



Agenda Item No. (4)

To: OPEB Retirement Investment Trust Board
Meeting of March 21, 2024

From: Alice Ng, Director of Fiscal Resources
Joseph M. Wire, Auditor-Controller

Subject: **OPEB RETIREMENT INVESTMENT TRUST BOARD EDUCATION**

Recommendation

This report is for informational purposes and requires no action.

Summary

The enclosed educational material will be discussed in more detail by PFM Asset Management, LLC (“PFMAM”), Trust Administrator and Investment Advisor, at the OPEB Retirement Investment Trust Board meeting of March 21, 2024.

Fiscal Impact

There is no fiscal impact as this report is informational

Attachment

THIS PAGE INTENTIONALLY LEFT BLANK

Golden Gate Bridge, Highway and Transportation District

Asset Allocation Modeling & Economic Dashboard Review

Andrew Brown, Portfolio Manager

March 21, 2024 | pfmam.com

PFM Asset Management LLC

NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE

Agenda

- ▶ **Capital Market Assumptions**
- ▶ **Economic and market overview**

Capital Market Assumptions

What are Capital Market Assumptions?

- ▶ Expected future return, associated risk, and correlation for various asset classes over a specified period
 - ▶ Return: Expected average annual growth rate of the asset class for the period
 - 5% annualized over the next 30 years
 - ▶ Risk (Standard Deviation): Expected range of annual returns based on a normal distribution
 - 5% expected return with a 10% standard deviation has a 68% certainty of a return between -5% and 15% in any one year

2024 Capital Market Assumptions

	Intermediate: Next 5 Years		Long Term Projections	
	Expected Return	Expected Risk	Expected Return	Expected Risk
US Equity	7.0%	16%	7.5%	16%
U.S. Small-Cap	8.7%	19%	8.6%	19%
Int'l Developed Equity	8.2%	17%	7.1%	17%
EM Equity	8.6%	20%	7.4%	20%
Non-US Small-Cap	8.1%	20%	7.9%	20%
Short-Term Bonds	5.0%	3%	3.7%	3%
Core Bonds	6.2%	5%	4.7%	5%
Global Core	5.1%	5%	3.5%	5%
Int. IG Corp	6.4%	7%	5.4%	7%
Long IG Corp	7.2%	8%	6.2%	8%
EM Debt	7.5%	10%	6.0%	10%
High Yield	8.3%	9%	6.8%	9%
Bank Loans	7.5%	6%	5.3%	6%
Private Debt	8.1%	13%	7.1%	13%
REITs	8.4%	16%	7.0%	16%
Private Real Estate	6.0%	18%	7.2%	18%
Listed Infrastructure	6.5%	13%	6.8%	13%
Private Infrastructure	7.1%	20%	8.0%	20%
Commodities	5.0%	16%	4.0%	16%
Hedge Funds	7.9%	16%	7.6%	16%
Private Equity	9.0%	25%	9.7%	25%
Cash	3.8%	1%	2.7%	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.

What is the Role of 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

2024 Capital Market Assumptions, Cont.

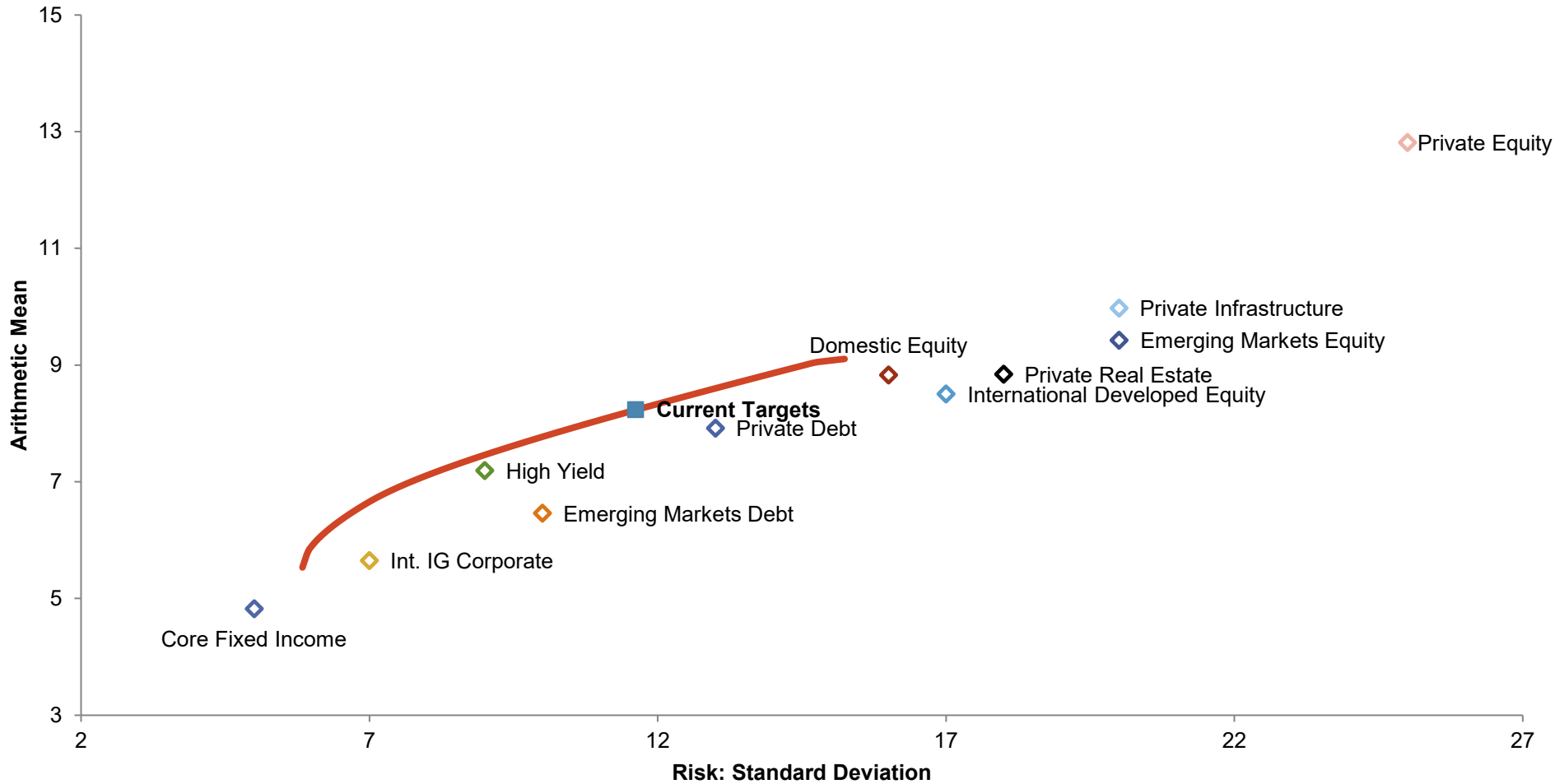
	U.S. Equity	U.S. Small- Cap	Int'l Developed Equity	EM Equity	Non-US Small-Cap	Short Bonds	Core Bonds	Global Core	Intermediate IG Corp	Long IG Corp	EM Debt	High Yield	Bank Loans	Private Debt	REITs	PE RE	Listed Infrastructure	Private Infrastructure	Commodities	Hedge Funds	Private Equity	Cash	
U.S. Equity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

Asset Allocation Summary

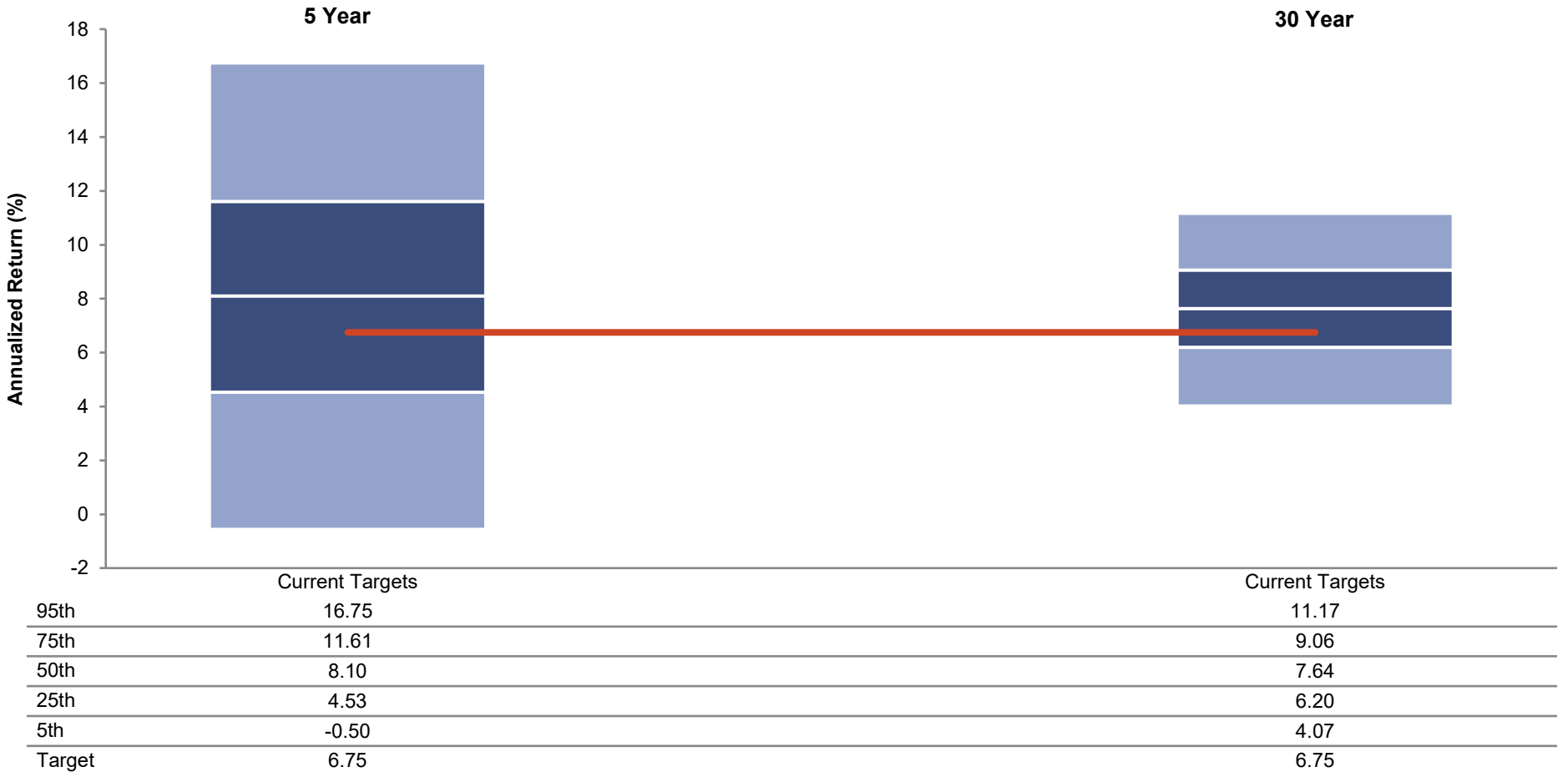
	Current Targets
Equity	55.0%
Domestic Equity	36.0%
International Developed Equity	13.5%
Emerging Markets Equity	5.5%
Fixed Income	25.0%
Core Fixed Income	12.5%
Int. IG Corporate	6.3%
Emerging Markets Debt	3.1%
High Yield	3.1%
Alternative	20.0%
Private Debt	6.7%
Private Real Assets	6.7%
Private Equity	6.7%

Intermediate-Term (5 Years)	
Expected Return	8.1%
Standard Deviation	11.6%
Return / Standard Deviation	0.70
Probability of 6.75% Return	58.95%
Long-Term (30 Years)	
Expected Return	7.6%
Standard Deviation	11.6%
Return / Standard Deviation	0.66
Probability of 6.75% Return	65.60%

Efficient Frontier (Long-Term)



Return Projections (Intermediate and Long-Term)



Disclosures

The returns presented in this simulation are not actual returns experienced by a real investor, but rather simulated returns that we believe could have been achieved under controlled circumstances using a number of assumptions. No representation or warranty is made to the reasonableness of the assumptions made or that all assumptions used in achieving the returns have been stated or fully considered.

No assurance can be given as to whether the information and/or assumptions upon which this hypothetical performance is based reflect present market conditions or future market performance. Actual performance results may differ from this hypothetical performance presented. Changes in the assumptions may have a material impact on the hypothetical performance presented. Past performance is no guarantee of future results.

The material is provided to you on the understanding that, as a sophisticated investor, you will understand and accept its inherent limitations.

Disclaimer

Investment advisory services are provided by PFM Asset Management LLC (“PFMAM”), an investment adviser registered with the U.S. Securities and Exchange Commission and a subsidiary of U.S. Bancorp Asset Management, Inc. (“USBAM”). USBAM is a subsidiary of U.S. Bank National Association (“U.S. Bank”). U.S. Bank is a separate entity and subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM. The information contained is not an offer to purchase or sell any securities. Additional applicable regulatory information is available upon request.

For more information regarding PFMAM’s services please visit www.pfmam.com.



Golden Gate Bridge, Highway and Transportation District

Plan for Slower Economic Growth

Presented by:

October 26, 2023

Ellen Clark, Director

Jim Link, Managing Director

415.393.7225 | pfmam.com

PFM Asset Management LLC

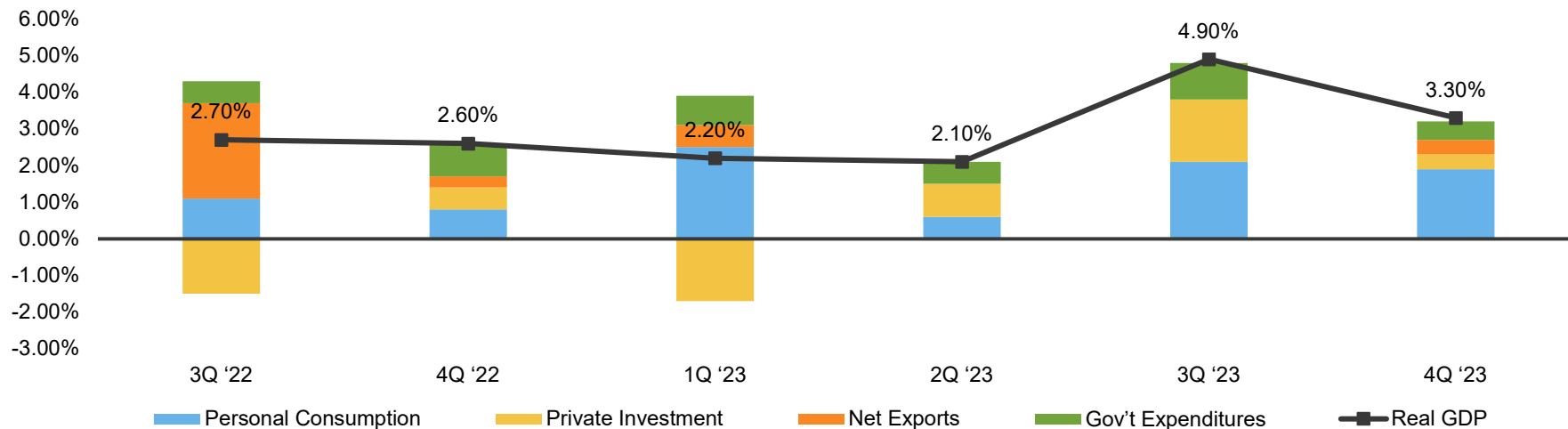
NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE

**OK, Define
slower**



GDP Remains Surprisingly Robust

U.S. Real GDP Contributors and Detractors



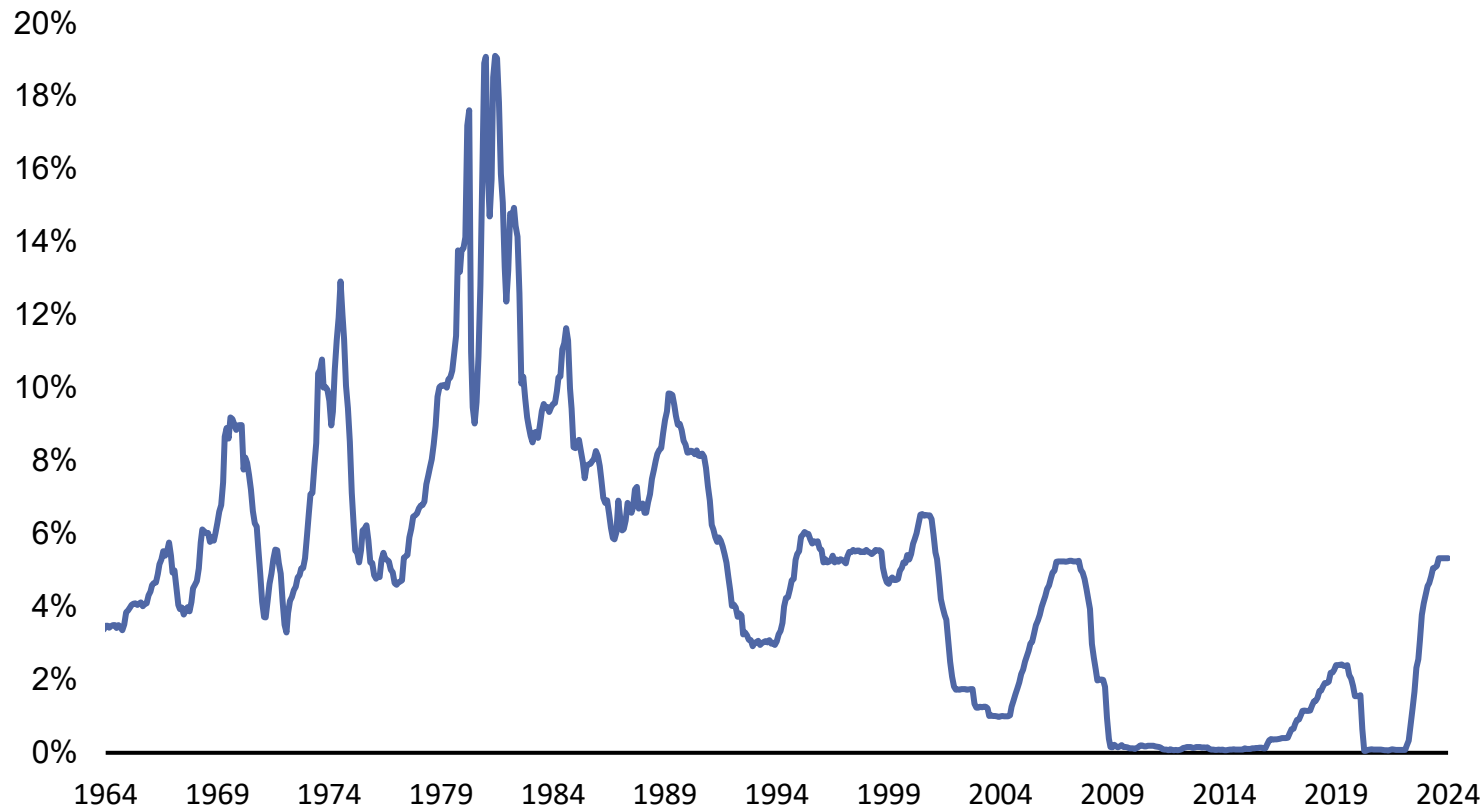
GDP Contributors

	3Q '22	4Q '22	1Q '23	2Q '23	3Q '23	4Q '23
Real GDP	2.7%	2.6%	2.2%	2.1%	4.9%	3.3%
<i>Personal Consumption</i>	1.1%	0.8%	2.5%	0.6%	2.1%	1.9%
<i>Private Investment</i>	-1.5%	0.6%	-1.7%	0.9%	1.7%	0.4%
<i>Net Exports</i>	2.6%	0.3%	0.6%	0.0%	0.0%	0.4%
<i>Gov't Expenditures</i>	0.6%	0.9%	0.8%	0.6%	1.0%	0.5%

The U.S. Consumer has historically been the backbone of economic growth, representing the largest contributor

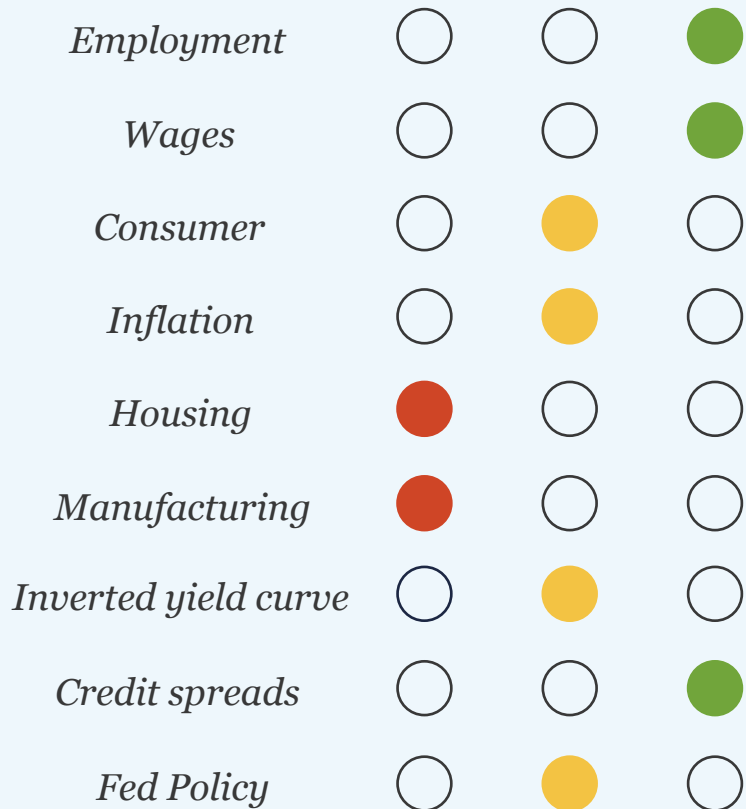
Federal Funds Rate

Federal Funds Effective Rate



Source: FRED, as of January 2024.

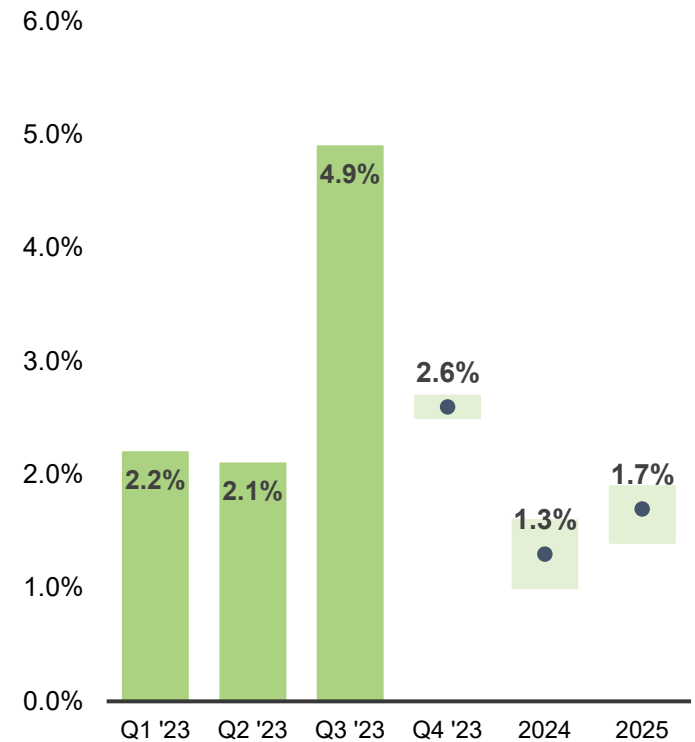
Balanced Risks Support Soft Landing



U.S. GDP Forecasts

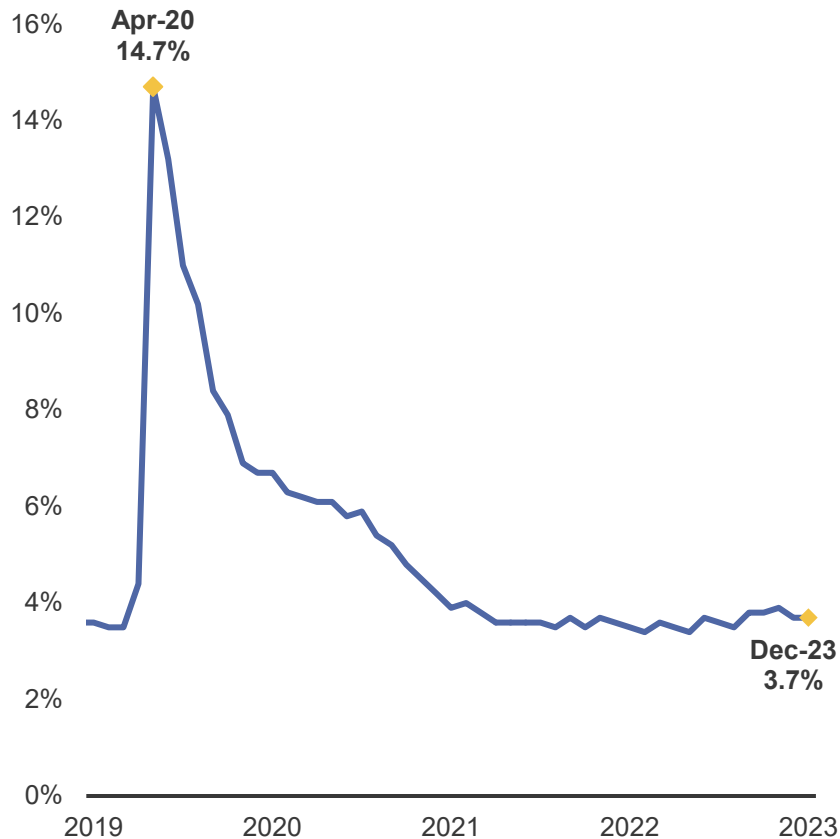
Annualized Rate

■ Actual ■ Range ● Median of Forecasts



The Unemployment Rate Remained at 3.7%

Unemployment Rate

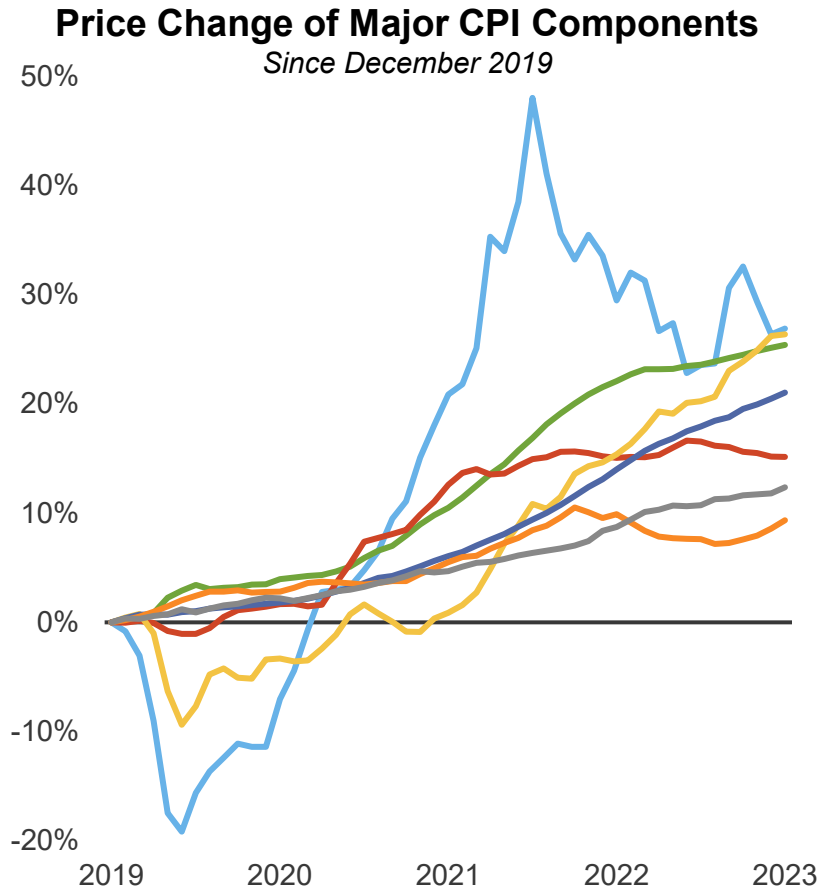


Labor Force Participation Rate



Source: Congressional Budget Office July 2023 economic projections, Bureau of Labor Statistics. Bloomberg, as of December 2023. Data is seasonally adjusted.

CPI Disinflation Signals Potential for Soft Landing



CPI Component	12-mo. Change	Weight ¹	Contribution to YoY CPI
Energy	-2.0%	6.7%	-0.1%
Food	2.7%	13.4%	0.4%
Transportation	9.5%	6.1%	0.6%
Goods	6.2%	35.2%	2.2%
Shelter	0.1%	20.8%	0.0%
Medical services	3.3%	11.4%	0.4%
Other Services ²	-0.5%	6.4%	0.0%
Overall	3.4%		

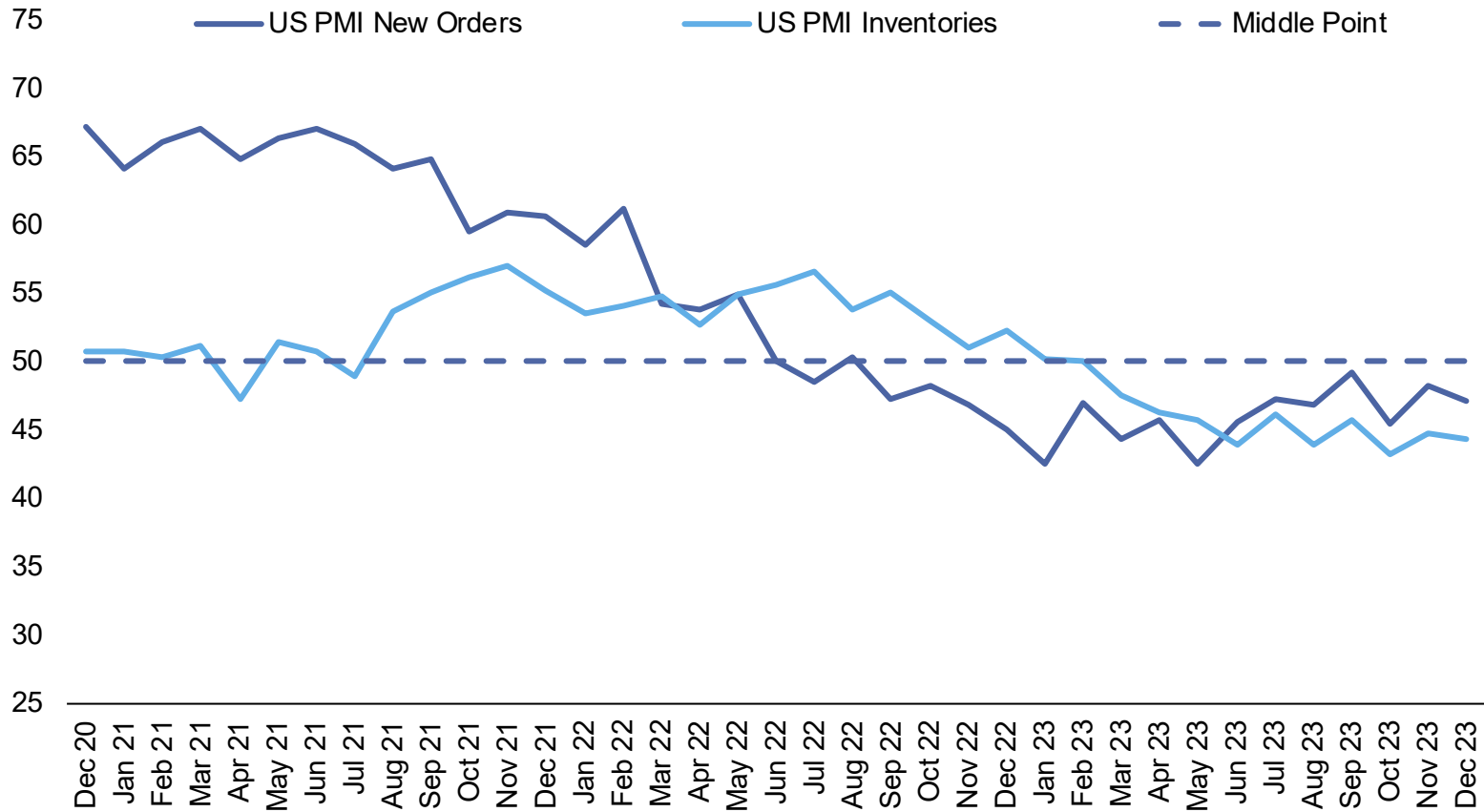
Source: Bloomberg, Bureau of Labor Statistics as of December 2023.

¹Index weights are as of November 2023 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.

New Orders and Inventories Remain Contractionary

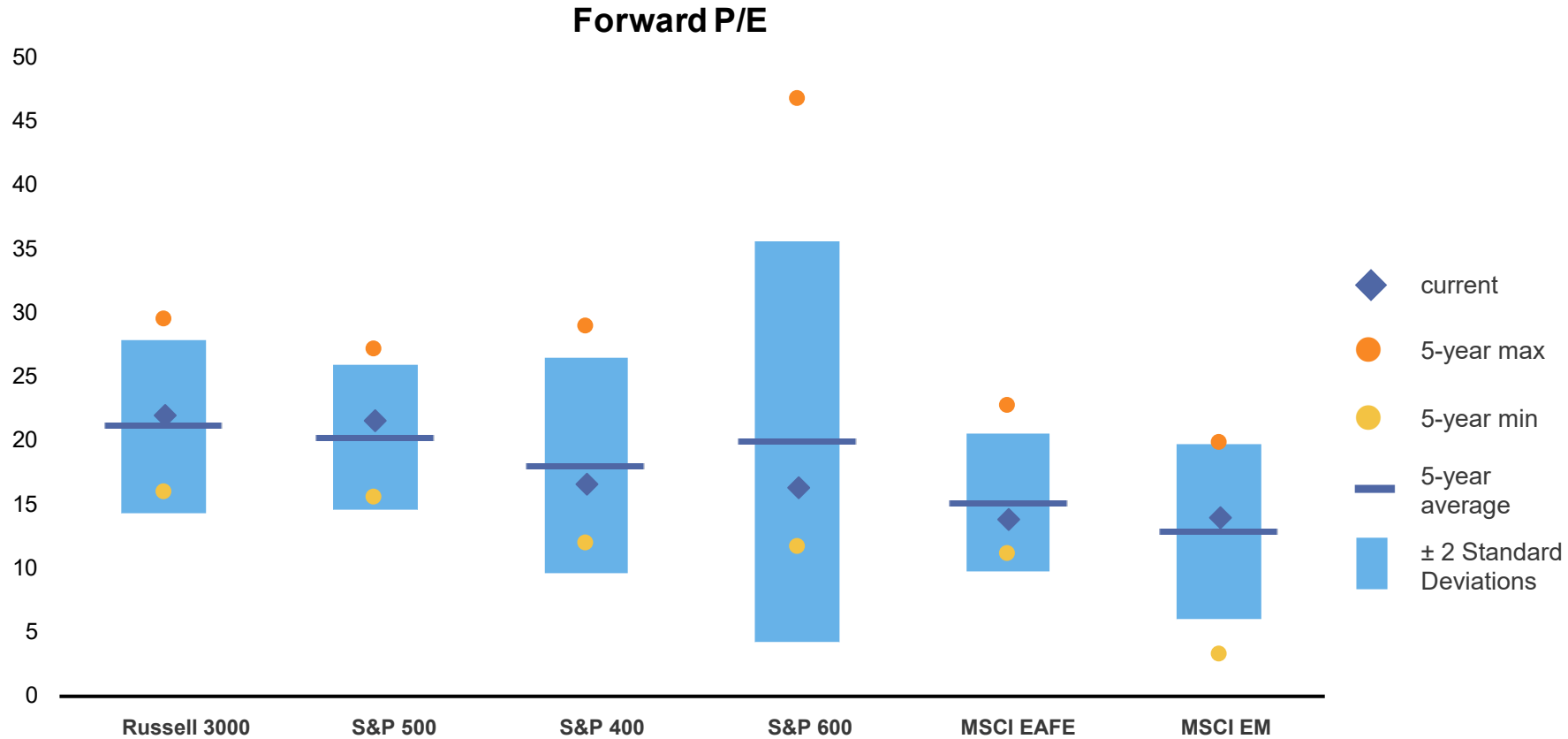
US PMI: New Orders and Inventories*



Source: Bloomberg, as of December 31, 2023

*PMI new orders and inventories as measured by Institute for Supply Management

Valuations Below 5 Year Average Domestically in Small and Mid Capitalizations



Major Equity and Fixed Income Market Indices

Market Indices as of 12/31/2023					
Domestic Equity	QTD	YTD	1 Year	3 Years	5 years
S&P 500	11.68%	26.26%	26.26%	9.98%	15.66%
Russell 3000	12.06%	25.93%	25.93%	8.52%	15.13%
Russell 2000	14.02%	16.88%	16.88%	2.19%	9.93%
Russell 1000	11.95%	26.50%	26.50%	8.95%	15.49%
International Equity	QTD	YTD	1 Year	3 Years	5 years
MSCI ACWI ex US	9.75%	15.62%	15.62%	1.55%	7.08%
MSCI EAFE	10.42%	18.24%	18.24%	4.02%	8.16%
MSCI Emerging Markets	7.87%	9.83%	9.83%	-5.08%	3.68%
Fixed Income	QTD	YTD	1 Year	3 Years	5 years
Bloomberg Aggregate	6.82%	5.53%	5.53%	-3.31%	1.10%
Bloomberg Global Agg	8.10%	5.72%	5.72%	-5.51%	-0.32%
High Yield Fixed Income	QTD	YTD	1 Year	3 Years	5 years
Bloomberg U.S. High Yield	7.16%	13.45%	13.45%	1.98%	5.37%
Alternatives	QTD	YTD	1 Year	3 Years	5 years
MSCI US REIT Index	16.00%	13.74%	13.74%	7.10%	7.42%
MSCI World Core Infrastructure	13.51%	4.01%	4.01%	3.90%	7.10%
Bloomberg Commodity Index Total Return	-4.63%	-7.91%	-7.91%	10.76%	7.23%

Source: Bloomberg, as of December 31, 2023