

Supervision architecture and regulatory capture

Pierre Boyer

University of Mannheim

Banking Supervision and Central Banks: Insights from Research
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*Based on joint work with Jorge Ponce (Banco Central del Uruguay) and Hubert Kempf
(ENS Cachan-Paris School of Economics)*

The views in this presentation are those of the authors and not of their institutions.

Motivation: Current reforms

Banking reforms tend to concentrate supervisory powers in single supervisors

- United Kingdom
 - ▶ Bank of England received a clear mandate on “macro-prudential” and “micro-prudential” supervision
- United States
 - ▶ The Restoring American Financial Stability Act of 2010 gives the Federal Reserve both micro- and macro-prudential responsibilities
- Europe
 - ▶ New supervisory role for the ECB
 - ▶ Home-host supervision debate

Motivation: Limits?

The degree to which the Guardians of Finance will use financial regulations for socially beneficial purposes depends crucially on the political system and the full range of institutions associated with aligning the interest of public officials with those of the people.

Barth, Caprio, and Levine (2012)

⇒ Avoiding (future) regulatory failures: Incentives are the key

Objective

Should a single supervisor (central bank, home supervisor) be in charge of the supervision of several dimension of a bank's riskiness (micro and macro-prudential, host activities)?

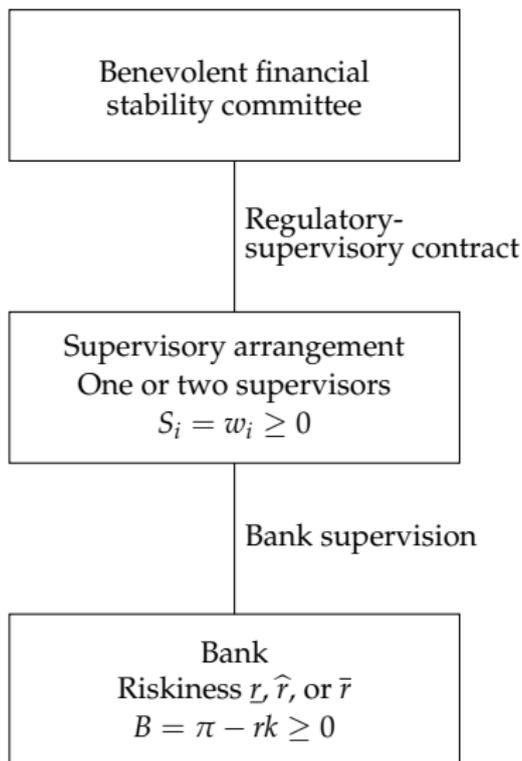
Related literature

- Efficiency: rationale for concentrating supervisory powers
 - ▶ Central banks are the natural source of liquidity, Bagehot (1873)
 - ▶ Interlinks between financial and price stability, Goodhart and Schoenmaker (1995), Masciandaro (1995, 2004)
 - ▶ Synergies between financial supervision and monetary policy, Peek et al. (1999)
- Incentives and capture: the ignored possibilities
 - ▶ Powerful supervisors may be easily captured, Barth et al. (2004), Djankov et al. (2002), Quintyn and Taylor (2002)
 - ▶ Capture has been a concern in the past, Kane (1990,2001), Abrams and Settle (1993)
- Regulation under asymmetric information and collusion
 - ▶ Laffont and Tirole (1993), Laffont and Martimort (1999)

This presentation

- Uses a formal model
- Analyzes the optimality of concentrating supervisory powers
- Focuses on
 - ▶ the incentives of self-interested supervisors
 - ▶ the allocation of bank supervisory powers
- Finds that
 - ▶ splitting supervisory powers among different supervisors is a superior arrangement in terms of social welfare when the capture of supervisors by bankers is a concern

The three-tier hierarchy



The model

- Banker

- ▶ Private information, riskiness: $r = \underline{r} + r_m + r_M$, $r_m, r_M \in \{0, \Delta r\}$
- ▶ $P(\underline{r}) = \alpha^2, P(\hat{r} \equiv \underline{r} + \Delta r) = 2\alpha(1 - \alpha), P(\bar{r} \equiv \underline{r} + 2\Delta r) = (1 - \alpha)^2$
- ▶ $B = \pi - rk \geq 0$

- Supervisor(s)

- ▶ $S_i = w_i \geq 0$, $i \in \{1, 2\}$
- ▶ Supervisory technologies, T_j , $j \in \{m, M\}$, provide informative signals, σ_j , with probability ϵ

- Regulation, supervision and their costs

- ▶ Bank regulation affects k and π (then B)
- ▶ Bureaucratic costs $\lambda(\pi + w)$

- Social welfare

$$\begin{aligned} W &= \Psi(k) + B + S - (1 + \lambda)(\pi + w) \\ &= \Psi(k) - (1 + \lambda)rk - \lambda B - \lambda S \end{aligned}$$

The timing

- (i) The financial stability committee defines the supervisory structure, i.e. one or two bank supervisors.
- (ii) The bank learns r_m and r_M and supervisor(s) σ_m and σ_M .
- (iii) The financial stability committee announces its regulatory policy and the supervisor(s) wage(s). The bank and supervisor(s) decide whether or not to participate.
- (iv) Non-benevolent supervisor(s) may request bribes in exchange for hiding supervisory information to the financial stability committee.
- (v) The supervisor(s) report(s) its (their) signal(s). The regulatory policy is executed and supervisory wages are paid.

Benchmark: Benevolent supervision

$$\max W^B = (1 - \alpha\epsilon)^2 W_0 + 2\alpha\epsilon(1 - \alpha\epsilon)W_1 + (\alpha\epsilon)^2 W_2$$

subject to

- incentive compatibility constraints
- participation constraints

Proposition 1

Optimal regulation under benevolent supervision entails more severe regulations for the most risky banks such that

- (i) the most risky banks face more stringent capital (size) regulations than the less risky banks;
- (ii) the less risky banks make more profits.

One non-benevolent supervisor

$$\max W^O = (1 - \alpha\epsilon)^2 W_0 + 2\alpha\epsilon(1 - \alpha\epsilon)W_1 + (\alpha\epsilon)^2 W_2 - C^O$$

subject to

- incentive compatibility constraints
- participation constraints
- collusion-proof constraints

$$w_2 - w_1 \geq \tau \underline{B}_1$$

$$w_2 - w_0 \geq \tau \underline{B}_0$$

$$w_1 - w_0 \geq \tau \min\{\underline{B}_0 - \underline{B}_1, \hat{B}_0\}$$

One non-benevolent supervisor (cont.)

$$\max W^O = (1 - \alpha\epsilon)^2 W_0 + 2\alpha\epsilon(1 - \alpha\epsilon)W_1 + (\alpha\epsilon)^2 W_2 - C^O$$

subject to

- incentive compatibility constraints
- participation constraints
- collusion-proof constraints

Proposition 2

Optimal regulation with one non-benevolent bank supervisor entails more capital restrictions for the most risky banks and lower profits for the less risky banks with respect to the case of benevolent supervision.

Two non-benevolent supervisors

$$\max W^T = (1 - \alpha\epsilon)^2 W_0 + 2\alpha\epsilon(1 - \alpha\epsilon)W_1 + (\alpha\epsilon)^2 W_2 - C^T$$

subject to

- incentive compatibility constraints
- participation constraints
- collusion-proof constraints

$$w_1 - w_0 \geq \tau \min\{\widehat{B}_0, \underline{B}_0 - \underline{B}_1, \underline{B}_1\}$$

Two non-benevolent supervisors (cont.)

Proposition 3

Optimal regulation with two non-benevolent bank supervisors entails more capital restrictions for the most risky banks and lower profits for the less risky banks with respect to the case of benevolent supervision.

However, for banks of riskiness \hat{r} (respectively \bar{r}), optimal regulation is less (respectively more) distorted when two non-benevolent bank supervisors are used instead of using only one non-benevolent bank supervisor.

Comparison

Proposition 4

From an ex ante point of view, the gain in expected social welfare from using two non-benevolent bank supervisors instead of only one non-benevolent bank supervisor is at least equal to zero.

- Partial information reduces the stake from being captured

Comments and policy implications

- Concentration of supervisory powers makes capture more likely
- Separation
 - ▶ Appears as an optimal response to the threat of capture
 - ▶ Introduces more rules to banking supervision
 - ▶ Improves social welfare by reducing the discretion of supervisors

Take away message: Monopoly power in information acquisition may be a curse when capture is a concern

Extensions and discussion

- Positive correlation between risks
 - ▶ *Checks and balances*: Possibility of using yardstick competition between supervisors
- Excessive costs of duplicating supervisory structures
 - ▶ Inside Central banks different units for micro- and macro-prudential supervision
- Different accuracy of supervisory technologies
 - ▶ Better information by using a single supervisor
 - ▶ But, more stake from capture
- Repeated supervision
 - ▶ More tools to prevent capture
- Externalities across jurisdictions and Banking Union