



Who do borrowers borrow from? Evidence from multi-bank relationships by Tobias Berg, Felix Brinkmann and Philipp Koziol

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Overview

- Determinants of loan granting decisions when firms have multiple banking relationships
- Empirical analysis: based on German Credit Registry:
 - ▶ Micro credit database:
 - Individual credit relationships: Bank-Borrower-Quarter
 - Banks' PD estimates on borrowers
 - Wealth of observations: 42 banks, 18065 borrowers, 22 quarters
 - ▶ Limitations: all lending relationships over EUR 1.5 mns
 - Tilted towards larger firms
 - Evidence from SAFE survey
 - SME SF (CRR art 501): amount owed up to EUR 1.5mn
 - ▶ Future developments: AnaCredit (euro area countries)
- Conclusion: significant drivers:
 1. Diversification: banks tend to reduce concentration risks
 2. Screening: lower PDs tend to increase funding
 3. Relationship lending: increases lending

The model (I)

Baseline

$$\Delta \log(\text{loan volume})_{i,t \rightarrow t+1} = \beta_1 \text{OptBank}_{i,t} + \beta_2 \text{HighExp}_{i,t} + \beta_3 \text{Relationship}_{i,t} + \beta_4 \text{Derivative}_{i,t} + FE_{i,t} + FE_{b,t} + \epsilon_{i,t} + \text{constant}$$

Objective: Measures relative importance of:

- Concentration: *HighExp*
- Screening: *OptBank*
- Relationship lending: *Relationship , Derivative*

Comments:

- Relationship lending: prevalent in Germany, but:
 - ▶ Literature higher incidence smaller firms (under-represented)
 - ▶ Prevalent in single banking relationships (out of scope)
 - ▶ Often proxied in literature by concentration funding by one bank (*HighExp*)
- IRB exposures only: banks characteristics; association smaller banks funding SMEs
- Unbalanced panel (to remove single banking relationships): more information on rejections: business model decision of the bank
- Potential controls: sector

The model (II)

Disentangle determinants loan approval and amount provided: two-stage approach

a) **Extensive margin:** banks decide whether to grant a loan or not

$$NewLoanIdent_{i,t \rightarrow t+1} = \beta_1 OptBank_{i,t} + \beta_2 HighExp_{i,t} + \beta_3 Relationship_{i,t} + \beta_4 Derivative_{i,t} + FE_{i,t} + FE_{b,t} + \epsilon_{i,t} + constant$$

where

$$NewLoanIdent_{i,t \rightarrow t+1} = 1 \text{ if } \Delta \log(\text{loan volume})_{i,t \rightarrow t+1} > 10\%, 20\% \text{ or } 30\%$$

Relationship loses significance (multicollinearity with high exposures?)

Comments:

- How to disentangle if bank applied for loan? <= not observed
 - Firm applies and loan is granted: OK interpretation paper
 - Firm applies and loan not granted (be it rejection or refusal): OK
 - Firm did not apply for lending in the specific quarter: does not fit interpretation
 - Firm needs funding but discouraged to apply: OK
- Proposed interpretation: drivers “additional lending”
 - Rather than “loan approval”

The model (III)

b) Intensive margin: amount willing to provide

$$\Delta \log(\text{loan volume})_{i,t \rightarrow t+1} = \beta_1 \text{OptBank}_{i,t} + \beta_2 \text{HighExp}_{i,t} + \beta_3 \text{Relationship}_{i,t} + \beta_4 \text{Derivative}_{i,t} + FE_{i,t} + FE_{b,t} + \epsilon_{i,t} + \text{constant}$$

For loans meeting extensive margin

OptBank loses significance

Robustness checks:

- Credit market conditions
- Median splits:
 - PD
 - Loan volume
 - Relationship length

Suggestions:

- Extended timeframe (currently up 2013Q4)

Regulatory angle

1. Diversification: banks tend to reduce concentration risks
Induced by Regulation on Large Exposures?
2. Screening: lower PDs tend to increase funding
Benefit from risk-sensitiveness of capital requirements regulation
3. Robust for credit market conditions



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