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How do global banks scramble for liquidity? Evidence from the asset-backed commercial paper freeze of 2007[☆]

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A B S T R A C T

We investigate how banks scrambled for liquidity following the asset-backed commercial paper (ABCP) market freeze of August 2007 and its implications for corporate borrowing. Commercial banks in the United States raised dollar deposits and took advances from Federal Home Loan Banks (FHLBs), while foreign banks had limited access to such alternative dollar funding. Relative to before the ABCP freeze and relative to their non-dollar lending, foreign banks with ABCP exposure charged higher interest rates to corporations for dollar-denominated syndicated loans. The results point

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to a funding risk manifesting as currency shortages for banks engaged in maturity transformation in foreign countries.

In August of 2007, a significant amount of maturity transformation undertaken by the global financial sector came to a screeching halt. The market dislocation in the asset-backed commercial paper (ABCP) market put severe funding stress on bank balance sheets when many sponsoring banks took back off-balance sheet ABCP assets to their balance sheets.[1] Acharya and Schnabl (2010) document that while much of the ABCP exposure was US dollar (USD) denominated, a substantial portion of this ABCP exposure was concentrated amongst foreign banks. Many of these foreign banks with large exposure to US ABCP did not have large US-regulated banking operations.[2]

How did these global banks scramble for US dollar liquidity in response to the ABCP freeze? Did the shortage of USD liquidity affect intermediation by banks to the real sector? Were the responses different between USD and non-USD loans, and between US and foreign banks, given their differential access to the USD funding markets? These are some of the questions we attempt to answer in this paper.

Our first main finding is that in the immediate aftermath of the ABCP freeze, foreign banks were not able to increase US funding in the same ways as their US counterparts. Foreign banks grew their net repo borrowing. However, they were not able to increase deposits or interbank borrowing at their US subsidiaries, nor were many able to access advances from Federal Home Loan Banks (FHLBs). In part, this reflects the fact that deposits at this time increased in proportion to US assets, and foreign banks have less assets in the United States. Foreign banks scrambled for liquidity, ultimately participating actively in the Term Auction Facility (TAF) set up by the Federal Reserve.[3] In contrast, and as documented by Ashcraft et al. (2010) and He et al. (2010), banks headquartered in the United States were able to tap into alternative funding sources. Especially, they accessed the deposit market, through time deposits, and in the form of advances from the FHLBs.[4] This asymmetry highlights an important funding risk in global banking, manifesting as currency shortages for banks engaged in maturity transformation in foreign countries. Importantly, many of these foreign banks play a large role in underwriting syndicated loans in the US.[5]

Do these funding frictions for foreign banks have a direct effect on their lending?[6] To address this question, we examine banks' underwriting of syndicated loans in US dollars and in European currencies (euro and sterling pound), recorded at the time of their origination in the Loan Pricing Corporation's DealScan dataset. Our second main finding is as follows: relative to before the ABCP

[1] See also Acharya and Richardson (2009), Brunnermeier (2009), Diamond and Rajan (2009), Gorton (2008), Greenlaw et al. (2008), Kacperczyk and Schnabl (2010), and Krishnamurthy (2010) for summaries of how the financial crisis of 2007–08 unfolded, the liquidity and credit problems faced by banks in different markets, and the underlying causes behind banks being exposed in a substantial manner to these problems.

[2] Acharya and Schnabl (2010) document that ranked by ABCP outstanding to Tier 1 capital, only three of the top ten banks were US headquartered (Citigroup, Bank of America and JP Morgan ranked 1st, 3rd and 5th, respectively). The others (in increasing rank) were all foreign: ABN AMRO, HBOS, HSBC, Deutsche Bank, Societe Generale, Barclays and Rabobank.

[3] The TAF is a temporary program conducted by the Fed between December 17, 2007 and March 8, 2010, which provides term funding to depository institutions on a collateralized basis, at interest rates and amounts set by auction. See Armantier et al. (2008) for an overview of the design and creation of TAF. See also http://www.federalreserve.gov/monetarypolicy/taffaq.htm for additional information on the TAF auctions.

[4] Congress established twelve regional Federal Home Loan Banks (FHLBs) in 1932 owned by the savings and loans (S&L) institutions and some life insurance companies. As a creation of the federal government, the FHLB System can borrow funds in the capital markets at favorable rates, and individual FHLBs can lend these funds to their member-owners, who were the primary originators of mortgages at the time. The FHLB System was thus an early "government-sponsored enterprise" (although that term was introduced decades later).

[5] More than 63% of facilities in 2007 had at least one foreign bank in the underwriting syndicate and 35% had a foreign bank leading the syndicate.

[6] There is a long literature on the relationship between bank funding and lending and business cycles. For example, see Kashyap et al. (2002) and Acharya et al. (2013). Empirically, see Gatev and Strahan (2006), Gatev et al. (2009) and Pennacchi (2006).

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