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Investment Considerations During Uncertain Times

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Agenda

- Review of Current Market Environment
- Volatile Markets: Initial Reactions and Considerations
- Governance and Portfolio Oversight
- Q&A

Review of Current Market Environment

Current Market Themes

- Capital markets have been very volatile, due to
  - Russian invasion of Ukraine, resulting economic sanctions, impact on commodity prices
  - Anticipated rate hikes and evolving inflation
  - Repricing of assets based on valuations
- COVID-19 caseloads have decreased sharply in regions hit hard by the Omicron variant at the turn of the year
  - China maintains zero-covid policy
- The U.S. economy is characterized by:
  - Rapidly increasing inflation
  - Improved labor market conditions
  - Depressed consumer confidence
- The Federal Reserve is reducing monetary policy accommodation
  - Accelerated pace of asset purchase tapering
  - Fed expected to raise rates seven times in 2022
  - Changing composition of FOMC leadership

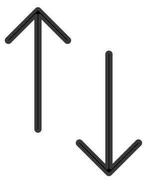
With all of this volatility, should we decrease the risk in our portfolio?

The Role of Fixed Income

- As an asset class, fixed income securities are widely considered a “safer” and less volatile investment as compared to stocks
- Although this may be the case, there are inherent risks to consider when allocating to such securities

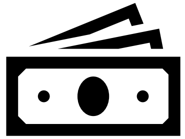
Interest Rate Risk

- Changes in interest rates and the price of a fixed income security exhibit an **inverse** relationship
- Duration is a measure of the **sensitivity** of the price of a bond to a change in interest rates

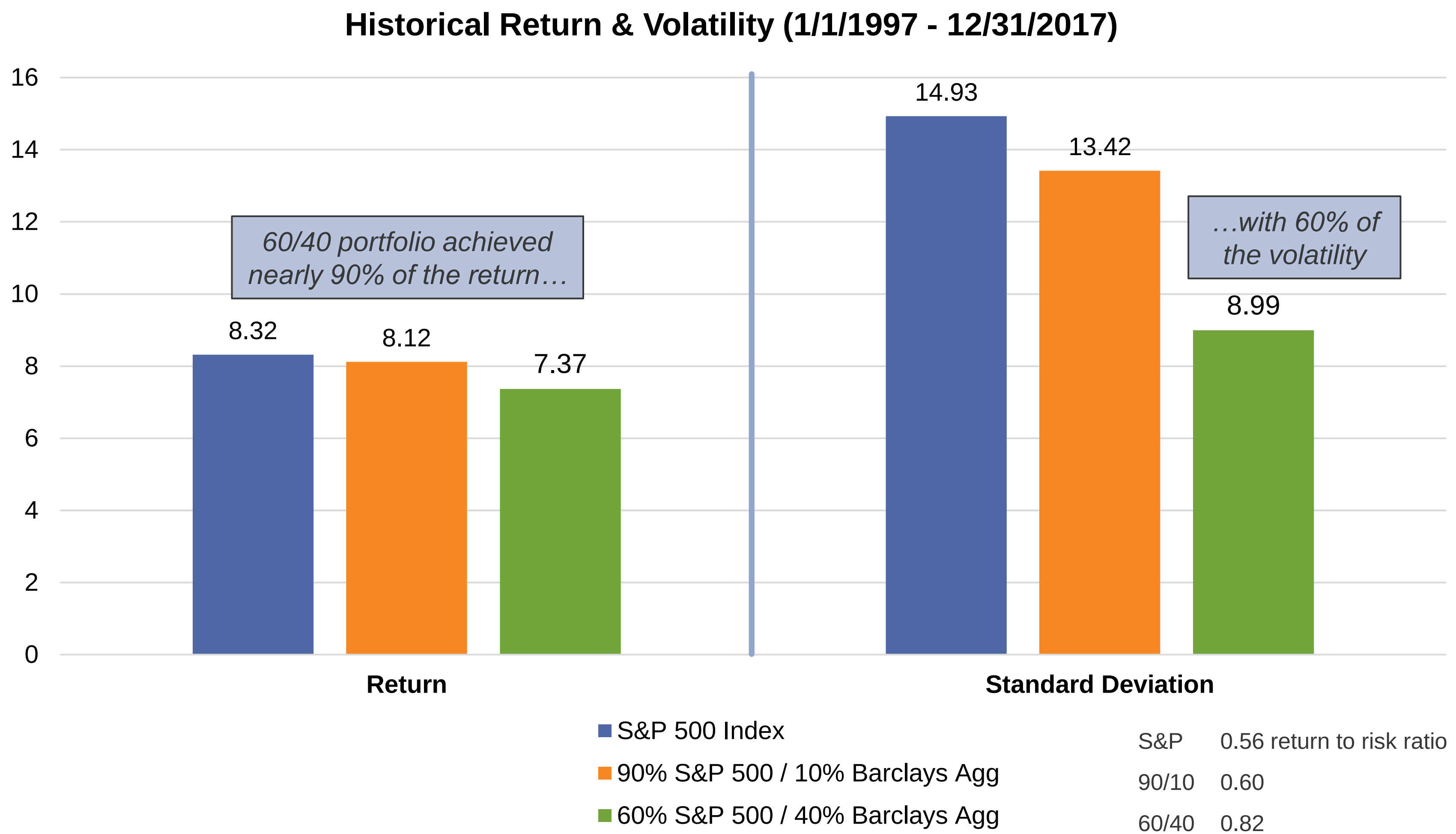


Inflation Rate Risk

- If the cost of living rises and inflation increases significantly, yields will increase, and investor can see the **purchasing power** of their investment erode
- If market value losses exceed the income rate of return, bondholders could earn a **negative total return**



Balanced Portfolio Achieves Nearly 90% of Returns with 60% of the Risk



S&P	0.56 return to risk ratio
90/10	0.60
60/40	0.82

Source: Investment Metrics

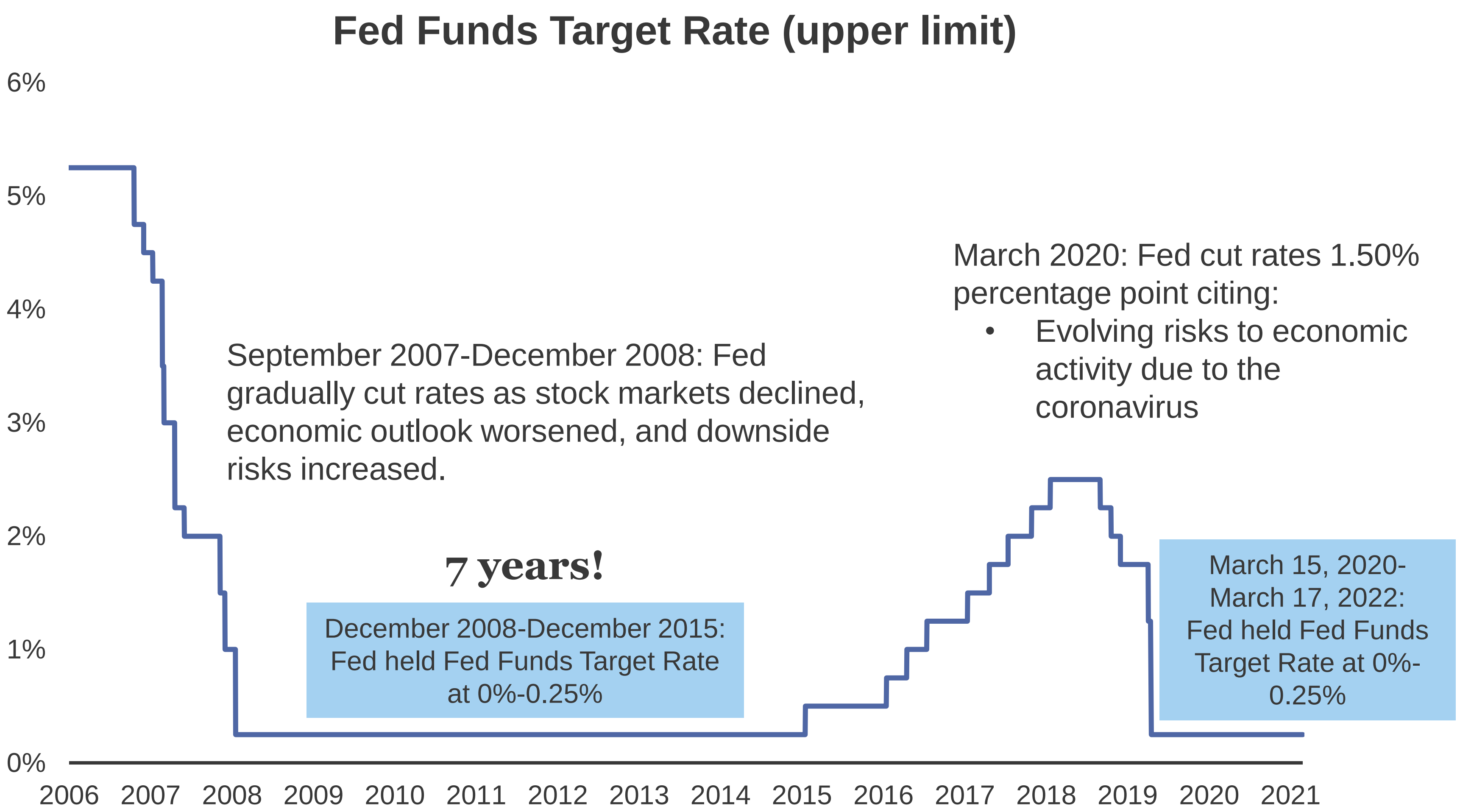
Should we divest from Russia?

Considerations Surrounding Russian Divestment

- Are you invested in mutual funds or Separately Managed Accounts?
- What impact does removing Russia from an index have?
- What impact will divestment have on your portfolio?
- How have these considerations changed since the invasion began?

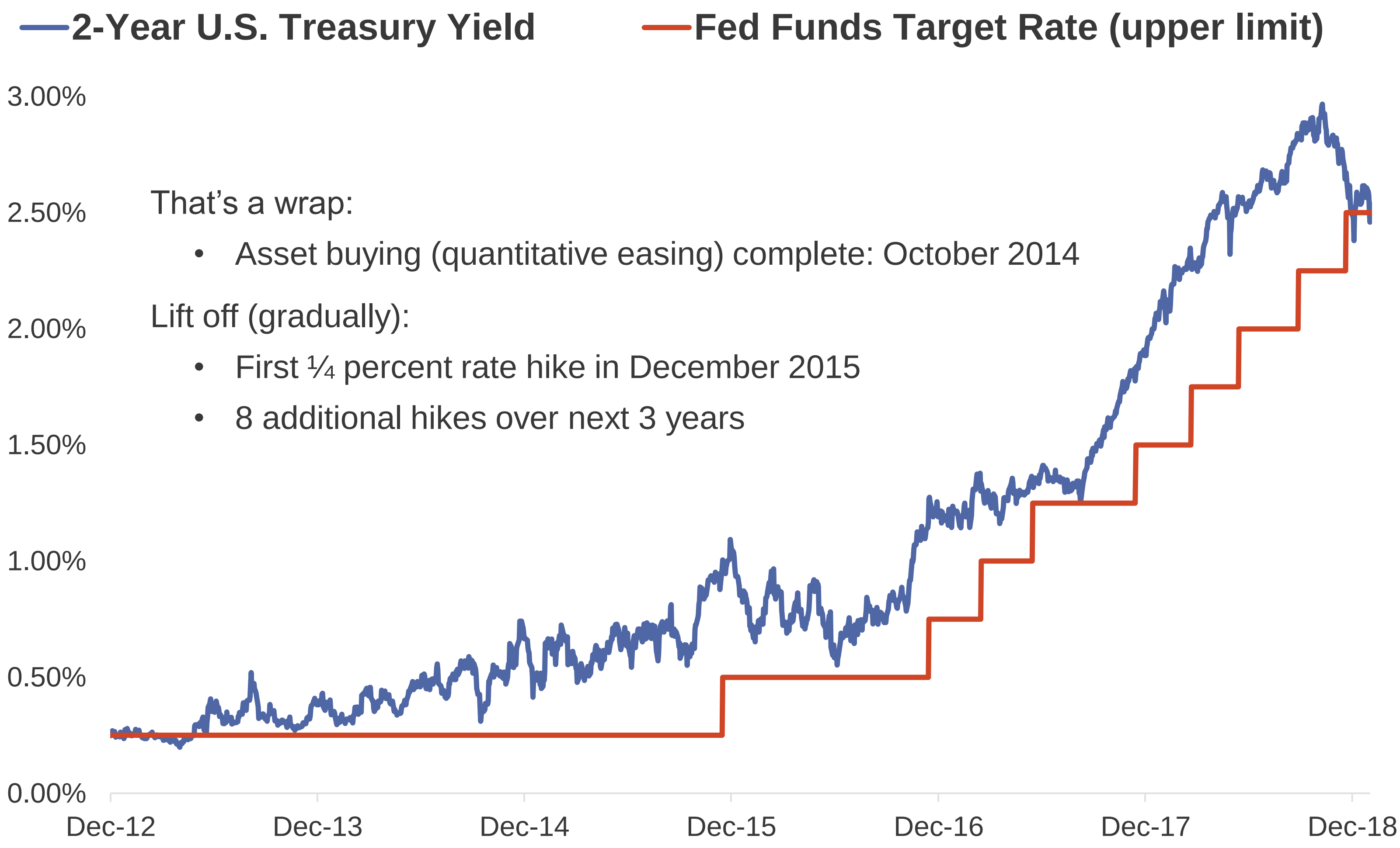
What's going on with interest rates? Haven't we been here before?

A Step Back…How Did We Get Here?



Source: Federal Reserve, June 30, 2006 – January 25, 2022.

Rate Hikes the Last Time Around

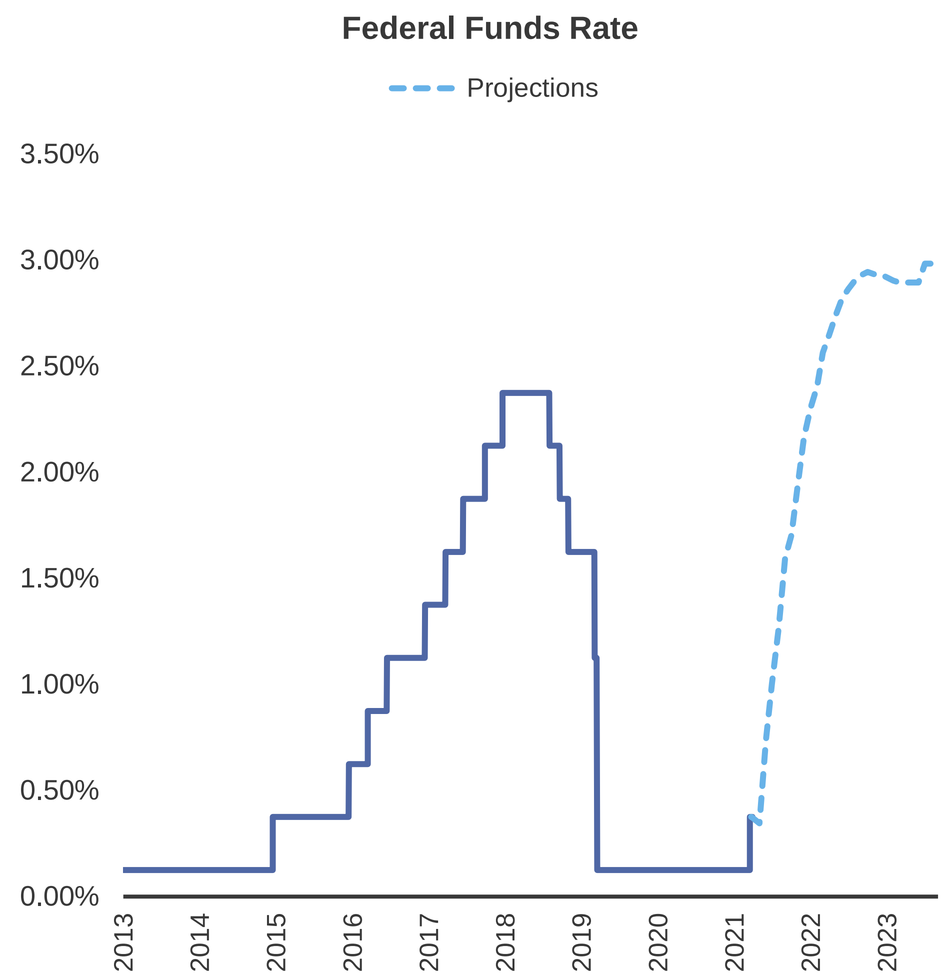


Source: Federal Reserve and U.S. Treasury, December 31, 2012 – January 31, 2019. ICE BofAML indices.

Current Fed Policy…Where Are We Now?

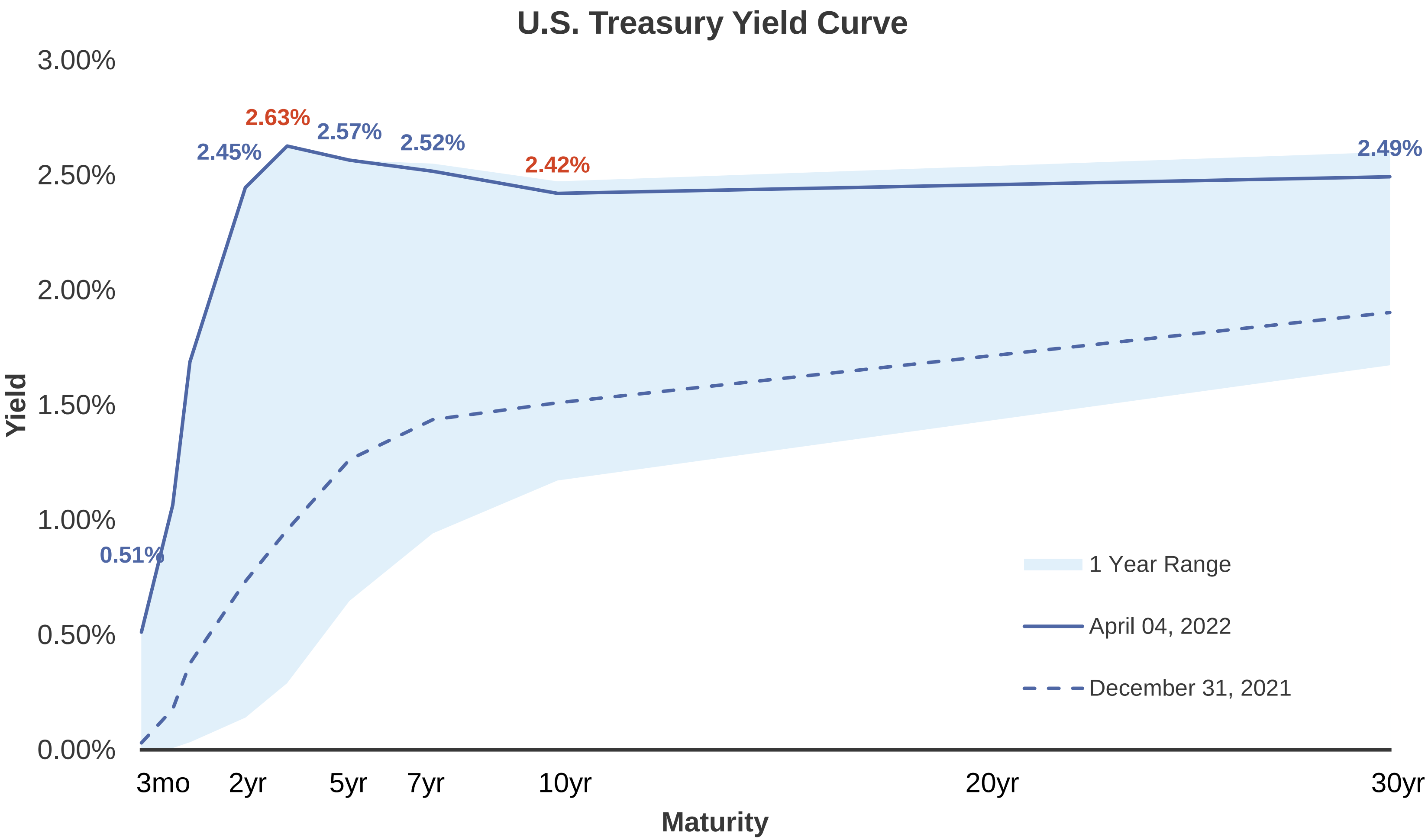
Outcome of March FOMC meeting

- Noted very strong economy, extremely tight labor market and high inflation
- Acknowledged risks posed by Russia invasion of Ukraine
- First 25 bp rate hike
- Signaled 6 more hikes this year, 3-4 more hikes in 2023
- Updated key economic projections
- Plan for balance sheet reduction to be announced soon



Source: Federal Reserve. FOMC Statement. Transcript of Chair Powell's Press Conference on March 16, 2022. Fed funds futures as of March 25, 2022.

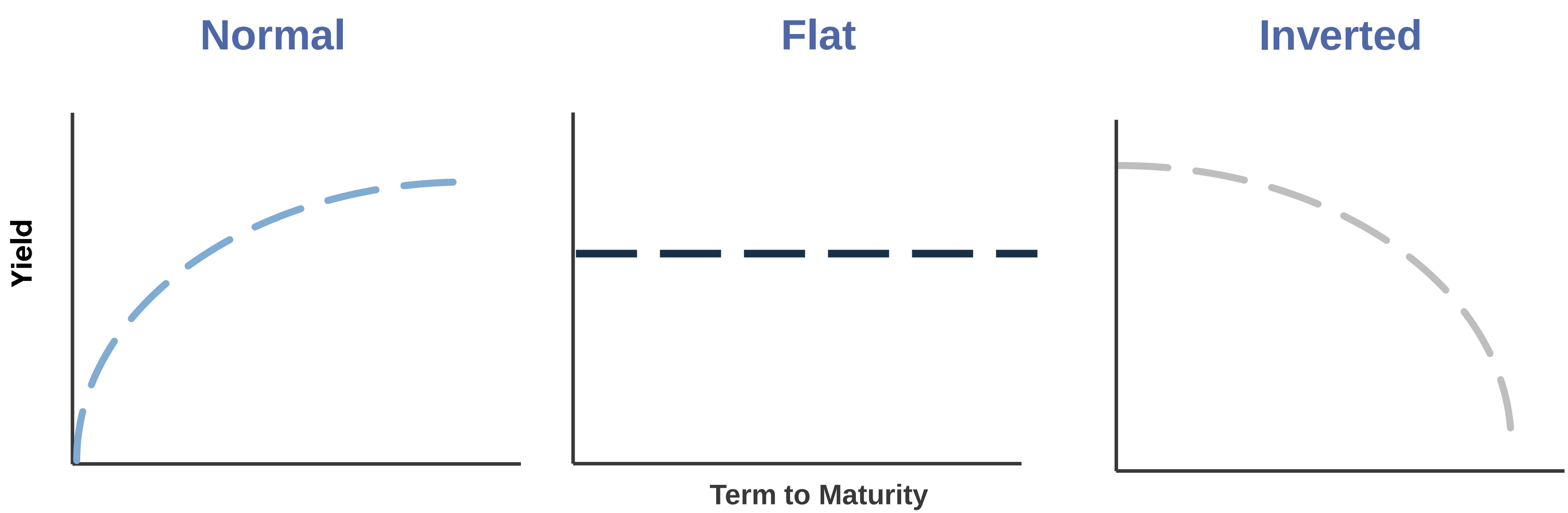
Impact on Treasury Yield Curve



Source: Bloomberg, as of 4/04/2022.

What to Watch: Monitoring the Yield Curve

- Shows the relationship between yield and maturity.
- Rates at the short end of the curve (under 1 year) are directly correlated to the **federal funds rate** established by the Federal Open Market Committee.
- The longer end of the curve typically reflects **investor expectations.**
- There are three types of curves:



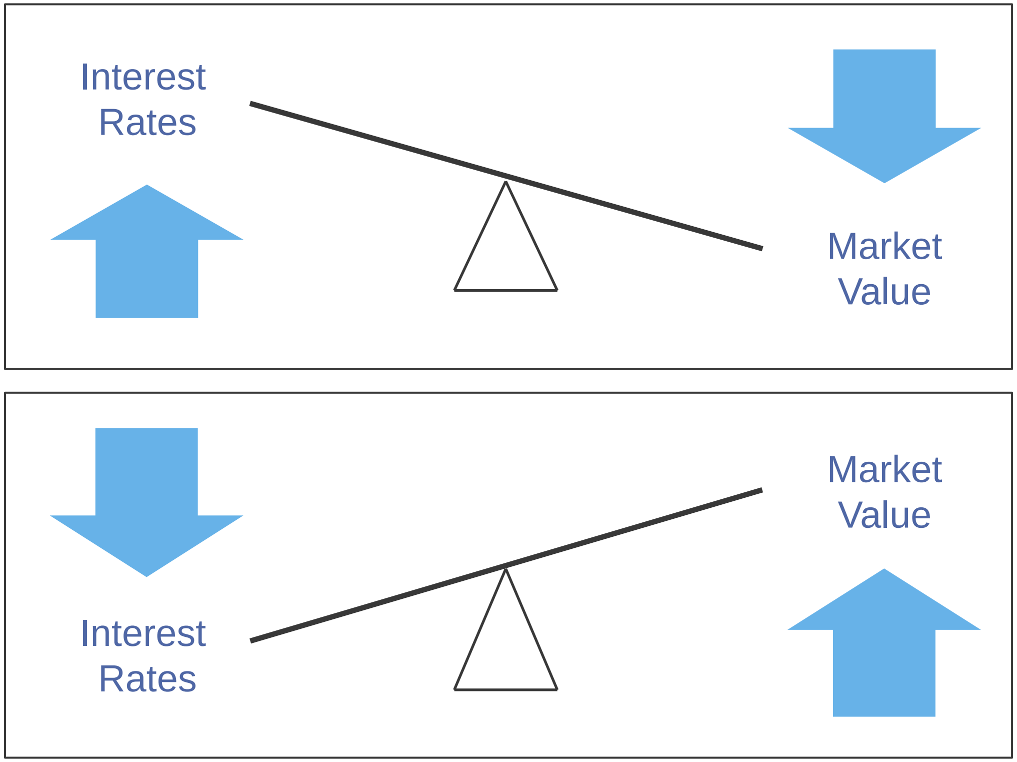
Takeaways

- In March 2020, the Federal Reserve cut the fed funds target rate to 0%-0.25% to help the economy withstand the impacts of the coronavirus.
- Interest rates on securities with maturities under five years followed suit and sank to historically low levels.
- After almost two years of interest rates near historic lows, rates are now moving higher.
- Interest rates are moving up in anticipation of the Federal Reserve raising the Fed funds target rate multiple times in 2022, after raising rates for the first time since 2018 at their March meeting.
- The yield curve has flattened with shorter-term yields increasing at a faster pace than longer-term yields. In early April, the 2-year overtook the 10-year treasury yield, which resulted in an inverted yield curve.

What are the effects of rising rates on investment returns?

Impact on Portfolio Holdings

Market Values of Current Holdings Will Fall



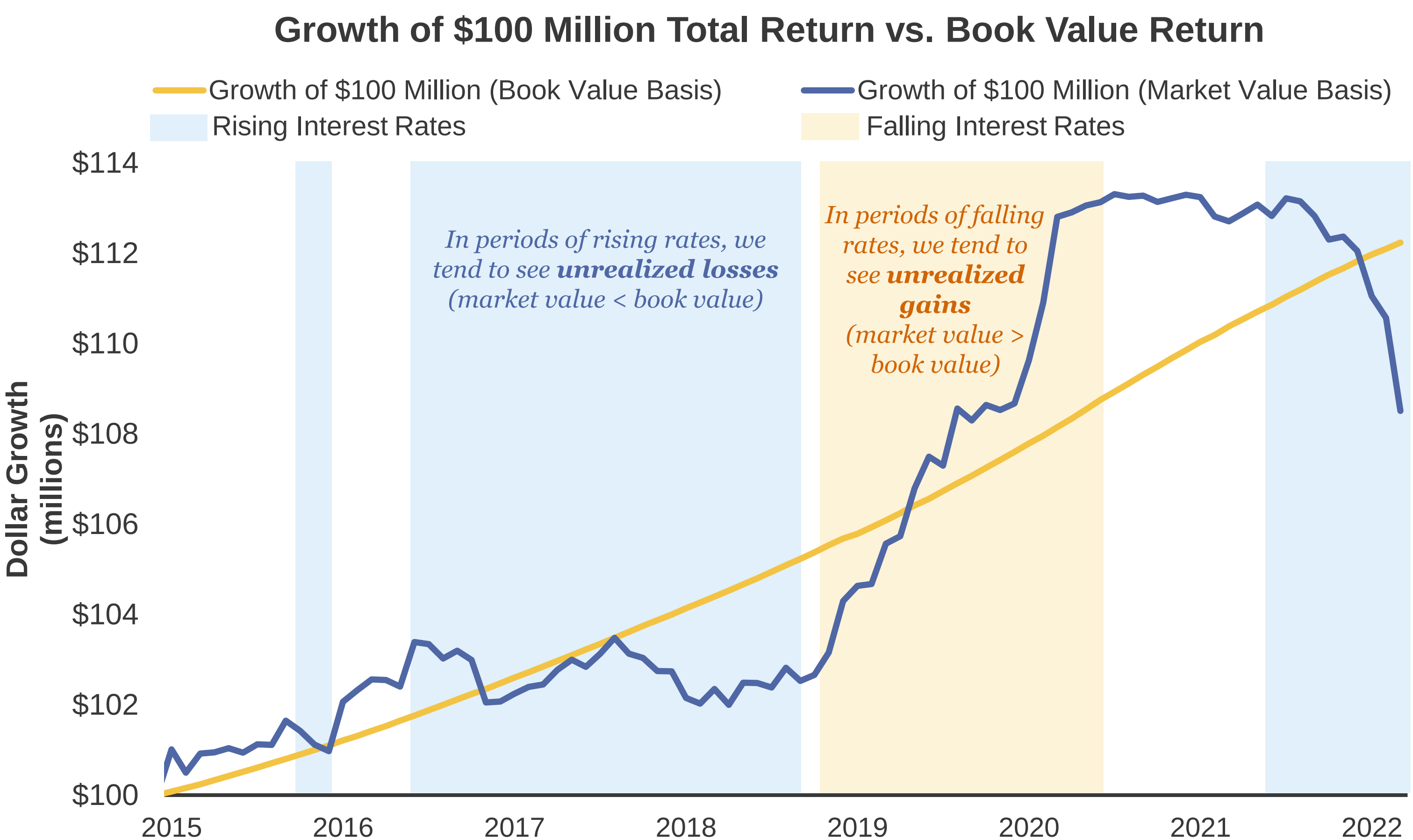
Market values move inversely to interest rates

What Do You Do?!

Some Options to Consider for **Shorter-term Funds**:

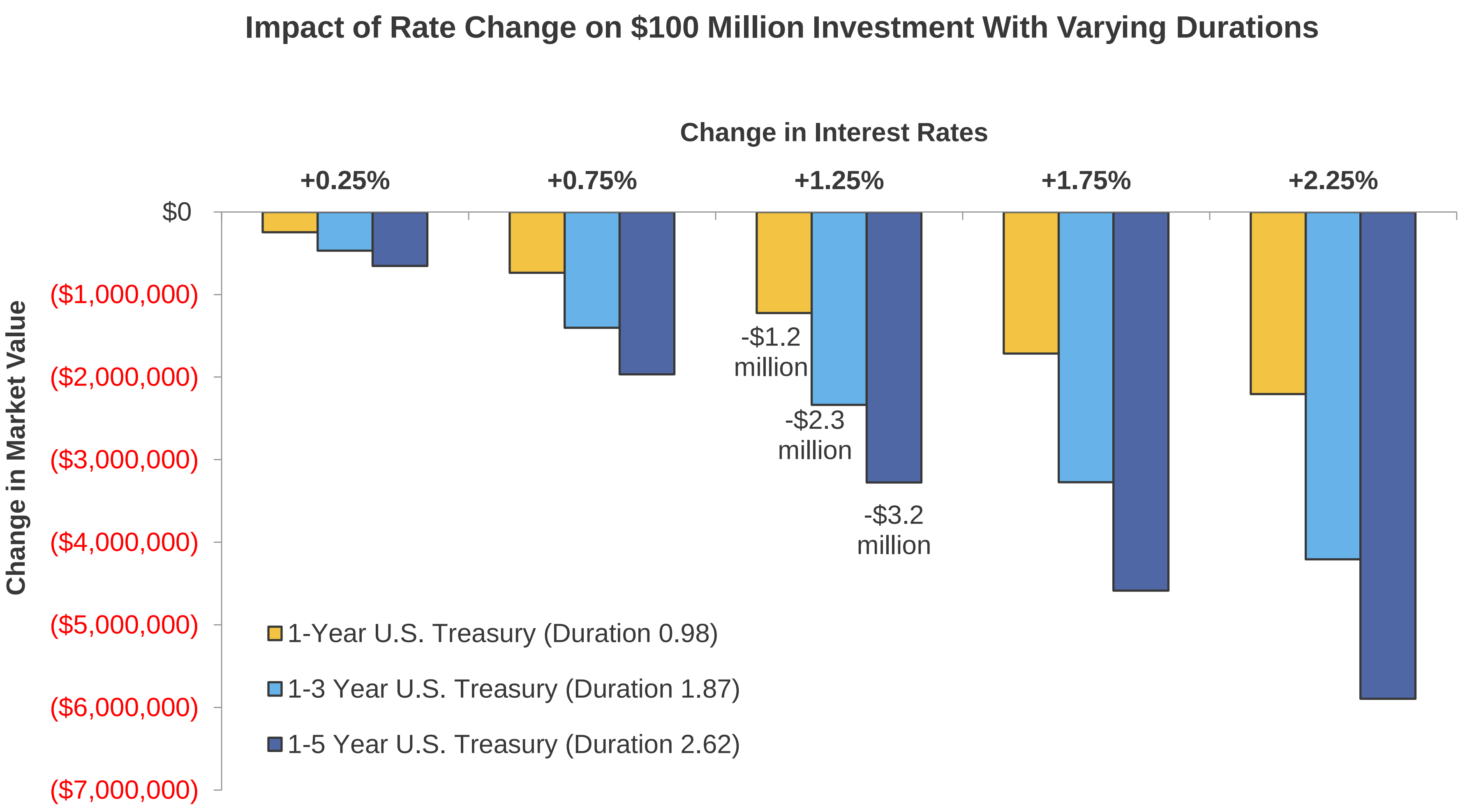
- Freak out and sell everything!
- Shorten duration modestly
- Maintain a diversified portfolio
- Capture value offered by steep yield curve

Changes in Interest Rates and Its Impact on Total Return



For illustrative purposes only. The growth for $100 million on a book value basis is based on the book value returns of a representative 1-5 year U.S. Treasury portfolio. The growth of $100 million on a market value basis is based on the total return of the ICE BofAML 1-5 year U.S Treasury Index. Rising or Falling Interest Rates corresponds to the trend of the 2-year U.S. Treasury Yield. Source: Bloomberg, for the period December 31, 2014 – March 31, 2022

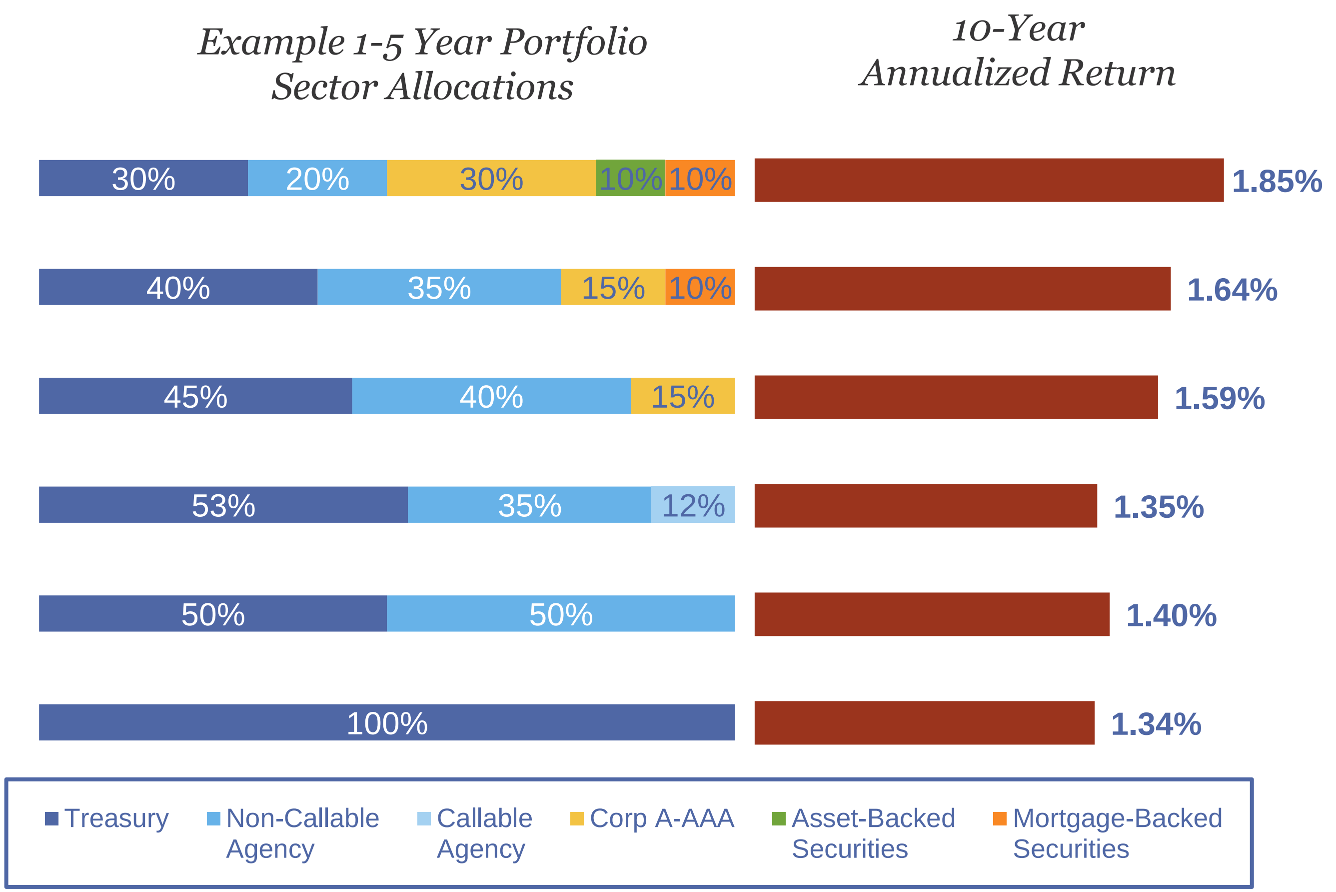
Longer Duration Portfolios Feel Larger Impacts



Source: Bloomberg, as of 12/31/21.

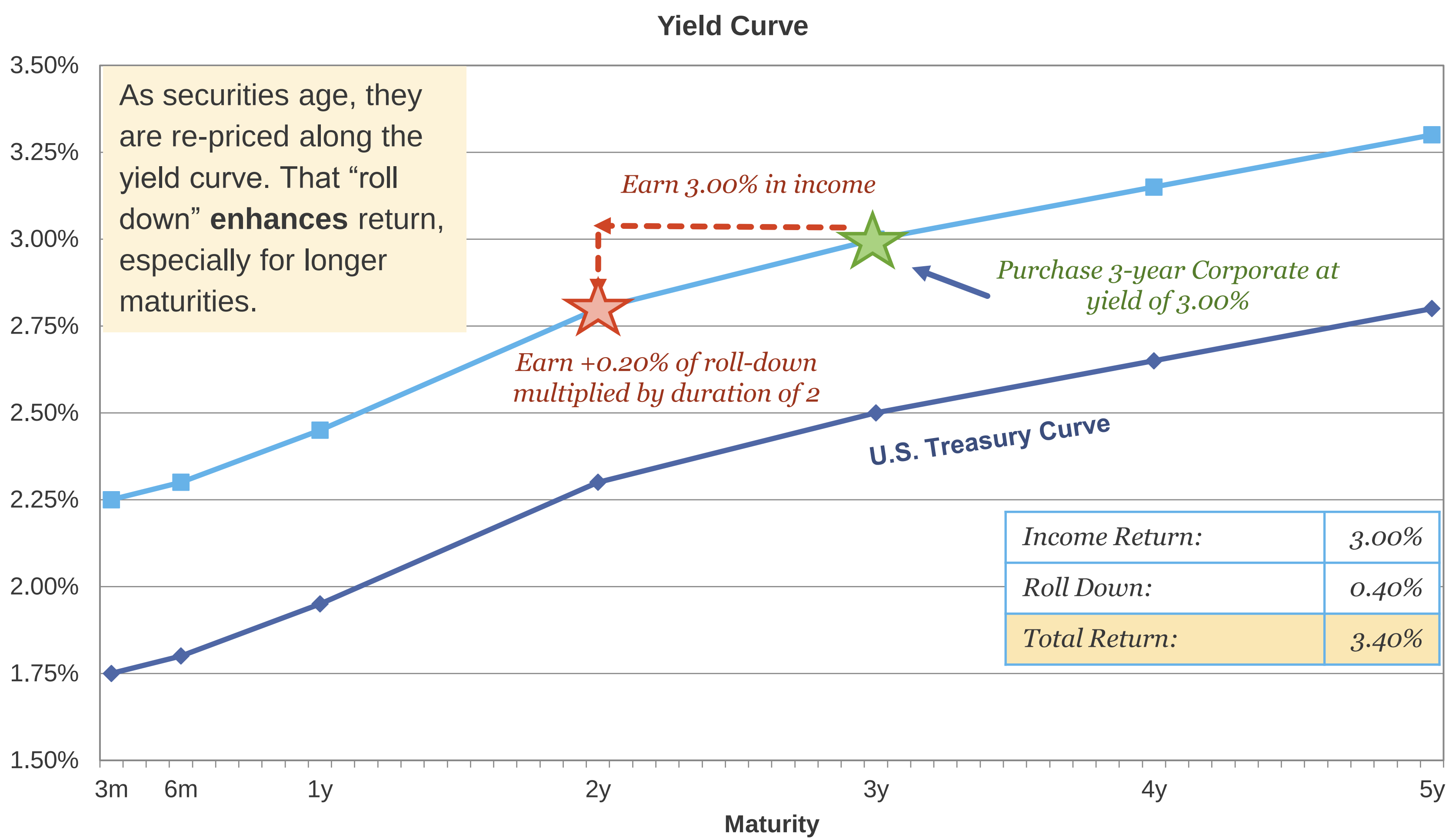
Diversification Benefits

A diversified portfolio seeks to reduce earnings volatility and enhance portfolio returns



Source: Bloomberg, as of 12/31/21. Sample portfolio returns are based on the ICE BofAML 1-5 Year Indices. MBS and ABS are 0-5 year, based on weighted average life. Total return and standard deviation are annualized.

Rolling Down the Yield Curve

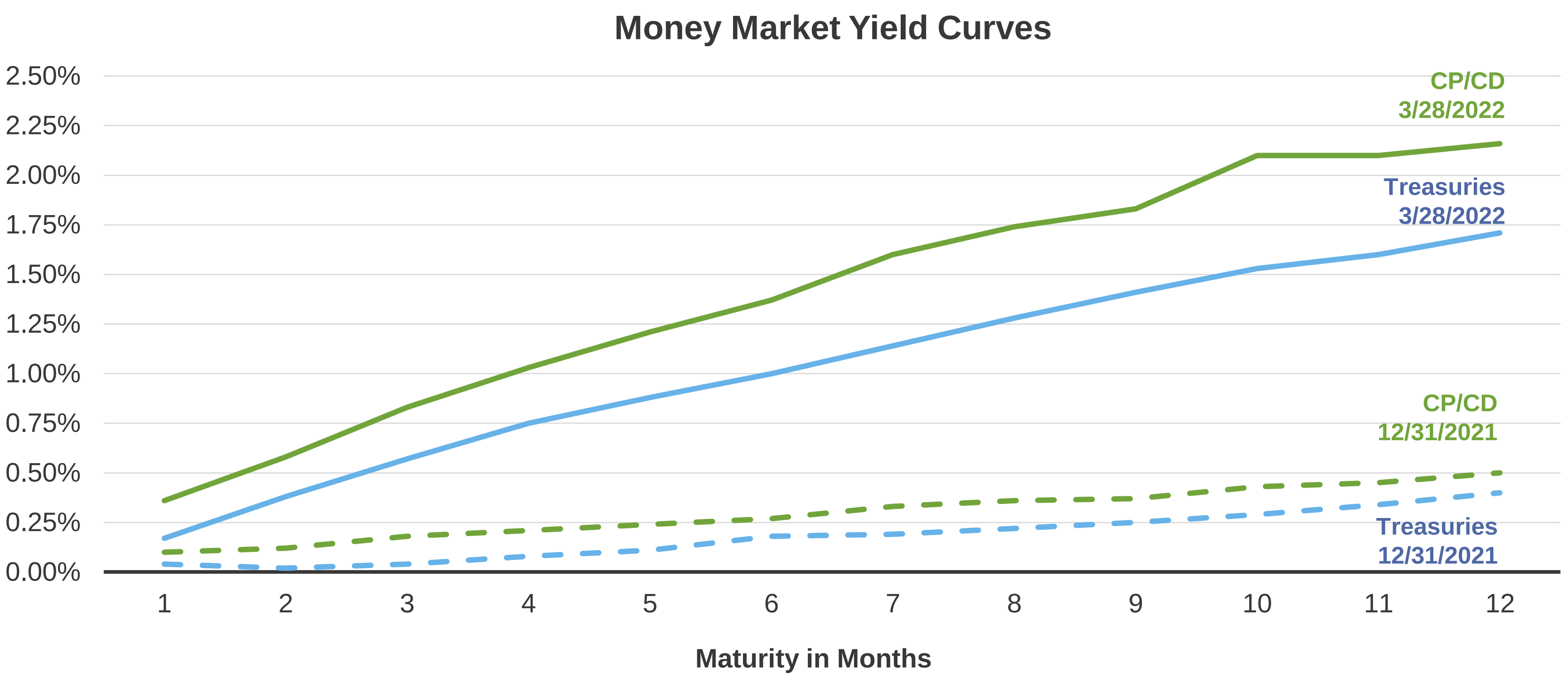


Income Return:	*3.00%*
Roll Down:	*0.40%*
Total Return:	*3.40%*

Yields do not reflect the current interest rate or yield curve environment. For Illustrative Purposes Only.

Rise In Rates Changes 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)



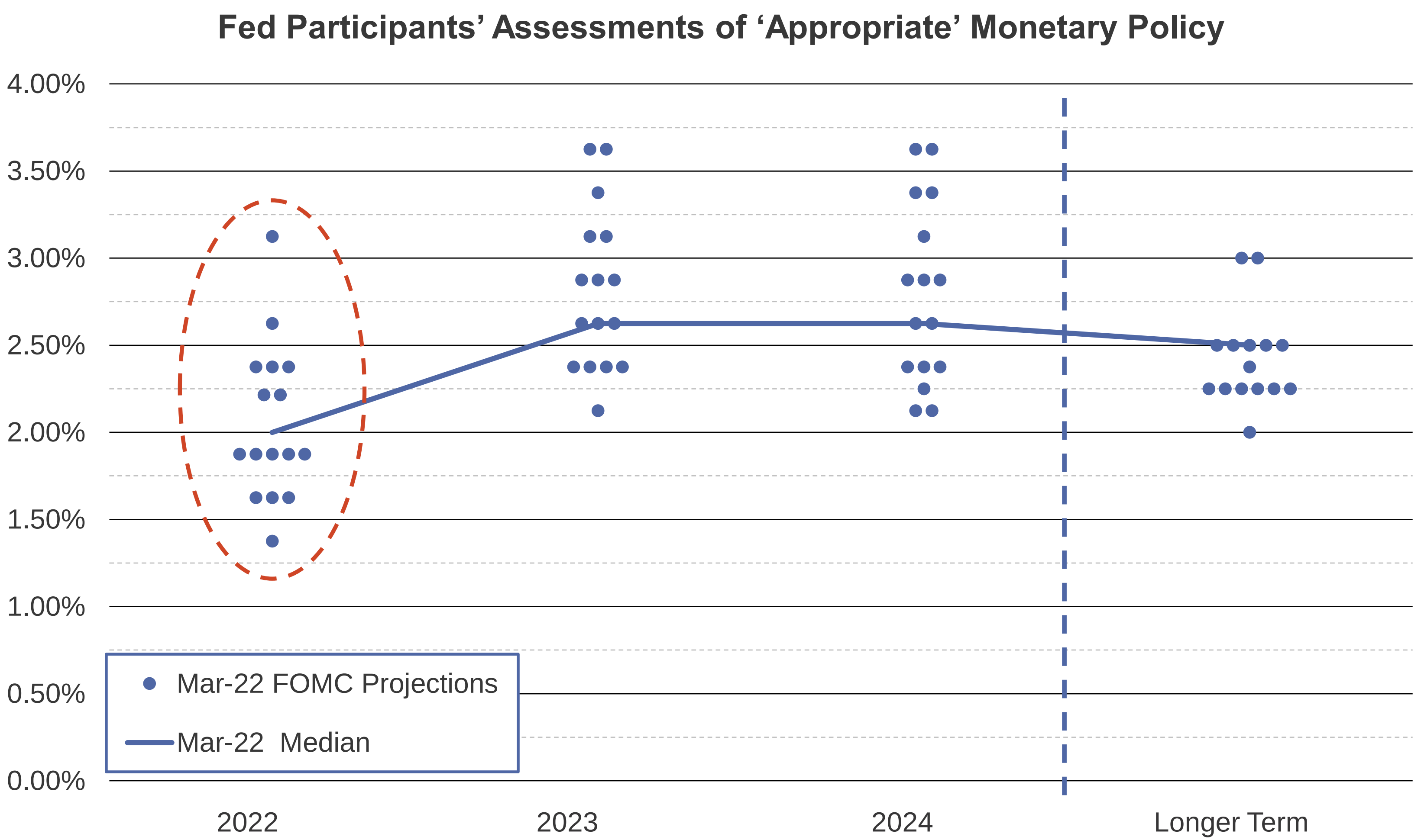
Source: PFMAM Trading Desk, as of 3/28/2022. Yields are for indicative purposes only; actual yields may vary by issue.

Takeaways

- On fixed income securities, yields and prices move inversely, so when interest rates rise, prices (market values) of fixed income portfolios/indices fall.
- Rising rates/falling prices can lead to negative total returns, when unrealized market value losses are greater than realized earnings.
- But, as new investments are purchased in the higher interest rate environment, rising interest rates result in increased interest earnings. A steeper yield curve is your friend.

Assuming the Fed will keep raising rates in 2022, should I invest short-term or longer-term?

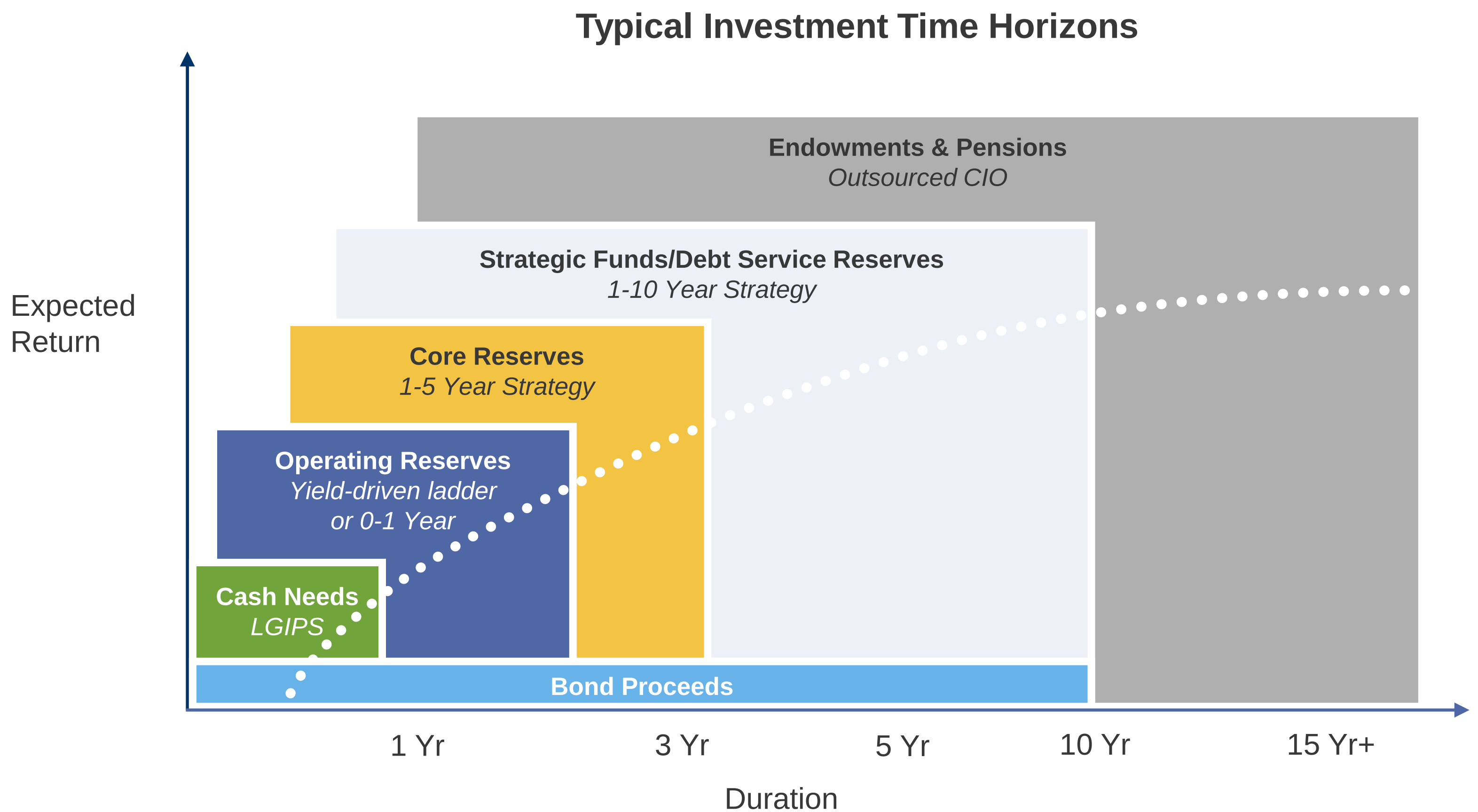
Fed "Dot Plot" Signals 7 Rate Hikes in 2022



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.

Different Horizons for Different Funds

Understanding the use and overall objective of a fund/asset type is essential in order to determine a prudent and efficient investment strategy.



For illustrative purposes only.

Cash Flows Can Inform Strategy

Daily Liquidity

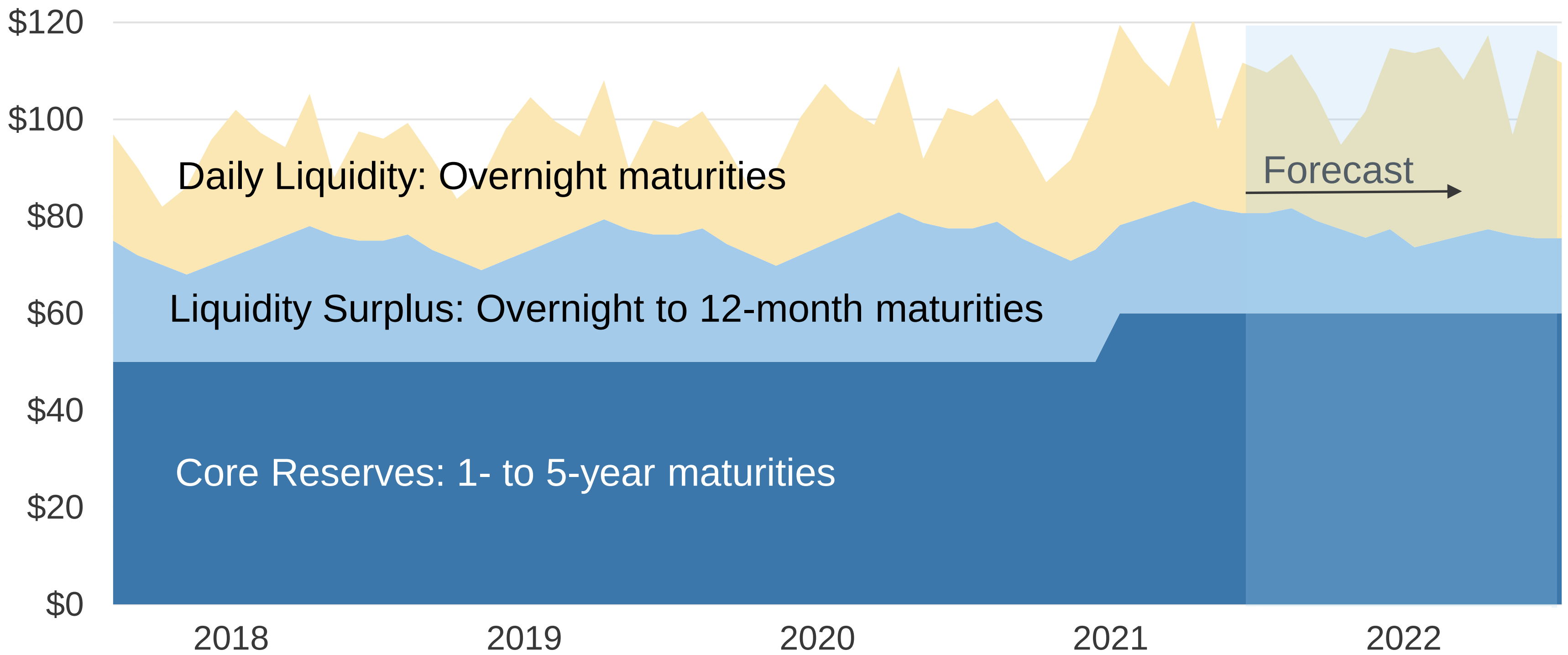
- Cash and equivalents, providing immediate availability
- Manage liquidity needs

Liquidity

- Laddered investments to known and expected cash flows
- High-quality fixed income

Core

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



For illustrative purposes only.

How do I explain negative returns and earnings to my stakeholders?

Regardless of Your Strategy, Communication Is Important

- Ensure that major components of your entity's investment program are conveyed to managers/elected officials
  - Internal controls
  - Investment policy/risk tolerances
  - Overall investment strategy
- Tailor communications to audience
  - Elected Officials: Big-picture, 30,000-foot summaries
  - Manager: Detailed, fact-filled, yet concise reports
- Be prepared to educate
  - New market conditions
  - Market value losses (unrealized/realized)
  - Initial losses on sales of securities, but overall benefit
  - Importance of long-term approach

Investment Considerations For Any Market

Stick to the Basics

- Understand source, use, and objective of different fund types
- Analyze and project cash flows
- Base investments in part on liquidity needs
- Diversify among several types of investments with varying maturities
- Develop a long-term plan
- Don't try to "guess" where markets are going
- Consider investments that react to market changes in different ways - fixed and variable rate
- Manage risks

1

Safeguard Principal

2

Meet Liquidity Needs

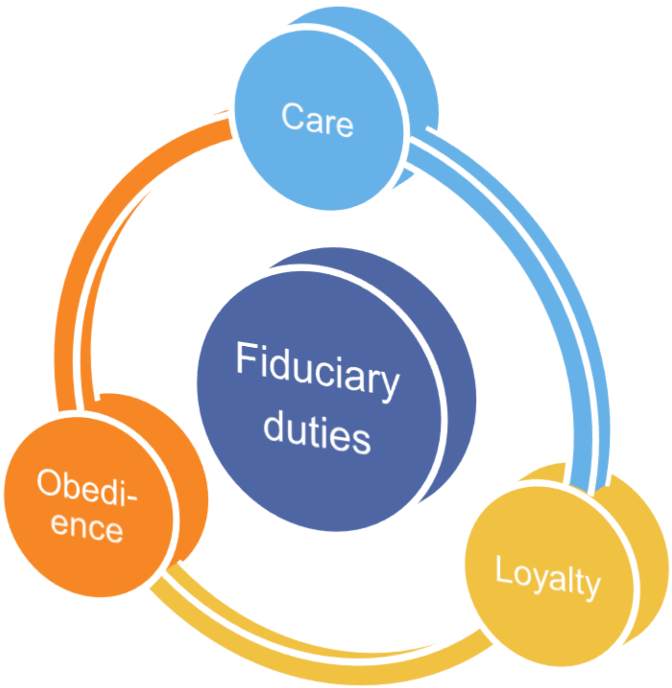
3

Achieve a Market Return/Yield

Governance and Portfolio Oversight

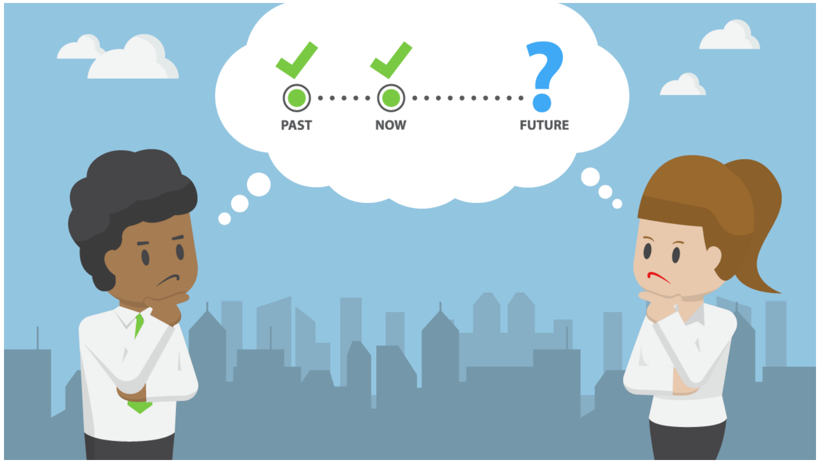
Finance Committee Construction

- Adopt an appropriate committee size to allow for diversity of thought and efficient decision making
- Intentionally build a committee with the right skills and subject matter expertise
- Stagger committee membership to provide continuity of institutional knowledge while allowing for new perspectives
- Implementing appropriate policies and procedures
  - Committee charter
  - Investment policy statement
  - Spending policy (if applicable)
- Understanding your responsibility as a committee
  - Fiduciary duty of care, loyalty, and obedience



Decision Framework

1. What is our portfolio's current strategic asset allocation?
2. What are my organization's objectives and capacity to take on risk?
3. What are the intermediate- and long-term assumptions for capital market returns?
4. What is our portfolio's expected return and how much risk are we taking on to achieve these results?
5. Should we modify our strategic targets?



What are Capital Market Assumptions?

Return

- Expected average annual growth rate of the asset class for the period
  - i.e., 5% annualized over the next 30 years

Risk (Standard Deviation)

- Expected range of annual returns based on a normal distribution
  - i.e., 5% expected return with a 10% standard deviation has a 68% certainty of a return between -5% and 15% in any one year

Correlation

- An estimate of how asset classes will behave relative to one another
- The measure is standardized and ranges between -1 (perfectly negatively correlated) to +1 (perfectly correlated)
- Considering how asset classes are correlated as part of the portfolio construction process is important to ensure diversification—a fundamental principle of modern portfolio theory

PFMAM 2022 Capital Market Assumptions

	Intermediate: Next 5 Years		Long Term Projections	
	Expected Return	Expected Risk	Expected Return	Expected Risk
US Equity	7.2%	16%	7.6%	16%
U.S. Small-Cap	8.8%	19%	8.0%	19%
Int'l Developed Equity	7.5%	17%	7.3%	17%
EM Equity	7.5%	20%	7.7%	20%
Non-US Small-Cap	8.1%	20%	7.6%	20%
Short-Term Bonds	-0.1%	3%	3.0%	3%
Core Bonds	-0.9%	5%	3.9%	5%
Global Core	-1.8%	5%	3.2%	5%
Int. IG Corp	0.1%	7%	3.9%	7%
Long IG Corp	-4.2%	8%	4.4%	8%
EM Debt	2.5%	10%	4.9%	10%
High Yield	2.4%	9%	5.0%	9%
Bank Loans	4.2%	6%	4.7%	6%
Private Debt	6.7%	13%	6.8%	13%
REITs	6.3%	12%	6.6%	12%
Private Real Estate	7.0%	15%	7.9%	15%
Infrastructure	7.1%	18%	8.0%	18%
Commodities	2.8%	16%	4.2%	16%
Hedge Funds	5.8%	15%	6.3%	15%
Private Equity	10.1%	25%	9.2%	25%
Cash	0.8%	1%	2.2%	1%

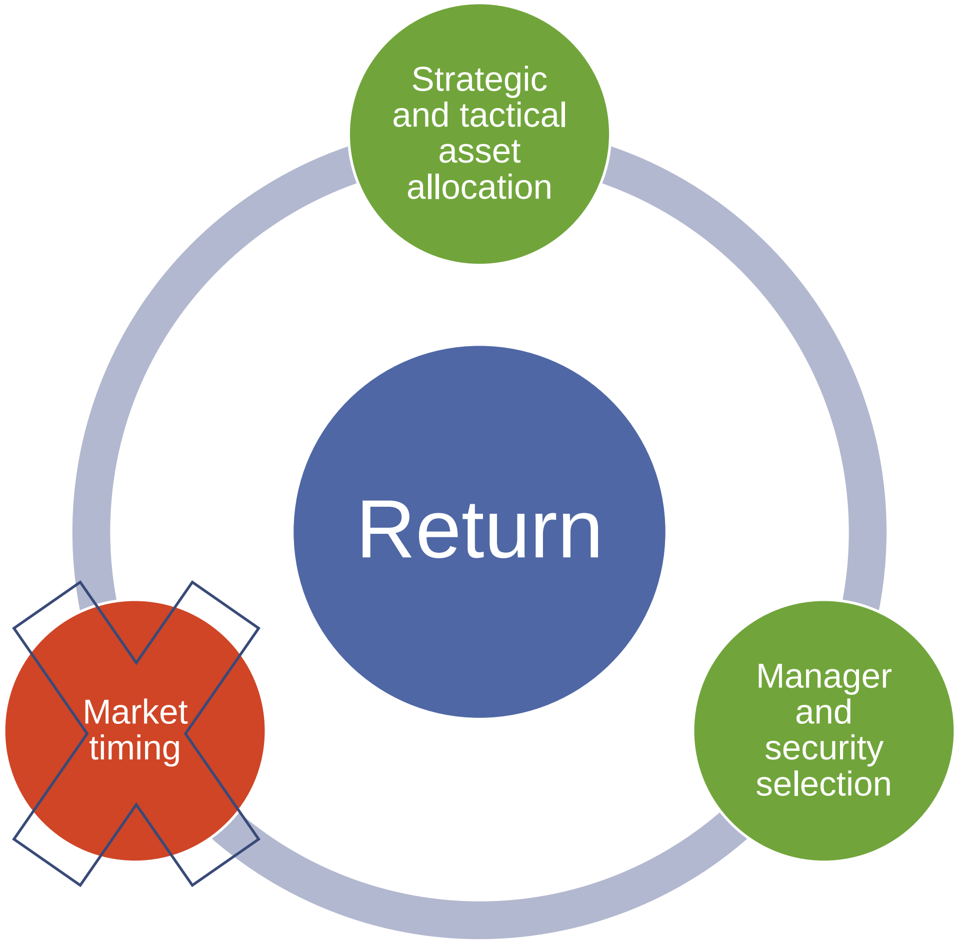
For the intermediate term (up to 5 years), our capital market assumptions derive from our assessment of current economic conditions, including corporate profits, balance sheets, etc., and current valuations for various asset classes. Our long-term assumptions are derived using an economic building block approach that projects economic and corporate profit growth and takes into consideration the fundamental factors driving long-term real economic growth, our expectation for inflation, productivity and labor force growth. Our full CMA presentation is available upon request.

PFMAM 2022 Capital Market Assumptions, Correlations

	U.S. Equity	U.S. Small- Cap	Int'l Developed Equity	EM Equity	Non-US Small-Cap	Short Bonds	Core Bonds	Global Core	Intermediate IG Corp	Long IG Corp	EM Debt	High Yield	Bank Loans	Private Debt	REITs	PE RE	Infrastructure	Commodities	Hedge Funds	Private Equity	Cash
U.S. Equity	1.0																				
U.S. Small- Cap	0.9	1.0																			
Int'l Developed Equity	**0.8**	0.8	1.0																		
EM Equity	0.7	0.7	0.7	1.0																	
Non-US Small-Cap	0.8	0.8	0.9	0.8	1.0																
Short Bonds	0.2	0.2	0.1	0.1	0.1	1.0															
Core Bonds	**0.3**	0.3	0.2	0.2	0.2	0.5	1.0														
Global Core	0.2	0.2	0.2	0.2	0.2	0.4	0.4	1.0													
Intermediate IG Corp	0.3	0.3	0.2	0.2	0.2	0.7	0.9	0.9	1.0												
Long IG Corp	0.3	0.3	0.2	0.2	0.2	0.7	0.9	0.9	0.9	1.0											
EM Debt	0.5	0.5	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.4	1.0										
High Yield	**0.7**	0.7	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	1.0									
Bank Loans	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.7	0.7	1.0								
Private Debt	0.6	0.6	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.8	0.7	1.0							
REITs	0.5	0.5	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	1.0						
PE RE	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.4	0.2	0.4	0.8	1.0					
Infrastructure	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.5	1.0				
Commodities	0.1	0.1	0.1	0.2	0.1	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	1.0			
Hedge Funds	0.6	0.6	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	1.0		
Private Equity	0.7	0.7	0.6	0.6	0.6	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.5	0.4	0.4	0.4	0.1	0.5	1.0	
Cash	0.1	0.1	0.1	0.1	0.1	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0

For the intermediate term (up to 5 years), our capital market assumptions derive from our assessment of current economic conditions, including corporate profits, balance sheets, etc., and current valuations for various asset classes. Our long-term assumptions are derived using an economic building block approach that projects economic and corporate profit growth and takes into consideration the fundamental factors driving long-term real economic growth, our expectation for inflation, productivity and labor force growth.

Sources of Investment Return



Tactical Asset Allocation

- Defined as a temporary deviation from the strategic asset allocation
  - For example, if we believe that equities are temporarily cheap and fixed income is expensive, we may shift some assets from fixed income to equities to take advantage of relative valuations
- An effective implementation of tactical asset allocation decisions must involve
  - An understanding of the economics of the investment
  - Estimating the intrinsic value of the asset under consideration
  - Comparing the intrinsic value with the current price

Considering Active vs. Passive Management

Passive Funds	Active Managers
‣ Reduce overall investment management costs ‣ Preferred in more efficient and momentum markets	‣ Can provide relative downside protection ‣ Must have a compelling belief they will outperform the index

- Active management
  - An active manager will buy or overweight securities they believe will outperform the market and sell or underweight securities they believe will underperform the market
  - Investors should expect higher risk-adjusted returns relative to the market, however, the potential success of an active manager in achieving this goal is correlated with their talent and the efficiency of the asset class
- Passive management
  - A strategy that indexes to a specific benchmark and replicates investments to the same weighting of the underlying
  - Investors can expect market returns at a low cost

Thank You!
Questions?

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