Moody’s Revised Money Market Fund Rating Methodology and Symbols

In this report, we present our revised rating methodology for rating money market funds. The analytical framework uses a set of objective measures to assess portfolio credit quality as well as market and liquidity risks in stress scenarios in order to differentiate among funds. In addition, we are introducing a new set of rating symbols and definitions that better address the unique risks of money market funds and distinguish our money market fund ratings from our credit ratings. This new rating methodology is scheduled to become effective on 20 May 2011, and all existing money market ratings will be migrated then to the new rating symbols based on the new methodology.

Our revised money market fund rating methodology incorporates market feedback that we received after publishing our Request for Comment on the same subject in September 2010. Once effective, the new methodology will supersede the following principal methodologies as they apply to money market funds: “Moody’s Managed Funds Credit Quality Ratings Methodology” and “Moody’s Money Market and Bond Fund Market Risk Ratings”, both published in 2004.

Reasons for Introducing Revised Money Market Fund Methodology

The introduction of Moody’s revised money market fund methodology reflects experience gained from the tumultuous period in late 2008 when disruptions in short-term funding markets caused market value declines and record outflows from prime money market funds. During this period, a large money market fund – The Reserve Primary Fund – “broke the buck” and suspended redemptions together with funds managed by the same fund family. Many other funds experienced stress within their portfolios and elevated redemptions at the same time, heightening systemic risk. Ultimately, support from the US Treasury, via the introduction of a guaranty fund for money market fund investors, served to stem investor outflows and prevent a disorderly unwind of money market funds.

The financial crisis had a significant impact on investors in money market funds. Some, particularly those invested in Reserve Management Funds, suffered payment delays and principal losses. As a result, investors have become more sensitive to the differences among money market funds and increasingly focused on the wide range of money market fund risks including: 1) vulnerability to market and liquidity risks – despite portfolios consisting of highly-rated assets – in addition to credit risk; 2) susceptibility to redemption risk, particularly if there is a concentrated investor base; 3) the quality and stability of the fund sponsor, whose support was generally forthcoming in the crisis, but not certain.
Moody’s revised money market fund rating methodology better captures these risks by introducing an analytic assessment of two distinct fund factors: Portfolio Credit Profile (the quality of the assets in the portfolio) and Portfolio Stability Profile (including market and liquidity risks in stress scenarios). A set of standardized objective measures will be used in a composite evaluation of these two key factors. By extending our analysis of money market funds in areas that are increasingly important to investors, there will be greater differentiation and transparency than under our existing methodology.

New Rating Symbols and Definitions

We have historically used a slightly modified version of our traditional long-term obligation credit rating scale (Aaa to C) in rating money market funds. However, money market funds are distinct from long-term fixed income instruments in that while they are generally undated, they are typically viewed as short-term investments and investors expect to be able to withdraw their funds on demand. From a strictly legal perspective, money market fund investors own shares that represent an interest in a portfolio of securities.

Given the unique nature of money market funds — that is, investors own shares in the fund yet expect to be able to withdraw their funds on demand — we will rate money market funds based on our opinion of their ability to meet the dual objectives of preserving principal and providing liquidity to holders. A money market fund’s risk will be expressed through rating symbols similar to our current rating symbols and market convention, but will append a “money market fund” or “mf” modifier to highlight the distinct meaning of our money market fund ratings as noted in Figure 1.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aaa-mf</td>
<td>Money market funds rated Aaa-mf have very strong ability to meet the dual objectives of providing liquidity and preserving capital.</td>
</tr>
<tr>
<td>Aa-mf</td>
<td>Money market funds rated Aa-mf have strong ability to meet the dual objectives of providing liquidity and preserving capital.</td>
</tr>
<tr>
<td>A-mf</td>
<td>Money market funds rated A-mf have moderate ability to meet the dual objectives of providing liquidity and preserving capital.</td>
</tr>
<tr>
<td>Baa-mf</td>
<td>Money market funds rated Baa-mf have marginal ability to meet the dual objectives of providing liquidity and preserving capital.</td>
</tr>
<tr>
<td>B-mf</td>
<td>Money market funds rated B-mf are unable to meet the objective of providing liquidity and have marginal ability to meet the objective of preserving capital.</td>
</tr>
<tr>
<td>C-mf</td>
<td>Money market funds rated C-mf are unable to meet either objective of providing liquidity or preserving capital.</td>
</tr>
</tbody>
</table>

In addition to differentiating money market fund ratings from our long-term obligation credit ratings, our new symbol set addresses a requirement under Section 938 of the Dodd-Frank Wall Street and Consumer Protection Act for rating agencies to use distinct symbols for ratings with distinct meanings.

1 Previously, Moody’s Money Market Fund ratings were expressed by using symbols at the broad rating category level without the use of modifiers (e.g., -1, -2, -3). European Constant Net Asset Value (CNAV) funds were rated on the same scale and also assigned an MR1+ symbol to denote their CNAV status.
Overview of Moody’s Revised Money Market Fund Methodology

Our revised methodology combines the assessment of a money market fund’s Portfolio Credit Profile with an evaluation of its Portfolio Stability Profile and reflects consideration of other factors such as sponsor quality, the fund’s management, and legal factors, as described in detail below. The same methodology applies to both constant and variable NAV funds, both in the US and Europe, as long as both fund types pursue the primary objectives of the preservation of principal and providing liquidity on demand.

Portfolio Credit Profile

When benchmarking a fund’s portfolio credit quality, we consider the quality of individual securities in the fund as well as the maturity of those investments, reflecting the view that shorter-dated instruments represent less absolute quantum of risk, all else being equal, than longer-dated instruments (i.e., the cumulative expected credit loss curve is upwardly sloping over time). This analysis is accomplished using Moody’s Credit Matrix, which is a tool that attributes to each security in the portfolio a specified amount of loss that is derived from: 1) its actual or estimated long-term rating; 2) the expected loss associated with that rating over a one-year timeframe using Moody’s long-term idealized loss table; and 3) an adjustment for the security’s remaining maturity if it extends beyond one year. The expected loss for each security is aggregated and corresponds to a theoretical bond rating, which we compare to a benchmark 12-month security at the same rating level.2

A schematic showing how, for the purpose of benchmarking a portfolio’s credit profile, the expected loss associated with a given security’s rating is adjusted for its maturity can be seen in the diagram below. For example, an Aa3-rated security with a 90-day remaining maturity is estimated to represent a similar amount of expected loss as that of an Aa1-rated security with a one-year remaining maturity.

FIGURE 2

Deriving Portfolio Credit Profile

<table>
<thead>
<tr>
<th>Underlying Security Maturity (Days)</th>
<th>Aaa</th>
<th>Aa1</th>
<th>Aa2</th>
<th>Aa3</th>
<th>A1</th>
<th>A2</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa1</td>
<td>Aa2</td>
</tr>
<tr>
<td>60</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa2</td>
</tr>
<tr>
<td>90</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa3</td>
</tr>
<tr>
<td>120</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa2</td>
</tr>
<tr>
<td>180</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa3</td>
<td>A1</td>
</tr>
<tr>
<td>270</td>
<td>Aaa</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa3</td>
</tr>
<tr>
<td>1 Year</td>
<td>Aaa</td>
<td>Aa1</td>
<td>Aa2</td>
<td>Aa3</td>
<td>A1</td>
<td>A2</td>
</tr>
<tr>
<td>2 Year</td>
<td>Aa2</td>
<td>Aa3</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>Baa1</td>
</tr>
</tbody>
</table>

Note: The chart is based on Moody’s Credit Matrix. It assumes that each asset with a maturity below the 12-month benchmark will be reinvested in instruments with the same rating and be rolled to the 12-month point. Assets maturing beyond 12-months are assessed at their respective maturities.

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2 We previously used a benchmark 13-month security, based on the Rule 2a-7 requirement that the maturity of a fund’s assets not exceed 397 days. As part of the new methodology, we have changed the benchmark to 12 months, which is more consistent with the 12-month benchmark within our long-term rating spectrum. In any event, the difference between the results under a 12-month benchmark and a 13-month benchmark is minor.
The use of the Credit Matrix in the revised methodology is consistent with the approach we have historically used with one adjustment. In the revised methodology, it is assumed that each asset, at maturity, will be reinvested in instruments with the same rating and remaining maturity resulting in greater portfolio expected loss than previously. This continual rollover assumption is more conservative than the liquidation assumption previously used, which assumes that cash from maturing assets is invested in government/treasury securities. The revised assumption introduces greater differentiation into the assessment of the fund’s portfolio credit risk.

**Portfolio Stability Profile**

A fund’s portfolio credit profile provides information about its maturity-adjusted weighted average credit quality and, therefore, exposure to credit risk. However, money market funds are also susceptible to interest rate and liquidity risks that could adversely affect their market value and ability to meet liquidity draws on demand. To assess the relative risk of such disruptions, we will assess portfolio stability by evaluating the fund’s asset profile (including weighted average maturity or WAM), the portfolio’s liquidity position (measuring daily or weekly “buckets” relative to investor concentration and fund assets under management or AUM), and its sensitivity to market risk (estimating the fund’s net asset value or NAV under certain stress conditions).

The results are captured in a scorecard used to evaluate a money market fund’s ability to maintain mark-to-market value and avoid a disruption in its efforts to meet investor redemptions, as outlined in Figure 3 below.

**FIGURE 3**

*Deriving Portfolio Stability Profile – Scorecard Parameters*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Weight</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset profile</td>
<td>20%</td>
<td>&lt;60 days</td>
<td>&lt;90 days</td>
<td>&lt;120 days</td>
<td>&gt;120 days</td>
</tr>
<tr>
<td>WAM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 3 obligor concentration/Fund AUM</td>
<td>&lt;15%</td>
<td>&lt;30%</td>
<td>&lt;50%</td>
<td>&gt;50%</td>
<td></td>
</tr>
<tr>
<td>Fund liquidity</td>
<td>40%</td>
<td>&gt;90%</td>
<td>&gt;75%</td>
<td>&gt;25%</td>
<td>&lt;25%</td>
</tr>
<tr>
<td>Overnight Liquidity / Largest 3 investors</td>
<td>&gt;20%</td>
<td>&gt;10%</td>
<td>&gt;5%</td>
<td>&lt;5%</td>
<td></td>
</tr>
<tr>
<td>Overnight Liquidity / Fund AUM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fund exposure to market risk</td>
<td>40%</td>
<td>&gt; 0.995</td>
<td>&gt; 0.990</td>
<td>&gt; 0.985</td>
<td>&lt; 0.985</td>
</tr>
<tr>
<td>NAV stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The goal of the revised methodology is to differentiate among money market funds based on each fund’s intrinsic risk profile and its likely response to market stresses. The values for the parameters we have listed under each factor for a given score are indicative rather than absolute and, as such, are intended to help us determine the relative strengths and weaknesses of money market funds. Nonetheless, while the scorecard provides a framework for thinking about certain fund risks, the

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3 For more information on the Credit Matrix, see “Frequently Asked Questions about Moody’s Ratings of Managed Funds: Moody’s Credit Matrix for Managed Funds,” published in March 2006. The report should be read with the modification regarding the reinvestment assumption as noted.

4 The input to the Credit Matrix, notably the underlying securities ratings, is also subject to review by a rating committee. The input and/or the Credit Matrix results may be adjusted by a rating committee to reflect the potential changes to credit ratings on review for potential upgrade or downgrade, for unrated securities, and for securities that may be vulnerable to particularly rapid rating transitions.
inputs to the scorecard as well as the final rating outcome are subject to rating committee discussion and adjustments, as appropriate, to reflect the unique characteristics of a fund, including its assets, investors and its management.

**Portfolio Stability – Asset Profile**

Our assessment of a fund’s asset profile is based on two main measures: the portfolio’s WAM and its asset concentration.

WAM is well recognized as a key factor that drives a money market fund’s sensitivity to changes in interest rates. It also indirectly reflects the fund’s liquidity profile and its ability to meet redemption obligations in the short term.\(^5\) Assets with short-term maturities are normally more liquid given their short life cycle and, as such, they are also easier to liquidate in case of market stress.

The importance of WAM was recognized in recent amendments to the regulation of money market funds in both the US and Europe. In the US, the SEC’s Rule 2a-7 under the Investment Company Act of 1940 was modified to limit money market funds’ investment criteria so that the portfolio WAM is 60 days or shorter. In Europe, the Council of European Securities Regulators (CESR) promulgated in 2010 a new definition of money market funds.\(^6\) Under the new definition, “Short-Term Money Market Funds” can only have a portfolio WAM of 60 days or shorter. The second category defined by CESR is “Money Market Funds,” which can invest in assets so that the portfolio WAM is limited to six months.

Diversification is one of the key advantages of a money market fund that is expected by investors. Asset concentration may increase the risk of redemption payment disruptions, the risk of higher credit losses in case of liquidation, or market value declines. Concentration can take several forms, including obligor concentration, security-type concentration, and geographic concentration. Additionally, most money market funds’ portfolios are heavily exposed to the financial sector (mostly to banks) and to specific regions (i.e., the US and Europe), resulting in very small differences among funds relative to these factors.

Accordingly, to better differentiate between money market funds, the scorecard measures the top three obligor concentrations in a fund portfolio relative to the fund AUM. Affiliated obligors of the same corporate family would be counted together, as if they were one, to avoid underestimating an artificial diversification due to multiple legal entities that are all linked to the same parent company.

For purpose of measuring asset concentration, we exclude several categories of assets with minimal risk, such as (i) Aaa-rated government securities, (ii) Aaa-rated government agency securities, on par with SEC liquidity thresholds; (iii) overnight repos, collateralized by Aaa-rated sovereign assets and with a Prime -1 rated counterparty, and (iv) Aaa-rated supra-national securities (e.g., IMF, EBRD), on par with SEC liquidity thresholds.

The asset profile score in the scorecard is based on an equal weighting of these two factors – WAM and the top three obligor concentrations.

\(^5\) WAM may not capture the actual maturities of Floating Rate Notes (FRN) and other structured securities with maturity date reset features, because WAM is calculated using an FRN’s reset date instead of its maturity date. In cases where a fund holds a meaningful percentage of FRNs, Moody’s will consider the Weighted Average Life (WAL) of the portfolio in addition to WAM in its Asset Profile assessment. WAL calculation is based on the final maturity of such securities, regardless of the reset dates of their interest rates. Rule 2a-7 now also includes a WAL limitation of 120 days.

\(^6\) CESR changed its name to European Securities and Markets Authority (ESMA) in January 2011. On 19 May 2010, CESR published the guidelines for a common definition of European money market funds. The Guidelines take effect on 1 July 2011. The Guidelines apply to both collective investment undertakings authorized under the UCITS Directive (2009/65/EC) and to collective investment undertakings that market themselves as money market funds, but are not UCITS-compliant.
Portfolio Stability – Fund Liquidity

Another key factor in a fund’s ability to meet its objective of offering redemptions on demand is its liquidity profile. Our evaluation of liquidity incorporates both the maturity structure and quality of the assets, as well as exposure to the risk of large unplanned redemptions. We evaluate the degree to which a fund is invested in liquid securities, notably Aaa-rated government securities and their maturities, as well as other liquid assets such as securities with a maturity of less than seven days.7 We also consider the existence and size of committed, unutilized lines of credit, if any, and any other sources of potential liquidity.

We then compare the fund portfolio’s liquidity in terms of its granularity relative to its shareholder base and to its AUM. All else being equal, funds with highly liquid assets have greater ability to meet unexpected redemptions. In addition, a diversified investor base helps to reduce the volatility of outflows that could occur for a fund with a concentrated investor base.

We look to two measures to gauge liquidity risk, each measuring a different view of a fund’s ability to meet investor redemptions:

(a) \( \text{Overnight liquidity} + \text{Aaa-rated government securities} + \text{committed liquidity lines}/\text{Top 3 investors} \)

At the most liquid end of the spectrum, cash-on-hand and cash from maturing securities offer the most reliable source of liquidity to meet redemptions. We make additional adjustments for near-cash investments such as (i) Aaa-rated government securities, which should remain liquid in most market environments (although subject to pricing risk); (ii) Aaa-rated government agency securities, on par with SEC liquidity thresholds; (iii) overnight repos, collateralized by Aaa-rated sovereign assets and with a Prime -1 rated counterparty; (iv) Aaa-rated supra-national securities (e.g., IMF, EBRD), on par with SEC liquidity thresholds; as well as (v) committed liquidity lines arranged by the sponsor.

Beyond these sources of liquidity, a fund may realize impaired price levels in selling assets to meet additional liquidity needs or experience a market shutdown for the portfolio’s illiquid securities. We compare these liquidity exposures to amounts that would be needed to satisfy redemptions by the fund’s top-three investors.

(b) \( \text{Overnight liquidity} + \text{Aaa-rated government securities}/\text{Fund AUM} \)

Our second liquidity measure calculates a fund’s overnight liquidity relative to its AUM. This measures the fund’s liquidity profile relative to its total assets, regardless of the make-up of its investor base.

In addition to the above two quantitative measures, we evaluate a fund’s investor base and characteristics, which may affect its liquidity. We expect a fund whose investors are mostly retail to have a very different liquidity/liability profile than one with mostly institutional investors. Investor distribution channels, such as portals or omnibus accounts, may also stress fund liquidity, as they could cause multiple investors to act jointly and potentially cause significant unexpected redemptions.

Due to this added concentration, we will treat each portal and omnibus account as one “investor” for purposes of our liquidity measures. However, if the money market fund manager can show, with supporting documentation, that the account or portal cannot make investment decisions on behalf of

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7 For government securities, we will consider whether they are fixed or variable rate; treasury bills or government agency securities; or short-dated versus long-dated government agency securities.
its underlying investors, and that investment decisions are independently made by each underlying investor, the account or portal will be treated as having multiple investors.

Similarly, we will evaluate the relative size and terms of any intra-company investors that are affiliated with the fund manager, and whether the profile of such investments suggests redemption expectations that are different from those pertaining to unaffiliated investors.

**Portfolio Stability – Fund Exposure to Market Risk**

Shifts in the mark-to-market value of a money market fund’s invested portfolio can also expose it to the risk of loss if investments decline in value or need to be liquidated to satisfy redemptions when the value of invested assets has fallen below amortized cost. Accordingly, as part of assessing a fund’s portfolio stability, we also analyze exposure to market risk.

The key measure of market risk for both constant and variable NAV money market funds is a stress test of a money market fund’s mark-to-market NAV, given the type of assets in which it invests. All else being equal, portfolios showing low expected volatility will be rated higher than those showing high expected volatility.

The objective of Moody’s NAV stress test is to measure a fund’s sensitivity to a range of potential market stresses. The parameters for these market stresses are fixed for all funds, such that the stressed fund NAVs can be compared. Moody’s NAV stress test is used to compare the impact on a money market fund of a series of stresses, benchmarked to events witnessed during the financial crisis. While these stresses were not seen all at once during the crisis, the objective of our stress test is to rank funds according to their sensitivity to market risk.

The stress tests applied to a money market fund’s portfolio are:

- Yield curve shift (100 bps curve shift applied to all securities)
- Credit spread shift (100 bps increase in spread applied to Aa2 or lower rated securities)
- Outflows (50% overnight redemption rate)

The first two stresses are applied to the value of the assets held by a fund, which are then re-priced. The last stress of a 50% redemption rate simulates the need to sell at least 50% of a fund’s assets in order to meet investor redemptions. The fund’s NAV is then re-calculated and the resulting stressed NAV is the basis for the market risk score on the scorecard. The above stress tests are based on historical observations of actual stress events and on certain assumptions related to the impact of such events on the fund’s NAV (see Appendix I for a template of the specific components of the NAV stress test).

**Portfolio Stability Profile – Scorecard Example**

The scorecard pulls together the respective data for each element and scores it according to our defined parameters. In many cases, the data elements are sourced directly from the fund portfolio, while in some cases, we derive a particular data element by an additional calculation, such as a liquidity score or the result from our NAV stress model. An example of the application of the scorecard to a given fund is shown in Figure 4 below, where the individual components are combined for an overall score of “2” for fund stability.
Combining Portfolio Credit and Stability Assessments

The evaluation of a money market fund is based on a composite assessment of both its Portfolio Credit Profile and its Stability Profile. However, the assessment suggested by a fund’s Portfolio Credit Profile and its Stability Profile will be subject to review by Moody’s rating committee, which may adjust such results upward or downward for various qualitative or quantitative reasons. Such adjustment may be based on the underlying factors of the analysis, the quality of the data, or based on an assessment of the fund’s management, sponsor, and other factors, as discussed later in this report.

The indicated ratings based on the combination of these two analytical components are set out in Figure 5.

For example, an Aaa-mf rating would be indicated for a fund scored at “2” for Portfolio Stability Profile (vertical axis) and Aaa for Portfolio Credit Profile (horizontal axis). Alternatively, a score of “1” for the Portfolio Stability Profile combined with an Aa assessment for the Portfolio Credit Profile would also indicate an Aaa-mf rating.
Impact of the Fund Sponsor, Manager and Other Factors

While the indicated result from combining our largely quantitative assessments of a money market fund’s credit and stability profiles helps foster consistency in our analytical approach, it will not alone determine the final money market fund rating. The assigned rating takes into account other information and judgments that we believe are relevant to a fund’s ability to meet its objectives, including factors relating to the quality of the sponsor and management firm. The quantitative analysis of a fund portfolio is necessarily a point-in-time assessment, while the qualitative analysis adds to the rating’s predictive ability.

Sponsor Quality
The methodology is designed to reflect a fund’s own characteristics and, thus, strong sponsorship will not enhance a fund’s rating. At the same time, we expect funds to operate in a stable environment, with minimal incremental risk stemming from their sponsor’s own operational, market or funding challenges. In that context, the quality of a fund’s sponsor will be a factor in our ratings, including our expectation that funds rated in the top rating category (Aaa-mf) will be sponsored by firms having an investment-grade or equivalent credit profile. If a sponsor is unrated, we will conduct a credit assessment.

Manager Attributes
The attributes of a manager that may lead to a rating lower than otherwise suggested by a fund’s portfolio include, notably, its credit process, investment process, control environment, operations quality, and corporate governance as they relate to the fund. The scorecard calibration assumes these attributes are of high caliber. Accordingly, policies and procedures that deviate materially from best practices may result in a lower rating.

Other Considerations
Other factors may also negatively affect the rating. For example, the sponsor itself may be suffering from poor financial performance or significant negative press, which could result in degradation of its management capabilities and/or lead investors to lose confidence in its money market funds. This, in turn, may result in significant redemptions for its money market funds and potentially increase the risk of suspension of redemptions. Poor data and/or lack of transparency, which raises the degree of uncertainty about portfolio composition or management, may also result in a downward rating adjustment.

A fund’s legal documentation, and notably repurchase agreement documentation, may impact the credit quality and liquidity of its assets. Relevant factors considered by Moody’s are the creditworthiness of the repurchase counterparty, the type of permitted collateral, overcollateralization levels, the asset valuation process, and other terms of the repurchase agreement. See “Fund Governance: Key Considerations and implications,” dated November 2010. Regarding our analysis of repos, see “Developments in Repurchase Agreements (Repo) and Securities Industry Overview,” dated August 2005.
Appendix I

The following template outlines specific components underlying the assessment of the fund portfolio’s exposure to market risk, which is evaluated in the context of Portfolio Stability and captured in the scorecard.

FIGURE 6
Template of Assessing Market Risk in the MMF Scorecard

<table>
<thead>
<tr>
<th>Note:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Portfolio Base NAV:</td>
<td>(1) 1.0000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Apply Shock Scenario</th>
<th>Shock</th>
<th>NAV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curve Shift</td>
<td>(2) 1.00%</td>
<td>NAV reduction</td>
</tr>
<tr>
<td>Spread Shift</td>
<td>(3) 1.00%</td>
<td>NAV reduction</td>
</tr>
<tr>
<td>Stressed NAV</td>
<td>(4)</td>
<td>NAV impact (modeled in tandem)</td>
</tr>
<tr>
<td>Outflow impact</td>
<td>(5) -50.00%</td>
<td>NAV reduction</td>
</tr>
<tr>
<td>Stressed NAV with outflows</td>
<td>(6)</td>
<td>Total NAV impact (modeled in tandem)</td>
</tr>
</tbody>
</table>

The following notes correspond to each item in the above example:

1. **Portfolio base NAV** – Moody’s stress model begins with an assumption that the fund is currently priced at 1.000 NAV. This starting point will be verified and, if warranted, an adjustment will be made, based on the reported mark-to-market value provided by the fund administrator.

**Shock Scenarios**

The following shocks, reflected in a basis point increase to a security’s unadjusted yield, serve to re-price a portfolio.

2. **Curve shift** – A parallel 100 basis point curve shift is applied across all security types and maturities.

3. **Spread shift** – An additional spread is added to credit securities of Aa2 or lower quality. It is adjusted in conjunction with declines in the rating of the underlying security. The spread shift is 100 bps at the Aa2 rating level. Adjustments to lower ratings are based on the relative increase in risk as reflected in Moody’s Weighted Average Rating Factor (WARF) for each rating level.

4. **Stressed NAV** – On considering the above shock scenarios, Moody’s stress model re-prices a fund’s portfolio to assess the fund’s NAV when faced with these two stress scenarios combined. The combined effect of these stresses on the fund’s NAV is greater than the sum of each scenario’s impact. This stressed NAV is assessed prior to any outflows.

5. **Outflow impact** – Amid market turmoil, it can be expected that many investors will seek to liquidate their investments. The stress model uses outflows of 50%. As a result, the unrealized and realized losses to a fund’s NAV are borne solely by the remaining investors, so that the negative impact on NAV is exacerbated further.

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Moody's Related Research

Rating Methodologies
» Moody's proposes new money Market Fund Rating Methodology and Symbols, September 2010 (126642)

Industry Outlooks
» Money Market Funds: 2010 Outlook (123802)
» Asset Management Industry: 2009 Review and 2010 Outlook (123358)

Special Reports
» Fund Governance: Key Considerations and Implications, November 2010 (127079)
» Sponsor Support Key to Money Market Funds, August 2010 (126231)
» U.S. Money Funds' Risks are Reduced, But Susceptibility to Liquidity Risk Remains, February 2010 (122990)
» New European Money Market Fund Definitions Should be Positive for Credit Quality, November 2009 (120981)
» U.S. Treasury Extends Temporary Guarantee Program for Money Market Funds, December 2008 (112095)
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