

# Putting Risk Under the Microscope

Now More Than Ever, Investors Need to Evaluate the Risks in Money Market Funds

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Over the past several years, money market fund investors have been barraged by market disruptions ranging from the fall of Lehman Brothers and the subsequent collapse of the Reserve Primary Fund to the Greek debt crisis and fears of wider contagion in Europe. Little wonder, then, that 77% of treasury professionals recently surveyed by the Association of Financial Professionals cited principal protection as their top priority, while almost 80% reported they were keeping the vast majority of their cash in historically “safe” bank deposits, government debt and money market funds.

Given their heightened risk aversion, it only makes sense that investors would emphasize traditionally stable investments. Yet for all of their sensitivity to risk, many investors place significant sums in money market funds — a key component of many cash investment programs — without fully vetting the funds’ risks. Some may avoid that exercise because they’re daunted by the challenges inherent in parsing portfolio risk. Others may believe that enhanced regulations limiting risk-taking by fund managers obviate the need to conduct such due diligence. The reality, however, is that both the amount and type of investment risk vary from fund to fund, and with headline risk roiling the financial markets, you need to understand the risks you’re assuming when you invest in a money fund.

## DISSECTING RISK IN MONEY MARKET FUNDS

When we speak of evaluating a money market fund’s “risk,” we’re talking primarily about assessing the three major components of portfolio risk — **credit risk, liquidity/redemption risk and interest rate risk**. The major drivers of performance and portfolio volatility, these risks can be difficult to analyze because they are increasingly inter-connected. That said, it is vital to conduct at least a rudimentary analysis of them when screening funds for your investment portfolio. This is especially true during

the current low-rate environment, which could incent fund managers to take on additional risk to boost yield.

### CREDIT RISK

In the fixed income space, credit risk refers to the probability of an issuer defaulting on principal or interest payments or of suffering a credit rating downgrade that would decrease the value of its outstanding debt. An obvious example of a security with high credit risk is the sovereign debt of Greece, which investors fear is in danger of default due to the country’s deteriorating finances and anemic economy. In contrast, Germany is considered to have much lower credit risk — as evidenced by its stronger credit rating and lower risk premium relative to that of Greek issues.

A money market fund’s credit risk is a function of the credit quality of its individual holdings. A fund with a heavy allocation to U.S. Treasuries, federal agency debt and AAA-rated U.S. corporate debt typically would be considered less risky than a fund with a smaller allocation to those securities and a larger exposure to credits with a higher risk of default or downgrade, such as Irish and Spanish sovereign debt or Eurozone banks with large exposures to the sovereign debt of those countries.

The risk of default or downgrade is but one facet of credit risk. A more subtle and somewhat more arcane element of credit risk is “duration of credit risk.” The key measure of a fund’s duration of credit risk is its weighted-average life

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(WAL), which reflects the weighted-average final maturity of all the securities in the fund's portfolio. All things being equal, a money market fund portfolio with a long WAL is more risky than one with a shorter WAL because in the event of significant spread widening, the former would be more vulnerable to declines in the prices of its holdings. It also would be less able to quickly reallocate to more defensive credit sectors. For example, when spreads widened between April and June 2010 on concerns about European sovereign debt levels, funds with shorter WALs were better positioned than those with longer WALs to rapidly reallocate their holdings from Eurozone bank debt to Canadian, Australian, Scandinavian or U.S. bank issues.

**Figure 1**

Fund A	Fund B
<ul style="list-style-type: none"> <li>■ No floating-rate notes</li> <li>■ 85% of portfolio due to mature within 90 days</li> <li>■ 50% of portfolio due to mature within 30 days</li> <li>■ Weighted average life: 63 days</li> </ul>	<ul style="list-style-type: none"> <li>■ 25% of portfolio in floating-rate notes maturing in 6 to 12 months</li> <li>■ 75% of portfolio due to mature in 90 days</li> <li>■ 40% of portfolio due to mature in 30 days</li> <li>■ Weighted average life: 104 days</li> </ul>

The figure above is intended for illustrative purposes only and is not meant to be a recommendation to buy or sell any particular security.

To gain a sense of how duration of credit risk can impact a portfolio, consider the illustrative portfolios presented in figure 1. Fund A has no floating rate notes, investing primarily in a mix of fixed-rate commercial paper and negotiable certificates of deposit. Approximately 85% of its holdings are scheduled to mature within 90 days, and 50% are due to mature in 30 days. Its WAL is 63 days. Fund B has the same credits but features a “barbelled” structure with 75% of the portfolio scheduled to mature within 90 days and 40% set to mature in 30 days. Nearly 25% of the portfolio consists of floating-rate securities maturing in six to 12 months. Its WAL is 104 days. If a market or credit event were to trigger a significant spread widening, i.e., a large drop in asset prices, and loss of liquidity, Fund A would be better positioned than Fund B for several reasons:

- It would have less downward pressure on its market-based net asset value (NAV), i.e., its “shadow” NAV.
- It would be able to more rapidly mature out of underwater (at a loss) paper, thereby helping to stabilize its NAV.

- It would be able to more quickly reallocate to sectors deemed to be of lesser risk.
- It theoretically would be exposed to the risk of downgrade or default for a shorter period of time because of its lower duration of credit risk.

Recognizing the impact duration of credit risk has on the stability of money market funds, the Securities and Exchange Commission (SEC) and the Institutional Money Market Fund Association (IMMFA), which establishes guidelines for rated European money market funds, have limited the maximum WAL to 120 days. Additionally, the SEC pared the amount of credit risk funds can assume by reducing the maximum amount of Tier II paper they can hold to 3% of total assets and by limiting the maturity of that paper to 45 days or less.

#### LIQUIDITY/REDEMPTION RISK

Liquidity/redemption risk measures the probability of a fund being able — or unable — to meet investor redemptions when requested. To effectively evaluate a money market fund's liquidity risk, you must review several key metrics:

- The absolute levels of daily and weekly liquidity
- The ratio of daily and weekly liquidity to the sum of the fund's largest shareholders (shareholder concentration)
- The liquidity characteristics of the fund's holdings
- The fund's WAL

Daily and weekly liquidity clearly are important because they provide the cash necessary to meet redemptions. That said, absolute levels of available liquidity are not the best metric of a fund's liquidity risk because that measure does not capture the probability of a significant liquidity drawdown due to large redemptions. As such, the better indicator of liquidity/redemption risk is the ratio of daily/weekly liquidity to the combined positions of the fund's largest shareholders. Ideally a fund's daily and weekly liquidity would match — or at least come close to matching — the total assets of a fund's top three to five shareholders.

The problem you face as you try to assess a fund's liquidity/redemption risk is the lack of transparency with regard to shareholder concentration. Fund managers are not required to disclose the size of their largest shareholders' investments, making it difficult to evaluate a fund's vulnerability to large redemptions. As such, the best you

can do when attempting to gauge a fund's liquidity/redemption risk is to scrutinize readily available liquidity metrics — weekly and daily liquidity (discussed above), the liquidity characteristics of the fund's holdings, and its WAL.

A fund's liquidity profile will reflect, to some degree, the liquidity profile of its holdings. If, for example, a fund has a large allocation to widely traded assets for which there is a deep market — U.S. Treasuries and high-quality corporates come to mind — it likely would be viewed as having better liquidity than a fund with large exposures to less liquid assets. (This assumes that other drivers of liquidity — shareholder concentration, for example — are the same for both funds.) In addition, money market funds may have an allocation to securities that are very liquid, e.g., federal agency coupon notes, but not liquid enough in the view of the SEC to meet the agency's definition of a security offering overnight or weekly liquidity.

Another important metric of a fund's liquidity is its WAL, which, again, is the weighted-average final maturity of the securities in the fund's portfolio. Portfolios with short WALs, say 60 days, likely would have a large exposure to short-dated notes, i.e., those with 30-, 60- and 90-day maturities. Additionally, portfolios with relatively low WALs tend to have less exposure to floating-rate securities, notes that reset to the interest rate of a daily, monthly or quarterly index. Generally, portfolios with a lower WAL are considered to be more liquid than those with a higher WAL because the securities in the former would be maturing sooner than those in the portfolio with a longer WAL. In addition, the portfolio with a shorter WAL theoretically would have a smaller exposure to floating-rate notes, which are slightly less liquid than short-dated commercial paper or Yankee certificates of deposit.

To get a better sense of how redemption risk can vary from portfolio to portfolio, consider two funds with the same levels of overnight and weekly liquidity presented in figure 2.

Figure 2

Fund A	Fund B
<ul style="list-style-type: none"> <li>■ 10% of portfolio in federal agency coupon notes</li> <li>■ 10% of portfolio in non-financial commercial paper</li> <li>■ 85% of portfolio due to mature within 90 days</li> <li>■ 50% of portfolio due to mature within 30 days</li> <li>■ Weighted average life: 60 days</li> </ul>	<ul style="list-style-type: none"> <li>■ 2% of portfolio in federal agency coupon notes</li> <li>■ 3% of portfolio in non-financial commercial paper</li> <li>■ 73% of portfolio due to mature within 90 days</li> <li>■ 40% of portfolio due to mature within 30 days</li> <li>■ Weighted average life: 96 days</li> </ul>

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In Fund A, 50% of the holdings mature in 30 days and 85% in 90 days, while 40% of Fund B's holdings mature in 30 days and 73% within 90 days. Fund A's WAL is 60 days, while Fund B has a WAL of 96 days. Fund A has 10% of its assets in federal agency coupon notes and 10% in nonfinancial commercial paper. By comparison, Fund B has 2% of its assets in federal agency coupon notes and 3% in nonfinancial commercial paper. In this scenario, Fund A would be better positioned in terms of liquidity/redemption risk — all else being equal — because its holdings naturally would be maturing sooner than those in Fund B. Fund A also has larger holdings of the liquid federal agency coupon notes and nonfinancial paper, giving it the advantage should the funds need to generate cash quickly during a distressed market.

Recognizing the importance of liquidity, especially during volatile markets, the SEC increased its minimum requirements for overnight and weekly liquidity to 10% and 30%, respectively, while IMMFA upped its overnight and weekly liquidity requirements to 10% and 20%, respectively. The SEC also reduced the maximum allocation to illiquid securities from 10% of total assets to 5%, and it established a know-your-investor mandate, which requires money market funds to take into account the nature of their client base and potential redemption activity when determining their liquidity needs. A significant concentration of “hot money” accounts (characterized by frequent redemptions) and lack of advance notice regarding redemptions could require funds to maintain more liquidity than the requirements referenced above mandate.

## INTEREST RATE RISK

Interest rate risk refers to the probability of a security's (or a portfolio's) value rising or falling due to a change in absolute rates or a change in the relationship among rates. For purposes of illustration, assume the Federal Reserve increases the federal funds rate by 50 basis points. The price of existing short-term debt would drop because investors theoretically would sell their holdings to swap into new credits offering yields that reflect the Fed's rate increase.

The primary metric of a money market fund's interest rate risk is its weighted-average maturity (WAM), which measures the average time until the holdings in a fund portfolio can reset to higher levels, either because the portfolio's floating-rate securities reset or because its other credits mature. The lower the WAM, the faster a fund manager can reinvest in higher-yielding securities. As such, a portfolio with a lower WAM than that of another fund would be considered less vulnerable to a sudden change in rates because it could more quickly reset its portfolios to higher market rates.

For fund managers, it is extremely important to reset a fund's portfolio to higher market rates as soon after a rate increase as possible, to head off the heavy redemption activity that could occur if shareholders decide to liquidate their investments to swap into higher-yielding alternatives. High redemption activity, in turn, makes it more difficult for the manager to reset the portfolio because liquidity that ideally would fund the purchase of higher-yielding securities must instead be used to fund redemptions. It also could force the manager to sell securities before they mature at below amortized cost to meet the redemptions. This could precipitate a drop in the portfolio's "shadow" NAV, which reflects the mark-to-market prices of its holdings. Large deviations in the fund's shadow NAV could generate even more redemptions.

It is particularly important for the managers of *institutional* money market funds to reset their portfolios because institutional investors tend to react more quickly than individual investors to changes in their funds' yields. Indeed, a change in yield of just a few basis points can prompt institutional investors to initiate large redemptions to fund purchases of individual securities with higher yields or to invest in higher-yielding funds. Large redemptions can force a fund manager to sell off its shorter-dated securities to meet the redemptions, making it all the more difficult for the manager to reset the portfolio.

## Don't Miss The Obvious

Not all investors have the wherewithal to conduct detailed analysis of the risks embedded in a given money market fund. Those investors still can get a sense of the fund's risk profile and its potential vulnerability to market turmoil by reviewing three important but relatively transparent variables:

**Rated or unrated:** In the money market fund universe, there are rated funds — whose credit quality is independently evaluated by Moody's Investors Service, Standard & Poor's and/or Fitch Ratings — and unrated funds, whose portfolios are not subject to the scrutiny of the credit rating agencies. All things being equal, a money fund rated Aaa/AAA/AAA by Moody's, S&P and Fitch, respectively, should give investors additional comfort simply because a third party is reviewing the credit quality of its holdings. Moreover, managers of rated funds must hew to rating agency restrictions regarding ownership of a credit that has been downgraded or is under review for downgrade. To protect their Aaa/AAA ratings, a fund might need to sell a downgraded security (or one vulnerable to a downgrade); acquire a letter of guaranty/support from the fund sponsor; or have the sponsor purchase the security directly. Similarly, a fund could lose its Aaa rating from Moody's Investors Service if the rating agency believes the ratio of daily liquidity to shareholder concentration is too low. Moody's requires that the ratio of a fund's daily liquidity to the three largest shareholders' combined investment be 90% or better. If the ratio dips below that floor, the fund might need to increase its daily liquidity to preserve its Aaa rating.

**Gross yield:** Over the past two years, the Securities and Exchange Commission (SEC) and the Institutional Money Market Fund Association, which establishes investment guidelines for rated European money market funds, have reduced the amount of portfolio risk rated money market funds can assume. That, in turn, has narrowed the variation of yields delivered by fund managers. Therefore, if you see that a fund is significantly outperforming its competitors during a stable rate/spread environment, that fund manager likely is assuming additional risk to fuel that outperformance. Be wary of claims that the outperformance stems from pure alpha generation, as it is unlikely that a manager can deliver strong outperformance (more than 3 to 5 basis points of additional yield relative to the industry average) without assuming additional investment risk. It is important to note that strong outperformance when rates are rising or falling significantly may not signal undue risk taking; instead it may be the result of a shorter or longer WAM relative to the movement in rates.

**Shadow NAV:** As part of its overhaul of Rule 2a-7 under the Investment Act of 1940, the SEC mandated more frequent reporting of funds' "shadow" net asset value (NAV) per share, which reflects the mark-to-market price of the funds' securities. It is not unusual for a fund's shadow NAV to dip slightly below \$1, perhaps by a couple of basis points, but larger swings in a fund's NAV could mean it is less attractively positioned with regard to credit risk, liquidity/redemption risk or interest rate risk. It also could trigger high redemption activity, potentially putting greater pressure on the prices of the fund's holdings. In short, the shadow NAV is the ultimate measure of a fund manager's ability to achieve portfolio stability.

## LOOKING BEFORE YOU LEAP

Prior to the global financial crisis, most investors believed money market funds were as much a safe haven during volatile markets as U.S. Treasuries. The breaking of the buck by the Reserve Primary Fund and the subsequent run on money funds in 2008 reminded them that no investment — not even a money fund — is inherently “safe.” Today many investors assume that the more stringent regulations imposed upon fund managers over the past two years have all but eliminated risk differentials among funds. That notion could well become a casualty of the next crisis as investors learn the hard way that the risk appetites of fund managers still vary. The fact remains that when weighing your investment options, you still need to ascertain the amount and composition of funds’ portfolio risk. To do less is to risk discovering during the next market disruption that your fund manager’s tolerance for risk is not in sync with your own.

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Dale Albright is a managing director and head of portfolio management for money market funds at BofA Global Capital Management. Mr. Albright’s responsibilities include supervising a team of portfolio managers and managing money market funds. Mr. Albright joined a former Bank of America affiliate in 2008 and has been a member of the investment community since 1985.

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