

# Supranational Banking Supervision, Credit Supply and Risk-Taking: European Evidence from Multi-Country Credit Registers

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# This Paper: Heterogeneous Effect of Supranational Banking Supervision

This paper: the effect of supranational banking supervision on credit supply and bank risk taking

- *how* does supranational supervision affect credit supply and bank risk taking?

Paper relies on:

- multi-country credit registers (AnaCredit)
- introduction of the Single Supervisory Mechanism (SSM): a shift from national to supranational supervision for the largest EU banks in November 2014

Main result: **heterogenous effect of supranational supervision**

- In stressed countries (Italy, Portugal, and Spain): supranational supervision increases the supply of credit and limits bank risk taking
- In non-stressed EU countries: supranational supervision reduces the supply of credit
- Explanation of this heterogenous effect across countries using proxies for the country's "initial condition" before treatment.

# Methodology: Difference-in-Differences

Dependent variable: total credit granted by bank  $b$  to firm  $f$  at time  $t$

$$\text{Credit}_{bft} = \alpha^{FE} + \delta \text{Sup}_{bt} + \theta \text{High-risk firm}_{ft-1} + \beta \text{High-risk firm}_{ft-1} \times \text{Sup}_{bt} + \varepsilon_{bft}$$

where

$$\text{Sup}_{bt} = \text{Treated}_b \times \text{Post}_t = \begin{cases} 1 & \text{if } b \in \text{SSM} \text{ and } t \geq \text{November 2014} \\ 0 & \text{otherwise} \end{cases}$$

Treatment assignment ( $b \in \text{SSM}$ ) based on size thresholds, and  $\text{High-risk firm}_{ft-1}$  is a measure of firm risk  $\in [0, 1]$ .

Main results:

- In stressed countries (Italy, Portugal, and Spain): supranational supervision increases the supply of credit and limits bank risk taking ( $\delta > 0$  and  $\beta < 0$ )
- In non-stressed EU countries: supranational supervision reduces the supply of credit ( $\delta < 0$  and  $\beta \approx 0$ ).

# Main Results (1)

$$\text{Credit}_{bft} = \alpha^{FE} + \delta \text{Sup}_{bt} + \theta \text{High-risk firm}_{ft-1} + \beta \text{High-risk firm}_{ft-1} \times \text{Sup}_{bt} + \varepsilon_{bft}$$

	Credit			
	Stressed Countries		Non-Stressed Countries	
	(1)	(2)	(3)	(4)
Sup <sub>b,t-1</sub>	0.0532*** (0.0053)	0.07956*** (0.0066)	-0.0601*** (0.0071)	-0.091*** (0.0101)
High-Risk Firm <sub>f,t-1</sub>	0.0591*** (0.0126)		0.0324* (0.0182)	
Sup <sub>b,t-1</sub> x High-Risk Firm <sub>f,t-1</sub>	-0.2620*** (0.0151)	-0.1337*** (0.0250)	-0.2107*** (0.0186)	-0.0294 (0.0323)
Bank-Firm FE	Yes	Yes	Yes	Yes
Sector-Time FE	Yes	-	Yes	-
Firm-Time FE	No	Yes	No	Yes
N	40,621,335	30,660,006	6,788,681	3,567,331
Pseudo R <sup>2</sup>	0.955	0.960	0.948	0.960

## Main Results (2): Country Heterogeneity

$$\begin{aligned} \text{Credit}_{bft} = & \alpha^{FE} + \delta \text{Sup}_{bt} + \delta^* \text{Sup}_{bt} \times \text{Proxy}_{c(f)} + \theta \text{High-risk firm}_{ft-1} \\ & + \beta \text{High-risk firm}_{ft-1} \times \text{Sup}_{bt} \\ & + \beta^* \text{High-risk firm}_{ft-1} \times \text{Sup}_{bt} \times \text{Proxy}_{c(f)} + \varepsilon_{bft} \end{aligned}$$

where  $\text{Proxy}_{c(f)}$  increases with:

- weaker controls for corruption (“**corruption**”)
  - using country and regional level indices for institutional quality
  - Assumption: supranational supervision reduces supervisory leniency in countries with lower controls for corruption.
- bank size (GSIB), firm’s sector employment share (supervisory “**incentives**”)
  - Assumption: national supervisors are more lenient towards their large domestic banks, and firms in industries that employ a large share of the national workforce.
- low national supervisory ability (supervisory “**ability**”)
  - Assumption: greater ability of supranational supervisors who have “access to a broader pool of knowledge”.

Main result:  $\delta^* > 0$  and  $\beta^* < 0$  (same result as for stressed countries).

This paper documents an increase in credit supply and a reduction in risk taking in EU stressed countries following the transition to supranational banking supervision.

Comment 1: Interpretation of the treatment

- supranational or stricter supervision?

Comment 2: Measuring “corruption”, “incentives”, and “ability” of national supervisors

- measurement error and omitted variable bias

Comment 3: Global vs. local supervision trade-off

# Comment 1: Supranational or Stricter Supervision?

How should we interpret the treatment in the DiD?

- This paper: treatment = “change in the allocation of responsibilities between national and supranational supervisors”
- However, “policy reforms aimed at (de)centralizing supervision typically go along with explicit changes in the objectives of supervision.” (Di Gong et al., 2023)

Transition to supranational supervision in Nov 2014 **or stricter supervision?**

- 26 October 2014: Asset Quality Review (AQR) and EU-wide stress test
  - clear intent of cleaning the balance sheets of the largest banks
  - more stringent capital requirements in the background
  - stricter supervision of largest banks because of implicit gvt guarantees
  - break the bank-sovereign nexus together with TLTROs, QE, etc. and reduce market fragmentation in Europe
- More resources allocated to supervision? Change in the ratio #employees in supervision/#employees in banks?

Suggestion: clarify the treatment definition.

- use data from AQR, EU stress tests, etc. to isolate a “transfer of responsibilities” effect.

## Comment 2: Measuring “Corruption”, “Incentives”, “Abilities”

This Paper: Identification of a conditional ATT, conditional on stressed vs. non-stressed countries (relying on conditional parallel trends: Roth, et al., 2022)

Paper goes one step further: explaining *how* supranational affects bank risk taking

- why is the ATT different in stressed vs. non stressed countries?
- “due to national supervisory biased incentives, lower national supervisors’ ability, and weaker overall domestic control of corruption”

Proxies: measurement error and omitted variable bias

- 1 **measurement error**: “corruption”, “incentives”, “abilities” are unobservable.
  - “incentives” of supervisors measured with bank size, while this is typically employed for bank incentives (due to implicit gvt guarantees)
- 2 **omitted variable bias**: proxy measures a country “initial condition”
  - important controls: sovereign risk, differences in supervisory resources
  - cross section of 9 countries

Suggestions:

- exploit the international dimension: identify banks supervised by different national supervisors (before treatment) lending to the same firm.
- build IVs for country-level variables: e.g., GIV, Bartik instruments.

## Comment 3: Global vs. Local Supervision Trade-off

Global vs. local supervision: what are the trade-offs at work?

- Local supervisors may have **incentives** to be more “lenient” toward local banks and firms
  - have incentives to preserve jobs in their jurisdiction (in banks and non-financial firms)
  - they might have political interests
  - they may not internalize the consequences of their actions outside their regulatory perimeter
  - Agarwal et al. (2014): Federal regulators are tougher than state regulators.
- Local supervisors may have **an informational advantage**
  - Information collection is more difficult for central supervisors due to physical distance to the supervised banks (Repullo, 2018; Colliard, 2020)
  - Haselmann et al., 2022: SSM supranational supervision is associated with a loss in information in banks’ risk models
  - Di Gong et al. (2023): a shift toward local supervision in China increases the number of enforcement actions, resulting in more conservative lending.

# Summary

This paper documents an increase in credit supply and a reduction in risk taking in EU stressed countries following the transition to supranational banking supervision (identification of a conditional ATT).

Comment 1: Interpretation of the treatment

- supranational (i.e., “transfer of responsibilities”) or stricter supervision?

Comment 2: Measuring “corruption”, “incentives”, and “ability” of national supervisors

- measurement error and omitted variable bias

Comment 3: Global vs. local supervision

- trade-off between incentives and information.