Bond Market Stimulus: Firm-Level Evidence from 2020-21 by Olivier Darmouni and Kerry Siani

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SFS Cavalcade, May 2022

Summary

- Firms issuing bonds did not use new debt to invest.
- Instead, used funds to:
  - Accumulate cash
  - Pay down debt (esp. credit lines)
  - Maintain payouts (buybacks).
- Many firms who issued bonds had not drawn their credit lines.
- Overall conclusion: bond issuance did not relieve binding credit limits.
  - Calls into question effectiveness of bond market intervention in driving investment.

Evaluation

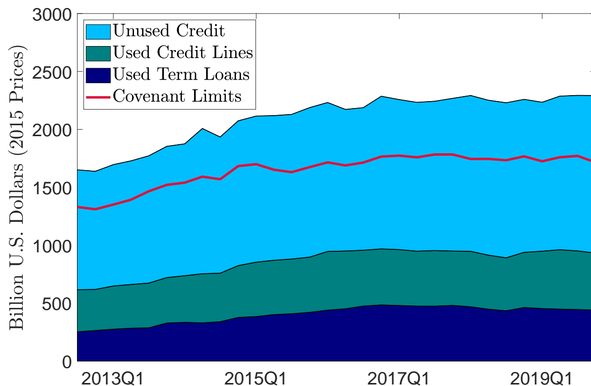
- Great evidence, not going to challenge the facts.
  - Instead, I'll talk about takeaways for theory and models.
- Four main comments/takeaways:
  1. Many large firms are not credit constrained.
  2. But may experience large swings in their demand for liquidity.
  3. Liquidity can take the form of cash or undrawn credit lines.
  4. Most important real effects of liquidity demand may be indirect (via constrained firms).

Comment #1: Many Large Firms Unconstrained

- Many macrofinancial models (e.g., Bernanke, Gertler, Gilchrist (1999)) assume that the corporate sector is constrained.
- Does not necessarily mean that firms could not obtain a marginal dollar of debt.
  - Can be discouraged by marginal spreads, covenants, etc.
- Instead, means that if they obtained a dollar of debt, they would use it to invest.
- DS provide new evidence against this, although other facts also pointed in this direction.
  - Many firms pay dividends by choice.
  - Firms have large undrawn credit line capacity.

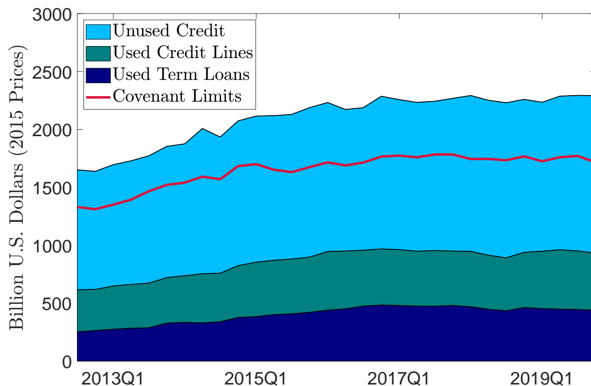
Comment #1: Many Large Firms Unconstrained

- Greenwald, Krainer, Paul (2021): Undrawn credit line capacity is huge.
  - $>$40% larger than all used bank-firm credit combined.



Comment #1: Many Large Firms Unconstrained

- Corporate sector is literally unconstrained.
  - $>$\$1T of credit available at reasonable (prenegotiated) spreads.



Comment #1: Many Large Firms Unconstrained

- Takeaway: we need to move toward models where many large firms are unconstrained.
- With constraints, firms underinvest, and investment sensitive to financial conditions.
- For unconstrained firms, capital is close to optimal.
  - Should not expect major impact of financial conditions on investment.
  - Intuitive that (unconstrained) bond issuers did not invest in real assets.
- However, other (small) firms may still be constrained.
  - Interactions between constrained and unconstrained sectors can create real effects.
- **Financially unconstrained** $\implies$ **no change in investment**.

Comment #2: Demand for Liquidity

- Firms accumulate enormous amounts of cash
  - Increases by 50% ($1.1T) from 2019:Q4 to 2020:Q2 (Flow of Funds).
  - DS verify that bond issuance largely used for cash accumulation.
- Precautionary microfoundations not difficult to imagine.
- But massive changes in liquidity demand not usually feature of macrofinancial models.
  - Uniquely strong in this episode, but open area for future research.
- Financially unconstrained **+ demand for liquidity** $\Longrightarrow$ **debt + cash accumulation**, no change in investment.

Comment #3: Alternative Sources of Liquidity

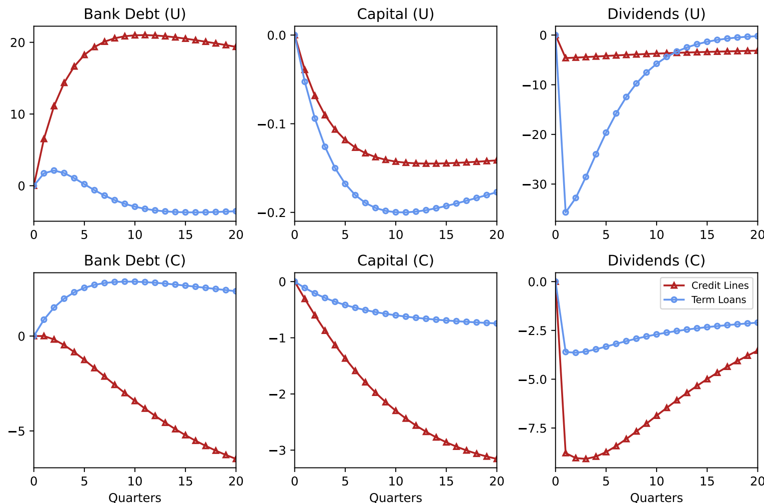
- DS demonstrate that many firms issuing bonds had not drawn their credit lines, or pay down credit lines after issuance.
- One interpretation: firms didn't "need" credit (marginal benefit low).
  - Alternatively, DS propose that maturity, etc. could drive differences.
- But credit lines are also a major source of liquidity (Sufi, 2009).
  - Pledged credit that can be drawn later.
  - Not quite as flexible/safe as cash, but cheaper.
  - Liquidity benefit would create preference for non-credit-line debt holding terms equal.
  - Of course, terms were not equal pre-intervention, since credit lines have prenegotiated spreads!
- Financially unconstrained + demand for liquidity **(cash + credit lines)** $\implies$ debt + cash accumulation, no change in investment, **preference for bonds vs. credit lines**.

Comment #4: Constrained Firms

- So far, findings point to big firms (whose investment is close to optimal anyway) accumulate debt and do nothing with it. Who cares?
  - Constrained firms!
- Small (constrained) firms typically do not issue bonds, but depend on bank debt.
  - Greenwald, Krainer, Paul: draws on credit lines crowd out term lending to small firms.
  - Unlike large firms, constrained firms' investment actually is sensitive to credit.
- Whether large firms increase debt, and if so what kind, can have large indirect effects.
- **Liquidity demand by large firms + lack of bond options $\implies$ crowding out of small firm credit, decline in investment.**

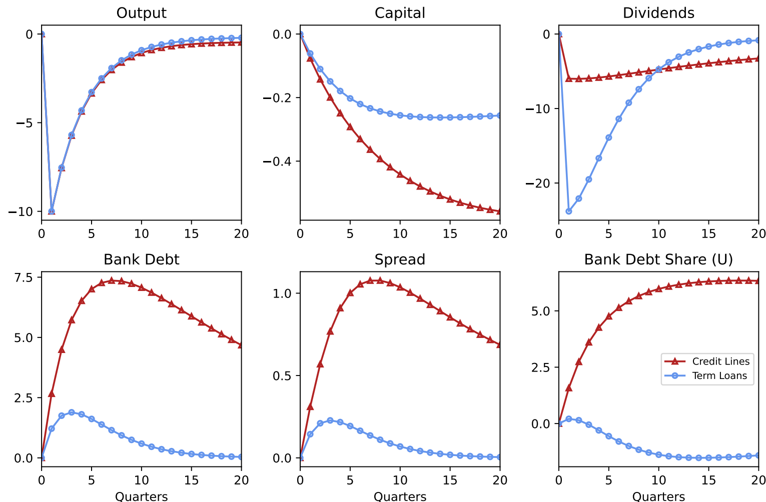
Responses by Type

- From GPP, economy with **Credit Lines** following negative TFP shock (vs. economy with only **Term Loans**).
- Unconstrained borrow heavily, mostly use funds to smooth dividends.
- Crowds out credit to constrained, who instead cut investment by more.



Aggregate Responses

- Compare aggregates in **Credit Lines** vs. **Term Loans** economy.
- Aggregate debt **higher**, as unconstrained borrow, constrained don't fully offset.
- But aggregate investment **lower**, as resources flow from highest MPI to lowest MPI firms.
- Liquidity demand (not modeled) would strengthen this!



Bond Market Intervention

- Pandemic finance timing:
  - Bank loans (credit lines) increase in 2020:Q1.
  - Bond volume increases in 2020:Q2.
  - Credit lines largely paid down by 2020:Q3.
- Most important effect of bond market intervention may have been easing crowding out of small firm lending.
- Broader view of unconstrained firm behavior: not important for own investment, but matters indirectly through interaction with constrained firms.
  - Only obtain a minority of their credit from banks.
  - But can generate proportionally massive bank credit flows in bad times.
  - Substitution between bank and non-bank credit critical to macro outcomes.

Conclusion

- Great set of facts about firm financing during the Covid-19 pandemic.
  - Firms issuing bonds did not invest.
  - Instead, used funds to accumulate cash, pay out to investors, pay down credit lines.
  - Many firms who issued bonds had left credit lines undrawn.
- Points toward theory with large unconstrained firms with time-varying liquidity demand.
  - Investment close to optimal $\implies$ little change.
  - Large demand for debt to generate cash.
  - Credit lines also provide liquidity $\implies$ use last.
- Macro dynamics via indirect effects of large firm financing on small firm investment.
  - Instruments that crowd out small firms (credit lines) vs. those that don't (bonds).
  - Bond market intervention may have been effective at stimulating small firm investment even if large firms did not invest.