

Liquidity Insurance vs. Credit Provision: Evidence from the COVID-19 Crisis¹

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The COVID-19 pandemic brought to the fore the banking system's fundamental function of liquidity insurance. In March 2020, non-financial firms experienced sudden and sharp revenue declines amid widespread lockdowns related to the spread of the coronavirus. Following disruptions across major funding markets such as the commercial paper market and the corporate bond market, firms drew down significant amounts from their pre-existing credit lines at banks, up to almost 75 percent of total capacity (Acharya and Steffen, 2020). Unexpected credit line drawdowns—an early manifestation of the pandemic's impact on the banking system—create both liquidity and capitalization pressures for banks. In this paper, we examine the impact of the substantial increase in credit line utilization on bank's lending decisions, and discuss policy implications for stress testing and bank risk monitoring.

We start by observing that credit line drawdowns created unprecedented liquidity pressure for banks: loan growth driven by credit line drawdowns in March 2020 were larger than peak utilization levels after Lehman Brothers' failure in September 2008 by a factor of four. At the same time, banks were able to meet this massive increase in liquidity demand, effectively providing liquidity insurance to firms (Li, Strahan, Zhang, 2020). While strong central bank action and higher deposit supply may have cushioned the liquidity drain effect of the drawdowns, the adverse impact on bank capital is likely to be more persistent. As off-balance sheet exposures turn into on-balance sheet loans, banks experience pressure on both regulatory capital and leverage ratios. In turn, such pressure can impair banks' ability to do further financial intermediation.

We develop three hypotheses. First, we posit that higher ex-ante credit line exposures (CLE) reduce banks' capacity to extend new loans once unexpected drawdowns start and lead them to curtail new lending even as they meet the drawdown demand. Second, heterogeneity in banks' credit line portfolios should play a significant role in bank loan supply. We exploit heterogeneity in CLEs across two dimensions: borrower vulnerability to the COVID-19 shock and borrower ex-ante ability to weather period of reduced cash flows and tight credit conditions. We posit that banks with higher exposures to borrowers that were more vulnerable to the COVID-19 shock (such as airlines, hotels, and oil & gas) or to borrowers with ex-ante lower cash holdings, should reduce loan supply more.

To establish a causal empirical link between banks' ex-ante CLEs and loan supply decisions after credit line drawdowns, we construct bank-level credit line portfolios using detailed microdata on

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financial contracts from DealScan’s global database of syndicated commercial loans. We measure ex-ante CLEs at the bank level using data on individual credit lines that were outstanding on banks’ balance sheets at year-end 2019—just before the COVID-19 outbreak. Measuring bank exposures with microdata allows us to exploit the variation in ex-post likelihood of credit line drawdowns based on two types of borrower heterogeneity: vulnerability to the COVID-19 shock and ex-ante balance sheet strength. We measure borrower vulnerability to the pandemic with the excess equity market return earned between the peak and the trough of the market during the panic phase of the crisis. We capture borrower ex-ante balance sheet strength with cash buffers (defined as cash and marketable securities, scaled by assets).

Our empirical approach is to compare loan growth from at least two different banks with varying CLEs to the same firm, across all firms that borrowed in the syndicated loan market in the first quarter of 2020 compared to the last quarter of 2019. Holding the borrower fixed in this empirical setup allows us to control for borrower-level changes in loan demand between the two periods (Khwaja and Mian, 2008).

We have two main preliminary results. First, we show that banks with higher ex-ante CLEs reduced the supply of **new** corporate loans in the first quarter of 2020. This result is consistent with the findings of Ivashina and Scharfstein (2009) that banks more vulnerable to credit line drawdowns during the financial crisis of 2007-2008 cut back their lending to a greater extent. We also show that this loan supply reduction was more pronounced for smaller borrowers, which tend to be more opaque and more dependent on bank credit. Second, we show that borrower heterogeneity was an important determinant of banks’ response to the credit line drawdown shock. In particular, banks with greater exposures to firms in sectors more affected by the COVID-19 outbreak (such as airlines, hotels, and oil & gas) and with higher ex-ante cash buffers reduced the provision of new loans more than other banks.

These results suggest two important policy considerations concerning the banking sector and the non-financial corporate sector. First, the buildup of off-balance sheet credit exposures in the banking system deserves close monitoring by regulatory authorities and stress testing experts. In light of the substantial credit line utilization rates in March 2020, the “stressed” drawdown assumptions used in the Basel 3 liquidity coverage ratio (LCR) calculation might need to be tightened. Second, against the backdrop of a long period of extremely low interest rates across advanced economies, market participants and policymakers alike have issued warnings about the potential financial stability risks associated with the build-up of excessive corporate leverage. The results of this paper support those warnings and suggest that more attention needs to be paid to the rise of corporate leverage and the importance of corporate balance sheet flexibility during times of stress.

References

Acharya, Viral and Sascha Steffen, 2020, “What explains the crash of bank stock prices during the COVID-19? The role of health, financial and oil price risks,” Presented at the Villanova Webinar on Financial Intermediation.

Khwaja, Asim I. and Atif Mian, 2008, “Tracing the impact of bank liquidity shocks: Evidence from an emerging market,” *American Economic Review*, vol. 98, No. 4, pp. 1413–1442.

Ivashina, Victoria and David S. Scharfstein, 2009, “Bank lending during the financial crisis of 2008,” *Journal of Financial Economics*, vol. 97, pp. 319–338.

Li, Lei, Strahan, E. Philip, and Song Zhang, 2020, “Banks as lenders of first resort: Evidence from the COVID-19 crisis,” *NBER Working Paper* No. 27256.