Collateral down the road: test of the lender-based theory of collateral

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Research question:

How do lenders choose the collateral required (and the interest rate) offered in loans to firms?

Lender-based theory for collateral (Inderst and Mueller, 2007): collateral is a mechanism to minimize distortions when credit decisions are based primarily on soft information.

Local banks – less information asymmetry

vs

Transaction lenders – lower loan processing costs.

This paper empirically tests this theory, using the physical distance between local banks and borrowers.

Main conclusions:

The theory predicts that:

- the relationship between distance and collateral (conditional on the interest rate) is positive.

The authors find that:

- collateral requirements decrease with the distance between the local lender and borrowers (conditional on having credit from the local borrower).

- interest rates increase with the distance.

1. Is the theory being tested to the limit?

Are all the ingredients of the lender-based theory empirically tested?

That would be virtually impossible, but it may be possible to do even better.

Inderst and Mueller (2007) offer many propositions and implications that may also be tested empirically.

1. Is the theory being tested to the limit?

Main suggestion: improve the competition/transaction lenders dimension.

Distance may not be enough. It is important to know which kind of banks are we talking about (consider only large banks, get info on business models), look at branch density,…

Is it possible to know from who else the firms are borrowing?
Is data from one bank really enough to test the theory?

2. Information asymmetries and distance

- A key feature of the lender-based collateral theory is the role of information asymmetries between borrowers and lenders (and the associated differences between local banks and transaction lenders).

- Distance is widely used in the banking relationship literature – but is it enough?

- How distant are the other banks in practice? Are 5km a binding restriction these days? Branch density (and even population density) may be important controls.

- Can the richness of the dataset be better explored to address this issue?

2. Information asymmetries and distance

- For example:

  - length of relationship

  - importance of relationship (in a setting where multiple lending is predominant)

  - size and age of the firm

All these factors are part of the information set of the local bank and affect its lending decisions. Some of these variables are used as controls, but perhaps they deserve a more prominent role. Interactions with distance could also offer interesting results.

3. Which elements are in a loan contract?

- The authors make a great effort to jointly assess the drivers of collateral and interest rates in a loan contract.
- But an important piece of information may be missing: loan fees.
- Is this information available?

4. What is the role of borrower characteristics in a lender-based theory?

- Firms' credit quality is a key determinant of collateral and interest rates.
- However, this dimension is poorly controlled for in the empirical analysis (mainly through sales), what is understandable given the focus on lenders.
- Nevertheless, very important determinants of collateral and interest rates may be out of the picture: leverage, growth, interest coverage, overall performance of the sector, past defaults,…
- Even the theory includes some borrower elements that are worth considering: NPVs, bad states,…
- The theory abstracts from moral hazard and adverse selection, thus requiring that these dimensions are carefully controlled for.

5. Instrumental variables

- Distant sources - as mentioned before, competition might also affect collateral requirements.

- Bankruptcy costs – is it reasonable to argue that they do not affect interest rates directly? How is this variable measured? How much variation?

- Individual firm – the authors do not explain why they believe this is a good instrument.

6. Lender vs borrower based theories

- Given that the results actually support some predictions of the borrower based theories, could the paper be re-written as a test of these two (sometimes conflicting) views?

- (risk of loosing focus).

7. Minor issues

- Check inconsistencies:

  - abstract: “we show that collateral requirements *increase* with the distance”

  - page 4: “our analysis indicates that collateral requirements *decrease* with the distance”

  - page 16: “we observe that larger loans are associated with lower interest rates and higher collateral requirements. Larger firms tend to experience better credit terms as both interest rates and the degree of collateralization generally increase with borrower size.”

- Use lagged controls, to mitigate endogeneity concerns.

- Is there any information on the type of collateral being posted? Real vs financial?

- Add time*industry fixed effects (industry shocks).

7. Minor issues

- Page 8: “This is necessary to mitigate informational problems and/or to comply with Italian regulations.” Is collateral mandatory in some cases? If so, how does this affect the results?

- Look separately at sole proprietorships and corporations. Are the bankruptcy procedures different?

- 16% of credit lines are managed at the headquarter of the bank – how different is this from a transaction lender? Exclude these observations?

In sum

- Clear and well-written paper – straight to the point and easy to read.

- The research question is relevant to improve our knowledge on SME funding.

- The empirical analysis is anchored in a solid theoretical framework, but there may be room for improvement.