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The Increased Role of the Federal Home Loan Bank System in Funding Markets, Part 3: Implications for Financial Stability[1]

Stefan Gissler and Borghan Narajabad

Potential shocks and vulnerabilities to the FHLB system

As highly leveraged financial institutions with fairly small capital buffers, FHLBs cannot support large losses without implementing a capital restoration plan. During the last financial crisis, the values of FHLB Seattle's and FHLB Chicago's security portfolios declined, and their capital levels dropped from 5 percent to 1 and 1.5 percent of assets, respectively. FHLB Chicago was able to recover from its capital loss by retaining earnings over the next several years. Owing to the additional pressures it faced after the withdrawal of a large member, Washington Mutual, and the disappearance of its attendant business, FHLB Seattle was not able to retain sufficient earnings to quickly rebuild its capital position. In 2015, after five years of unsuccessful efforts to recapitalize the institution, FHLB Seattle was merged into FHLB Des Moines.

Given the significant growth in advances and the increased concentration of borrowing by large financial institutions, one potential source of risk for FHLBs could be the distress of one or more members. While such an event would not likely pose direct credit losses to FHLBs given their super-liens, it could significantly lower the FHLB's interest income and could imperil an FHLB's long-term viability, as was the case with FHLB Seattle a few years ago. In addition, increased lending to large members has also increased the interconnectedness of FHLBs since the last crisis because large holding companies may borrow from multiple FHLBs. Increased interconnectedness may have raised the system's vulnerability to a single counterparty failure.

FHLBs face significant rollover risk given the maturity transformation inherent in their business model, which suggests that the greatest source of vulnerability may be the possibility that investors lose confidence in an FHLB's implicit government back-stop.[2] The loss of investor confidence could destabilize the FHLB system and short-term funding markets more broadly. In fact, investors lost confidence in GSEs in 2008 due to the substantial troubles facing Fannie Mae and Freddie Mac. The FHLB system found itself "guilty by association" and experienced considerable pressures on its funding.[3] A spike in funding costs reduced the FHLB system's ability to act as a lender of next-to-last resort and FHLBs' advances and interest income dropped significantly.[4] The FHLB system's access to funding markets was only restored when the Federal government signaled support for GSEs.

Potential consequences of a distressed FHLB system

Should the FHLB system experience distress, the effects on investors would depend on the severity of the shock and their access to alternative short-term investments, such as T-bills and the Federal Reserve's Overnight Reverse Repo facility. For example, should government money market funds shift toward alternative investments, then FHLBs may need to quickly shrink their balance sheets significantly. [5] Given their maturity mismatch, some could end up draining their contingent liquidity buffer and decide not to extend outstanding advances to their borrowers when those come due, possibly resulting in an abrupt loss of funding for firms reliant on FHLBs.

Thus, the ultimate effects on FHLB members depend on their ability to access other funding sources once the terms of the members' FHLB advances expire. If investor confidence in the financial system remains intact, large members should be able to substitute FHLB advances with alternatives such as repo or commercial paper. Funding costs to satisfy the LCR requirement may increase.[6] Yet for members without access to wholesale funding, advances are an important source of funding and liquidity.[7] Losing access to FHLB advances could potentially lead to a decrease in mortgage and small-business lending, especially by small thrifts and commercial banks. However, in case of a larger systemic distress, losing access to FHLB advances may put even large members at risk and result in significant pressure for government support, as occurred during the last financial crisis. Furthermore, while banks may be able to satisfy their liquidity needs (in the short-run) using the discount window, non-banks do not have this option.

Finally, the FHLBs currently play a crucial role in the federal funds market, which represents a key source of liquidity for eligible depository institutions. FHLBs maintain a stable share of their portfolios in federal funds, mainly as their contingent liquidity buffer.[8] As a result, their presence in the federal funds market has been stable. But the decline of the overall size of the federal funds market has increased the relative importance of the FHLBs in this market. On some days, FHLBs account for almost the entire supply of federal funds. Should an FHLB experience difficulty in rolling over its short-term debt, the FHLB would likely withdraw from the federal funds market, which has the potential to disrupt trading activity. Assuming most FHLBs would withdraw, the Federal Reserve Bank of New York might need to rely on contingency options for the publication of the fed funds effective rate.[9] Such contingencies could be necessary given that the federal funds rate is used as the benchmark rate for a very large volume of financial products. Although the contingency options to handle the calculation of the federal funds rate are public, a hasty transition to an alternative reference rate could disrupt the functioning of money markets and complicate the communication of monetary policy.

Conclusion

Although FHLBs have long been considered a relatively robust part of the mortgage finance system, there have been times in the past, such as during the Savings and Loan crisis and near the time that Fannie Mae and Freddie Mac were put into conservatorship, when the capacity of the FHLB system to provide sufficient liquidity to their members has been in doubt. The FHLB system's recent increased size, reliance on large members, and dependence on shorter-term liabilities funded by government money funds could make it more, not less likely, that the FHLB system may not be able to fill its roles, both as a liquidity back-stop and as an integral provider of funding in credit markets, in the next financial crisis.

One might view the current large size of FHLBs advances to the largest bank holding companies as benign because these companies have built up significant liquidity buffers that can be run down in a liquidity crunch. Moreover, so long as FHLBs can access the debt markets, the maturity transformation they provide can be helpful for their members.

An alternative view focuses on the potential roll-over risk associated with short-term funding for the FHLBs and the consequences for their members. Although large banks' liquidity buffers are built on the assumption that there is a maximum 25 percent run-off rate for FHLB advances in 30 days, the FHLBs are only required to maintain sufficient liquidity to renew advances for small members, not to renew advances for their very large highly-rated members in a stress scenario. This inconsistency in assumptions has allowed for a situation in which there is a greater risk that large banks will not be able to rely on FHLBs for liquidity as planned in a stressed environment. Large banks could then be forced to turn to alternative sources of liquidity at the worst of times when wholesale funding markets may already be tight. Moreover, should FHLBs need to tap their own contingent liquidity buffers, the federal funds market could be disrupted. Given the short tenors of FHLB debt and the fact that the debt is primarily held by a wide range of cash investors, mainly government money market funds, the lynchpin for the more benign scenario seems to be continued confidence among money market participants in the implicit government guarantee for FHLB debt.

References

Ashcraft, Adam, Morten L. Bech, and W. Scott Frame (2010). "The Federal Home Loan Bank System: The Lender of Next-to-Last Resort?" Journal of Money, Credit and Banking 42.4: 551-583.

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1. Authors: Stefan Gissler and Borghan Narajabad (R&S). We would like to thank Alice Moore and Erin Hart for their research assistance, and Celso Brunetti, Mark Carlson, Burcu Duygan-Bump, Joshua Gallin, Diana Hancock, Lyle Kumasaka, Andreas Lehnert, Laura Lipscomb, Patrick McCabe, Michael Palumbo, John Schindler, and Lane Teller for useful comments and insightful discussions. The views expressed in this paper are solely those of the authors and do not necessarily reflect the views of the Board of Governors of the Federal Reserve System or its staff. Return to text

2. This business model also suggests they may be exposed to interest-rate risk, and especially to changes in the slope of the yield curve. However, FHLBs have increased the share of their floating rate advances, thus, reducing their exposure to interest-rate risk. Return to text

3. At that time, most of the money funds used to report all of their FHLB debt under "agency debentures," making it impossible for outside analysts to distinguish between their exposure to FHLBs and other GSEs. Return to text

4. Ashcraft et al. (2010) note that "even after the Federal Reserve surpassed the FHLB System in terms of total liquidity provided, the FHLB System continued to be the largest lender to U.S. depository institutions, as much of the Federal Reserve's liquidity operations benefited nondepository or foreign financial institutions." Return to text

5. About 80 percent of FHLB debt has maturity of less than one year. Money funds hold about 50 percent of FHLB debt, so it is fair to assume that short-term debt of FHLBs are widely held, even outside the money funds. Return to text

6. During a systemic distress, the LCR requirement may be relaxed. Return to text

7. On average, the ratio of advances over assets is 5 percent for borrowing members with assets below $2 billion, with some members funding over 25 percent of their assets by advances. Return to text

8. An additional driver behind FHLBs' participation in the fed funds market is to meet their intraday debt service funding needs. Cash invested in fed funds is typically returned early the next day, as opposed to triparty repo which is often returned later in the day. The early return of cash helps the FHLBs meet the mid-day timing requirements of the Office of Finance's debt payment wires. Return to text

9. On its public website, the FRBNY describes contingency options for the publication of the fed funds effective rate if reported transactions are insufficient to publish a rate. These include publishing the prior day's rate in the absence of adequate data. The increasing dependence of the Federal Reserve on a limited set of transactions to support the calculation of the federal funds effective rate was recognized in the years following the financial crisis, and several steps have been taken to improve its calculation, specifically through a new data collection. The FR2420 collection was used to improve the federal funds rate calculation and to provide insight into a broader range of bank funding market activity through the publication of a new rate: the overnight bank funding rate (OBFR), which combines federal funds transactions with similar transactions booked offshore. In a prolonged event that precluded the publication of the fed funds effective, this OBFR or another rate could be determined to be the successor rate. Return to text

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