# Money Market Fund Rating Criteria

## Master

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## Related Criteria

Bond Fund Rating Criteria (July 2019)

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## Scope

This report presents Fitch Ratings' criteria for assigning Money Market Fund (MMF) ratings to regulated MMFs and other liquidity/cash management products. These ratings are denoted with an 'mmf' subscript to provide clear differentiation from credit ratings assigned to debt instruments. The criteria apply to new and existing ratings, and focus on the key rating considerations in assessing an MMF's capacity to meet its dual objectives of preserving principal and providing liquidity (i.e. meeting redemption requests in full and on time).

The criteria primarily focuses on international scale ratings assigned to MMFs regulated under U.S. Securities and Exchanges Commission Rule 2a-7 and European "short-term" MMFs regulated under EU Regulation 2017/1311, although MMFs in other jurisdictions with well-developed MMF regulation, such as Hong Kong and Switzerland, may also be rated under this criteria. The criteria are also applicable to other liquidity/cash management products such as separately managed accounts, certain local government investment pools (LGIPs), private funds, or other similar vehicles that have comparable objectives, market risk limits and operating frameworks to MMFs (hereafter referred to as MMFs for simplicity).

This report focuses mainly on prime MMFs that primarily invest in short-term debt instruments issued by financial and non-financial corporations, and structured finance entities. The appendices to this report describe the criteria for government and municipal MMFs, as well as National Ratings assigned to certain locally regulated funds denominated in the local currency.

## Key Rating Drivers

**Principles-Based Approach:** These rating criteria are principles based, focusing on an MMF's overall risk profile and its key risks – credit, liquidity and market risk. The thresholds outlined in the report for these risks can be adjusted for qualitative considerations, such as the manager's resources and track record, and the investor base profile, among others.

**Credit Risk:** Fitch analyzes credit risk from two perspectives. First, Fitch seeks to understand the manager's credit-selection capabilities and ability to avoid credit events and limit credit-driven losses. Second, Fitch analyzes the portfolio's key credit attributes including the short-term ratings assigned to portfolio investments, unsecured versus secured exposures, the level of diversification and counterparty risk.

**Liquidity Risk:** Fitch's analysis of liquidity risk assumes reduced or absent secondary market liquidity for most securities, save certain ultra-high-quality (government and agency) securities. Under this approach, naturally maturing securities represent MMFs' primary means to meet redemption requests. Fitch defines minimum exposures to daily and weekly maturing assets and eligible liquid asset characteristics for each rating level. Fitch also considers the stability and predictability of the investor base and views an intrinsically stable or captive investor base more favorably in its assessment of a fund's liquidity needs.

**Market Risk:** Fitch assesses MMFs' sensitivity to movements in interest rates and credit spreads. The primary metrics Fitch uses to gauge interest rate and spread risk, respectively, are weighted average maturity (WAM) and weighted average life (WAL), aligned to global regulatory standards.

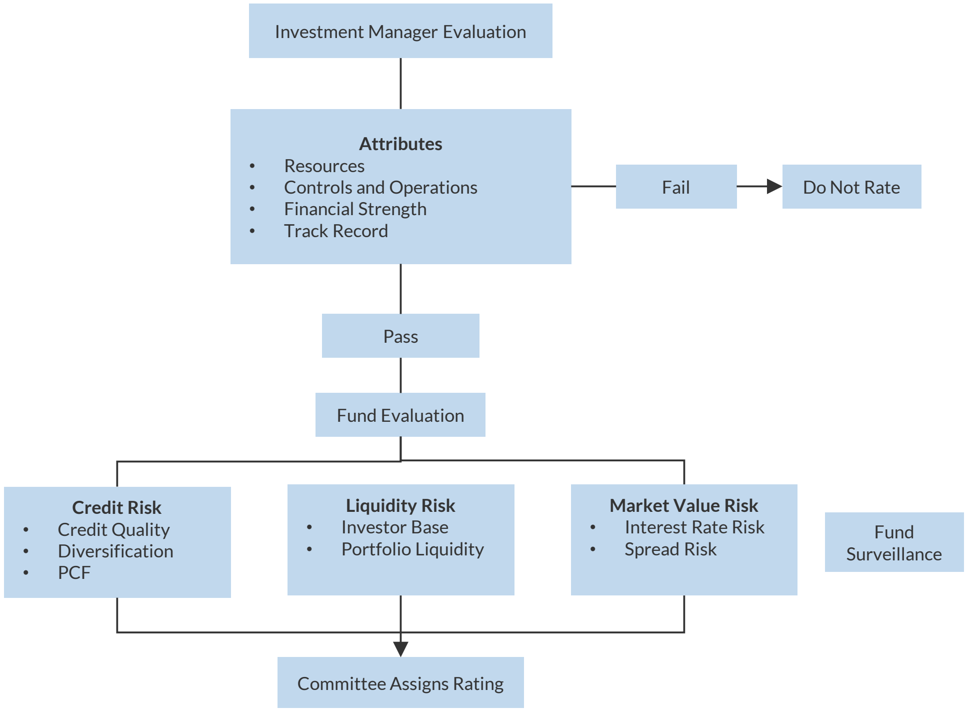
**Asset Manager:** The asset manager's capabilities, track record, investment platform and infrastructure are important factors in the rating analysis. The asset manager (with board-level oversight, where applicable) has responsibility for achieving the investment objectives, maintaining internal controls and providing the necessary operational support.

## Rating Criteria Framework

MMF ratings seek to measure an MMF's ability to preserve principal through limiting credit and market risk, and to provide liquidity (i.e. meet investor redemption requests in full and on time) through maintaining high levels of portfolio liquidity.

Fitch applies the principles in this rating criteria to a range of liquidity products that have comparable investment objectives and operating frameworks to MMFs. For example, a cash management-focused separately managed account is likely to have different liquidity requirements from a commingled regulated MMF, while a fund investing solely in U.S. Treasury securities is primarily exposed to interest-rate risk. Fitch considers the characteristics of European "Standard" MMFs akin to those of short-term bond funds and, therefore, rates them under the "Global Bond Fund Rating Criteria."

### MMF Ratings Evaluation Process Summary




Source: Fitch Ratings, transaction documents.

MMF ratings take into consideration the total risk profile of the fund and the capabilities of the manager/sponsor. The criteria set out portfolio attributes at each rating level for three risk pillars – credit, market and liquidity risk. Fitch monitors these key risk factors regularly using an analytical tool as detailed in Appendix D. In addition, Fitch weighs any additional considerations that could result in a more or less conservative risk profile for a given MMF at a given rating level. For example, Fitch will assign lower ratings to funds managed by asset managers with a weaker record of credit selection unless they maintain a structurally more robust portfolio credit quality at a given rating level than a manager with a stronger record. Similarly, Fitch will view liquidity vehicles with high levels of captive investors such as separately managed accounts as having a lower level of liquidity risk, all else equal, than MMFs without such captive investors.

## Asset Manager and Sponsor

To rate an MMF, Fitch performs a largely qualitative assessment of the asset manager and fund sponsor (which typically is the ultimate parent of the asset manager). The agency seeks to establish that the asset manager is suitably qualified, competent and capable of managing the portfolio consistent with the assigned rating, and together with the sponsor has sufficient operational resources and expertise. Fitch may elect not to rate or may downgrade or withdraw its rating in the event that it identifies a materially weak or weakening asset manager, for example, a manager Fitch anticipates will imminently enter material operational and/or financial distress.

The analysis is asymmetrical in that a fund rating does not benefit from uplift if Fitch judges a manager/sponsor to be "Lower Risk", as per the table below. However, an asset manager that Fitch views as "Higher Risk" according to the table below may result in a lower rating for a fund absent more conservative portfolio attributes. For example, the credit profile of a manager/sponsor of a U.S. government/agency MMF is less of a consideration given the low sensitivity to credit risk and asset selection.

### Asset Manager and Sponsor Attributes

| | Lower Risk | Higher Risk |
|---|---|---|
| Parent/Sponsor | Parent or sponsor of the asset management organization is financially stable, for example, carries an investment-grade rating (or is deemed to be of equivalent credit quality). | Parent or sponsor evidences one or more areas of financial weakness, for example, carries a below-investment-grade rating (or is deemed to be of equivalent credit quality). |
| Asset Manager | The asset manager has demonstrated competencies and a track record of successfully managing comparable liquidity products.<br><br>The organization is well-resourced in all critical areas such as credit underwriting, portfolio monitoring, risk management and portfolio administration.<br><br>Policies and procedures with respect to credit, market and liquidity risk are well articulated and fully documented. | The asset manager has an uneven or unproven track record and evidences weaknesses in one or more areas essential to managing comparable liquidity products.<br><br>The organization's resources relative to peers are deficient in one or more critical areas, and/or policies and procedures with respect to credit, market and liquidity risk are inadequate or insufficiently documented. |

Source: Fitch Ratings.

Managers classified as lower risk by Fitch typically have well-articulated and documented policies and procedures to define the fund's credit, mark-to-market and liquidity risk management objectives, and the means available to achieve these objectives. Fitch meets with asset managers periodically to review policies and procedures developed to meet investment objectives as well as the supporting organizational structure, internal controls, and risk management and reporting systems.

### Mark-to-Market Pricing

Managers of rated liquidity products should have robust policies and procedures with respect to marking the portfolios to market on a regular basis. This is true even if a fund calculates its net asset value (NAV) using amortized cost accounting. The ability to regularly price portfolio assets can provide valuable insight into emerging issues and the manager's ability to control risk.

Fitch looks for strong internal policies and procedures governing portfolio pricing, including the reliability and consistency of the process and back-testing of its accuracy against actual experience. For regulated funds, there should be board-level approval of these policies, regular reporting to the board and clear escalation procedures when mark-to-market prices deviate from predetermined thresholds.

## Credit Risk: Credit Quality, Diversification and Maturity

A fund's ability to avoid credit losses is a key consideration when analyzing liquidity products. Credit risk can include actual defaults or crystallized losses from selling a security that has experienced price deterioration. In assessing an asset manager's ability to minimize credit risk, Fitch reviews the asset manager's resources, policies and track record. Fitch also regularly reviews portfolio characteristics such as credit quality, diversification and securities' maturities.

### Portfolio Credit Quality – Direct Investments

When evaluating an MMF portfolio's credit quality, Fitch focuses on the credit quality of the individual holdings and diversification of the portfolio overall. The credit quality assessment focuses on security-specific short-term credit ratings assigned by Fitch to portfolio holdings in alignment with Fitch's "Short-Term Rating Criteria." Appendix E provides a visualization of the logic Fitch follows in determining input ratings.

Fitch bases its rating analysis on the entity in question's Short-Term (ST) Issuer Default Rating (IDR). In some jurisdictions, Fitch may assign ST IDRs to senior preferred instruments, commercial paper programs or ST deposits that differ from the entity's ST IDR, reflecting depositor preference under applicable regulation. In these cases, Fitch may factor the instrument-class-specific IDR into its analysis.

Short-term ratings are not always readily available. In such cases, Fitch will map an available long-term rating to the relevant short-term rating, in the manner shown in the Calculating PCF mapping table on page 8.

If a security is not rated by Fitch and provided it is not subordinated or secured, Fitch's IDR is used and mapped to a short-term rating. If a Fitch rating is not available, the lower of the public long-term ratings from S&P or Moody's may be applied. If a security only carries short-term ratings in the highest categories from the other two global agencies, Fitch considers the higher short-term rating. In the absence of a public rating, Fitch may utilize private ratings provided by the relevant Fitch rating group in its analysis. Unrated exposures are not eligible for MMFs rated investment grade, barring collateralized exposures as set out below.

In cases in which there is no credit rating explicitly assigned to a portfolio security, but the security benefits from a letter of credit (LOC), guarantee, or other means of credit/liquidity enhancement, Fitch will base its analysis on the IDR of the LOC provider, guarantor or credit/liquidity enhancement provided.

U.S. LGIPs may sometimes invest in deposit programs sponsored by a given U.S. state and intended to allow public-sector entities to invest in collateralized or credit-enhanced deposits. Fitch will assess the credit quality of these programs based on their terms, which may include features like overcollateralization of deposits or joint and several guarantees. In the case of joint and several guarantees, Fitch will impute a rating for the program based on the ratings of the two highest-rated banks participating in the program as shown in the following table (as reviewed by Fitch on an annual basis). This imputed rating allows for a cushion relative to the banks' ratings in case the banks guaranteeing deposits are downgraded or move out of the program. Exposure to such deposit programs is limited to 25% of a fund's assets, except for banks that would otherwise be eligible per rating guidelines elsewhere in this report.

**Assumed Credit Quality for Joint and Several Deposit Programs**

| | Highest Rated Bank | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Second Highest Rated Bank** | **AAA** | **AA+** | **AA** | **AA–** | **A+** | **A** | **A–** | **BBB+** |
| **AAA** | AA+ | | | | | | | |
| **AA+** | AA | AA | | | | | | |
| **AA** | AA | AA– | AA– | | | | | |
| **AA–** | AA | AA– | A+ | A+ | | | | |
| **A+** | AA | AA– | A+ | A | A | | | |
| **A** | AA | AA– | A+ | A | A– | A– | | |
| **A–** | AA | AA– | A+ | A | A– | BBB+ | BBB+ | |
| **BBB+** | AA | AA– | A+ | A | A– | BBB+ | BBB | BBB |

For deposit programs that benefit from a guarantee or a LOC that is payable to the fund, Fitch will look to the rating of the guarantor and the stated maturity of the deposit. In other instances where a guarantee is not provided but deposits are collateralized, and the fund or a custodian has direct access to the collateral, Fitch will consider the rating of the deposit bank as well as the collateral, using the same criteria as described for repo agreements below.

Issue ratings may sometimes be assigned after the settlement date of newly issued securities in the structured finance market. In such cases, Fitch may consider expected ratings, subject to acceptable time lapses, and analytical judgment is exercised for these cases through a committee process.

## Portfolio Diversification

Fitch views issuer diversification as an important means of limiting potential MMF portfolio losses and resulting NAV impairment. Fitch evaluates portfolio concentration in the context of the credit quality of the issuers and the remaining days to maturity or demand features, based on the diversification criteria outlined in the Credit Risk Criteria Attribute table. Fitch believes that minor or temporary breaches of the concentration guidelines do not pose a material risk to an MMF.

### *Direct Exposure*

When evaluating MMF issuer diversification, Fitch treats investments in securities issued by affiliated entities whose creditworthiness is highly correlated as an exposure to a single issuer with such exposures aggregated with those of the ultimate parent company. In rare instances when the creditworthiness of affiliated issuers is considered largely independent of each other, Fitch may treat affiliated issuers on a standalone basis for the purpose of portfolio diversification criteria.

### *Indirect Exposure*

In addition to direct exposure to financial and non-financial issuers, MMFs may assume indirect exposure to entities through investments in credit-supported programs such as asset-backed commercial paper (ABCP) or variable-rate demand obligations (VRDOs). While these benefit from the diversification and credit support of underlying collateral, timely repayment of maturing obligations usually depends on liquidity provided by the sponsor or third-party financial institutions. This is particularly the case in periods of heightened liquidity stress when it may prove challenging to roll over outstanding obligations. Such contingent liquidity support is included as an indirect exposure under Fitch's criteria and is subject to the indirect and collateralized exposure limits in the Credit Risk Criteria Attributes table.

## Repo Counterparties

MMFs routinely enter into repurchase agreements in which a fund lends cash to a counterparty, and, in exchange, receives securities as collateral for the cash lent and an agreement that the counterparty will repurchase (or otherwise forfeit) the asset at maturity. Fitch is referring to these agreements as "repo" in this report, in line with convention in U.S. money markets. In these collateralized lending transactions the fund assumes counterparty risk, but this can be mitigated by the fund receiving sufficient overcollateralization (OC).

Fitch assesses the magnitude of exposure to each counterparty, taking into consideration their credit quality, the collateral quality, the magnitude of asset OC and the term of the repo. Fitch has a higher tolerance for individual counterparty exposure (25%) versus direct investment exposure (0%-10% depending on credit quality), due to the dual recourse to both the counterparty and the collateral. Fitch also assesses exposure to repo agreement counterparties when calculating a fund's Portfolio Credit Factor (PCF).

Fitch's "Bank Rating Criteria" include the possibility of assigning Derivative Counterparty Ratings (DCRs) in selected jurisdictions, using the long-term rating scale with a '(dcr)' suffix. A DCR reflects Fitch's opinion of a bank's relative vulnerability to default on derivative contacts with third-party, non-government counterparties. A DCR can be equalized with, or notched up from, a bank's Long-Term IDR.

For repo counterparties, Fitch may look to the Fitch-assigned DCR rather than a bank's IDR for purposes of its analysis, provided the DCR is clearly applicable in that instance. In all other cases, Fitch looks to the bank's Short-Term IDR.

Exposures to counterparties rated at least 'F1' are subject to the limits specified in the table below, assuming the agreement is at least 100% collateralized by securities of highly rated (AA category or above) sovereign governments, supranationals, or government agencies that benefit from strong market liquidity and are denominated in the fund's base currency.

Where the counterparty is rated 'F2', repos should be overcollateralized at 102% or higher, provided the collateral is highly rated (AA category or above), exhibits appropriately low volatility, is viewed as a flight-to-quality security, benefits from strong liquidity and is denominated in the fund's base currency. Only U.S. Treasury securities, certain U.S. agency securities (see Appendix C), and German, Dutch, French and UK sovereign bonds have been determined to exhibit these characteristics for the purpose of this criteria report. Counterparties rated 'F3' or lower are not eligible at the 'AAAmmf' rating level.

All other repos, collateralized by any other types of assets or with lower collateralization levels than described above, are viewed as unsecured exposures to the counterparty and subject to direct credit exposure criteria. Fitch considers the U.S. Federal Reserve System's repo program as government exposure and not subject, therefore, to the 25% limit stipulated in the table below.

Direct counterparty exposure to the Fixed Income Clearing Corporation (FICC) is subject to a 75% limit. The FICC's higher limit reflects its designation as a systemically important financial market utility, its higher credit quality relative to most other potential repo counterparties, its central role in the repo market and regulators' support for central clearing.

In instances where MMFs enter into repos with unrated counterparties that are subsidiaries of rated financial institutions, Fitch will look to the ratings of the parent company, except in circumstances when the agency believes the credit profile of the unrated subsidiary would not be linked to its parent's rating.

## Credit Risk Criteria Attributes

| | Attributes | AAAmmf | AAmmf | Ammf | Additional Considerations |
|---|---|---|---|---|---|
| Overall Portfolio Credit Quality (%) | Total F1+ or F1 portfolio exposure (excluding repo as described below)[a] | ≥100 | ≥95 | ≥90 | Manager resources and track record, sector and portfolio diversification |
| | Total F2 or lower portfolio exposure (excluding repo as described below) | 0 | ≤5 | ≤10 | |
| | Total F2 repo counterparty exposure where 102% collateralized with high-quality government securities[b c] | ≤25 | ≤25 | ≤25 | |
| | Portfolio Credit Factor (PCF) | ≤1.5 | ≤2.5 | ≤5.0 | Key PCF drivers and trend |
| Direct Single Issuer Concentration Limits (%) | F1+ or F1 issuers | ≤10 | ≤10 | ≤10 | Manager resources and track record, portfolio diversification, credit profile of largest exposures |
| | Of which F1+ or F1 issuers greater than 7 days | ≤5 | ≤5 | ≤5 | |
| | F2 issuers | 0 | ≤5 | ≤5 | |
| | Highly rated, liquid sovereigns benefiting from strong market liquidity[b] | ≤100 | ≤100 | ≤100 | |
| | Highly rated supranational or government agency (as defined in Appendix C) benefiting from strong market liquidity | ≤35 | ≤35 | ≤35 | Maturities of 95 days or less for holdings in excess of concentration limits for certain issuers |
| | MMFs rated AAAmmf or deemed equivalent | ≤10 | ≤10 | ≤10 | |
| Indirect and Collateralized Exposure Per Counterparty (%) | Total combined exposure to a single institution, direct plus indirect via sponsored ABCP and covered bond programs or provided LOCs/SBPAs | ≤15 | ≤15 | ≤15 | Manager resources and track record, remaining portfolio diversification, credit profile of largest exposures |

## Credit Risk Criteria Attributes

| | Attributes | AAAmmf | AAmmf | Ammf | Additional Considerations |
|---|---|---|---|---|---|
| | Repo counterparty rated at least F1, at least 100% collateralised by high-quality collateral[b c] | ≤25 | ≤25 | ≤25 | |
| | Repo counterparty rated F2, at least 102% collateralized by high-quality collateral[b c] | ≤10 | ≤10 | ≤10 | |
| | Total direct and collateralised (including repo counterparty[c]) exposure to asset manager's affiliates | ≤15 | ≤20 | ≤25 | |
| Asset Maturity | All securities except for those listed below | ≤397 days | ≤397 days | ≤397 days | Overall maturities of fund portfolio; liquidity measures; degree of concentration in higher maturities |
| | Floating-rate securities issued by highly rated sovereigns, supranationals, or government agencies benefiting from strong market liquidity | ≤762 days | ≤762 days | ≤762 days | |
| | F2 issuers or assets | N.A. | ≤90 days | ≤90 days | |
| | Repo with F2 counterparty[c] | ≤7 days | ≤7 days | ≤7 days | |
| | Direct unsecured exposure to asset manager's affiliates (other diversification and credit quality criteria apply) | ≤45 days | N.A. | N.A. | |

[a]For 'AAAmmf' funds, counterparties, securities or issuers are rated at least 'F1' or, if no short-term rating is assigned, at least 'A' on the long-term rating scale
[b]Highly rated sovereigns that benefit from strong market liquidity as measured by market size, trading volumes and/or any other metric Fitch may consider relevant. In addition, repo collateral with counterparties rated 'A-/F2' or 'BBB+/F2' should be viewed as a flight-to-quality security and exhibit appropriately low volatility (only U.S. Treasury securities, certain U.S. agency securities (see Appendix C) and German, Dutch, French and UK sovereign bonds have been determined to exhibit these characteristics for the purpose of this criteria). [c]Applying the higher of the Long-Term IDR or the DCR, if applicable.
Source: Fitch Ratings.

In cases where neither the counterparty nor its parent are rated, Fitch may consider on a case-by-case basis whether the counterparty and collateralization terms are of comparable credit quality as outlined in the criteria. For example, Fitch may request a Credit Opinion from the relevant Fitch analytical group on the counterparty and/or collateral. Alternatively, for counterparties such as pension funds, Fitch may base its analysis on the credit quality of the collateral. Fitch will only base its analysis on the credit quality of the collateral where it believes the counterparty is highly stable and the financial condition of the counterparty is adequate, based on an internal credit assessment (assessed in conjunction with the relevant rating group). To apply such an approach, Fitch will also need to determine that the repo is sufficiently collateralized by liquid securities of high quality (i.e. highly rated government securities), there is substantial visibility and consistency with respect to the collateral backing the repo, and the repo contract is governed by a legal regime under which there is only a remote risk of any stay on repo collateral in the event of counterparty failure.

Operationally, daily valuation of collateral and daily margining is viewed as appropriate for highly rated MMFs. The repo, whether tri-party or bilateral, should provide strong legal and operational access to the collateral without risk of delay or disruption due to bankruptcy or regulatory receivership. In most cases, repo exposures in Fitch-rated funds are governed by Global Master Repurchase Agreements under New York or UK law, thus providing a high degree of confidence that the collateral can be enforced if needed. Fitch will review other repo contracts with its legal team as necessary. Should Fitch be unable to determine that enforceability of collateral is sufficiently strong, it will disregard the collateral, instead treating the exposure as a direct, unsecured exposure to the counterparty.

### Fund Exposure to Affiliates

In some jurisdictions, MMFs are permitted to have exposure on a secured or unsecured basis to affiliates of the manager, such as the investment manager's parent bank (the fund "sponsor"). Fitch aggregates this exposure into a combined unsecured direct, collateralized and indirect (repo, ABCP or covered bonds) exposure to the institutional owner of the fund's investment management company or its affiliates. The unsecured portion of this exposure is treated the same as for all other direct exposures, the maturity of the exposure should be limited as per the CRCA table and the institutional owner should be rated at least 'F1', where the MMF is rated 'AAAmmf'. Investment in other MMFs affiliated with the manager is not consistent with a 'AAAmmf' rating, except in the case of master/feeder structures or if the MMF being invested in operates with structurally very high liquidity, such as a government MMF.

### Custodian Bank

The operational setup and creditworthiness of an MMF's custodian bank should be consistent with the dual objectives of principal preservation and liquidity. Fitch's focus is primarily on operational risk considerations related to asset safekeeping services should the custodian experience a credit stress. Custodian banks should be rated investment grade (in the case of MMFs rated AAAmmf) and should have legal/regulatory frameworks that provide for segregation and safekeeping of the MMF's assets.

In some cases, funds may at times hold non-invested excess cash at their custodian bank. Fitch analyzes the risk posed by such non-invested custodian cash balances based on the rating of the custodian bank, the level of concentration risk, and the degree to which cash held at the custodian bank is legally and operationally "ring-fenced" from other bank creditors.

In cases of weaker legal/operational ring-fencing that can expose an MMF's investors to counterparty risk with the custodian bank, the custodian's credit quality and exposure are expected to comply with Fitch's criteria for direct investments. Continuous material concentrations in excess of Fitch's credit quality criteria will result in a lower fund rating, if Fitch effectively views the MMF's rating to be weak-linked to the custodian bank's rating.

### Maturity of Portfolio Securities

Limiting maturities of portfolio securities is key to mitigating credit risk. These limits are described in the CRCA table for non-government obligations, repos, exposure to affiliates, and floating-rate securities issued by highly rated (i.e. AA category or better) sovereigns, supranationals, government agencies, or other entities backed by the full faith and credit of highly rated governments and benefiting from strong market liquidity.

### Portfolio Credit Factor

The PCF is a quantitative metric that recognizes the two-dimensional nature of credit risk – in terms of relative credit quality and maturity – and the continual trade-offs asset managers make between the two. Often, credit risk is managed dynamically by limiting the time horizon of the exposures for credits that are facing stress or increased market scrutiny.

The PCF is the asset-weighted average of credit risk factors assigned to securities in each portfolio. These credit risk factors are determined on the basis of an individual security's short-term rating level and remaining days to final maturity. The PCF can be viewed as a relative and an absolute measure of portfolio credit risk. For example, it can be used on a relative basis to compare MMFs and to identify trends over time and allow for deeper analysis of outliers. On an absolute basis, Fitch also uses PCF to set portfolio boundaries at each rating level. For example, a PCF of 1.50 indicates a portfolio operating at the outer boundary of the 'AAAmmf' rating.

The credit factors assigned to securities of various rating levels and maturities were developed on the basis of the historical relationship between default probabilities for fixed-income securities at different short-term rating levels and taking into account historical short-term transition and default rates.

### Portfolio Credit Factors by Security Rating and Maturity

| Days | F1+ | F1 | F2 |
|---|---|---|---|
| Overnight | 0.01 | 0.03 | 0.10 |
| 2 to 7 | 0.06 | 0.20 | 0.80 |
| 8 to 30 | 0.25 | 0.75 | 3.50 |
| 31 to 60 | 0.50 | 1.50 | 7.00 |

### Calculating PCF
### Factors Applied to Entities with Only Long-Term Ratings

| Long-Term Rating | Portfolio Credit Factors |
|---|---|
| AA | F1+ factors |
| A | F1 factors |
| BBB | F2 factors |

Source: Fitch Ratings.

### Portfolio Credit Factors by Security Rating and Maturity

| Days | F1+ | F1 | F2 |
|---|---|---|---|
| 61 to 90 | 0.75 | 2.50 | 10.00 |
| 91 to 120 | 1.00 | 3.30 | 13.50 |
| 121 to 150 | 1.25 | 4.20 | 16.50 |
| 151 to 180 | 1.50 | 5.00 | 20.00 |
| 181 to 210 | 1.75 | 5.80 | 23.50 |
| 211 to 240 | 2.00 | 6.60 | 27.00 |
| 241 to 270 | 2.25 | 7.50 | 30.00 |
| 271 to 300 | 2.50 | 8.30 | 33.50 |
| 301 to 330 | 2.75 | 9.20 | 37.00 |
| 331 to 397 | 3.00 | 10.00 | 40.00 |
| 398 to 762 | 8.00 | 27.00 | 106.00 |

Source: Fitch Ratings.

To calculate PCF, Fitch makes assumptions and potential adjustments as follows:

- The final legal maturity is used for securities that are extendable at the option of the issuer.
- Securities that benefit from a demand feature or put option (at the investor's option) at par are treated as maturing on the next available demand/put date.
- For issuers and securities that carry only a long-term rating, including repo transactions with a counterparty that has no available short-term rating, the higher of the counterparty's Long-Term IDR or DCR, if applicable, is mapped to a short-term rating factor, as shown in the Calculating PCF Factors Applied to Entities with Only Long-Term Ratings table.
- Credit risk factors of 0.0 are applied to securities issued or guaranteed by highly rated sovereign governments, supranationals and government agencies benefiting from strong market liquidity (see Credit Risk Attributes table and Appendix C). All other securities, including those issued or guaranteed by other sovereign governments, supranationals and government agencies are assigned a credit risk factor on the basis of the above matrix table. Fitch consults with relevant analysts from the agency's sovereign rating group when determining the appropriate input rating for unrated central banks and government agencies of highly rated sovereign governments. Where the sovereign rating analysts believe the risk of the entity in questions is not materially different from that of the sovereign itself, a rating committee may apply the sovereign rating to such exposures. Fitch will disclose any instances of such treatment in the associated rating action commentary.

#### *FDIC-Insured Deposits*

For investments in FDIC-insured deposits with unrated or low rated banks (including through intermediary programs), Fitch will treat these as rated at the same level as the U.S. government for the purposes of Fitch's credit risk assessment. In terms of Fitch's liquidity assessment, Fitch will count these deposits toward weekly liquidity if they are redeemable within a week, while for daily liquidity, Fitch will only count a portion of these deposits if they are redeemable daily, based on their concentration in the top 10 banks where FDIC insurance is relied upon, as a percentage of the fund's assets, as shown in the table below. This effectively provides a liquidity haircut based on the diversification of the bank exposure, taking into account the possibility that a number of unrated or low-rated banks may be downgraded at the same time. In deposit programs, Fitch may assume that each underling bank's exposure is at the limit of FDIC insurance of $250,000.

### Credit and Liquidity Assumptions for FDIC-Insured Deposits with Unrated or Low Rated Banks

| Concentration of Top 10 Underlying Banks | Assumed Credit Quality | Assumed Overnight Liquidity (% of Exposure) | Assumed Weekly Liquidity (% of Exposure) |
|---|---|---|---|
| <=10% | Equivalent to U.S. Government | 90% | 100% |
| 11–20% | | 80% | |
| 21–30% | | 70% | |
| 31–40% | | 60% | |
| 41–50% | | 50% | |
| 51–60% | | 40% | |
| 61–70% | | 30% | |
| 71–80% | | 20% | |
| 81–90% | | 10% | |
| 91–100% | | 0% | |

Source: Fitch Ratings.

### Credit Stress Tests

Fitch complements its overall portfolio credit quality analysis framework with stress tests. These stress tests focus on downgrades rather than jump-to-default scenarios (see limitations). Fitch bases these stress tests on a number of input variables, including: ongoing market or issuer-specific developments, forecasts from Fitch's Economics group and/or additional scenarios promulgated by Fitch's Credit Policy Group. Fitch may include lower and higher severity stresses in its analysis, depending on the economic and market environment. For example, if banks in one particular jurisdiction are experiencing adverse credit developments, Fitch may assume downgrades (potentially of differing magnitude in lower and higher stress scenarios) to relevant banks in that jurisdiction.

Alternatively, Fitch may assume securities or issuers on Rating Watch Negative (RWN) or Rating Outlook Negative (RON) experience downgrades (potentially of differing magnitude in lower and higher stress scenarios). Similarly, Fitch may develop assumed downgrade scenarios based on an individual issuer exposure, particularly where the issuer represents a relatively large share of the fund's holdings and/or in relation to larger longer-dated exposures. Fitch will then re-calculate the portfolio's minimum and average credit quality (PCF), taking into consideration these assumed downgrades. These scenarios may focus on long-term security ratings, which Fitch will map back to short-term ratings for the purposes of re-calculating MMF criteria metrics.

Fitch will consider the stress testing in determining ratings, and/or Rating Watch status. Individual rating committees will judge the appropriateness of the scenario in determining materiality to ratings, taking into consideration the severity of stresses applied and the results under different scenarios. Fitch will use the stress test results as an input into its overall assessment of the risk of a fund's portfolio. Where the results of Fitch's stress testing suggest material weakness in a MMFs' credit profile, then Fitch may place the MMF on Rating Watch Negative (RWN) or downgrade it, barring any remedial action planned by the asset manager or other mitigating factors. Ultimately individual rating committees will determine the relevance of any given stress testing scenario and results to ratings.

## Liquidity

Meeting investor redemption requests in full and on time is a core MMF objective. MMFs therefore need to be able to meet potentially large, sudden investor outflows, including at times of market stress when secondary market liquidity may be reduced or absent. Fitch assumes that many securities, except certain ultra-high quality (government and agency) securities, may not be readily sold in a period of market stress and that, therefore, naturally maturing assets represent an MMF's primary means of meeting redemption requests. Accordingly, Fitch defines minimum exposures to daily and weekly maturing assets, in addition to the characteristics of eligible liquid assets, at each rating level.

## Liquidity Risk Criteria Attributes

| Attributes | AAAmmf | AAmmf | Ammf | Additional considerations |
|---|---|---|---|---|
| Overnight liquidity (% of portfolio assets) | ≥10 | ≥10 | ≥5 | Product type and investor base |
| Weekly liquidity (% of portfolio assets) | ≥30 | ≥20 | ≥10 | Product type, investor base and minimum regulatory threshold levels triggering liquidity fees and/or redemption gates |

Source: Fitch Ratings.

Fitch's assessment of liquidity risk considers both the liquidity profile of the portfolio of assets, as well as the predictability and stability of the investor base, particularly in times of market stress. Fitch may adjust liquidity levels up or (in limited circumstances) down to account for specific considerations relating to a fund's investor base, the overall level of concentration and redemption risk, the results of any liquidity stress testing undertaken by the asset manager or Fitch, or any other backup liquidity arrangements. For example, a fund with a concentrated investor base or with a history of more volatile fund flows may need to maintain additional liquidity to achieve a given rating level. Conversely, separately managed accounts with pre-defined liquidity requirements or with a very stable investor base, or LGIPs where cash flows follow a cyclical pattern, could be rated higher than indicated by the liquidity measures above. Fitch will assess the levels of liquidity in the context of the fund's rating, historical instances of unexpected redemptions and/or heightened redemptions during stress periods, as well as the fund manager's track record handling fund liquidity. Fitch will disclose any such instances in relevant rating action commentaries.

### Daily and Weekly Liquidity

The availability of naturally maturing assets, especially in a stressed environment, allows MMFs to reduce reliance on secondary market liquidity to meet redemptions. That said, Fitch considers some government and government-related securities with longer maturities as eligible for overnight and weekly liquidity, respectively due to their "flight-to-quality" status and therefore the asset manager's ability to sell such securities even in the most stressful of market scenarios.

Fitch expects funds that are required by regulation to consider the use of redemption gates or liquidity fees under certain triggering events, such as prime institutional U.S. money market funds and European low volatility NAV funds (LVNAVs), to maintain a degree of cushion above the regulatory liquidity threshold. Activating redemption gates would be seen as a credit negative by Fitch (and most investors), and even an erosion of the liquidity buffer may precipitate redemptions. While the presence of liquidity fees and/or redemption gates features in an MMF does not, in itself, affect the fund's rating, the activation of these mechanisms is not viewed as consistent with a 'AAAmmf' rating.

The table below describes Fitch's criteria for eligible daily and weekly liquid assets.

## Daily and Weekly Liquid Assets

| Liquidity Bucket | Eligible Assets (Denominated in Fund's Base Currency) |
|---|---|
| **Daily Liquidity** | |
| | Securities and money market instruments maturing overnight |
| | Cash held overnight at the custodian |
| | Overnight repos |
| | Shares of MMFs rated at the same level as the rated MMF (e.g. AAAmmf by Fitch or deemed equivalent) |
| | Securities that will mature or are subject to a demand feature or put option from an appropriately rated provider that is exercisable by the noteholder and payable within one business day |

### Daily and Weekly Liquid Assets

| Liquidity Bucket | Eligible Assets (Denominated in Fund's Base Currency) |
|---|---|
| | Direct obligations issued by sovereign governments benefiting from strong market liquidity[a], provided such obligations are issued in the portfolio base currency with remaining maturities of 397 days or less; for the avoidance of doubt, Fitch does not count implicitly or explicitly government-guaranteed securities issued by entities other than sovereign governments toward overnight liquidity (unless they mature next business day) |
| **Weekly Liquidity** | |
| | All of the above, plus |
| | Securities that will mature or are subject to a demand feature from an appropriately rated provider that is exercisable by the noteholder and payable to the fund within five business days |
| | Securities issued by highly rated supranational or government agencies, as defined in Appendix C, and with remaining maturities of 95 days or less, provided such obligations are issued in the portfolio base currency |
| | Direct floating-rate notes issued by highly rated sovereign governments benefiting from strong market liquidity[b] with remaining maturities longer than 397 days, provided such obligations are issued in the portfolio base currency and mature within 762 days |

[a]As measured by market size, trading volumes and/or any other metric Fitch may consider relevant. Includes U.S. Treasury securities, and German, Dutch, French and UK sovereign bonds. [b]Such securities typically include U.S. Treasury floaters. Floating-rate notes issued by other sovereigns will be considered on a case-by-case basis depending on related market size and trading volumes.
Source: Fitch Ratings.

In the case of dedicated/non-commingled funds, funds providing non-daily liquidity, or separately managed accounts with pre-defined liquidity requirements, redemption risk may be less of an issue than in pooled liquidity products. Accordingly, Fitch may define different liquidity minima for such funds, in which case it will disclose these as a criteria variation.

### Liquidity Support

Fitch assumes that neither the asset manager, nor its parent (where applicable), will provide liquidity (or other) support to rated MMFs.

In Europe, support from any third party is not allowed under applicable regulation. In other jurisdictions, notably the U.S., support has been forthcoming in some cases. Nonetheless, there is no guarantee that third-parties will be willing or able to provide support if needed.

On an exceptional basis, where support has already been provided (or is explicitly forthcoming near term), this can be factored into Fitch's analysis, for example, through increasing liquidity in a fund and hence its ability to meet redemption requests (e.g. a MMF sells one or more securities to an affiliated entity during a period of market stress and uses the cash proceeds to meet redemption requests). Specifically, Fitch may be less likely to downgrade a fund that experiences a more material or extended breach of Fitch's liquidity guidelines if an affiliated entity is providing support.

Where an affiliated bank is providing support to an MMF by buying securities from an MMF under a government program, the credit quality of the affiliated entity will typically be a less relevant consideration (depending on the terms of the associated government program).

### Redemption Risk Analysis

Fitch assesses redemption risk based on a number of input variables, including: ongoing market or issuer-specific developments, forecasts from Fitch's Economics group and/or additional scenarios promulgated by Fitch's Credit Policy Group. Fitch's analysis focuses primarily on the match between the fund's liquidity and investor profile, taking into consideration relevant factors such as the degree of control the MMF has over its investor base. Fitch may also consider assumed redemption scenarios based on worst-case unexpected fund-specific historic or industrywide flows.

Individual rating committees will judge the appropriateness of the scenarios and outputs in determining materiality to ratings (including Rating Watches), taking into consideration the severity of potential redemptions compared with available liquidity. If Fitch believes a fund would be unable to meet assumed redemption requests in less onerous or more likely redemption scenarios, then Fitch will likely rate the fund lower than implied by its current liquidity levels, barring other mitigating factors. Mitigating factors will primarily relate to the concentration and volatility of an MMF's investor base. The asset manager's ability to monitor, forecast and stress test redemption activity can also be an important mitigating factor, as can be the fund's distribution channels, as different types of investors may exhibit varying degrees of redemption risk.

#### *Illiquid Assets*

As a complementary portfolio liquidity consideration, Fitch may analyze rated MMF investments in assets that are judged not to be tradeable or are characterized by reduced secondary market liquidity and/or excessive price volatility. Fitch may deem the analysis of illiquid asset exposures to be of a lower influence on the ratings when analyzing managed accounts or funds with intrinsically stable investor bases. Examples of illiquid assets include long-dated noncallable repos or time deposits.

At the 'AAAmmf' rating level, exposures to illiquid assets in excess of 10% and/or with a maturity in excess of 120 days will attract greater scrutiny in Fitch's rating analysis. Higher concentrations of illiquid assets will lead to lower ratings barring mitigating factors such as the stability of a MMF's investor base, predictability of fund flows and the presence of well-structured portfolio liquidity ladders.

### Committed and Uncommitted Liquidity Lines

Fitch may consider committed liquidity lines in its liquidity analysis if the credit line is provided to the MMF by an entity rated at least 'F1' or equivalent (at the AAAmmf rating level), no material conditionality to funding under the facility exists and the asset manager can demonstrate immediate availability of funding under the facility. In these cases, Fitch may count the liquidity line toward the fund's daily and weekly liquidity. Fitch does not take into account uncommitted liquidity lines, since they may not be available when needed, particularly during periods of heightened stress.

### Other Liquidity Sources

Repurchase funding agreements allow funds to obtain incremental liquidity by borrowing cash and posting securities as collateral. Fitch expects repo funding to be used by an MMF only as an occasional liquidity measure, and only where permitted under applicable regulation. Recurrent use of repo funding to obtain liquidity, or as a source of incremental return (i.e. to create leverage), are inconsistent with Fitch's criteria for rating MMFs at 'Ammf' or higher. Counterparties to these transactions should be rated at least 'F1' or judged by Fitch to be of the equivalent credit quality at the 'AAAmmf' rating level.

## Market Risk

Fitch assesses MMFs' sensitivity to unexpected increases in short-term interest rates, widening credit spreads and basis risk. Fitch bases its criteria limits on global regulatory standards, in particular WAM and WAL. Currency is not a material risk in Fitch-rated liquidity products as the assets are expected to be denominated in the base currency or fully hedged to the maturity of the hedged asset.

### Interest Rate Risk: Weighted Average Maturity

WAM is the primary metric used by Fitch to assess a portfolio's sensitivity to changes in short-term interest rates. It is calculated as the asset-weighted average number of days to the next reset date for floating-rate notes (FRNs) or the maturity date for discount notes, fixed-rate instruments and any FRNs that have passed their last reset date. Where applicable, Fitch includes the effect of interest rate derivatives in its calculation of a portfolio's effective WAM (see *Derivatives*).

### Spread Risk: Weighted Average Life

WAL is the primary metric used to measure a portfolio's exposure to changes in credit spreads. Portfolios with longer WALs will be more exposed to mark-to-market losses due to widening credit spreads in the underlying instruments. WAL is calculated as a portfolio's asset-weighted average days to final maturity. For securities with optional extension features (at the option of the issuer), Fitch uses the final extended maturity date when calculating WAL. Conversely, Fitch will calculate WAL using the put date for securities that benefit from a well-structured put (at the option of the investor).

### Basis Risk

Basis risk can arise when there is mismatch between prevailing benchmark short-term rates and the index an FRN uses to periodically reset its coupon rate. For example, some FRNs may reset to a longer-term index or to an index that lags changes in the benchmark. In such cases, the security may be exposed to market value losses. FRNs are expected to reference an index whose movement is highly correlated with changes in prevailing short-term benchmark rates.

### Asset-Liability Matching

Fitch analyzes market risk within the context of the liquidity product's overall asset-liability profile and the fund's rating level. A highly stable investor base in the case of pooled product or a captive investor in the case of a separately managed account can materially reduce the risk that unrealized losses are crystallized through forced selling. In such cases where a buy-and-hold strategy is implemented, a longer WAM or WAL may be appropriate, without introducing excessively higher risk of realized losses.

### Market Risk Criteria Attributes

| Attributes | AAAmmf | AAmmf | Ammf | Additional considerations |
|---|---|---|---|---|
| WAM | ≤60 days | ≤90 days | ≤180 days | Asset-liability matching, basis risk |
| WAL | ≤120 days | ≤180 days | ≤240 days | Asset-liability matching, basis risk |

Source: Fitch Ratings.

### Derivatives

Derivatives (swaps, forwards and futures) are used by some asset managers to seek to proactively manage interest-rate risk and to hedge currency exposures. If derivatives are employed, the strategic objective should solely be to seek to hedge interest-rate or exchange rate risks inherent to other investments of the fund and within the parameters of the assigned rating. The use of derivatives as a means to assume economic leverage or speculate on interest rate or currency movements is inconsistent with Fitch's criteria for rating liquidity products. Swaps should not be bespoke and should reference a prevailing short-term benchmark rate to limit basis risk between the derivative and the underlying portfolio.

Investments in assets denominated in a currency other than the fund's base currency are appropriate under Fitch's criteria provided: the currency is U.S. dollar, euro, British pound, Canadian dollar, Japanese yen, Swiss franc, Australian dollar, New Zealand dollar, Swedish krona, Norwegian krone or Danish krone (often referred to as the G11 currencies in foreign exchange trading), and the investment is fully hedged back into the base currency.

Derivative counterparties (including swap, forward and others) should be rated at least 'F1' or 'A' or deemed to be of equivalent credit quality at the 'AAAmmf' rating level. In the event of a counterparty downgrade, prompt remedial action should be taken to fully collateralize the counterparty exposure and seek timely replacement of the counterparty. Futures contracts should be cleared through a recognized futures exchange. Fitch assesses MMF derivative exposure on a case-by-case basis. Higher net derivative exposure may lead to lower ratings, in particular where individual derivative counterparty exposures are higher, or where a hedging mismatch may occur, barring other relevant mitigating factors. Fitch assesses derivative exposures based on mark-to-market exposure for interest-rate swaps and the notional exposure for foreign-exchange derivatives. Net derivative exposures in excess of 10% (at the

AAAmmf rating level) will be subject to greater scrutiny than lower derivative exposures because of the increased potential effects of the derivative usage on rated MMFs' risk profiles.

### Negative Interest Rates

In the event of negative interest rates, Fitch considers principal to be preserved provided that the gross yield of an MMF is in line with the return on a relevant reference short-term money market interest rate. The relevant reference indices are determined based on the types of assets a fund buys and its base currency. To determine the impact of negative market rates on a fund's yield, Fitch will compare (typically monthly) a fund's gross yield with market yield. If further analysis is needed, Fitch will review performance attribution reports provided by the fund manager to determine the portion of NAV change stemming from negative yields, realized gains and losses, market value movements and other factors.

## Data Sources and Fund Surveillance

Fitch requests portfolio data from rated MMFs twice a month to assess the credit quality, maturity and liquidity characteristics relative to our criteria and the assigned ratings. Fitch typically bases its calculations on trade date data. Surveillance reports include portfolio holdings, portfolio NAV, WAM and WAL, among other data items. At any time, and in particular during periods of heightened credit and/or liquidity stress or material NAV deviation, Fitch may seek information on a more frequent basis.

Fitch performs periodic site visits and meets with senior managers responsible for portfolio management, credit analysis, risk management, operations and legal/regulatory issues. In addition to information provided by the asset manager or its representatives, Fitch considers other relevant external views, when available, such as industry or fund analysis from independent sources, including the media and trade publications, sell side research, and government reports or statistics.

Fitch's analysis and rating decisions are based on relevant public and non-public information available to its analysts. The sources of this information are the fund's asset manager and/or the fund administrator, and the public domain. This includes publicly available information on the fund and asset manager such as audited and unaudited (e.g. interim) financial statements and regulatory filings. The rating process can incorporate information provided by other third-party sources to the extent available and judged reliable. The analytical process is essentially the same for a new rating and a rating that Fitch monitors. When assigning ratings, Fitch does not perform due diligence but undertakes reasonable checks on the information provided by the fund or its representatives.

### Responding to Criteria Limit Breaches

Fitch recognizes that MMFs may temporarily deviate from certain portfolio attributes outlined in our criteria. For example, an asset downgrade may increase the PCF or lead to an ineligible holding or the merging of two issuing entities may increase a single obligor exposure. Fitch's MMF rating criteria provide for short grace periods to remedy deviations, provided the remediation plan is timely, credible, achievable and does not put MMF investors at material risk. For example, it might be prudent to hold a short-dated, downgraded security to maturity because a forced sale could result in a loss for investors. In determining the appropriate response to any criteria limit breach, Fitch takes into consideration the stated "additional considerations" in the relevant criteria metric tables.

## Rating Assumption Sensitivities

Continuous, material deviations from the rating criteria will have negative rating implications under Fitch's criteria if, in Fitch's opinion, they increase the risk to investors to a level inconsistent with the rating. For example, repeated exposures to securities experiencing credit deterioration may result from poor risk controls and/or an excessive risk appetite, which would lead to a negative rating action. Rating committees will determine the rating based on a holistic assessment of all relevant risk factors. In addition, ratings may be sensitive to material changes in the credit quality, market risk, or the liquidity profiles of the fund, and to changes in the major assumptions embedded in the criteria, as discussed below.

The following major assumptions are embedded in the criteria:

- An MMF's ability to achieve principal preservation and provide shareholder (i.e. investor) liquidity is captured through an assessment of credit risk, market risk and liquidity risk.
- The fund's operating environment (legal, economic, political and regulatory) will remain broadly stable based on historical trends and currently available information over a typical rating horizon, and will not be modified to the detriment of the fund.
- Fitch assumes the fund is in possession of all regulatory licenses, permits and authorizations required for the legal conduct of its business.
- Short-term securities of the type typically held by money funds, over short credit periods. will continue to demonstrate levels of credit risk consistent with historical patterns. Likewise, for these securities, sensitivity to interest rates based on historically observed volatility, remains in line with expectations.
- Fitch assumes that the fund is not subject to a material undisclosed event, including but not limited to asset disposal or credit losses.

## Limitations

MMF ratings do not incorporate non-market event risk, defined as an unforeseen event which, until the event is known, is not included in the existing ratings. For example, event risk could include natural disasters forcing funds to temporarily suspend redemption or subscription activity due to the physical closure of relevant market or service provider infrastructure. In this situation, Fitch would not expect to downgrade ratings, despite the suspension of liquidity provision.

Fitch excludes extreme tail-risk scenarios from its analysis. Specifically, Fitch's credit quality analysis and credit stress testing address downgrades of underlying holdings but do not consider jump-to-default scenarios. In the same spirit, Fitch does not consider significant downgrades (i.e. multiple category downgrades, such as A+ to BB-) in its rating analysis.

Fitch relies on portfolio surveillance data provided by the fund or fund administrator in calculating relevant criteria metrics. While Fitch has controls in place to check and correct the data, it may not always be able to identify data errors or reliably correct them. This may either overstate or understate Fitch's calculations of criteria metrics.

MMF ratings are assigned on a unique scale denoted by the 'mmf' suffix and are relative measures of a fund's capacity to meet its investment objectives of capital preservation and liquidity, based on Fitch's criteria. MMF ratings opine on the relative capacity of the funds to achieve their investment objectives and do not predict a particular yield or return. MMF ratings are not and should not be construed as an investment recommendation. MMF ratings should be viewed as one of many potential inputs into an investor's decision-making process.

Ratings, including Rating Watches and Outlooks, assigned by Fitch are subject to the limitations specified in Fitch's Ratings Definitions and are available at https://www.fitchratings.com/site/definitions.

### Variations from Criteria

Fitch's criteria are designed to be used in conjunction with experienced analytical judgment exercised through a committee process. The combination of transparent criteria, analytical judgment applied on a transaction-by-transaction or issuer-by-issuer basis and full disclosure via rating commentary strengthens Fitch's rating process while assisting market participants in understanding the analysis behind our ratings.

A rating committee may adjust the application of these criteria to reflect the risks of a specific transaction or entity. Such adjustments are called variations. All variations will be disclosed in the respective rating action commentaries, including their impact on the rating where appropriate.

A variation can be approved by a ratings committee where the risk, feature or other factor relevant to the assignment of a rating and the methodology applied to it are both included within the scope of the criteria, but where the analysis described in the criteria requires modification to address factors specific to the particular transaction or entity.

## Criteria Disclosures

In the rating action commentary or rating report, Fitch expects to disclose the following items:

- a description of the fund's credit, liquidity or market value risks, and any risks associated with the asset manager deemed relevant;
- any instances where Fitch treats affiliated issuers on a standalone basis for the purpose of portfolio diversification criteria to the extent such information is material to the rating;
- if a committee chooses to apply lower liquidity thresholds to funds deemed to exhibit stable characteristics, as described in the appendix, Fitch will disclose the liquidity threshold that applies;
- use of third-party data sources to the extent such information is material to the rating; and
- any variations to criteria, as mentioned in *Variations from Criteria*.

## Appendix A: Fitch Criteria for U.S. Tax-Exempt and Municipal Money Market Funds

### Portfolio Credit Quality and Diversification

U.S. tax-exempt MMFs have unique characteristics that factor into the ratings analysis, including:

- Significant portfolio allocations to short-term securities with demand features and/or credit enhancement and liquidity support provided by third parties.
- Limited availability of tax-exempt daily liquid assets.
- More stable investor bases.

### Variable-Rate Demand Obligations

Typically, variable-rate demand obligations (VRDOs) make up a considerable portion of assets eligible for tax-exempt MMFs. VRDOs are floating-rate securities that benefit from the credit and/or liquidity support of a financial institution in the form of an LOC, standby purchase agreement (SPBA), or guarantee. These credit and/or liquidity support features seek to ensure the timely payment of scheduled principal and interest at maturity or at the time that a tender option is exercised by the VRDO holder.

Total exposure to a single financial institution providing LOC/SPBA should be limited per the credit risk table above.

VRDOs are normally assigned a short-term and a long-term rating. However, a significant portion of VRDOs are not rated, as a result of the issuer not pursuing a public rating or, in limited circumstances, the underlying credit and liquidity support provider being unrated. In such instances, Fitch seeks to understand the asset manager's credit research process, specifically focusing on the analysis of the terms of the securities and creditworthiness of the credit and liquidity providers. Fitch also analyzes the terms and the size of exposures in the context of the overall portfolio composition.

### Refunded Securities

A refunded security is collateralized by escrowed U.S. government securities. Fitch views investments in refunded securities as investments in the escrowed U.S. government securities, provided the refunded securities meet applicable structural and legal conditions.

### Daily and Weekly Liquidity

The short-term municipal securities market is characterized by a limited supply of daily liquid instruments. Daily liquidity is managed by purchasing VRDOs with a daily demand feature – although the market for overnight VRDOs is limited – or by investing in other MMFs with similar objectives.

High allocations to weekly VRDOs reduce, but do not eliminate, overnight liquidity risks. Weekly VRDOs constitute more than 90% of the total VRDO market and have historically accounted for 70%–80% of the total assets of tax-exempt and municipal MMFs. Therefore, the WAL of tax-exempt and municipal MMFs is typically managed well within 60 days.

Fitch rating criteria for municipal MMFs does not specify a minimum threshold for overnight liquid assets. However, such funds are expected to conservatively manage investor composition and cash flow in a manner consistent with limited daily liquidity.

The value of PCF as a risk-budgeting tool is diminished since municipal funds invest a large portion of assets in weekly liquid assets. As such, Fitch does not employ PCF thresholds for MMF ratings assigned to tax-exempt portfolios.

## Appendix B: National Scale Money Market Fund Ratings

Fitch assigns National MMF ratings to local-currency funds, or comparable liquidity products (such as wealth management products structured as MMF-like vehicles in China), regulated in countries rated below 'AA' and where investors and investments are largely domestic. Each National Rating scale is unique, is defined to serve the needs of its local market, and the rating is denoted with a country-level suffix. Comparisons between different national scales, or between an national scale and the International Rating Scale within a given country, are inappropriate and potentially misleading.

As with Fitch's international MMF rating scale, the agency's National MMF ratings seek to measure an MMF's ability to provide principal preservation and liquidity through limiting credit, market, and liquidity risks relative to the lowest credit, market and liquidity risks available in the fund's country. National MMF ratings provide a relative measure of principal protection and liquidity for rated MMFs only within the country concerned.

### Regulatory Environment

Fitch reviews the overall regulatory framework in which the fund operates. Should Fitch conclude that a fund operates in a jurisdiction with an inadequate regulatory framework, it will decline to rate any funds in that jurisdiction. The agency's review includes, but is not limited to, the following considerations:

- Fund Regulation: Fitch is unable to rate funds in jurisdictions which lack explicit fund regulation covering registration, legal documentation and detailing eligible assets and generic risk limits. A specific regulatory definition of MMFs is not necessary for Fitch to assign MMF ratings in a particular country.
- Custody: Fitch is unable to rate funds where there is inadequate segregation of assets between the asset manager and the custodian or depositary bank. Furthermore, where the quality of those entities is low (below investment grade on a national scale) Fitch will either decline to rate the fund or cap the rating of the fund at the level of the associated custody or depositary bank.
- Audit: Fitch will decline to rate funds which cannot demonstrate an independent audit (or equivalent) by a recognized provider (for example an international audit firm or investment-grade rated bank associated trustee service). A clean audit opinion is a prerequisite for a rating.
- Repurchase Loan Agreements: Fitch will decline to rate funds which routinely engage in repurchase loans in jurisdictions in which legislation governing collateral rules, documentation, rights and obligations of counterparties is unavailable or deemed inadequate to protect the rights of the shareholders of the fund.

### Sovereign Ratings

Fitch may apply more conservative criteria to funds domiciled in countries that have a low foreign-currency rating, typically non-investment-grade, and may even decide not to assign MMF ratings in certain cases. This recognizes that, although the risk of a sovereign defaulting on its foreign debt may not directly affect local-currency assets, a sovereign default usually occurs when the economy is undergoing severe stress. Such cases of severe stress would impact the volatility and liquidity of domestic markets and capital flows, which in turn would impair portfolio assets and strain the funds' objective of capital preservation and liquidity.

### Core Principles

As with Fitch's global MMF criteria, the agency's national MMF criteria are principles-based, focusing on MMFs' key risks – credit, liquidity, and market risk – in a holistic manner. When assessing MMFs in a new market, Fitch will apply these core principles overlaid with specific factors reflecting local market characteristics.

Fitch currently maintains national scale MMF ratings in China and Morocco. For these countries, Fitch has detailed specific rating criteria as set out in the tables below. Should Fitch be asked to rate a fund in another eligible country it will apply the core principles of its global money fund rating criteria taking into consideration the specific characteristics of the local market in question. Fitch will define and publish additional country-specific criteria in future criteria updates as it adds ratings in new jurisdictions.

### Rating Hierarchy

Fitch's credit quality assessment is based on the national credit ratings assigned by Fitch to the issuers in the fund's portfolio. Fitch follows the same rating hierarchy as in its global MMF criteria. Additionally, to achieve a rating, the vast majority (more than 90%) of the portfolio must be rated by Fitch or another nationally recognized statistical rating organization, or, on a case-by-case basis, and subject to a full review of transition and default studies, a regulated majority-owned national subsidiary of such an agency. The use of ratings from local-only rating agencies will be assessed only on a case-by-case, on the basis of their consistency with Fitch's criteria and outstanding ratings in the country. Fitch may also, on a case-by-case basis, consider the fund asset manager's internal credit assessment for unrated state-owned issuers. Otherwise, unrated exposures are ineligible in Fitch-rated MMFs save for certain collateralized exposures as detailed below.

#### *China*

National scale ratings assigned by international rating agencies (or their majority-owned national subsidiaries) are typically not available in China. Therefore, Fitch bases its analysis of the portfolio credit quality of Chinese MMFs on publicly available international scale ratings. However, Fitch expresses the resulting rating on the MMF on a national scale.

### Repurchase Agreements

#### *China*

In China, funds can enter into repos via stock exchanges or the interbank market. Fitch-rated Chinese MMFs engage actively in short-term exchange-traded repo with maturities of less than one month. These are governed by clearly defined legislation and financial regulation covering collateral rules, repo documentation, operational aspects, accounting rules and the rights and obligations of the counterparties in the transaction. The exchange, connecting capital lenders and borrowers, plays a central counterparty role. Collateral could be government or corporate bonds. Haircuts are updated daily by the exchange depending on the credit quality of the collateral. Fitch conducts an internal assessment of the credit quality of relevant exchanges (in consultation with the relevant rating group) as part of its ongoing review of MMF ratings (i.e. typically an annual update, barring any adverse development). Given the combination of government ownership, the margining practices and short tenor of exposures, Fitch typically considers stock exchange-traded repos eligible exposures for MMFs rated 'AAAmmf(chn)'. Stock exchange-traded repos are supervised by China Securities Regulatory Commission.

Interbank market traded-repos are bilateral transactions supervised by People's Bank of China and the terms are negotiated between the counterparties. To be eligible to be included in the fund's portfolio, the fund's counterparty should be rated as detailed in the table below. Both exchange-traded and interbank market-traded repos are viewed by Fitch as unsecured exposures and subject to direct credit exposure criteria.

#### *Morocco*

MMFs in Morocco frequently enter into repo transactions with other funds, which are referred to as inter-fund repos. These are governed by clearly defined legislation and financial regulation covering collateral rules, repo documentation, operational aspects, accounting rules and the rights and obligations of the two parties to the transaction. Under the governing legislation and rules, there is full transfer of collateral to the cash lender. For the purpose of analyzing inter-fund repos where the fund counterparty will typically be unrated by Fitch, the agency will reflect the rating of the collateral in its analysis. Moroccan MMFs rated by Fitch may enter into inter-fund repos provided that criteria relating to the nature of the fund counterparty, the quality of the asset manager and collateral are consistent with the parameters as detailed in the table below.

## China — Summary of Rating Criteria for Chinese Money Market Funds

| | | AAAmmf (chn) | AAmmf (chn) | Ammf (chn) |
|---|---|---|---|---|
| **Asset and Counterparty Credit Quality (Based on International Ratings)[A]** | | | | |
| Asset/Issuer Credit Quality | Minimum Rating | F1 or A- | F2 or BBB+ | F2 or BBB |
| F1+ and F1 | Minimum (%) | 50 | 40 | 30 |
| F2 | Maximum (%) | 50 | 60 | 70 |
| F3 | Maximum (%) | 0 | 0 | 0 |
| Repo Counterparties | Minimum Ratings | F1 or A- | F2 or BBB+ | F2 or BBB |
| | | | | |
| **Direct Issuer and Security Exposure** | | | | |
| Total Per Single Issuer | Maximum (%) | 10 | 15 | 15 |
| Of which Greater than 7 Days | Maximum (%) | 5 | 10 | 10 |
| Total Exposure to China Sovereign (Ministry of Finance [MOF], People's Bank of China [PBOC]) | Maximum (%) | 100 | 100 | 100 |
| Total Per Any Single Security Issued by MOF or PBOC | Maximum (%) | 20 | 20 | 20 |
| Total Per Any Single State-Owned Commercial Bank[b] | Maximum (%) | 15 | 20 | 25 |
| Total Combined Exposure to Qualifying Policy Banks[c] | Maximum (%) | 50 | 60 | 60 |
| Total Per Single Qualifying Policy Bank[c] | Maximum (%) | 30 | 40 | 40 |
| Total to Any Single Security Issued by a Qualifying Policy Bank[c] | Maximum (%) | 15 | 15 | 15 |
| | | | | |
| **Collateralized Exposures** | | | | |
| Total Per Any Single Counterparty of a Repo Transacted on the Interbank Market | Maximum (%) | 10 | 20 | 25 |
| | | | | |
| **Assets Maturity** | | | | |
| All Securities, Except for those Mentioned Below | Maximum | 397 | 397 | 2 Years |
| Floating-Rate Securities Issued by MOF, PBOC and Qualifying Policy Banks | Maximum | 2 Years | 2 Years | 3 Years |
| | | | | |
| **Portfolio Interest Rate and Spread Risks** | | | | |
| WAM | Maximum days | 75 | 120 | 180 |
| WAL | Maximum days | 120 | 180 | 240 |
| | | | | |
| **Portfolio Liquidity** | | | | |
| Daily Liquidity[d] | Minimum (%) | 10 | Function of investor base stability and concentration | |
| Weekly Liquidity[e] | Minimum (%) | 25 | Function of investor base stability and concentration | |
| Overall Allocation to Assets with Limited/Non-Existent Liquidity[f] | Maximum (%) | 20 | 20 | 30 |

[a]Asset and counterparty credit quality: International long-term, short-term foreign-currency ratings by Fitch or equivalent by another international credit rating agency.
[b]State-owned commercial banks:

(i)Agricultural Bank of China
(ii)Bank of China
(iii)Bank of Communications
(iv)China Construction Bank
(v)ICBC
(vi)Postal Savings Bank of China

Unrated wealth management products launched by commercial banks are not regarded as eligible issuers.

[c]Qualifying policy banks:

(i)China Development Bank Corporation
(ii)Agricultural Development Bank of China
(iii)Export-Import Bank of China

[d]Daily liquidity:

(i)Deposits in current/saving accounts, securities and repos maturing in one business day.

[e]Weekly liquidity:

(i)Daily liquid assets as defined above, plus:
- Securities maturing within seven business days.
- Securities issued by MOF, PBOC and qualifying policy banks with remaining maturities of 90 days or less.

[f]Assets with limited/non-existent liquidity:

(i)Noncallable deposits maturing in more than seven days.
(ii)Repos maturing in more than seven days.
(iii)Most policy banks' FRNs maturing in more than 397 days.
(iv)Most securities issued by non-financial corporates maturing in more than seven days.

Source: Fitch Ratings.

## Morocco – Summary of Rating Criteria for Moroccan Money Market Funds

| | | AAAmmf (mar) | AAmmf (mar) | Ammf (mar) |
|---|---|---|---|---|
| **Asset and Counterparty Credit Quality[a]** | | | | |
| F1+(mar) and F1(mar) | Minimum (%) | 100 | 90 | 80 |
| F2(mar) | Maximum (%) | 0 | 10 | 20 |
| Repo Counterparties | Minimum Ratings | F1(mar) | F1(mar) | F1(mar) |
| **Direct Issuer Exposure** | | | | |
| F1+(mar), Total Per Single Issuer | Maximum (%) | 15 | 20 | 20 |
| Of which Greater than 7 Days | Maximum (%) | 10 | 15 | 15 |
| F1(mar), Total Per Single Issuer | Maximum (%) | 10 | 15 | 15 |
| Total Overall Exposure to Morocco Sovereign (Kingdom of Morocco) | Maximum (%) | 100 | 100 | 100 |
| **Collateralized Exposures** | | | | |
| Total Per Repo Counterparty[b] (Mutual Fund[c]) | Maximum (%) | 20 | 20 | 20 |
| Total Per Repo Counterparty[b] (Bank) | Maximum (%) | 25 | 25 | 25 |
| Collateralization of Inter-Fund Repo Transactions If the Collateral Matures After the Maximum Asset Maturity for Eligible Direct Fund Investments[c d] | Minimum (%) | 102 | 102 | 102 |
| **Assets Maturity** | | | | |
| All Securities, Except for Those Mentioned Below | Maximum | 397 days | 397 days | 2 years |
| Floating-Rate and Highly Liquid Sovereign Securities | Maximum | 2 years | 2 years | 3 Years |
| **Portfolio Interest Rate and Spread Risks** | | | | |
| WAM | Maximum days | 90 | 120 | 180 |
| WAL | Maximum days | 120 | 180 | 240 |
| **Portfolio Liquidity** | | | | |
| Daily Liquidity[e] | Minimum (%) | 10 | Function of investor base stability and concentration | |
| Weekly Liquidity[f] | Minimum (%) | 25 | Function of investor base stability and concentration | |
| Overall Allocation to Assets with Limited/Non-Existent Liquidity[g] | Maximum (%) | 20 | 20 | 30 |

[a]Issuer credit quality:
i)For unrated government agencies/state-owned entities that benefit from strong sovereign support and are strategically important to the sovereign, Fitch may consider such entities' credit profile to be highly-linked to that of the sovereign.
ii)Fully owned subsidiaries of international banking groups that are rated above the sovereign on an international scale may be applied the highest available rating on the national scale.
[b]Applicable to repo fully collateralized by sovereign or government agency securities denominated in the fund's base currency, with appropriate margining policy. Otherwise, collateral is ignored and direct exposure guidelines apply.
[c]Moroccan MMFs rated by Fitch may enter into inter-fund repos provided that 1) they are collateralized by securities issued by the Kingdom of Morocco or its government agencies and that other diversification and collateralization criteria detailed above are met, 2) that the fund counterparty is a primarily invested in securities issued by the Kingdom of Morocco, and is managed by an established asset manager with an appropriate control framework. A fund which routinely engages in repo practices falling outside of the scope of these two conditions is ineligible for a Fitch Rating.
[d]i.e. 397 days or two years if FRNs for AAAmmf(mar) fund.
[e] Daily liquidity:
i)Cash, deposits in current/saving accounts, securities and repos maturing in one business day or callable overnight.
ii)Direct securities issued by the Kingdom of Morocco issued in MAD and with remaining maturities of 397 days or less.
[f]Weekly liquidity:
i)Daily liquid assets as defined above, plus: securities maturing within seven business days and direct floating-rate notes issued by the Kingdom of Morocco with remaining maturities longer than 397 days but shorter than two years, provided such securities are issued in MAD.
[g]Assets with limited/non-existent liquidity:
i)Non-callable repos maturing in more than seven days.
ii)Securities issued by non-financial corporates.
Source: Fitch Ratings.

## Appendix C: Fitch Criteria for Highly Rated, Liquid Supranational and Agency Securities

Fitch recognizes the high liquidity and high credit quality of certain supranational and government agency securities, repos backed by such securities and other securities with similar credit and liquidity risks. As a result, Fitch applies different criteria for concentration risk, calculation of PCF, weekly liquidity and collateral for repos backed by these types of securities.

For the purpose of this criteria report, Fitch defines government agencies as public-mission entities, which could be rated by Fitch under its "Government-Related Entity Rating Criteria," and which are demonstrably liquid, as measured by market size, trading volumes, and/or any other metric Fitch may consider relevant. Public sector entities meeting these requirements are typically rated no more than one notch below the sovereign government. Local and regional authorities or governments are typically not considered as government agencies and are applied standard issuer criteria, with the exception of certain German entities that may be guaranteed by the respective state, which themselves benefit from the German solidarity system (shared support between the sovereign and 16 regional states). Where appropriate, Fitch will consult with relevant analysts in determining whether a given entity can be considered an agency for the purposes of this criteria report.

Fitch considers diversification an important mitigant to potential negative market events that may affect the price and liquidity of agency and supranational securities, as a diversified portfolio is less likely to be affected by an idiosyncratic event than a portfolio highly concentrated in an affected entity. To moderate this potential risk, Fitch views limits on single supranational and government agency exposure as appropriate, as outlined in the CRCA table.

For certain high quality, liquid agencies/supranationals, however, funds may offset direct single issuer concentrations in excess of the limits outlined in the CRCA table by investing the balance in shorter-tenor securities – 95 days or less. Only the Federal Home Loan Banks, The Federal National Mortgage Association (Fannie Mae), The Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal Farm Credit Banks have been determined to exhibit these characteristics for the purpose of this criteria. Additional entities may be added on a case-by-case basis, provided they exhibit similar characteristics.

### Example Eligible Agency and Supranational Entities

The list below details examples of eligible supranational entities:

- European Investment Bank;
- European Stability Mechanism;
- European Bank for Reconstruction and Development;
- International Bank for Reconstruction and Development;
- European Investment Fund;
- European Financial Stability Facility; and
- Council of Europe Development Bank.

The list below provides examples of entities Fitch defines as eligible agencies at the 'AAAmmf' rating level. Fitch will review this list periodically and publish updates in its rating criteria. Other eligible agencies include those designated by the U.S. Federal Reserve as eligible for its repo operations. Subject to a review of the status of the entity and analysis of available market data on liquidity (such as outstanding volumes and issuance patterns), Fitch may add other agencies to this list.

- Federal Home Loan Banks;
- Fannie Mae;
- Freddie Mac;
- Federal Farm Credit Banks;

- Agence Centrale des Organismes de Securite Sociale;
- Erste Abwicklungsanstalt;
- FMS Wertmanagement;
- Nrw.Bank;
- Kreditanstalt Fur Wieder;
- Caisse Des Depots Et Consignations;
- Bank Nederlandse Gemeenten;
- LandeskreditBank Baden-Wuerttemberg – FoerderBank;
- Landwirtschaftliche RentenBank;
- Nederlandse Waterschapsbank;
- Agence Française De Developpement;
- Korea Development Bank; and
- Caisse D'Amortissement De La Dette Sociale.

## Appendix D: Fitch Liquidity Criteria for Certain Stable Funds

For certain funds that exhibit structurally stable investor bases and historical flows, Fitch will adjust the normal liquidity criteria as described below. Fitch's liquidity criteria were calibrated primarily for institutional prime MMFs, which have exhibited high levels of outflows during market stresses in the past. Therefore, the baseline liquidity criteria cited above in this report may be unnecessarily high for other cash pools that have more stable profiles, in particular LGIPs. For certain funds that Fitch believes fit a more stable flow profile, and that we expect will routinely operate with lower liquidity metrics than the normal liquidity criteria, Fitch will assess different liquidity criteria based on the fund's qualitative attributes as well as historical flows data. This analysis will only apply at the 'AAAmmf' level, and for other rating levels, Fitch will use the base line liquidity criteria described above.

Fitch will score these types of funds on the basis of the following qualitative factors: track record, diversification and stability of investor base, predictability of cash flows and the portfolio profile. To be assessed for lower liquidity criteria, funds will need to score strongly on the qualitative factors, and the specific liquidity metrics will be determined based on the quantitative analysis described below. There are no set weights to the qualitative factors outlined below, as certain factors may be more or less influential in different situations, and some may counterbalance others. A committee will review these factors and will assess whether there is sufficient information to determine that the fund in question is likely to exhibit stability.

### Track Record

A fund's track record evidences historical flow volatility and liquidity management, and provides an indication of potential future volatility. Fitch typically considers a fund with less than two years of observable cash flows as exhibiting limited track record. Fitch may use a proxy vehicle's track record if relevant.

### Portfolio Profile

In addition to specific liquidity metrics like daily and weekly liquidity, Fitch will review other relevant measures of the portfolio, such as the maturity profile of the portfolio beyond weekly liquidity, as well as the types of securities the fund invests in. For example, securities that mature within one month fall outside of the weekly liquidity criteria, but may still exhibit strong market liquidity.

### Diversification of Investor Base

A fund with a diversified investor base is less likely to experience lumpy redemptions due to a large investor's idiosyncratic circumstances, as some investors' moves are more likely to be counterbalanced by other investors.

### Stability of Investor Base

Fitch will assess the likely stability of the investor base based on the types of investors and their relationship with the fund. For example, certain investors may be required to invest their cash in a specific LGIP and therefore would be captive. Other investors may seed a pool and sit on its board of supervisors, or in other cases investors may have few other options to invest cash or little inclination or ability to easily move cash during periods of stress.

### Predictability of Capital Flows

The predictability of a fund's cash flows depends on the investors' profile and their cash sources and uses. Examples of more predictable patterns of cash flows include: payrolls, bond interest and principal payments, long-term capital projects and tax collections. Funds with more predictable cash flows will often show a track record of seasonality in the historical data. For example, some type of investors may experience seasonal outflows in the late summer months due to a slowdown in tax collection, preceded by inflows from tax collections in the first half of the calendar year.

### Historically Observed Outflows

Fitch will review a fund's historical flows to determine the range of worst outflows experienced historically. In determining the range of historical outflows, Fitch will take into consideration the consistency of the outflows, give more weight to more recent data, and account for outflows that may have been planned, as evidenced by inflows preceding the outflows. Fitch's assessment of the range of worst historical outflows on this basis will determine our daily and weekly liquidity criteria for the fund at a 'AAAmmf' rating level, as shown in the table below for weekly liquidity.

## Weekly Liquidity Range (%)

| Historical Flows | | | | | Above this Reverts to Normal Limits |
|---|---|---|---|---|---|
| Lower Limit | 0 | 5 | 10 | 15 | — |
| Upper Limit | 5 | 10 | 15 | 20 | — |
| Weekly Liquidity Required | 7 | 12 | 17 | 22 | 30 |

Source: Fitch Ratings.

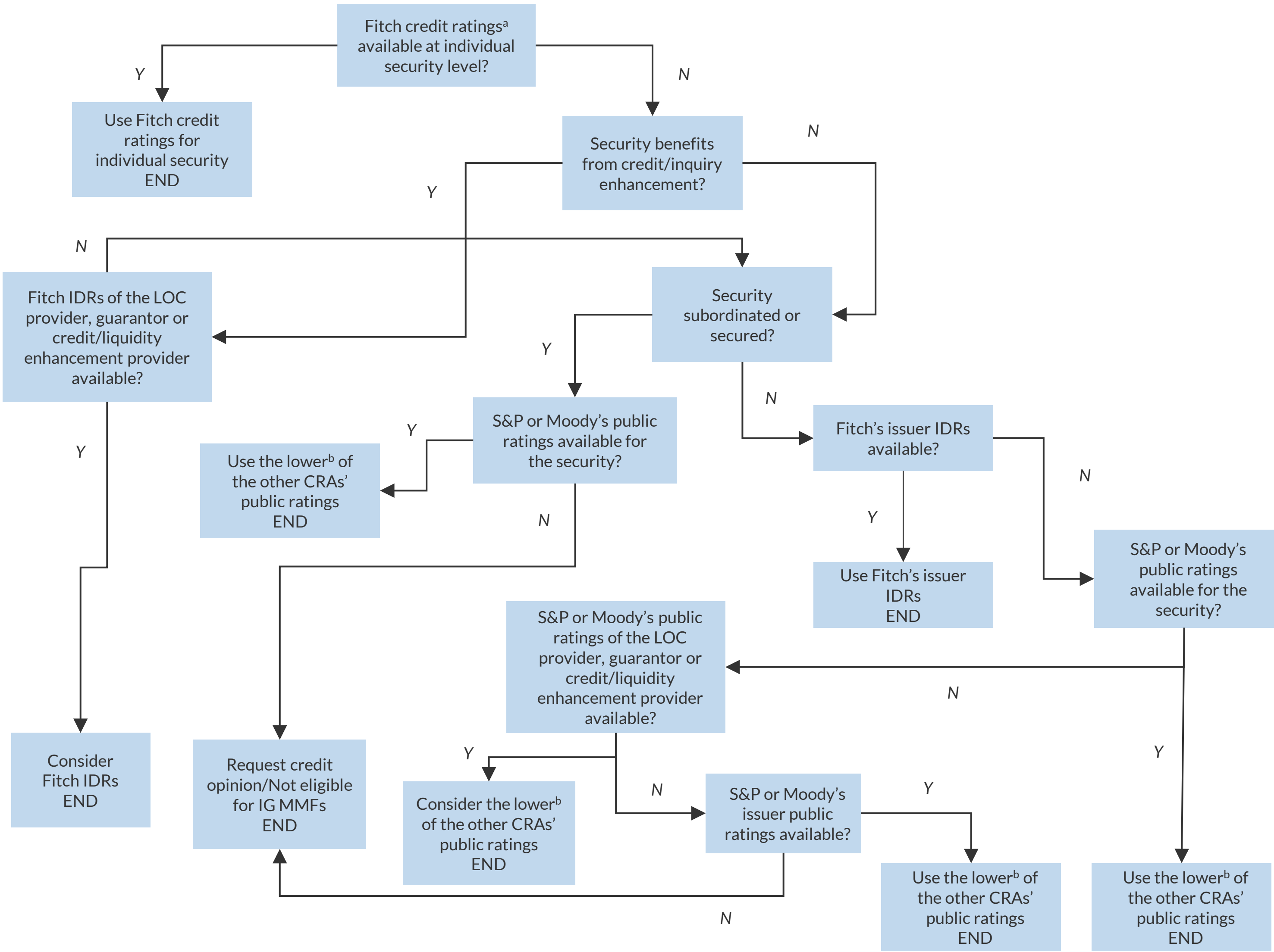
For daily liquidity, where a fund's historical worst outflows range 0%–5%, daily liquidity criteria will be set at 7%, otherwise it will revert to the normal liquidity criteria (10% at AAAmmf).

A committee will determine in which bucket of the table above each fund falls, and the committee may decide to apply a more stringent liquidity baseline than would be implied by the quantitative analysis if one or more of the qualitative factors are assessed as weaker, based on the likely impact on the fund's stability as determined by the committee

## Appendix E: Analytical Tools

Fitch uses analytical tools for surveillance and rating committee analysis. The tools use fund manager and fund administrator provided data, supplemented by data from other sources, to calculate criteria metrics, including the Portfolio Credit Factor (PCF). Results generated by Fitch's analytical tools are an important aspect of the committee and surveillance process but are not necessarily deterministic to the final rating. For example, in the event of breaches of criteria targets and rating parameters, Fitch will consider the expected duration of a breach to distinguish between temporary fluctuations and more structural reflections of poor portfolio construction and weak risk controls.

## Appendix F: Rating Hierarchy Visualization




[a]Including Fitch ratings or internal credit opinions. [b]The exception is a security that only carries short-term ratings in the highest categories from the other two global agencies, where Fitch considers the higher short-term rating. Note: For Issuer with no Fitch rating, and rated at A-1/A and P-1/Baa1, Fitch takes the lower of the other CRAs' long-term public ratings, hence Baa1 in this case, which subsequently maps to F2 equivalent. Flow chart for visualization purpose. Fitch may deviate from the chart hierarchy in special circumstances.
Source: Fitch Ratings.

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