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# The Real Story Behind the Surge in FHLB Advances: Macroprudential Policy Changed How Banks Borrow

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ACCESS TO  
CAPITAL

# OVERVIEW

## Key Observations

- Banks have doubled their borrowings from Federal Home Loan Banks (FHLBs) in the past five years. FHLBs are now the source for roughly one-quarter of all bank non-deposit liabilities.
- New rules for money market funds (MMFs) implemented in 2016 caused a massive reallocation of investor funds from prime to government MMFs. This change caused banks to borrow more from FHLBs for two reasons: (1) With fewer investors, prime MMFs were no longer a large buyer of bank commercial paper; and (2) FHLBs could lend to banks at attractive interest rates because the surge of money into government MMFs increased demand for debt securities issued by FHLBs.
- The new rules for MMFs reinforced an ongoing rise in bank demand for FHLB advances, which was driven by the phasing in of more stringent regulatory liquidity requirements for large banks.
- The increase in banks' FHLB borrowing is part of a broader transition to be less reliant on short-term (non-deposit) sources of financing. This change in funding structure has made the banking system safer. However, FHLBs now incur more refinancing risk (i.e., the risk that they will have difficulty rolling over their maturing short-term obligations when market conditions change). Ultimately, any risk faced by FHLBs is borne by taxpayers.

## INTRODUCTION

In the wake of the 2008 global financial crisis and ensuing regulatory reforms, U.S. banks dramatically altered their sources of funding. Funding from non-deposit sources now accounts for only 13 percent of bank liabilities, compared with more than 30 percent 10 years ago. However, bank funding from FHLBs has not followed suit. As government-sponsored enterprises (GSEs) charged with supporting housing and community investments, FHLBs are financed mainly by issuing notes and bonds implicitly guaranteed by the U.S. Government. Financial institutions (e.g., savings and loans and commercial

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banks) that are members of the FHLB system are eligible for FHLB loans (“advances”).<sup>1</sup> Although FHLB advances to banks fell for a time following the crisis, they began to rise rapidly beginning in 2012, roughly doubling in the five years leading up to 2017.

Money market fund reforms designed to strengthen financial stability may have unintentionally exposed taxpayers to potential banking system losses. The reforms have allowed large banks to obtain safer funding with advances from FHLBs instead of relying on other non-deposit instruments such as repurchase agreements. However, taxpayers could be required to bail out FHLBs in the event of a liquidity crisis.

In the remainder of this paper, we show that the use of FHLB advances accelerated following regulatory changes to money market funds. These regulatory changes lowered the cost of FHLB advances, and also had the effect of shortening the maturity of FHLBs’ obligations to satisfy the needs of MMFs. We conclude with some policy considerations.

### **NEW RULES FOR MMFs ARE PUSHING BANKS TO BORROW FROM FHLBs**

In 2016, new regulations to bolster institutional money market funds also changed the way that banks access funding.<sup>2</sup> The new rules require institutional prime funds to float their net asset value (NAV) and impose redemption gates and fees. This caused businesses seeking to maintain the certainty of a given price for their MMF shares to reallocate roughly \$1 trillion from prime to government funds. The reallocation reduced prime MMFs’ demand for commercial paper (CP), a traditional source of non-deposit short-term financing for banks.<sup>3</sup> CP was an asset held by prime funds but not allowed for government funds. Moreover, FHLBs’ obligations qualify as agency debt and can be held by government funds. The sudden growth of government funds stimulated demand for agency debt and thereby lowered the cost of funds for FHLBs. This allowed FHLBs to earn income by lending to banks at a relatively low cost. Thus, FHLBs have increased their issuance of obligations and their advances to banks, and this has substituted for banks’ direct issuance of CP. (See Figure 1.)

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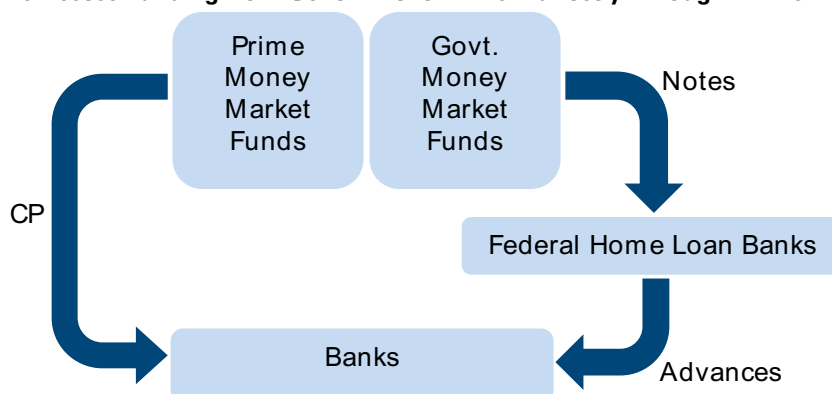
<sup>1</sup> Advances are secured loans and can come in a wide range of maturities, from overnight to 30 years; most have maturities of less than two years. Advances can have fixed or variable interest rates, as well as a range of payment characteristics and optionality. FHLBs also provide funds via the federal funds (where, as a group, they are by far the largest lender); repo; and capital markets. As of the second quarter of 2017, the FHLB system’s \$1.08 trillion of total consolidated assets included roughly \$707 billion of advances, \$186 billion of investment securities, \$75 billion of federal funds sold, and \$48 billion of reverse repo (FHLB Office of Finance Combined Financial Report). Roughly 70 percent of advances go to commercial banks. (Our estimates of FHLB advances to commercial banks, here and throughout the article, are based on FDIC call reports.)

<sup>2</sup> Wilhelmus and Adams-Kane (2017).

<sup>3</sup> Banks are generally prohibited from issuing CP themselves but can raise funds through asset-backed CP issued by conduits, or financial CP issued by bank-related finance companies held by the parent bank holding company (Kacperczyk and Schnabl, 2010).

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**Figure 1. Banks Access Funding from Government MMFs Indirectly Through FHLBs**

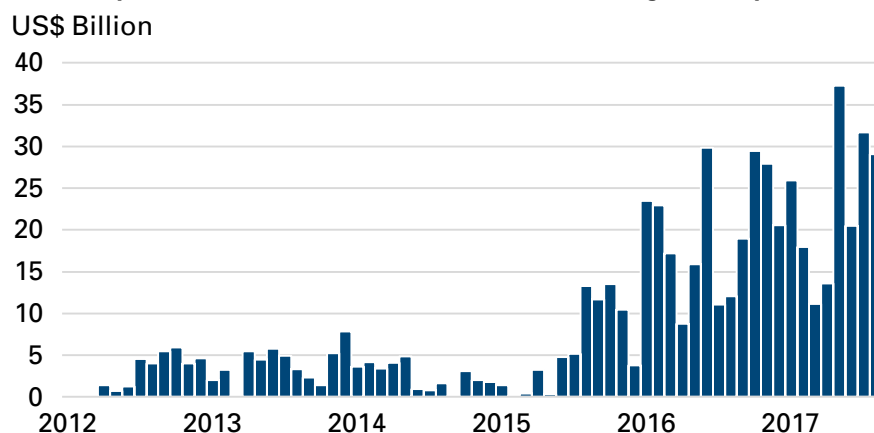


Source: Authors

Note: The set of instruments in the figure is simplified; e.g., MMFs fund banks via repo as well as by buying CP, and FHLBs fund banks via repo, federal funds, and bond purchases as well as in the form of advances.

As banks shifted from raising funds from issuing CP to borrowing from FHLBs, FHLBs changed the composition of their liabilities: They began to issue significantly more short-term floating rate notes. (See Figure 2.) That is because floating rate notes are particularly well suited to MMFs. Outstanding short-term floaters increased from \$80 billion (8.9% of total FHLB notes and bonds) at the end of 2015 to \$256 billion (25.9% of total FHLB notes and bonds) at the end of 2016.<sup>4</sup>

**Figure 2. FHLBs’ Monthly Issuance of Short-Term Floaters Increased Significantly in 2016-2017**



Source: FHLB Office of Finance Monthly Issuance Data Reports (January 2012-August 2017)

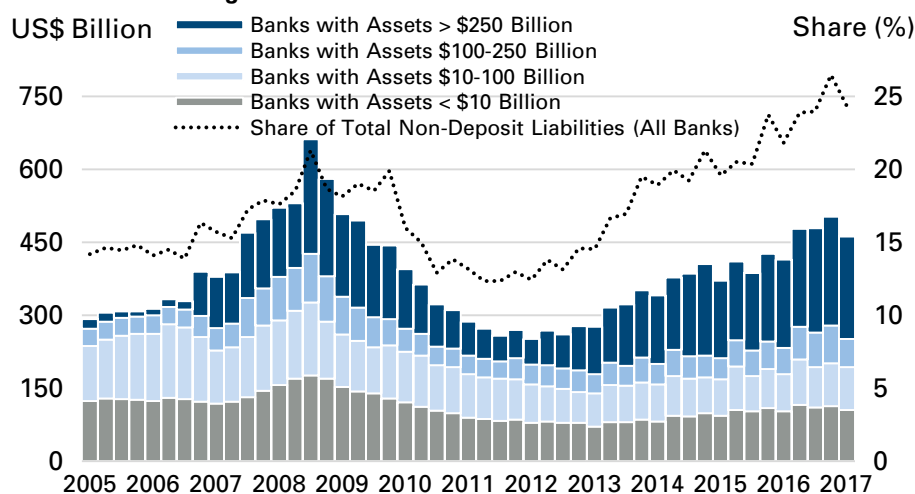
Note: Here, “short-term” signifies 397 days or less to maturity.

<sup>4</sup> As of August 2017, FHLBs’ outstanding short-term floaters stood at \$297 billion (29.2% of total notes and bonds).

# ADVANCES AND BANK SIZE

Most of the increase in FHLB advances over the past five years can be explained by the rise in demand for them among large banks, defined here as the 10 U.S.-chartered commercial banks with assets over \$250 billion. (See Figure 3.) As a group, large banks quadrupled their FHLB borrowings between the first quarters of 2012 and 2017, both in absolute terms (from \$53 billion to \$211 billion) and as a share of non-deposit liabilities (from 4.3 percent to 17.3 percent).

**Figure 3. Large Banks Led a Resurgence of FHLB Advances**



Sources: Authors' calculations based on FDIC call reports and FHLB Office of Finance Combined Financial Reports (2005 through first quarter of 2017)  
 Note: Size classification is based on a given bank's maximum total assets from 1976 through the first quarter of 2017, so it is fixed over time.

In the past, large banks—with greater access to financing from the capital and money markets—used FHLB advances significantly less than the rest of the banking sector. For example, in early 2012, large banks' outstanding FHLB advances accounted for only 0.8 percent of their total liabilities. In comparison, for all other banks as a group, FHLB advances accounted for 3.8 percent. Now the gap has narrowed. For the first quarter of 2017, advances to large banks accounted for 2.7 percent of their total liabilities, compared with 4.0 percent for the other banks.<sup>5</sup>

The relationship between bank size and FHLB advances over this five-year period had two distinct phases. From 2012 through 2014, total FHLB advances to banks grew substantially, and large banks accounted for almost all of the growth. The adjustment of

<sup>5</sup> This is partly accounted for by an increase in the number of large banks that borrow at all from FHLBs. In 2012, four of the 10 large banks had outstanding advances from FHLBs. By 2017, seven of the 10 did.

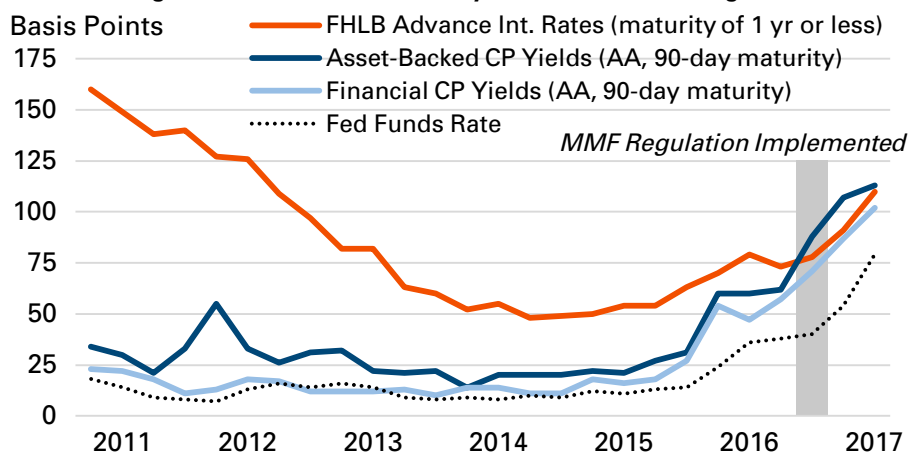
## ADVANCES AND BANK SIZE

large banks to stringent new liquidity requirements was the main driver of this first phase of the surge (discussed in the following subsection). After slowing in 2015, the surge resumed in 2016—this time spurred by the regulatory shake-up of the MMF industry. Unlike in the previous phase, both medium-sized and large banks drove the growth of advances during the latter period.

### WHY BANKS INCREASED THEIR BORROWING FROM FHLBs

As noted above, the implementation of new rules for MMFs, which mandated floating NAV and gates and fees on redemptions, was the main driver of the acceleration of FHLB advances in mid- to late 2016. Total advances to banks rose by \$88 billion, a 21% increase, from March to December 2016, and, as noted, this increase in advances was split between medium-sized and large banks.<sup>6</sup> This relatively broad-based growth in advances is what one might expect given the twofold mechanism by which the new rules for MMFs affected bank behavior: First, the reforms depressed the market for CP, a common source of financing for medium-sized as well as large banks. Second, they stimulated demand for FHLB obligations, so FHLBs could raise financing more cheaply and then lend to banks—irrespective of size—at attractive interest rates. (See Figure 4.)<sup>7</sup>

**Figure 4. Costs of Borrowing from FHLBs and the Money Market Have Converged**



Sources: FHLB Office of Finance, Federal Reserve

Notes: Data are from the fourth quarter of 2010 through the first quarter of 2017. "MMF Regulation Implemented" marks the third quarter of 2016.

<sup>6</sup> From the first quarter to the fourth quarter of 2016, outstanding FHLB advances to banks with assets below \$10 billion increased by roughly \$10 billion (a 10% increase); those to banks with assets in the \$10 billion to \$100 billion range increased by \$12 billion (16%); those to banks with assets in the \$100 billion to \$250 billion range increased by \$24 billion (43%); and advances to large banks increased by \$42 billion (23%).

<sup>7</sup> Section 7(j) of the Federal Home Loan Bank Act of 1932 (12 U.S.C. § 1427(j)) requires the directors of FHLBs to extend advances "without discrimination in favor or against any member."

## ADVANCES AND BANK SIZE

FHLB advances also can accommodate bank demand for high-quality liquid assets (HQLA) to meet regulatory liquidity requirements. FHLB advances are typically backed by mortgages as collateral, so any HQLA purchased can remain “unencumbered” (i.e., not tied up as collateral), thus counting in the liquidity coverage ratio (LCR). Advances also are a closer maturity match for typical holding periods of HQLA, as they are generally longer-maturity than alternatives such as repo and federal funds. Thus, they can enhance the liabilities side of the balance sheet to meet liquidity requirements, as well as the assets side. The Federal Housing Finance Agency (FHFA) identified new liquidity requirements under the Basel III framework as the key factor behind the resurgence of FHLB advances to large banks that began in 2012.<sup>8</sup>

The surge in FHLB advances from 2012 through 2014 corresponds well with the timing of the rollout of more stringent (Dodd-Frank) liquidity requirements for large banks.<sup>9</sup> In late 2012, internal stress tests focused on liquid assets began for the largest banks, although comprehensive liquidity rules had not yet been finalized.<sup>10</sup> A more exact proposal was made in late 2013; the final rules were released in September 2014 and came into effect at the beginning of 2015.<sup>11</sup> Banks above \$250 billion in assets are subject to the most stringent requirements.<sup>12</sup>

The underlying reasons for the 2012-2016 increase in FHLB advances are in stark contrast to the drivers of a surge in advances that occurred from 2006 to 2008. At that time, highly leveraged banks turned to FHLBs to replace other sources of short-term funding as they became scarcer and more costly. This has been described as the FHLBs playing a “lender of next-to-last resort” role.<sup>13</sup> During this period, and into 2009, the large banks’ collective share of FHLB advances grew, but this is largely explained by increased mergers and acquisitions that produced much larger banks (including some acquisitions of thrifts that had borrowed heavily from FHLBs, notably Washington Mutual, and reorganizations within bank holding companies). The bulk of these acquired advances were wound down in 2010 and 2011, when U.S. banks were rapidly reducing their use of non-deposit funding in general.

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<sup>8</sup> This determination was based on direct written statements from two of the four largest banks and interviews with FHLB and FHFA officials (Federal Housing Finance Agency Office of Inspector General, 2014). For more information on the Basel III regulatory framework for liquidity, see Basel Committee on Banking Supervision (2010, 2013).

<sup>9</sup> New liquidity rules were proposed by the Federal Reserve in December 2011 (Federal Register 77, no. 3 [January 5, 2012]: 594-663).

<sup>10</sup> Nasiripour (2012).

<sup>11</sup> Federal Register 78, no. 230 (November 29, 2013): 71818-71868; Federal Register 79, no. 197 (October 10, 2014): 61440-61541.

<sup>12</sup> The most stringent form of the liquidity requirements also apply to banks with \$10 billion or more in total on-balance-sheet foreign exposure. Banks with assets between \$50 billion and \$250 billion (and less than \$10 billion in foreign exposure) have weaker requirements.

<sup>13</sup> Ashcraft, Bech, and Frame (2010).

# CONCLUSION

Although catalyzed by the unintended consequences of money market fund reforms, the recent growth of banks' borrowing from FHLBs also was part of a broader transition to a funding structure less reliant on short-term non-deposit sources. The regulatory overhaul following the 2008 global financial crisis improved financial stability by making banks much less vulnerable to potential liquidity shocks than they were a decade ago. However, FHLBs now play a larger role in bank funding and have taken more of the maturity mismatch intrinsic to the function of the banking system onto their balance sheets. This development is of potential concern to policymakers, as recently expressed by Federal Reserve Vice Chairman Stanley Fischer:

*"Of note, in part supported by increased demand from government-only money market funds, the FHLB system has increased its issuance of shorter-maturity liabilities, which are more attractive to money funds.... As a result, the FHLBs face an increased need to roll over maturing liabilities and thus greater vulnerability should they encounter liquidity pressures."* (Fischer, 2017)

The reduction in systemic risk in the banking system came at a price: Private financial intermediaries are now even more interconnected with GSEs—and dependent on their public guarantees—than before the crisis. Potentially, taxpayers now bear more of the remaining risk in the financial system. The growth in the role of FHLBs in funding commercial banks is just one part of a broader private-public nexus that also includes the roles played by other GSEs (e.g., Fannie Mae, Freddie Mac, and Ginnie Mae) in the mortgage market. In addition, the Federal Reserve continues to play an important role as a bank regulator, supervisor, and lender of last resort. Shaped by the rapid regulatory response to the 2008 crisis, this complex web of interactions has the potential for generating many unintended and yet-to-be-understood consequences. Likewise, as policymakers shift to tweaking or dismantling financial regulations, they can expect the unexpected.



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# ABOUT US

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