The Termination of LIBOR

An Update on Implications for the Mortgage Market

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March 2020

In less than 24 months, an enormous change will hit the financial markets: LIBOR, the London Interbank Offered Rate, dubbed "the world's most important number,"[1] will be replaced by a new index, the Secured Overnight Financing Rate, or SOFR. LIBOR is the reference index for setting interest rates on mortgages and millions of other financial contracts totaling $200 trillion in the US and about $400 trillion worldwide (ARRC 2018).

The US mortgage markets' reliance on LIBOR is modest, representing about $1 trillion and about 10 percent of outstanding single-family mortgages, mostly in bank portfolios and private-label securities.[2] Nevertheless, a change affecting 10 percent of outstanding mortgages must be managed carefully so as not to disrupt the market.

Where are we in preparing for this transition? We are surprised at how little prepared the markets are, but there are signs of progress. The first adjustable mortgage product based on the new index will be issued this year, fallback language has been established that allows for a substitution from LIBOR to SOFR to calculate mortgage payments, and the remaining issues focus on already outstanding adjustable-rate mortgages. There are also concerns about what happens if LIBOR does not fully disappear.

One thing is clear: many market participants will look to Fannie Mae, Freddie Mac, and their regulator, the Federal Housing Finance Agency (FHFA), for guidance on how to handle the shift from LIBOR to SOFR with minimal disruption to the US mortgage market.

Why the Move from LIBOR to SOFR?

LIBOR is calculated by averaging quotes from a group of banks, who indicate the rate at which they could borrow from other banks. In 2008, officials began investigating a "LIBOR fixing" scandal, in which certain banks deliberately misrepresented their lending rates. In 2014, the Intercontinental Exchange took over calculating LIBOR from the British Bankers' Association, which had administered the index since 1986.

In 2014, the Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York convened the Alternative Reference Rate Committee (ARRC) to identify reference rates that could be an alternative to LIBOR and to complete an implementation plan to support an orderly adoption of the new reference rate. In 2017, the ARRC selected SOFR, which measures the cost of borrowing cash overnight.

SOFR has two advantages over LIBOR: it is based on actual market trades, not quotations, and it is produced by the Federal Reserve Bank of New York. But SOFR has two features that will make the conversion from LIBOR to SOFR difficult. It is, at present, an overnight rate without a term structure, and it is a secured rate with no risk premium; hence, it tends to be lower than LIBOR.

The First SOFR-Based Mortgage Product Is Set to Debut in the Second Half of 2020

The government-sponsored enterprises, or GSEs (i.e., Fannie Mae and Freddie Mac), and the FHFA have the greatest influence on preparing the mortgage market for the transition from LIBOR to SOFR, as they can lead by example. But their preparations have been slow. Surprisingly, less than 24 months before LIBOR's expected sunset, 30-year mortgages are still being originated based on the fading LIBOR. Both Fannie Mae and Freddie Mac have announced that they will no longer buy LIBOR mortgages after the end of 2020.[3]

Fannie Mae and Freddie Mac expect to purchase their first SOFR-based adjustable-rate mortgages and issue mortgage-backed securities on these mortgages in the second half of 2020.[4] The ARRC (2019a) made a recommendation in July 2019 that for adjustable-rate mortgages, the index would be set 45 days in advance of the interest rate change as it is now, but rather than being based on one-year LIBOR, a forward-looking rate, it would be based on either the previous 30-day or 90-day average of SOFR. On February 5, 2020, both GSEs announced that the index would be based on the 30-day average of SOFR. The margin was recommended to be increased from its current level (typically around 2.25 percent) to 2.75 or 3 percent to account for SOFR being lower than LIBOR.

Table 1 contains historical information about the differences between the one-year LIBOR and 30-day SOFR. Note that SOFR with a 30-day lookback has, since 1998, been about 68 basis points lower than the one-year LIBOR, and the differences since 2014 have been closer to 73 basis points. In addition, given that the new rate is backward looking, not forward looking, the floating rate adjustment

period, to foster liquidity, would be decreased from one year to six months to minimize the reset risk to consumers, and the periodic caps would be decreased from 2 percent to 1 percent.

TABLE 1

One-Year LIBOR versus the SOFR Substitute

	LIBOR minus 30-day average SOFR
Date range	9/22/2014–1/3/2020
Average	0.7268
Standard deviation	0.3685
Mean absolute error	0.2791
	LIBOR minus synthetic 30-day average SOFR
Date range	4/2/1998–1/3/2020
Average	0.6782
Standard deviation	0.4873
Mean absolute error	0.3586

Source: Urban Institute calculations from Federal Reserve data.

Notes: LIBOR = London Interbank Offered Rate; SOFR = Secured Overnight Financing Rate. For the synthetic SOFR series, we used the Overnight Treasury General Collateral Repo Primary Dealer Survey Rate for dates before those for which historical SOFR is available.

Fallback Language for New LIBOR Deals

Standardized language has been developed so that new loans that are being issued using LIBOR explicitly address what happens when LIBOR disappears. In November 2019, the ARRC proposed that this fallback language include a trigger for a replacement event and guidance on selecting the replacement index and margin (ARRC 2019b).

The ARRC's suggestion is that if the index is no longer available or reliable, the noteholder should select a new index with the following guidance: the replacement index should be the ones selected or recommended by the Board of Governors of the Federal Reserve System, the Federal Reserve Bank of New York, or a committee endorsed or convened by these entities. If these entities have not made a recommendation, the noteholder decides on a replacement index and replacement margin that the holder "*reasonably expects will minimize any change in the cost of the loan, taking into account the historical performance of the Index and the Replacement Index*" (ARRC 2019b, 5).

The ARRC's recommended replacement index does not require the noteholder to select a margin. This is because, for consumer products like adjustable-rate mortgages, the ARRC has committed to publish a recommended SOFR-based spread-adjusted replacement index to help consumers obtain the index used for their loans and eliminate the need to adjust the loan's margin to compensate for the difference in the historical rate between LIBOR and SOFR (ARRC 2020). The recommended fallback language for new LIBOR deals envisages the publication of such an ARRC-recommended SOFR-based spread-adjusted replacement index.

Fannie Mae and Freddie Mac have since updated all documentation to include this fallback language. Meanwhile, the ARRC is out with a consultation to determine the rules for setting the SOFR-based spread-adjusted replacement index. Comments are due March 6. The replacement index, though SOFR based, could be different from that used for the new SOFR product.

The GSEs Will Lead the Way in Addressing the Tricky Issue of Legacy Loans

One challenging issue to resolve in the transition to a new index is how to address the existing or legacy adjustable-rate mortgages. These assets, which are in Fannie Mae and Freddie Mac mortgage-backed securities, as well as private-label securities and bank portfolios, generally allow the noteholder to choose a new rate if LIBOR is permanently discontinued. For reverse home equity conversion mortgages, the secretary of the US Department of Housing and Urban Development chooses the new index. But the language in these legacy assets generally fails to address two points:

- whether to switch to a new successor rate if LIBOR is not permanently discontinued but has been deemed by its regulator to be "unreliable"
- how or whether the margin or spread to the reference rate could be adjusted; it is unclear whether the noteholder could create a mortgage SOFR that adds back in the historical spread between LIBOR and SOFR, and it is unclear what time period to use in calculating the historical spread

These two points could prove problematic. We expect that Fannie Mae and Freddie Mac will take the lead, in conjunction with the FHFA, and switch the index on all the loans they have purchased using the ARRC-recommended SOFR-based spread-adjusted replacement index, thereby eliminating the need for a margin adjustment. Although most private markets are likely to fall into place behind the GSEs, using the spread-adjusted rate proposed by the ARRC, not all will do so, and the likelihood is that we will see some lawsuits. But with the Federal Reserve and the FHFA involved in index determination and implementation, the risk of nonadoption will decrease, as these organizations are acting in a governmental capacity.

To further mitigate risk, the FHFA could solicit public comment on how to handle legacy GSE adjusted-rate mortgages.

"Zombies" Are a Lingering Concern

The Intercontinental Exchange might continue to publish LIBOR, as doing so would yield continued licensing fees even if regulators deem LIBOR to be "unreliable." This could create a so-called zombie LIBOR. Some noteholders may continue to use this LIBOR index, which generally represents bank funding costs but is not necessarily tied to market rates, and other noteholders may switch to the more

reliable market-based SOFR. This divergence could cause significant confusion among the 5 million homeowners with adjustable-rate mortgages.

Although the preparation for the LIBOR sunset at the end of 2021 is not as far along as one would have hoped, the remaining issues largely deal with legacy securities. We expect most institutions will follow the GSEs' lead, but some will not. The language on many contracts is ambiguous, and it is unclear how much the index should be adjusted and how the issue of what happens if LIBOR becomes increasingly unreliable should be handled.

Notes

1 Barry Ritholtz, "The World's Most Important Number," Bloomberg, April 3, 2018, https://www.bloomberg.com/opinion/articles/2018-04-03/the-world-s-most-important-number.

2 Edward Golding and Laurie Goodman, "LIBOR's Phaseout Could Make Holders of Reverse and Adjustable-Rate Mortgages Billion-Dollar Winners," *Urban Wire* (blog), Urban Institute, October 26, 2018, https://www.urban.org/urban-wire/libors-phaseout-could-make-holders-reverse-and-adjustable-rate-mortgages-billion-dollar-winners.

3 Fannie Mae, "Important Updates to Adjustable-Rate Mortgage (ARM) Products," lender letter LL-2020-01 to all Fannie Mae single-family sellers, February 5, 2020, https://singlefamily.fanniemae.com/media/21831/display; and Freddie Mac, "Selling Updates," bulletin 2020-1 to Freddie Mac sellers, February 5, 2020, https://guide.freddiemac.com/ci/okcsFattach/get/1003556_7.

4 Fannie Mae, "Important Updates"; and Freddie Mac, "Selling Updates."

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Acknowledgments

The Housing Finance Policy Center (HFPC) was launched with generous support at the leadership level from the Citi Foundation and John D. and Catherine T. MacArthur Foundation. Additional support was provided by The Ford Foundation and The Open Society Foundations.

Ongoing support for HFPC is also provided by the Housing Finance Innovation Forum, a group of organizations and individuals that support high-quality independent research that informs evidence-based policy development. Funds raised through the Forum provide flexible resources, allowing HFPC to anticipate and respond to emerging policy issues with timely analysis. This funding supports HFPC's research, outreach and engagement, and general operating activities.

This brief was funded by these combined sources. We are grateful to them and to all our funders, who make it possible for Urban to advance its mission.

The views expressed are those of the authors and should not be attributed to the Urban Institute, its trustees, or its funders. Funders do not determine research findings or the insights and recommendations of Urban experts. Further information on the Urban Institute's funding principles is available at urban.org/fundingprinciples.

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