

Morgan Stanley

INVESTMENT MANAGEMENT

Cash Investment Guide for a Low and Negative Interest Rate Environment

LIQUIDITY | GLOBAL LIQUIDITY TEAM | IMPLEMENTATION GUIDE | 2020

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Global markets have experienced unprecedented volatility during early 2020. This uncertainty has been met by swift and comprehensive actions from central banks, which have acted to stimulate the economy by announcing various quantitative easing programs. As investors assess the ongoing impact of the pandemic on their business, levels of cash and liquid assets remain elevated. This combination of very high levels of cash and very low and negative interest rates presents a unique challenge.

We will review ways to manage cash while balancing the desire for capital preservation and the search for attractive levels of income.

Review of Cash Investment Options

At a high level, cash investment options are quite broad but fall into a few general categories. These include commingled funds, bank deposits and direct securities. Below is an outline of the basics of each area.

DISPLAY 1
Understanding the Investment Options—The Pros and Cons of Different Investments

	COMMINGLED FUNDS	BANK DEPOSITS	DIRECT SECURITIES
+	• Socialized liquidity • Diversification¹ • Professional active management and credit resources	• Ease of use • Liquidity • Stable value	• Higher potential yield • Customizable
—	• Fund selection requires due diligence • Lack of customization	• No diversification • Lower potential yield	• Potential credit risk • Price volatility • Market-based liquidity
Examples	• Money Market Funds • Bond Mutual Funds • Private Funds	• Bank deposit sweeps • Money market demand accounts • Time deposits	These portfolios can be operated through a separately managed account or a brokerage account: • Money market securities • Government securities • Corporate bonds

This is for informational purposes only and is not exhaustive.

Within each of these categories, money market funds (MMFs), bank deposits, short duration bond funds and separately managed accounts are four of the key product types that investors consider when making their cash investments. We review each below.

¹ Diversification neither assures a profit nor guarantees against loss in a declining market.

Money Market Funds

A money market fund is a mutual fund that offers shares in a diversified portfolio of high-quality, short-term instruments, typically bank and sovereign credits. Shareholders have a proportional claim to the underlying fund assets, spreading credit risk across multiple issuers. By investing in a money market fund, investors outsource credit analysis to the fund manager. While money market funds do not offer insurance comparable to bank deposit protection, they must adhere to stringent investment guidelines on credit quality, maturity and liquidity that are designed to mitigate credit and interest rate risk.

Examples:

- **Treasury Liquidity Funds**—Invest only in treasury and agency securities.
- **Prime Liquidity Funds**—Invest in high-quality corporate credit in addition to securities in Treasury Liquidity Funds.

Bank Deposits

A bank deposit is an unsecured loan to a bank. Deposit transactions are recorded on the bank's books as a liability, representing the amount owed by the bank to the customer. As such, depositors are unsecured creditors subject to the general creditworthiness and solvency of the deposit bank.

Examples:

- **Bank Account/Sweep Account**—Full overnight liquidity
- **Time Deposits**—Offer a higher yield, typically mature in 3-12 months

Ultra Short and Short Duration Bond Funds

Ultra-short and short duration bond funds are mutual funds that purchase short-term fixed income securities. From there, funds can vary greatly in their approach and risk appetite, with some focusing on capital preservation and liquidity, and others striving to maximize yield or total return. Investors must be aware of the composition of funds across these categories and make sure they are in sync with their expectations and objectives. These funds should be considered a complement to traditional liquidity investment options like bank deposits and MMFs.

Examples:

- **Ultra-Short Bond Funds**—Invest in high-quality, short-duration securities. These funds typically have a duration of one year or less.
- **Short Duration Bond Funds**—These funds invest across the risk spectrum in fixed income, with a duration of one to three years.

Separately Managed Accounts

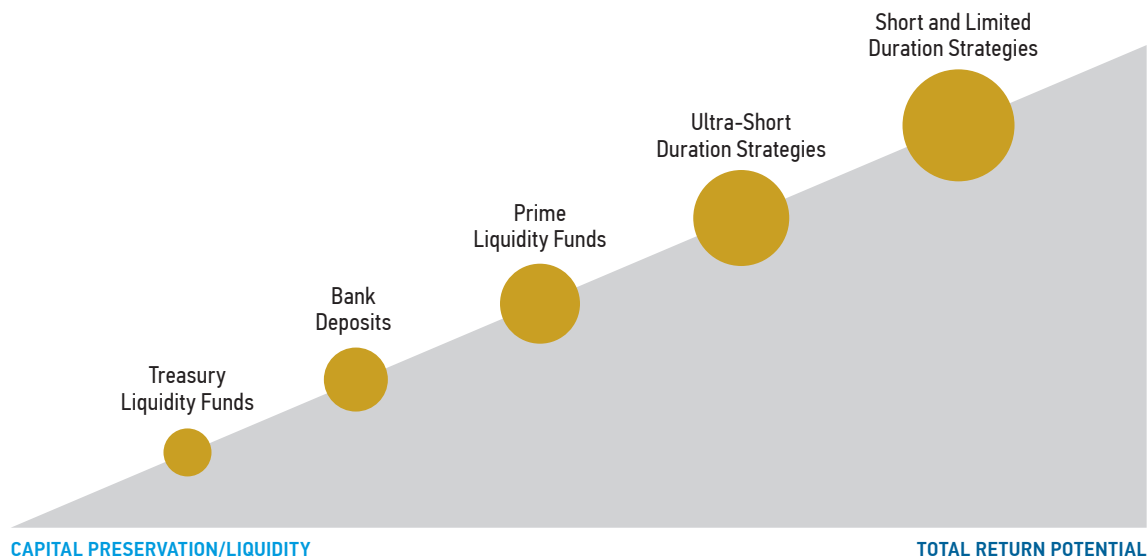
A separately managed account (SMA) is a customized portfolio that can purchase money market and fixed income securities based on the risk tolerance of the investor. As such, the portfolios can vary greatly in their approach and risk appetite. For example, the portfolios can be managed as buy-and-maintain strategies with an emphasis on principal preservation and liquidity as well as total-return strategies that may capitalize on market dislocations and/or relative value opportunities across the global fixed income sectors. SMAs provide investors with flexibility, transparency and customization that may not be found in other products.

Risk Spectrum of Liquidity Investment Options

Liquidity investment options vary from daily liquidity products to longer-duration fixed income strategies. The below chart illustrates the different options available to investors, along with potential risk and return.

DISPLAY 2

Liquidity Investment Options



The chart is shown for illustrative purposes only and is not meant to depict the performance of a specific investment.

Source: Morgan Stanley Investment Management.

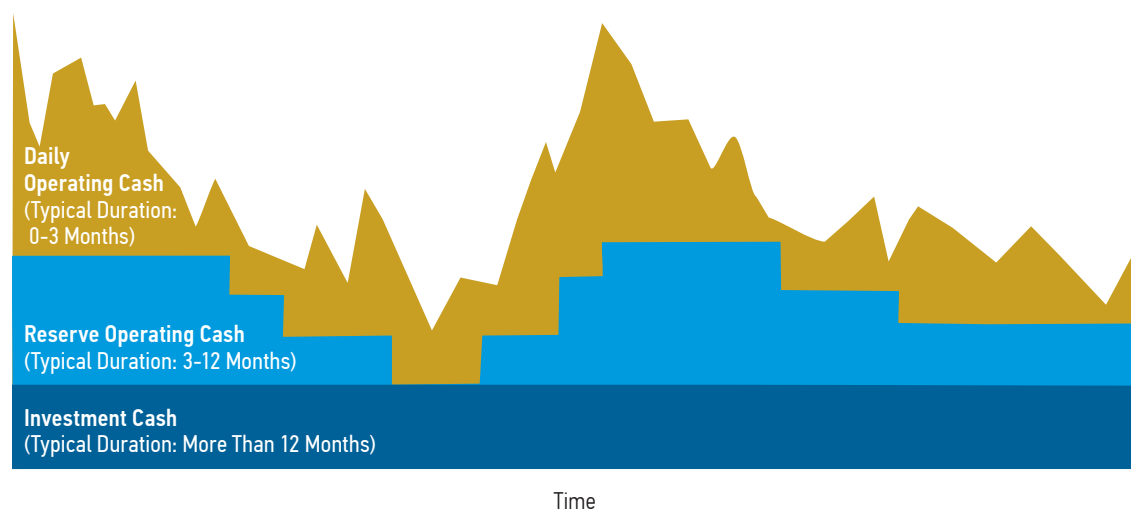
Best Practices for Cash Allocations

When investing cash, the same basic principles should be followed, whether you are an individual investor or a listed company. A liquidity forecast likely shapes the risk appetite and investment objectives of your investment program. The ability to forecast cash with a reasonable degree of success has long-term benefits and may provide opportunities to adopt certain strategies while also mitigating funding and liquidity risks. As investors adapt their investment strategy to the new market paradigm, we believe an important aspect will be the ability to stratify liquidity.

Investors who can reasonably forecast their cash flows are better equipped to segment their liquidity into distinct pools, each with its own purpose and investment opportunity set. More specifically, investors will likely need to segment their liquidity into balances that are needed immediately and those that are more stable. From there, the dispersion expands, as some have multiple longer-term cash tiers and others do not. These longer-term tiers can be tied to specific needs, construction projects, bond maturities or other purposes. Some have definitive end dates, while others are open-ended.

The below diagram shows an example of an investor's cash flows.

DISPLAY 3
Model Liquidity Balances



Source: Morgan Stanley Investment Management.

The information shown is provided solely for illustrative purposes.

DISPLAY 4**Cash Segmentation Explained**

	DAILY OPERATING CASH	RESERVE OPERATING CASH	INVESTMENT CASH
Description	This is cash that is needed to be used immediately. This high liquidity comes with a sacrifice of lower or negative yields.	Where immediate liquidity is not needed, more options are available to investors. These additional options can help diversification and slightly enhance potential returns.	This segment focuses on excess cash with no planned need (barring a major change). This offers investors the ultimate flexibility and potential to enhance returns.
Time Horizon	0-3 months	3-12 months	12 months or longer
Institutional Investor Examples	Daily and weekly liquidity used to fund normal operations such as payrolls and other short-term payables.	Known periodic payments (supplier payments, accounts payable, tax payments, dividend payments, bond proceeds, debt repayment).	Acquisitions, capital expenditures, other strategic uses.

Source: Morgan Stanley Investment Management.

DISPLAY 5**Potential Investment Options**

	DAILY OPERATING CASH (TYPICAL INVESTMENT HORIZON: 0-3 MONTHS)	RESERVE OPERATING CASH (TYPICAL INVESTMENT HORIZON: 3-12 MONTHS)	INVESTMENT CASH (TYPICAL INVESTMENT HORIZON: 12+ MONTHS)
Bank Deposits	●	●	●
Treasury Liquidity Funds	●	●	●
Prime Liquidity Funds	●	●	●
Ultra-Short Bond Funds		●	●
Direct Securities			●
Separately Managed Accounts			●
Short-Duration Bond Funds			●

Source: Morgan Stanley Investment Management. The information shown is provided solely for illustrative purposes.

Hypothetical Liquidity Portfolio Allocations

After considering your investment objectives and liquidity needs, portfolio allocation decisions can be made. As mentioned earlier, tying investment strategies to your cash flows achieving cash segmentation is an efficient allocation plan, as it allows you to effectively manage the need for liquidity while improving diversification and obtaining potentially higher yields on longer-duration assets.

Below are three different liquidity portfolio options that address different risk, return and liquidity concerns.

DISPLAY 6

Allocations, Assuming an Investment of \$200 million

	Allocation • 50% Bank Deposits • 50% Liquidity Funds*	OPTION 1 Most Conservative • All investments have daily liquidity • Lowest potential return, highest liquidity • Ideal for investors with a strict focus on capital preservation and liquidity
	Allocation • 67% Liquidity Funds* • 33% Short Duration Bond Funds	OPTION 2 Less Conservative • This model introduces some credit risk and investments with floating net asset values • Enhanced potential return, high liquidity • A good balance across the key objectives of capital preservation, liquidity and yield
	Allocation • 75% Customized Separately Managed Account • 25% Liquidity Funds*	OPTION 3 Least Conservative • This separate account model allows for customization across investments and liquidity • Risk/return characteristics can vary greatly by mandate as durations can range from one month to two years • This is for investors who would like to own their own securities and have customization over their investment account

Performance data quoted represents past performance, which is no guarantee of future results, and current performance may be lower or higher than the figures shown. Fund yields shown are subsidized. See page 9 for standardized performance and yields.

* Liquidity Funds can be Prime or Treasury based on investors preference.

Selecting the Right Strategy

Portfolio allocation decisions can be assisted by answering the following questions that touch on some key investors' concerns:

- How do you emphasize the different objectives of capital preservation, liquidity and yield?
- How much daily liquidity is needed?
- Do you have liquidity balances that are more stable and are not needed to fund daily operations?
- Are there any accounting concerns?

Answering these questions will help identify the starting point for cash allocation and the key areas of focus for each investor. For example, those investors who need stable value investments and daily liquidity likely will need to use option 1 (in *Display 6*), while investors with more flexibility and risk tolerance can potentially move toward portfolio options 2 and 3.

Our Liquidity Product Offerings

Fund Information

FUND NAME	SHARE CLASS	MONEY MARKET FUND TYPE	ISIN	1-DAY NET YIELD (%) ¹	7-DAY NET YIELD (%) ¹	30-DAY NET YIELD (%) ¹	YIELD TO WORST (%) ¹	PORTFOLIO ASSETS (MM) ¹	MINIMUM
Euro									
MSLF Euro Liquidity Fund	IN ACC	LVNAV	LU0875334178	-0.56	-0.56	-0.55	–	7,110	1,000,000
MS INVF Short Maturity Euro Bond Fund	I	–	LU0052620894	–	–	–	0.00	1,310	0
Sterling									
MSLF Sterling Liquidity Fund	IN	LVNAV	LU0875334764	0.01	0.01	0.02	–	4,660	1,000,000
US Dollar									
MSLF US Dollar Liquidity Fund	IN	LVNAV	LU0875332040	0.14	0.14	0.15	–	25,030	1,000,000
MSLF US Dollar Treasury Liquidity Fund	IN	PDCNAV	LU0875336629	0.02	0.02	0.02	–	10,460	1,000,000
MSLF US Dollar Ultra-Short Income Fund	IN	VNAV	LU1954527922	0.39	0.40	0.43	–	252	1,000,000
MS INVF US Dollar Short Duration Bond Fund	I	–	LU1387592022	–	–	–	0.70	248	0

Performance data quoted is based on average annualized returns and net of fee.

Past performance is not a reliable indicator of future results. The value of the investments and the income from them can go down as well as up and an investor may not get back the amount invested. Returns may increase or decrease as a result of currency fluctuations. All performance data is calculated NAV to NAV, net of fees, and does not take account of commissions and costs incurred on the issue and redemption of units. Performance data for funds with less than one year's track record is not shown. Performance is calculated net of fees. Performance of other share classes, when offered, may differ. Please consider the investment objectives, risks, charges and expenses of the fund carefully before investing. The prospectus and key investor information document (KIID) contains this and other information about the fund. Please read the prospectus and KIID carefully before you invest.

Past performance should not be construed as a guarantee of future performance. Performance of the Morgan Stanley Liquidity Funds is calculated net of fees.

It is important you read the legal information page before proceeding as it explains in which countries the Morgan Stanley Liquidity Funds are authorised for sale and where this website is directed.

The Funds are not a guaranteed investment and are different from an investment in deposits. The Funds do not rely on external support for guaranteeing the liquidity of the Fund or stabilising the NAV per share. The value of investments and the income from them may go down as well as up and you may not get back the amount you originally invested.

¹ As of August 31, 2020.

About Morgan Stanley Investment Management

Morgan Stanley Investment Management has managed liquidity solutions since 1975 and is dedicated to offering clients unique investment solutions through institutional money market funds and highly customized solutions. The Global Liquidity Solutions team, which has over \$268 billion* in assets under management, comprises highly experienced professionals across the U.S., Europe and Asia. We welcome the opportunity to advise on the issues impacting short-term markets, both broadly and with respect to your overall cash-investing strategy. If you have further questions or require additional assistance, please contact your Morgan Stanley Investment Management Relationship Manager.

* As of 6/30/20

RISK CONSIDERATION

Morgan Stanley Liquidity Funds (MSLF):

Euro Liquidity Fund, Sterling Liquidity Fund, US Dollar Liquidity Fund, US Dollar Treasury Liquidity Fund, US Dollar Ultra-Short Income Fund

- The value of bonds are likely to decrease if interest rates rise and vice versa.
- The value of financial derivative instruments are highly sensitive and may result in losses in excess of the amount invested by the Sub-Fund.
- Issuers may not be able to repay their debts, if this happens the value of your investment will decrease. This risk is higher where the fund invests in a bond with a lower credit rating.
- The fund relies on other parties to fulfill certain services, investments or transactions. If these parties become insolvent, it may expose the fund to financial loss.
- There may be an insufficient number of buyers or sellers which may affect the funds ability to buy or sell securities. While it is intended that the distributing share classes will maintain a share price of €1/\$1/£1, this may not be achieved due to the creditworthiness of the issuers of investments held or changes in interest rates.
- The value of the investments and the income from them will vary and there can be no assurance that the Fund will achieve its investment objectives.
- Investments may be in a variety of currencies and therefore changes in rates of exchange between currencies may cause the value of investments to decrease or increase. Furthermore, the value of investments may be adversely affected by fluctuations in exchange rates between the investor's reference currency and the base currency of the investments.

Morgan Stanley Investment Funds (MS INVF):

US Dollar Short Duration Bond Fund, Short Maturity Euro Bond Fund

- The value of bonds are likely to decrease if interest rates rise and vice versa.
- The value of financial derivative instruments are highly sensitive and may result in losses in excess of the amount invested by the Sub-Fund.
- Issuers may not be able to repay their debts, if this happens the value of your investment will decrease. This risk is higher where the fund invests in a bond with a lower credit rating.
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INDEX INFORMATION

The Bloomberg Barclays Euro Aggregate Treasury 1-3 Years Index is a benchmark that measures the 1-3 year maturity Treasury euro-denominated issues. Inclusion is based on currency denomination of a bond and not country of risk of the issuer. The benchmark name changed from Barclays Euro-Aggregate: Treasury 1-3 Years Index to Bloomberg Barclays Euro-Aggregate: Treasury 1-3 Years Index on 24th August 2016. **The ICE BofAML 1-Year U.S. Treasury Note Index** is an unmanaged index tracking U.S. government securities with a maturity of at least one year and less than three years.

DEFINITIONS

Credit risk is the risk of loss of principal or loss of a financial reward stemming from a borrower's failure to repay a loan or otherwise meet a contractual obligation. **Current yield** is a measure that looks at the current price of a bond instead of its face value and represents the return an investor would expect if he or she purchased the bond and held it for a year. Calculated by dividing the Annual Cash Inflows / Market Price. **Duration** is a measure of the sensitivity of the price (the value of principal) of a fixed-income investment to a change in interest rates. **Net Asset Value (NAV)** is the dollar value of a single mutual fund share, based on the value of the underlying assets of the fund minus its liabilities, divided by the number of shares outstanding. It is calculated at the end of each business day. **Volatility** (Standard deviation) measures how widely individual performance returns, within a performance series, are dispersed from the average or mean value.

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The Morgan Stanley Liquidity Funds (MSLF) are authorised to invest up to 100% of their assets in Money Market Instruments issued or guaranteed separately or jointly by a Sovereign Entity and by any other member states of the OECD and their central authorities or central banks subject to certain conditions. Please see Prospectus for further details.

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