Disentangling the Effects of a Banking Crisis: Evidence from German Firms and Counties

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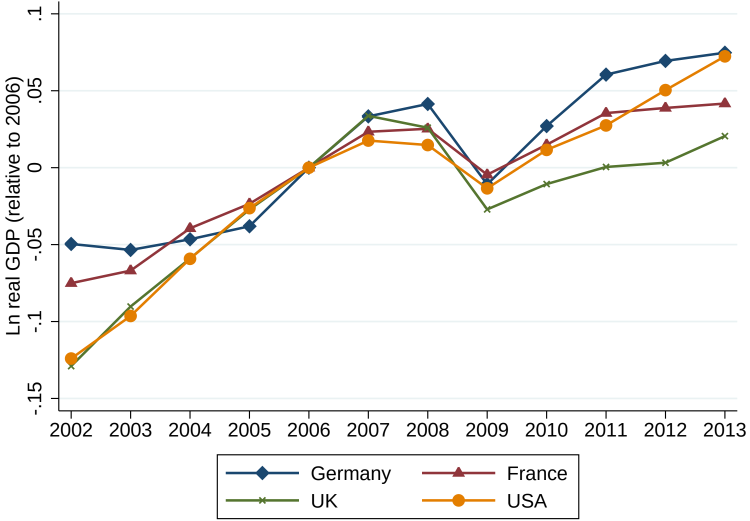
Systemic Banking Crisis 2008/09

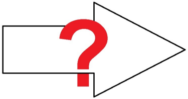
Global Great Recession 2008/09

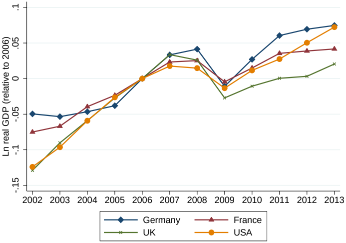


A Common Pattern in History

- Banking crises and deep recessions often coincide.
- Famous examples:
  - Great Depression 1929-39
  - Swedish and Finnish Crises 1991/92
  - Japan in the 1990s
  - East Asian Crisis 1997
  - Banking Crisis and Great Recession 2008/09
- Why do they coincide?

Do Banking Crises Cause Recessions?





Do Banking Crises Cause Recessions?

- **Important** question!
- To understand the economic value of a stable banking system.
- To prevent deep recession from happening again.
- To react optimally during recessions. (E.g. Should we bail out banks?)
- To reflect on the slow recovery since 2008.

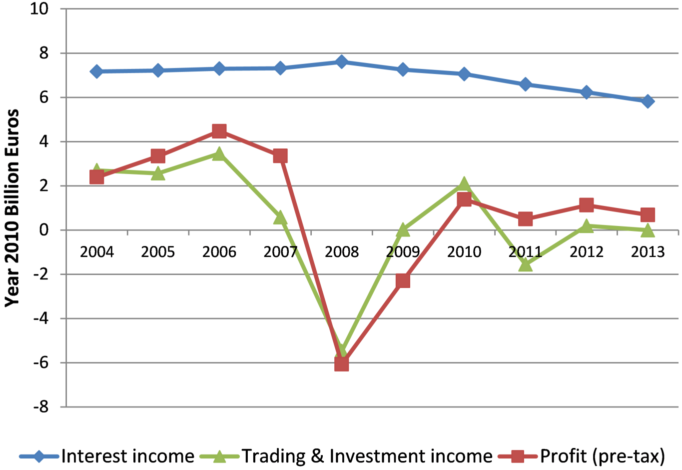
Do Banking Crises Cause Recessions?

- **Hard** question!
- Maybe banking crises are a symptom, but not a cause of recessions (housing crisis, government debt, uncertainty).
- We need an “experiment”, where we randomly vary exposure to a banking crisis, keeping other factors constant.
- We can’t randomize, so we look for a “natural experiment.”

The “Natural Experiment” in This Paper

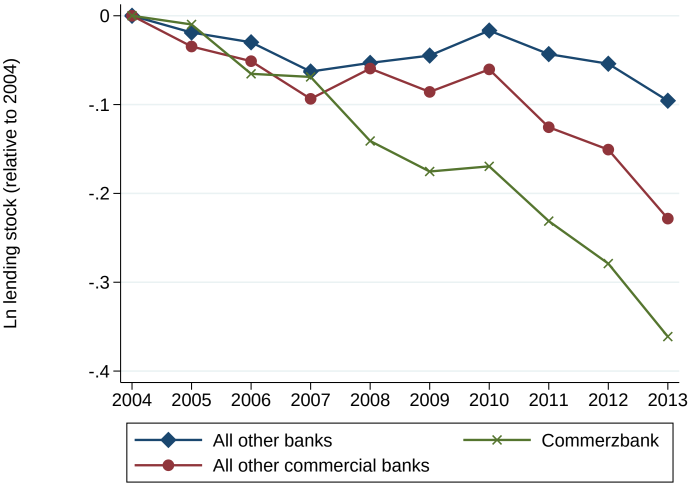
- Commerzbank, a large German bank, suffers losses on international financial markets 2008/09 (also its acquisition Dresdner Bank).
- Commerzbank goes into a severe crisis.
- By 2011, it appears more stable again.
- Many banks were in crisis. Why focus on Commerzbank?
- The evidence suggest that Commerzbank’s crisis was caused by international trading and investments, not by its German customers.

Evidence from the Bank Income Statement



Figures aggregated for Commerzbank and Dresdner Bank before 2009.

Commerzbank Cuts Lending



Commerzbank includes lending by branches of Commerzbank and Dresdner Bank.

The Natural Experiment in This Paper

- German firms traditionally form close relationships to a few relationship banks ("Hausbanken").
- Some German firms have relationships to Commerzbank, others do not.
- **Firms that depend on Commerzbank are directly exposed to a banking crisis $\rightarrowtail$ the natural experiment.**

Firm Survey

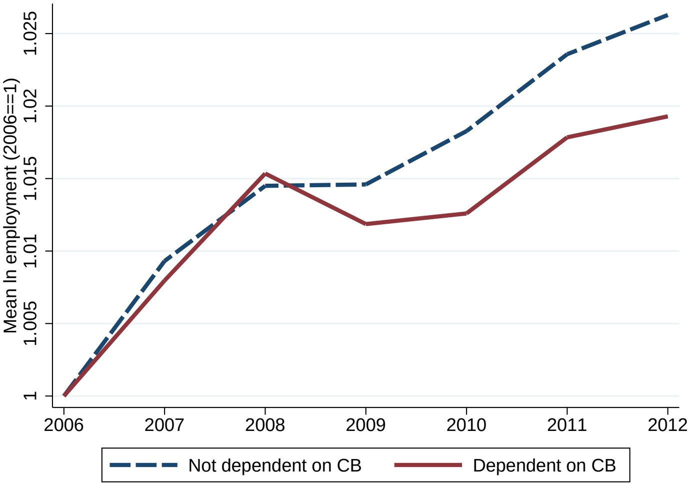
- “How do you evaluate the current willingness of banks to grant loans to businesses: cooperative, normal, or restrictive?”
- Firms dependent on Commerzbank answer “restrictive” in 2009 and 2010 more frequently, compared to other firms.
- Not true before or after.
- No difference when asked about product demand.

Effects of the Banking Crisis

1. On firms dependent on Commerzbank
2. On regions dependent on Commerzbank
3. On firms *not* dependent on Commerzbank

1. Employment of Firms Dependent on Commerzbank

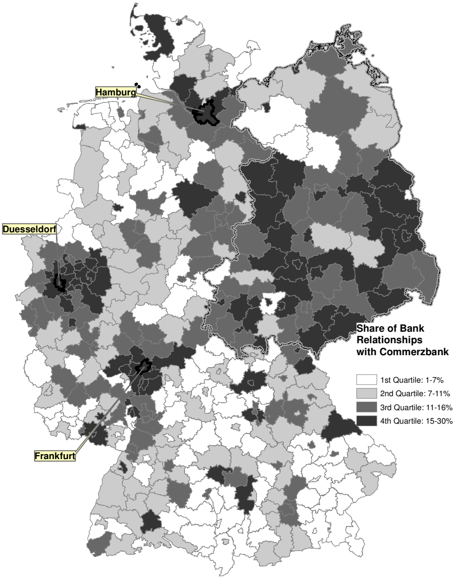
Parallel Pre-trends and the Effect of the Banking Crisis



1. More Sophisticated Statistical Analysis

- Negative effects on employment, investment, and patenting.
- Control for county, industry, size, age, export and import share.
- Compare to other customers of banks in crisis, e.g. some Landesbanken (SH, HH, NW, RP, BW, BY, SN), KfW, HypoVereinsbank.

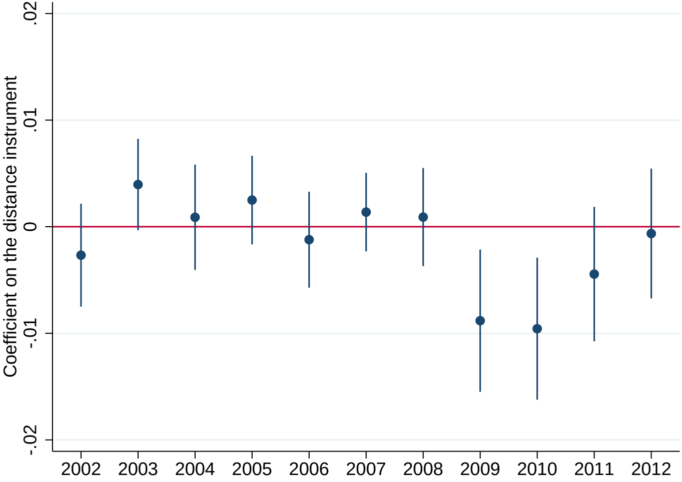
2. County Commerzbank Dependence



2. Regional Effects

- Some counties are more dependent on Commerzbank.
- Commerzbank was broken up after World War II. Temporary head offices in Duesseldof, Frankfurt, and Hamburg.
- Counties around these head offices still more dependent on Commerzbank today. Can use this fact to explain regional dependence on Commerzbank, based on distance to historic head offices (technically: use OLS and IV).
- Control for other differences across counties (former GDR, 17 industry shares, export and import share, Landesbank in crisis, ln population, population density, ln GDP per capita, 2003 debt index).

2. County GDP Growth Rate



2. Regional Effects

- Firms reported that loan supply recovered by 2011.
- After 2011, firms and counties dependent on Commerzbank did **not converge** to the unaffected levels.
- The banking crisis 2008/09 may have contributed to the slow recovery from the Great Recession.

3. Thought Experiment

- Imagine running a firm. You are not borrowing directly from Commerzbank, but many firms around you are.
- Is Commerzbank's crisis good or bad for you?
- Good: You can hire workers more cheaply and sell more to other customers.
- Bad: People buy less and you benefit less from other firms' spillovers.

3. The "Indirect Effect"

- Firms with no direct relationship to Commerzbank, but in counties highly dependent on Commerzbank, grew more slowly $\rightarrow$ the county-level **indirect** effect.

- Indirect mechanisms: shortfalls in county demand and high-innovation spillovers.

- Banking crises lower growth, through direct and indirect channels.

Conclusion

1. Firms and counties dependent on Commerzbank grew slowly. They recovered sluggishly after 2010.

2. Firms *not* dependent on Commerzbank also suffered on average.

3. The results contribute to the discussion about how the global banking crisis shaped the Great Recession.
    - Banking crises can affect all firms, through demand and productivity losses.
    - The losses due to temporary banking crises can persist.
    - Policy should consider targeting indirectly affected firms and intervening even after banks have stabilized.