Multinational Banks and Supranational Supervision

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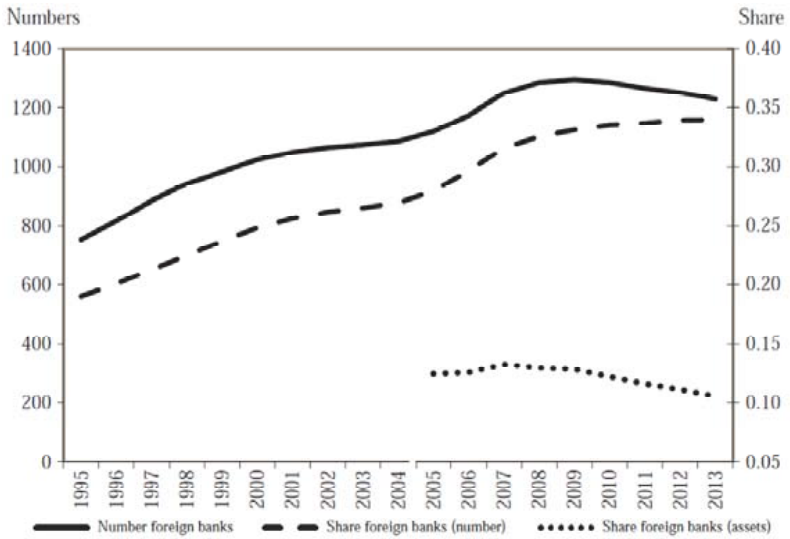
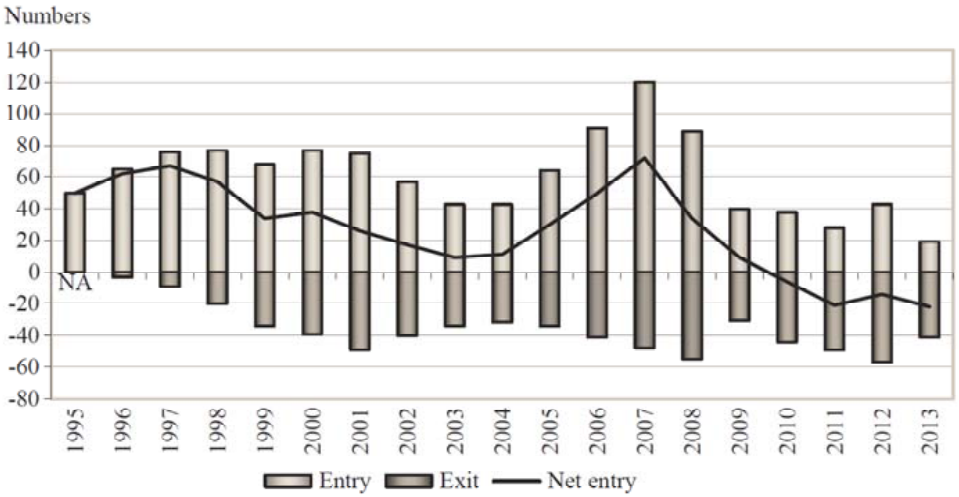
Motivation

- Multinational banks (MNBs), operate in several countries, became more and more important (by number and dimension) over the past two decades.
  - (OECD countries) number from 550 in 1995 to 884 in 2009
  - up to 90% of foreign banks (East Europe), 10% "core" Europe





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- MNBs not only an important phenomenon
- MNBs operate in complex, uncoordinated and dissimilar regulatory regimes, and they may thus escape tight supervision
  - ...spectacular failures, e.g. Dexia, supervised by Belgium, France, Luxembourg and the Netherlands, a catastrophic failure with bail-out for 6 bln EUR in 2011
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- Lesson drawn: **strong rationale for coordination and centralized-supranational supervision**
  - e.g. Single Supervisory Mechanism (2014): ECB supervises 129 most significant banks in Euro area (80% total Euro area bank assets)
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THIS PAPER: **What is the impact of centralized supervision of multinational banks?**

Motivation: specific questions

- How does supranational supervision affect monitoring and intervention incentives?
- How do MNBs react to supranational supervision: decision to go abroad or via changing the organizational form?
- What are the consequences (cost of insuring depositors, welfare)?

Very small literature taking MNBs into account: a simple theoretical paper providing answers to these questions.

Motivation: Foreign Branches and Subsidiaries

Kaupthing UK
Subsidiary of Icelandic Kaupthing Bank
2.5 bn UK deposits
Supervisor: UK
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Foreign bank expansion: organization

Foreign Subsidiary: a separate legal entity, controlled by the parent bank.
Foreign Branch: NOT a separate legal entity, part of the home bank.

Choosing between the two, a complicate trade-off:

1. Different Liability: with subsidiary home unit not liable for the foreign unit's losses (although reputation cost may matter)
2. Different Supervision
   - foreign Subsidiary $\rightarrow$ supervised by foreign supervisor
   - foreign Branch $\rightarrow$ supervised by home supervisor
3. Different Deposit Insurance
   - foreign Subsidiary $\rightarrow$ Foreign Deposit Insurance
   - foreign Branch $\rightarrow$ Home Deposit Insurance

Model

- An MNB operates one unit in country h(ome, incorporation) and one in f(oreign)
- Each unit collects deposits of size 1, invests locally in illiquid and risky project
- projects are good with probability λ, and bad with probability $(1-\lambda)$
- good projects pay out $R > 1$ with probability 1, bad projects do with probability $p < 1$, 0 otherwise.
  - Parametric assumptions: $[\lambda + (1-\lambda)p]R > 1., R < 2$
- Units' investments are uncorrelated.
- Deposits are insured by Deposit Insurance (DI).

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- MNB foreign represented with a **Subsidiary**:
  - Liability: foreign residual assets (after reimbursing foreign depositors) to be used against home unit's outstanding liabilities but not vice-versa;
  - Supervision: each national supervisor supervises the local unit, who is also in charge of insuring local depositors.

Supervision in details

Supervision: Monitoring and Prudential intervention

- **Monitoring**: the supervisor in charge incurs cost c_i for monitoring the unit in country i
  - If monitoring, $d_i = M$, then known for sure whether the unit's investment is good or bad
  - Monitoring enables the supervisor to intervene in the bad project.
  - Information is shared among supervisors
- **Prudential intervention**
  - Intervention: bank transfer its assets into a safer project (b, r), $b > p$, $pR = br$, $r > 1$.
- Supervisors minimize cost to the Deposit Insurance Fund.
- 57% of DI funds in the world have extended supervisory powers and responsibility to minimize fund's losses (Demirguc-Kunt et al. 2014)

Time-line

- $t = 0$: supervisory architecture set, National or Supranational.
- $t = 1$: Bank chooses if to expand abroad with a *Subsidiary* or a *Branch* or remain *Stand-alone* at home.

- $t = 2$: Supervisor in charge decides if to monitor the unit(s) under his jurisdiction or not.
- $t = 3$: Supervisors learn the state of monitored units and decide if to intervene or not.
- $t = 4$: Payoffs realize.

Analysis, begin from $t = 2 - 4$ and then backward.

Supranational Supervision: the environment

Single supranational supervisor: responsible for both units minimizing total expected losses of DI in both countries (DI still national), same costs of collecting local information as national supervisors

- **Subsidiary-MNB**
  - Foreign supervisor exerts externality on the home supervisor (opposite is not true)
  - Externality 1: **monitoring externality**.Foreign monitoring enables the home supervisor to condition its monitoring decision on the outcome of foreign monitoring.
  - Externality 2: **intervention externality** when intervention occurs after monitoring, the expected value of the residual assets in the foreign unit reduced. Cost to the home deposit insurance increases.

Supranational Supervision

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  - Supranational supervision leads to different decision only if the decision for the foreign unit is different.
  - Supranational supervision may increase or decrease foreign monitoring depending on which externality is present when national supervisors make decisions.

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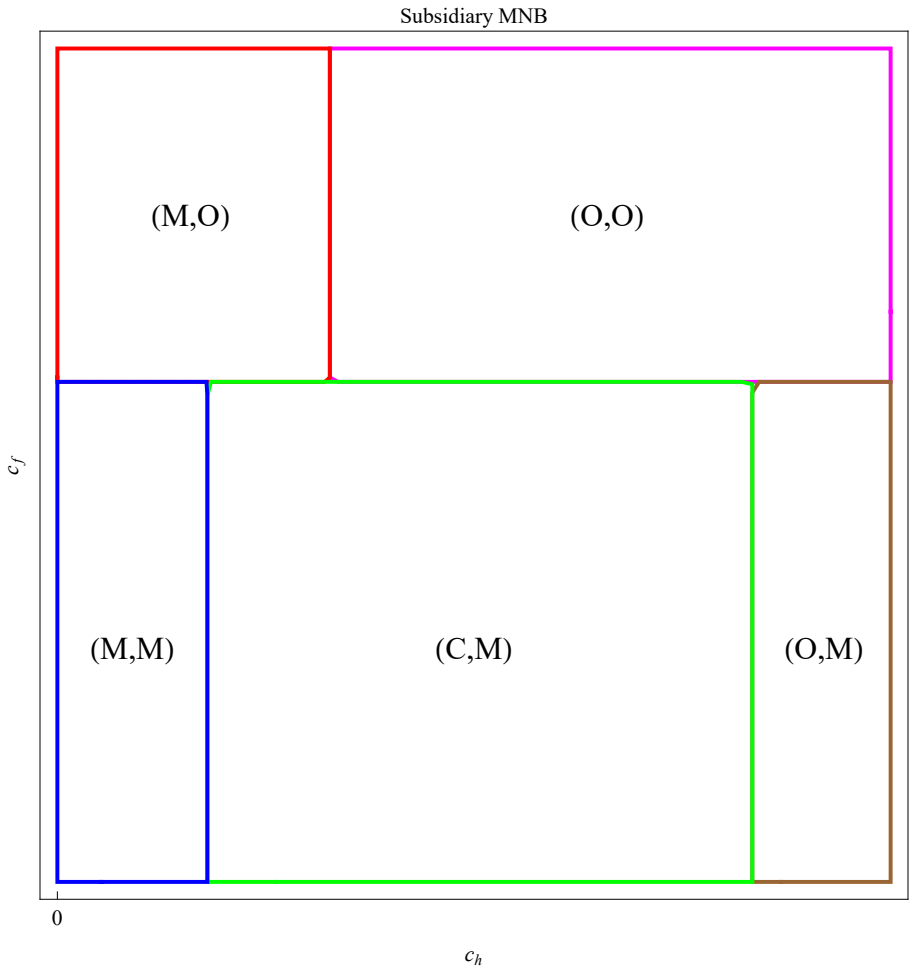
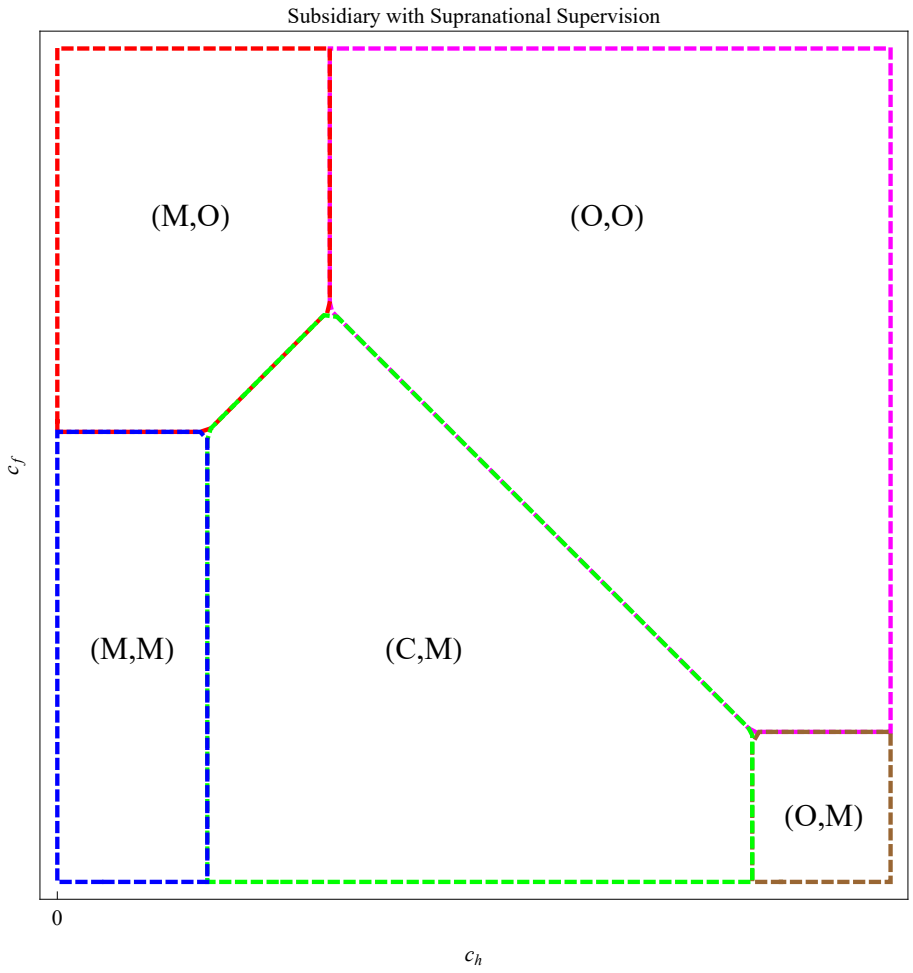
- **Branch-MNB**
  - Home and foreign depositors and units equally treated by home supervisor, hence a supranational supervisor would act the same way.

Supranational Supervision: How Do Decisions Change





Implications for Bank Profits and Organizational Structure

Short-run effects: take the organization of the multinational bank as given.

- When **Supranational supervision** increases foreign monitoring, it reduces the profitability of a subsidiary-MNB.
- When **Supranational supervision** decreases foreign monitoring, it increases the profitability of a subsidiary-MNB

Long-run effects: MNB switches to the organizational structure that minimizes supervisory monitoring.

- Which is the relevant case depends on the intensity of foreign monitoring under national supervision
- Switch from subsidiary to branch or standalone (domestic retreat)following increased supervisory monitoring.
- Switch from branch to subsidiary (entry into foreign market) following reduced supervisory monitoring. .

Implications for Welfare

- Introduction of supranational supervision affects the entry or exist decision of the bank into the foreign market.
- Welfare increases when entry occurs, and decreases with domestic retreat.
- Bank switches to branches may increase welfare, but gain is lower than intended by the introduction of supranational supervision.
- Bank switches to subsidiaries may decrease welfare (create a larger hole in the deposit insurance funds to be covered with public money)

Implications for Losses to the Deposit Insurance Funds

- When supranational monitoring leads to more monitoring in subsidiaries, both bank profits as well as total losses to the DI are reduced
- After the organizational structure change: home deposit insurance bears all the losses (too much burden?)
- When supranational monitoring reduces foreign monitoring, it increases both bank profits as well as losses to the deposit insurance funds.
- Losses to the deposit insurance funds are held in both countries.

Taking the model to the data

- **Impication 1**: Subsidiaries (branches) are more likely to be present in countries with weaker (stronger) supervision and institutions (c_f and $(b_f - p_f)$ low (high))
- **Impication 2**: We should observe a switch to branches (subsidiaries) or exit (entry) in countries with low (high) c_f and $(b_f - p_f)$
- **Impication 3**: With weak foreign supervision,
  - When the MNB originates from a country with strong supervision, change from subsidiaries to branches occurs for high λ_h,p_h and high c_h.
  - When the MNB originates from a country with weak supervision, change from subsidiaries to branches occurs for low λ_h,p_h and low c_h .
- **Impication 4**: With strong foreign supervision, a switch to a subsidiary is more likely to be the case when λ_h and λ_f are lower and $(b_f - p_f)$ higher.

Conclusions

- A framework for understanding the interaction between structure of bank supervision and the organizational form of multinational banks
  - Supranational supervision acts differently for branches and subsidiaries (asymmetric effect)
  - This leaves open the possibility for the bank to minimize the impact of centralized supervision by adjusting the organizational structure in the long run.
- Bank response should be taken into consideration when evaluating the benefits of centralizing supervision.
- Provide testable implications where the effect should be felt most.
- Extensions: not-fully credible deposit insurance, common supranational deposit insurance.