It Takes More than Two to Tango: Understanding the Dynamics behind Multiple Bank Lending and its Implications

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Discussion by Roberto Steri

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Systemic Risk and Macroprudential Policy

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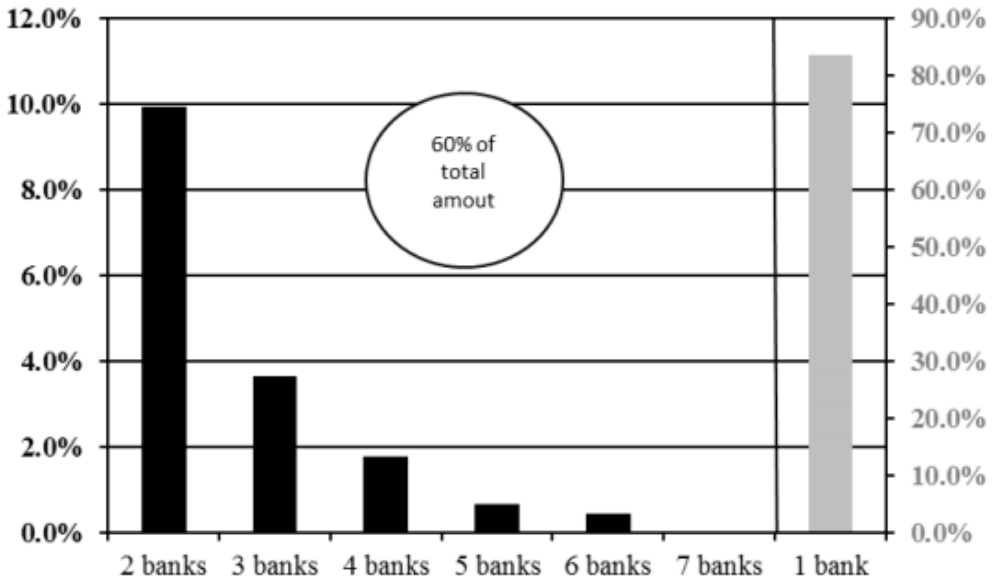
Outline

1. Summary (i.e. my biased reading of the paper)
2. General Feedback
3. Comments
4. Conclusions

Summary

- The question. Why do firms switch from single to multiple bank lending relationships in the corporate loan market?

- The playing field. Unique dataset on all large credit exposures of the seven largest Israeli commercial banks (2005-2015)
  - credit register of the Israeli Banking Supervision Department (BSD)
  - large exposures based on a bank-specific threshold
  - roughly 200,000 loans (5,000 per quarter) to 10,000 unique borrowers



Source: Figure 5

Summary

- The main goal. Use the data to test the following four motives for multiple lending relationships
  1. Availability motive: seek for funding a single bank cannot supply
  2. Hold-up motive: reduce the bargaining power of a pivotal lender
  3. Diversification motive: hedge the interruption of services to do a lender's distress
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- Methodology: mixed logit model + interpretation of coefficients + fit

$$Pr(\mu_{ij}^{t} = 1 | \mu_{ij}^{t-1} = 0) = \frac{\exp(\beta_j X_{ji}^{t-1} + \gamma D_{ji}^{t-1})}{\sum_{k \in B} \exp(\beta_j X_{j}^{t-1} + \gamma D_{kj}^{t-1})}$$ [probability of a new match]

	Availability hypothesis		*Hold-up hypothesis*		*Diversification hypothesis*		*Familiarity hypothesis*		*Full specification*	
	Point estimate	p-value	Point estimate	p-value	Point estimate	p-value	Point estimate	p-value	Point estimate	p-value
CAND_BANK_SIZE	0.81**	0.0277	-4.936***	0.0003					-3.876**	0.0169
C_RATIO	5.275***	<.0001							6.786*	0.0897
IND_CREDIT	0.063***	<.0001					0.019	0.1062	0.05***	0.0002
GAP_GROUP	-8.633***	<.0001					-1.911	0.4395	-5.513**	0.033
BOR_BANK_SIZE	-0.014	0.6941							-0.035	0.3712
CAND_ORG_BANK_SIZE			0.299***	<.0001					0.247***	0.0032
IN_GROUP							1.224***	<.0001	0.943***	<.0001
NEW_BORROWER							-2.276***	<.0001	-2.067***	<.0001
EQ_VOL_90D_DIF					-0.034***	0.0067			-0.03**	0.0336
EQ_CORR					2.817***	<.0001			0.634*	0.0718
DISTANCE					-4.139***	<.0001			-0.098	0.8803
goodness-of-fit range	0.274 - 0.359		0.244 - 0.320		0.1968 - 0.2579		0.389 - 0.510		0.4558 - 0.6209	
McFadden's LRI	0.117		0.100		0.076		0.198		0.260	

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General Feedback

- Interesting exercise on a novel dataset

- Possibly policy-relevant results
  - in Israeli, position limits on lending to avoid excess similarity of bank portfolios
  - is “too many to fail” (Acharya and Yorulmazer, 2007) a real threat?

- Provides an interesting data description
  - I learned a lot about the Israeli banking system and regulation!

- Comments
  - Hypothesis development
  - Identification: correlation vs causality
  - Dataset

Comments: Hypothesis Development

- The authors think hard to derive testable implications for the four motives for multiple lending relationships on observables
  1. Availability motive: seek for funding a single bank cannot supply
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  - four motives ⟶ four theories ⟶ four (classes of) models

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- However, this is a very ambitious objective – hard to cleanly achieve
  - four motives ⟶ four theories ⟶ four (classes of) models
- On spots, it is not obvious how the empirical predictions are tight to the tested motive
  - E.g. Hold-up motive: why do we necessarily need a smaller bank, especially in a concentrated banking sector with few banks? Which relationship-specific investment you have in mind?

"According to this motive and following Elsas et al. (2004), we expect a borrower to establish a new relationship with a smaller bank, relatively to the original one, and by that to diversify its funding sources (debt portfolio) and to diminish the potential for the hold-up problem."

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- On spots, it is not obvious how the empirical predictions are tight to the tested motive (cont'd)
  - E.g. Familiarity motive: why do borrowing firms, unless they are high-quality, like being monitored?

"The choice between single and multiple banking relationships depends on optimization by firms weighing the costs and benefits of the additional monitoring. Monitoring duplication benefits the firm by increasing the success probability of the project, but, at the same time, it reduces the firm's expected private return and increases total monitoring costs (Carletti, 2004). Thus, establishing multiple banking relationships implies that firms' benefits outweigh the costs."

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- I would suggest to
  - clarify, exactly, for each motive, which theoretical model leads to the prediction
  - explain to the reader why the prediction is tight and there are no confounding effect (e.g. familiarity motive above: agency frictions?)
  - provide more references
  - if you really would like to run a horse race, probably you need to be explicit on the model: structural approach?
    - E.g. Taylor (2010), Nikolov and Whited (2014), Nikolov, Schmid, and Steri (2018)
    - …. but probably this is overkill (see my next comment)

Comments: Identification

- The authors provide <u>interesting descriptive evidence</u>

- Claiming causality or interpreting the evidence as strongly in support of one motive requires some caution

$$Pr(\mu_{ij}^{t} = 1 | \mu_{ij}^{t-1} = 0) = \frac{\exp(\beta_j X_{ji}^{t-1} + \gamma D_{ji}^{t-1})}{\sum_{k \in B} \exp(\beta_j X_{j}^{t-1} + \gamma D_{kj}^{t-1})}$$ [probability of a new match]

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- Coefficient stability is a bit problematic
  - E.g. testing separately the motives versus using the full specification

Comments: Identification

- I would suggest, to either
  - keep the paper entirely descriptive, without claiming causality / testing for explanations
    - E.g. as in Colla, Ippolito, Li (2011)

  or
  - write a "properly identified" paper, in the sense of "Mostly Harmless Econometrics" (quasi-natural experiments)
    - E.g. can you find plausibly exogenous shocks that alter (some) borrowers demand for funds? (availability motive)
    - E.g. can you use the introductions / changes to the credit position limits to say something about diversification?
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- The second avenue would
  - require to control for firm-level unobservables
    - not in the information set of the econometrician
    - borrower x time fixed effects (or detailed industry x time)
  - not require to test all four hypotheses, focusing is fine in this case

Comments: Dataset

- The dataset is great: are there ways to exploit what is really unique in there?
- Like in Dealscan one observes the match…
- … here, not much observables on the borrowers…
  - maybe a restricted sample would fill the gap?
- … but more detailed data on the bank portfolios and their similarity over time!

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- Like in Dealscan one observes the match…
- … here, not much observables on the borrowers…
  - maybe a restricted sample would fill the gap?
- … but more detailed data on the bank portfolios and their similarity over time!
- I would suggest to develop more the results based on

$$Distance_{ii'} = \sqrt{\sum_{n=1}^{N} \left(w_{n,i} - w_{n,i'}\right)^2},$$

  - nice, and hard to get from standard sources!
- Methodologically, follow Georg, Pierret, and Steffen (2018)
  - they use specifications including fixed effects to deal with unobservables

Conclusions

- Interesting paper and nice dataset

- The dilemma is whether to write a descriptive paper…
  - … or to test theories …
  - … either in reduced form (identification) or using a structural approach

- Best of luck!