# Discussion: "What explains the crash of bank stock prices during COVID -19?" Acharya, Engel & Steffen "Liquidity Insurance vs. Credit Provision" Kapan & Minoiu

Olivier Darmouni
Columbia Business School

SIPA/BPI Bank Regulation Research Conference
February 12th, 2021

# Effects of Credit Lines Drawdowns on Banks

Credit lines from banks key source of liquidity for firms

- Salient during COVID crisis $\Longrightarrow$ pressure on banking sector

1. **Big picture question:** Do drawdowns on existing credit lines affect banks' decisions going forward?
   - First order: key part of liquidity transformation by banking sector
   - But traditionally focus on capital, liquid assets, deposits
   - Hard question: why would bank decision be inefficient when crisis comes from outside financial sector?

# Effects of Credit Lines Drawdowns on Banks

Credit lines from banks key source of liquidity for firms

- Salient during COVID crisis $\Longrightarrow$ pressure on banking sector

1. **Big picture question:** Do drawdowns on existing credit lines affect banks' decisions going forward?
   - First order: key part of liquidity transformation by banking sector
   - But traditionally focus on capital, liquid assets, deposits
   - Hard question: why would bank decision be inefficient when crisis comes from outside financial sector?
2. **Main fact:** Negative correlation between drawdowns and lending
   - I believe it: repeatedly emerge from the data (also Ivashina Scharfstein 2010, Greenwald et al. 2020)

# Effects of Credit Lines Drawdowns on Banks

Credit lines from banks key source of liquidity for firms

- Salient during COVID crisis $\implies$ pressure on banking sector

1. **Big picture question:** Do drawdowns on existing credit lines affect banks' decisions going forward?
    - First order: key part of liquidity transformation by banking sector
    - But traditionally focus on capital, liquid assets, deposits
    - Hard question: why would bank decision be inefficient when crisis comes from outside financial sector?
2. **Main fact:** Negative correlation between drawdowns and lending
    - I believe it: repeatedly emerge from the data (also Ivashina Scharfstein 2010, Greenwald et al. 2020)
3. **Underlying mechanism:**
    - Paper 1: probably capital (stock price evidence)
    - Paper 2: probably not capital (survey evidence)

# Capital Channel

**Off-balance sheet commitments have lower capital charges than on-balance sheet loans**

- The smaller the conversion ratio, the larger the effect, i.e. if off balance sheet capital charge is only 20% relative to on-balance sheet, required capital is multiplied by 5 if loan is fully drawn
- Not all drawdowns are created equal
- Ex-post drawdowns on short-term loans create more risk (because paradoxically they are safer commitments ex-ante)
- Unambiguously true: mechanical effect of current regulation

# Capital Channel

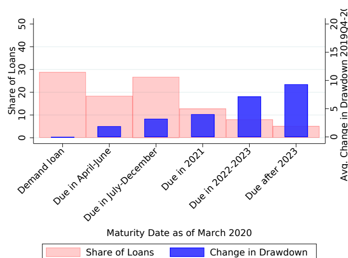
**Off-balance sheet commitments have lower capital charges than on-balance sheet loans**

- The smaller the conversion ratio, the larger the effect, i.e. if off balance sheet capital charge is only 20% relative to on-balance sheet, required capital is multiplied by 5 if loan is fully drawn
- Not all drawdowns are created equal
- Ex-post drawdowns on short-term loans create more risk (because paradoxically they are safer commitments ex-ante)
- Unambiguously true: mechanical effect of current regulation

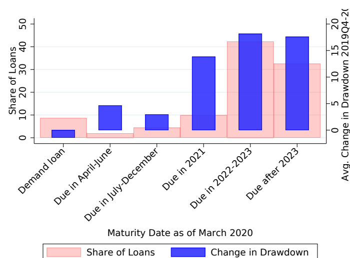
Suggestion: leverage variation from drawdowns on different loans exploiting differences in capital charges

Natural follow-up: what kind of loans are drawn during these times?

# Maturity and Drawdowns




(A) Assets <$250M




(B) Assets >$1 B

Source: "Bank Liqudity Provision Across the Firm Size Distribution"

Chodorow-Reich, Darmouni, Luck & Plosser

Similar effect with collateral

# Risk Tolerance Channel

Not mechanical rule: not as easy to explain

**"Change credit risk make-up of banks' loan portfolio and thus banks' expectations of future losses"**

- By far most common answer in banking survey data
- Also in line with low-take up of Main Street Lending Program
- Relates to bank optimal balance sheet management (multi-dimensional, lending is just one margin)

# Risk Tolerance Channel

Not mechanical rule: not as easy to explain

**"Change credit risk make-up of banks' loan portfolio and thus banks' expectations of future losses"**

- By far most common answer in banking survey data
- Also in line with low-take up of Main Street Lending Program
- Relates to bank optimal balance sheet management (multi-dimensional, lending is just one margin)

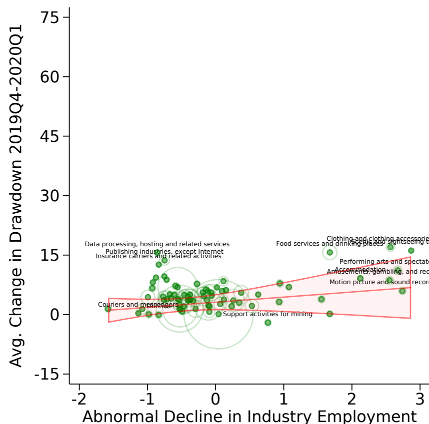
Suggestion: leverage variation from drawdowns on different loans exploiting differences in borrower characteristics

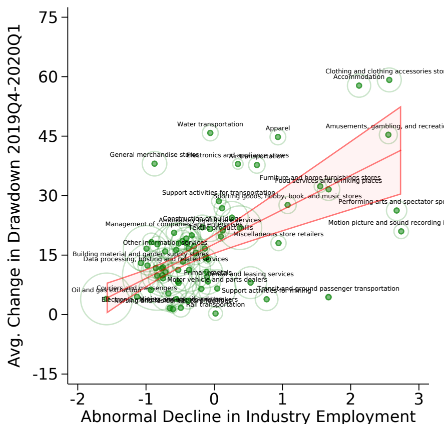
Natural follow-up: what kind of firms draw-down during these times?

# Industry exposure and credit line drawdowns

# Industry exposure and credit line drawdowns

Larger shock $\implies$ higher drawdowns at large but not small firms




Source: "Bank Liqudity Provision Across the Firm Size Distribution"

Chodorow-Reich, Darmouni, Luck & Plosser

# What Drives Aggregate Drawdowns?

Aggregate draw-down rates are not exogenous
i.e. 2020 draw-down different than in GFC, reversal in 2020Q2, etc

1. **Nature of the shock:** banking sector, firm cash-flow, uncertainty..

# What Drives Aggregate Drawdowns?

Aggregate draw-down rates are not exogenous
i.e. 2020 draw-down different than in GFC, reversal in 2020Q2, etc

1. **Nature of the shock:** banking sector, firm cash-flow, uncertainty. . .
2. **Credit line contracts:** Loan terms can give lenders *de facto* control rights on how much firms draw (incomplete contracting)

# What Drives Aggregate Drawdowns?

Aggregate draw-down rates are not exogenous
i.e. 2020 draw-down different than in GFC, reversal in 2020Q2, etc

1. **Nature of the shock:** banking sector, firm cash-flow, uncertainty. . .
2. **Credit line contracts:** Loan terms can give lenders *de facto* control rights on how much firms draw (incomplete contracting)
3. **Policy intervention outside of banking sector:**
   - Paycheck Protection Program PPP
   - Bond market stimulus Bonds

# What Drives Aggregate Drawdowns?

Aggregate draw-down rates are not exogenous
i.e. 2020 draw-down different than in GFC, reversal in 2020Q2, etc

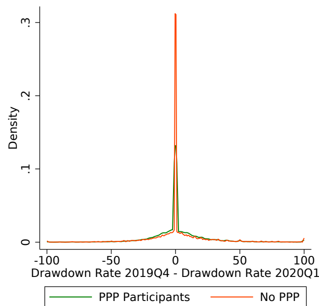
1. **Nature of the shock:** banking sector, firm cash-flow, uncertainty.. .
2. **Credit line contracts:** Loan terms can give lenders *de facto* control rights on how much firms draw (incomplete contracting)
3. **Policy intervention outside of banking sector:**
   - Paycheck Protection Program ▸ PPP
   - Bond market stimulus ▸ Bonds

Adding the effect of draw-downs to stress tests is good first step;
Ideal would be corporate finance model of draw-downs

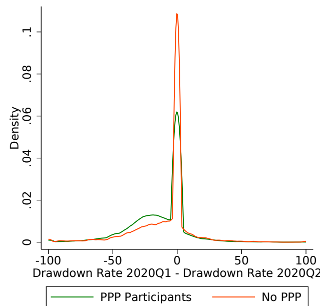
# Paycheck Protection Program and Drawdowns

PPP funds to Y-14 borrowers largely used to repay credit line balances

- PPP recipients had higher repayment propensity in 2020Q2
- Credit line repayments equal 72% of disbursement to small SMEs, over 100% for large SMEs, 95% pooled across all firms




(a) Q1 drawdowns



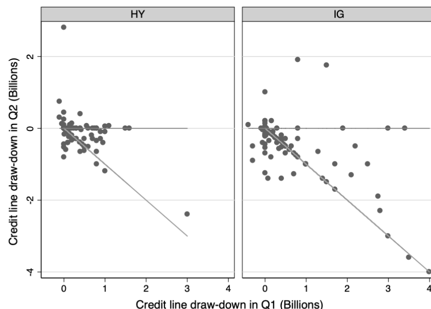

(b) Q2 drawdowns

Source: "Bank Liqudity Provision Across the Firm Size Distribution"

Chodorow-Reich, Darmouni, Luck & Plosser

Back

# ISSUING BONDS TO PAY BACK CREDIT LINES




Source: "Crowding-Out Bank Loans: Liquidity-Driven Bond Issuance" Darmouni-Siani

- $\frac{2}{3}$ HY bond issuers repaid some bank loan (40% in full)
- 85% IG bond issuers that drew down in 2020Q1 repaid their bank

Back