Does High Leverage Render Businesses Vulnerable to the COVID-19 Shock?

Discussion

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Overview of Paper

- Use Y14 micro banking data to examine role of leverage in lending patterns during pandemic.
- Big picture: leverage is high when measured using debt/assets but low when using interest payments/earnings.
- Issue going forward – what happens when rates rise?
Advantages to Y14 data

- Individual loan data with loan quantities and prices (spreads).
- Information on new loan issues as well as stock of loans outstanding.
- Broad coverage that includes many non-publicly traded small and medium size enterprises.
- Caveat – considerable attrition when constructing a sample with all quantities and prices.
Key Findings

- Intensive margin effects:
  - Small firms with high leverage took out smaller loans on average during the pandemic.
  - No discernible effects on credit spreads or credit-line utilization.

- Extensive margin effects:
  - Small firms with high leverage less likely to establish a new lending relationship during the pandemic.
  - No effect of leverage on propensity to refinance.

- Investment spending:
  - Leverage has no effect on small firm investment during the pandemic.
  - Leverage has a negative on large firm investment during the pandemic.
Lessons to be drawn

- Causal inference is a challenge.
- No obvious first-order effects of leverage on outcomes.
  - Perhaps there is none to speak of?
- Can we separate credit demand vs credit supply?
  - Is “credit supply” balance-sheet induced or bank-dependent?
U.S. Corporate Bond Market During Covid-19

Benchmark (option-adjusted) corporate bond credit spreads

NOTE: Jan-20 = Chinese officials acknowledge that Covid-19 might be transmissible between humans; Mar-11 = WHO declares Covid-19 a pandemic.
SOURCE: ICE BofA/ML indexes.
Excess Bond Premium (EBP)
Daily data (January – July, 2020)

NOTE: Jan-20 = Chinese officials acknowledge that Covid-19 might be transmissible between humans; Mar-11 = WHO declares Covid-19 a pandemic.
SOURCE: Authors’ calculations using data from TRACE, CRSP, and S&P's Compustat.
Small Business Activity: All Sectors

Homebase
Small Business Activity: Leisure & Hospitality

Homebase

Activity, All Sectors

Month
Merchants
Employment
Wages
Hours
Employees per Merchant
Feb
Apr
Jun
Aug
Oct
This paper

- Estimate:

\[ y_{it} = \beta \text{lev}_{it} 1(\text{Covid}) + \alpha x_{it} + d_{it} + e_{it} \]

where

- \( d_{it} \) industry-time and state-time fixed effects.
- \( x_{it} \) firm-level controls.

- Intensive margin \( y_{it} = \) loan volume, spreads, credit-line utilization
- Extensive margin \( y_{it} = \) new loan relationship, credit-line refi
- Robustness: Interaction terms \( x_{it} \ast 1(\text{Covid}) \) included in appendix.
Leverage matters for small-firm loan volume but effect is not large.
  ▶ 2-std diff in leverage implies 1% diff in lending volume.

Leverage does not matter for credit spreads or credit-line utilization rates.
  ▶ Shouldn’t constrained firms draw down credit lines?

Robustness to interaction effects:
  ▶ Leverage does not matter for volume in baseline specification.
  ▶ Very high leverage (lev > 4) does matter for volume.
Leverage matters for propensity of small firms to establish a new banking relationship.
  ▶ Coefficient is similar in magnitude to lending volume so relatively small.
Leverage does not matter for loan-refinancing.
Results are robust to inclusion of interaction effects.
Why is leverage measured as loans/earnings – not loans/assets?

Concerns:
- Results may be driven by firms with low earnings who are more likely to downsize or exit regardless of credit conditions.

Truncation:
- Drop firms with negative earnings – why not use the inverse of leverage?
- Key findings driven by tail of the distribution so truncation may be an issue.
Intensive margin effects are confounded by selection.
So are extensive margin effects – who seeks to establish a new lending relationship and why?
  ▶ Firms with low loan demand may not seek out a new relationship.
Investment findings go against the basic premise that small firms with high leverage were doubly exposed.
Selection effects and endogeneity concerns

- Who has high leverage?
- Who gets a loan?
- Who applies for a loan?
- Who survives the pandemic?
Why do low-leverage small firms see a spike in spreads?
While high-leverage large firms see a drop in spreads?
Who survives the pandemic?

Merchants vs Revenue (Homebase)
Conclusion

- Careful study using Y14 data to examine the role of leverage.
- Results imply conflicting signals regarding role of leverage and hence no obvious first-order effects.
- Leverage is not a good proxy for risk however. It also may still matter going forward as higher rates cause interest payments to rise relative to earnings.