

Flight to Where?
Evidence from Bank Investments During the Financial Crisis

Thomas Hildebrand, Jorg Rocholl and Alexander Schulz



Discussion by Neeltje van Horen
De Nederlandsche Bank

GLOBAL RESEARCH FORUM

INTERNATIONAL MARCOECONOMICS AND FINANCE

17-18 DECEMBER 2012, FRANKFURT

Aim of paper



Main question:

- ✓ How did the financial crisis (specifically the deterioration of solvency and liquidity conditions of banks) affect the *composition* of securities in portfolios of banks?

Unique data



- ✓ 113,376 different securities
 - Amount that bank i holds from security j issued by issuer k at time t
 - Use info on ESCB eligibility, nationality, asset class and sector
 - Know identity of borrower → can be exploited further
- ✓ 1,800 German banks
 - Info on balance sheet variables, holdings of specific (troubled) assets and supervisory ratings (subset)
 - But concentrated market → 18 banks account for 60% of security investment
- ✓ Quarterly data: 2006Q1-2011Q1
 - Can compare pre-crisis with crisis period

Methodology



- ✓ Diff – in – diff
 - Treatment: bank i exceeds median of certain variable (i.e. bank health) at moment of Lehman collapse (2008Q3)
 - One “shock”
 - Compare whether “treated” banks behaved differently on average over the post-Lehman period
 - Post-Lehman period: 2008Q3 – 2011Q1

Methodology



- ✓ Six dependent variables
 - Construct portfolio of securities of each bank i at time t
 - Stock or flow?
 - Dependent variable: share of securities
 - Eligible for *ESCB* operations
 - Issued to *domestic* borrowers
 - Issued to *domestic/foreign financial* sector borrowers
 - Issued to *domestic/foreign government*
 - But very large concentration in financials (80 %) so some variables highly correlated

Finding 1: Flight to liquidity



- ✓ In post-Lehman period share ESCB eligible securities increased
- ✓ In particular larger banks, banks with lower equity ratios and with more troubled assets
- ✓ Flight to liquidity effect

Finding 1: Flight to liquidity



- ✓ Finding based on *average* over post-Lehman period
- ✓ But very long period: 2008Q3 – 2011Q1. Why not exploit this much more?
 - Time dummies already show (sharp) fluctuations over post-period. How about interaction terms?
 - Changes in eligibility of securities
 - What about impact of Securities Markets or Covered Bond Purchase Programs?
 - Cause shift within group of ESCB eligible securities?
 - Can you extend database to examine impact LTRO?
 - Very relevant: not much research on impact of regulatory changes
 - Sovereign debt crisis only started 2010
 - Did this have an additional/differential impact?

Finding 1: Flight to liquidity



- ✓ Authors conclude that *larger banks* switch more to ESCB eligible securities
- ✓ Is this really the case?
 - Size can be proxy for share of troubled assets
 - However, not jointly included in regression
 - Should do horse-race to determine whether size is really driving the result

Finding 2: Flight home



- ✓ In post-Lehman period banks re-allocated portfolio towards domestic securities
- ✓ In particular larger banks, banks with lower equity ratios and with more troubled assets
- ✓ Flight home effect

Finding 2: Flight home



- ✓ Is this really flight home? Or is it *flight to quality*?
 - Need to prove that increase share German securities is not driven by rebalancing of portfolios towards higher quality borrowers. How?
 - Giannetti & Laeven (JFE 2012) provide evidence of flight home effect during crises (syndicated lending)
 - Sample of banks from 55 countries investing in 192 countries
 - Show that borrowers of different quality are equally affected → flight home is distinct from flight to quality
 - Need to cite this paper
 - In this case only banks from one country (least affected by crisis) and foreign countries mostly Euro area countries and importantly PIIGS (most affected by crisis).
 - So difficult to disentangle flight home from flight to quality → careful when drawing conclusions

Finding 2: Flight home



- ✓ Or *demand* correction?
 - Find differences within group of German banks
 - Less healthy banks, banks with more troubled assets etc are more likely to increase their share of domestic securities
 - Suggests that indeed supply driven
 - But possible that portfolios of these banks more biased towards countries more severely hit by crisis.
 - Especially relevant for Greek exposure variable
 - Other studies use firm/country fe to control for demand (c.f. Khwaja & Mian AER 2008)
 - But not possible in current set-up
 - Also problem when studying share of financials

Suggestion demand control



- ✓ Instead of portfolio of bank, use borrower as unit of observation (De Haas & Van Horen, RFS 2013)
 - Restrict sample to borrowers active before and after Lehman
 - Identify all banks lending to borrower j before and after Lehman
 - Generate dummy which is one if bank i continues lending to borrower j after Lehman
 - As multiple banks are lending to one borrower you can use borrower fixed effects to control for demand (a la Khwaja and Mian AER 2008)
 - Examples testable hypotheses:
 - Does the probability to continue lending depend on whether the bank is treated or not?
 - Is there a differential effect for German or foreign borrowers.
 - Is there a differential effect for financials or sovereigns?

Robustness



- ✓ Fixed effects instead of random effects
 - Control for all (un)observed differences across banks → preferred
 - Cannot study differences across banking groups
 - Not prime interest
 - Differences to large extent captured by bank characteristics anyway

Robustness



- ✓ Fixed effects instead of random effects
 - Control for all (un)observed differences across banks → preferred
 - Cannot study differences across banking groups
 - Not prime interest
 - Differences to large extent captured by bank characteristics anyway
- ✓ Is it really a crisis effect?
 - Did banks with liquidity and solvency problems re-balance portfolio more during crisis or do they do this in general?
 - Placebo test: use only pre-crisis period and pick a random “shock”

Robustness



- ✓ Fixed effects instead of random effects
 - Control for all (un)observed differences across banks → preferred
 - Cannot study differences across banking groups
 - Not prime interest
 - Differences to large extent captured by bank characteristics anyway
- ✓ Is it really a crisis effect?
 - Did banks with liquidity and solvency problems re-balance portfolio more during crisis or do they do this in general?
 - Placebo test: use only pre-crisis period and pick a random “shock”
- ✓ How sensitive are results to time period?
 - Pre-crisis and post-crisis

Robustness



- ✓ Fixed effects instead of random effects
 - Control for all (un)observed differences across banks → preferred
 - Cannot study differences across banking groups
 - Not prime interest
 - Differences to large extent captured by bank characteristics anyway
- ✓ Is it really a crisis effect?
 - Did banks with liquidity and solvency problems re-balance portfolio more during crisis or do they do this in general?
 - Placebo test: use only pre-crisis period and pick a random “shock”
- ✓ How sensitive are results to time period?
 - Pre-crisis and post-crisis
- ✓ Use Tobit instead of OLS
 - To deal with zeros in dependent variable

Miscellaneous



- ✓ Some puzzling findings:
 - Why do banks with high share of securities increase less the share of securities eligible for ESCB during the crisis?
 - Banks with high exposure to PIGGS reduce share of German lending, but banks with high exposure to Greece increase share.

Miscellaneous



- ✓ Some puzzling findings:
 - Why do banks with high share of securities increase less the share of securities eligible for ESCB during the crisis?
 - Banks with high exposure to PIGGS reduce share of German lending, but banks with high exposure to Greece increase share.
- ✓ Not sure about relevance studying impact ratings as only available for subset of banks:
 - (Very) small players in the market
 - Concentrated portfolios
 - Almost everything in (German) financials plus only limited number of issuers

Miscellaneous



- ✓ Some puzzling findings:
 - Why do banks with high share of securities increase less the share of securities eligible for ESCB during the crisis?
 - Banks with high exposure to PIGGS reduce share of German lending, but banks with high exposure to Greece increase share.
- ✓ Not sure about relevance studying impact ratings as only available for subset of banks:
 - (Very) small players in the market
 - Concentrated portfolios
 - Almost everything in (German) financials plus only limited number of issuers
- ✓ Include some theoretical framework
 - What type of portfolio reallocation do you expect?

Conclusion



- ✓ Interesting and relevant question
- ✓ Promising paper with very unique data
- ✓ Most interesting part (in my view): flight to liquidity story
 - Can extend this story exploiting time dimension
- ✓ Can strengthen identification by exploiting further information available in the data

THANK YOU

