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Public guarantees and financial stability

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Some stylized facts

- After the failure of Lehman brothers, almost all industrial countries decided to rescue or provide explicit public guarantees for essentially all "systemically important" banks
- Most of these programs consisted of guarantees of bank liabilities, loans at subsidized rates or capital injections (forced private or outright public):
  - US: Merrill Lynch, Bear Stearns, Washington Mutual, Wachovia…
  - UK: Northern Rock, RBS, HBOS, Lloyds,…
  - NL: Fortis
  - DE: IKB, Hypo Real Estate, Commerzbank
  - IE: Anglo-Irish Bank
  - …
- In the context of the current euro area crisis, the "voluntary" hair cut for Greek debt is associated with a "forced" increase in bank capital

Some stylized facts

Government financed bank rescue packages (in billion US$)

Country	
USA	1,300
UK	1,143
Germany	920
Denmark	569
France	564
Ireland	562
Belgium	371
Netherlands	360
Other OECD	1385
Total	7174

[3] Source: Sinn, 2010

Questions and outline of talk

- In addition, the only major bank that failed, Lehmann, caused major financial turbulences…
- May have increased the market expectation of future bail-outs: more “too-big-to-fail” banks, more implicit guarantees

Outline of talk

What are the consequences of widespread implicit and explicit government guarantees for bank behaviour **before a crisis**?

- What is the effect of public guarantees **ex ante?**
- What are the effects of government guarantees on the stability of the banks competing with protected banks?
- Moral hazard versus charter value effects of guarantees

How do public guarantees affect banks **in a crisis**?

- What is the effect of public guarantees **ex post?**
- Do public guarantees do their job?
- Do public guarantees ensure wholesale market funding in a crisis?
- Are guaranteed banks more likely to be bailed out ex post?

This paper: We will provide evidence on the **ex ante and ex post effects** of guarantees based on two natural experiments.

Theory

- Moral hazard effects
  - Related to the literature on deposit insurance and limited liability (Merton, 1977)
    - Public guarantees reduce market discipline because creditors anticipate their bank's bail-out and therefore have lower incentives to monitor the bank's risk-taking or to demand risk premia for higher observed risk-taking
- Charter value effects
  - Keeley (1990) was the first to show that higher charter values decrease the incentives for excessive risk-taking, because the threat of losing future rents acts as a deterrent to risk-taking.
  - Government bail-out guarantees result in higher charter values for protected banks due to lower refinancing costs. This tends to reduce the protected banks' risk-taking.

Theory

- Hence, as argued by Cordella and Yeyati (2003) and Hakenes and Schnabel (2010), the net effect of public bail-out guarantees on the risk-taking of protected banks ex ante is ambiguous and depends on the relative weight of the two channels.
- We know little about the expected effect of public guarantees on bank behavior in a crisis (ex post).
  - Can insured banks maintain better access to wholesale funding?
  - Are insured banks more or less likely to be bailed out?
  - If public guarantees help banks maintain access to funding the charter value view on public guarantees could become more important in a crisis.

Evidence: Ex ante effects

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Extensive, although largely indirect evidence on the **ex ante effects**:

- Hovakimian and Kane (2000) show evidence for higher risk-taking of banks in the presence of deposit insurance.
- Large banks, which may be perceived to be “too big to fail“ have been shown to follow riskier strategies than smaller banks (Boyd and Runkle, 1993; Boyd and Gertler, 1994).
- De Nicolo (2001) and De Nicolo et al. (2004) document higher probabilities of failure for larger banks.
- De Nicolo and Loukoianova (2007) find that public banks do not appear to follow riskier strategies than private banks.
- Sapienza (2004) shows that public banks charge lower interest rates for given riskiness of loans

Evidence: ex ante effects from two natural experiments

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1. Experiment

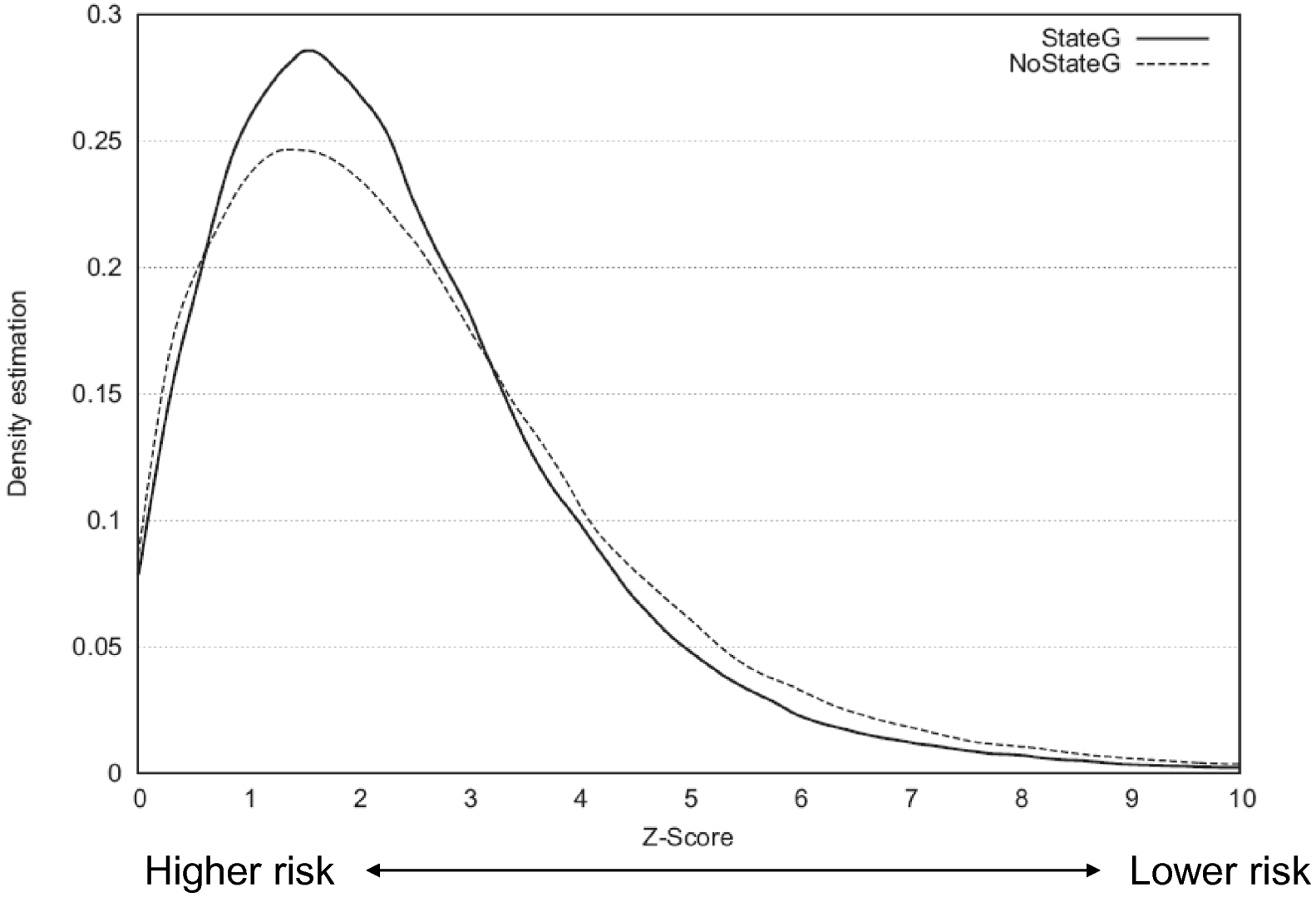
Based on a European court decision in 2001, the public guarantees for all savings banks in Germany were removed.

The removal of guarantees for German savings banks may be viewed as a *natural experiment* to analyze the effects of guarantees

- The removal was not prompted by a financial event, but *exogenously* imposed by the court decision
- The court decision removed guarantees for a set of relatively small banks (unlikely to be implicitly insured, no TBTF)

Gropp, Gründl and Güttler (2011) use a data set that contains bank/customer matched information for all affected banks and data on a control group of banks

1. Natural experiment:



Economic significance

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Results suggest that guarantees resulted in

- 7.5% lower z-scores (riskier borrowers)
- 17.2% larger loans
- 46 basis points or 7.7% lower interest rates

All figures are relative to a control group of banks.

Public guarantees result in significant moral hazard effects **ex ante**.

Moral hazard appears to outweigh the charter value effect **ex ante**.

Evidence: Competitive effects of guarantees

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Public guarantees may not only affect the banks protected, but also the competitors of protected banks (banks not TBTF, not systemically important etc.)

Hakenes and Schnabel (2010) and Gropp, Hakenes and Schnabel (2011) show that it is optimal for competitors of protected banks to increase their risk taking.

Three part argument:

1. Higher government protection induces protected banks to expand
   i. They have more cheap funding available and may move into new markets
   ii. Hence, the competitors of protected banks face fiercer competition
   iii. Their charter value declines: they increase risk taking

Evidence on competitive effects

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Gropp, Hakenes and Schnabel (2011) estimate this for a large set of banks from all OECD countries

- They show significant effects of the market share of insured banks on the risk taking of non-insured banks
  - If a banks is not insured (small, systemically not important) it will increase its risk taking in order to remain competitive in light of the funding cost advantage of insured banks
- Suggests an additional externality of TBTF banks

Evidence: ex post

2. Natural experiment

Damar, Gropp and Mordel (2011) use the following natural experiment:

- In October 2006, Dominion Bond Rating Service (DBRS) introduced a new rating that considers the likelihood of “external” support.
- The introduction of the rating was not prompted by any change in the risk assessment of the banks (as in Kliger and Sarig, 2000)

The rating consists of three categories:

SA-1: Strong expectation of timely external support

SA-2: Expectation of some form of external support

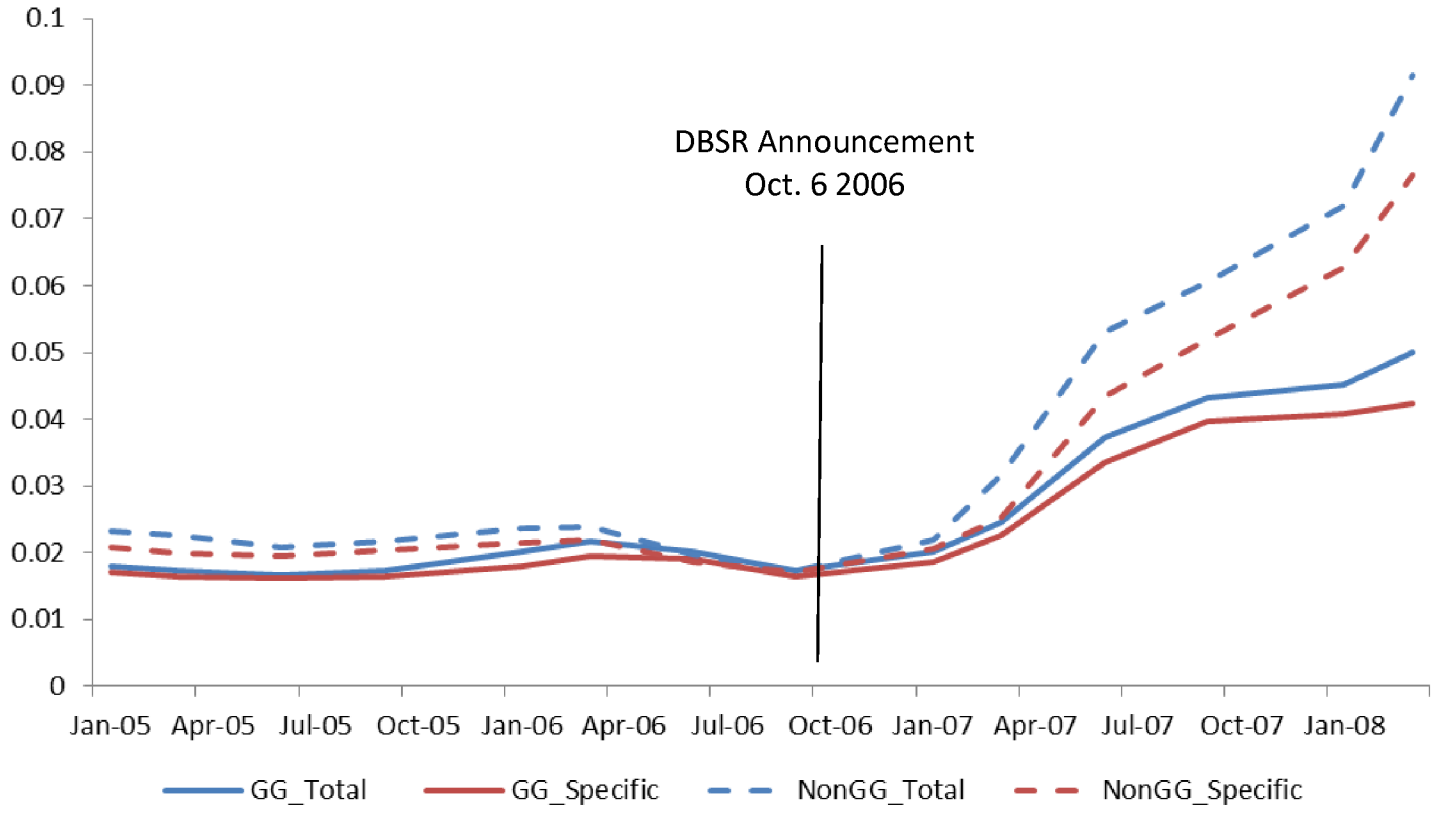
SA-3: No expectation of any form of external support

- Similar to already existing ratings by e.g. Fitch/IBCA’s “support rating”
  - Joint test of “any new information” and “the effect of the new information”

Evidence: ex post

- Damar et al. (2011) show that insured banks increased their risk taking more leading up (but excluding the crisis) compared to uninsured banks
  - Confirms previous literature: ex ante government guarantees appear to be associated with moral hazard effects
  - However, if we include the financial crisis, we obtain the opposite result: insured banks are less risky by common measures, both stock market based and balance sheet based

Evidence: ex post



Evidence: ex post

- The evidence in Damar et al. (2011) are consistent with a beneficial effect of explicit (ex ante) guarantees ex post:
  - Insured banks tend to exhibit less risk compared to uninsured banks in a crisis
  - Damar et al. (2011) show that this in part may be due to better access to wholesale funding markets during the crisis
    - Would be evidence that the charter value effect dominates the moral hazard effect in a crisis (ex post)
    - Does not seem to be due to actual bail outs: controlling for bail outs the effect persists
- The evidence is also consistent with the competitive effects of guarantees in Gropp, Hakenes and Schnabel (2011).

Conclusions

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- Public guarantees tend to increase risk taking by banks ex ante (before a crisis)
  - True for both insured and uninsured banks (competitive effects)
  - Moral hazard effects seem to dominate charter value effect ex ante
- Ex post, i.e. during a crisis the charter value effect tends to dominate the moral hazard effect
  - Insured banks tend to exhibit less risk compared to uninsured bankd during a crisis
  - Funding cost advantage and better access to wholesale funding in a crisis
- Consistent with this, in a large sample of OECD banks we find no evidence that insured (explicitly or implicitly) banks are more likely to be bailed out ex post

Conclusions

- Recently, the credibility of public guarantees may have been reduced by fiscal weakness (Demirguc-Kunt and Huizinga, 2010)
  - This should reduce both the ex ante moral hazard effect of public guarantees as well as the ex post charter value effect
    - As governments become less credible, markets will tend to discount the guarantee ex ante and require compensation for risk
      - Less moral hazard
    - As governments become less credible, markets will tend to discount the value of guarantees ex post
      - Smaller (if any) funding cost advantage in a crisis

Policy implications

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- Higher capital requirements for large, systemically important banks can be justified with the systemic and competitive externalities
  - For example, the recent Swiss National Bank regulatory change: significantly increase the capital requirement for large banks (up to 19%)
  - Similar initiatives in the EU, although more modest in scale
  - This may in part offset the subsidy through the implicit insurance and reduce the effects on risk taking on both insured and uninsured banks **ex ante**
- While reducing the moral hazard effect ex ante, it would preserve the charter value/funding cost advantage during a crisis **ex post**
- Would suggest that "constructive ambiguity" (Freixas, 1999) may not be the optimal strategy with regards to bank bail outs
  - Constructive ambiguity may reduce moral hazard ex ante, but also reduces the benefit of guarantees in the crisis ex post (Cordella and Yeyati, 2003)