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About Repos, SOFR and LIBOR

October 2019

On September 17, 2019, U.S. overnight repo rates spiked to 9.0%. Historically, repo has been volatile, and previous price sensitivity was somewhat predictable around known high cash demand dates, in many cases from banks around quarter ends. Also, the magnitude of the jump was unusual and it occurred in mid-September one day before the Fed cut the Fed Funds rate for the second time in 2019. Markets were surprised and the Fed was forced to inject liquidity via the repo market for the first time in over a decade. What happened and why does it matter?

The repo market is like the financial market's lubricant. Banks, broker/dealers, hedge funds, money market funds and other holders/borrowers of cash use the repo market to move liquidity from those who have it to those who need it. Repos are secured loans (mostly with U.S. treasury as collateral) generally conducted overnight, though some agreements extend over longer periods. As a secured rate, it trades at or slightly below the Fed Funds rate, but the market's liquidity conditions may alter that relationship for a few days, as occurred the week of September 16th. For the Fed, it is essential the repo rate trades at or near the Fed Funds rate so that monetary policy objectives can be transmitted to the economy through adoption by financial markets.

After the financial crisis in 2008, the Fed flooded the market with liquidity. When it commenced quantitative easing (QE), banks acquired massive excess reserves, which provided plentiful liquidity to money markets. Upon starting their balance sheet normalization in 2017, bank reserves began to decline, reaching levels in 2019 that were commensurate with levels in existence prior to the crisis. In effect, the central bank's liquidity subsidization was wound down, and the money market was forced to operate independently. A "perfect storm" of cash needs came together on September 16th that took liquidity out of the market. The coincident settlement of a large U.S. treasury refunding and corporate tax obligations on the 16th, the Fed's policy meeting on the 18th and the proximity of quarter-end combined to create a sudden rush for cash. Prior to 2008, the Fed monitored liquidity daily and intervened as necessary to ensure the smooth functioning of the cash market. By September 18th, away from the policy action, the Fed was forced to return to the repo market to provide liquidity and ensure the market's enforcement of their policy.

Financial markets and money market specialists were startled by the move in repo rates, although more by the magnitude of the move than by its occurrence. Volatility at this juncture raises consternation because global markets are in the midst of a major transition away from a universally used short term rate, LIBOR (the London Interbank Offered Rate). The interest rate currently proposed to replace LIBOR for U.S. dollar instruments is the Fed's Secured Overnight Funding Rate (SOFR), a rate derived from repo markets. SOFR has not been actively used for most financial instruments, yet it is expected to be the benchmark rate to price nearly $300 trillion of financial obligations by 2021. Should events like September 17th's sudden repo spike give investors pause over LIBOR's replacement?

LIBOR is an interest rate that is determined by the Intercontinental Exchange (ICE) under the auspices of the UK Financial Services Authority (FSA). The rate is derived daily based on the average of quotes submitted to ICE by various global banks. Banks are supposed to calculate their rates from actual transactions executed with other banks for loans over various relatively short time periods. Prior to the financial crisis in 2008, the interbank market was liquid and active giving participating institutions numerous observations from which to calculate their lending rates. In 2012, some participating institutions were accused of manipulating LIBOR by colluding with others and misrepresenting their rates. As a result, banking regulators began to question the legitimacy of the rate and its calculation methodology. In addition, changes in regulation and market dynamics led many banks to withdraw from the short-term interbank market and the volume of transactions declined. The FSA decided that absent sufficient market-based observations, LIBOR may not be

able to be struck in the future. After consultation, the authority decided to abandon publication of the benchmark rate by 2022.

Global financial regulators began the painstaking process of identifying suitable alternatives for LIBOR (and the equivalent in other currencies). In the U.S., the Federal Reserve Bank of New York established the Alternate Reference Rate Committee (ARRC) to prepare the financial system for the transition. The ARRC recommended SOFR become the alternative rate to LIBOR and began to promote its use among financial intermediaries for instruments like interest rate swaps, loans, floating rate notes and other derivatives.

LIBOR's demise illustrates an unintended consequence of regulation. Changes in capital and liquidity requirements effectively killed the interbank market, yet the rate setting process for LIBOR continued. Not surprisingly, regulators and market participants became concerned that rates applied to trillions of dollars in obligations were increasingly NOT market determined. Now regulators are moving to impose a new market determined rate on the financial system. Having a market determined benchmark seems appealing, but repo markets are likely to again feature prominently in the Fed's policy arsenal. So, while repo volumes exceed $1 trillion per day, a critical participant (the Fed) enters for rate-setting purposes rather than to sell or buy liquidity for commercial purposes and thus changes the market determined nature of SOFR.

As we move toward replacing LIBOR, numerous tasks remain. Many of these involve methodology and logistics associated with changing LIBOR for SOFR. One significant limitation, for example, is that there is no three-month SOFR. While three-month LIBOR continues to be struck daily, the eventual SOFR equivalent is still under development. Additionally, LIBOR is an interbank rate which includes a credit spread, while repo is deemed a risk-free rate, so markets are still determining the proper spread to apply. We are confident that market participants will resolve the limitations, especially pricing credit spreads and developing term SOFR. In time, all U.S. dollar denominated financial instruments will reference SOFR or SOFR based rates. What may eventually get the market's attention, however, is that they substituted a privately determined rate for a policy managed one. In this respect, the Fed will be able to directly and immediately alter interest payments on trillions in financial transactions by intervening in the repo market.

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