

Morgan Stanley

INVESTMENT MANAGEMENT

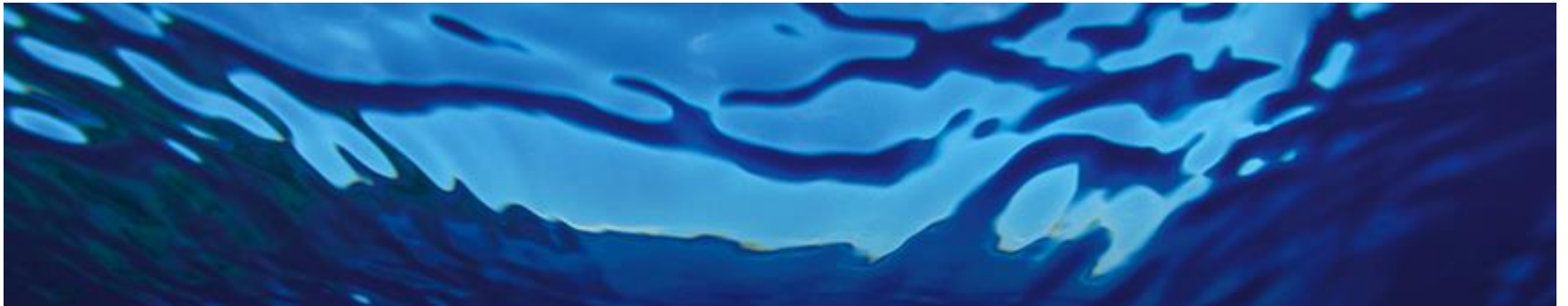
Emerging Liquidity Investment Trends

Cash Management Tools Trends and Advancements

Kevin Waldeck – Morgan Stanley

FOR INSTITUTIONAL INVESTOR USE ONLY AND MAY NOT BE USED WITH THE GENERAL PUBLIC

CRC 474634 EXP 5/18/2023



Agenda

Emerging Liquidity Investment Trends

- Rising rate environment best practices
- ESG and sustainable investing considerations

Treasury Management Technology and Product Innovation

Q&A

The views, opinions, and forecasts are those of the speaker and are subject to change at any time due to market or economic conditions and may not necessarily come to pass. The views expressed do not reflect the opinions of all portfolio managers at Morgan Stanley Investment Management (MSIM) or the views of the firm as a whole, and may not be reflected in all the strategies and products that the Firm offers.

Morgan Stanley

INVESTMENT MANAGEMENT

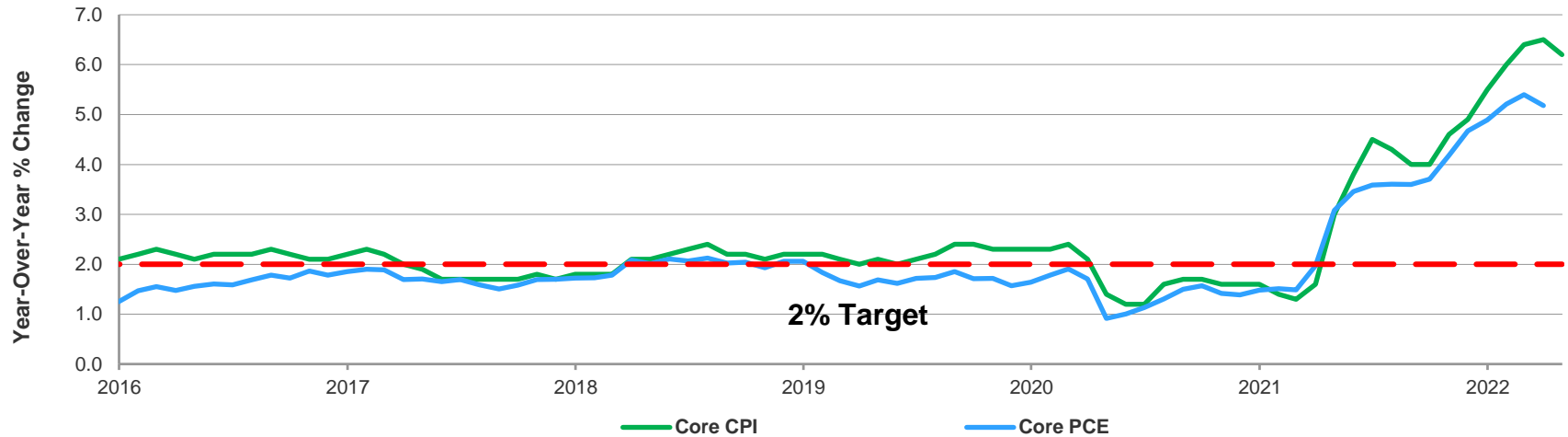
SECTION 1

Emerging Liquidity Investment Trends

The Fed's Dual Mandate Has Been Achieved

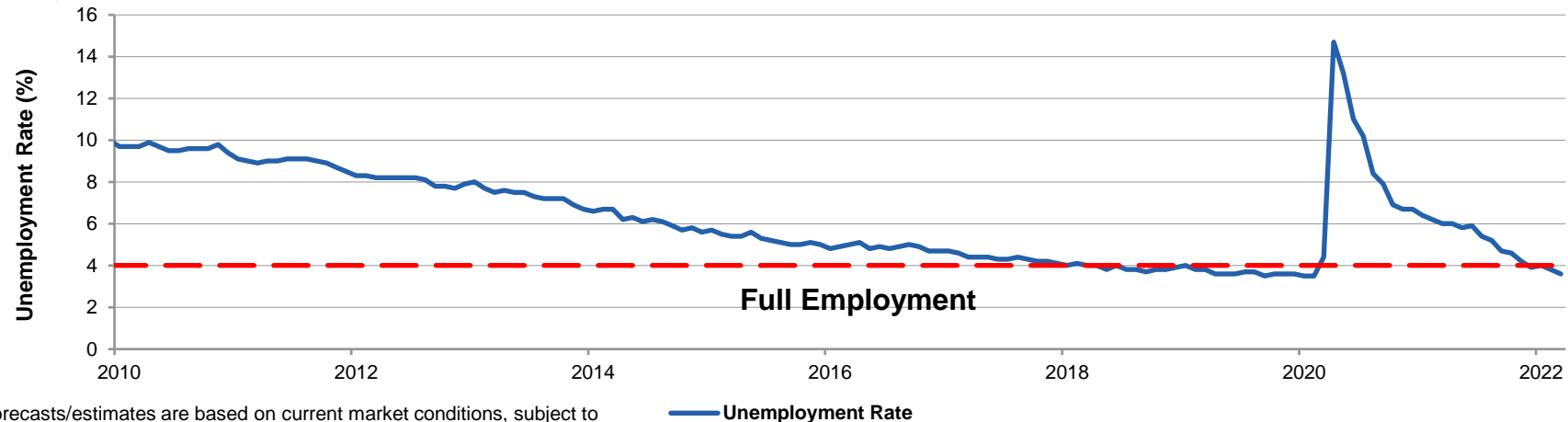
The Fed's Target for Overall Inflation is an Average of 2% Over Time

Monthly Data as of April 2022



U.S. Labor Market is Bouncing Back

Monthly Data as of March 2022



Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

Source: Bloomberg and Morgan Stanley Investment Management

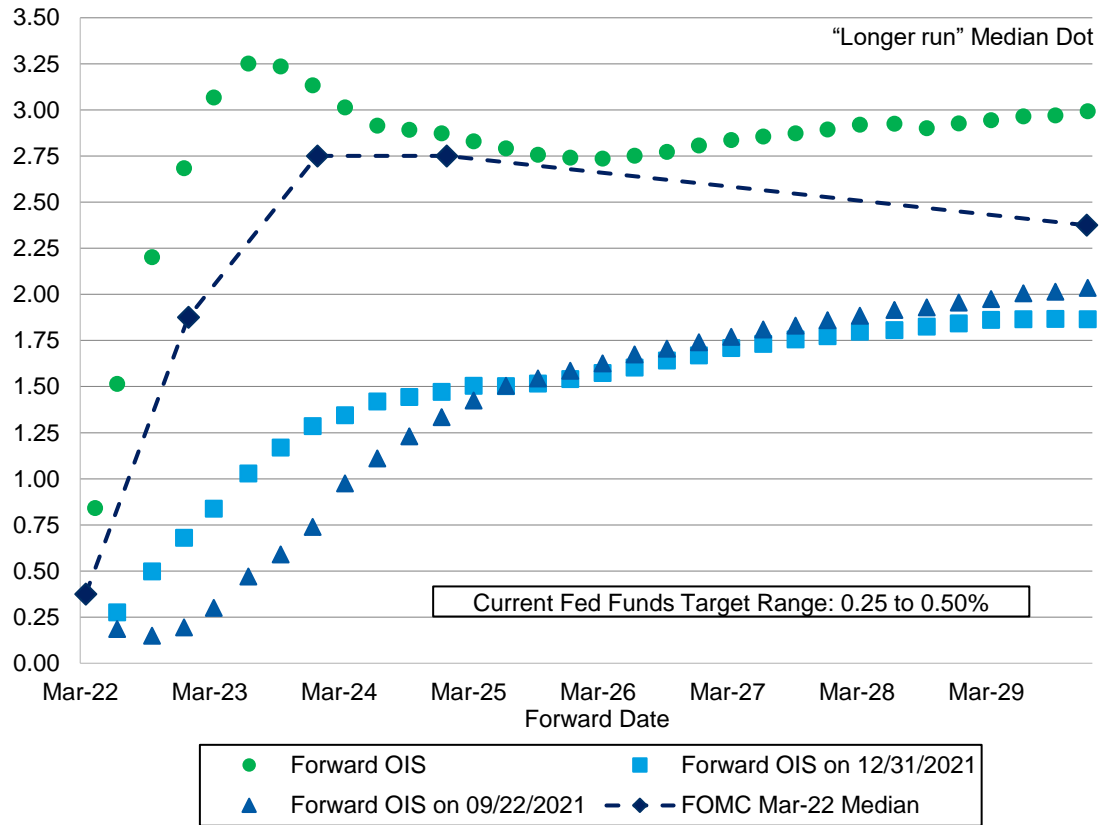
May FOMC: Full Speed Ahead Through Year End

The Federal Reserve Raises Fed Funds Rate and Indicates Near Term Balance Sheet Reduction

- Amidst heightened volatility in 2022, coupled with the Omicron variant and Russia Ukraine conflict, the **FOMC met market expectations and decided to raise the Fed Funds Rate by 25bps at its March meeting and 50bps at its May meeting.**
- **The market is now fully pricing in eight rate hikes by YE 2022** and almost a full percentage point increase by June
- With the explicit omission of COVID-19 and addition of the Russia Ukraine war, the Committee indicated the movement of risks away from pandemic developments and instead towards geopolitical risks
- With the March FOMC Meeting showing highly dispersed dots over the next three years, data releases between now and the next meeting will continue to determine how and what the next rate hike will look like – furthering the discussion of 25bp vs 50bp for every meeting moving forward
- A formal announcement on balance sheet reduction will be at “coming” meeting, no explicit date was given

Projected Future Fed Funds Rate (%)

Data as of April 11, 2022

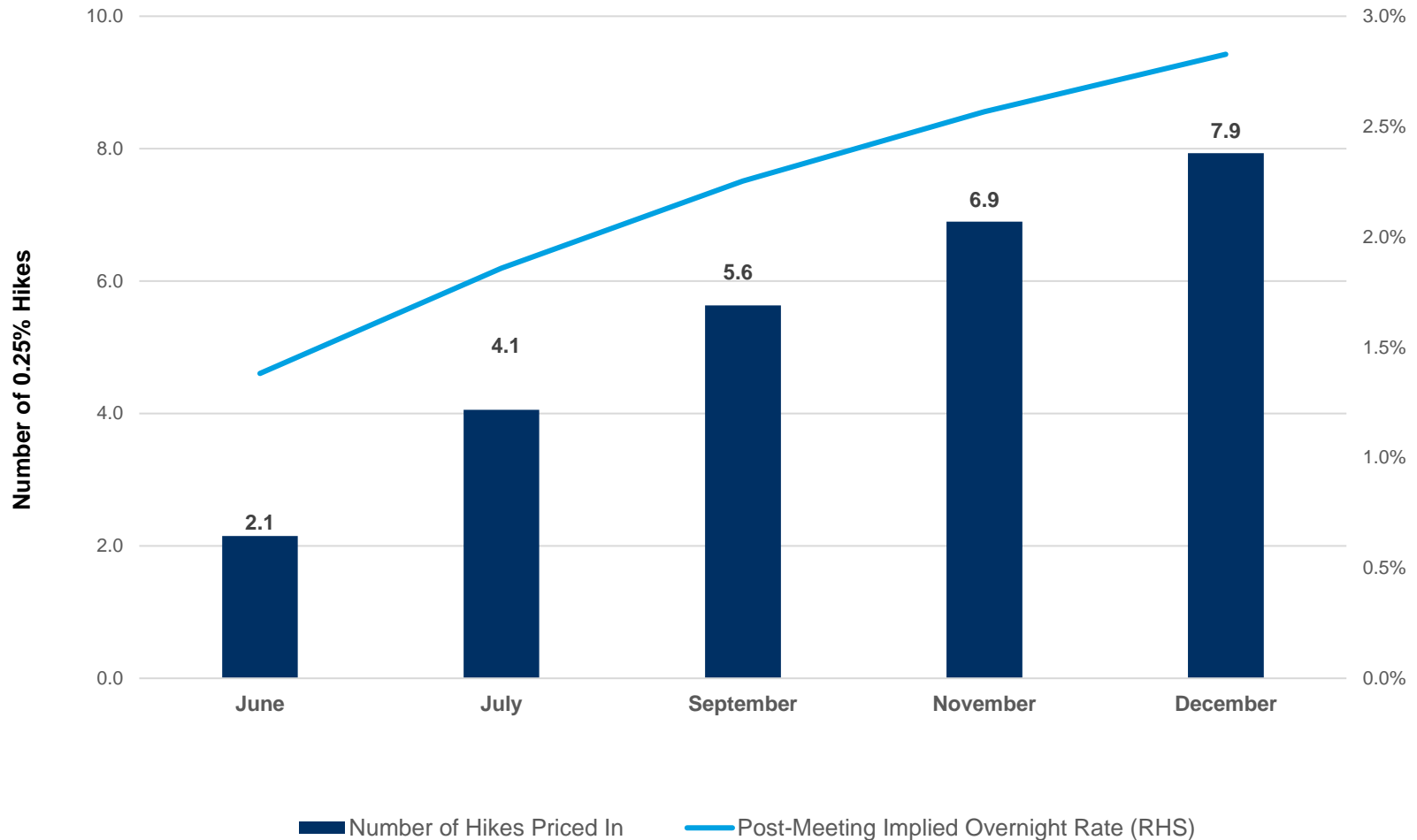


Source: Federal Reserve Board, Bloomberg, Morgan Stanley Investment Management

Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. These are intended for informational purposes only and are not to be construed as investment advice.

The Market is Pricing in Around 8 Interest Rate Hikes by Year-End

Data as of May 6, 2022

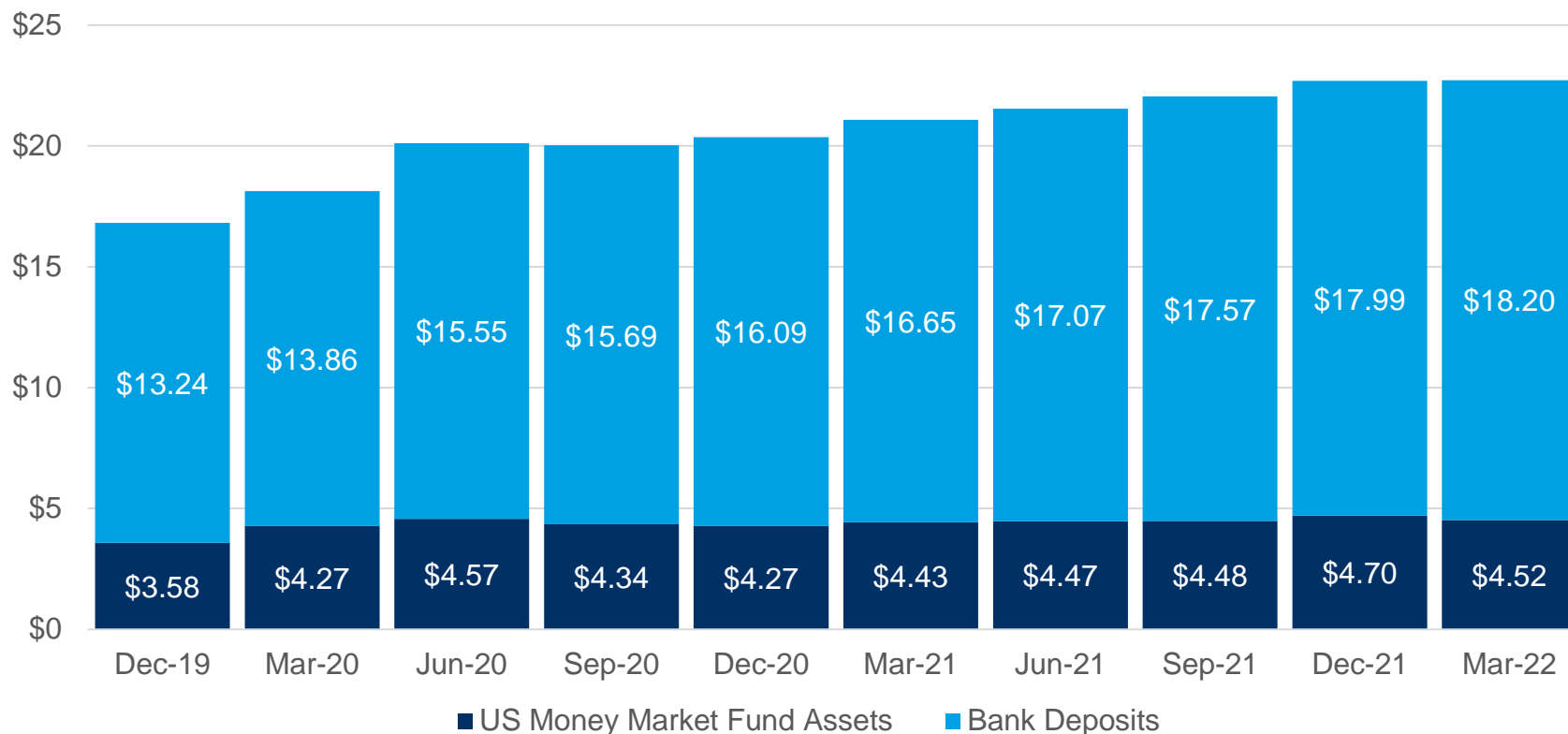


Source: Bloomberg and Morgan Stanley Investment Management. Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass.

Cash Levels Continue to Grow

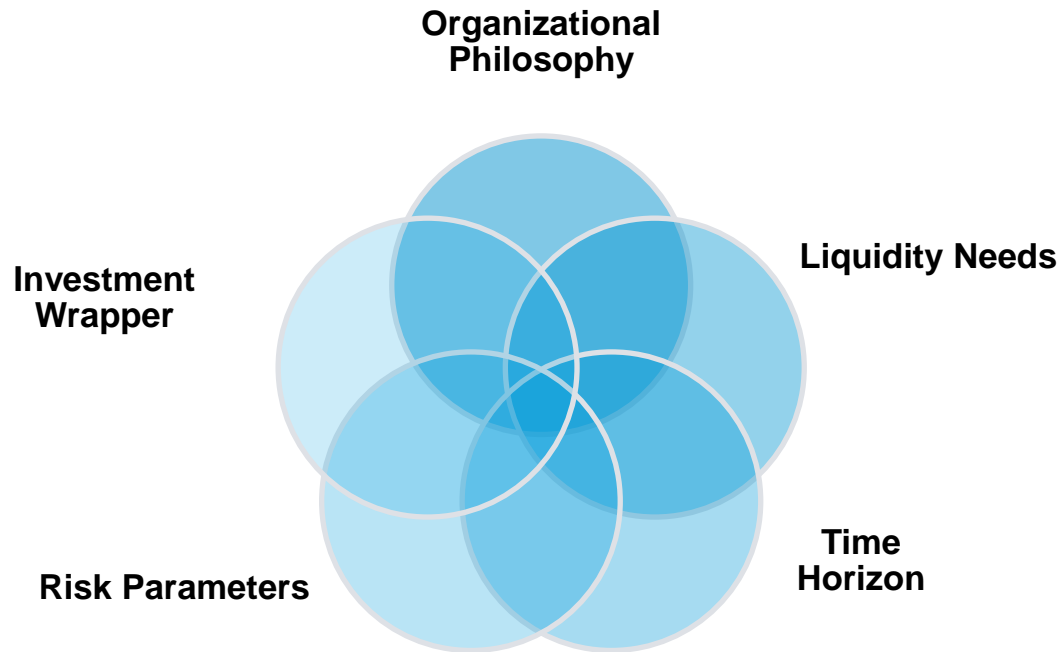
Overall cash levels have increased by almost \$6 trillion since the beginning of 2020

December 31, 2019 – March 31, 2022



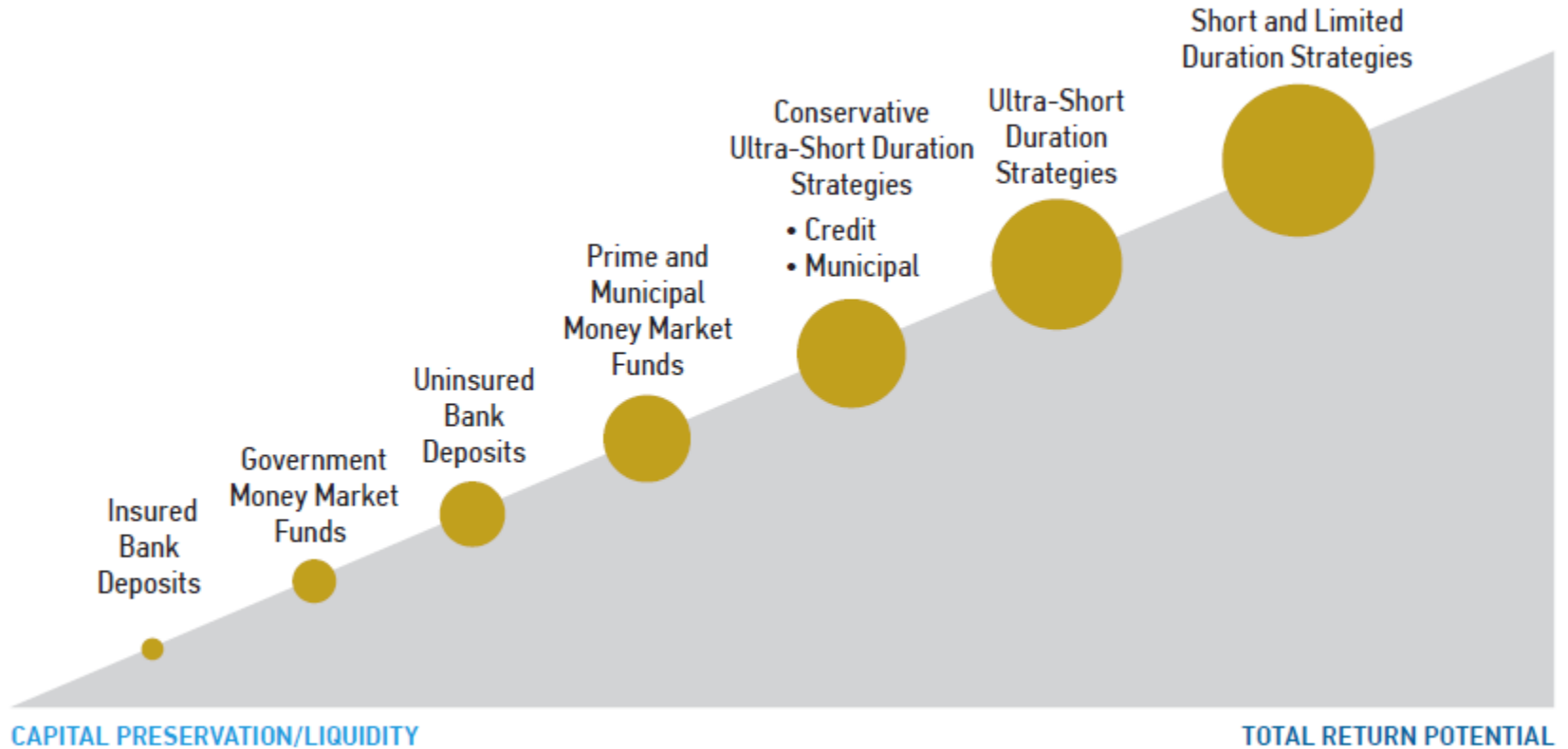
Data in trillions of dollars
 Source: Federal Reserve H.8, iMoneyNet

The Optimal Investment Strategy Considers Different Factors



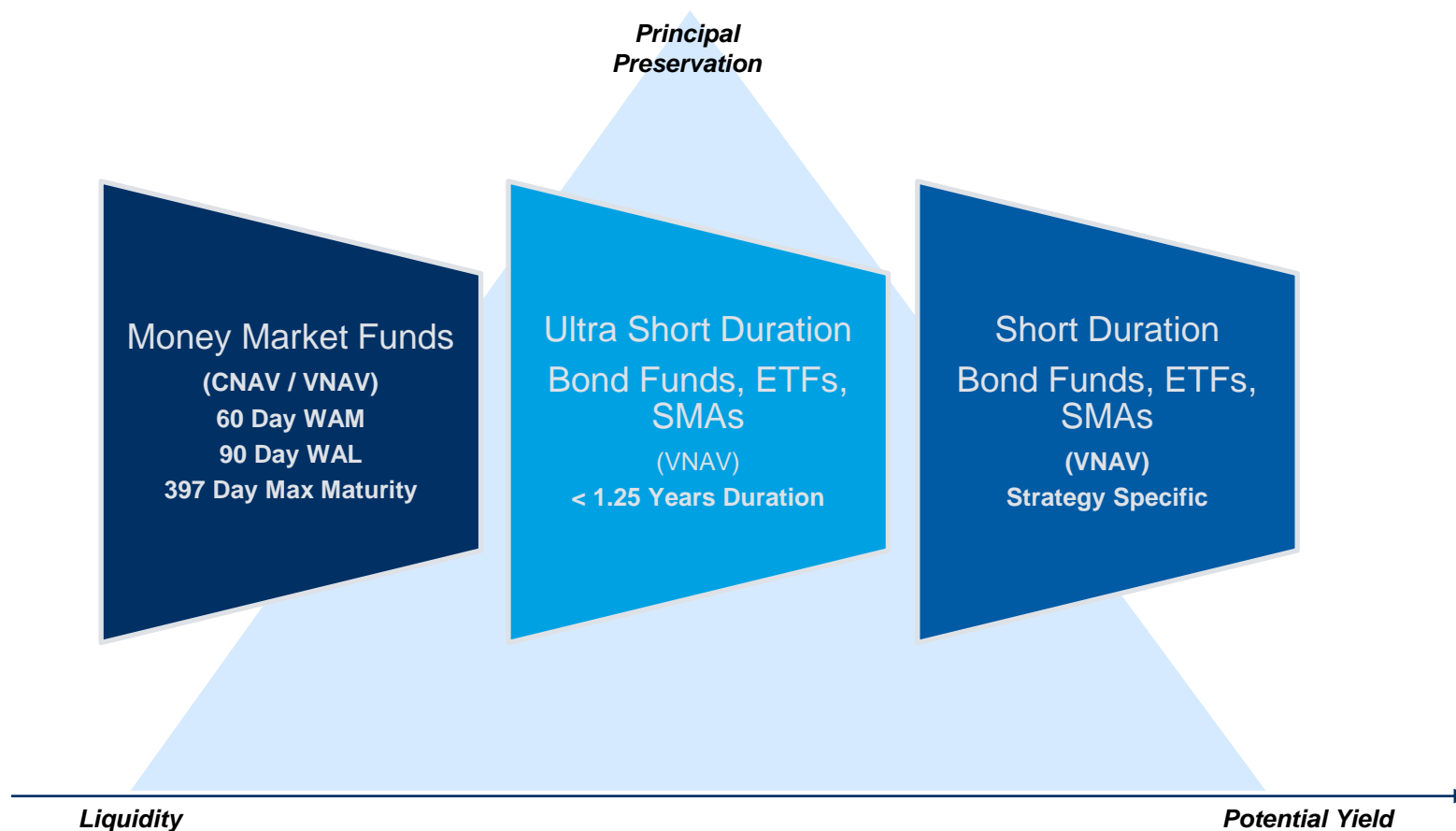
- Is the Investment Strategy aligned with your Investment Philosophy?
- How confident are you in your cash flow forecasts & can you align our investment strategy with cash needs?
- Have you coordinated your investment changes with internal and external constituents?
- What investment wrappers/vehicles are best given your objectives?

Cash Investment Strategies



This is shown for illustrative purposes.
Source: MSIM, iMoneyNet

Liquidity Investors have an “Impossible Trinity”



Liquidity Investors have as their objectives Principal Preservation, Liquidity, and Yield, which economists view as an “Impossible Trinity.” Impossible, since investors generally need to sacrifice at least one of the objectives to achieve the others. Segmenting your liquidity may optimize your liquidity and better align goals to liquidity needs.

Source: Morgan Stanley Investment Management and Bloomberg.

Segmenting Liquidity Can Better Align Goals and Objectives

- The ability to optimize cash flow forecasting with a reasonable degree of success has long-term benefits and may provide opportunities to adopt certain strategies while mitigating funding and liquidity risks
- As investors consider their overall strategy, we believe an important aspect will be the ability to segment cash appropriately
- Investors will likely need to segment their liquidity into balances needed immediately, and those that are more stable
- Bifurcating your cash may not only provide greater portfolio diversification, but enhance the investment return as well

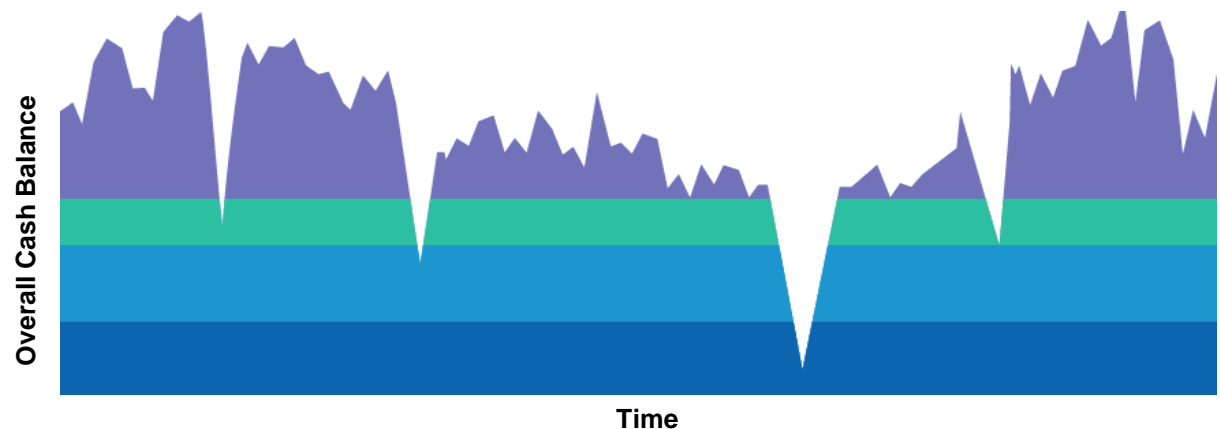
Overall Cash Segmentation Strategy Model Cash Flow

Daily Operating Cash
Investment Horizon: 0-30 days

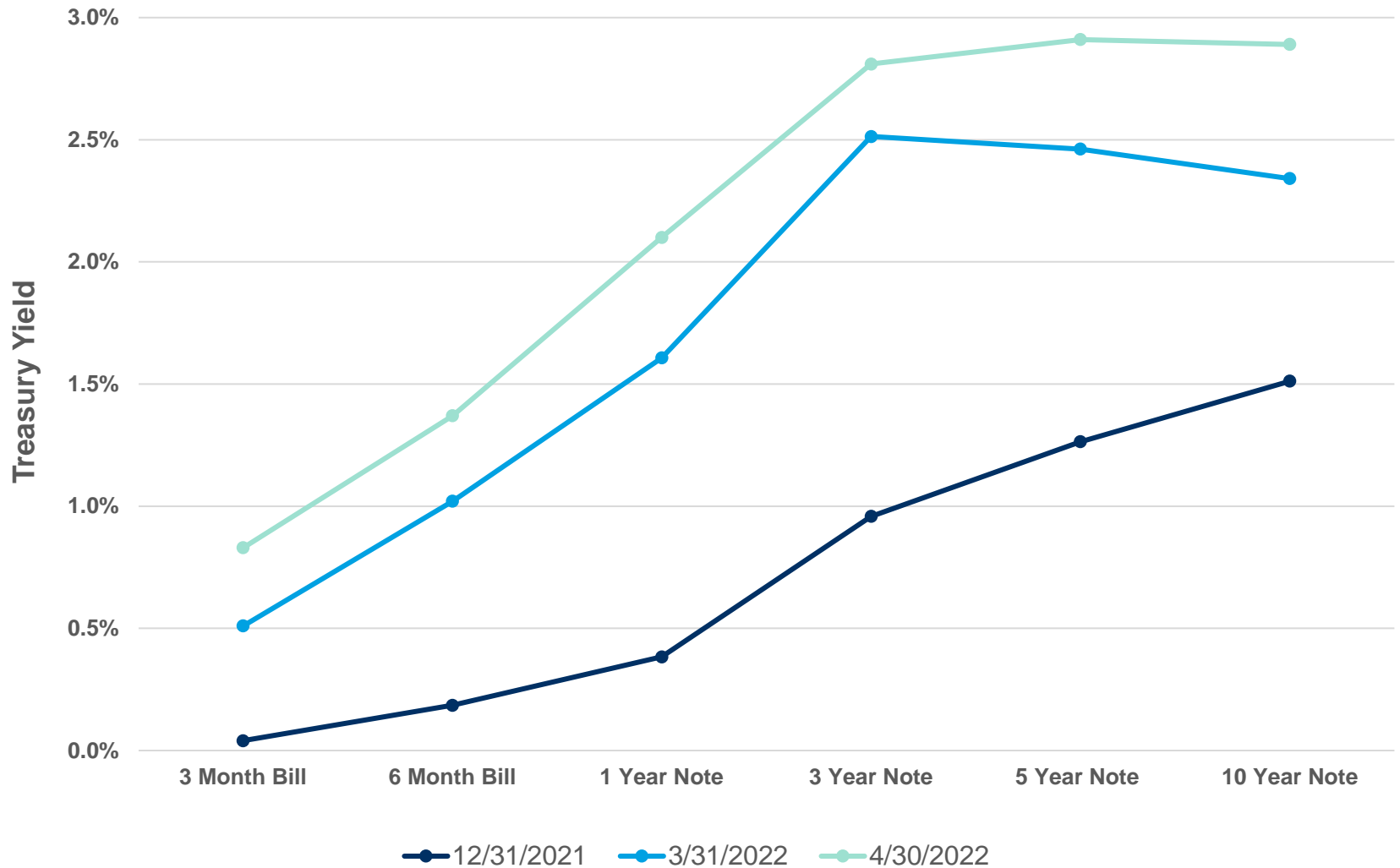
Reserve Operating Cash
Investment Horizon: 31-180 days

Strategic Cash
Investment Horizon: 181 days-1 year

Longer-Term Investment Cash
Investment Horizon: 1-3 years



Treasury Yield Curve Evolution

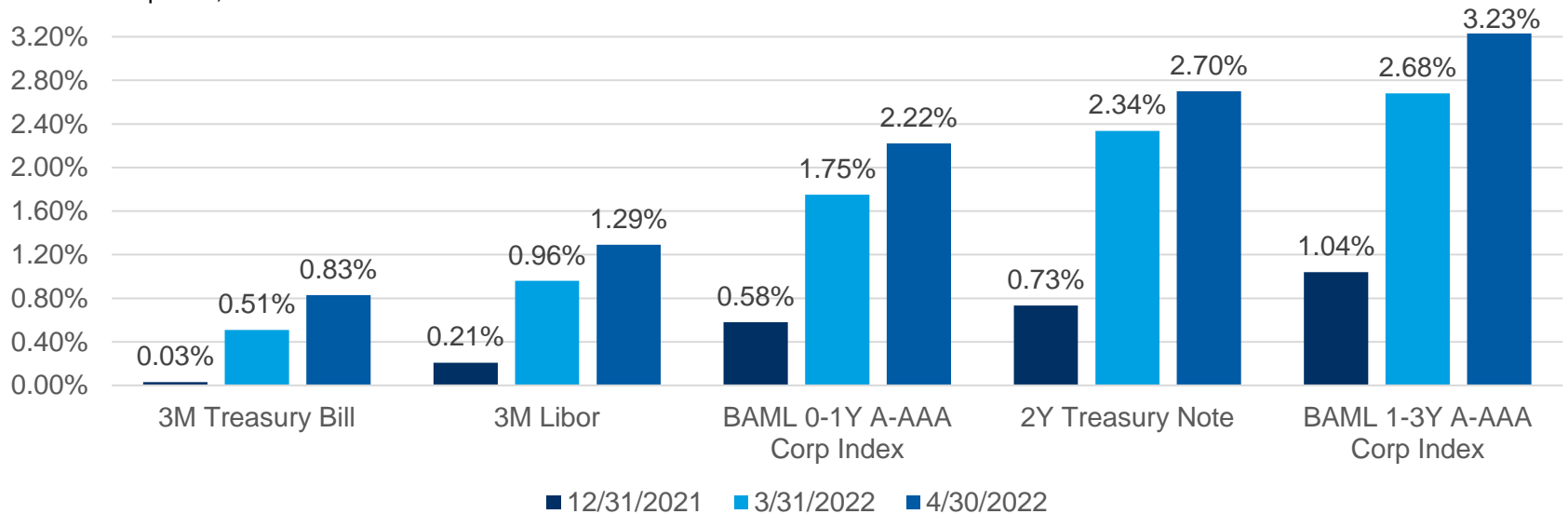


The yield environment has changed rapidly

- Cash balances are near all-time highs with rates near record lows – What to do now?
- Since late September, there has been a considerable move higher in interest rates as more persistent inflation and fairly strong economic data has moved the market to expect potential increases in the federal funds rate sooner than had previously been expected

Market Yields

Data as of April 30, 2022



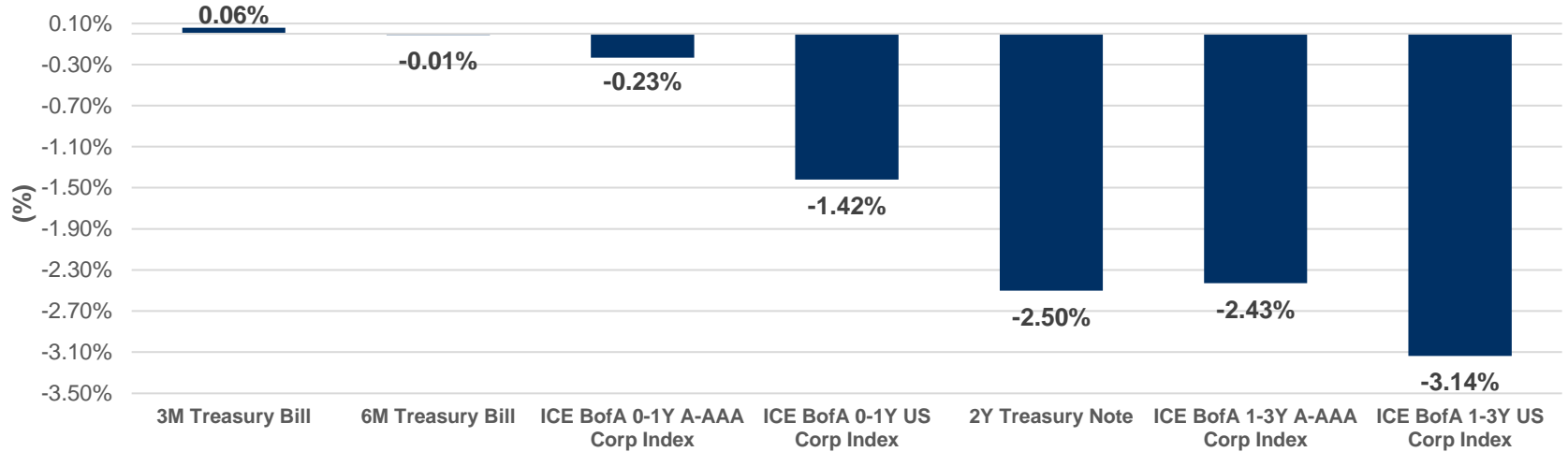
Performance data quoted represents past performance, which is no guarantee of future results, and current performance may be lower or higher than the figures shown. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment. Data as of April 30, 2022

Source: Morgan Stanley, Bloomberg.

Bond market performance YTD shows the risks of rising rates...

Total Return Year-To-Date 1Q 2022

As of April 30, 2022



Bond Market Drivers in the first quarter

Rising rates – Yields moved considerably higher as the market re-priced expectations for the Fed during the quarter, 6-month Treasury yields rose by 84bps and 2-year Treasury rose by 155bps

Widening spreads – The war in Ukraine created instability and led to a surge in USD funding which pressed spreads wider, although markets recovered somewhat in the latter part of March

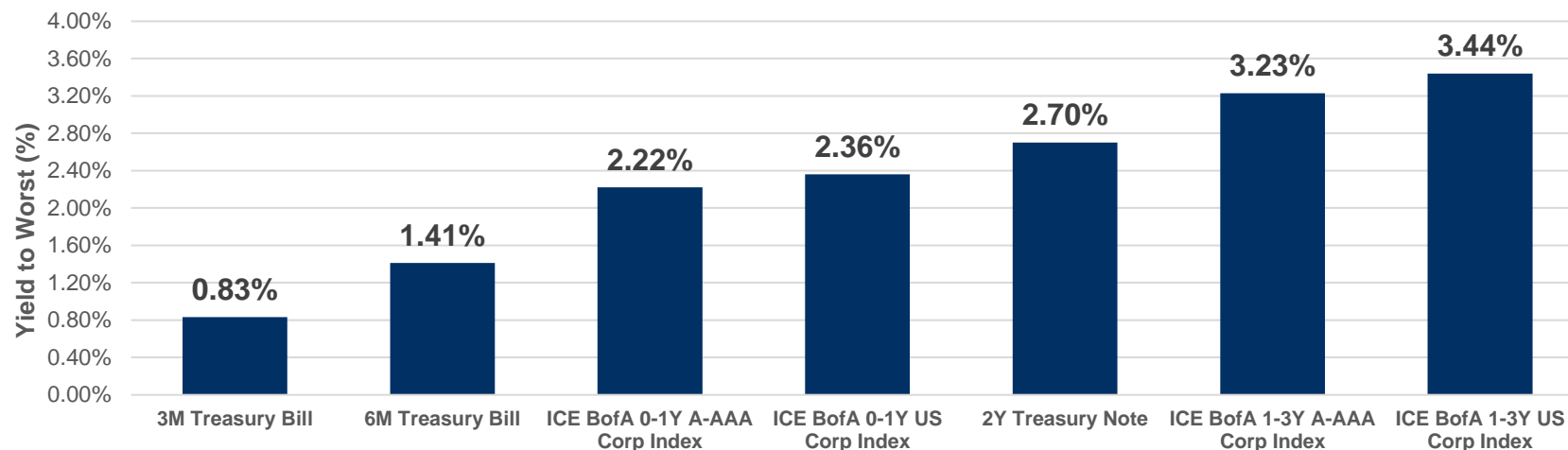
Performance data quoted represents past performance, which is no guarantee of future results, and current performance may be lower or higher than the figures shown. The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment.

Source: Bloomberg

...But yields in short-term fixed income show the potential rewards...

Index Yields*

As of April 30, 2022



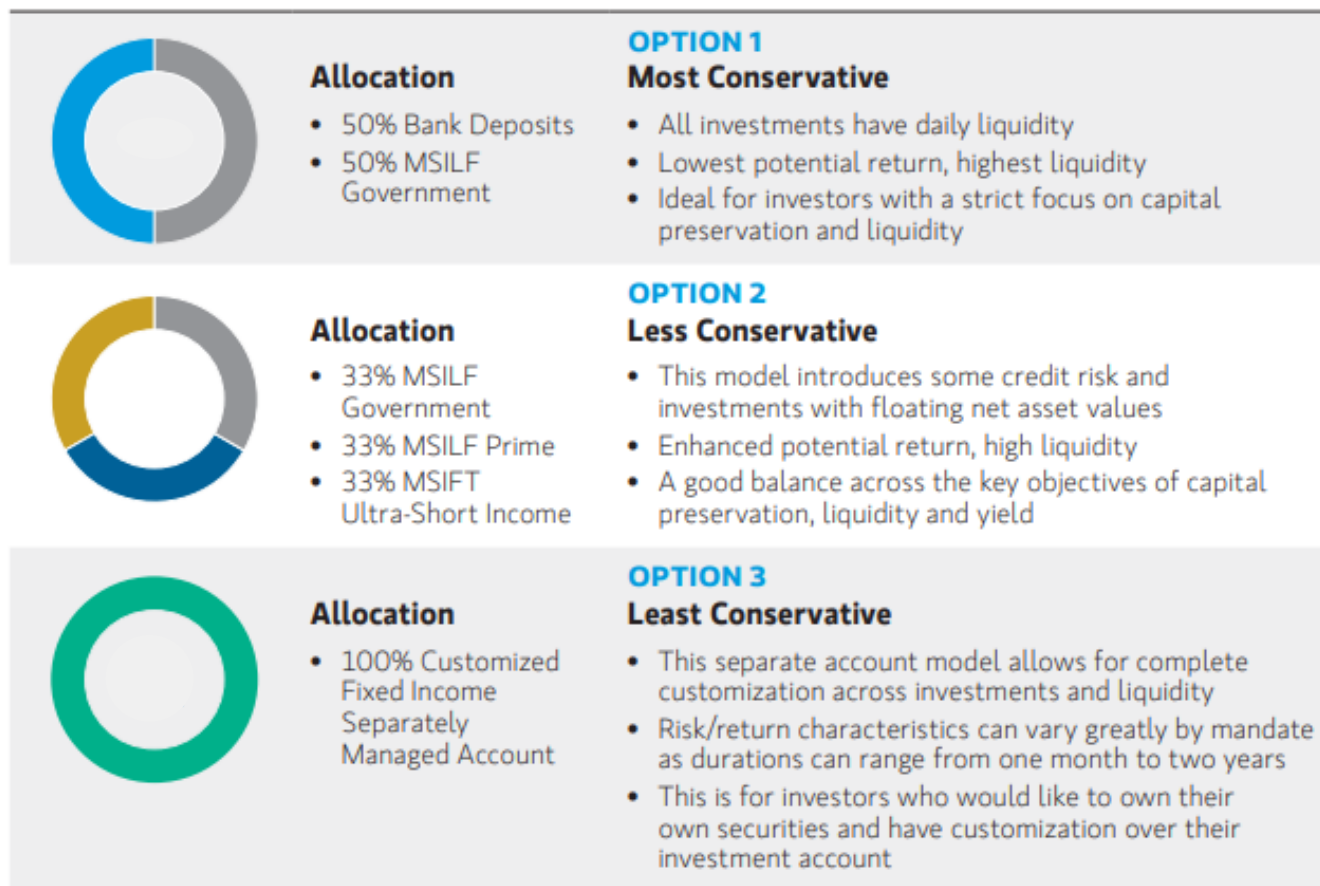
Index Statistics

As of April 30, 2022

Index	Effective Duration (Years)
3 Month Treasury Bill	~0.25
6 Month Treasury Bill	~0.50
ICE BofA 0-1 Year A-AAA Corp Index	0.55
2 Year Treasury Bill	~2.00
ICE BofA 0-1 Year US Corp Index	0.53
ICE BofA 1-3 Year A-AAA Corp Index	1.93
ICE BofA 1-3 Year US Corp Index	1.92

The index performance is provided for illustrative purposes only and is not meant to depict the performance of a specific investment. **Past Performance is no guarantee of future results.** Source: Bloomberg *For ICE BofA Indices, Yield To Worst is Displayed

How to Allocate your Liquidity Portfolio



The allocations are shown solely for information and educational purposes and do not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. Bank deposits are insured by the FDIC and offer a fixed rate of return, whereas the return and principal value of an investment in mutual funds fluctuates with changes in market conditions.

Defining Sustainable Investing



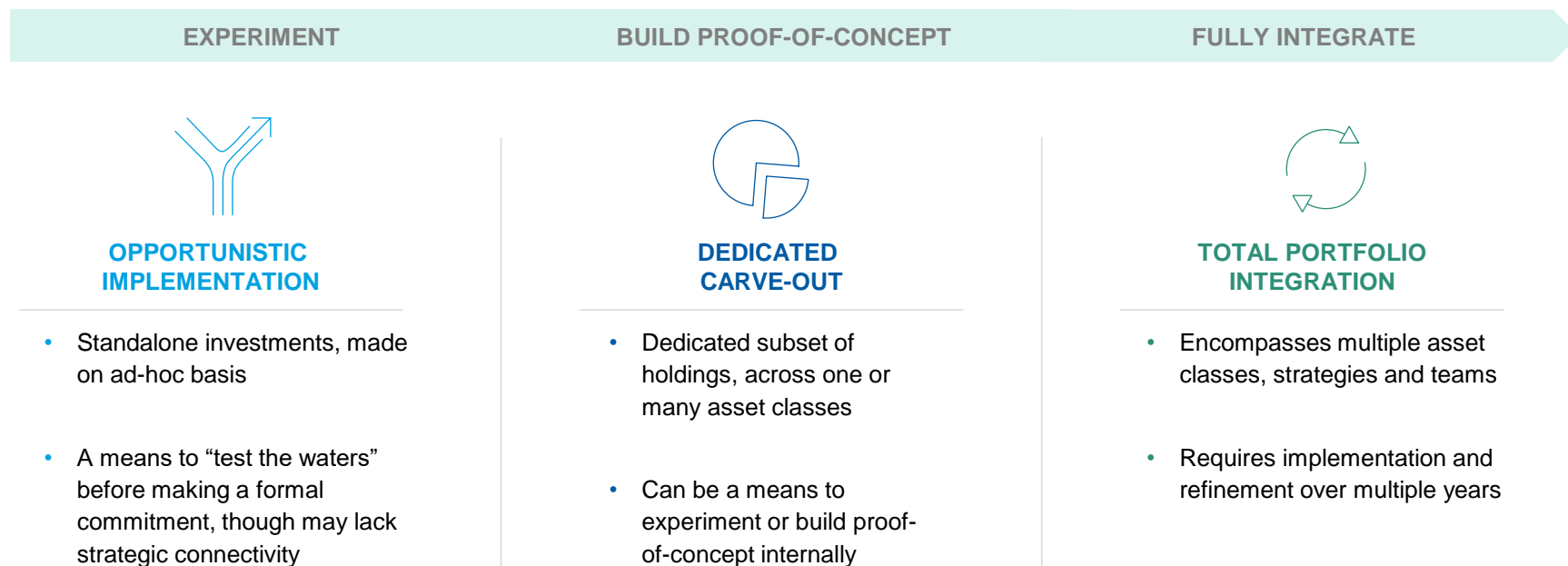
“Sustainable Investing” can be defined as a spectrum of practices that use ESG information and criteria to help deliver returns for clients and shape dedicated investment solutions

Sustainable Investing Roadmap at an Organizational Level

Starting the Conversation to Make the Case for Sustainable Investing

- The case for incorporating sustainable investing practices is only getting stronger
- Corporate policies – Are ESG or sustainable goals part of your organization's focus? If so, it is important to understand your motivation behind these objectives
- Investment policy – integrate sustainable factors into investing
 - Align your investments with organizational goals or mission statement
 - A growing array of sustainable conscious products are now available for cash investors

WHERE can sustainable investment criteria be implemented within your investment portfolio, initially and over time?



Source: MSIM and Morgan Stanley Institute for Sustainable Investing.

Sustainable Investing Options in the Cash Space

Key Areas of Sustainable Investing Focus

Environmental,
Social, and
Governance (ESG)

Diversity & Inclusion
(D&I)

What is the difference between ESG and D&I Investing?

- **ESG Investing** → Strategies that have a sustainable investing tilt
 - Consider specific environmental, social and governance factors
- **D&I Investing** → Strategies that operate with the goal of promoting or aligning their operations with diversity & inclusion broker-dealers or D&I causes
 - D&I broker-dealers are owned by minorities, women, disabled persons, veterans and members of other recognized diversity and inclusion groups

ESG Integration


There are several layers of ESG integration, the question is “How ESG is a strategy”?

- Are ESG factors considered in the credit research process?
- Does the strategy calculate proprietary ESG scores?
- Does the strategy establish minimum ESG scoring thresholds?
- Does the strategy apply ESG-related issuer exclusions?
- What % of NAV is required to meet the strategy’s ESG criteria?


D&I Investing in U.S. Money Market Funds

Background

- Currently there are three main avenues for D&I investing in the U.S. money markets:
 - Placing investments in Money Market Funds which seek to place trades with D&I broker-dealers
 - Placing investments in Diversity & Inclusion Broker-Dealer Share Classes
 - Placing investments with funds that have an explicit charitable contribution feature



Money Market Funds
Emphasizing
D&I Broker-Dealer Trading



D&I Broker-Dealer
Share Classes



Money Market Funds
Making
Explicit Charitable
Contributions

Cash and Liquidity Management in 2022 and Beyond

- Emerging trends, available resources, and variations on existing themes will be at the forefront of investor considerations
- How these key topics are strategically addressed will influence the direction of corporate treasury organizations



Morgan Stanley

INVESTMENT MANAGEMENT

SECTION 2

Treasury Management Technology & Product Innovation

Technology Trends in Treasury & Cash Management

What options are available today?

	Reason for Use	Challenges / Constraints
Microsoft Excel And available add-ons	<ul style="list-style-type: none"> Ubiquitous Free Flexible Powerful Analytics 	<ul style="list-style-type: none"> Version control Security Need to know what reporting to build, how to build it, and how to keep it updated Relies on manually loading data
ERP Treasury Modules	<ul style="list-style-type: none"> Finance leadership/IT decision to focus on one financial system Cash integrated with accounting Connected to external financial partners 	<ul style="list-style-type: none"> Difficult to use Accounting focused, not cash focused Requires significant IT support Lengthy implementation Contractual requirements needed with 3rd party to implement/train
Bank Treasury Portals	<ul style="list-style-type: none"> Origin of cash data Enhancements in reporting Connections to Excel templates Multibank reporting 	<ul style="list-style-type: none"> Limited but growing analytics Unfavorable user experience Limited integration and customization support
Custom / Home Grown Systems	<ul style="list-style-type: none"> Highly customized reporting needs Built for specific purpose(s) or unique business requirements Had access to development talent 	<ul style="list-style-type: none"> Difficult to build, maintain, update Typically required manual intervention Oftentimes expensive
Treasury Management System (TMS) Workstations - Full and Lite Solutions	<ul style="list-style-type: none"> Treasury/cash focused tools Connected to external financial partners Powerful analytics and other tools 	<ul style="list-style-type: none"> Legacy TMS systems required IT support Lengthy implementation Difficult user experience Expensive Contractual requirements needed with 3rd party to implement/train
Data Visualization Tools Tableau QlikView, Power BI	<ul style="list-style-type: none"> Powerful and interactive imagery to relay information Communicate more effectively and with people who may not be as familiar with the data Ease of use with drag and drop interfaces 	<ul style="list-style-type: none"> Need to maintain connectivity and database in separate system Requires some IT support Need to know what reporting to build, how to build it, and how to keep it updated
Bots	<ul style="list-style-type: none"> Automated aggregation of data Complete routine tasks efficiently and accurately 	<ul style="list-style-type: none"> Need IT resources to build and maintain Focused on data gathering processes and not necessarily on information reporting

Money Market Portals

Options for Investing in Money Market Funds

- **Direct investment with Money Market Fund Provider**
 - Account(s) opened directly with each money market fund provider
 - Having direct relationship with each fund provider has pros and cons

- **Bank Sweep**
 - Automated investing based on available cash each day
 - Most of the time only allows for investment into one fund

- **Active Trading on Money Market Portal**
 - Centralized platform that allows active trading in multiple money market funds
 - Several different operational models available
 - Some offer additional cash management investment products
 - Likely can integrate with other treasury technology

Money Market Portals

Utility of Money Market Portals

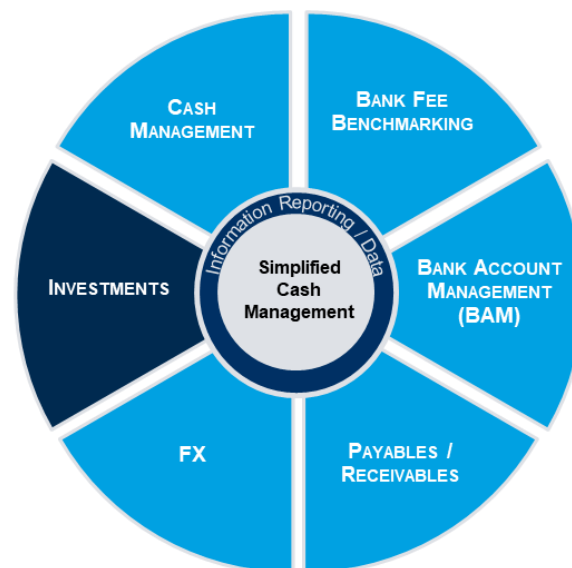
- **Centralized Platform for Cash Investment Needs**
 - Numerous fund families available
 - Additional products offered
- **Analytics**
 - Fund Metrics
 - Exposure analytics such as country, security type and issuer
 - Pre-trade scenario analysis
- **Enhanced Trading Workflows**
 - Dual-Authorization
 - Future Dated Trading
 - Bulk trading uploads
 - Automated Settlement
- **Compliance Tools**
 - Set rules against your investment policy statement
 - Receive alerts based on investment policy rule breaches or on fund metrics
- **Reporting**
 - Consolidated month-end reporting
 - Historical reporting on transactions and interest accruals
 - Build custom reports
 - Export Reports to excel or PDF
- **Integration with other systems**
 - Connect to your TMS, ERP, or Accounting systems
 - Transactions, balances, accruals, and fund information
- **Multiple Operating Models to Choose From**
 - Custody/Omnibus
 - Fully Disclosed/Direct-to-Fund
- **Numerous Portal Providers to choose from**
 - Banks
 - Independent Technology Providers
 - Asset Managers

Portal and TMS Partnerships

Redefining the User Experience

- Partnerships simplify cash / investments process, increase visibility and save time
- TMS and Investment Portal partnerships provide unique mix of solutions for day-to-day cash management
 - Combines core TMS functionality with diversified and competitive MMFs
 - Single cash decision platform
 - Favorable user experience
 - Discounted or no cost solutions
- Reasons why TMS / Investment Portal partnership makes sense
 - Advances in technology: (SSO) and API for information reporting and transacting
 - Demographic shift in FACT (finance, accounting, and corporate treasury)
 - Expanded responsibilities for cash management teams heightens need for time savings and efficiency
 - Integrating systems can potentially reduce fraud
- Outlook
 - More integration and automation of cash management tools
 - Pre-integrated partner solutions for a one-stop shop
 - Enhanced analytics, AI and intelligence across cash, investments and debt
 - Blockchain: faster settlement, reduced errors, security, and cost savings
 - Heightened need for more security

Cash and Investment Portal Partnerships



Morgan Stanley

INVESTMENT MANAGEMENT

Disclosures

Risk Considerations

STABLE NAV FUNDS: You could lose money by investing in the Fund. Although the Fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Funds' sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.

Prime and ESG Portfolio - This Portfolio will be required to price and transact in their shares at a floating Net asset value ("NAV") and will be permitted to impose a liquidity fee on redemptions or temporarily restrict redemptions in the event that the Portfolio's weekly liquid assets fall below certain thresholds.

FLOATING NAV FUNDS: You could lose money by investing in the Fund. Because the share price of the Fund will fluctuate, when you sell your shares they may be worth more or less than what you originally paid for them. The Fund may impose a fee upon the sale of your shares or may temporarily suspend your ability to sell shares if the Fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Funds' sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market value of securities owned by the portfolio will decline. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in a portfolio. Please be aware that this portfolio may be subject to certain additional risks.

ESG Strategies that incorporate impact investing and/or Environmental, Social and Governance (ESG) factors could result in relative investment performance deviating from other strategies or broad market benchmarks, depending on whether such sectors or investments are in or out of favor in the market. As a result, there is no assurance ESG strategies could result in more favorable investment performance.

Cryptocurrency (notably, Bitcoin) operates as a decentralized, peer-to-peer financial exchange and value storage that is used like money. It is not backed by any government. Federal, state or foreign governments may restrict the use and exchange of cryptocurrency. Cryptocurrency may experience very high volatility.

Important Disclosures

RISK CONSIDERATIONS

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market values of securities owned by the portfolio will decline. Market values can change daily due to economic and other events (e.g. natural disasters, health crises, terrorism, conflicts and social unrest) that affect markets, countries, companies or governments. It is difficult to predict the timing, duration, and potential adverse effects (e.g. portfolio liquidity) of events. Accordingly, you can lose money investing in these portfolios. Please be aware that this portfolio may be subject to certain additional risks.

Fixed-income are subject to the ability of an issuer to make timely principal and interest payments (credit risk), changes in interest rates (interest rate risk), the creditworthiness of the issuer and general market liquidity (market risk). In a rising interest-rate environment, bond prices may fall and may result in periods of volatility and increased portfolio redemptions. In a declining interest-rate environment, the portfolio may generate less income. **Longer-term securities** may be more sensitive to interest rate changes. The Portfolio is more susceptible to any economic, business, political, regulatory or other developments that adversely affect issuers in the **financial services** industry than a fund that does not concentrate its investments in the financial services industry. **Asset-backed securities** involve the risk that various federal and state consumer laws and other legal and economic factors may result in the collateral backing the securities being insufficient to support payment on the securities. Some asset backed securities also entail prepayment risk, which may vary depending on the type of asset. Portfolio may be susceptible to political, economic, regulatory or other factors affecting issuers of these municipal obligations. To the extent that the Portfolio invests in **municipal obligations** of issuers in the same economic sector, it could be more sensitive to economic, business or political developments which affect such sectors.

Repurchase agreements are subject to risks associated with the possibility of default by the seller at a time when the collateral has declined in value, or insolvency of the seller, which may affect the Portfolio's right to control the collateral and result in certain costs and delays. Repurchase agreements may involve a greater degree of credit risk than investments in **U.S. government securities**. Certain U.S. government securities purchased by the Strategy, such as those issued by Fannie Mae and Freddie Mac, are not backed by the full faith and credit of the U.S. It is possible that these issuers will not have the funds to meet their payment obligations in the future. **Foreign securities** are subject to currency, political, economic and market risks. The risks of investing in emerging market countries are greater than risks associated with investments in foreign developed countries. **Liquidity**. The Portfolio's investments in illiquid securities may entail greater risk than investments in publicly traded securities. These securities may be more difficult to sell, particularly in times of market turmoil.

Important Disclosures

The views and opinions and/or analysis expressed are those of the author or the investment team as of the date of preparation of this material and are subject to change at any time without notice due to market or economic conditions and may not necessarily come to pass. Furthermore, the views will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date of publication. The views expressed do not reflect the opinions of all investment personnel at Morgan Stanley Investment Management (MSIM) and its subsidiaries and affiliates (collectively the Firm”) or the views of the firm as a whole, and may not be reflected in all the strategies and products that the Firm offers.

Forecasts and/or estimates provided herein are subject to change and may not actually come to pass. Information regarding expected market returns and market outlooks is based on the research, analysis and opinions of the authors or investment team. These conclusions are speculative in nature, may not come to pass and are not intended to predict the future performance of any specific strategy or product the Firm offers. Future results may differ significantly depending on factors such as changes in securities or financial markets or general economic conditions.

This material has been prepared on the basis of publicly available information, internally developed data and other third-party sources believed to be reliable. However, no assurances are provided regarding the reliability of such information and the Firm has not sought to independently verify information taken from public and third-party sources.

This material is a general communication, which is not impartial and all information provided has been prepared solely for informational and educational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy. The information herein has not been based on a consideration of any individual investor circumstances and is not investment advice, nor should it be construed in any way as tax, accounting, legal or regulatory advice. To that end, investors should seek independent legal and financial advice, including advice as to tax consequences, before making any investment decision.

Charts and graphs provided herein are for illustrative purposes only. **Past performance is no guarantee of future results.**

The indexes are unmanaged and do not include any expenses, fees or sales charges. It is not possible to invest directly in an index. Any index referred to herein is the intellectual property (including registered trademarks) of the applicable licensor. Any product based on an index is in no way sponsored, endorsed, sold or promoted by the applicable licensor and it shall not have any liability with respect thereto.

This material is not a product of Morgan Stanley’s Research Department and should not be regarded as a research material or a recommendation.

Important Disclosures

Ultra-short bond funds, like money market funds, are mutual funds that generally invest in fixed-income securities with short maturities. However, money market funds may only invest in certain high-quality, short term investments issued by the U.S. government, U.S. corporations and state and local governments and they are subject to strict diversification and maturity standards. Ultra-short bond funds are not subject to these requirements and may pursue strategies aimed at producing higher yields by investing in securities with higher risks. The net asset value (NAV) of an ultra-short bond fund will fluctuate.

Indexes do not include any expenses, fees or sales charges, which would lower performance. Indexes are unmanaged and should not be considered an investment. It is not possible to invest directly in an index.

Certain information herein is based on data obtained from third party sources believed to be reliable. However, we have not verified this information, and we make no representations whatsoever as to its accuracy or completeness.

Please consider the investment objectives, risks, charges and expenses of the portfolios carefully before investing. The prospectus contains this and other information about the portfolios. To obtain a prospectus, download one at www.morganstanley.com/liquidity or call 1.800.236.0992. Please read the prospectus carefully before investing.

A separately managed account may not be appropriate for all investors. Please consider the investment objectives, risks and fees of the Strategy carefully before investing. A minimum asset level is required. For important information about the investment manager, please refer to Form ADV Part 2.

NOT FDIC INSURED | OFFER NO BANK GUARANTEE | MAY LOSE VALUE | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY | NOT A DEPOSIT

Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

©2022 Morgan Stanley. Morgan Stanley Distribution, Inc is the distributor of the Morgan Stanley Liquidity Funds.