

Effective Governance During Periods of Investment Volatility

Annette Gaston

Senior Managing Consultant

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pfmam.com

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Agenda

- ▶ **Overview of Current Market Conditions**
- ▶ **Time to Get Back to Basics**
- ▶ **Navigating Volatility, Uncertainty, Complexity, and Ambiguity**
- ▶ **Conclusion**



Overview of Market Conditions



Current Market Themes



- ▶ The U.S. economy is characterized by:
 - ▶ Lingering inflation that remains well above the Fed's long-term inflation target
 - ▶ A labor market showing the first signs of moderation
 - ▶ Greater economic uncertainty following the surprise failure of Silicon Valley Bank and Signature Bank



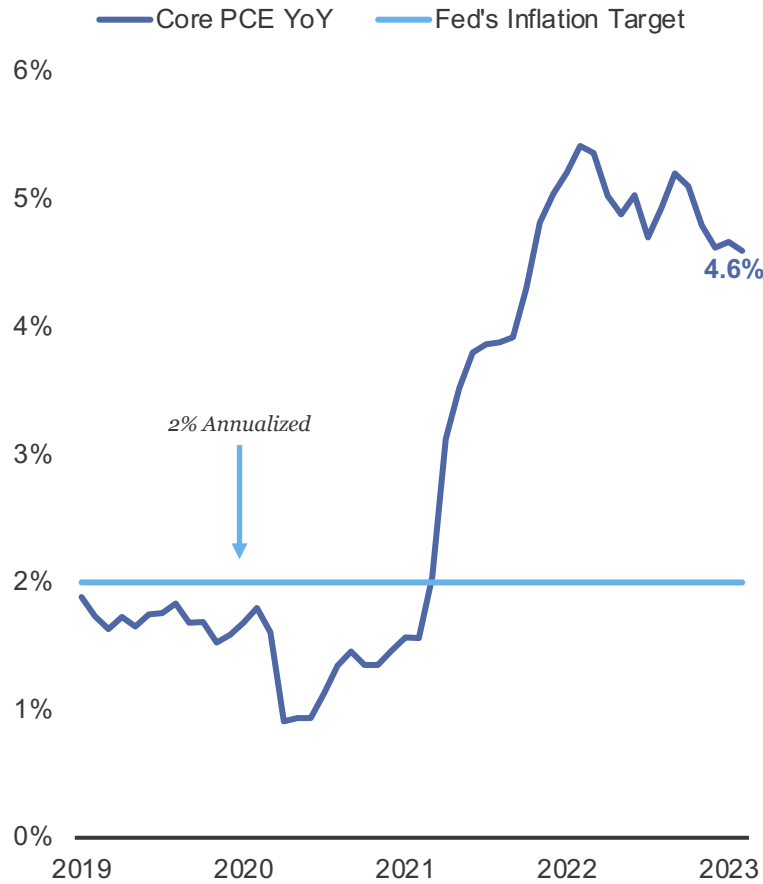
- ▶ Fed policy tightening may be nearly complete
 - ▶ The most recent FOMC statement noted that “some additional policy firming may be appropriate,” but the need for more rate hikes has become less clear
 - ▶ Although the Fed acknowledged the impact of the recent bank failures, their March updated Summary of Economic Projections were little changed from December
 - ▶ The Fed has maintained that they will keep rates elevated for some time, but the market is pricing in rate cuts beginning mid-year



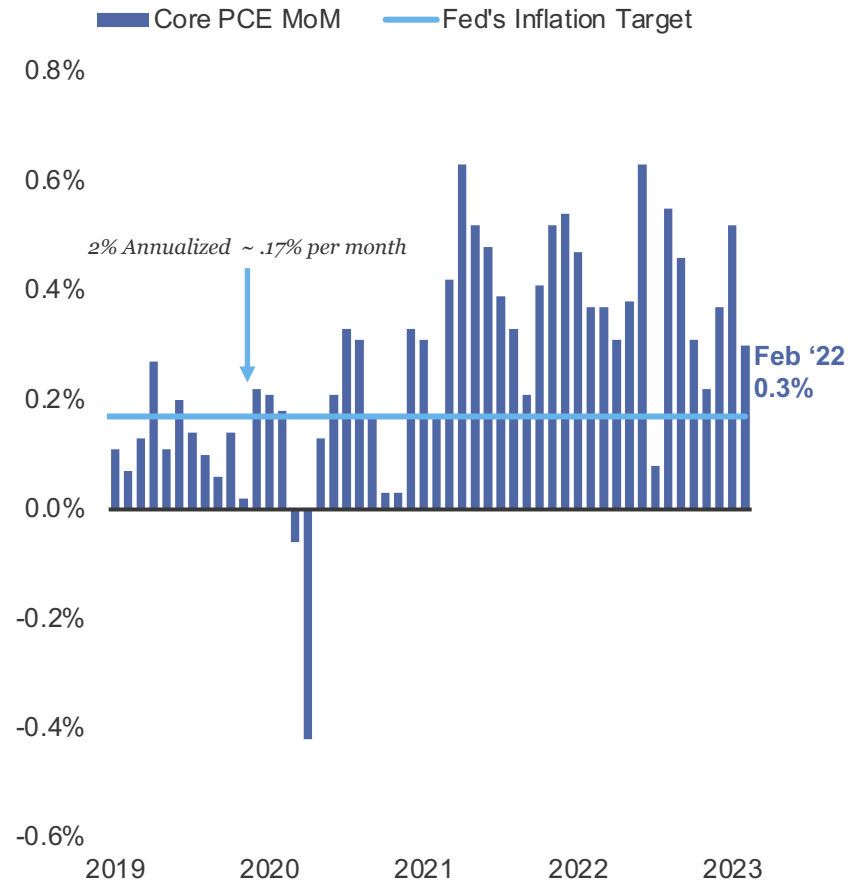
- ▶ Bond markets saw unprecedented volatility in March
 - ▶ In a classic “flight to quality,” Treasury yields fell sharply, with the 2-year Treasury yield falling from 5.07% on March 8 to under 4.00% on March 17
 - ▶ The curve inversion from 3 months to 10 years reached the deepest levels in over 40 years
 - ▶ Credit yield spreads widened, especially those on banks, but not nearly to levels seen during the global financial crisis

Inflation Remains Above Fed Target

Inflation



Inflation

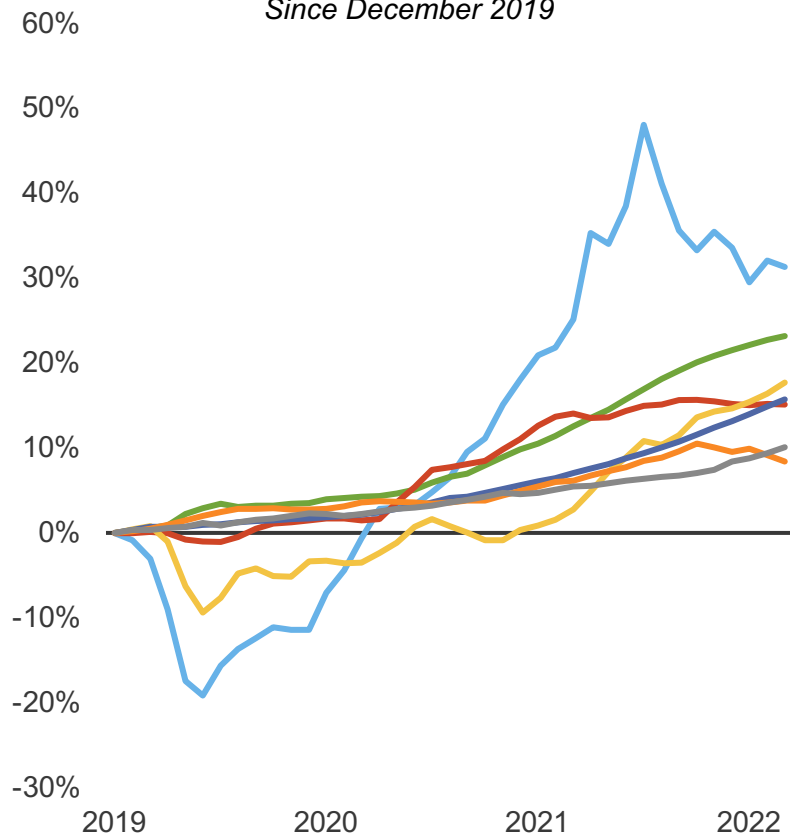


Source U.S. Bureau of Economic Analysis, Federal Reserve, as of February 2023.

Is the Fed Looking at the Right Data?

Price Change of Major CPI Components

Since December 2019



CPI Component	12-mo. Change	Weight ¹	Contribution to YoY CPI
Energy	5.0%	7.1%	0.4%
Food	9.5%	13.5%	1.3%
Transportation	14.6%	5.8%	0.8%
Goods	1.0%	21.3%	0.2%
Shelter	8.1%	34.4%	2.8%
Medical services	2.1%	6.6%	0.1%
Other Services ²	4.3%	11.3%	0.5%
Overall	6.0%		

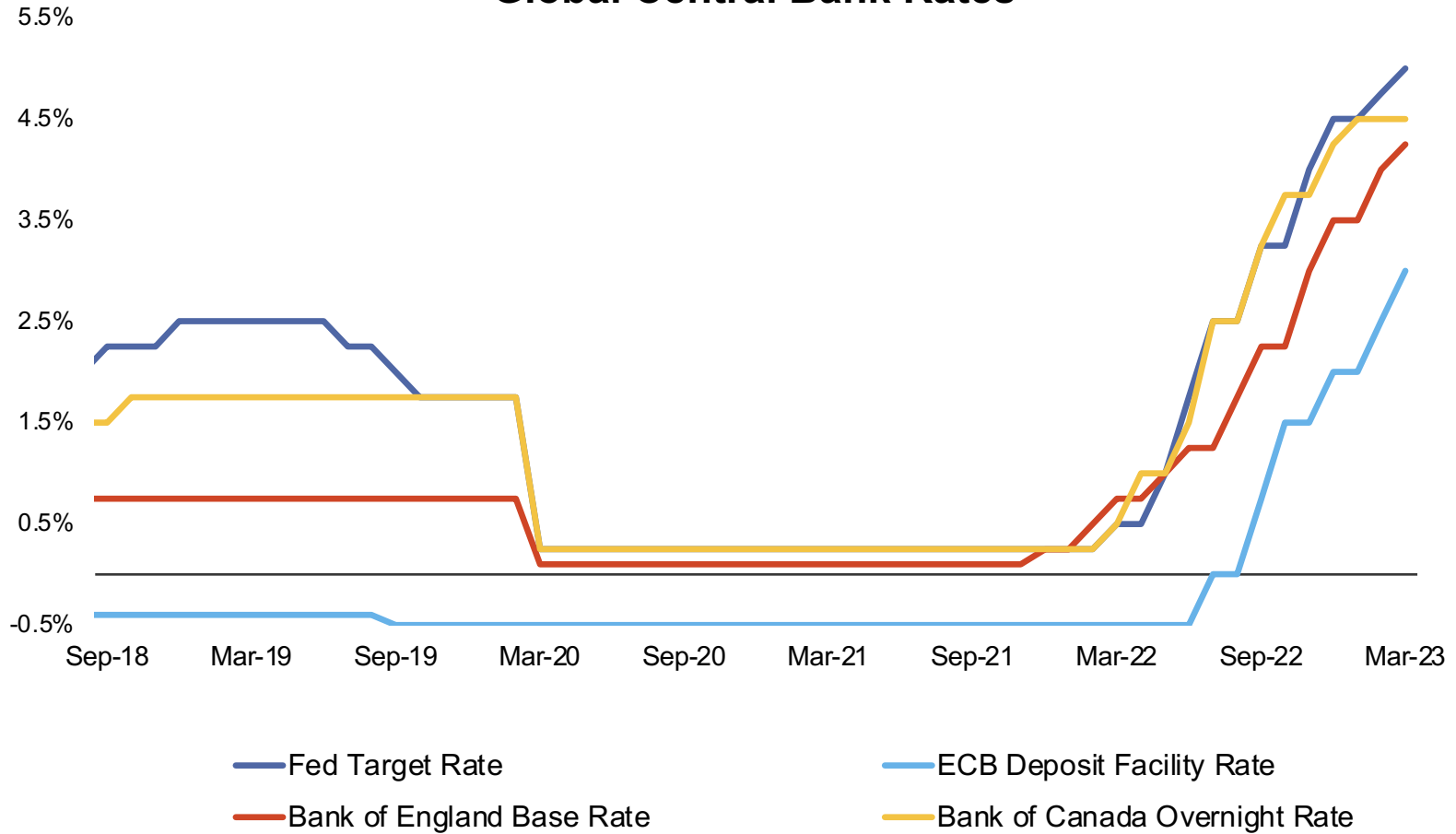
Source: Bloomberg, Bureau of Labor Statistics as of February 2023.

¹Index weights are as of December 2022 as they are published on a one-month lag.

²Other services is a weighted blend of Water/Sewer/Trash, Household Operations, Recreation, and Education and Communication services.

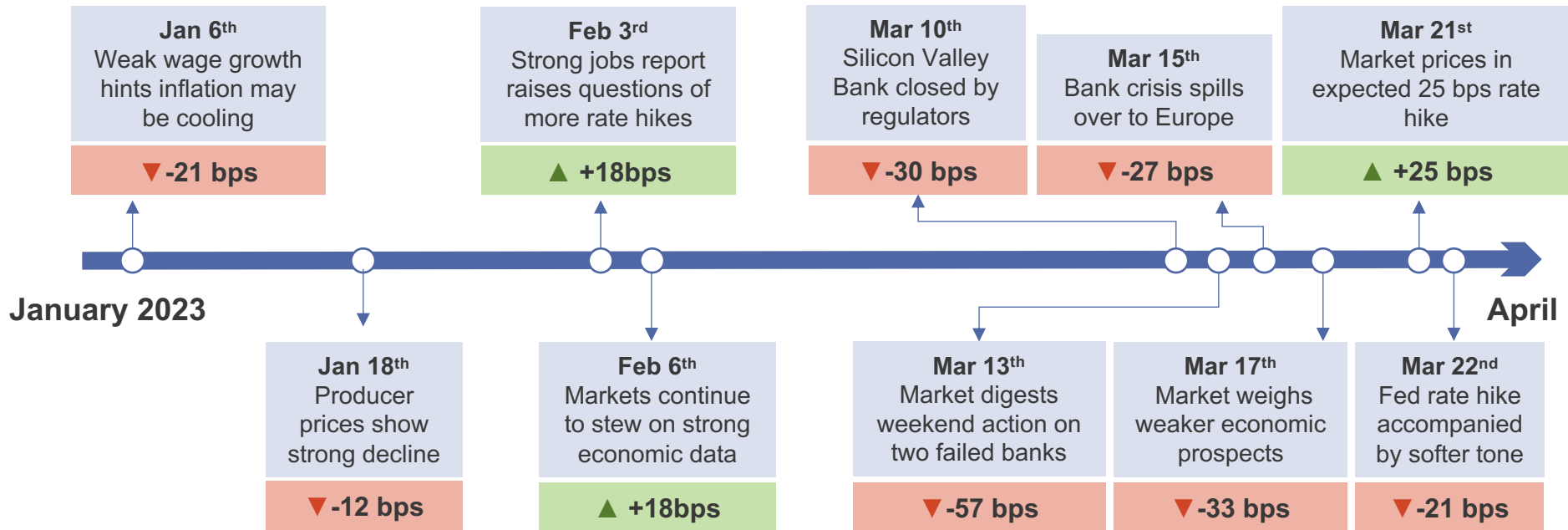
Aggressive Moves by Central Banks

Global Central Bank Rates



Market Events Drive Large Yield Moves

Major Economic and Market Events and the Daily Change in the 2-Year U.S. Treasury Yield

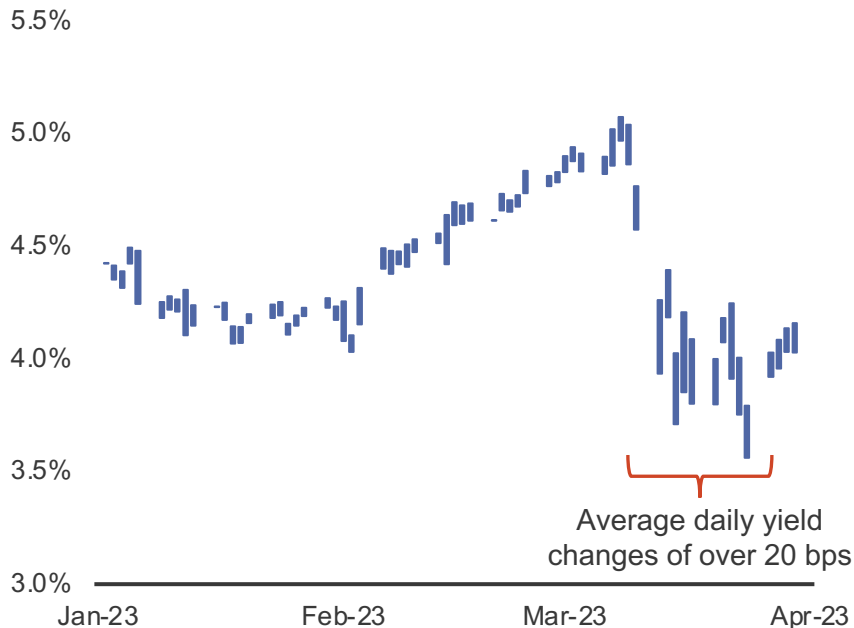


▼/▲ Changes in 2-Year Treasury

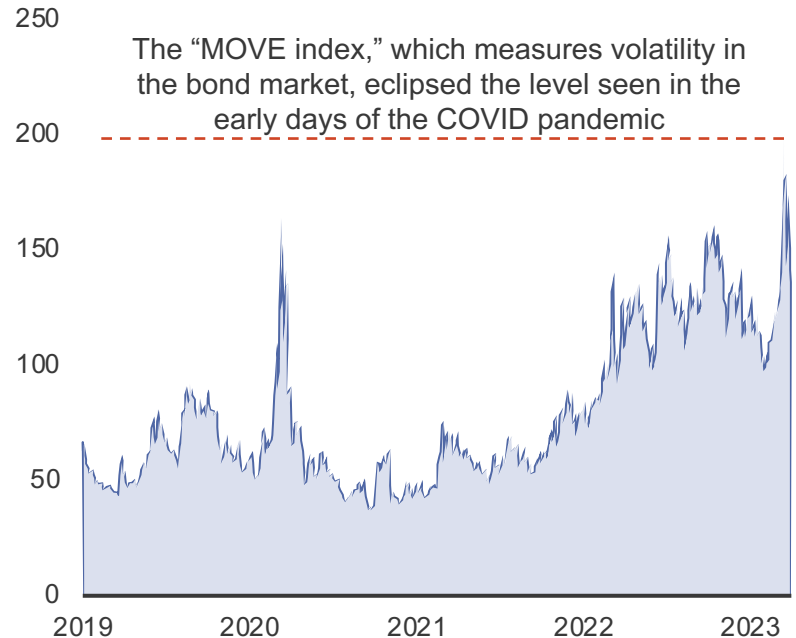
Bond Markets Saw Unprecedented Volatility in March

The surprise failure of two large U.S. banks caused volatility in the markets. In a classic “flight to quality”, Treasury yields fell sharply, with the 2-year Treasury yield falling from 5.07% on March 8 to 4.03% on March 31.

2-Year Treasury
Daily High and Low Yield



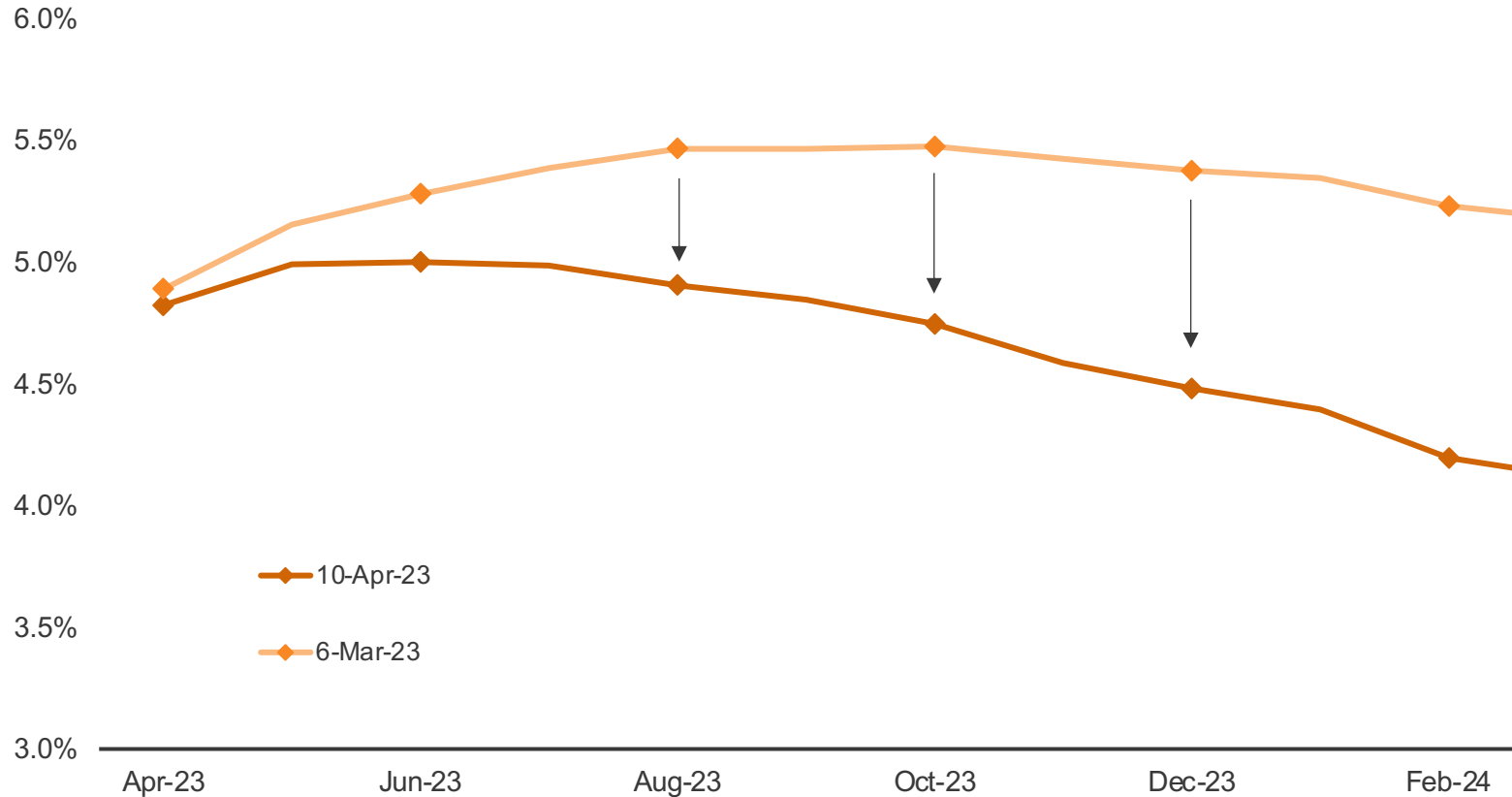
Fixed Income Market Volatility
ICE BofA MOVE Index



The “MOVE index,” which measures volatility in the bond market, eclipsed the level seen in the early days of the COVID pandemic

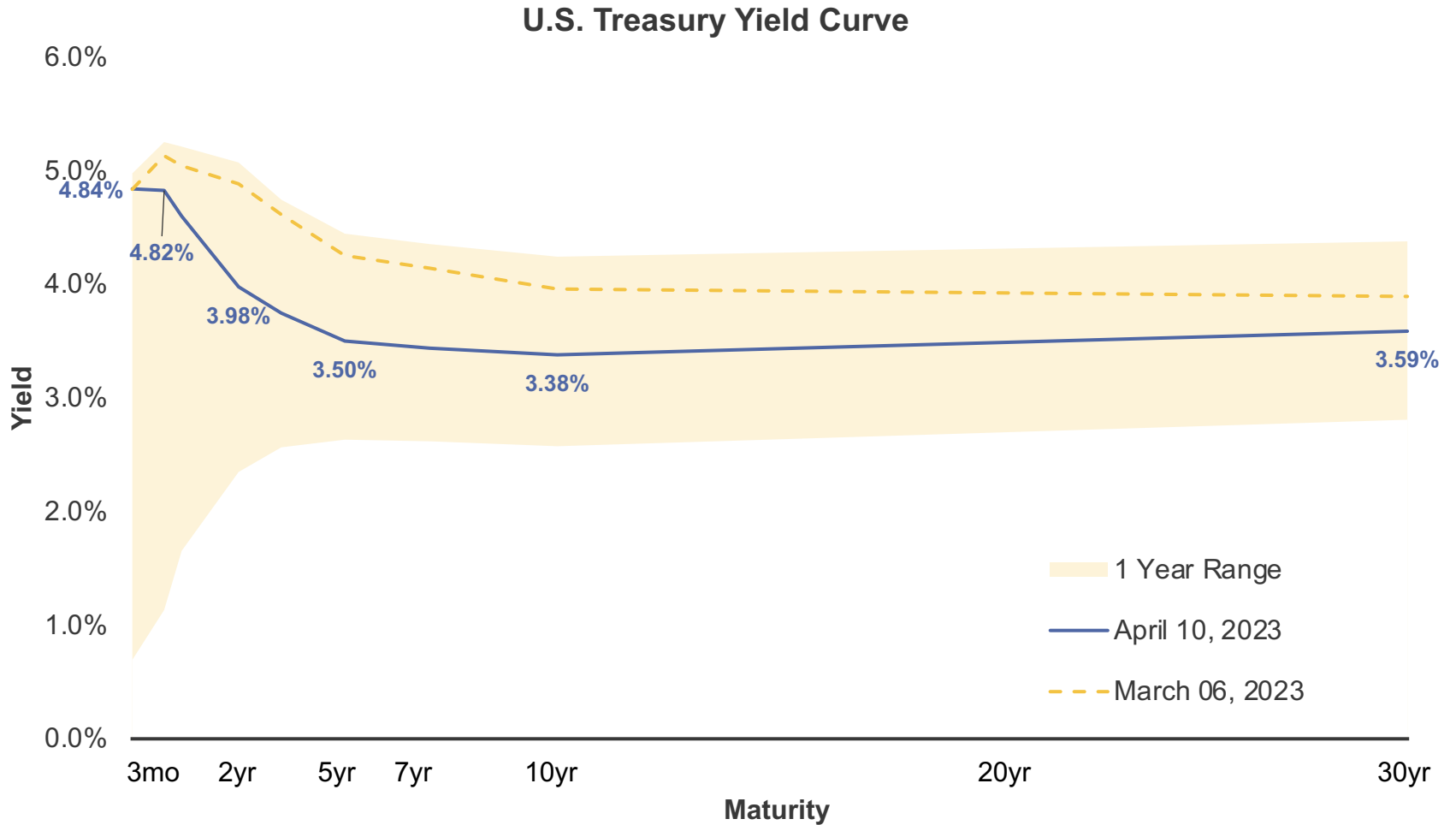
One More Rate Hike Ahead in May?

Implied Fed Funds Rate



Source: Bloomberg, as of 04/10/2023.

After Volatility Generally Subsides, Rates Are Left Lower in Majority of Tenors



Source: Bloomberg, as of 04/10/2023.

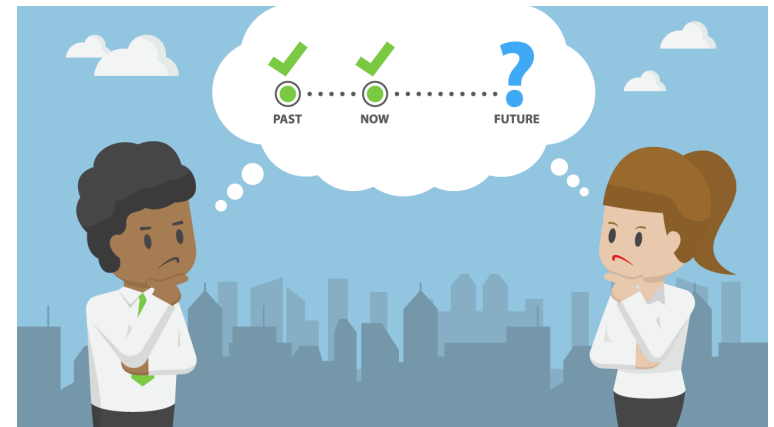
Time to Get Back to Basics

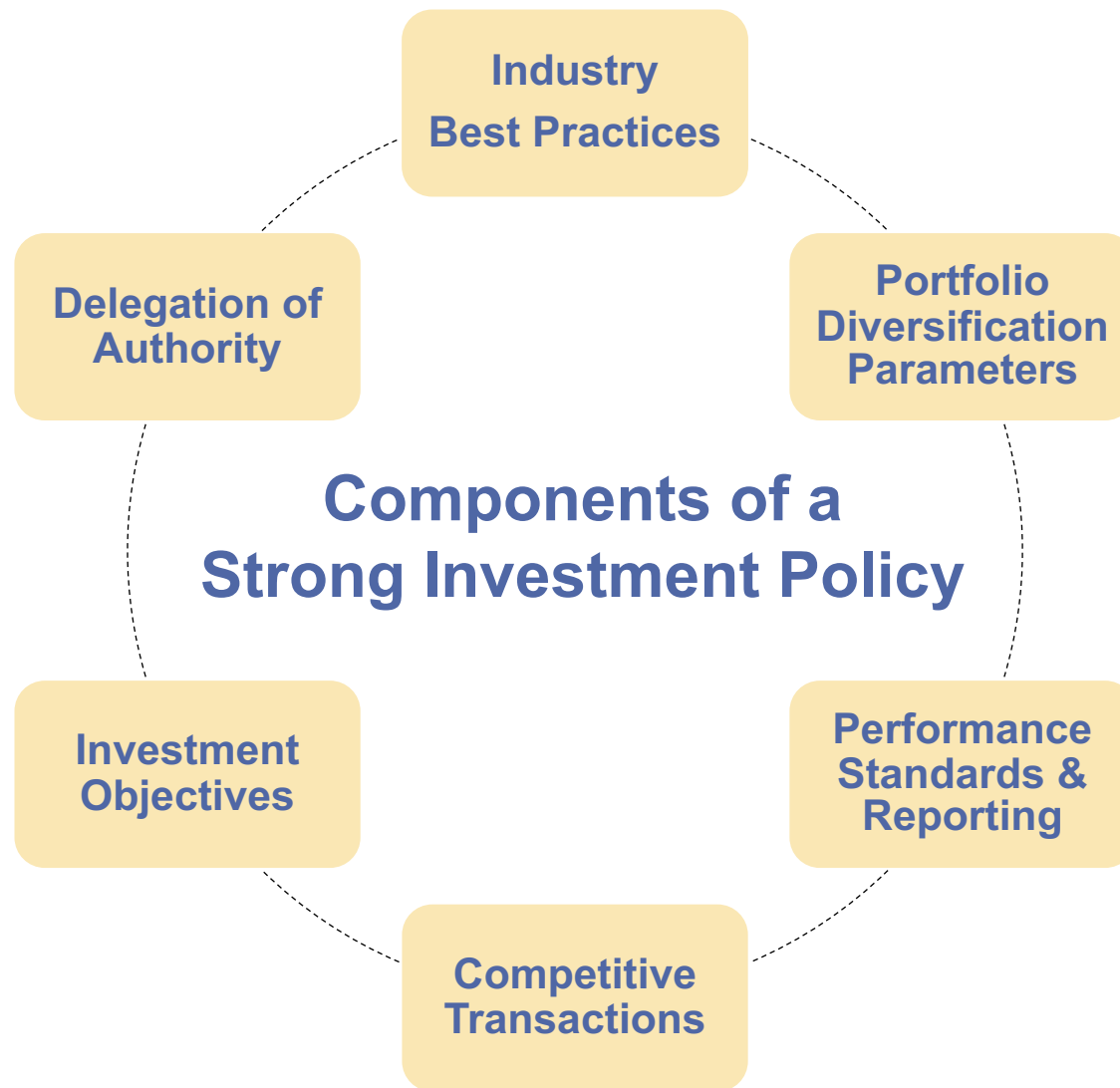


The Decision-Making Process

When analyzing the current investment strategy, you should consider the following questions:

1. Does the Plan's Investment Policy reflect our goals and objectives?
2. What is the Board's risk tolerance?
3. What is the fund's asset allocation?
4. What is the fund's expected return and risk?
5. What are my current, short-term, and long-term capital market assumptions?
6. Should we change the asset allocation?





Investment Objectives

- ▶ **Safety:** Preserve capital with high-quality investments
- ▶ **Liquidity:** Plan for and provide liquidity as needed
- ▶ **Yield:** Seek to safely increase earnings through disciplined portfolio strategy

... But How Do You Design an Investment Strategy to Meet These Objectives in Varying Market Conditions?

Key Pillars of Investment Strategy Development

- Cash Flow Analysis
- Portfolio Segmentation
- Diversification
- Reporting Total Return
- Disciplined Long-Term Strategy



Segmenting the Portfolio

Portfolio Type	Strategy Components	Uses
Liquidity/Short-term	Overnight to 12 months	<ul style="list-style-type: none">• Highly Liquid for daily needs and unforeseen expenditures• Funds are meant to cover specific, predictable cash flows (payrolls, debt service)• Can be lower during periods of net cash inflow• Comprised of short-term money market instruments, e.g., bank deposits, money market mutual funds, and LGIP
Core: Intermediate	Longer Duration Strategy	<ul style="list-style-type: none">• Funds that are not expected to be spent—may be disbursed in extraordinary circumstances• Can be invested in longer-term securities

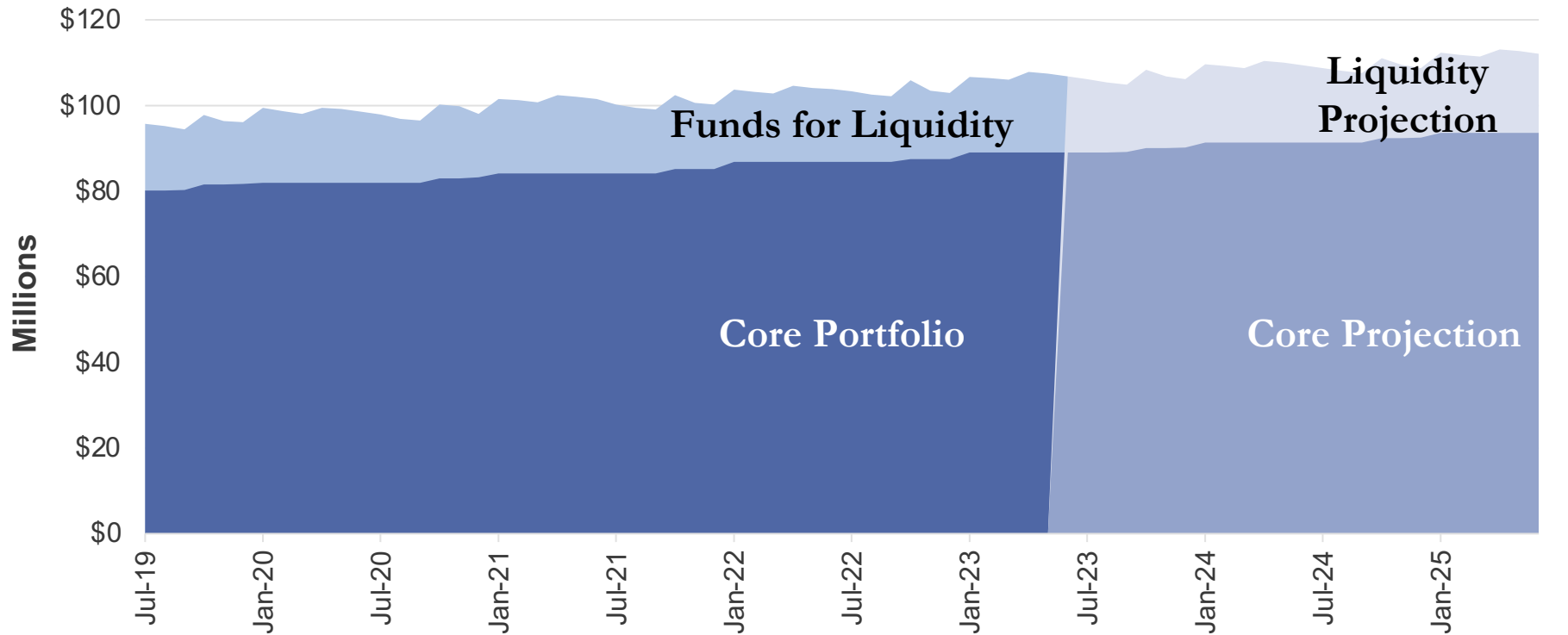
Conduct Cash Flow Analysis to Optimize Portfolio Segmentation

Liquidity

- Cash and equivalents
- Available to meet known, and provide for unknown, near-term cash needs

Core

- Intermediate and longer-term investments
- Reserve funds not expected to be spent for the foreseeable future



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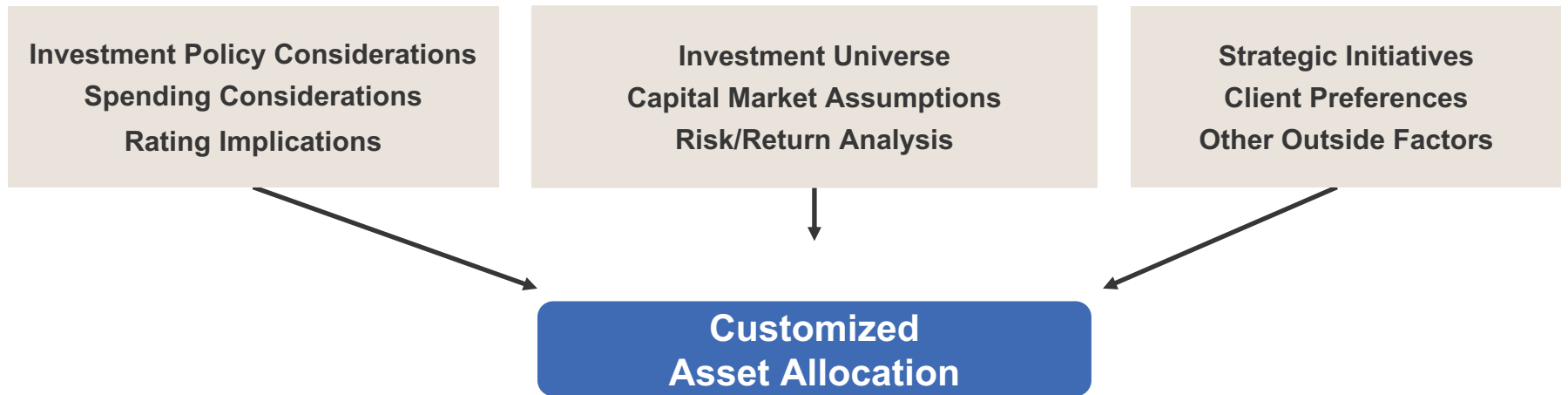
Investment Policy Diversification Parameters

Diversification parameters are guideposts and provide flexibility during changing market environments and should be reflective of your risk appetite

Authorized Investments	Maximum Portfolio Allocation	Maximum Maturity	Maximum Allocation Per Issuer	Credit Quality / Notes
Local Government Investment Pool	100%	-	-	-
US Treasury Obligations	100%	5 years	-	-
GSE Agency Securities Per Issuer: FHLB, FFCB, FHLMC or FNMA	100%	5 years	-	-
Other GSE's	100%			
Agency MBS	100%	5 years	-	-
Repurchase Agreements	100%	180 days	-	-
Certificates of Deposit/Bank Deposits/Saving	100%	24 months	-	-
Corporate Notes		5 years	Rated A or higher	Denominated in United States dollars and that carry at a minimum an "A" or better rating, at the time of purchase, from at least two nationally recognized rating agencies.
Commercial Paper	100%	270 days	-	Prime quality that is rated within the top two ratings by a nationally recognized rating agency. All commercial paper must be issued by corporations organized and doing business in the United States.
General obligation bonds of any state or local government	100%	5 years	-	-

For illustrative purposes only.

Strategic Allocation Is Unique to Each Investor



Navigating Volatility, Uncertainty, Complexity, and Ambiguity



Considerations for Navigating Uncertainty Together

- ▶ Establish regular periodic meetings between staff, Board, and Investment Advisors
 - ▶ More frequent conversations during volatile environments
- ▶ Investment Policies → not set it and forget it
 - ▶ Establish annual reviews
- ▶ Set Communication Expectations
 - ▶ Quarterly review of portfolio performance
 - ▶ Annual review of asset allocation
 - ▶ More often if there are substantial changes to liabilities/ cash flows

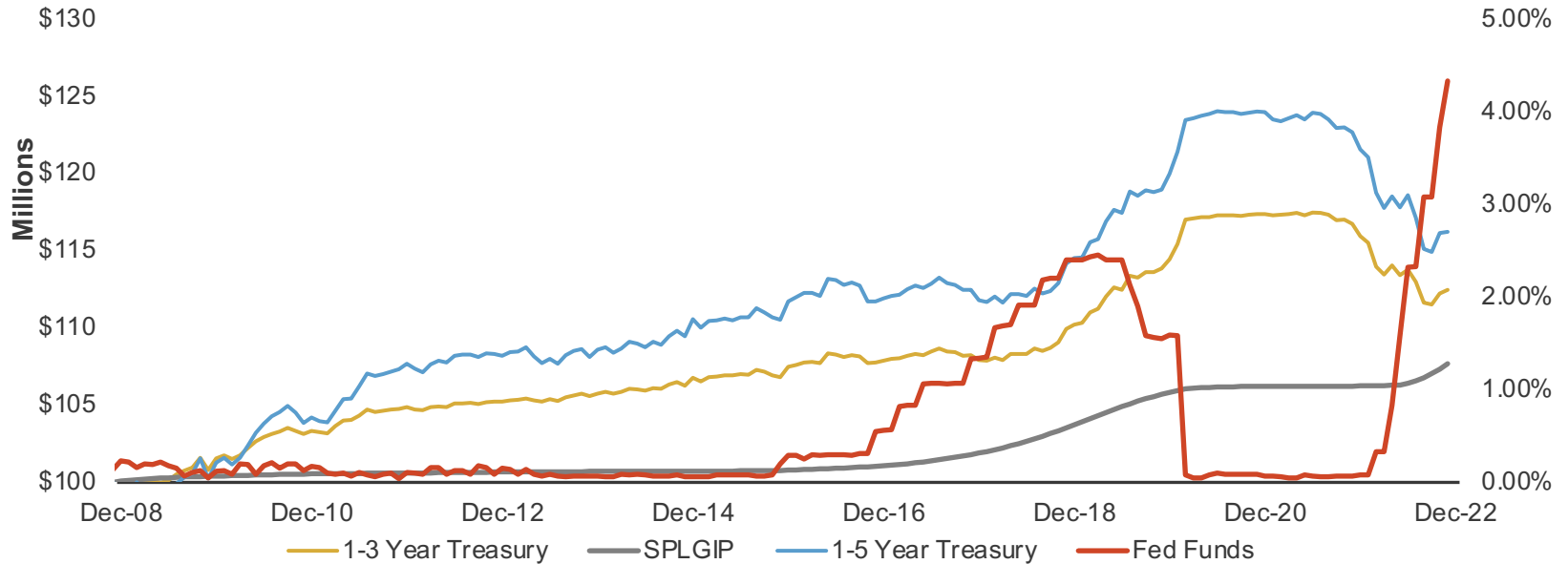


Investment Program Considerations

- ▶ What is our thought process? What worries us? What are our pain points?
 - ▶ Liquidity
 - ▶ Irregular Cash Flows
 - ▶ Adding Riskier Asset Classes
 - ▶ Reporting Issues
 - ▶ Valuation issues
 - ▶ Market volatility



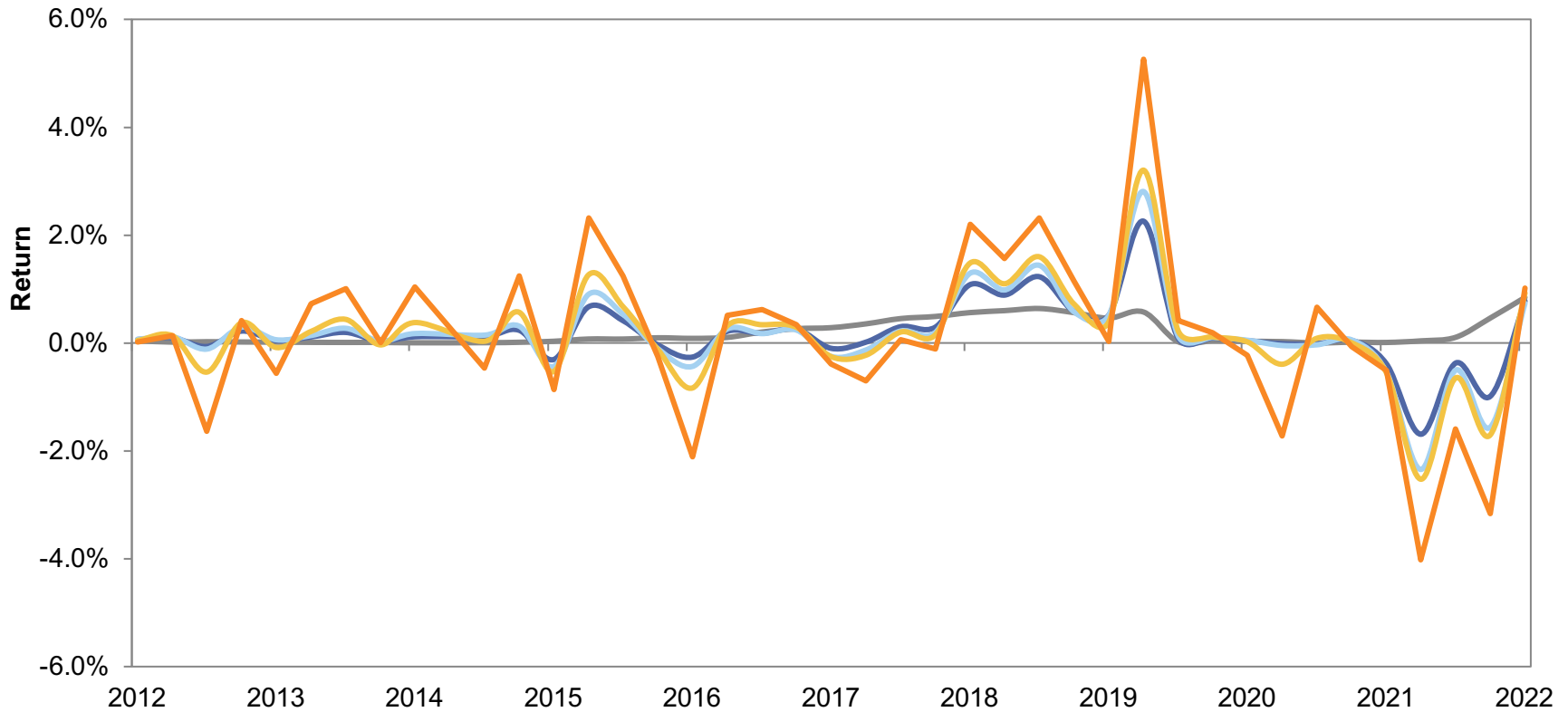
Growth of \$100 Million Portfolio
December 31, 2008 – December 31, 2022



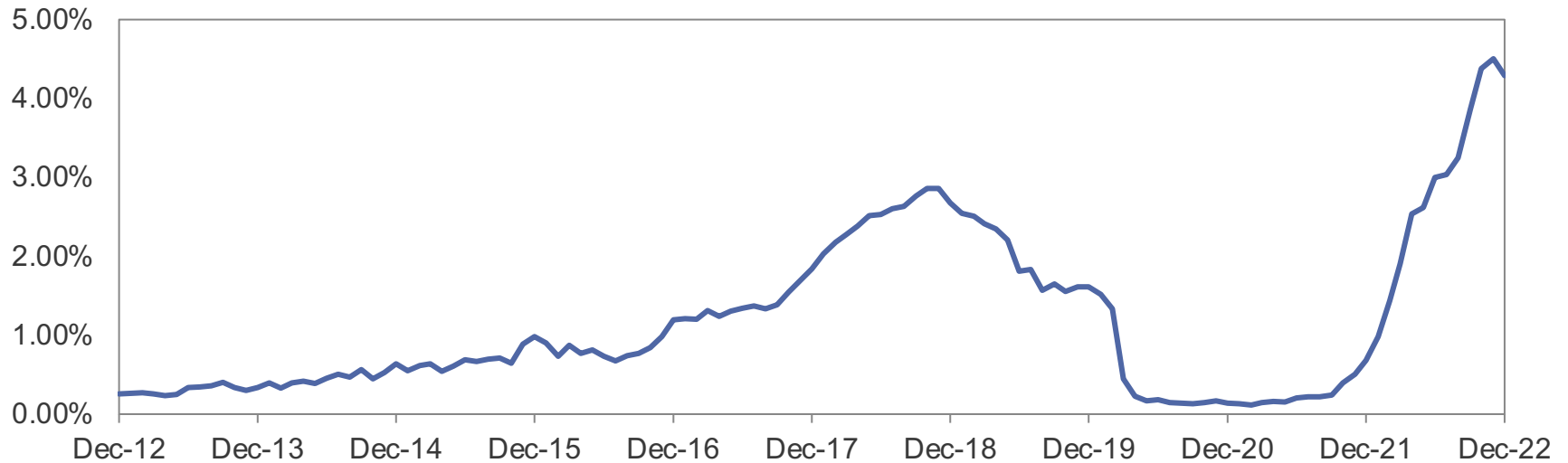
14 Years Ended December 31, 2022				
Bank of America Merrill Lynch Treasury Index	Duration (years)	Annualized Total Return	Cumulative Value of \$100 Million	Quarters With Negative Return
S&P LGIP Govt	0.00	0.53%	\$107,683,296	0 out of 56
1-3 Treasury	1.81	0.84%	\$112,451,836	15 out of 56
1-5 Treasury	2.55	1.08%	\$116,207,431	19 out of 56

Periodic Quarterly % (U.S. Treasury Benchmarks as of December 31, 2022)

— 3-Month Treasury Bill Duration: 0.23 — 0-3 Year Treasury Duration: 1.35 — 1-3 Year Treasury Duration: 1.81 — 0-5 Year Treasury Duration: 2.04 — 1-10 Year Treasury Duration: 3.71



2-Year UST Note Yield History
December 31, 2012 – December 31, 2022



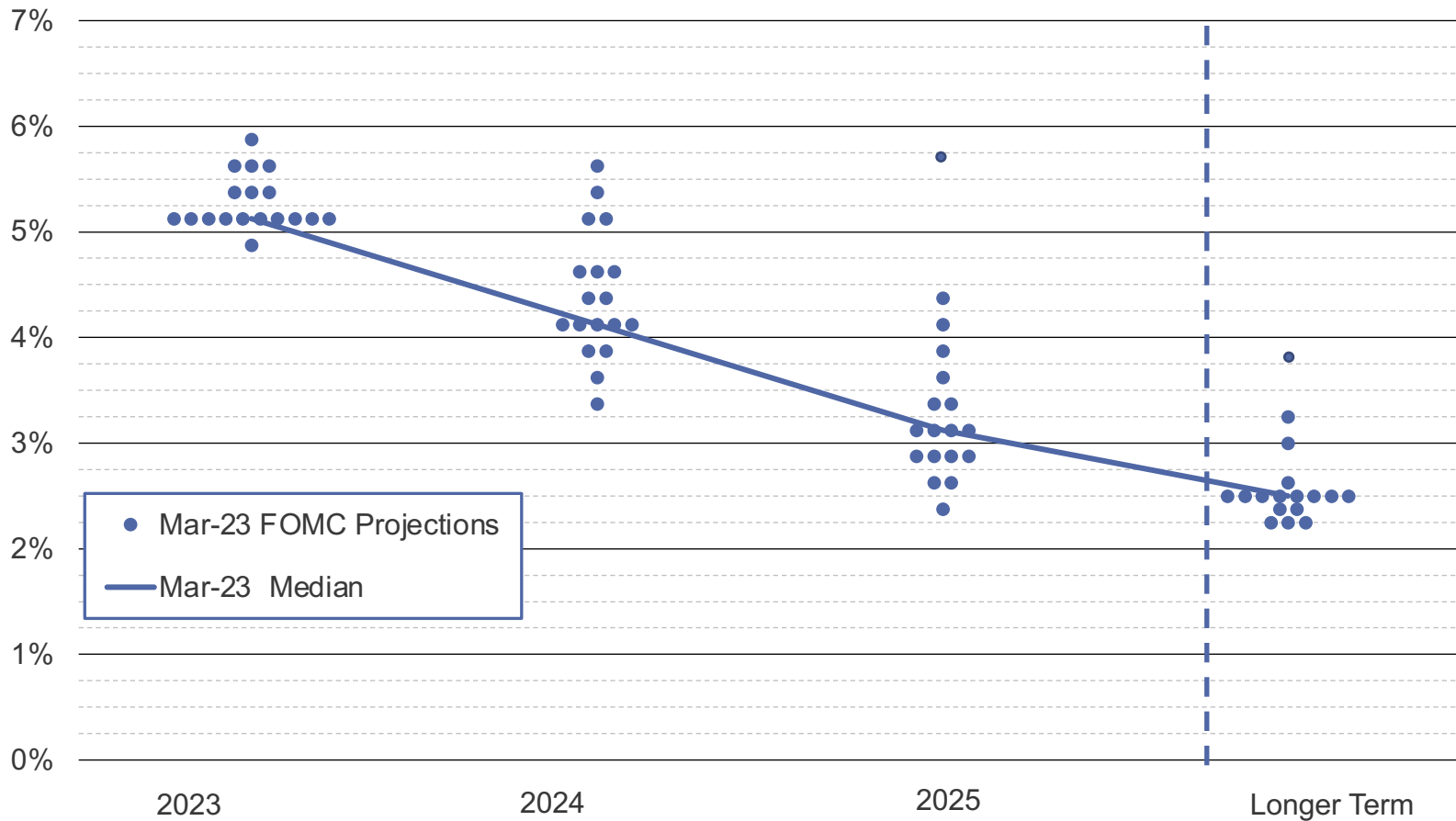
Annual Returns

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1 Year UST Index	0.26%	0.18%	0.15%	0.76%	0.57%	1.86%	2.93%	1.82%	-0.07%	-1.02%
0-3 Year UST Index	0.30%	0.46%	0.43%	0.78%	0.55%	1.70%	3.25%	2.49%	-0.37%	-2.27%
1-3 Year UST Index	0.36%	0.62%	0.54%	0.89%	0.42%	1.58%	3.55%	3.10%	-0.55%	-3.65%
0-5 Year UST Index	-0.11%	1.00%	0.81%	0.97%	0.69%	1.61%	3.85%	3.58%	-0.85%	-3.93%
1-5 Year UST Index	-0.19%	1.24%	0.98%	1.09%	0.65%	1.52%	4.20%	4.25%	-1.10%	-5.25%
3-5 Year UST Index	-0.91%	2.14%	1.59%	1.34%	0.95%	1.47%	5.20%	6.06%	-1.96%	-7.85%

Sources Bloomberg. Indices shown are ICE Bank of America Merrill Lynch (BofAML) indices.

Fed's "Dot Plot" Indicates We Are Nearing Sufficiently Restrictive Territory

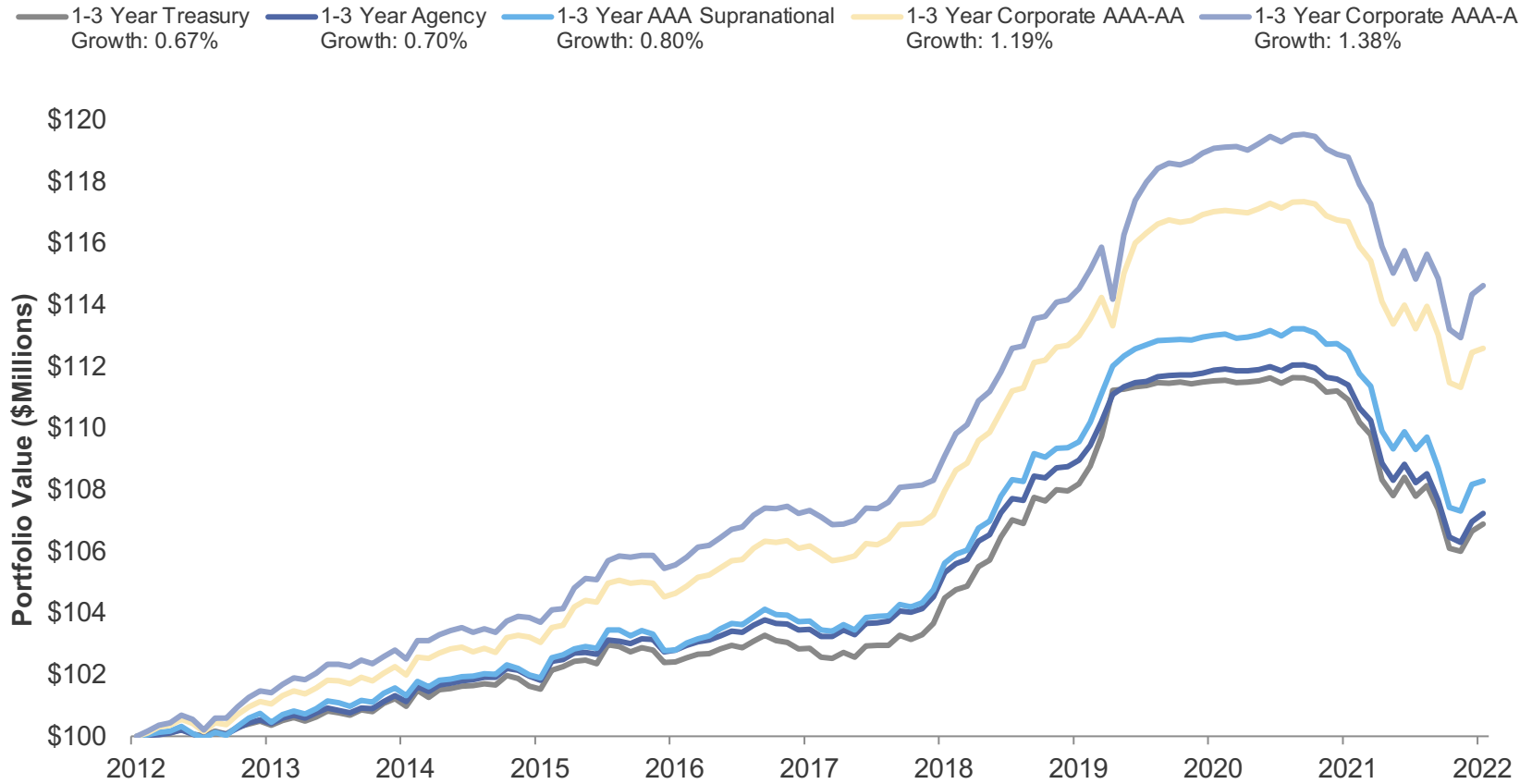
Fed Participants' Assessments of 'Appropriate' Monetary Policy



Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the federal funds rate at each year-end.

Non-Government Securities Historically Outperform

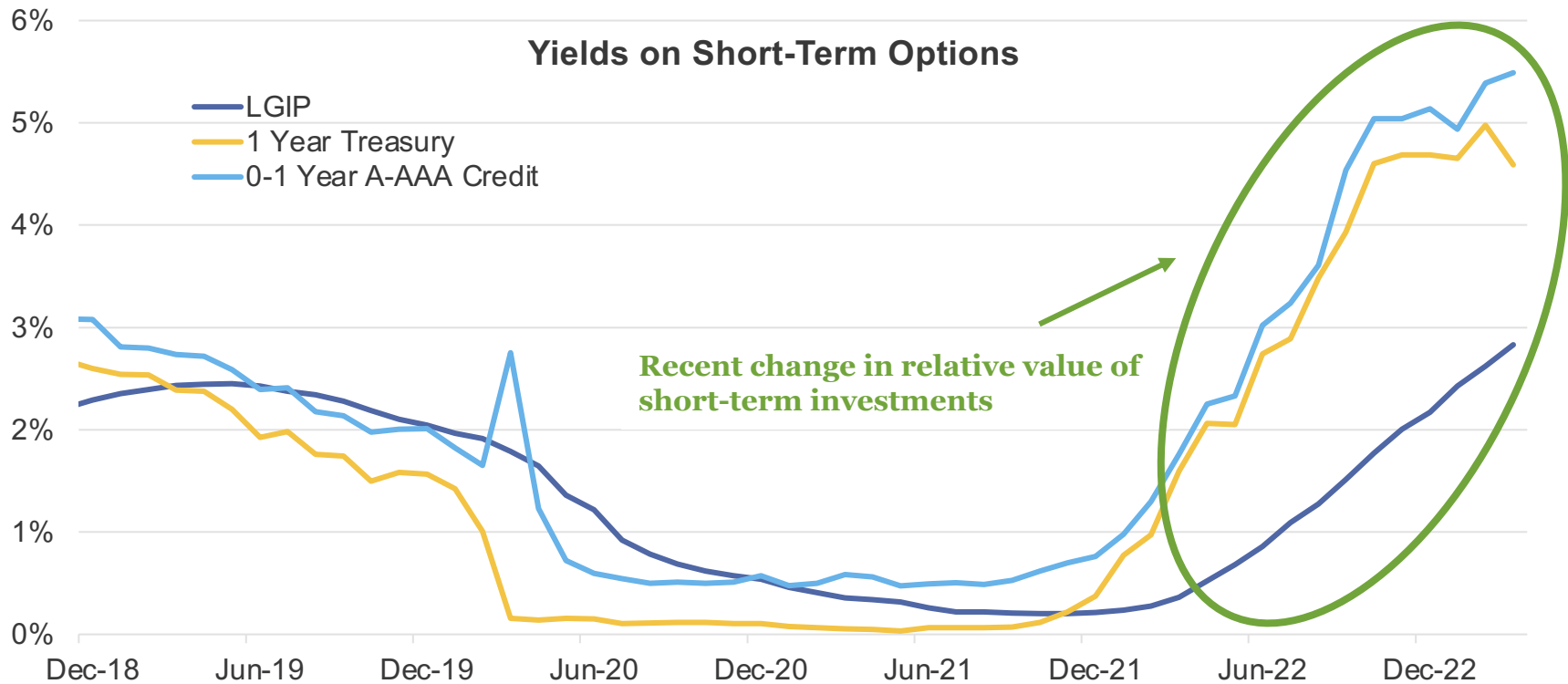
The Growth of \$100 Million Portfolio (as of December 31, 2022)



Source: Bloomberg, ICE BofAML Indexes. Growth rates are annualized.

Opportunities in Short-Term Market

- ▶ Evaluate all your options for cash and short-term investments
 - ▶ Bank Deposits and earnings credit rates
 - ▶ Investment Pools (LGIPs)
 - ▶ Short-Term Securities (Portfolio)



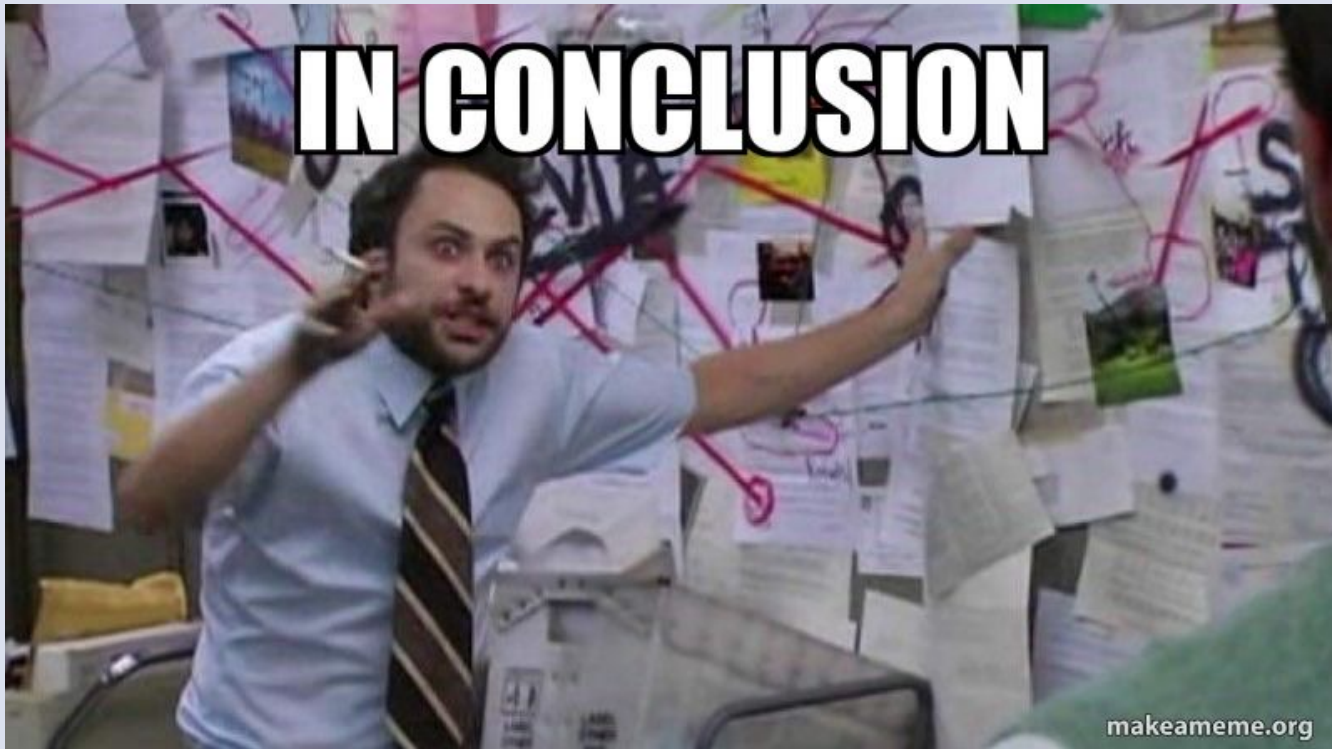
Source: Bloomberg, as of 3/31/2023.

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Diversification Reduces Portfolio Volatility

Index / Ending Duration	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Annualized Average
1-3 Year Treasury Duration: 1.81	1.41%	1.30%	1.16%	1.81%	1.67%	1.88%	4.99%	4.25%	-0.05%	-1.74%	1.38%
1-3 Year Agency Duration: 1.87	1.05%									2.27%	1.19%
1-3 Year AAA Supranational Duration: 1.94	0.58%									3.50%	1.14%
1-3 Year Corporate AAA-AA Duration: 1.89	0.46%									3.53%	0.80%
1-3 Year Corporate AAA-A Duration: 1.82	0.42%									3.65%	0.72%
1-3 Year Government Duration: 1.81	0.36%									3.65%	0.71%
0-3 Year Treasury Duration: 1.35	0.36%									3.74%	0.70%
0-3 Year AAA US Fixed Rate ABS Index Duration: 1.29	0.30%									3.75%	0.68%
1-5 Year Treasury Duration: 2.55	0.03%									5.22%	0.67%
1-5 Year Agency Duration: 2.22	-0.19%	0.46%	0.43%	0.78%	0.42%	1.52%	3.25%	2.49%	-1.10%	-5.25%	0.67%





- ▶ Remember: Connections are everywhere
 - ▶ Investment returns impact balance sheets. Ratings and rate setting abilities are tied to your balance sheets. All can be impacted if cash flows are inadequate
- ▶ Remember the “how and why” of your investment strategy
 - ▶ Market volatility is inevitable: focus on establishing clear goals and tracking your progress toward those goals
 - Discussions should center around: Target Asset Allocation, Return Assumptions, and Capital Market Assumptions
 - ▶ Does your strategy match expected cash flows and business needs?



Questions?



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