

The Credit Line Channel

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A paper with two parts ... and 99 pages ... and 67 footnotes

- ▶ Some old facts regarding monetary policy shocks
- ▶ Interesting new stylized facts on the usage of credit lines after shocks
- ▶ Model to help us understand the facts

The Y14 data are a gold mine

- ▶ Financial statements from private firms from **banks** required reports.
- ▶ Separate data on the used and unused parts of credit lines

The Y14 facts are interesting

▶ Levels

- ▶ The used portion of credit lines account for more than half of all credit.
- ▶ On average, the unused portion of credit lines is greater than used credit lines and term loans!
- ▶ Big firms use more credit lines

▶ Changes

- ▶ Firms use credit lines after cash flows fall
- ▶ Increases in credit after contractionary monetary shocks are all credit lines
- ▶ Banks contract loans to firms without credit lines

The model is gnarly

- ▶ Two kinds of firms: constrained and unconstrained
- ▶ For both kinds:
 - ▶ Use factors to produce output
 - ▶ Finance the factors with profits and tax-advantaged debt
 - ▶ Debt is constrained by covenants
 - ▶ Dividends cannot be negative (no external equity)

Debt financing

- ▶ An almost constant returns way to transfer resources through time
- ▶ Has a standard tax advantage: firm is impatient relative to the return on debt
- ▶ The firm wants an infinite amount of debt.
- ▶ Debt is limited by distress costs, covenants, or a collateral constraint.
- ▶ Firms endogenously limit debt **further** because equity is costly or unavailable.

The two types of firms are different

- ▶ Constrained are more likely to face a binding equity constraint because they are more likely to die
- ▶ Constrained firms can only take out loans at a time-varying spread above the risk-free rate
- ▶ Unconstrained firms can use credit lines that charge a fixed spread above the risk-free rate

In response to a negative TFP shock

- ▶ Unconstrained firms compensate by using their credit lines
- ▶ Constrained firms do not use as much debt because spreads rise
- ▶ Constrained firms have a higher marginal product of capital, so investment falls

The data analysis part of the paper is largely fine

- ▶ Too much causal language
- ▶ Too many footnotes
- ▶ But basically really interesting

Does the model get at the essence of credit lines and term loans?

- ▶ Interest rate terms do differ, but
- ▶ Maturity and flexibility matter more
 - ▶ Credit lines are by nature *very* short term
 - ▶ **Term** loans are by nature longer term

The folks in corporate finance have a lot to say about credit lines and maturity

- ▶ Nikolov, Schmid, and Steri (2019) think hard about the use of cash versus credit lines
- ▶ Gomes, Jermann, and Schmid (2016) explain how it is essential to have long-term debt for short term shocks to matter
- ▶ Diamond and He (2014) show that debt overhang can be less important for short-term debt
- ▶ Wang, Whited, Wu, and Xiao (2019) (among others) show that it is not intractable to have both short- and long-term instruments in a structural model

Why covenant restrictions on loans?

- ▶ Something that folks in corporate finance have not used as a debt restriction mechanism.
- ▶ Why? They arise endogenously as a mediating factor for the terms of loans.
- ▶ Covenants directly and mechanically tie the amount of debt to TFP shocks.
- ▶ Would the quantitative effects be the same without a state-dependent “collateral” constraint?

One difference between loans and lines

- ▶ Credit lines are heavily collateralized
- ▶ Term loans less so, so default is more likely
- ▶ Endogenize the loan spread

If I were modeling the debt . . .

- ▶ Credit lines short-term and collateralized
- ▶ Term loans long-term and not collateralized
- ▶ Have the sectors differ in their degree of assets that can be used as collateral
- ▶ I think there would still be distributional effects between sectors,
- ▶ but the mechanism would be flexibility instead of spreads

If I were modeling the aggregate mechanism

- ▶ Is the mechanism firm choice of debt or bank loan supply
- ▶ Model the banking sector more richly and incorporate balance sheet constraints on lending
- ▶ Distinguish between loan demand and supply

If I were modeling the consumers

- ▶ $\ln(c) + \phi(1 - n)$
- ▶ Make the consumer sector as simple as possible because almost all the action is all in other sectors
- ▶ Except the spread, but can you get the results without the spread?

A paper with enormous potential

- ▶ Interesting topic!
- ▶ Think of different ways to distinguish the basic characteristics of credit lines versus loans.

- Diamond, D. W., and Z. He. 2014. A Theory of Debt Maturity: The Long and Short of Debt Overhang. *Journal of Finance* 69:719–762.
- Gomes, J., U. Jermann, and L. Schmid. 2016. Sticky Leverage. *American Economic Review* 106:3800–3828.
- Nikolov, B., L. Schmid, and R. Steri. 2019. Dynamic Corporate Liquidity. *Journal of Financial Economics* 132:76–102.
- Wang, Y., T. M. Whited, Y. Wu, and K. Xiao. 2019. Market Power and Monetary Policy Transmission: Evidence from a Structural Estimation. Working Paper, University of Michigan.