

Central Bankers as Supervisors: Do Crises Matter?

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Motivation

- Ongoing debate and renewed interest in the optimal financial supervision architecture:
 - ① **1990s and early 2000s:** Creation of unified supervisory institutions independent from the central bank
 - ② **Following 2007-09 Global Financial Crisis:** many countries increased central bank involvement in financial supervision (great reversal)
 - ③ **European Single Supervisory Mechanism (SSM)** (November 2014): assigned banking sector supervision responsibilities to the ECB together with national supervisory authorities
- What explains the reforms in the architecture of financial supervisory authorities?
- Need of data able to capture the evolution of financial supervision architecture

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Figure: Degree of unified supervision inside central banks (1996)

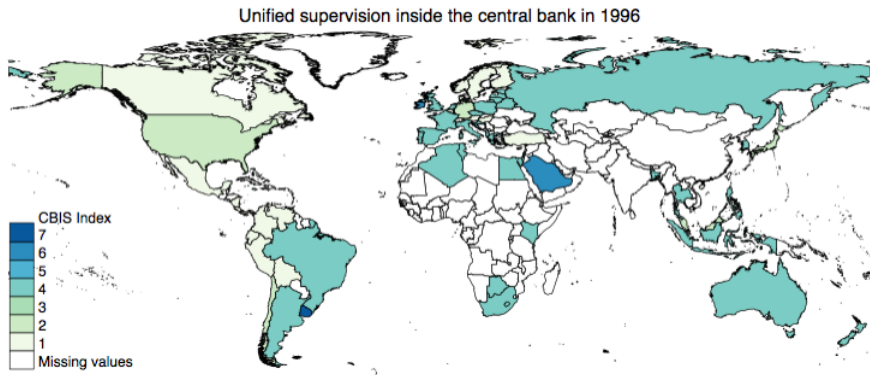


Figure: Degree of unified supervision inside central banks (2013)

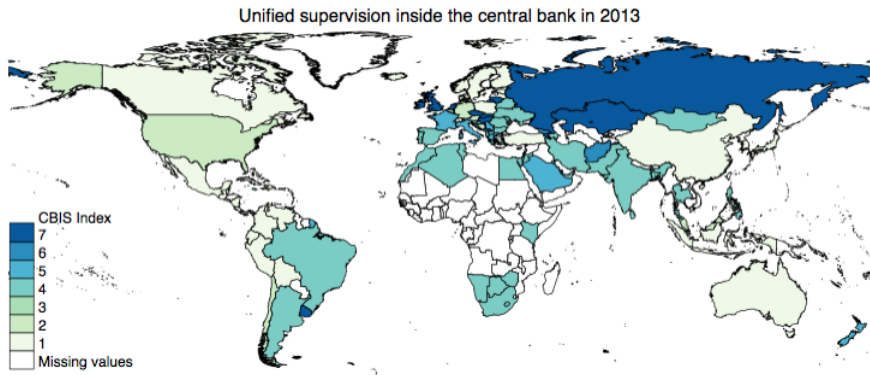


Figure: Banking supervision inside CBs in Europe: 1996 vs 2013

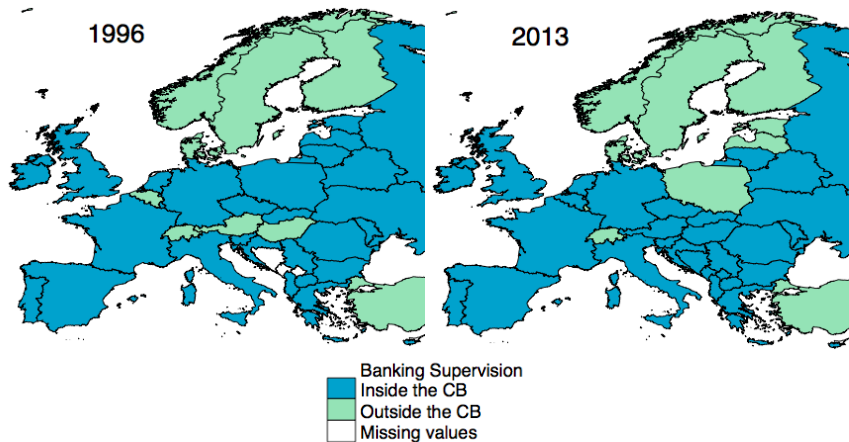
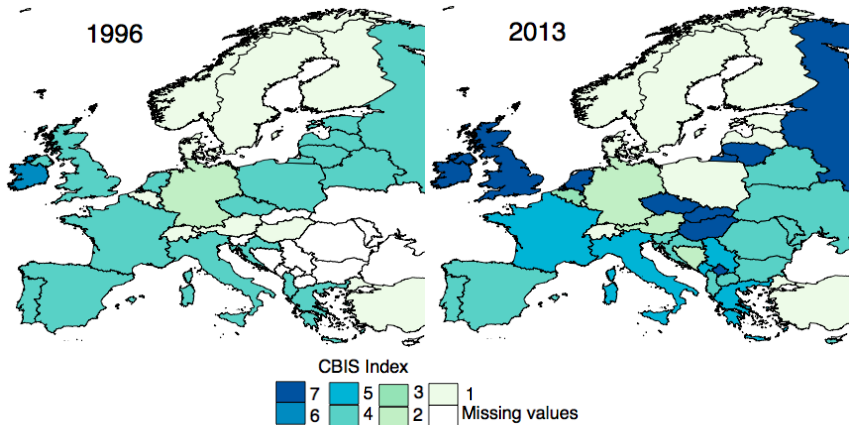


Figure: Degree of unified supervision inside CBs in Europe: 1996 vs 2013



Supervision and central banking: state of the art

- Central banks' involvement in banking supervision
 - ▶ The integration view (Peek et al., 1999; Barth et al., 2013)
 - ▶ The separation view (Di Noia and Di Giorgio, 1999; Ioannidou, 2005)
- Financial supervision: unified vs sectorial
 - ▶ Why unify supervision? (Arnone and Gambini, 2007; Gaganis and Pasiouras, 2013)
 - ▶ Unified supervision inside the CB (Masciandaro, 2009; Masciandaro et al., 2013)

Contribution of this paper

- 1 Bring together these two streams of research: how and why **financial** sector supervisory architecture evolves over time
- 2 New index of *unified* supervision *inside* the central bank
 - ▶ Nr. of countries: 105
 - ▶ Period: 1996-2013
- 3 Identify the main drivers of reforms in financial supervision
- 4 Provide evidence on the determinants of a particular architecture of financial supervision

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The Central Bank Involvement in Supervision (CBIS) index

- A) A unified supervision inside the central bank (7 points).
- B) A unified supervision of the banking and securities markets sectors inside the central bank (6 points).
- C) A unified supervision of the banking and insurance sectors inside the central bank (5 points).
- D) Only banking supervision is in the hands of the central bank (4 points).
- E) The central bank shares the supervision of the whole financial system with another authority (Twin Peaks system) (3 points).
- F) Banking supervision is shared between the central bank and another authority (2 points).
- G) The central bank is not involved in supervision (1 point).

Figure: Magnitude of reforms in CBIS Index (1996-2013)

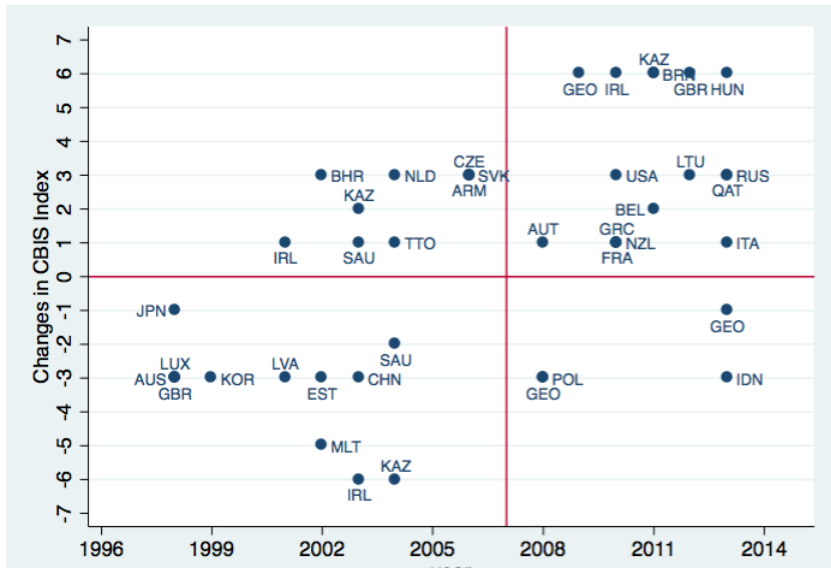
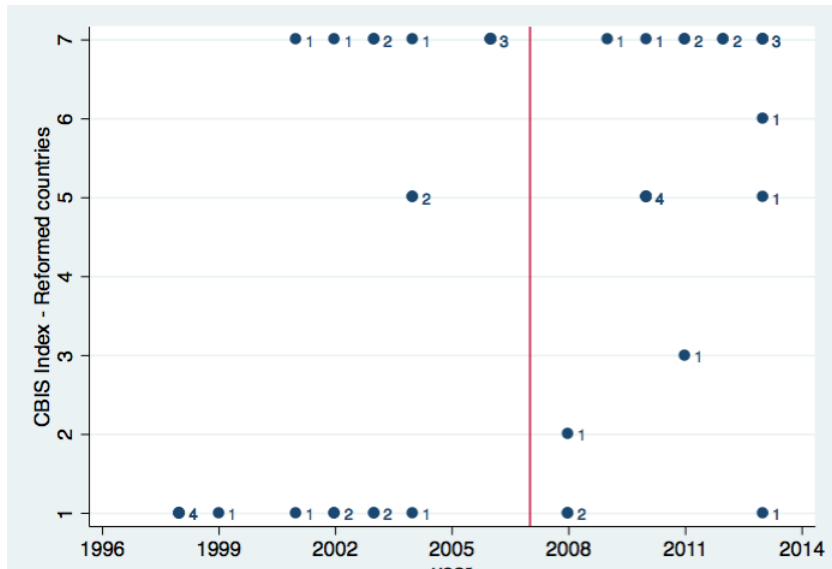


Figure: Direction of reforms in CBIS Index (1996-2013)



Model Setup

Complementary logarithmic (or cloglog) empirical framework:

$$Prob(e_{it} = 1) = F(\phi_t^{Crises} \beta_C + \phi_t^{Bandwagon} \beta_B + \phi_t^{Domestic} \beta_D)$$

where e_{it} is a reform dummy variable that takes the value 1 if country i is experiencing a supervisory reform in year t ;

$$F(z) = 1 - \exp[-\exp(z)]$$

Independent variables:

- ϕ_t^{Crises} : vector of crises variables.
- $\phi_t^{Bandwagon}$: proxies for bandwagon effects.
- $\phi_t^{Domestic}$: vector of domestic (Economic and Political) variables.

Proxies for bandwagon/Peer effects

Baseline specifications:

- Reforms in CBIS (World) : share of countries around the world that are undertaking a supervisory reform (that modifies CBIS) in year t .
- Reforms in CBIS (Continent) : share of countries that are undertaking a supervisory reform in year t and are located in the same continent as country i .

Similarity measures:

- Peers – Geographical : absolute value of the difference between a country's CBIS index and its geographical peers.
- Peers – Trade : absolute value of the difference between a country's CBIS index and its trading peers.

Table: Determinants of reforms in financial sector supervision: baseline results

Expl. vbs:	Dependent variable: CBIS Reform					
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Crisis	0.762** (0.372)	0.912** (0.417)	0.887** (0.385)	0.884** (0.437)	0.854* (0.462)	1.015** (0.481)
Reforms in CBIS (World)	0.469*** (0.096)	0.490*** (0.131)			0.368 (0.439)	
Reforms in CBIS (Continent)			0.115*** (0.021)	0.081*** (0.018)		0.068*** (0.019)
CBI Reform (GMT)		0.848 (0.571)		1.299** (0.561)	1.135* (0.629)	1.416** (0.621)
Government Change		0.419 (0.449)		0.592 (0.472)	0.415 (0.455)	0.526 (0.473)
Governance		0.423 (0.367)		0.292 (0.399)	0.437 (0.374)	0.344 (0.397)
OECD Dummy		1.272* (0.660)		1.172* (0.707)	1.291* (0.675)	1.197* (0.699)
Polity		-0.121** (0.056)		-0.119** (0.058)	-0.120** (0.055)	-0.119** (0.057)
Civil Law Dummy		-1.276*** (0.430)		-1.005** (0.455)	-1.274*** (0.432)	-1.088** (0.445)
Observations	1,714	1,235	1,714	1,235	914	914
Number of Countries	105	88	105	88	88	88
Year FE					YES	YES

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Table: Determinants of reforms in financial sector supervision: alternative bandwagon effects

Expl. vbs:	Dependent variable: ECBI Reform					
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Crisis	0.656*	0.614	0.765**	0.762*	0.709	0.971**
	(0.371)	(0.418)	(0.371)	(0.420)	(0.460)	(0.472)
Peers - Geographical	0.965***	0.939***			1.014***	
	(0.166)	(0.173)			(0.190)	
Peers - Trade			0.752***	0.715***		0.759***
			(0.127)	(0.156)		(0.167)
CBI Reform (GMT)		1.158**		0.884	1.005	0.749
		(0.550)		(0.621)	(0.665)	(0.722)
Government Change		0.609		0.473	0.592	0.386
		(0.450)		(0.442)	(0.482)	(0.461)
Governance		-0.393		-0.359	-0.475	-0.368
		(0.336)		(0.352)	(0.364)	(0.371)
OECD Dummy		1.424**		1.704***	1.504**	1.750***
		(0.643)		(0.640)	(0.656)	(0.649)
Polity		-0.062		-0.063	-0.056	-0.059
		(0.058)		(0.056)	(0.059)	(0.057)
Civil Law Dummy		-0.724		-1.016**	-0.756	-1.125**
		(0.449)		(0.459)	(0.461)	(0.472)
Observations	1,694	1,226	1,642	1,186	906	876
Number of Countries	102	87	99	84	87	84
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What explains the level of supervisory architecture?

$$CBIS_{it} = \beta_1 Crises_{i,t-1} + \beta_2 CBI_{i,t-1} + \beta_3' \mathbf{X} + \epsilon_{it}$$

where

- $Crises_{i,t-1}$: vector of crises variables,
- $CBI_{i,t-1}$: lagged value of CBI,
- \mathbf{X} : vector of additional control variables,
- $\epsilon_{i,t}$: error term.

Table: Determinants of Supervision inside the Central Bank

Expl. vbs:	Dependent variable: CBIS Index					
	(1)	(2)	(3)	(4)	(5)	(6)
Financial Crises (Cumulative)	0.742*** (0.143)	0.638*** (0.144)	0.685*** (0.194)	0.725*** (0.145)	0.620*** (0.145)	0.686*** (0.194)
CBI Index	-2.705*** (0.520)	-2.331*** (0.539)	-2.101** (1.032)	-1.738*** (0.445)	-1.211*** (0.458)	-0.784 (0.745)
Governance		-0.467* (0.252)	-0.170 (0.327)		-0.336 (0.250)	-0.013 (0.332)
Civil Law Dummy		-1.900*** (0.536)	-2.579*** (0.710)		-2.036*** (0.541)	-2.818*** (0.718)
Latitude		-0.045*** (0.015)	-0.051*** (0.020)		-0.049*** (0.016)	-0.056*** (0.020)
Macroprudential Index (MPI)			0.204** (0.104)			0.229** (0.099)
Observations	1,409	1,360	933	1,495	1,432	954
Number of Countries	93	93	73	93	93	73
Continent FE		YES	YES		YES	YES
Country FE	YES			YES		

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Robustness checks

- Different definitions for crises
- Different definitions for bandwagon/peer effects
- Checks with *restricted* CBIS Index

Concluding remarks

- We propose a new index of *unified* financial sector supervision *inside* the central bank
- We find that countries are more likely to reform their supervisory architecture following crises, but also based on their peers
- We highlight the important role of the degree of central bank independence in influencing the decision to concentrate the supervision of financial institutions inside the central bank.

Thank you for your attention!