Money Market Funds and Liquidity Management

Interview preparation summary · HF track

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INT.HO.1.a · What money market funds are and what they hold

Describe what a money market fund is, who uses it and why, and the main fund types (government or public debt, low volatility NAV, variable NAV and prime), flagging that the UK/EU and US regimes differ.

A money market fund (MMF) is a pooled fund that invests in very short-term, high quality debt, so that investors can hold cash-like balances with a small yield advantage over holding cash at a single bank. Its objectives, in order, are to preserve capital, to provide liquidity (investors can usually deal every day) and to earn a yield close to money market rates. Typical users are corporate treasurers, institutions such as pension schemes and insurers, charities, and platforms and wealth managers that hold client cash. Funds are grouped by what they hold and how they are priced. A government or public debt fund holds government securities and repurchase agreements backed by them, and has the lowest credit risk. A prime fund also holds bank and corporate paper for a little more yield and more credit risk. A stable or constant NAV fund aims to deal at a fixed price, such as 1.00, using amortised cost accounting where the rules allow, with income paid out or accrued as extra units. A variable NAV fund prices at market value each day, so the price moves slightly. The names and rules differ between regimes: the UK and EU framework uses categories such as public debt constant NAV, low volatility NAV (LVNAV) and short-term variable NAV, while the US framework uses government, prime and tax-exempt categories with its own pricing rules. In an interview, say which regime you are describing, and treat the details as something to check.

WORKED EXAMPLE: STABLE AND VARIABLE PRICING ON A CASH BALANCE

A treasurer places 10m in a stable NAV government fund and 10m in a variable NAV fund. Both earn 3.5% a year (illustrative), accrued daily over a 365-day year. Find the income after 30 days in each case. Then suppose market values of the assets in the variable fund fall 0.05% after the 30 days. What happens to its price and to the value of the holding?

Answer: Both funds earn about 28,767 in 30 days. The stable fund keeps its price at 1.0000, while the variable fund's price rises to 1.002877 and then falls to 1.002375 after a 0.05% fall in asset values, so the holding is worth 10,023,753. The treasurer is still ahead of the original 10m.

Interview tip: Say who uses MMFs and for what, then name the type by its holdings and its pricing. Flag which regime you mean, as the UK/EU and US rules use different categories.

INT.HO.1.b · What money market funds are and what they hold

Describe what money market funds hold and the general credit quality and diversification rules, and calculate weighted average maturity (WAM) and weighted average life (WAL) and say why they matter.

A money market fund holds short-dated instruments: treasury bills and other short government paper, repurchase agreements (repo) in which the fund lends cash and takes securities as collateral, certificates of deposit (CDs) issued by banks, commercial paper (CP) issued by companies and banks, and deposits with banks. Government funds hold only the first group and repo backed by government securities. Rules for the funds set general standards at a high level: each instrument must be judged to be of high credit quality through a documented internal assessment, not by relying only on external ratings, and limits on exposure to a single issuer or counterparty keep the portfolio diversified. Two measures control interest rate and credit risk. Weighted average maturity (WAM) is the average time to the next interest rate reset or maturity, weighted by size, so it shows how fast the yield adjusts to changes in rates and how much rate risk the fund has. Weighted average life (WAL) is the average time to the final legal maturity, ignoring resets, so it captures credit risk and liquidity risk that WAM misses, for example in a floating rate note with a long final maturity. Funds have limits on both, and the limits differ by regime and fund type, so any figures here are examples. A lower WAM means the yield follows policy rates quickly and prices are stable, while a higher WAM and WAL earn more yield but expose the fund to more risk in stress.

WORKED EXAMPLE: CALCULATING WAM AND WAL FOR A PORTFOLIO

The invented Aldwin Sterling Liquidity Fund has 1,000m of assets: overnight repo 400m (1 day); Treasury bills 250m (60 days to maturity); commercial paper 150m (45 days); certificates of deposit 100m (90 days); and a floating rate note of 100m that resets in 30 days but matures in 300 days. As an illustration only, assume limits of 60 days for WAM and 120 days for WAL. Find WAM and WAL and test them.

Answer: WAM is 34.1 days and WAL is 61.1 days, both inside the example limits of 60 and 120. The floating rate note makes WAL 27.0 days longer than WAM, because WAL looks to final maturity and WAM to the next reset.

Interview tip: Say that WAM measures rate sensitivity and WAL measures credit and liquidity exposure, and use a floating rate note as the example of why they differ.

INT.HO.1.c · What money market funds are and what they hold

Calculate gross and net yield after fees, and explain how a change in policy rates feeds through to fund yield through WAM, reinvestment and fee waivers.

The gross yield of a money market fund is the income earned on its holdings, expressed as an annual rate. The net yield is what the investor receives after the fund's ongoing charges, so a gross yield of 4.10% with a charge of 0.15% gives a net yield of 3.95%. Funds quote yields in different ways (for example seven-day yields, or yields over a month), so comparisons must use the same basis. Fund yields follow central bank policy rates, but with a delay, and the delay depends on the weighted average maturity and the shape of the maturity ladder. When the policy rate rises, only the part of the portfolio that matures or resets is reinvested at the new higher rate, so the fund yield climbs step by step over the following weeks, and a fund with a short WAM catches up faster. The same happens in reverse when rates fall: a fund with a longer WAM holds on to older, higher yields for longer, which looks attractive but then falls. When rates are very low, a fund's gross yield can be below its charge. Managers may then waive part of the charge to keep the net yield from going negative, and such waivers are voluntary, so they can end when rates rise. When comparing funds, look at net yield on the same basis alongside WAM, credit quality and liquidity, because a higher yield usually comes from longer maturity or lower credit quality.

WORKED EXAMPLE: HOW A RATE RISE REACHES THE FUND YIELD

A fund has a gross yield of 4.10% and an annual charge of 0.15%. The central bank raises its policy rate by 0.25 percentage points, and the market rates on the fund's new investments rise by the same amount. Of the holdings, 45% mature within a week, a further 20% in the following 23 days (by day 30), a further 20% between days 31 and 60, and the last 15% between days 61 and 90. Everything that matures is reinvested at the new rate. Find the net yield now, and the gross and net yield after 7, 30, 60 and 90 days (illustrative).

Answer: Net yield is 3.95% now. It reaches 4.06% after a week, 4.11% after a month and the full 4.20% after about three months, because the fund only earns the higher rate as holdings mature and are reinvested.

Interview tip: Say that fund yields follow policy rates with a lag set by WAM, and that the lag helps the investor when rates fall and hurts when they rise.

INT.HO.2.a · Liquidity, stress and the choice of cash product

Explain liquidity management in a money market fund: daily and weekly liquid asset buffers, the liquidity ladder and investor concentration, and test whether a fund can meet a redemption.

A money market fund promises daily dealing, so the manager must always be able to pay redemptions without selling assets at a loss. The main tool is a buffer of assets that turn into cash quickly. Daily liquid assets are cash and holdings that mature or can be sold within one business day, such as overnight repo and some government securities. Weekly liquid assets are those that can become cash within five business days. The rules of each regime set minimum shares of the fund that must be held in daily and weekly liquid assets, and the figures are set in regulation and can change, so the examples here are illustrative. The manager also builds a liquidity ladder, a table of how much cash arrives each day and week as holdings mature, and compares it with the fund's expected and stressed outflows. Investor concentration matters as much as the buffer: a fund with a few large investors can lose a large share of its assets in a day, so managers know their investors, how likely each is to redeem together with others and when their cash needs fall due, for example quarter-end tax dates. Funds are expected to run stress tests that combine large redemptions with falls in the market value of holdings. The trade-off is clear: more daily liquidity reduces yield but protects the fund, and a fund that reaches for yield with longer, less liquid holdings reduces the buffer that every investor relies on.

WORKED EXAMPLE: CAN THE FUND PAY A LARGE REDEMPTION?

The invented Aldwin fund has assets of 1,000m, of which 280m is daily liquid and 520m is weekly liquid (this includes the daily liquid assets). As an illustration, assume floors of 10% daily liquid and 30% weekly liquid. Test: (a) a one-day redemption of 150m; (b) a one-day redemption of 350m from the three largest investors; (c) a redemption of 400m over a week paid from weekly liquid assets.

Answer: The fund can pay 150m in a day (daily liquid 15.3% afterwards), cannot pay a 350m demand from daily liquid assets alone (short by 70m), and falls to 20% weekly liquid after a 400m weekly outflow, below the example floor of 30%.

Interview tip: Run the three tests: size of the buffer against the floor, concentration of investors, and the buffer left after the outflow. Say the floors are set by the regime.

INT.HO.2.b · Liquidity, stress and the choice of cash product

Explain stress and redemption risk in money market funds: the first-mover advantage, the 2008 and 2020 episodes in general terms, and the main regulatory reforms that followed, in outline.

Money market funds can be exposed to runs. If a fund deals at a fixed price but its assets are worth slightly less, an investor who leaves early receives the full price and the investors who stay bear the loss, so every investor has an incentive to leave first when worries start. In 2008, in general terms, a large US prime fund suffered a loss on paper issued by a failed bank and could no longer hold its fixed price, and heavy redemptions from prime funds followed as investors feared that others would be affected. Public support was then provided to stop the run. In March 2020, in general terms, a worldwide scramble for cash hit markets for short-term bank and corporate paper that normally trade easily. Prime funds faced heavy redemptions, found it hard to sell paper, and saw their weekly liquid assets approach regulatory thresholds, which raised concerns about restrictions and encouraged more investors to leave. Central banks again acted to support the markets. The reforms that followed, in outline and differing by jurisdiction, aimed to strengthen buffers and stress testing, reduce reliance on sponsor support, move some funds from a fixed to a floating price, and add tools for managers such as liquidity fees and gates. Later reviews questioned whether links between liquidity thresholds and the use of such tools could themselves encourage runs. Rules continue to change, so candidates should describe the direction of the reforms and avoid stating exact current thresholds.

WORKED EXAMPLE: WHY THE FIRST TO LEAVE DOES BETTER

An invented prime fund has 1,000m units, each dealt at 1.0000 using amortised cost. After a credit event the market value of its assets is 997m. Investors holding 300m of units redeem at 1.0000, and the fund meets them by selling assets at market value. Find the value of a remaining unit and the loss to those who stay.

Answer: Each remaining unit is worth 0.9957, a loss of 0.43% against 1.0000, while the 300m of redeemers lost nothing. The gap between the dealing price and the market value is the incentive to leave first.

Interview tip: Use the first-mover idea to explain both the 2008 and 2020 episodes without naming firms, and then link each reform to the weakness it addresses.

INT.HO.2.c · Liquidity, stress and the choice of cash product

Explain how a treasurer chooses between money market funds and bank deposits, comparing yield, credit exposure, diversification, liquidity and operations, and match a fund type to a cash policy.

A corporate treasurer deciding where to hold surplus cash weighs five things. Yield: compare net yield after charges with the deposit rate on the same basis and for the same period. Credit exposure: a bank deposit is a claim on one bank, and only part of it may be covered by a deposit protection scheme, so large balances carry exposure to that bank, while an MMF spreads the cash over many issuers with limits on any one, though it is not guaranteed and the fund itself carries risks. Liquidity: an MMF deals daily, often with same-day settlement before a cut-off time, while a fixed-term deposit may not be accessible before maturity. Operations: funds use a dealing platform and have a dealing cut-off, and a bank deposit uses the bank's own process. Policy: a treasury policy usually ranks security first, liquidity second and yield third, which points to a government or public debt fund for the core balance, a spread of deposits across approved banks within limits, and prime or longer holdings only for cash that will not be needed soon. When pitching a fund or advising a treasurer, say which of the five points drive the choice, do not promise the capital or the yield, and note that the rules differ by country and fund type.

WORKED EXAMPLE: A TREASURER COMPARES A FUND WITH A DEPOSIT

A treasurer has 25m for 91 days (illustrative). A government MMF offers a net yield of 3.90% and a bank offers a 91-day deposit at 3.60%. The fund limits any one issuer to 5% of its assets (illustrative). Compare income and credit exposure, and say which meets a policy of security first, liquidity second and yield third.

Answer: The fund earns about 18,699 more over 91 days, limits exposure to one issuer to about 1,250,000 against 25m for a single deposit, and can be redeemed daily. It fits a policy of security, liquidity and then yield better, though the treasurer should keep some diversification across funds and banks.

> **Interview tip:** Compare on five points and tie the answer back to the treasurer's stated policy. Do not claim the fund is risk free.

Summary of the Charta interview-preparation topic. Companies and figures in the examples are invented. Draft content, not yet expert reviewed.