The Loan Covenant Channel: How Bank Health Transmits to the Real Economy

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The loan covenant channel

The paper addresses an interesting puzzle:

- Why didn't the preponderance of long-term loans in 2008 insulate borrowers from the deterioration in the health of their lenders?
- The analysis points at the key role of loan covenants
- Covenant violations increase lenders' bargaining power, providing broad opportunities to renegotiate the terms of a loan when this is in the lender's interest
- The transmission of lender health to existing borrowers through the forced renegotiation of contract terms is coined the **loan covenant channel**

Contributions

Several recent studies documented the high frequency of covenant violations and their impact on borrowers. This paper makes several contributions:

- The first to study the role of lender health
- The authors have access to a **novel dataset** with exhaustive information on covenant violations and renegotiations.
- The authors develop an **intuitive identification strategy** and provide **convincing evidence** of the transmission of lender health on existing borrowers
- Last but not least the size of the estimates indicate that the proposed channel may well be the **key transmission channel**. At least in the U.S.

Main predictions

- Conditional on breaching a covenant, the likelihood of a reduction in the loan balance increases by 24pp for borrowers of the least healthy banks
- No evidence of loan balance reductions for borrowers of less healthy banks who do not breach a convenant
- The lead lender's share declines after a violation providing evidence of a shift in lead lender's credit supply function
- Smaller, more concentrated syndicates and those with larger lead lender shares exhibit greater sensitivity of post-violation outcomes to lender health

Plan of the discussion

- Identification strategy
- Financial vulnerability and firm size
- Policy implications
- Improvements in Spain's credit register (CIR)

Identification

The causal interpretation of the differential impact of covenant violations for clients of less healthy banks, measured by β_3, relies on two conditions:

$$Y_{l,b,f,t} = \beta_0 + \beta_1[Bad\ lender_b] + \beta_2[Bind_{l,t-1,t}] + \beta_3[Bad\ lender_b \times Bind_{l,t-1,t}] + \gamma' X_{l,f,t} + \epsilon_{l,b,f,t}$$

- The pre-crisis assignment of borrowers to lenders of different health must be "as good as random"
- Covenant violators of less healthy and healthier lenders must have similar characteristics — the two sets of firms must be subject to similar limits imposed in loan covenants
- Alternatively, identification is guaranteed if both conditions are satisfied conditional on controls

As good as random?

The authors perform a balancing test but this test does not seem to fully exploit the potential of their data to rule out any possible selection effect.

- The authors stress that random assignment is likely because the problems of banks originated outside the corporate loan portfolo.
- Nonetheless, this argument does not guarantee orthogonality. Indeed, client firms of less healthy banks have somewhat lower risk ratings.
- A failure to account for small differences in firms' characteristics may create considerable biases (e.g. Paravisini *et al.* 2015)
- In addition, the differences may be compounded by differences in the type, number and stringency of loan covenants

Covenant characteristics and balancing

The stability of the estimates lends support to the identification strategy. But the authors may wish to include some of the elements below:

- A table with detailed information about the type, number and stringency of loan covenants (healthy vs less healthy banks)
- A table of the frequency of loan covenant violations by firm characteristics (entire sample, clients of less healthy banks)
- A comparison of the pre-and post violation loan conditions for the loan covenant sample
- A balancing test that also includes full range of standard financial ratios, firm age, duration of relationship, and frequency of covenant violations by firm type

To circumvent data limitations the authors may perform these robustness tests for the subset of publicly-traded firms.

Matching and endogeneity

A comprehensive balancing table will remove potential concerns over selection effects. But in any case the authors may wish to explore matching techniques to compare firms in narrowly-defined cells.

- A logical first step is to estimate the propensity of loan covenant violations subject on firm characteristics and bank health.
- Propensity score matching

Loan covenants help to mitigate agency problems. But both the stringency of loan covenants and the structure of the lender syndicate are endogenous and may reflect private information of the lenders or the credit record of the borrower. These aspects makes it potentially even more important to include exhaustive controls in the estimations.

Firm-level outcomes and substitution

- The authors obtain a strikingly strong result showing that firms are unable to compensate the reduction in lending from less healthy banks after a violation
- Indeed, the affected borrowers receive *less* credit from other lenders
- The authors conjecture that this may be due to cross-default provisions, but it would be interesting to check whether the results differ by firm size
- Indeed, Chodorow-Reich (2014) and other studies only find adverse effects of credit supply shocks for relatively small firms.

Term loans vs. credit lines

There are some connections to Bentolila, Jansen and Jiménez (2016):

- We also find that weak banks reduce credit lines more than healthy banks
- But we do not find evidence of a differential impact of bank health on term loans for any maturity
- This might reflect the (apparently) less pervasive use of loan covenants
- Indeed, for the period 1990-2009 Dealscan contains over 24k observations of syndicated loans with loan covenants for the U.S., compared to less than 2k for the rest of the world and 12 for Spain (Hong, Hung, Zhang 2016)
- This suggests there may be relevant cross-country differences in the transmission of bank health to incumbent borrowers

Policy implications

- The literature tends to highlight the beneficial effects of loan covenants. They improve corporate governance and and foster timely corrective actions
- Notably, the work of Nini, Smith and Sufi (2012) suggests that firms' operating and stock price performance improve post-violation
- In this paper the authors show that poor lender health magnifies the negative impact of covenant violations on employment and investment
- This suggests banks may become too conservative when they face a negative funding shock
- A way to test this would be to estimate how lender health affects the change in stock market valuation after a covenant violation
- If so, there might be arguments to consider restrictions on cross-default provisions to avoid a possible cascade of renegotiations

Recent improvements in Spain's credit register (CIR)

- Recent improvements in the CIR will allow the Bank of Spain to trace renegotiations of loan contracts.
- In addition, the CIR will contain loan-level information on interest rate charges
- This will greatly improve the ability of the Bank of Spain to detect (potential) problems in banks' loan portfolios and to engage in preventive actions even though the CIR will not contain information about loan covenant (violations)