

The Dynamics of Quarter-End Investing for Money Market Funds

If you are a frequent investor in money market funds, you may have noticed that making large deposits over quarter-end periods can sometimes be a challenge. That challenge is a result of decreased supply from broker / dealers and issuers of overnight investment products, combined with increased demand from money market fund managers and short-term investors for those same investments. Those dynamics are the result of a stringent regulatory environment for many of the industry's issuers.

Quarter ends are a key financial reporting date for banks, broker / dealers and issuers of overnight investment products. Reported financial statements represent an overview of a company's financial health at quarter end. Firms manage their balance sheets to enhance certain capital / leverage ratios and other key financial metrics that the regulators and the general public analyze to determine their financial strength. Ultimately, the exercise of quarter-end balance sheet management will limit the short-term investment options that money market fund managers utilize on a day-to-day basis. The quarter end dates that are significant for money market fund investing are the last business days of March, June, September and December, with June and December being the most challenging.

Reverse Repo Program – A Big Influence on Quarter-end Dynamics

In the second half of 2013, the Federal Reserve (Fed) started to meaningfully test its Reverse Repurchase Agreement (RRP) Program operations. Since then, the Fed has implemented a combination of tests, changing the various inputs to observe the different results on market rates. Since December 17, 2015, daily supply challenges for money fund managers have been largely muted, due to a significant increase in the Fed's daily RRP operations. Working in tandem with an increase in the Interest Rate on Excess Reserves and the Fed Funds Rate, the Fed significantly increased the amount of overnight repo available to eligible counterparties through its RRP to equal the value of the Treasuries held in the System Open Market Account (SOMA). It is estimated this will equate to roughly \$2.0 trillion of daily repo availability through the RRP. Since October 2017, the Fed has been gradually reducing the amount of treasuries in the SOMA, however we expect the supply of treasury securities available through the RRP will be adequate to support short term rates for the foreseeable future.

The basic terms of the daily Fed reverse repo auction remain the same as they have been since January 2015. There is a daily Dutch auction with a \$30 billion limit per counterparty. On days when market demand is less than the value of the securities held in the SOMA, all bidders will have their orders filled at the maximum stated yield of 150 basis points. In the unlikely event bids exceed the value of the securities held in the SOMA, the auction will then convert to a Dutch auction. Repo will be allocated to the lowest bidders and divided pro-rata at the stop-out rate. If a fund manager's conditional bid rate is too high, they could end up with a lower allocation than expected, or even no allocation. This presents the fund manager with the risk of large amounts of un-invested cash on the last day of the quarter when there is very little in the way of investment options. Typically, daily Fed reverse repo auctions end at 12:15 p.m. central time (CT); however, on quarter ends, they sometimes run



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the auction at 9:00 a.m. CT. As is typical with all quarter ends, we expect investment options to be scarce, so getting large unexpected deposits invested after the Fed reverse repo auction is completed could be challenging. Quarter-end supply across all asset classes diminishes in the face of stringent and increasing financial industry regulation. In the face of reduced supply, we expect that the market's dependency on the Fed RRP will rise.

Early Investor Notification of Large Purchases Essential

It is very critical for investors to understand that early notification of large purchases or redemptions is essential for fund managers to effectively manage the portfolios and minimize the potential risk of costly end of day cash imbalances. We expect the March 2018 quarter-end to be a challenge like other quarter ends, as dealer and issuer balance sheet constraints will create temporary – yet significant – supply shortage in the short end of the market. Once the Fed RRP operations are complete, funds managers' access to overnight investment options will be greatly diminished. As with most quarter ends, money fund investments such as discount notes, T-bills, commercial paper, dealer Repo, certificates of deposit and time deposits are expected to be scarce on the last day of the quarter. In addition, money market fund managers are very reluctant to purchase securities with yields at artificially low levels, which could negatively impact portfolio yield and other portfolio metrics – specifically weighted average maturity (WAM), weighted average life (WAL) and liquidity measures – well beyond quarter end.

Although the Fed has significantly increased the amount of repo it supplies to the market, any large unexpected deposits made after the Fed RRP auction closes leaves managers at risk of having un-invested cash when the fund closes. Although it is every fund manager's goal to accommodate all purchase requests, there could be situations in which late or large deposit requests cannot be accepted. We expect this to be largely a quarter-end phenomenon. However, the supply dynamics could be in place on any business day to potentially make late and large deposits an investment challenge.

It is important to remember that un-invested cash in money market funds ultimately means undesirable short-term deposits for custodial banks. Money market fund custodians are now required to comply with more stringent and costly regulatory requirements and are hesitant to house un-invested cash. In rare instances, money market funds could be charged penalty fees for un-invested balances ending up on the balance sheets of their custodial banks. In many cases, money market funds will earn a 0.0% yield on the un-invested balances which has a negative impact on portfolio yields that becomes more noticeable as interest rates rise. In short, un-invested cash balances in a money market fund can be detrimental to the fund's shareholders. This can make money market fund managers apprehensive about accepting large late-day deposits they are not certain can be fully invested.

Conclusion

In summary, even though the Fed has supplied the market with additional capacity, traditional quarter-end supply pressures still exist and a more stringent regulatory environment has non-RRP investment options limited over key reporting periods. The additional supply provided through the RRP will make it easier for fund managers to accept most large deposit requests made prior to the daily Fed RRP auction close (12:15 CT). With the cooperation of fund investors and early notifications of known transactions, fund managers can manage the portfolio more efficiently to benefit all fund shareholders. However, market supply dynamics increase the possibility that unexpected large, late deposit requests may not get invested. It is important to understand that each money market fund is impacted differently by large quarter-end deposits based on size, type, prospectus guidelines, rating agency requirements and eligible investments.

Sources

Federal Reserve Bank of New York website, “FAQs: Overnight Reverse Repurchase Agreement Operational Exercise,” 16 December 2015, (http://newyorkfed.org/markets/rrp_faq.html).

Federal Reserve Bank of New York website - Operating Policy “Statement Regarding Term Reverse Repurchase Agreements”, December 16, 2015. (http://www.newyorkfed.org/markets/opolicy/operating_policy151216a).

Federal Reserve Bank of New York website, “System Open Market Account Holdings”, March 14, 2018, (https://www.newyorkfed.org/markets/soma/sysopen_accholdings.html).



Definitions

Balance sheet is a detailed listing of assets, liabilities and capital accounts (net worth), showing the financial condition of a bank or company as of a given date.

Basis Point (bps) is one one-hundredths of a percentage point. This term is often used in describing changes in interest rates. For example, if a bond yield increases from 7.50% to 7.88%, it has moved up 38 basis points.

Capital/leverage ratios measure a company's profitability.

Certificate of deposit (CD) is a formal receipt issued by a bank for a specified amount of money left with the bank. CDs commonly bear interest, in which case they are payable at a specified future date or after a specified minimum notice of intent to withdraw. Some CDs are noninterest-bearing.

Commercial Paper refers to short-term obligations with maturities ranging from 2 to 270 days issued by banks, corporations, and other borrowers.

Counterparty is the other party that participates in a financial transaction. Every transaction must have a counterparty in order for the transaction to go through. More specifically, every buyer of an asset must be paired up with a seller that is willing to sell and vice versa.

Discount Note is a short-term debt obligation issued at a discount to par. Discount notes are similar to zero-coupon bonds and Treasury bills and are typically issued by government-sponsored agencies or highly rated corporate borrowers. Discount notes do not make interest payments; instead the bond is matured at a par value above the purchase price, and the price appreciation is used to calculate the investment's yield.

Dutch Auction is a public offering auction structure in which the price of the offering is set after taking in all bids and determining the highest price at which the total offering can be sold. In this type of auction, investors place a bid for the amount they are willing to buy in terms of quantity and price.

Fed Reverse Repo Facility is a transaction whereby the Fed sells Treasury or agency securities to an approved counterparty with an agreement to purchase them back from the same counterparty at a specified price and date in the future.

Federal Reserve is the central banking system of the U.S. Its primary purpose is to regulate the flow of money and credit in the country.

Repurchase agreement (repo) is an agreement between two parties whereby one party sells the other a security at a specified price with a commitment to buy the security back at a later date for another specified price. Most Repos are overnight transactions.

Stop-out rate is the highest yield or the lowest price that the U.S. Treasury will accept when conducting an auction of Treasury securities.

System Open Market Account (SOMA) is an account that is managed by the Federal Reserve Bank, containing assets acquired through operations in the open market.

Time deposit is an account which carries a specific maturity date, with limitations on withdrawals before that date.

Treasury Bill (T-Bill) is a short-term debt obligation backed by the U.S. government with a maturity of less than one year, commonly one month, three months, or six months.

Weighted Average Life, also known as Weighted Average Final Maturity, (WAL) is the average time to maturity of all the securities held in the portfolio, weighted by each security's percentage of total investments. Unlike WAM, the WAL calculation takes into account the final maturity date for each security held in the portfolio. WAL measures a fund's sensitivity to potential credit spread changes.

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