

## Money Market Funds' "Shadow Prices" Fluctuate Regularly; Historical Data Show Limited Movement

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## A Variety of Factors Can Affect Funds' Portfolios

Washington, DC, January 25, 2011 - Forthcoming disclosures are likely to increase investors' awareness of money market funds' portfolios and pricing. To help investors understand these disclosures, a new research report by ICI, *Pricing of U.S. Money Market Funds*, conducts economic analysis and examines historical data on funds' per-share market value, known as the "shadow price."

The ability to offer shares at a stable \$1.00 net asset value (NAV) is a core feature of money market funds. Under securities laws, a money market fund can offer shares at a stable \$1.00 NAV as long as its per-share market value, also known as its "shadow price," stays within a range of one-half cent of \$1.00—between \$0.9950 and \$1.0050.

The report finds that events large enough to move per-share market values by \$0.0050 are extremely rare. The report's economic analysis shows that four factors likely to change a fund's market value are falling or rising interest rates, a portfolio's dollar-weighted average maturity, investors selling or purchasing shares, and a credit event, such as a ratings upgrade or downgrade or a default, affecting a security in the fund's portfolio.

The report's examination of historical data finds that money market funds' shadow prices did fluctuate during the past decade, but that the changes were within a narrow range. Analyzing a sample of prime money market funds holding one-quarter of industry assets, the report finds that the funds' average per-share market value moved between \$0.9980 and \$1.0020 during the decade from 2000 to 2010, a period when the financial markets experienced wide variations in interest rates and asset prices.

"Money market funds' per-share market values can and do deviate from \$1.0000, but these changes are typically small," said ICI Chief Economist Brian Reid. "Money market funds hold high-quality, short-term securities and manage their portfolios to limit interest rate risk, credit risk, and liquidity risk. These factors help to limit the movements in funds' shadow prices."

## January 31 Publication of "Shadow Price" Snapshots Will Be First Exposure for Many Investors

Money market funds have routinely calculated per-share market values for decades and disclosed them in semi-annual reports. These values are called shadow prices because they typically very closely track or "shadow" the stable \$1.00 net asset value that money market funds seek to maintain. Nevertheless, for many investors, their first exposure to money market funds' per-share market values will be on January 31, when the Securities and Exchange Commission will publish a snapshot of funds' shadow prices from November 30. The new monthly disclosure is required by the Securities and Exchange Commission's amendments in January 2010 to Rule 2a-7, the regulation that governs money market funds and sets the structure that allows them to offer a stable \$1.00 NAV.

"Money market funds are even better positioned today than they were two years ago to handle stressful market developments. This is because the amendments to Rule 2a-7 strengthened money market funds by raising standards for credit quality, liquidity, and maturity," said ICI President Paul Schott Stevens. "While regulations and portfolio management limit funds' risk, investors need to understand that money market funds are not guaranteed, as is fully disclosed in every money market fund prospectus. We hope that the public release of shadow pricing data will remind the public of that fact."

## Modeling Factors that Affect Per-Share Market Values

ICI research finds that large, sudden changes in market conditions are necessary before a money market fund's market value would

change by as much as \$0.0050 and force the fund to consider whether to reprice its shares to less or more than \$1.00 per share—a development known as “breaking the dollar” or “breaking the buck.”

ICI modeling, based on reasonable assumptions about money market funds’ portfolio composition and maturity, finds that:

- Short-term interest rates must rise by more than 300 basis points (3 percentage points) in one day, absent any other changes in market conditions, to reduce a fund’s per-share market value to \$0.9950.
- Investor net redemptions must reach 80 percent of a fund’s assets to reduce a fund’s shadow price to \$0.9950, absent any other changes in market conditions, and given an initial shadow price of \$0.9990.
- A 100 basis point (1 percentage point) increase in interest rates combined with investor redemptions of 70 percent of a fund’s assets would be necessary to reduce a fund’s shadow price to \$0.9950.

## Historical Data Shows Such Extreme Market Events and Conditions Are Rare

Large, sudden changes in interest rates or large investor net redemptions are rare. Historical data show that:

- During a 29-year period, interest rates increased by 100 basis points (1 percentage point) in a single day just once—on February 1, 1982. On 98 percent of all days between 1982 and 2010, short-term interest rates changed (up or down) by 25 basis points or less. Over longer periods, changes in short-term interest rates also tend to be small: interest rates changed by 25 basis points or less (up or down) in 63 percent of 30-day periods.
- Between 1996 and 2010, investor net redemptions from taxable money market funds in a single week exceeded 20 percent of a fund’s assets in fewer than 1 percent of instances. Over four-week periods, redemptions exceeded 20 percent of assets in fewer than 2.5 percent of instances.

## Credit Events Also Affect Per-Share Market Values

Credit events affecting securities held by a money market fund can have a small or large effect on the fund’s shadow price, depending on the nature of the event. Money market fund managers monitor the credit quality of their portfolios closely to avoid holding securities that may default. Modeling demonstrates that:

- A money market fund’s shadow price can withstand large increases in the interest rate on a single security. For a security that comprises 5 percent of a fund’s portfolio, a 400 basis point increase in its interest rate—which might be caused by a credit rating downgrade—will reduce a fund’s shadow price by only 5 basis points, from \$1.0000 to \$0.9995. The impact on the shadow price is muted by Rule 2a-7’s diversification requirements, which allow a money market fund to invest no more than 5 percent of its portfolio with a single issuer.
- A default by an issuer held in a money market fund’s portfolio can have a more significant impact on a money market fund’s shadow price. For example, a default in a security that comprises 1.25 percent of a fund’s portfolio can reduce the fund’s shadow price to \$0.9950 or below if the default reduces the security’s value by 40 percent or more (to 60 cents on the dollar or less).

## Historical Data Demonstrate Market Factors’ Impact

ICI gathered weekly shadow prices from 53 taxable money market funds that hold in aggregate one-quarter of industry assets for that type of fund. The data show that average shadow prices for all taxable funds in the sample ranged from \$1.0020 in 2001–2002, when the Federal Reserve reduced interest rates sharply, to \$0.9990 in the fall of 2008, at the peak of the financial crisis.

Average shadow prices for prime money market funds in the sample—those taxable funds that invest in corporate securities as well as government securities—varied between \$1.0020 and \$0.9980 during the decade from 2000 to 2010.

## Shadow Prices Unlikely to Provide “Early Warning”

Experience during the 2008 financial crisis demonstrates that money market funds’ shadow prices did not provide early warning of severe financial shocks. In the week ending September 10, 2008—two business days before the failure of Lehman Brothers—90 percent of prime money market funds in the sample had per-share market values within 5 basis points of \$1.0000 (between \$0.9996 and \$1.0005). Even the following week, after Lehman Brothers had failed, 93 percent of prime funds in the sample had per-share market values greater than \$0.9975, and none had a shadow price within 10 basis points of \$0.9950.

## Definitions: Stable NAV, Amortized Cost, Shadow Prices, ‘Breaking the Buck’

Money market funds, unlike other mutual funds, seek to maintain a stable \$1.00 per share [net asset value \(NAV\)](#), which is a fund’s price per share. The Securities and Exchange Commission imposes strict risk-limiting provisions governing the credit quality, liquidity, diversification, and maturity of portfolio securities of all money market funds. Virtually all money market funds use [amortized cost](#) to

value the securities they hold. Amortized cost is the book value of a security—the price a fund paid for the security as adjusted over time for accounting changes in any premium or discount.

Under securities laws, money market funds are required to periodically calculate their portfolios' value per share at market prices, known as the per-share market value or "[shadow price](#)," to compare it to the stable \$1.00 NAV. If the shadow price deviates from \$1.0000 by more than one-half cent, the fund's board must promptly consider what actions, if any, should be taken, including whether the fund should stop using the amortized cost method of valuation and reprice its shares, an event known as "[breaking the dollar](#)" or "breaking the buck."

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