling to superstar buyers does not differ between high- and low-liquidity exporters — financially stronger exporters do not maintain superstar relationships more effectively Go
  - Price discounts to superstars or buyer-bargaining power: bilateral prices do not adjust in response to exposure when selling to superstar buyers Go
  - Reputation: no disproportionate effect on exit for superstar buyers Exit

Conclusion

Conclusion

- We identify a **novel mechanism** through which financial crises affect economic activity
  - Being connected to superstar buyers amplifies the negative effects of a credit crunch
  - Superstar buyers actively reallocate imports away from stressed suppliers
- Implications: supply chain concentration can **amplify the transmission of financial shocks** to firms
- Policy:
  1. Having a healthy financial system is crucial as it affects firms' competitiveness
  2. Importance of monitoring the buyer network (source of exposure on the demand side)
- Next step: aggregate implications

Appendix

From Sovereign Debt Crisis to Financial Crisis

Back

- The large increase in risk premium highlights the worsening conditions of the Italian financial system
- Ratings of domestic banks are highly correlated with ratings of sovereign debt
  - Fitch downgrading domestic banks (October, November 2011) following the downgrade of Italian government bond
- Banks suffer because of:
  - Higher cost of funding because of higher sovereign spreads (sovereign ceiling, Adelino and Ferreira 2016)
  - Decrease in value of holdings of domestic government bonds:
    - Direct effect if in trading book
    - Indirect through higher cost of funding through unrealized losses (SVB-style effects)
  - Lower bailout capacity of the sovereign: banks are riskier $\rightarrow$ higher funding costs

Timeline of Financial Crisis

Back

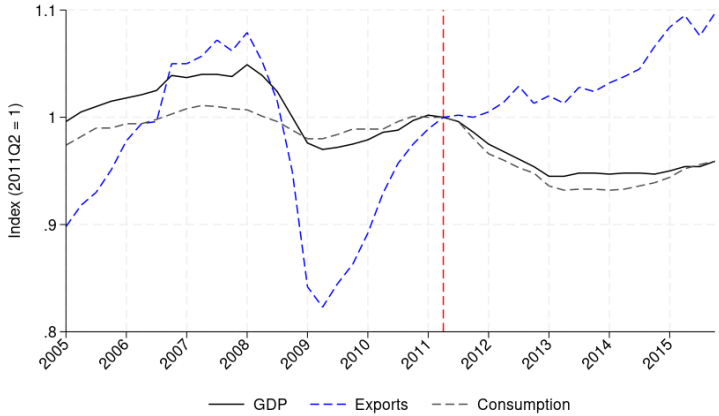
- Financial crisis: starts in August 2007 (BNP freezing funds related to US subprime mortgages) and escalates in September 2008 (default of Lehman Brothers)
- Great Recession was over in US in June 2009 (NBER Business Cycles Dating).[2]
- In 2011, another crisis hits the Eurozone: the sovereign debt crisis
  - July 21st – European leaders approve second bailout for Greece
  - July 22nd – Fitch rates rescue package "selective default". First default within EZ ever
  - July/August, the spread over the German bonds reaches a record high of 500 basis points
  - August 13th – Berlusconi (Italy PM) announces austerity measures to calm markets
  - September 19th – S&P downgrades Italian sovereign credit rating
  - October 11th and November 25th — Generalized downgrade of Italian banks following sovereign debt downgrade

[2] https://www.nber.org/research/data/us-business-cycle-expansions-and-contractions

Financial Crisis in Italy: A Tale of Two Crises

Back

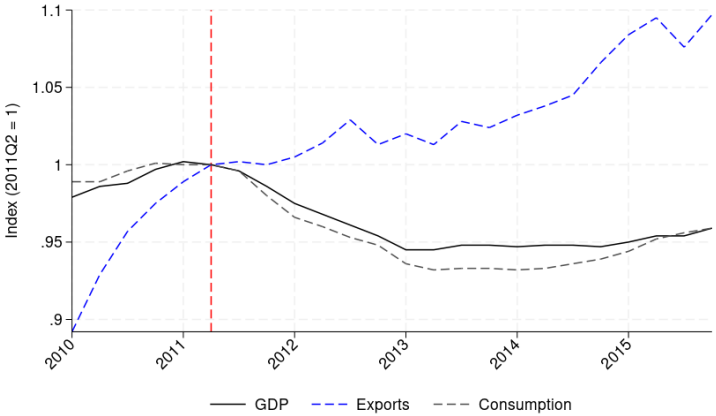
- After 2008, large decline in both exports and domestic consumption
- GDP recovery driven by exports until the sovereign debt crisis (Q2-2011)



Sovereign Debt Crisis in Italy: Zoom Post-2009

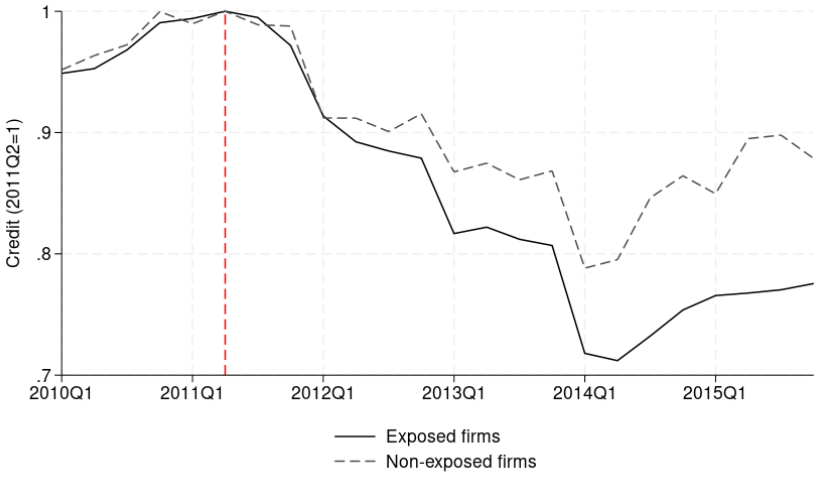
Back

- Large decline in GDP and domestic consumption, not compensated by exports
- Italian exports slow down. Credit supply shock?



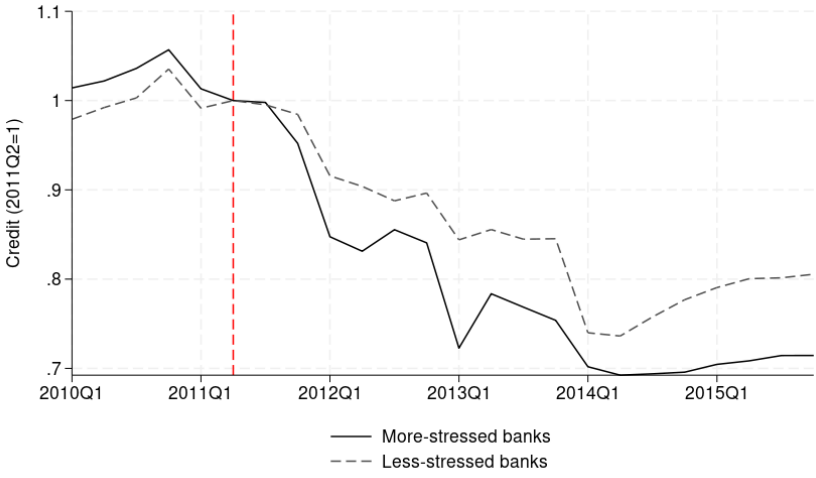
Suggestive Evidence: Exposed vs. Non-Exposed Exporters

Bank-level



Suggestive Evidence: More vs. Less-Stressed Banks

Back



Robustness Credit Supply Shock (Loan Level): Alternative Fixed Effects

Back

Dependent variable:	$\ln C_{ibt}$			
	(1)	(2)	(3)	(4)
Stressed bank$_b$ × Post$_t$	-0.056***	-0.054***	-0.046***	-0.044**
	(0.015)	(0.014)	(0.016)	(0.022)
Firm-Time FE	No	No	No	No
2-digit Sector-Time FE	Yes	Yes	No	No
Province-Time FE	No	Yes	No	No
2-digit Sector-Province-Time-Size decile FE	No	No	Yes	Yes
Bank controls	Yes	Yes	Yes	Yes
Specialization control	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	No
Firm-Bank FE	No	No	No	Yes
Observations	4,367,347	4,367,347	4,325,785	4,325,539
Adj. R^2	0.085	0.091	0.416	0.884

Robustness Credit Supply Shock (Loan-Level): Alternative Specialization Measure and Excluding Foreign Banks

Back

Dependent variable:	$\ln C_{ibt}$	
	(1)	(2)
Stressed bank$_b$ $\times$ Post$_t$	-0.037*	-0.050**
	(0.022)	(0.023)
Firm-Time FE	Yes	Yes
Bank controls	Yes	Yes
Specialization control	Yes	Yes
Firm-Bank FE	Yes	Yes
Observations	2,415,294	2,187,741
Adj. R^2	0.900	0.903

Robustness Credit Supply Shock (Loan-Level): First Differences

Back

Dependent variable:	$\Delta \ln C_{ib}$	
	(1)	(2)
Stressed bank$_b$	-0.036**	-0.041**
	(0.018)	(0.018)
Firm FE	No	Yes
Bank controls	Yes	Yes
Specialization control	Yes	Yes
Observations	126,513	126,513
Adj. R^2	0.011	0.156

Robustness Credit Supply Shock (Loan-Level): Weighted Least Squares

Back

Dependent variable:	$\ln C_{ibt}$	
	(1)	(2)
Stressed bank$_b$	-0.050***	-0.047**
	(0.019)	(0.023)
Firm-Time FE	Yes	Yes
Bank controls	Yes	Yes
Specialization control	Yes	Yes
Firm-Bank	No	Yes
Observations	2,415,271	2,415,271
Adj. R^2	0.590	0.899

Robustness Credit Supply Shock (Loan-Level): Alternative Clustering

Back

Dependent variable:	$\ln C_{ibt}$	
	(1)	(2)
Stressed bank$_b$ $\times$ Post$_t$	-0.045***	-0.045*
	(0.005)	(0.025)
Firm-Time FE	Yes	Yes
Bank controls	Yes	Yes
Specialization control	Yes	Yes
Firm-Bank FE	Yes	Yes
Observations	2,415,294	2,415,294
Adj. R^2	0.900	0.900

Characteristics of High and Low Exposure Firms

Back

	Low exposure (1)	High exposure (2)	Normalized diff. (3)
Total assets (million euros)	19.997	24.897	0.007
Average bank bad loans/assets	3.805	4.108	0.239
Average bank size	11.225	11.650	0.210
Average bank ROA	0.172	0.146	-0.224
Number of employees	48.077	52.946	0.011
Turnover (million euros)	21.784	25.845	0.008
Credit (million euros)	5686.221	9568.481	0.039

Characteristics of High and Low Exposure Firms (Exposed vs. Unexposed)

Back

	Low exposure (1)	High exposure (2)	Normalized diff. (3)
Total assets (million euros)	14.526	31.408	0.028
Average bank bad loans/assets	3.776	4.071	0.231
Average bank size	11.171	11.618	0.210
Average bank ROA	0.173	0.152	-0.172
Number of employees	37.017	67.302	0.064
Turnover (million euros)	16.450	32.375	0.034
Credit (million euros)	3,016.492	12,390.899	0.101

Robustness Credit Supply Shock (Firm-Level): Additional Fixed Effects

Back

Dependent variable:	$\ln C_{it}$			
	(1)	(2)	(3)	(4)
$\text{Exposure}_i \times \text{Post}_t$	-0.021**	-0.069***	-0.046***	-0.038**
	(0.009)	(0.013)	(0.017)	(0.018)
Bank controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	No	No
Firm-Year FE	Yes	No	No	No
Firm-Time FE from eq. (1)	No	Yes	No	No
Sector-Time FE	No	No	Yes	Yes
Province-Time FE	No	No	No	Yes
Observations	1,263,941	474,424	1,265,946	1,265,946
Adj. R^2	0.976	0.983	0.916	0.917

Robustness Credit Supply Shock (Firm-Level): First Differences

Back

Dependent variable:	$\Delta \ln C_i$	
	(1)	(2)
Exposure$_i$	-0.036***	-0.036**
	(0.014)	(0.017)
Bank controls	No	Yes
Observations	58,553	58,553
Adj. R^2	0.000	0.011

Robustness Credit Supply Shock (Firm-Level): Connections with Superstar Buyers

Back

Dependent variable:	$\ln C_{it}$	
	(1)	(2)
$\text{Exposure}_i \times \text{Post}_t$	-0.027*	-0.043***
	(0.014)	(0.017)
$\text{SuperstarBuyerConnection}_i \times \text{Post}_t$	-0.050***	-0.023*
	(0.012)	(0.012)
$\text{Exposure}_i \times \text{SuperstarBuyerConnection}_i \times \text{Post}_t$	0.043	0.034
	(0.061)	(0.061)
Bank controls	No	Yes
Firm FE	Yes	Yes
Time FE	Yes	Yes
Observations	1,266,069	1,266,069
Adj. R^2	0.915	0.916

Robustness Credit Supply Shock (Firm-Level): Alternative Samples

Back

Dependent variable:	$\ln C_{it}$	
Sample:	No extreme credit changes	Consistent exporters
	(1)	(2)
$\text{Exposure}_i \times \text{Post}_t$	-0.047***	-0.038*
	(0.016)	(0.020)
Bank controls	Yes	Yes
Firm FE	Yes	Yes
Time FE	Yes	Yes
Observations	1,176,645	879,477
Adj. R^2	0.928	0.928

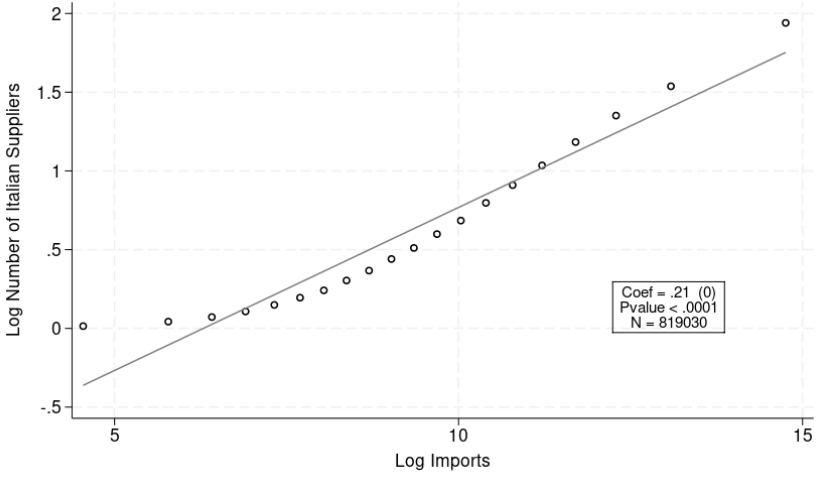
Superstar Buyers are Larger and Have a Smaller Liquidity Ratio

Back

Dependent variable:	$\ln Turnover_b$		$\ln Employees_b$		$\ln Assets_b$		$LiquidityRatio_b$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$SuperstarBuyer_b$	5.605***	4.020***	3.881***	2.796***	5.293***	3.869***	-0.054***	-0.044***
	(0.148)	(0.162)	(0.168)	(0.170)	(0.157)	(0.173)	(0.008)	(0.009)
4-digit industry × Country FE	No	Yes	No	Yes	No	Yes	No	Yes
Observations	131,470	131,470	131,470	131,470	131,470	131,470	131,470	131,470
Adj. R^2	0.010	0.416	0.006	0.402	0.009	0.400	0.000	0.055

Size-Network Relationship

Back



Effect on Turnover and Employment

Back

Dependent variable:	ln $Turnover_{it}$	ln $Employment_{it}$	ln $Turnover_{it}$	ln $Employment_{it}$
	(1)	(2)	(3)	(4)
$Exposure_i \times Post_t$	-0.102***	-0.055***	-0.094***	-0.047***
	(0.019)	(0.013)	(0.020)	(0.014)
$SuperstarBuyerConnection_i \times Post_t$			0.151***	0.045***
			(0.009)	(0.006)
$Exposure_i \times Post_t \times SuperstarBuyerConnection_i$			**-0.088***	**-0.069****
			(0.047)	(0.030)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes
Observations	226,174	219,173	226,174	219,173
Adj. R^2	0.886	0.946	0.886	0.946

Robustness Superstar Buyer Effect: GIPS Countries

Back

Dependent variable:	$\Delta \ln Exports_{id\tau}$					
Sample:	No Ireland	No Portugal	No Spain	No Greece	All Countries	Non-GIPS Superstar Connections
	(1)	(2)	(3)	(4)	(5)	(6)
$Exposure_i$	-0.104***	-0.109***	-0.103***	-0.104***	-0.103***	-0.106***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.030)	(0.029)
$SuperstarBuyerConnection_i$	0.132***	0.127***	0.130***	0.133***	0.132***	0.127***
	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)	(0.013)
$Exposure_i \times SuperstarBuyerConnection_i$	-0.119**	-0.111*	-0.104*	-0.114*	-0.096	-0.119*
	(0.059)	(0.059)	(0.060)	(0.060)	(0.062)	(0.066)
$Exposure_i \times GIPS_d$					-0.018	
					(0.042)	
$SuperstarBuyerConnection_i \times GIPS_d$					-0.007	
					(0.020)	
$Exposure_i \times SuperstarBuyerConnection_i \times GIPS_d$					-0.121	
					(0.094)	
Destination FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	319,681	312,364	302,741	309,636	325,628	310,540
Adj. R^2	0.012	0.011	0.012	0.008	0.012	0.011

Robustness Superstar Buyer Effect: Additional Controls

Back

Dependent variable:	$\Delta \ln Exports_{id\tau}$				
	(1)	(2)	(3)	(4)	(5)
$Exposure_i$	-0.118***	-0.098***	-0.104***	-0.106***	-0.108***
	(0.028)	(0.028)	(0.028)	(0.029)	(0.028)
$SuperstarBuyerConnection_i$	0.088***	0.130***	0.110***	0.117***	0.080***
	(0.013)	(0.012)	(0.013)	(0.014)	(0.014)
$Exposure_i \times SuperstarBuyerConnection_i$	-0.099*	-0.116**	-0.116**	-0.112*	-0.101*
	(0.058)	(0.058)	(0.059)	(0.059)	(0.058)
Destination FE	Yes	Yes	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes	Yes	Yes
Additional control	Turnover	Liquidity	# of clients	# of superstar connections	All
Observations	325,612	325,612	325,612	325,612	325,612
Adj. R^2	0.013	0.013	0.012	0.012	0.014

Robustness Superstar Buyer Effect: Alternative Definitions

Back

Dependent variable:	$\Delta \ln Exports_{id\tau}$	
	(1)	(2)
$Exposure_i$	-0.100***	-0.118***
	(0.030)	(0.027)
$SuperstarBuyerConnection_i$	0.142***	0.030*
	(0.011)	(0.017)
$Exposure_i \times SuperstarBuyerConnection_i$	-0.110**	-0.149*
	(0.051)	(0.084)
Destination FE	Yes	Yes
Firm controls	Yes	Yes
Superstar cutoff	Top 0.1%	Top 0.05%
Connection level	Firm	Firm-destination
Observations	325,628	325,628
Adj. R^2	0.012	0.011

Superstar Buyer Effect and Working Capital

Back

Dependent variable:	$\Delta \ln Exports_{id\tau}$	$\Delta \ln \bar{Exports}_{id\tau}$	$\Delta \ln \#Buyers_{id\tau}$
	(1)	(2)	(3)
$Exposure_i$	-0.135***	-0.078***	-0.058***
	(0.034)	(0.026)	(0.016)
$SuperstarBuyerConnection_i$	0.140***	0.114***	0.026***
	(0.015)	(0.012)	(0.007)
$Exposure_i \times SuperstarBuyerConnection_i$	-0.133*	-0.098*	-0.035
	(0.072)	(0.057)	(0.034)
$HighLiquidity_i$	0.121***	0.074***	0.046***
	(0.012)	(0.010)	(0.006)
$Exposure_i \times HighLiquidity_i$	0.114**	0.048	0.067***
	(0.051)	(0.040)	(0.025)
$SuperstarBuyerConnection_i \times HighLiquidity_i$	-0.038	-0.029	-0.009
	(0.026)	(0.022)	(0.013)
$Exposure_i \times SuperstarBuyerConnection_i \times HighLiquidity_i$	0.068	0.071	-0.003
	(0.120)	(0.100)	(0.058)
Destination FE	Yes	Yes	Yes
Firm controls	Yes	Yes	Yes
Observations	325,628	325,628	325,628
Adj. R^2	0.013	0.009	0.016

Superstar Buyers Account for a Larger Export Share

Back

Dependent variable:	$ExportShare_{ib}$	
	(1)	(2)
$SuperstarBuyer_b$	0.083***	0.062***
	(0.002)	(0.002)
Exporter FE	No	Yes
Observations	1,305,386	1,300,599
Adj. R^2	0.006	0.329

Robustness Credit Supply Shock and Firm-to-Firm Exports: Exporter Fixed Effects

Back

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.114***	
	(0.030)	
$SuperstarBuyer_b$	0.259***	0.101***
	(0.023)	(0.021)
$Exposure_i \times SuperstarBuyer_b$	-0.215**	-0.177*
	(0.104)	(0.102)
Firm controls	Yes	Yes
Exporter FE	No	Yes
Observations	1,300,599	1,300,599
Adj. R^2	0.042	0.119

Robustness Credit Supply Shock and Firm-to-Firm Exports: Controlling for Relationship Stickiness

Back

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.111***	-0.123***
	(0.030)	(0.037)
$SuperstarBuyer_b$	0.243***	0.265***
	(0.023)	(0.029)
$Exposure_i \times SuperstarBuyer_b$	-0.205**	-0.223*
	(0.103)	(0.127)
$Exposure_i \times Sticky_{ib}$		0.047
		(0.055)
$SuperstarBuyer_b \times Sticky_{ib}$		-0.065
		(0.044)
$Exposure_i \times SuperstarBuyer_b \times Sticky_{ib}$		0.029
		(0.213)
Firm controls	Yes	Yes
Relationship stickiness	Yes	Yes
Observations	1,305,386	1,305,386
Adj. R^2	0.044	0.044

Robustness Credit Supply Shock and Firm-to-Firm Exports: Alternative Clustering

Back

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.114***	-0.114***
	(0.030)	(0.009)
$SuperstarBuyer_b$	0.256***	0.256***
	(0.046)	(0.019)
$Exposure_i \times SuperstarBuyer_b$	-0.207*	-0.207**
	(0.109)	(0.095)
Firm controls	Yes	Yes
Observations	1,305,386	1,305,386
Adj. R^2	0.042	0.042

Robustness Credit Supply Shock and Firm-to-Firm Exports: Alternative Superstar Definition and Weighting

Back

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.114***	-0.121***
	(0.030)	(0.030)
$SuperstarBuyer_b$	0.262***	0.238***
	(0.019)	(0.098)
$Exposure_i \times SuperstarBuyer_b$	-0.136*	-0.238**
	(0.080)	(0.098)
Firm controls	Yes	Yes
Superstar cutoff	Top 0.1%	Top 0.05%
Weighting	No	Yes
Observations	1,305,386	1,305,337
Adj. R^2	0.042	0.026

Alternative Mechanisms: Liquidity

Back

Dependent variable:	$\Delta \ln Exports_{ib}$	
	(1)	(2)
$Exposure_i$	-0.057*	-0.108***
	(0.032)	(0.036)
$SuperstarBuyer_b$	0.233***	0.279***
	(0.030)	(0.026)
$Exposure_i \times SuperstarBuyer_b$	-0.293**	-0.243**
	(0.138)	(0.119)
$Exposure_i \times HighLiquidity_b$	-0.034	
	(0.034)	
$Exposure_i \times SuperstarBuyer_b \times HighLiquidity_b$	0.238	
	(0.325)	
$Exposure_i \times HighLiquidity_i$		0.009
		(0.056)
$Exposure_i \times SuperstarBuyer_b \times HighLiquidity_i$		0.055
		(0.249)
Firm controls	Yes	Yes
Observations	453,565	1,285,485
Adj. R^2	0.042	0.042

Alternative Mechanisms: Firm-to-Firm Prices

Back

Dependent variable:	$\Delta \ln PriceCoreProduct_{ib}$	$PriceTörnqvist_{ib}$
	(1)	(2)
$Exposure_i$	-0.018	-0.015
	(0.016)	(0.014)
$SuperstarBuyer_b$	-0.024*	-0.018
	(0.012)	(0.011)
$Exposure_i \times SuperstarBuyer_b$	0.058	0.048
	(0.042)	(0.040)
Firm controls	Yes	Yes
Observations	1,057,312	1,170,723
Adj. R^2	0.001	0.000

Superstar Buyers Are Not More Likely to Be Cut

Back

Dependent variable:	$Exit_{ib\tau}$		
	(1)	(2)	(3)
$Exposure_i \times Post_\tau$	0.052***	0.035***	0.035***
	(0.008)	(0.008)	(0.008)
$Exposure_i \times SuperstarBuyer_b$			-0.016
			(0.012)
$Exposure_i \times SuperstarBuyer_b \times Post_\tau$			0.048
			(0.034)
Exporter FE	Yes	Yes	Yes
Buyer-Post FE	Yes	Yes	Yes
Firm controls	No	Yes	Yes
Observations	3,229,494	3,229,494	3,229,494
Adj. R^2	0.394	0.491	0.491