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A DEEPER LOOK AT THE RISE IN LIBOR

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KEY TAKEAWAYS

3-month U.S. dollar Libor has increased by 0.2% over the past two months, which carries almost the same impact as a full rate hike, even though the Fed has not raised rates since December 2015.

Investors in bank loans may benefit if Libor continues to rise, given that the floating rates may start to move higher once the 1% Libor floor that many issues carry is exceeded.

Major drivers of the increase in Libor include money market reform, regulation-driven Libor calculation changes, demand for U.S. dollars in foreign exchange markets, and an assist from Fed rate hike expectations.

Libor has been on the rise in recent weeks and for many borrowers, the increase is almost equivalent to a Federal Reserve (Fed) rate hike. The

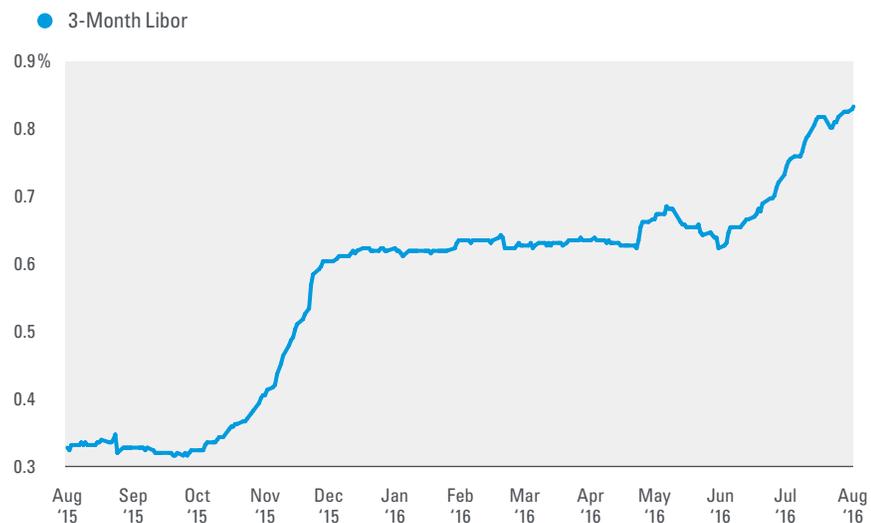
London Interbank Offered Rate (commonly known as Libor) is a commonly used short-term interest rate benchmark. In addition to a measure of interbank lending rates, Libor is used as a reference rate on an estimated \$350 trillion of bonds and debt contracts worldwide, including adjustable rate mortgages and floating rate bonds (known as bank loans).

Figure 1 shows that the last significant increase in 3-month U.S. dollar Libor was in late 2015, when the rate jumped by 0.31%, driven by a Federal Reserve (Fed) rate hike. Libor has increased by approximately 0.2% over the past two months; this time without the help of a Fed rate hike, leaving many wondering what is behind the rise. We will examine several potential reasons for the increase, determining which are likely, and which aren't.

BANK FEARS ARE NOT A DRIVER

For many, the rise in Libor brings back memories of the 2008 financial crisis, when banks became fearful of lending to one another, leading to an increase in the rates

1 3-MONTH U.S. DOLLAR LIBOR HAS INCREASED BY 0.2% SINCE JUNE



Source: LPL Research, FactSet 08/26/16

The 3-month U.S. Dollar (USD) Libor interest rate is the average interest rate at which a selection of banks in London are prepared to lend to one another in American dollars with a maturity of 3 months.

they charged each other for short-term loans. Recent headlines surrounding Brexit, Italian bank fears, and other scary headlines have no doubt amplified concerns that bank weakness may be driving Libor higher. However, a look at the TED spread (3-month Libor minus the 3-month Treasury yield [Figure 2]), a measure of interbank lending fears that gained notoriety during the financial crisis, shows that the recent increase (driven by the rise in Libor) is nowhere near what was experienced in 2008.

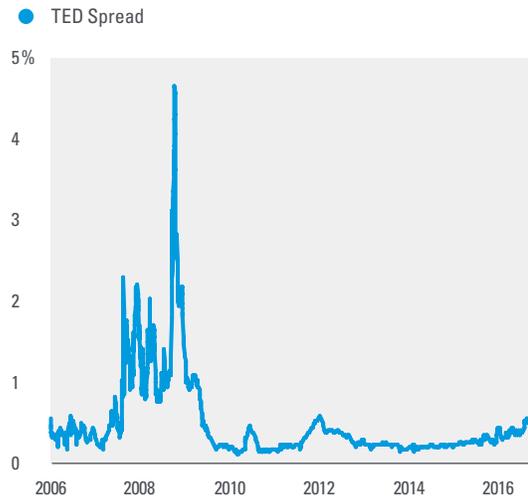
Other measures of bank stress, such as credit default swap (CDS) spreads for banks, which reflect the cost of insuring against default, have come down from post-Brexit levels and do not suggest the presence of bank solvency fears. Stronger balance sheets (especially in the U.S.) and supportive policy from global central banks (in Europe and Japan) may also act as a tailwind for banks, potentially reducing the risks of systematic problems like those seen in 2008.

MONEY MARKET REFORM IS A MAJOR DRIVER

Money market reform is a more likely driver of the increase in Libor. New rules for money market funds (MMFs) will go into effect on October 14, 2016. Among the most important, prime MMFs will move to a floating net asset value (NAV), while government MMFs will be allowed to retain the existing fixed NAV of \$1.00. This decision has led institutional investors to sell approximately \$293 billion of prime money market holdings year to date (according to ICI data), with approximately \$280 billion moving into government MMFs. This movement is decreasing demand for common holdings of prime money markets, such as commercial paper and CDs, leading to higher rates for short-term instruments that influence Libor.

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fed seeks to preserve the value of your investments at \$1.00 per share, it is possible to lose money investing in the fund.

2 THE TED SPREAD REMAINS MUTED AND NOWHERE NEAR 2008 LEVELS



Source: LPL Research, FactSet 08/26/16

The TED spread measures the difference between three-month Libor rate and the yield on three-month Treasury bills and is an effective measure of the liquidity available to banks.

THE IMPACT OF CALCULATION CHANGES

In 2012, several major banks were found guilty of manipulating Libor for their own benefit, and both British and EU regulators have been working since that time to improve the calculation of major benchmarks. The ICE Benchmark Administration (IBA), the body responsible for calculating Libor, has published a roadmap that will make the benchmark calculation tie more closely to actual transactions (as opposed to estimates). It will also bring in transactions outside of the traditional interbank market, such as non-financial corporate loans, in order to make the benchmark more reflective of actual conditions. While the new calculation isn't required yet, IBA issued guidance to firms that are involved in calculating Libor around the time that Libor started increasing. Additionally, on June 30, 2016, the European Union officially adopted benchmark regulation that has many similar provisions, suggesting that at least part of the increase in Libor may be due to a change in calculation methodology.

FOREIGN DEMAND FOR DOLLARS

At least a portion of the rise in Libor is, counterintuitively, related to negative rates in other parts of the world. U.S. Treasury yields, while near all-time lows, remain attractive relative to the negative yields on foreign government bonds. This has driven overseas demand, but in order to purchase Treasuries or other dollar based assets, foreign investors first must purchase dollars in foreign exchange markets. Foreign demand for dollars has pushed funding costs higher, putting upward pressure on U.S. dollar Libor.

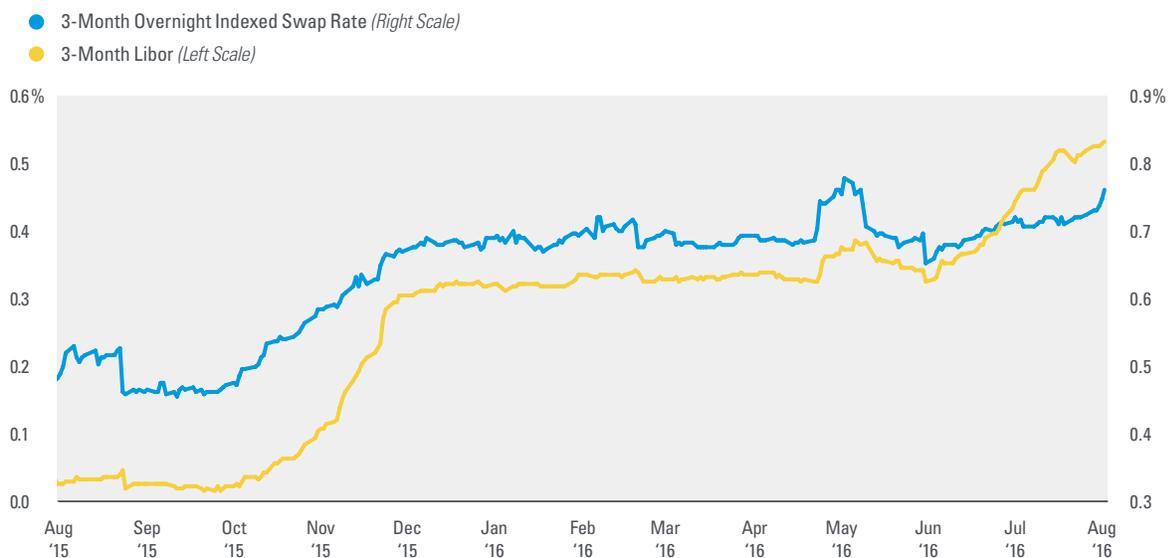
The Fed, however, maintains dollar liquidity arrangements with other major central banks, allowing them to borrow dollars if market supply becomes too tight. Currency swap arrangements between the Fed and global central banks may therefore act as a cap to the rise in Libor. If Libor climbs too high, market participants may be able to borrow from a central bank. These liquidity

provisions are likely helping to weaken the upward pressure that dollar funding is putting on Libor, though other drivers remain in place.

FED RATE HIKE EXPECTATIONS ARE PART OF THE PUZZLE

The last major move in Libor, in late 2015, was driven by a Fed rate hike. Expectations for a rate hike have been increasing recently, with fed fund futures putting the chance of a rate hike at the Fed's December 2016 meeting at 54%. The Overnight Indexed Swap Rate tends to track rate hike expectations, and as [Figure 3](#) shows, this measure has increased by 11 basis points (0.11%) since June 2016, though about half of this increase has come in the past two weeks, while Libor has been on a steadier upward trend. Changing rate hike expectations have played a role in the rise of Libor, but account for only about half of the increase.

3 FED RATE HIKE EXPECTATIONS ARE RESPONSIBLE FOR ABOUT HALF OF THE RECENT INCREASE IN LIBOR



Source: LPL Research, Bloomberg, FactSet 08/26/16

3-Month Overnight Index Swap (OIS) futures and options track the overnight effective Federal Funds rate. While the Fed Funds contracts track to the average effective Fed Funds rate over the course of a calendar month, the 3-Month OIS contracts track the compounded Fed Funds rate over a 3-month period.

POTENTIAL INVESTMENT IMPLICATIONS: BANK LOANS AND INVESTMENT GRADE CORPORATES

A major advantage of bank loans is their floating rates, which allow holders to receive higher interest payments as rates rise. The interest paid is generally determined by a specified spread above Libor, but approximately 92% of the bank loan market (based on the S&P/LSTA U.S. Leveraged Loan Index) has a Libor floor. Though floor rates can vary by issue, the average is 1%. Libor has been below this floor rate for some time, so investors haven't benefited from the rise in Libor so far.

A small segment of the corporate bond market also pays interest income tied to Libor, and investors in money market instruments, such as commercial paper, the corporate equivalent of a Treasury bill, have been benefiting. The average yield on 90-day AA-rated financial company commercial paper is 0.75% as of August 29, 2016, according to Fed data. The average yield held at roughly 0.55% through June 2016 before matching the recent increase in 3-month U.S. Libor.

CONCLUSION

There are several potential drivers of the recent rise in Libor, though banking fears are not one of them. It remains to be seen if the increase will stick, but if Libor starts to drop following the implementation of money market reform in mid-October 2016, it may be a sign that the increase was a transient event. However, if rates don't fall, or at least reconnect with Fed rate hike expectations, it may be an indication that benchmark regulations are a more important driver. Such a structural change would be more likely to persist and may have a greater impact on financial markets, especially for those who hold adjustable rate products such as floating rate bonds or for those who carry adjustable rate mortgages. ■

Floating rate bank loans are loans issued by below-investment-grade companies for short-term funding purposes, with higher yield than short-term debt, and involve risk. These lower-quality debt securities involve greater risk of default or price changes due to potential changes in the credit quality of the issuer.

IMPORTANT DISCLOSURES

The opinions voiced in this material are for general information only and are not intended to provide specific advice or recommendations for any individual. To determine which investment(s) may be appropriate for you, consult your financial advisor prior to investing. All performance reference is historical and is no guarantee of future results. All indexes are unmanaged and cannot be invested into directly.

The economic forecasts set forth in the presentation may not develop as predicted and there can be no guarantee that strategies promoted will be successful.

Bonds are subject to market and interest rate risk if sold prior to maturity. Bond values and yields will decline as interest rates rise, and bonds are subject to availability and change in price.

Government bonds and Treasury bills are guaranteed by the U.S. government as to the timely payment of principal and interest and, if held to maturity, offer a fixed rate of return and fixed principal value. However, the value of fund shares is not guaranteed and will fluctuate.

International debt securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical and regulatory risk, and risk associated with varying settlement standards. These risks are often heightened for investments in emerging markets.

A credit default swap (CDS) is designed to transfer the credit exposure of fixed income products between parties. The buyer of a credit swap receives credit protection, whereas the seller of the swap guarantees the credit worthiness of the product. By doing this, the risk of default is transferred from the holder of the fixed income security to the seller of the swap.

Corporate bonds are considered higher risk than government bonds but normally offer a higher yield and are subject to market, interest rate, and credit risk as well as additional risks based on the quality of issuer coupon rate, price, yield, maturity, and redemption features.

Commercial paper are unsecured promissory notes for a specified amount to be paid at a specified date, and are issued by finance companies, banks, and corporations with excellent credit. They are issued at a discount, with minimum denominations of \$100,000. The main purchasers are other corporations, insurance companies, commercial banks, and mutual funds. Because commercial paper is usually sold in round lots of \$100,000, very few retail investors buy paper.

INDEX DESCRIPTIONS

The S&P/LSTA Leveraged Loan Index (LLI) is a capitalization-weighted syndicated loan index based upon market weightings, spreads and interest payments. It covers the U.S. market back to 1997 and currently calculates on a daily basis.

This research material has been prepared by LPL Financial LLC.

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