AGENDA

INVESTMENT COMMITTEE MEETING
MARIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (MCERA)

One McInnis Parkway, 1st Floor
Retirement Board Chambers
San Rafael, CA

March 16, 2022 – 9:00 a.m.

This meeting will be held via videoconference pursuant to MCERA Board of Retirement Resolution 2021/22-01, which invoked Government Code section 54953(e) for all MCERA Board and standing committee meetings through April 1, 2022.

Instructions for watching the meeting and/or providing public comment, as well as the links for access, are available on the Watch & Attend Meetings page of MCERA's website. Please visit https://www.mcera.org/retirementboard/agendas-minutes/watchmeetings for more information.

The Board of Retirement encourages a respectful presentation of public views to the Board. The Board, staff and public are expected to be polite and courteous, and refrain from questioning the character or motives of others. Please help create an atmosphere of respect during Board meetings.

CALL TO ORDER

ROLL CALL

A. OPEN TIME FOR PUBLIC EXPRESSION

Note: The public may also address the Committee regarding any agenda item when the Committee considers the item.

Open time for public expression, from three to five minutes per speaker, on items not on the Committee Agenda. While members of the public are welcome to address the Committee during this time on matters within the Committee's jurisdiction, except as otherwise permitted by the Ralph M. Brown Act (Government Code Sections 54950 et seq.), no deliberation or action may be taken by the Committee concerning a non-agenda item. Members of the Committee may (1) briefly respond to statements made or questions posed by persons addressing the Committee, (2) ask a question for clarification, or (3) provide a reference to staff for factual information.

B. TOPIC OF GENERAL INTEREST

1. Reconsideration of State of Emergency conditions under Assembly Bill (AB) 361 (ACTION)

   Reconsider and take possible action to invoke Government Code section 54953(e), and to extend MCERA Resolution 2021/22-01 Authorizing Teleconferencing for Board and

Standing Committee Meetings through April 15, 2022, because the State of Emergency proclaimed under Government Code section 8625 remains in effect, and at least one of the following circumstances exists:

1. As a result of the emergency meeting in person would present imminent risks to the health or safety of attendees; or

2. State or local officials continue to impose or recommend measures to promote social distancing.

C. MANAGER REPORTS

1. Manager Overview – Jim Callahan, Callan LLC

2. Morgan Stanley – International Equities – Alex Gabriele, Jill Ytuarte
TIME CERTAIN: 9:05 a.m.

3. State Street Global Markets – Securities Lending Program – John Powell, Charles Byrne
TIME CERTAIN: 9:35 a.m.

D. NEW BUSINESS

1. Investment Manager Personnel Update – TimesSquare Capital Management

2. Capital Markets Assumptions – Jim Callahan, Jay Kloepfer, Callan LLC

3. Asset/Liability Study – Jay Kloepfer, Jim Callahan, Callan LLC

4. Future Meetings

E. INVESTMENT CONSULTANT QUARTERLY REPORT

1. Summary Report as of December 31, 2021

2. Flash Performance Update as of February 28, 2022

Note on Process: Items designated for information are appropriate for Committee action if the Committee wishes to take action.

Note on Voting: As provided by statute, the Alternate Safety Member votes in the absence of the Elected General or Safety Member, and in the absence of both the Retired and Alternate Retired Members. The Alternate Retired Member votes in the absence of the Elected Retired Member. If both Elected General Members, or the Safety Member and an Elected General Member, are absent, then the Elected Alternate Retired Member may vote in place of one absent Elected General Member.

Agenda material is provided upon request. Requests may be submitted by email to MCERABoard@marincounty.org, or by phone at (415) 473-6147.

MCERA is committed to assuring that its public meetings are accessible to persons with disabilities. If you are a person with a disability and require an accommodation to participate in a County program, service, or activity, requests may be made by calling (415) 473-4381 (Voice), Dial 711 for CA Relay, or by email at least five business days in advance of the event. We will do our best to fulfill requests received with less than five business days' notice. Copies of documents are available in alternative formats upon request.

The agenda is available on the Internet at http://www.mcera.org

MCERA

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Fax (admin) 415 473-4179
MCERA.org

Date: March 10, 2022

To: Board of Retirement
Marin County Employees' Retirement Association (MCERA)

From: Jeff Wickman JW
Retirement Administrator

Subject: Considerations for Invoking the Provisions of Assembly Bill 361 in order to Conduct Board and Standing Committee Meetings Virtually

Background

On October 13, 2021, the Board of Retirement adopted Resolution No. 2021/22-01 Authorizing Teleconferencing for Board and Standing Committee Meetings Pursuant to Government Code §54953(e) of the Brown Act ("Section 54953(e)"), through November 12, 2021. The Resolution was adopted in recognition that the conditions for invoking the provisions in Assembly Bill (AB) 361, permitting the Board to conduct remote access meetings, were similar to the way it had been meeting during the COVID-19 pandemic. Since this time the Board has taken the following subsequent actions:

- November 3, 2021, the Board considered the circumstances of the emergency and made findings to support invoking the provisions through December 3, 2021.
- December 2, 2021 the Board considered the circumstances of the emergency and made findings to support invoking the provisions through January 1, 2022.
- December 15, 2021, the Board considered the circumstances of the emergency and made findings to support invoking the provisions through January 14, 2022.
- January 12, 2022, the Board considered the circumstances of the emergency and made findings to support invoking the provisions through February 11, 2022.
- February 9, 2022, the Board considered the circumstances of the emergency and made findings to support invoking the provisions through March 11, 2022.
- March 2, 2022, the Board considered the circumstances of the emergency and made findings to support invoking the provisions through April 1, 2022.

The precondition to the Board (through the Investment Committee) reinvoking Section 54953(e) and conducting its meetings via Zoom and YouTube for an additional thirty (30) days, if certain conditions existed, has been the State of Emergency that the Governor Newsom declared in March 2020. On March 15th the California Senate will hold a hearing on Senate Concurrent Resolution 5, which, if passed, would end the Governor's state of emergency. If that occurs, then the Board would no longer have the authority to invoke Section 54953(e) to conduct meetings after April 1, 2022 by teleconference.

In addition, Governor Newsom may potentially take action to end the state of emergency during March independent of the legislature's actions. Therefore, there is an open question as to whether the Board will have the authority at the Investment Committee meeting on March 16 to make such a determination for periods after March 31, 2022.

Recommendation

If the California Legislature enacts a provision ending the Governor's state of emergency, or the Governor himself terminates the state of emergency before the March 16 Investment Committee meeting, then the Board should not reinvoke the teleconferencing rules for another 30 days. The Board would begin in-person/broadcast meetings from the MCERA Board room effective with the April 6, 2022 Audit Committee meeting.

If, however, the state of emergency is still in place, the Board could, consistent with its prior practice, make the finding(s) necessary to continue to conduct meeting via Zoom and YouTube under Section 54953(e), for the next thirty (30) days, because the following conditions exist: 1) a State of Emergency under Government Code section 8625 remains in effect; and 2) (i) State or local officials had put in place social distancing measures to protect health, or, (ii) the local agency board determines that meeting in person would present imminent risks to the health and safety of attendees. The provisions would extend through April 15, 2022 covering both the April 6^{th} Audit Committee and April 13^{th} Board meetings.

C.1 Manager Overview

There is no backup for this agenda item.

Morgan Stanley

INVESTMENT MANAGEMENT

Marin County Employees’ Retirement Association

International Equity Portfolio

March 16, 2022

Presenters

Alex Gabriele, CFA

Managing Director

alexander.gabriele@morganstanley.com

Alex is a portfolio manager for the London-based International Equity team. He joined Morgan Stanley from Sloane Robinson LLP in 2012 and has 13 years of buyside investment experience. Prior to joining the team, Alex was responsible for stock selection across the cyclical universe, predominantly in Asia ex-Japan. Alex is a trustee at the Belvedere Trust, a UK charity that gives grants to education, poverty alleviation and the arts. Alex holds a B.A. in Natural Sciences from Trinity College, Cambridge.

Jill Ytuarte

Managing Director

jill.ytuarte@morganstanley.com

Jill is a senior portfolio specialist for the London-based International Equity team and works with North America based clients. She joined Morgan Stanley Investment Management in 2004 and has 24 years of investment industry experience. Prior to joining the firm, Jill served as a management consultant at Kasina and before that was an assistant vice president of Institutional Marketing at AllianceBernstein. Jill received a B.A., magna cum laude, from Adelphi University Honors College, studied English Literature at St. Anne's College, Oxford University, and earned an M.B.A. from Columbia Business School.

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Morgan Stanley believes that you, as a fiduciary of the Plan, hold or have under management or control total assets of at least $50,000,000 and are capable of evaluating investment risk independently, both in general and with regard to particular transactions and investment strategies.

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INVESTMENT MANAGEMENT

SECTION 1

Team

The information presented represents how the portfolio management team generally applies their investment processes under normal market conditions.

International Equity Team

PORTFOLIO MANAGEMENT TEAM [1]

- **Bruno Paulson** [2] — Managing Director (28/13 years)
- **William Lock (Head)** — Managing Director (30/28 years)
- **Nic Sochovsky** — Managing Director (24/7 years)
- **Marcus Watson** — Managing Director (14/14 years)
- **Marte Borhaug** [3] — Head of Sustainable Outcomes, Executive Director (12<1 years)
- **Alex Gabriele, CFA** — Managing Director (13/10 years)
- **Nathan Wong, CFA** [4] — Executive Director (22/5 years)
- **Vlad Demine, CFA** — Head of ESG Research, Executive Director (20/13 years)
- **Richard Perrott, CFA** — Executive Director (16/7 years)
- **Isabelle Mast, PhD** — Executive Director (17/<1 years)
- **Anton Kryachok, CFA** — Vice President (12/<1 years)
- **Helena Miles** — (9/3 years)
- **Fei Teng** — (9/3 years)
- **Jinny Hyun** — (<1/<1 year)

COO [5]

- **Cathy Colecchi** — COO, Managing Director (39/39 years)
- **Smriti Jha** — Executive Director (18/<1 years)

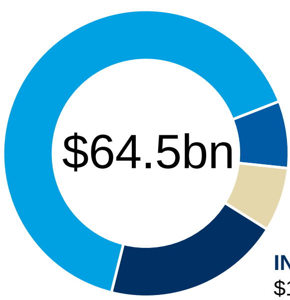
CASH MANAGEMENT & DATA ANALYTICS [5]

- **Rob Butler, CFA** — Vice President (11/6 years)

PORTFOLIO SPECIALIST TEAM [5]

- **Laura Bottega** — Managing Director (24/16 years)
- **Jill Ytuarte** — Managing Director (24/18 years)
- **Alistair Corden-Lloyd** — Executive Director (30/25 years)
- **Munenori Yoshimi, CFA** — Executive Director (28/23 years)
- **Candida de Silva** — Executive Director (22/3 years)
- **Monica Carta** — Executive Director (20/20 years)
- **Colleen Dyer** — Executive Director (21/15 years)
- **David Bernard** — Executive Director (14/14 years)
- **Julia Forde** — Vice President (34/29 years)
- **Anna Baron** — Vice President (32/21 years)
- **Teppei Adachi** — (11/3 years)

ASSETS UNDER MANAGEMENT [6]



GLOBAL FRANCHISE [7]
$43.6bn

GLOBAL QUALITY [8]
$5.2bn

GLOBAL SUSTAIN
$5.1bn

INTERNATIONAL EQUITY [9]
$10.6bn

- Boutique within Morgan Stanley Investment Management
- Incentives aligned with those of our clients
- Access to and long-term relationships with company managements
- Accessible portfolio managers and dedicated client service

1. As of January 2022. Years of investment experience / years on International Equity Team.
2. Years of investment experience (7 years as a consultant, 21 years in financial services)/years on International Equity Team.
3. Years of experience (12 years in sustainability, 6 years in financial services)/years on the International Equity Team.
4. Years of investment experience (3 years as an accountant, 19 years in financial services)/years on International Equity Team.
5. Years of industry experience / years with the Firm.

Team members may change from time to time. Team as of January 2022.

6. AUM as of December 31, 2021. Figures quoted in USD. AUM figures include assets managed globally under each strategy within a number of separate products, jurisdictions and mandates. The team also provides advisory services to a range of clients.
7. Includes $712mn in Global Brands Equity Income and $448mn in Global Franchise ex Tobacco.
8. Includes $374mn in Global Quality ex Tobacco.
9. Includes $3.9bn in International Equity Plus.

Primary Research Responsibilities

William Lock	Bruno Paulson	Nic Sochovsky	Marcus Watson	Alex Gabriele	Nathan Wong	Richard Perrott	Isabelle Mast	Marte Borhaug	Vladimir Demine
Consumer Staples	TMT	Consumer Staples	Health Care	TMT	Industrials	TMT	Financials	Sustainable Outcomes	ESG Research
TMT	Financials	Energy	TMT	Consumer Discretionary	Consumer Staples	Industrials			
		Materials		Industrials	Consumer Discretionary	Financials			

Anton Kryachok	Fei Teng	Helena Miles	Jinny Hyun
Financials	Health Care	Health Care	Generalist

Internal and External Resources

MSIM Sustainability/
Global Stewardship Team
Data and Cash Management

FactSet Quality and Valuation Screens
Sell-Side Analysts
Industry Consultants
ESG Data Providers

Generalist stock pickers with sector responsibilities
High degree of cross coverage and overlapping responsibility

The primary research responsibilities and team members may change from time to time, without prior notice. As of November 2021.

How We Are Different From the Market

International Equity Team	Market
✓ Sustainably Long-Term	✓ Tactically Short-Term
✓ Absolute Risk	✓ Relative Risk
✓ Cash Based	✓ Earnings Based
✓ Returns Focused	✓ Growth Fixated
✓ Downside-averse	✓ Chasing Upside

Our genuine long-term view and focus on price & prospects give us the flexibility to exploit both high quality and value opportunities in a time proven process

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INVESTMENT MANAGEMENT

SECTION 2

Philosophy and Process

International Equity Strategy

We seek to generate long-term outperformance by investing in a combination of high quality compounders and value opportunities, the mix of which adjusts over time based on price and prospects

Hold High Quality Compounders

Exploit Value Opportunities

Key is to avoid fading returns

International Equity Strategy

Price and Prospects Determine the Balance Between the Two Over Time

- Overall bias towards High Quality Compounders, providing price is reasonable
  - Typically asymmetric returns
  - Superior underlying long-term compounding
- Mix between High Quality Compounders and Value Opportunities is not a top-down allocation and will vary across the market cycle, but the portfolio will typically maintain an overweight to quality
- Currently at top end of High Quality Compounder weighting as Value Opportunities do not provide the greater "margin of safety" required given their prices and prospects

- Valuation of High Quality Compounders vs Value Opportunities
- Earnings prospects for more cyclical / lower quality industries

1. Typical ranges. For illustrative purposes only.

International Equity Strategy

PHILOSOPHY:

We look to generate superior long-term performance through bottom-up stock picking in two ways:

- Hold high quality companies – “High Quality Compounders”
- Invest in companies with improving fundamentals, cyclicals, or where stable fundamentals are not reflected in the price – “Value Opportunities”

Price and prospects are critical:

- Determine the appropriate “margin of safety” on a company by company basis
- Price and prospects drive the overall mix of High Quality Compounders and Value Opportunities over time

We are genuine long-term investors – years not months

OUR GOAL[1]:

To outperform the MSCI EAFE Index over a full market cycle while providing:

- Attractive absolute returns in rising markets
- Reduced downside participation in challenging markets
- Lower volatility of returns than the MSCI EAFE Index

We are benchmark aware but not benchmark driven

1. This goal is a target only and no guarantee is made that it will be achieved. A full market cycle is generally 3 – 5 years. MSCI EAFE Net Index is a reporting benchmark. It is not possible to invest directly in any index.

Investment Process

Stock Selection

	High Quality Compounders	Value Opportunities
1 **SCREEN** ~ MSCI ACWI ex USA ~ 2000 stocks > $2bn market capitalization	• Have high returns[1] been sustained? • Is valuation fair value or better?	• Do price or price movements look interesting? • Do returns look reasonable or unusually depressed?

2 **ANALYZE**
~300-400 stocks
	• Engine of returns[1] and profitability
	• Direction of returns[1]
	• Market shares and distinct competitive advantages
	• Degree of cyclicality and capital intensity
	• Financial strength
		• Threats & opportunities for sustainable returns
		  ◦ industry dynamics
		  ◦ company developments
		  ◦ material ESG factors
		• Management
		  ◦ Response to potential threats & opportunities
		  ◦ Incentives
		  ◦ Capital Allocation

3 **VALUE**	• A focus on free cash flow (FCF)[2], not accounting numbers	• FCF yield and other measures such as P/E, ROE, P/B, DCF, EV/NOPAT[3] where relevant
4 **CONSTRUCT** ~55-85 stocks	• Does new idea have a better risk / reward trade-off? • Weights influenced by absolute level of risk and team's level of conviction	• Compounders tend to have larger positions – lower absolute risk • 5% max security weight • No country or sector limits

The information presented represents how the portfolio management team applies their investment process under normal market conditions.
1. ROOCE: Earnings Before Interest and Taxes (EBIT)/ Property Plant and Equipment (PPE) + trade working capital ex Financials (excludes goodwill)
2. Free cash flow = operating cash flow minus capital spending, working capital growth, interest and tax.
3. EV = Enterprise Value = Market Value plus Net Debt. NOPAT = Net operating profit after tax

Investment Process

Active Ownership

5 ACTIVE OWNERSHIP

Ongoing

Test investment thesis with management

- Direction of returns
- Developing opportunities or threats
- Capital allocation intentions
- Incentive structure changes
- Material ESG developments & direction
- Management changes

Proxy Voting & Engagement

– not outsourced

Event driven

Assess materiality and management action

- Capital allocation
  - What?
  - Why?
  - Impact?
- Material event
  - What?
  - Why?
  - Impact?
  - Fix?

6 SELL DISCIPLINE

- No sale is automatic
- Does valuation exceed intrinsic or fair value?
- A negative development for the investment thesis?
- A source of funding for new, better ideas?

Meet weekly to review portfolio and stock ideas

The information presented represents how the portfolio management team applies their investment process under normal market conditions.

Risk Management

Seek to Minimize Risk of Permanent Destruction of Capital

- We worry about absolute risk – permanent loss of capital – not relative risk
- We believe that cap-weighted benchmarks are inherently risky

Risks We Worry About

Overpayment

Business risk

- What can go wrong?
- Have we got the competitive landscape right?
- Have we assessed capital intensity correctly?
- Are we right on the cycle?
- Is there long term stakeholder alignment?

Changing regulatory environment / industry dynamics / government threats / material ESG risk

Financial risk

Management actions and motivations

Overall portfolio diversification

Risks We Don't

Tracking error

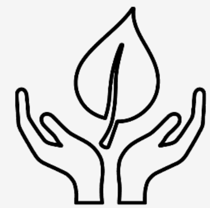
Missing out on latest investment trend

Short term "noise"

Risk management implies an effort to monitor risk but should not be confused with and does not imply low risk.

ESG Means Different Things to Different Investors

Based on MSIM's Sustainable Investing Spectrum

ESG Integration	Exclusionary Screens	Sustainable Core	Sustainable Objective & Impact
			
Integrate ESG considerations into research, valuation and portfolio construction, as appropriate	Values-, norms- or sector-based exclusions	Strong sustainability standards, e.g. minimum inclusion standard or intentional sustainability tilt, alongside ESG integration and possible exclusions	Seek measurable positive social and/or environmental objectives alongside financial return
	e.g. 'sin' stocks, fossil fuels	*e.g. targeted engagement funds, low carbon-screened funds*	*e.g. net zero-aligned funds, pure-play Impact funds*
Global Franchise Global Quality International Equity International Equity Plus		Global Sustain	

Source: Morgan Stanley Investment Management.

The views and opinions expressed herein are those of the portfolio management team, are not representative of the Firm as a whole, and are subject to change at any time due to market or economic conditions. There is no assurance that a portfolio will achieve its investment objective or an investment strategy will work under all market conditions.

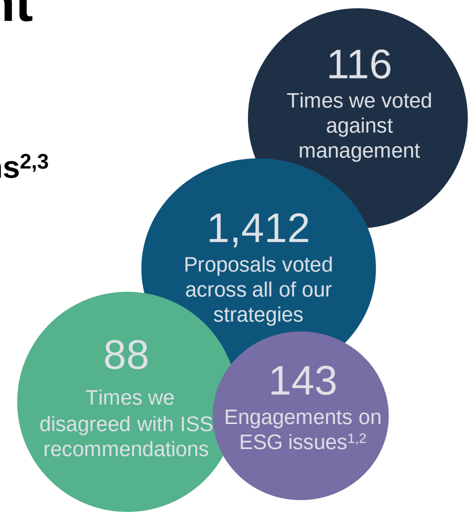
ESG and Sustainability

- Our investment process focuses on the **sustainability and direction of future returns** because we believe companies with sustained high long-term returns are expected to outperform.
- ESG is an integral part of risk management and the assessment of long-term sustainability of returns
  - **Environmental** can impact government/regulatory risks
  - **Social** can affect reputational risk with customers and/or governments
  - **Governance** in our opinion is the cornerstone of sustainable returns – without it, all else fails
- We believe that this is so important that the team has **engaged directly with companies on issues of sustainability and governance for over 20 years** rather than outsourcing the process.
- Our bottom-up stock picking approach including the use of MSCI ESG data, Sustainalytics and access to management enable us to **review material ESG issues at the company level and engage** where relevant
- We believe our approach **focuses on issues that could threaten company fundamentals** and/or the sustainability of returns.

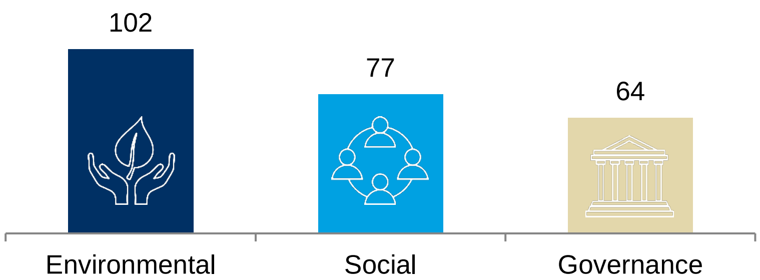
Strategies that incorporate impact investing and/or Environmental, Social and Governance (ESG) factors could result in relative investment performance deviating from other strategies or broad market benchmarks, depending on whether such sectors or investments are in or out of favor in the market. As a result, there is no assurance ESG strategies could result in more favorable investment performance. Any portfolio risk management processes discussed include an effort to monitor and manage risk, but should not be confused with and do not imply low risk or the ability to control risk. References to investment objectives or other goals the strategy seeks to achieve are inspirational only and should not be considered a guarantee that such results will be achieved.

We Engage Directly And Often With Management

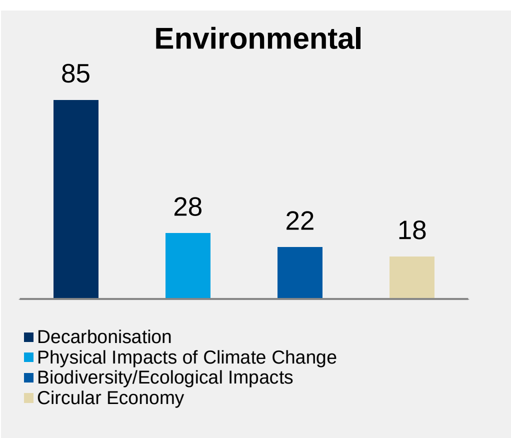
Engagement is Our Edge

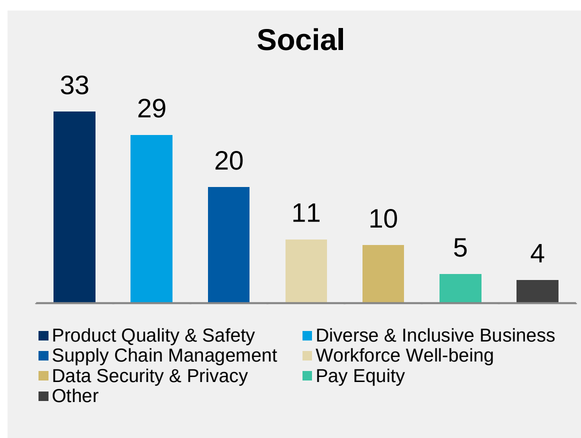


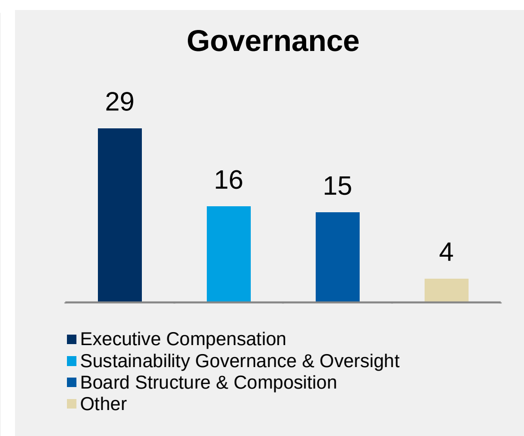
Number of management engagements on ESG-related topics, in the last 12 months[2,3]



Topics addressed during our engagements, in the last 12 months[2,3]







Source: Morgan Stanley Investment Management

1. The International Equity Team defines an engagement as an interaction with senior management or nonexecutive board members.
2. Data shown is for the 12-month period from 1 January 2021 to 31 December 2021.
3. Total count of ESG topics is higher than total number of ESG engagements as more than one topic may be discussed in a meeting.

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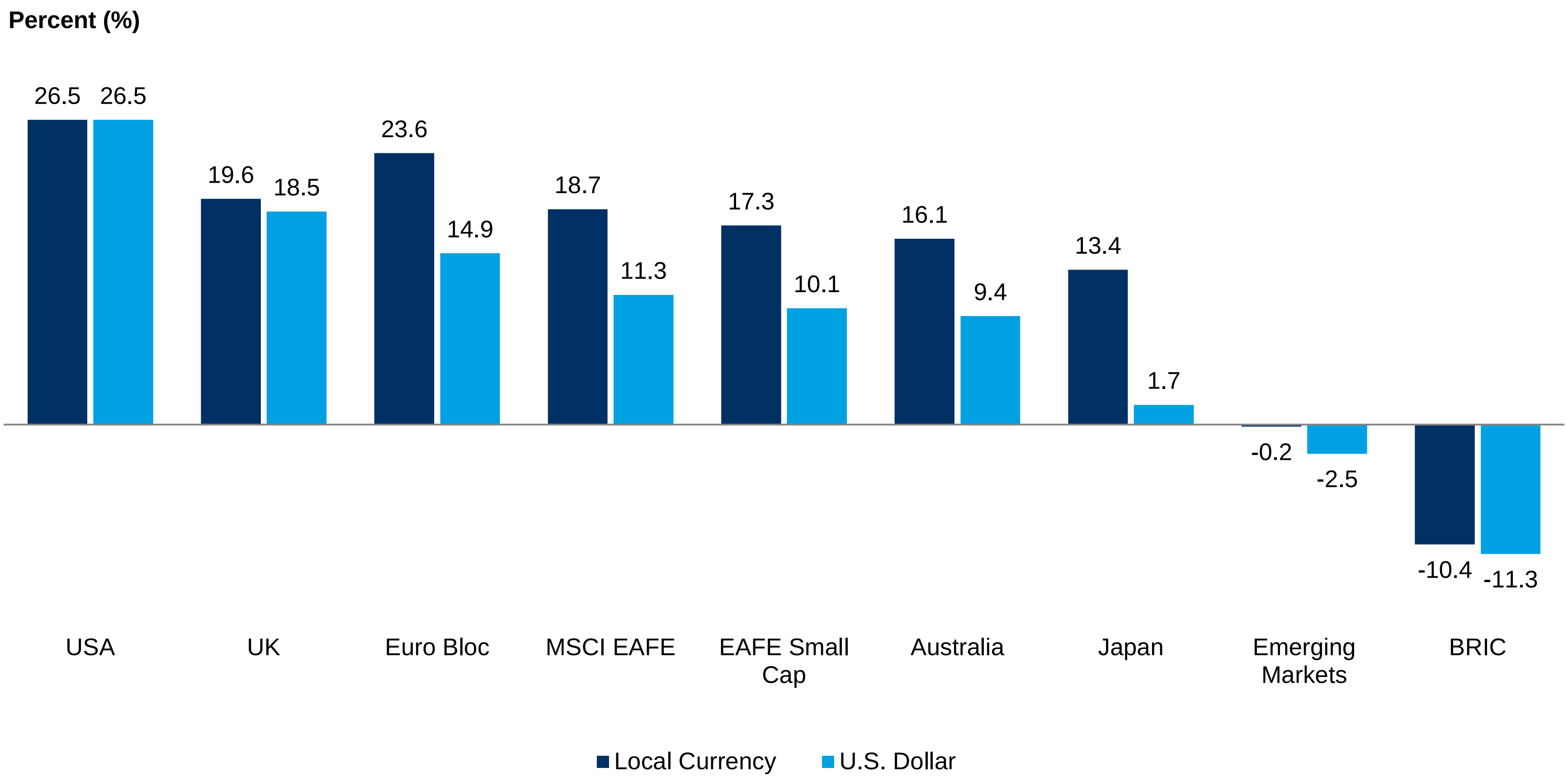
INVESTMENT MANAGEMENT

SECTION 3

Performance

2021 Was Another Strong Year for Developed Markets

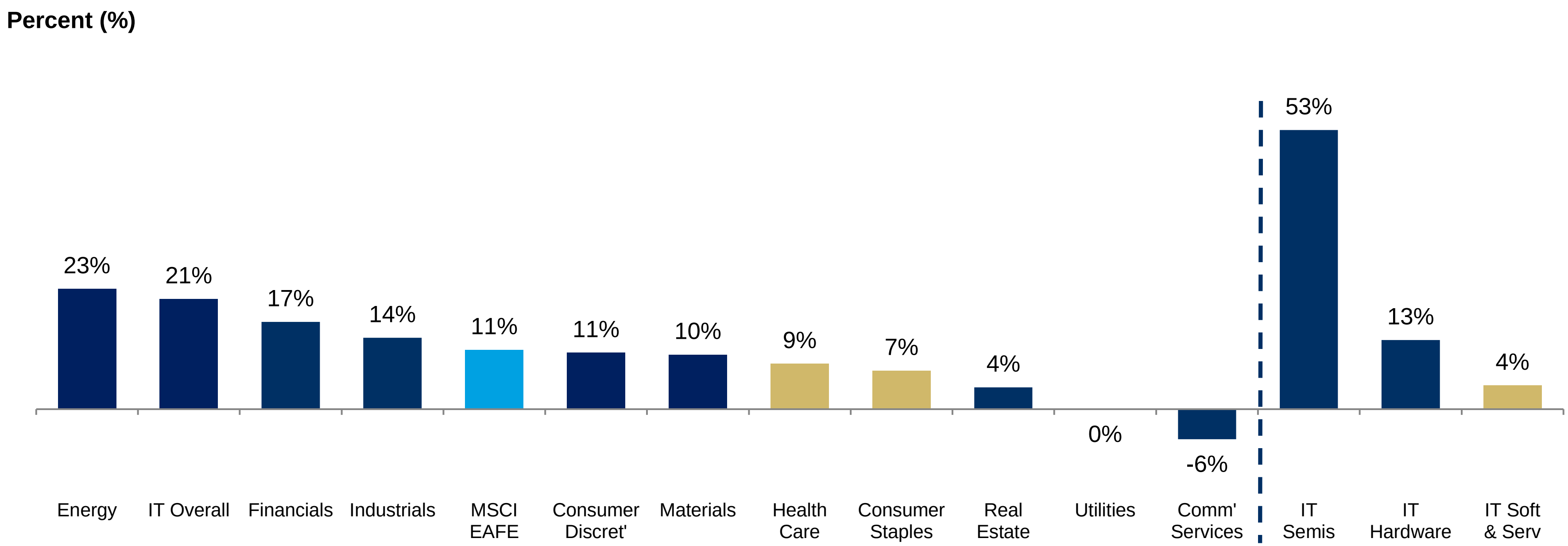
MSCI Net Official Indices



Source: FactSet. Data from January 01, 2021 to December 31, 2021. **Past performance should not be construed as a guarantee of future results.** For illustrative purposes only and should not be deemed as a recommendation to buy or sell securities in the regions shown. It is not possible to invest directly in an index.

Value/Cyclical Sectors have Dominated over the Last Year

MSCI EAFE Indices 12M Performance by Sector



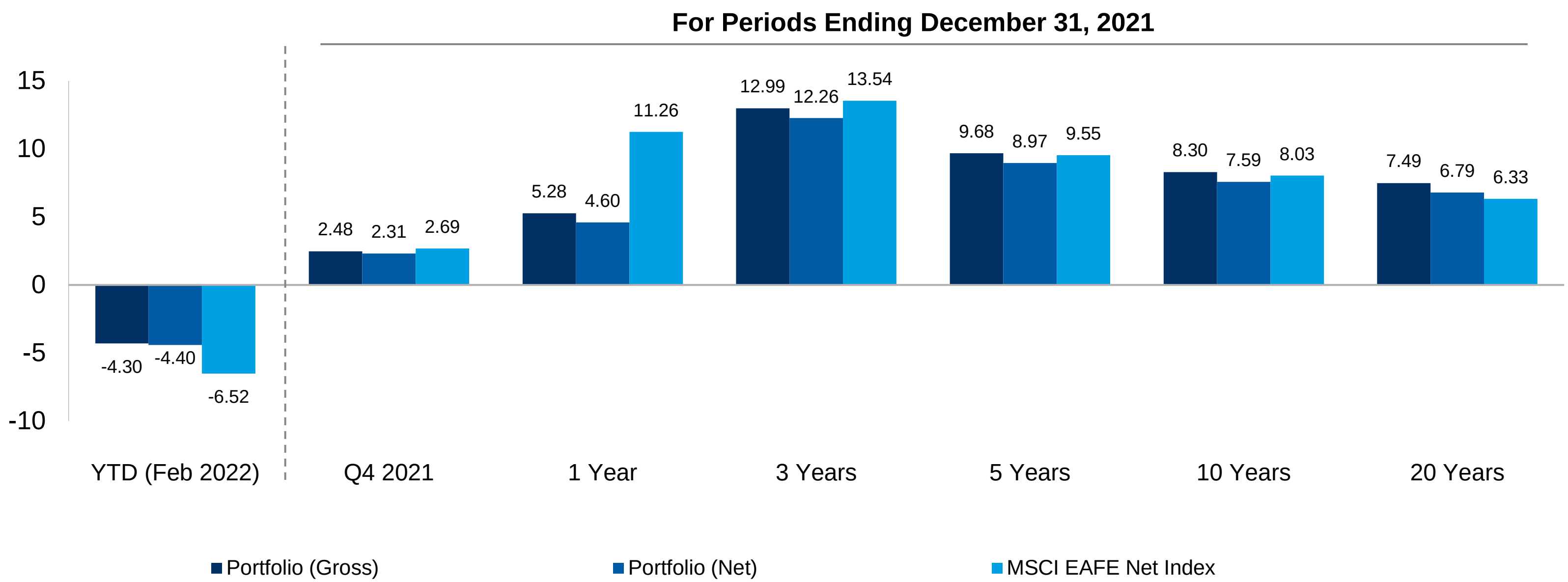
Source: FactSet..
Chart shown for illustrative purposes only. Period ending December 31, 2021. Quoted in USD.

Portfolio Lagged over 2021 But is In Line or Ahead Longer Term

Marin County Employees' Retirement Association

Data as of December 2021 (%)

Market Value as of December 31, 2021: 209,808,355.73
Inception date: July 31, 2001



Gross Excess Return	**2.22**	**-0.21**	**-5.98**	**-0.55**	**0.13**	**0.27**	**1.16**
Net Excess Return	**2.12**	**-0.38**	**-6.66**	**-1.28**	**-0.58**	**-0.44**	**0.46**

Source: Morgan Stanley Investment Management. **Past performance should not be construed as a guarantee of future performance.** Performance returns reflect the average annual rates of return. Periods less than 1 year are not annualized. The returns shown are gross and net of investment advisory/management fees, are quoted in USD and include the reinvestment of dividends and income. Performance returns are compared to those of the MSCI World Index with Net dividends reinvested, which is an unmanaged market index and is considered to be a relevant comparison to the portfolio. The index does not include any expenses, fees or sales charges. Comparisons of performance assume the reinvestment of all dividends and income. It is not possible to invest directly in an index.

Sector Attribution – 1 Year

International Equity Portfolio – USD

Top Five Absolute Contributors:

Constellation Software	+114 bps
RELX[3]	+90 bps
Deutsche Post	+82 bps
LVMH	+65 bps
Pernod Ricard	+60 bps

Top Five Absolute Detractors:

Henkel	-92 bps
Kirin	-59 bps
Grifols	-47 bps
Lion Corp.	-44 bps
Tencent	-43 bps

Cumulative Returns from January 01, 2021 to December 31, 2021[1,2]

	SECTOR PERFORMANCE		AVERAGE SECTOR WEIGHTINGS		PERFORMANCE ATTRIBUTION		
	PORTFOLIO (%)	INDEX (%)	PORTFOLIO (%)	INDEX (%)	SELECTION (%)	ALLOCATION (%)	TOTAL (%)
Utilities	--	-0.18	--	3.52	--	0.38	0.38
Real Estate	--	4.14	--	2.99	--	0.18	0.18
Consumer Discretionary	13.96	10.92	6.93	12.53	0.21	-0.03	0.18
Information Technology	18.91	20.41	13.78	9.21	-0.20	0.34	0.14
Communication Services	-19.23	-5.72	2.64	4.94	-0.32	0.38	0.06
Industrials	15.56	13.84	12.79	15.79	0.15	-0.11	0.04
Materials	2.24	10.35	4.02	7.82	-0.31	0.01	-0.30
Energy	-7.06	23.25	1.73	3.28	-0.48	-0.08	-0.56
Financials	10.45	16.58	14.75	17.03	-0.78	-0.12	-0.91
Health Care	3.00	8.62	16.82	12.42	-0.94	-0.06	-1.00
Consumer Staples	-6.80	7.14	23.26	10.47	-3.19	-0.58	-3.77
Cash	-2.69	--	3.28	--	--	-0.46	-0.46
Total	**5.25**	**11.26**	**100.00**	**100.00**	**-5.87**	**-0.14**	**-6.01**

Source: Morgan Stanley Investment Management and FactSet. **Past performance should not be construed as a guarantee of future results.**

1. Portfolio weight and MSCI EAFE Net Index weights are an average for the period. Attribution total return may differ from reported total return due to differing methodologies. Returns are gross of fees, quoted in USD terms, and include the reinvestment of all dividends and income. Had fees been included, returns would be lower and results may differ. Additional contributors can include differences in pricing sources and fair valuation practices between systems used to calculate these returns. In volatile or illiquid markets and for high turnover portfolios, these differences can become increasingly significant. Attribution considers the total return of each security (price appreciation and dividend income). Management Fees and expenses are not considered by the attribution. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities in the sectors shown above.
2. The 'Cash' line in the attribution includes cash balances as well as other cash instruments.
3. Following the simplification of RELX Group's corporate structure, the position relating to RELX consists of RELX PLC shares traded on the London Stock Exchange and Euronext Amsterdam. Should separate holdings be required, contact Morgan Stanley Investment Management.

To obtain the methodology of the return attribution analysis, a list showing every holding's contribution to the overall performance during the measurement periods, and/or if you have any questions, please contact your Morgan Stanley representative. The holdings identified do not represent all of the securities purchased, sold, or recommended for advisory clients. Each portfolio is actively managed; therefore, holdings referenced may or may not be currently represented in each portfolio.

Sector Attribution – 3 Year

International Equity Portfolio – USD

Top Five Absolute Contributors:

Constellation Software	+391 bps
Deutsche Post	+273 bps
TSMC	+225 bps
LVMH	+197 bps
SAP	+190 bps

Top Five Absolute Detractors:

Total	-71 bps
Thales	-58 bps
China Petroleum & Chemical Corporation	-57 bps
Banco Comercial Portugues	-53 bps
Bankinter	-50 bps

Cumulative Returns from January 01, 2019 to December 31, 2021 [1,2,3]

	SECTOR PERFORMANCE		AVERAGE SECTOR WEIGHTINGS		PERFORMANCE ATTRIBUTION		
	PORTFOLIO (%)	INDEX (%)	PORTFOLIO (%)	INDEX (%)	SELECTION (%)	ALLOCATION (%)	TOTAL (%)
Information Technology	167.34	113.67	11.55	7.80	2.38	1.57	3.95
Energy	63.74	-3.99	3.20	4.02	2.05	0.17	2.22
Real Estate	--	11.30	--	3.31	--	1.17	1.17
Communication Services	35.48	19.60	2.71	5.28	0.55	0.47	1.02
Materials	118.22	63.77	4.10	7.43	0.78	-0.28	0.50
Financials	30.16	31.94	14.16	17.46	-0.07	0.56	0.49
Utilities	--	34.82	--	3.82	--	0.27	0.27
Consumer Discretionary	78.17	59.43	4.63	11.70	0.95	-0.75	0.21
Industrials	61.93	59.79	12.42	15.29	0.27	-0.46	-0.19
Health Care	25.38	58.08	17.21	12.53	-5.00	1.01	-4.00
Consumer Staples	13.60	35.33	26.79	11.37	-5.23	-0.83	-6.06
Cash	0.25	--	3.23	--	--	-1.33	-1.33
Total	**44.62**	**46.37**	**100.00**	**100.00**	**-3.33**	**1.58**	**-1.74**

Source: Morgan Stanley Investment Management and FactSet. **Past performance should not be construed as a guarantee of future results.**

1. Portfolio weight and MSCI EAFE Net Index weights are an average for the period. Attribution total return may differ from reported total return due to differing methodologies. Returns are gross of fees, quoted in USD terms, and include the reinvestment of all dividends and income. Had fees been included, returns would be lower and results may differ. Additional contributors can include differences in pricing sources and fair valuation practices between systems used to calculate these returns. In volatile or illiquid markets and for high turnover portfolios, these differences can become increasingly significant. Attribution considers the total return of each security (price appreciation and dividend income). Management Fees and expenses are not considered by the attribution. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities in the sectors shown above.
2. The 'Cash' line in the attribution includes cash balances as well as other cash instruments.
3. On September 21, 2018, the GICS sector classifications were amended. The Telecommunication Services sector became the Communication Services sector, absorbing Media and Internet Services companies previously allocated to the Consumer Discretionary and Information Technology sectors, respectively. E-commerce companies moved from Information Technology to Consumer Discretionary. As a consequence of variants in calculations, it is likely that there will be a difference between Morgan Stanley data and that published by FactSet.

To obtain the methodology of the return attribution analysis, a list showing every holding's contribution to the overall performance during the measurement periods, and/or if you have any questions, please contact your Morgan Stanley representative. The holdings identified do not represent all of the securities purchased, sold, or recommended for advisory clients. Each portfolio is actively managed; therefore, holdings referenced may or may not be currently represented in each portfolio.

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INVESTMENT MANAGEMENT

SECTION 4

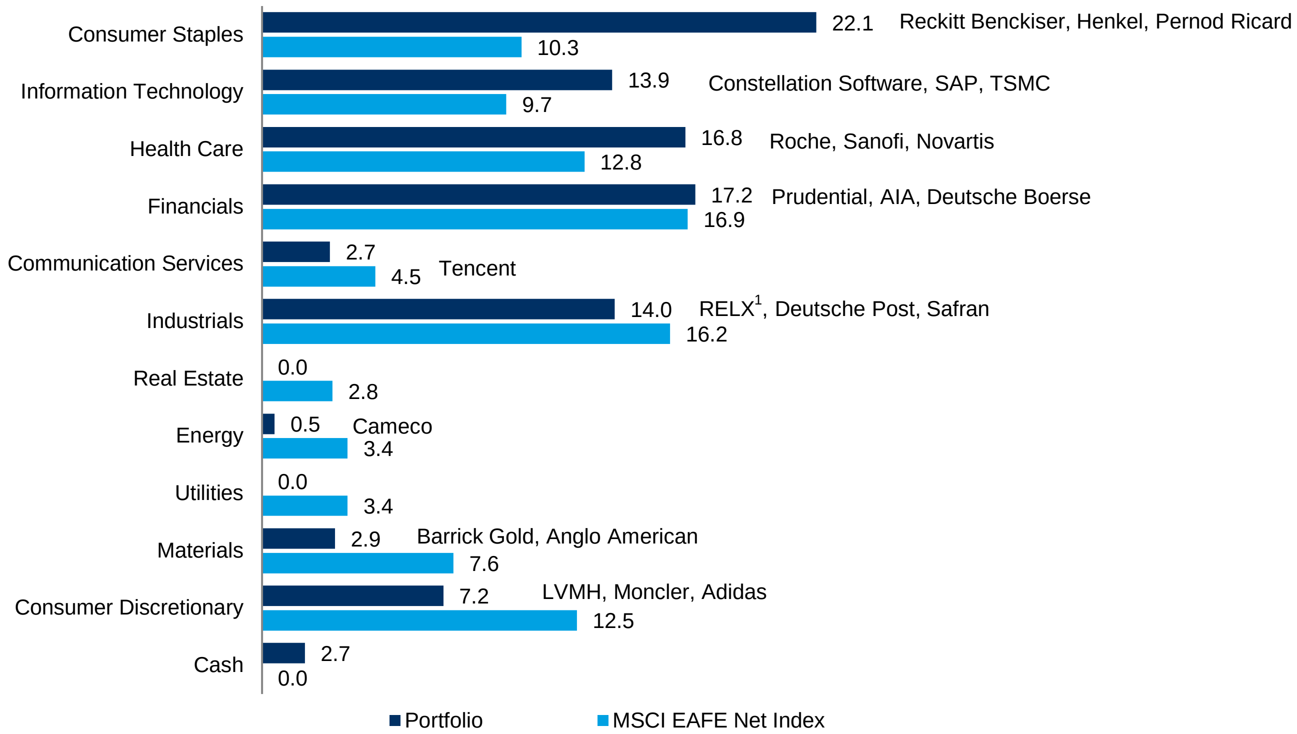
Current Portfolio

Portfolio Remains Defensively Positioned

International Equity Portfolio – USD

- Sector weights result from bottom-up stock selection process
- Overweight defensive sectors (41.6% vs. 26.5%)
- Underweight cyclical sectors (58.4% vs. 73.5%)

Sector Weightings
Data as of December 31, 2021

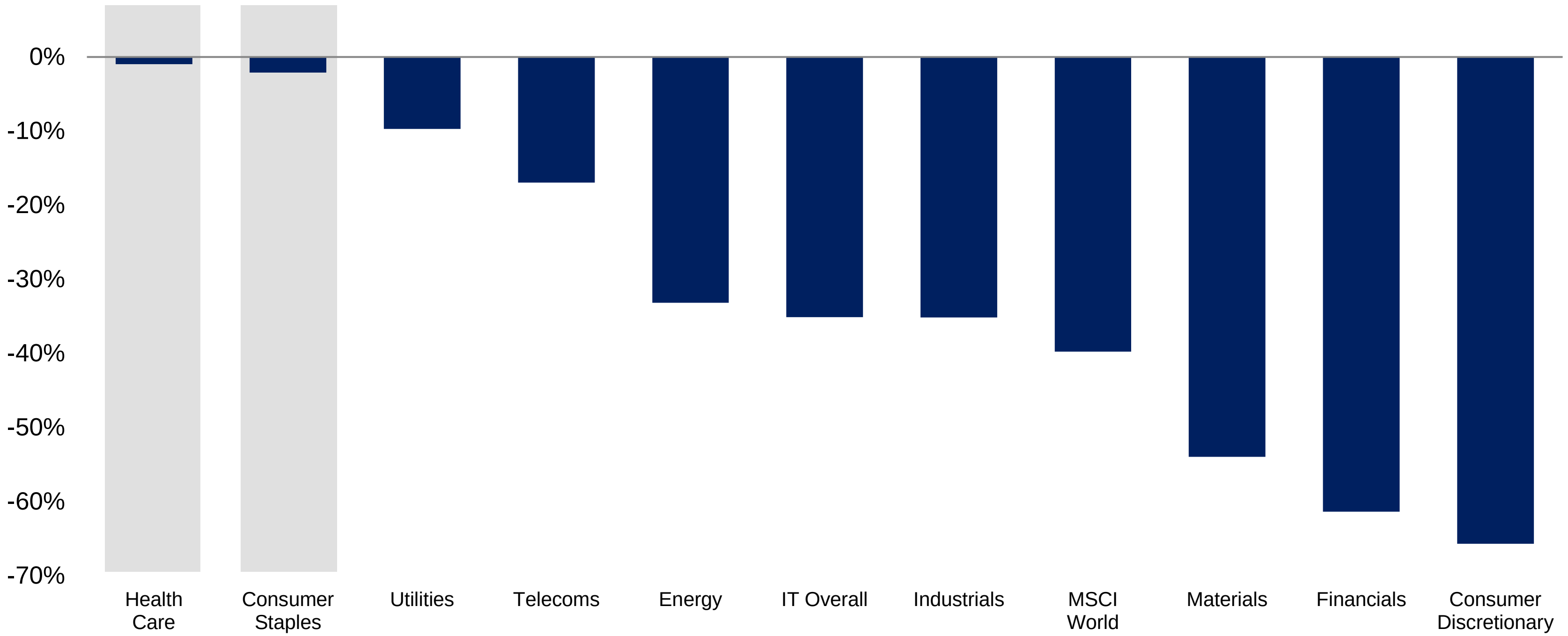


Source: Morgan Stanley Investment Management. Subject to change daily. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or securities in the industries shown above. Up to the three largest holdings are stated for each sector.

1. Following the simplification of RELX Group's corporate structure, the position relating to RELX consists of RELX PLC shares traded on the London Stock Exchange and Euronext Amsterdam. Should separate holdings be required, contact Morgan Stanley Investment Management.

These sectors have been the most Robust in a Downturn

Global NTM Forward EPS Change During Financial Crisis Drawdown (Oct 2007 - Feb 2009)



Source: FactSet. Chart shown for illustrative purposes only.

Top Ten Skewed Towards Defensive Quality Sectors

International Equity Portfolio – USD

SECURITY	INDUSTRY	COUNTRY	(%)
Constellation Software	Software & Services	Canada	3.5
Reckitt Benckiser	Household & Personal Products	United Kingdom	3.5
SAP	Software & Services	Germany	3.4
RELX[1]	Commercial & Professional Services	Netherlands, United Kingdom	3.3
Roche Holding	Pharmaceuticals, Biotech & Life Sciences	Switzerland	2.8
Sanofi	Pharmaceuticals, Biotech & Life Sciences	France	2.8
Tencent	Media & Entertainment	Hong Kong	2.7
Henkel	Household & Personal Products	Germany	2.7
Pernod Ricard	Food, Beverage & Tobacco	France	2.6
Novartis	Pharmaceuticals, Biotech & Life Sciences	Switzerland	2.5
Total			**29.7**

Source: Morgan Stanley Investment Management. Data as of December 31, 2021. Subject to change daily. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or securities in the industries and countries shown above.

1. Following the simplification of RELX Group's corporate structure, the position relating to RELX consists of RELX PLC shares traded on the London Stock Exchange and Euronext Amsterdam. Should separate holdings be required, contact Morgan Stanley Investment Management.

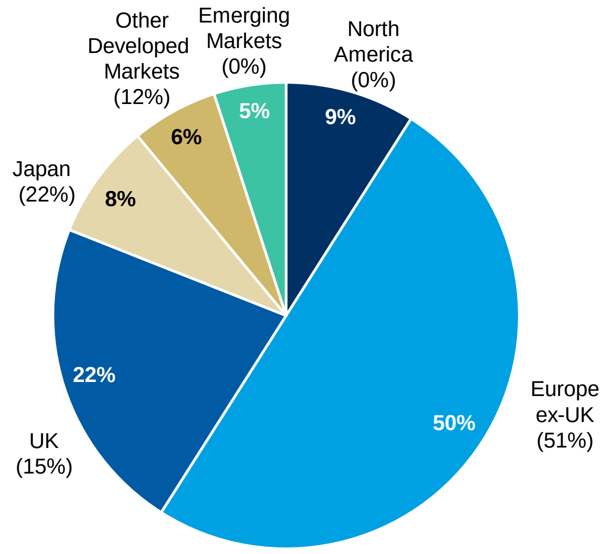
Indirect Exposure to the Right Kind of Emerging Market Growth

Focus on Revenue Exposure not Listed Exposure

- Where a company does business is more important than where it is listed
- Country weights are a residual of our bottom up stock selection

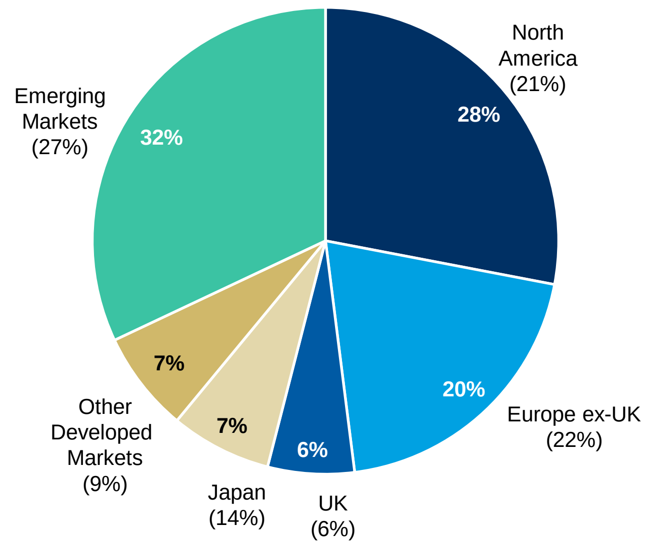
Regional Breakdown: Listed Exposure[1]

International Equity Portfolio
(Index weight)[2]



Revenue Exposure[1]

International Equity Portfolio
(Index weight)[2]

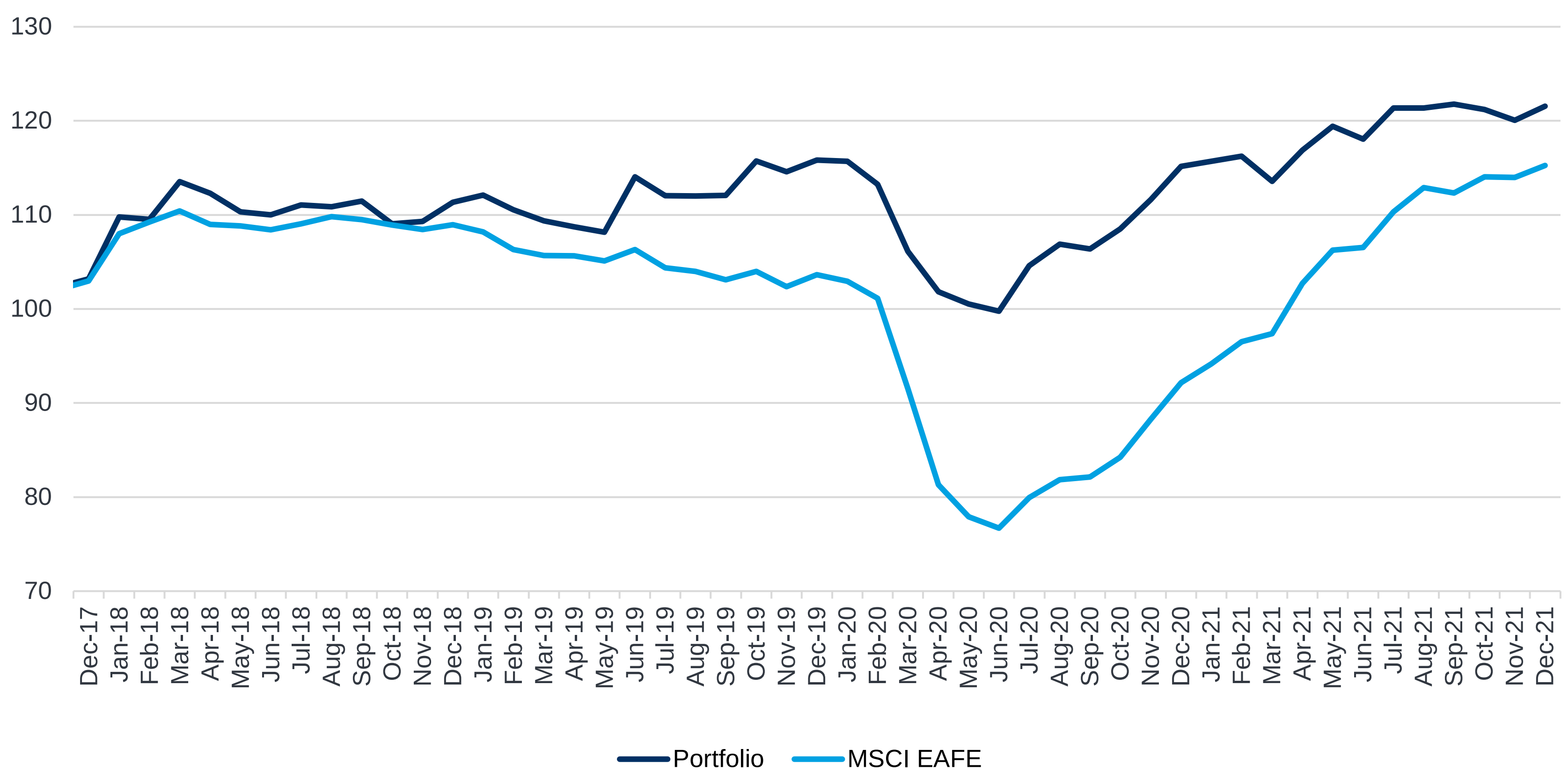


Source: MSCI, FactSet and Morgan Stanley Investment Management. The views and opinions expressed herein are those of portfolio management team as of the date herein. Data as of December 31, 2021. Updated quarterly. This portfolio is actively managed, therefore holdings may not be current. Provided for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or securities in the countries or regions shown above. Holdings are weightings are subject to change. Each portfolio may differ due to specific investment restrictions and guidelines.

1. Weighted Exposure - Percentage of Company Sales. Excludes cash and re balanced to 100%.
2. Data shown is the MSCI EAFE Net Index

Benefits of Quality Bias Have Shown Up in Robustness of Earnings

International Equity Portfolio – USD



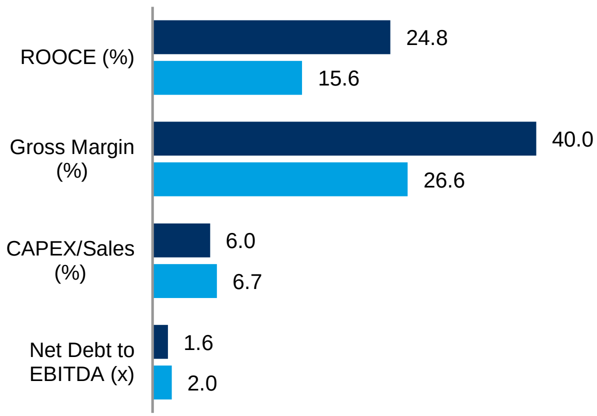
Source: FactSet. Data as of December 31, 2021. **Past performance should not be construed as a guarantee of future performance.**

Higher Quality Portfolio, at a Reasonable Valuation

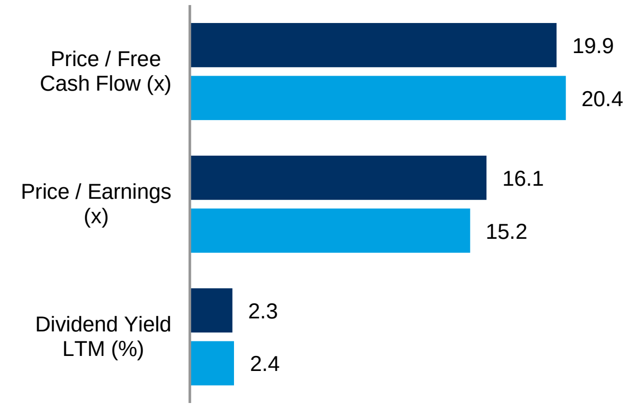
International Equity Portfolio – USD

- Portfolio's Forward Earnings vs market is likely to be lower than shown, as market's forward earnings estimates are unreliable, often overstated.
- Market has higher gap between reported (GAAP/IFRS) and adjusted or "greed" earnings than the portfolio.
- High quality companies are better at converting earnings to cash. Free Cash Flow is a better indicator of valuation.

Quality Ratios – Historical[1,2,3]



Valuation Ratios[1,2,3]



Portfolio   MSCI EAFE Net Index

Market Cap Weights	Portfolio %	MSCI EAFE Net Index %
Mega Cap > $100 Bn	27	25
Large Cap > $50 - 100 Bn	28	24
Mid Cap > $10 - 50 Bn	41	42
Small/Mid Cap > $1 - 10 Bn	4	8
Weighted Average Market Cap ($Bn)	106.2	83.4

Source: Morgan Stanley Investment Management FactSet / Worldscope/MSCI. Data as of December 31, 2021.
Past performance should not be construed as a guarantee of future results. There is no guarantee that forecasts and estimates will come to pass due to changing market and economic conditions Provided for informational purposes only and is subject to change on a daily basis. Each portfolio may differ due to specific investment restrictions and guidelines. Thus, individual results could vary. MSCI EAFE Net Index shown for comparative purposes only. Subject to change daily.
1. Portfolio data as of ROOCE (Return on Operating Capital Employed) = EBITA (Earnings Before Interest, Taxes and Amortization) / PPE (Property, Plant, Equipment) + Trade working capital (excludes goodwill). Ex-Financials.
2.ROOCE, Gross Margin, Capex/Sales, and Net Debt to EBITDA use last reported ex- Financials data. Dividend Yield uses last reported including Financials data. The Price/Earnings ratio and Price/Free Cash Flow use FactSet Consensus 12 month forward earnings and free cash flow per share data. Characteristics are calculated using the underlying companies in the Portfolio. There is no guarantee that any portfolio will necessarily yield similar results over the next year.
3.Ratio methodology: MSCI EAFE Net Index: sum(shares in index * numerator per share)/sum(shares in index * denominator per share). Portfolio: sum(shares in portfolio * numerator per share)/sum(shares in portfolio * denominator per share).

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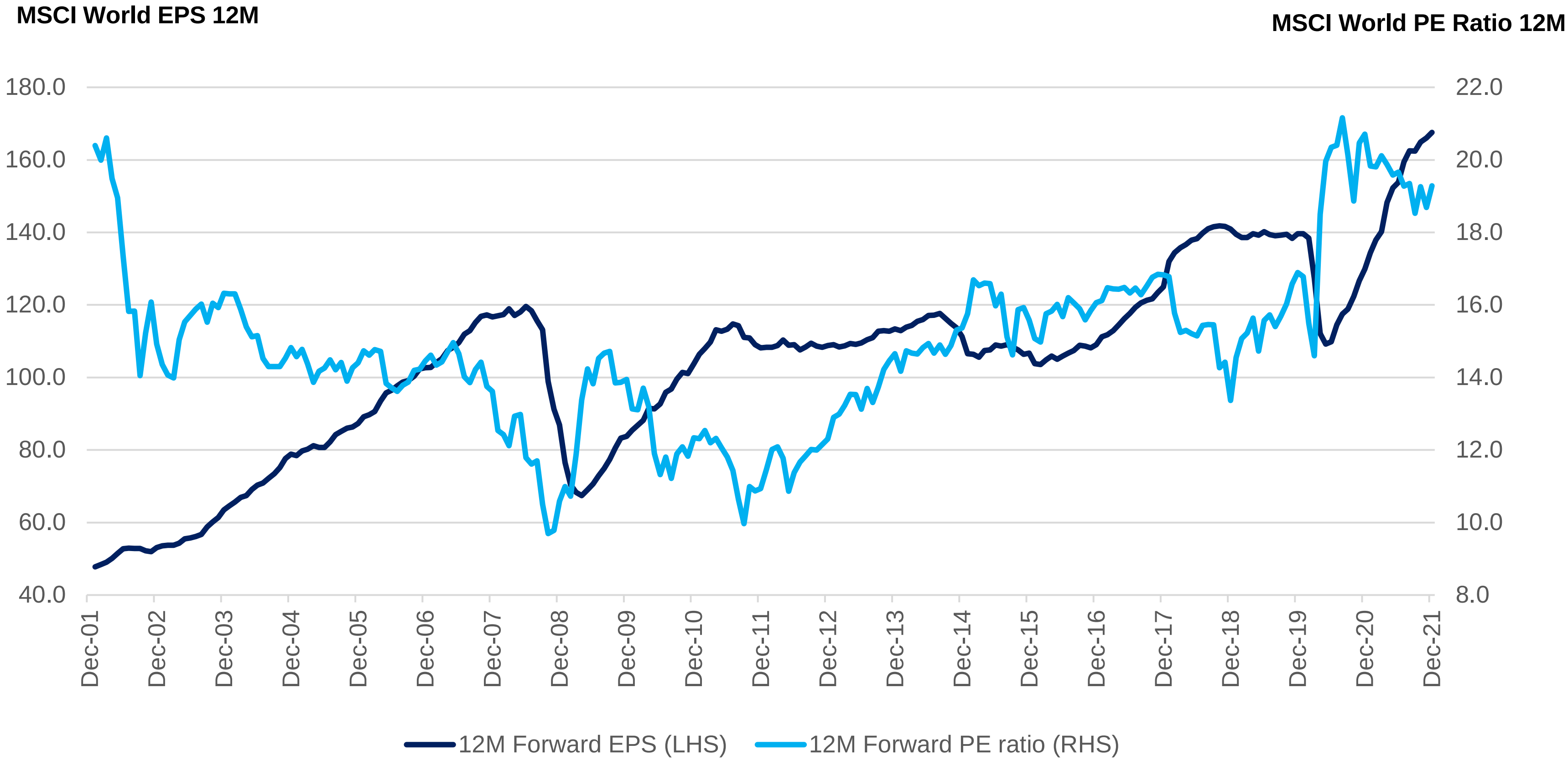
INVESTMENT MANAGEMENT

SECTION 5

Outlook

The World Is at Peak Multiples on Earnings that have Bounced Back

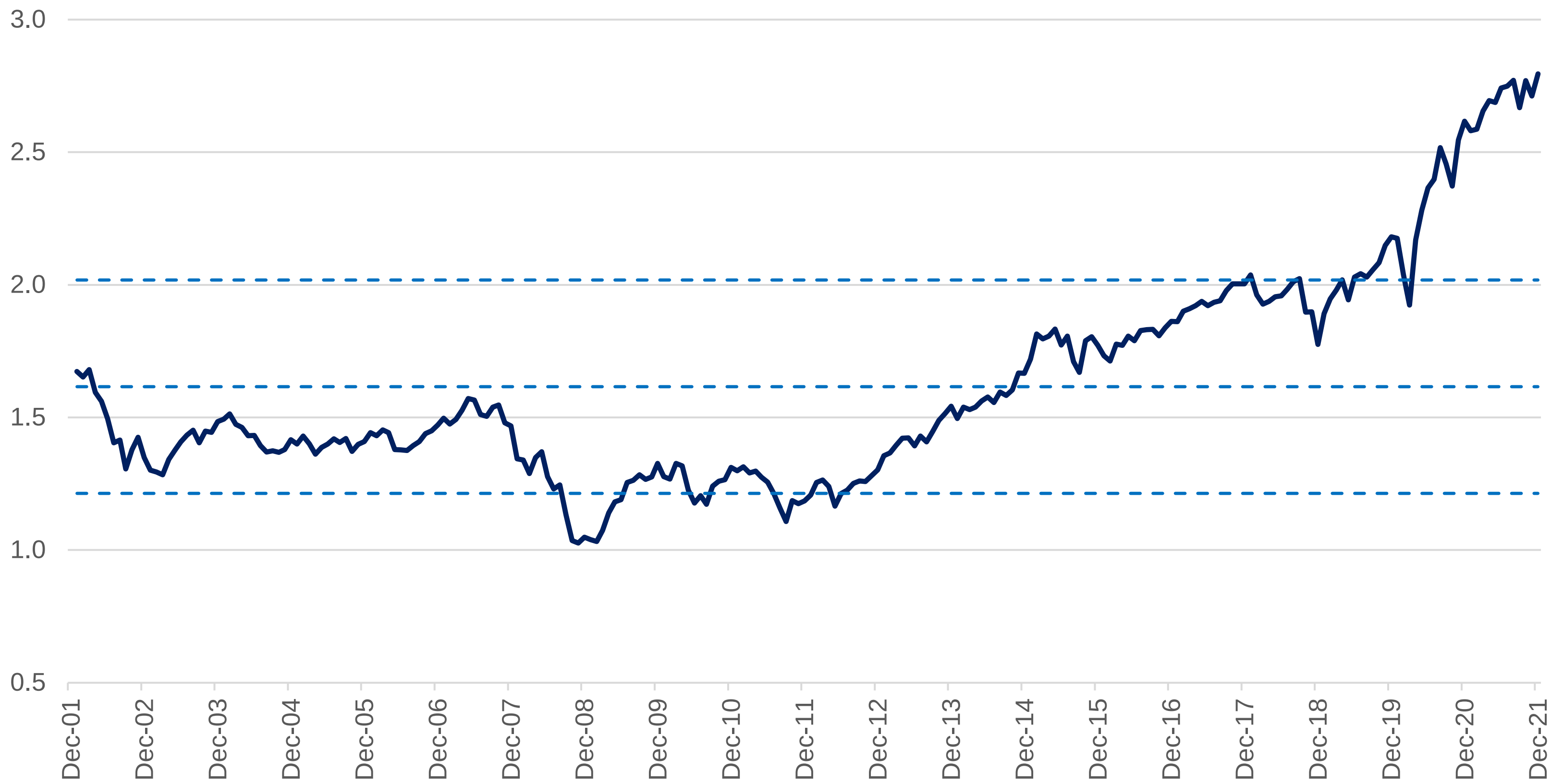
MSCI World EPS expectations 12m forward and PE 12m forward



Source: FactSet. Data as of December 31, 2021.

On EV to Sales, Valuations Are at Truly Unprecedented Levels...

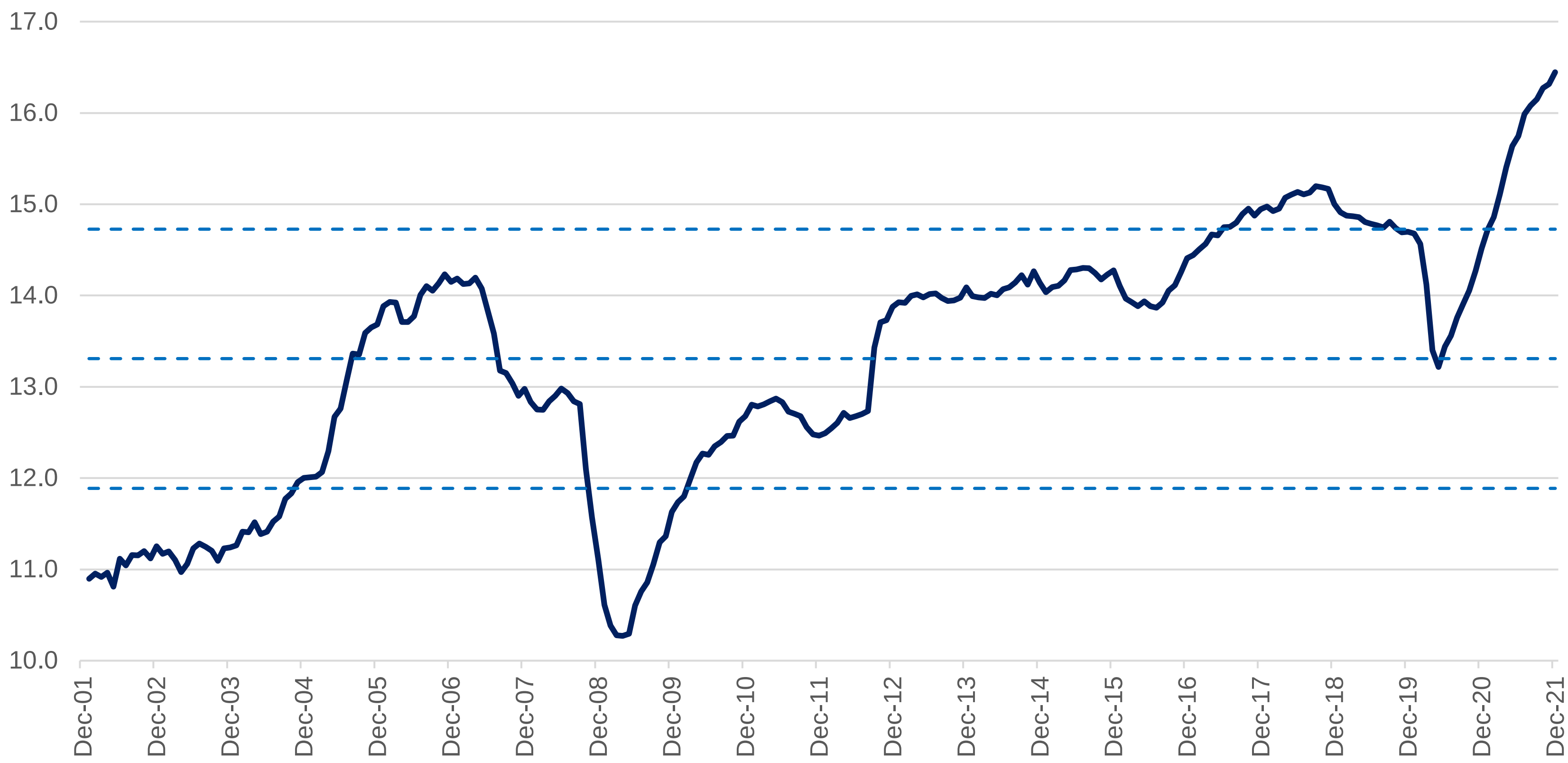
MSCI World EV to 12m forward Price to Sales (Broker Estimates)



Source: FactSet. Data as of December 31, 2021.

… Helped by Margins at Peak Levels

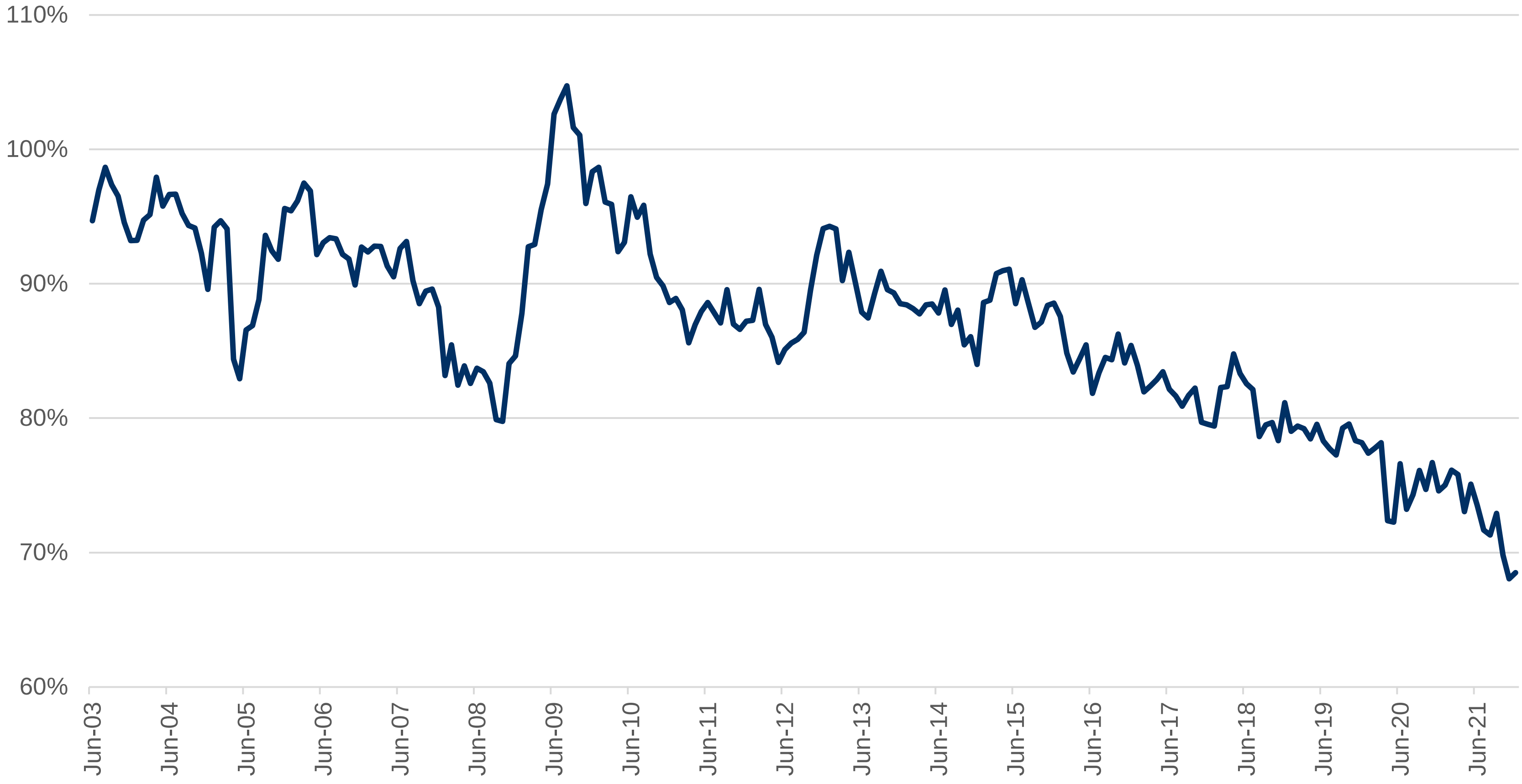
MSCI World – 12m forward EBIT margin



Source: FactSet. Data as of December 31, 2021.

EAFE Looks Attractively Valued Versus the US

Relative 12 Month Forward PE: MSCI EAFE vs MSCI USA



Source: Factset. Data as of December 31, 2021

Our Outlook Remains Cautious

- **Markets look vulnerable**
  - MSCI World trading at 'peaky' 19x multiple of next year's earnings even after 54% forward earnings surge
  - Low corporate taxes and interest rates have maximized net profits, but may go into reverse given government deficit and inflation pressures
  - Forecast EBIT margins are at 20-year highs
  - Any shock to economic growth (e.g. China slowdown), or hit to margins, is not in current prices
- **Companies likely to face structural cost pressures**
  - Post-COVID, focus moves to robustness of supply chains and inventories rather than just efficiency
  - Labor may increase its share of the pie at the expense of capital, either due to shortages or government action
  - Companies likely to have to pay for more of the negative externalities of their actions: carbon, plastics, water or even the mental health and societal impacts of the internet giants
- **Pricing power likely to be a significant asset in a rising cost environment**
- **Recurring revenue also crucial as economic cycles likely to be shorter in more inflationary world**
- **Some reason to think that it may now be EAFE's chance to relatively shine versus the US**
  - EAFE far cheaper at 15x forward earnings versus the US 22x multiple
  - Relatively slow vaccine roll-out in Europe and Japan has hurt 2021 growth, but may drive faster growth in 2022

Not a sufficient "margin of safety" to justify tilt of portfolio from compounders to value opportunities

Source: Morgan Stanley Investment Management. The views and opinions expressed herein are those of the portfolio management team, are not representative of the Firm as a whole, and are subject to change at any time due to market or economic conditions. There is no assurance that a portfolio will achieve its investment objective or an investment strategy will work under all market conditions.

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 and that the value of portfolio shares may therefore be less than what you paid for them. 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 this portfolio. Please be aware that this portfolio may be subject to certain additional risks. In general, **equity securities'** values also fluctuate in response to activities specific to a company. Stocks of **small- and medium-capitalization companies** entail special risks, such as limited product lines, markets and financial resources, and greater market volatility than securities of larger, more established companies. Investments in **foreign markets** entail special risks such as currency, political, economic, and market risks. The risks of investing in **emerging market** countries are greater than the risks generally associated with investments in foreign developed countries. **Derivative instruments** may disproportionately increase losses and have a significant impact on performance. They also may be subject to counterparty, liquidity, valuation, correlation and market 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.

Risks of International Investing. Any investment in foreign equity securities may involve a greater degree of risk than an investment in domestic equity securities. Among other things, foreign securities investments may carry the risks of less publicly available information, more volatile markets, less strict securities regulation, less favorable tax provisions, and a greater likelihood of war and expropriation of personal property than investments in domestic securities.

Liquidity. A withdrawing subscriber may, at the discretion of MSIM, receive securities owned by the Trust in lieu of cash. The risk of loss and delay in liquidating these securities will be borne by the subscriber, with the result that such subscriber may receive less cash than it would have received on the date of withdrawal.

ERISA Issues. MSIM anticipates that most or all of the subscribers will be entities subject to the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), and their participation will require special consideration of certain factors that are described in more detail in the Memorandum.

Federal Income Taxation. The Trust has received a determination letter from the Internal Revenue Service as to the tax-exempt status of the Trust. MSIM, and the Trustee intend to comply with the provisions of ERISA and the Internal Revenue Code at all times. However, if for any reason the Trust should lose its tax-exempt status as a group trust, it would terminate pursuant to the terms of the Agreement of Trust.

There is no guarantee that any investment strategy will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. In addition, there are important differences in how a strategy is carried out in each of the investment vehicles.

Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. 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.

Morgan Stanley Investment Management is the asset management division of Morgan Stanley. Morgan Stanley is a full-service securities firm engaged in a wide range of financial services including, for example, securities trading and brokerage activities, investment banking, research and analysis, financing and financial advisory services.

Indices

The **MSCI World Consumer Staples Index** is designed to capture the large and mid-cap segments across 23 Developed Markets (DM) countries around the world. All securities in the indices are classified in the Consumer Staples sectors, respectively, as per the Global Industry Classification Standard (GICS®).

The **MSCI World Index** is a free float adjusted market capitalization weighted index that is designed to measure the global equity market performance of developed markets. The term "free float" represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the international equity market performance of developed markets, excluding the US & Canada. The term "free float" represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The MSCI EAFE Index currently consists of 21 developed market country indices. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

The **MSCI All Country World Index (ACWI)** is a free float-adjusted market capitalization weighted index designed to measure the equity market performance of developed and emerging markets. The term "free float" represents the portion of shares outstanding that are deemed to be available for purchase in the public equity markets by investors. The performance of the Index is listed in U.S. dollars and assumes reinvestment of net dividends.

The **S&P 500® Index** measures the performance of the large cap segment of the U.S. equities market, covering approximately 75% of the U.S. equities market. The Index includes 500 leading companies in leading industries of the U.S. economy.

Upside is the forecasted dollar amount or percentage increase in the price of an investment. A higher upside means that the stock has more value than is currently reflected in the stock price.

The **Volatility Index (VIX)** is the ticker symbol for the Chicago Board Options Exchange Market Volatility Index, a popular measure of the implied volatility of the S&P 500 index options. It represents one measure of the market's expectation of stock market volatility over the next 30-day period. The VIX is quoted in percentage points and translates, roughly, to the expected movement in the S&P 500 Index over the next 30-day period, which is then annualized.

Glossary

Compound Annual Growth Rate (CAGR) is the year-over-year growth rate of an investment over a specified period.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) is essentially net income with interest, taxes, depreciation, and amortization added back to it, and can be used to analyze and compare profitability between companies and industries because it eliminates the effects of financing and accounting decisions.

Free cash flow (FCF) is operating cash flows (net income plus amortization and depreciation) minus capital expenditures and dividends.

Return On Operating Capital Employed (ROOCE) is a ratio indicating the efficiency and profitability of a company's trade working capital. Calculated as: earnings before interest and taxes/property, plant and equipment plus trade working capital (ex-financials and excluding goodwill).

Capital expenditure, or **Capex,** are funds used by a company to acquire, upgrade, and maintain physical assets such as property, industrial buildings, or equipment. Capex is often used to undertake new projects or investments by the firm. This type of financial outlay is also made by companies to maintain or increase the scope of their operations.

Dividend Yield is the ratio between how much a company pays out in dividends each year relative to its share price.

Downside is the negative movement in the price of a security, sector or market. Downside can also refer to economic conditions and it describes periods when an economy has either stopped growing or is shrinking.

Enterprise value measures the market value of a company. It is calculated as market cap plus debt, minority interest and preferred shares, minus total cash and cash equivalents.
Enterprise value to sales (EV/Sales) compares the enterprise value of a company to the company's sales.

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. It includes all private and public consumption, government outlays, investments and net exports.

Mergers and acquisitions (M&A) is a general term that refers to the consolidation of companies or assets.

Price-Earnings (P/E) is the price of a stock divided by its earnings per share for the past 12 months. Sometimes called the multiple, P/E gives investors an idea of how much they are paying for a company's earning power. The higher the P/E, the more investors are paying, and therefore the more earnings growth they are expecting.

Quantitative easing (QE) is a form of monetary policy in which a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply.

Shiller P/E is a cyclically adjusted price-to-earnings ratio, a valuation measure usually applied to the U.S. S&P 500 equity market. It is defined as price divided by the average of ten years of earnings (moving average), adjusted for inflation. As such, it is principally used to assess likely future returns from equities over timescales of 10 to 20 years, with higher than average Shiller P/E values implying lower than average long-term annual average returns.

Turnover is based on the fund's current prospectus.

Important Information

This communication has been prepared solely for informational purposes and does not constitute an offer or a recommendation to buy or sell any particular security or to adopt any specific investment strategy.

Past performance is not a guarantee of future results. Returns may increase or decrease as a result of currency fluctuations. 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.

A separately managed account may not be appropriate for all investors. Separate accounts managed according to the Strategy include a number of securities and will not necessarily track the performance of any index. 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.

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

Forecasts/estimates are based on current market conditions, subject to change, and may not necessarily come to pass. There can be no assurance that actual market returns will mirror the team's expected market returns shown. Actual results may significantly differ. Additionally, no representation is being made that any account, will or is likely to achieve results similar to those shown.

All investments involve risks, including the possible loss of principal. The material contained herein has not been based on a consideration of any individual client 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.

The information contained in this communication is not a research recommendation or 'investment research' and is classified as a 'Marketing Communication'.

Except as otherwise indicated herein, the views and opinions expressed are those of the portfolio management team, and are based on matters as they exist as of the date of preparation and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available or circumstances existing, or changes occurring, after the date hereof. These do not reflect the opinions of all Investment teams at MSIM or the views of the firm as a whole, and may not be reflected in the strategies and products that the Firm offers.

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The information presented does not constitute, and should not be construed as, investment advice or recommendations with respect to the investments mentioned. Moreover, neither the information nor any opinion expressed constitutes a solicitation for the purchase or sale of any investment.

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The International Equity portfolio is a pooled vehicle which MCERA is invested in; this information is supplemental information to the International Equity Commingled Composite. Please contact us for a copy of the GIPS® compliant presentation.

Marin County Employees' Retirement Association

State Street Securities Finance

March 2022

STATE STREET

Presenter Biographies

John Powell
Vice President

John Powell is a vice president and senior relationship manager within State Street's Securities Finance division. His responsibilities include Securities Finance acting as the main point of contact for securities lending & financing related matters on existing accounts under his purview, and the development of new business opportunities.

Mr. Powell has over 30 years of experience in securities finance, asset-liability and investment management with roles in cash reinvestment, client service, compliance, product development, sales and trading. Prior to joining State Street at the close of 2008, he worked at UBS as an Executive Director in Global Prime Brokerage, where he was the co-founder of its 3rd Party securities lending business, Global Portfolio Lending. He was also previously employed by Paine Webber and, early in his career, with The Boston Company.

Mr. Powell earned a Bachelor of Arts degree in political science with a corresponding minor in history from Colgate University. He formerly held the General Securities Representative (series 7), the State Uniform Securities Agent (series 63) and the General Securities Principal (series 24) licenses. He also successfully completed the Boston Company's Executive Management Training Program.

Charles Byrne
Vice President

Charles Byrne is a vice president and senior portfolio manager in SSgA's Global Cash team. Charlie directly manages various co-mingled prime lending funds and helps to manage SSgA's overall Repo book, Prime 2a-7 money market funds and it's ESG money market fund. Charlie began his career in the State Street Global Custody business 24 years ago before joining the operations team that services the global cash team. He has been in his current role since 2007.

Mr. Byrne earned a Bachelor of Arts degree in economics from the University of Massachusetts at Boston in 1991. He is a CFA charter holder and member of the Boston Security Analyst Society.

MCERA Lending Relationship Highlights

- Participant in the State Street Securities Lending Program since October 2007
- Lendable Assets include US Corporate Bonds, US Equities and US Governments
- Historical Earnings = $4.5 million net to Marin County since 2007
- Fee Split: 70% Marin County / 30% State Street
- Cash Collateral invested in the Quality D Liquidity Vehicle
- Standard State Street list of approved borrowers
- Indemnification against borrower default provided by State Street

MCERA Securities Lending Performance

MARIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

	2016	2017	2018	2019	2020	2021
AVG LENDABLE AMOUNT	248,181,894	275,814,757	333,496,205	972,162,251	1,041,350,395	1,306,677,611
AVERAGE ON LOAN	41,885,986	42,469,588	48,798,318	50,635,131	32,885,153	40,476,048
UTILIZATION (%)	**16.9%**	**15.4%**	**14.6%**	**5.2%**	**3.2%**	**3.1%**
EARNINGS BY PROGRAM						
US CORP BOND & EQUITY	205,489	159,857	152,754	186,463	176,045	120,037
US GOVERNMENT	9,988	12,989	18,879	12,476	9,409	16,000
NON-US FIXED INCOME						(0)
TOTAL MARIN COUNTY EARNINGS	**215,478**	**172,846**	**171,633**	**198,939**	**185,454**	**136,037**
DEMAND SPREAD (bps)	36.6	27.7	21.6	21.6	43.6	20.7
REINVEST SPREAD (bps)	34.1	29.4	28.8	33.0	35.2	26.5
NET SPREAD (bps)	**70.7**	**56.2**	**48.5**	**52.3**	**76.9**	**46.3**
RETURN TO LENDABLES	**8.5**	**6.2**	**5.1**	**2.0**	**1.8**	**1.0**

Source: Securities Finance Business intelligence
Performance data shown represents past performance and is not a guarantee of future results

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MCERA Earnings History

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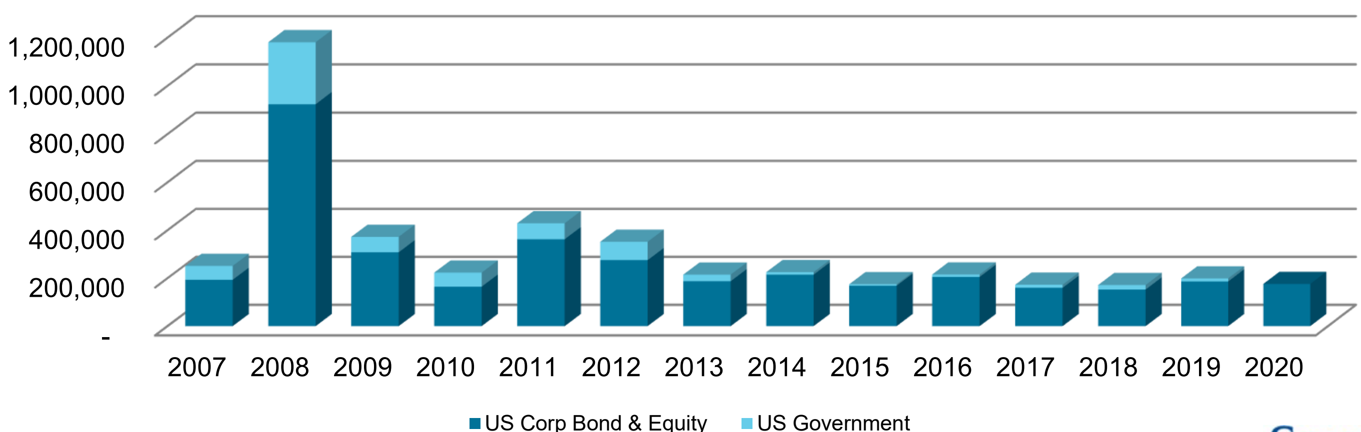
Marin County Employees' Retirement Association

Year	US Corp Bond & Equity	US Government	Other Earnings	Total	Cumulative Earnings
2007	193,477	57,594	-	251,071	251,071
2008	923,880	257,055	-	1,180,935	1,432,006
2009	308,152	64,152	244	372,549	1,804,555
2010	164,543	58,600	-	223,144	2,027,699
2011	362,287	66,623	(671)	428,239	2,455,938
2012	275,484	76,296	-	351,780	2,807,718
2013	187,359	27,342	-	214,701	3,022,419
2014	214,788	10,318	-	225,106	3,247,524
2015	168,768	6,060	-	174,829	3,422,353
2016	205,489	9,988	-	215,478	3,637,831
2017	159,857	12,989	-	172,846	3,810,677
2018	152,754	18,879	-	171,633	3,982,310
2019	186,463	12,476	-	198,939	4,181,249
2020	176,045	9,409	-	185,454	4,366,703
2021	120,037	16,000	-	136,037	4,502,739



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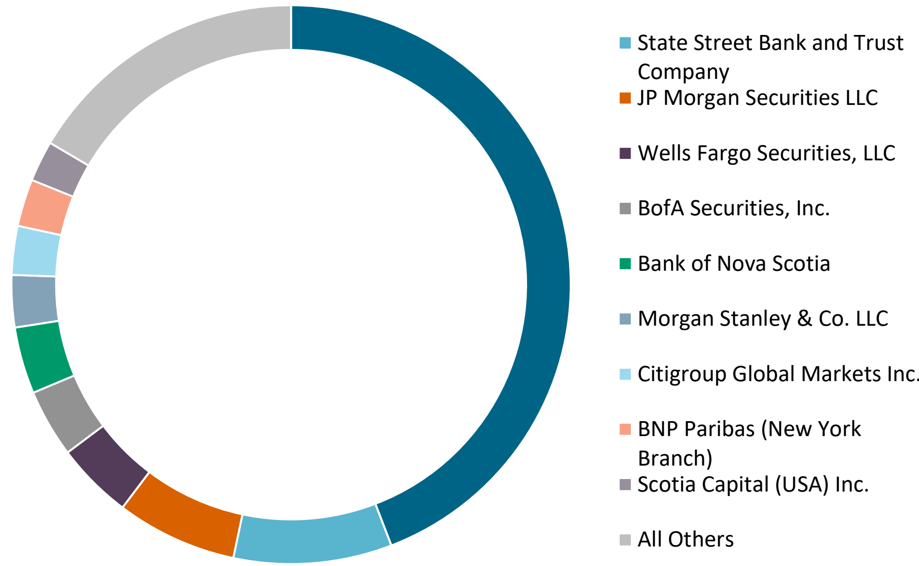
Source: Securities Finance Business intelligence
Performance data shown represents past performance and is not a guarantee of future results

MCERA Borrower Diversification

As of December 31, 2021

Marin County Employees' Retirement Association

Borrower	Average Loan Balance ($)	% of Total
Goldman Sachs & Co. LLC	30,620,490	44%
State Street Bank and Trust Company	6,345,203	9%
JP Morgan Securities LLC	4,842,184	7%
Wells Fargo Securities, LLC	3,079,314	4%
BofA Securities, Inc.	2,729,591	4%
Bank of Nova Scotia	2,678,223	4%
Morgan Stanley & Co. LLC	2,089,211	3%
Citigroup Global Markets Inc.	1,958,882	3%
BNP Paribas (New York Branch)	1,894,498	3%
Scotia Capital (USA) Inc.	1,634,356	2%
All Others	11,460,590	17%
Total	**69,332,541**	



Notes:
(1) Data represents past performance and is not a guarantee of future results
(2) Data Source: Securities Finance Business Intelligence

Source: Securities Finance Business intelligence
Performance data shown represents past performance and is not a guarantee of future results

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MCERA Top Earning Securities

Marin County Employees' Retirement Association

Security Name	Security Type	Marin Earnings ($)	Net Spread (bps)
BED BATH + BEYOND INCSR UNSECURED 08/24 3.749INTR: 3.749 MATD: 08/01/24	US CORPORATE BOND	6,952	452
GAMESTOP CORP CLASS ACOMMON STOCK USD.001	US EQUITY	3,918	1,196
US TREASURY N/BINTR: .875 MATD: 11/15/30	US AGENCY	3,381	41
US TREASURY N/BINTR: 2.25 MATD: 05/15/41	US TREASURY	2,339	33
META MATERIALS INCPREFERRED STOCK 0.00000	US EQUITY	2,292	4,139
US TREASURY N/BINTR: 1.875 MATD: 02/15/51	US TREASURY	1,851	34
US TREASURY N/BINTR: 3.375 MATD: 05/15/44	US TREASURY	1,692	33
VMWARE INC CLASS A W/ICOMMON STOCK USD.01	US EQUITY	1,592	471
EQT CORPSR UNSECURED 10/22 3INTR: 3.0 MATD: 10/01/22	US CORPORATE BOND	1,435	50
META MATERIALS INCCOMMON STOCK USD.001	US EQUITY	1,383	935

Source: Securities Finance Business intelligence
Performance data shown represents past performance and is not a guarantee of future results

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Cash Management - SSGA

Charles Byrne CFA

March 16, 2022

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  The information contained in this document is current as of the date presented unless otherwise noted.

STATE STREET GLOBAL ADVISORS

Continuously Innovating

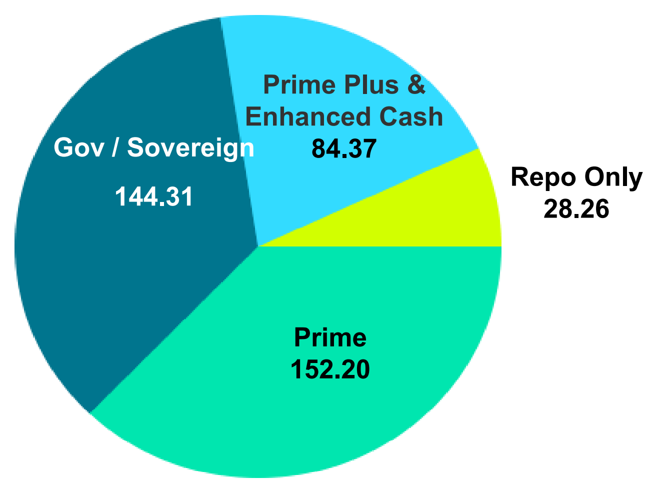
Market Influencer with Liquidity Insights

1978	1988	1991	2007	2016	2019
State Street Global Advisors is founded, and we launch our first cash vehicle: **Short Term Investment Fund**	Our prime money market strategy is launched: **State Street Money Market Fund**	Our government money market strategy is launched: **State Street US Government Money Market Fund**	Our first Treasury Bill ETF is launched: **SPDR Lehman 1–3 Month T-bill ETF**	Successful money market fund **rationalization and restructure** in accordance with reform	Launch of State Streets first **ESG Money Market Fund using our R-Factor scoring methodology**

We actively participate in constructively reshaping financial services:

- We are often consulted by government and regulatory bodies on changes effecting local and global economies
- We quickly and thoroughly understand changes as they happen and succinctly adjust products and processes

$409 billion



Source: State Street Global Advisors, as of December 31, 2021.

The Compass Fund (FC14)

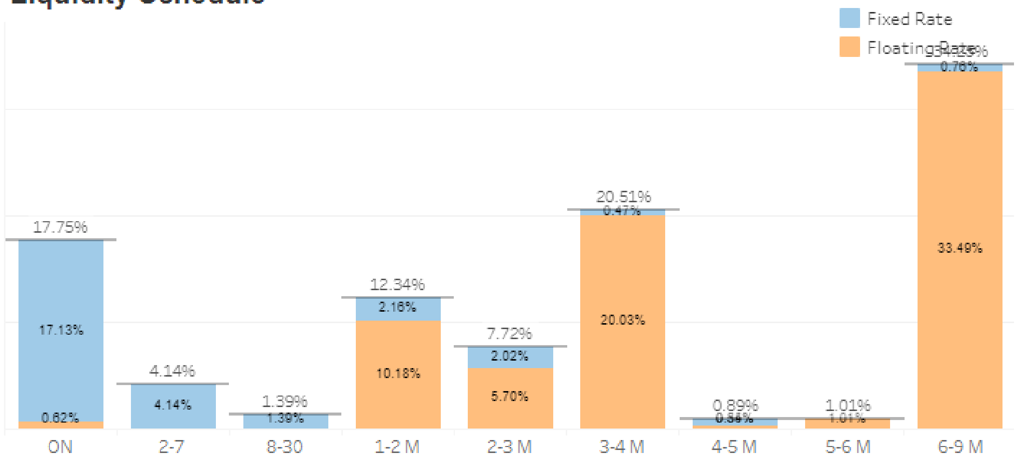
As of:	**January 31, 2022**
Total Par AUM:	7,407,782,000
Uninvested/unsettled Cash:	1,000
Net AUM:	7,407,783,000
1-Day Yield% (360 | 365 Basis):	0.2900 | 0.2900
WAM (in days):	6.776
WAL (in days):	107.7
Fund Price as of January 31, 2022	1.0000

Floating Rate Breakdown

OBFR	62.80%
SOFR	8.57%
Total	71.37%

ON	71.37%
Total	71.37%

Liquidity Schedule



Sectors

ABCP	223,919,000 | 3.02%
REPO	5,282,000,000 | 71.30%
CD	525,000,000 | 7.09%
CP	1,154,422,000 | 15.58%
TD	137,441,000 | 1.86%
Corporate	85,000,000 | 1.15%
Total	7,407,782,000 | 100.00

Repo Collateral

Agency MBS	288,000,000 | 3.89%
M-Mkt	89,000,000 | 1.20%
Corp IG	764,000,000 | 10.31%
Equity	4,141,000,000 | 55.90%
Total	5,282,000,000 | 71.30%

S&P Ratings

AA-	2.09%
A+	68.93%
A	4.27%
A-1+	5.80%
A-1	11.19%
Other	7.72%

Country of Issuer

AUSTRALIA	0.34%
CANADA	1.82%
FRANCE	9.44%
IRELAND	8.28%
LUXEMBOU..	0.99%
NORWAY	1.69%
SWEDEN	2.83%
UK	0.67%
US	73.94%

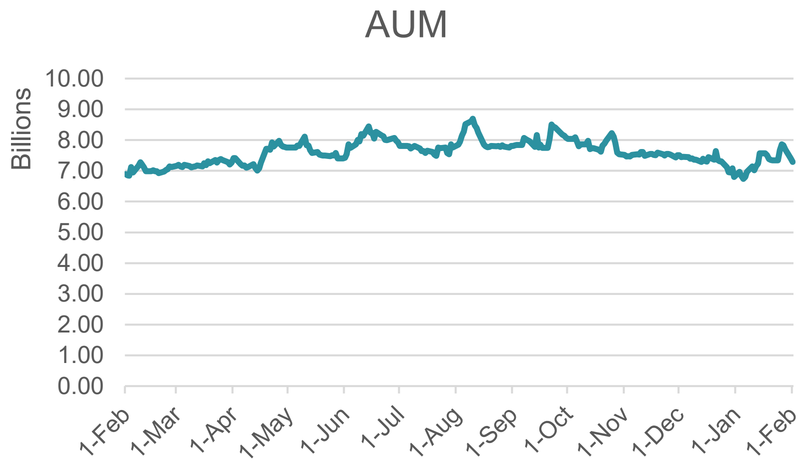
Country of Risk

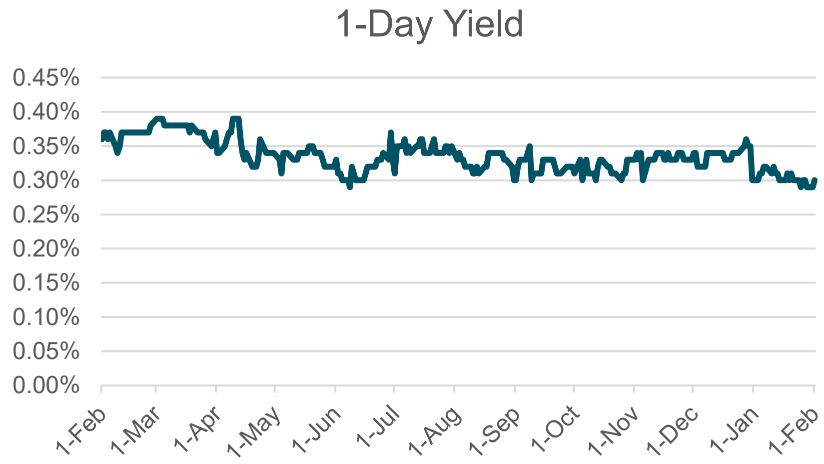
AUSTRALIA	0.34%
AUSTRIA	0.74%
CANADA	5.06%
FINLAND	0.94%
FRANCE	17.72%
GERMANY	1.62%
JAPAN	2.72%
NETHERLANDS	2.29%
NORWAY	1.69%
SWEDEN	3.97%
SWITZERLAND	0.99%
UK	7.53%
US	54.38%

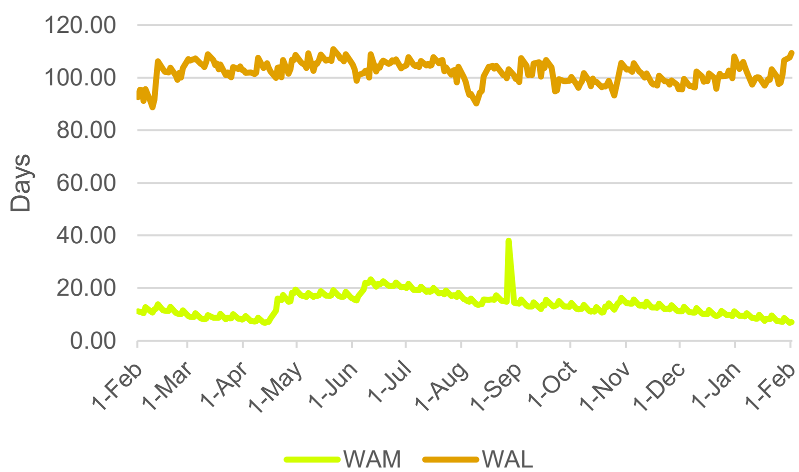
Source: SSGA, Bloomberg Finance, L.P.

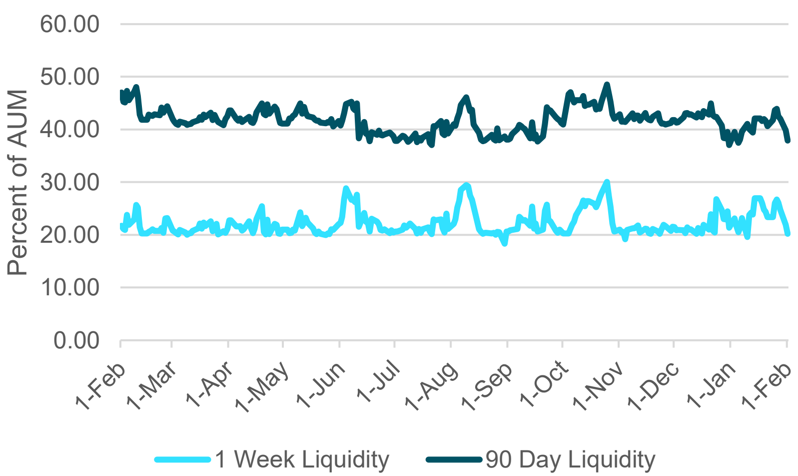
*The yield quotation stated above more closely reflects the current earnings of the fund than the total return quotation. Ratings are from Bloomberg Finance L.P. and S&P. All YCD's and Repo are being reported as Domestic and thus not included in the % Foreign Issuers. Weighted Average Maturity (WAM): Aggregation of WAM of underlying securities in fund defined as Floating rate securities: Next Reset Date — Current Date; Fixed Rate: Maturity Date — Current Date defined in days. Weighted Average Life (WAL): Aggregation of WAL of underlying securities in fund defined as Floating rate securities: Expected Maturity Date — Current Date; Fixed Rate: Expected Maturity Date — Current Date (defined in days). Sector information/security type is an internal characterization created and applied by SSGA analysts for internal surveillance based on market convention and security characteristics. Sector information/security type designations may vary according to analyst or security characteristics, and they should not be construed as formal statements or interpretations of asset classes or sectors. Characteristics, allocations and sector weightings are as of the date indicated, subject to change, and should not be relied upon as current thereafter. **Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. All results are historical and assume the reinvestment of dividends and capital gains. Visit http://www.SSGA.com/cash/funds/ for most recent month-end performance.**

The Compass Fund (FC14)



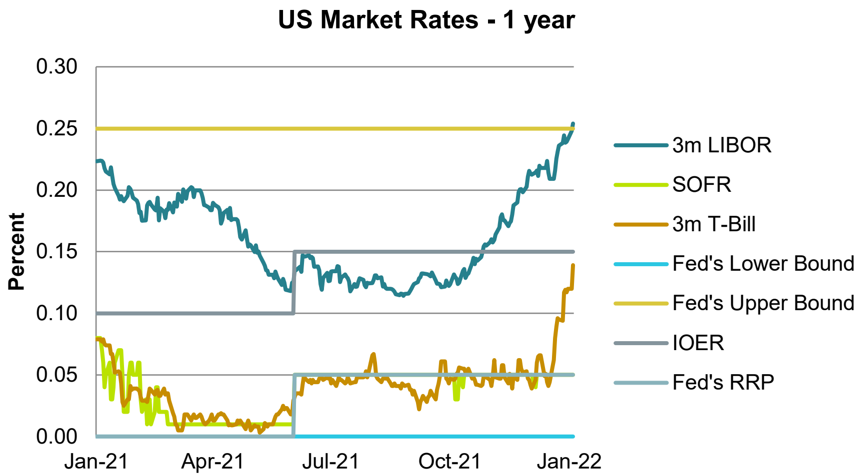






Source: SSGA as of Feb 1 2022

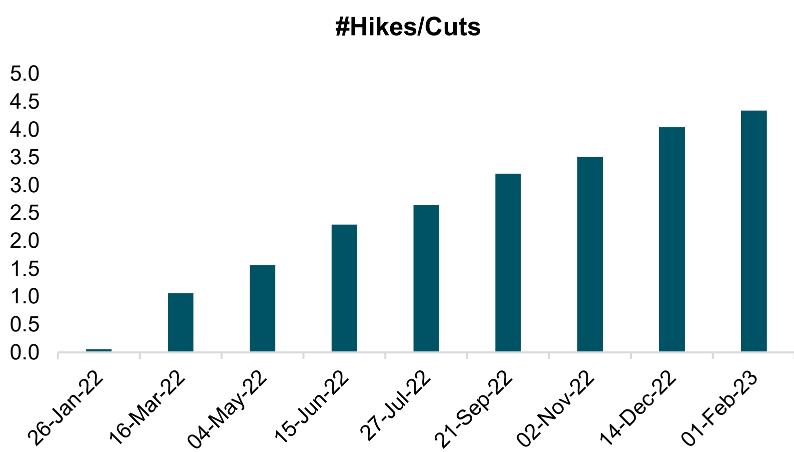
How Many Rate Hikes In '22?

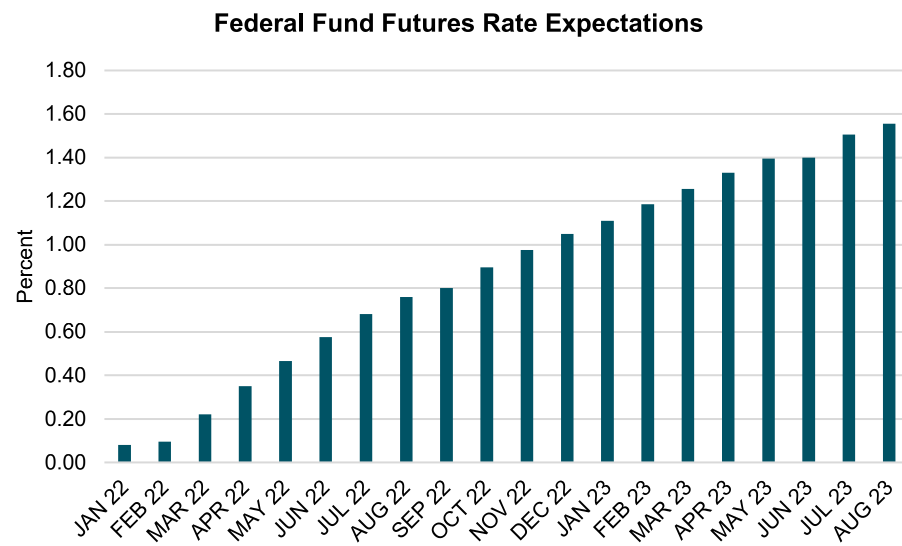


It is now not a matter of "if" but of "how many"

The Fed has gone from uber dove to uber hawk in a matter of months – will they make a mistake or has the market gotten ahead of itself?

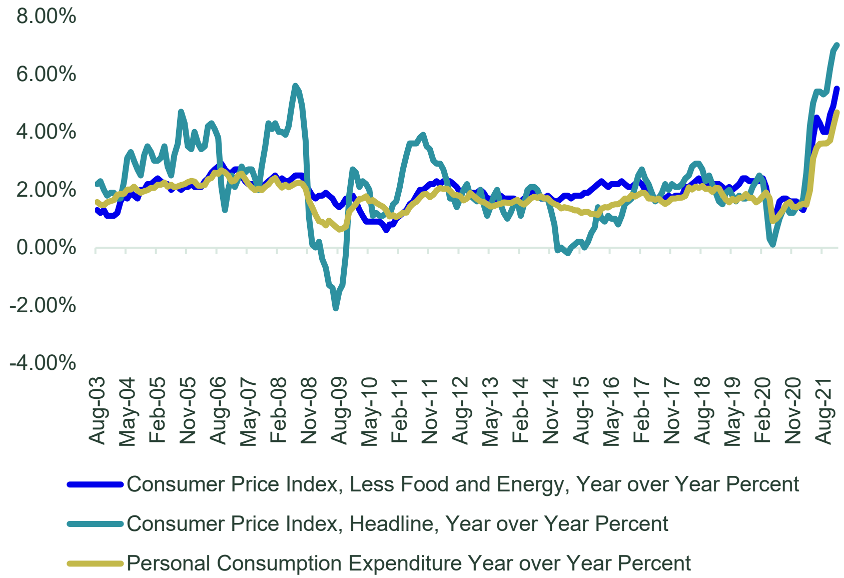
Cash managers are breathing more easily as the curve steepens and term premiums reemerge



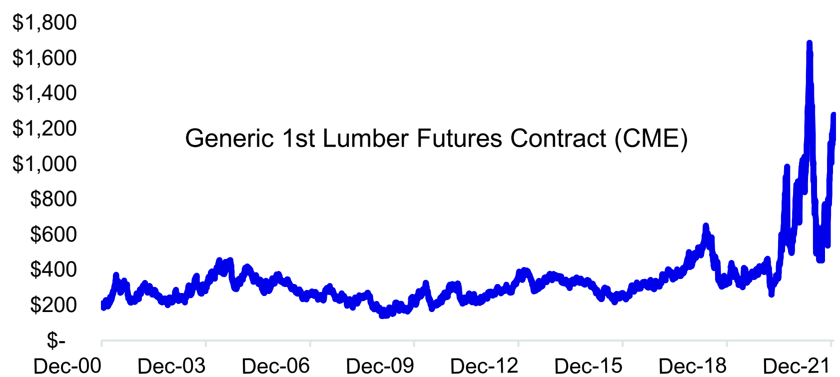


Source: Federal Reserve, Bloomberg Finance, L.P., as of Jan 20, 2021. Key: OBFR: Overnight Bank Funding Rate, 3M Libor: 3 Month Libor Rate, SOFR: Secured Overnight Finance Rate; 3M Bill: 3-month Treasury Bill; FF Target Lower: Federal Funds Target Range Lower Bound; FF Target Upper: Federal Funds Target Range Upper Bound. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate. Performance quoted represents past performance, which is no guarantee of future results.

Inflation, Inflation, Inflation



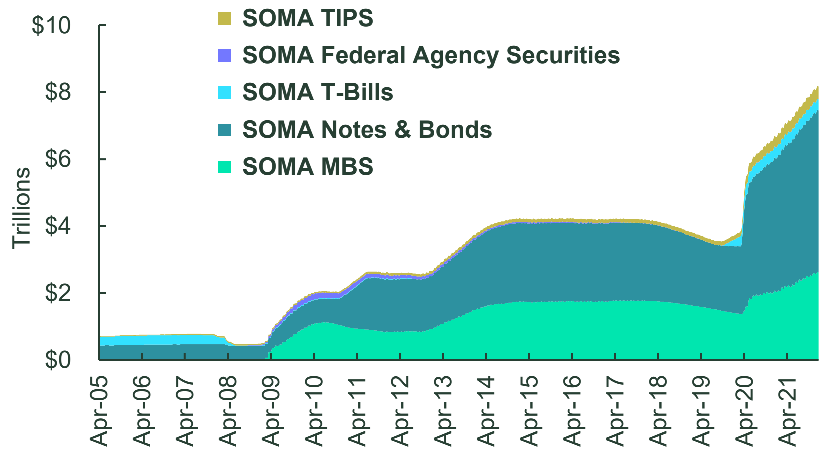
Inflation is no longer 'transitory' according to Chair Powell. The question remains how long will the increases in the cost to produce and ship remain in this new COVID economy. The Fed will keep a close eye on these pressures and try to slow their impact on the consumer. It is unclear if or how they might be successful. Is raising rates enough?



Source: SSGA, Bloomberg as of Jan 24, 2022.

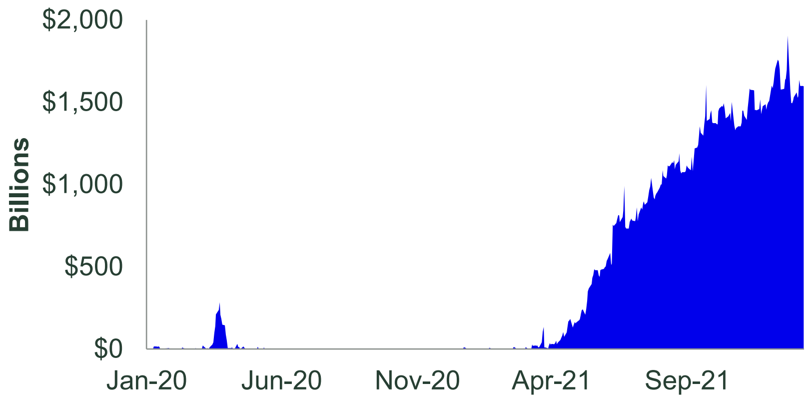
QE Wind Down - Still Tons of Cash

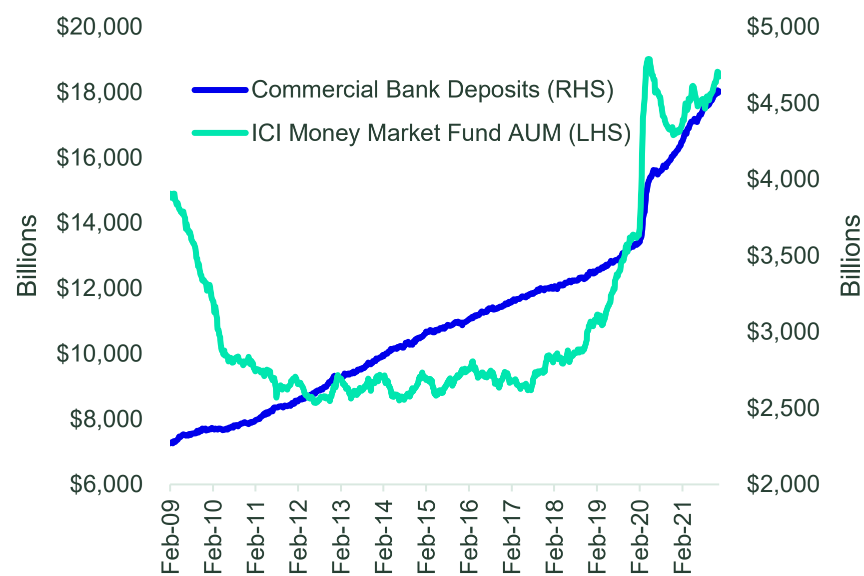
System Open Market Account (Fed's Holdings)



The Fed has accelerated their wind down of the asset purchase program. They are reducing their purchases of US Treasuries by 20bln per month and MBS by 10bln per month. For now, they will maintain the size of their portfolio by reinvesting maturing debt but there is more discussion of reducing their balances by letting assets mature off. Even with the elimination of QE there is still an extraordinary amount of cash in the system as shown by bank deposits, money market fund balances and over $1.9trln of subscription to the Fed's RRP on year end

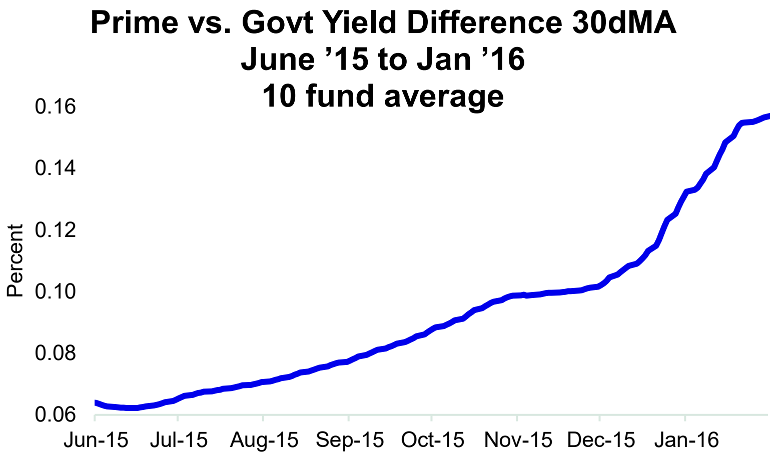
Fed's Reverse Repo Program Allotment



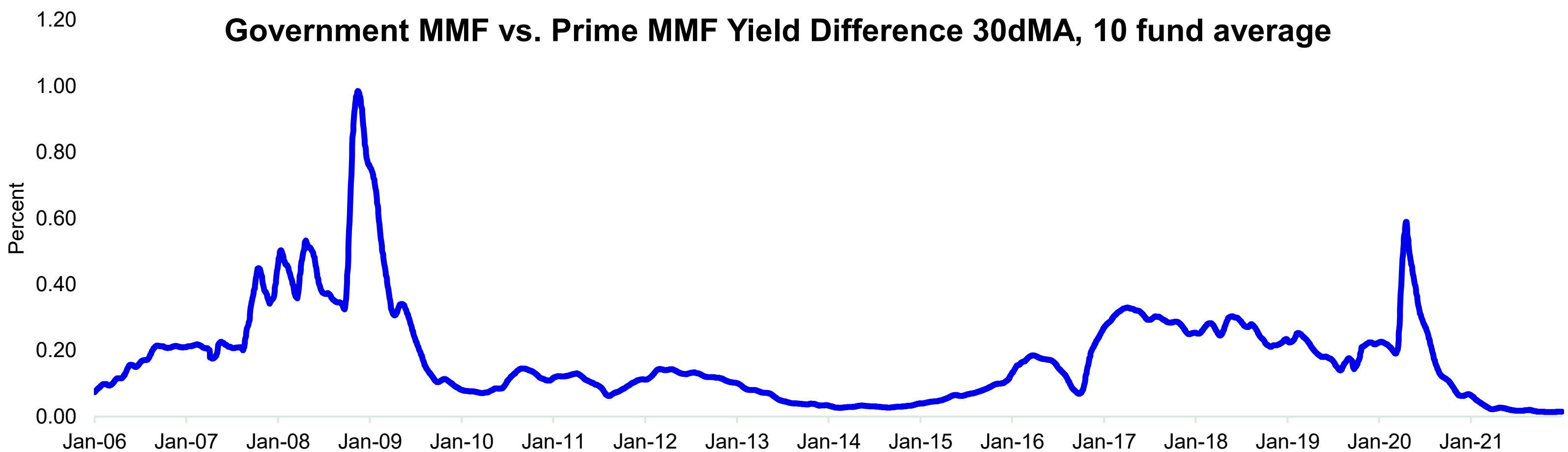


Source: Federal Reserve NY as of Jan 20, 2022. Key: SOMA – system open market account, RRP – Fed's Reverse Repurchase Program

The Yield Difference Should Widen

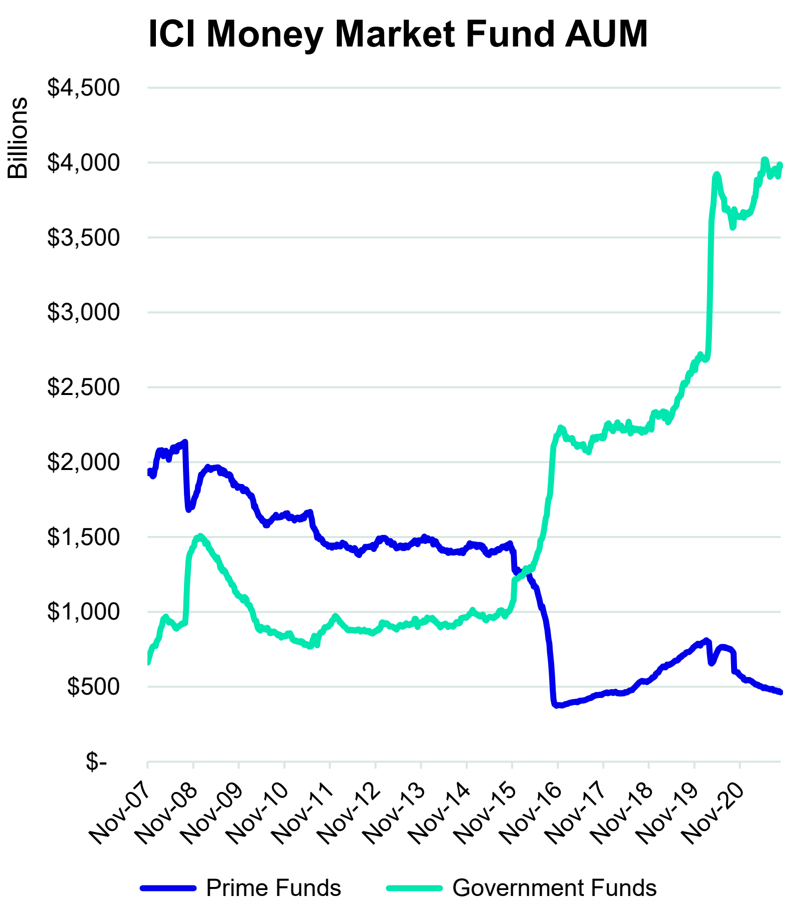


Over the past year it has been tough to find value in prime strategies. Now might be the time that value returns. Prime fund yields are set to potentially rise more than government fund yields as industry wide fee waivers are eliminated Government fund yields have been floored in the low single digits. Most prime funds have not had fee waivers applied and thus their yields are very close, if not on top of, government fund yields. As the market anticipates the first Fed rate hike, we should see the spread between the two begin to widen as it did in the summer of ’15. It should be noted that there are many differences between ’15 and ’22 so we might not see the same amount of widening



Source: Fund Companies, Bloomberg Finance, L.P., as of Jan 20, 2022.

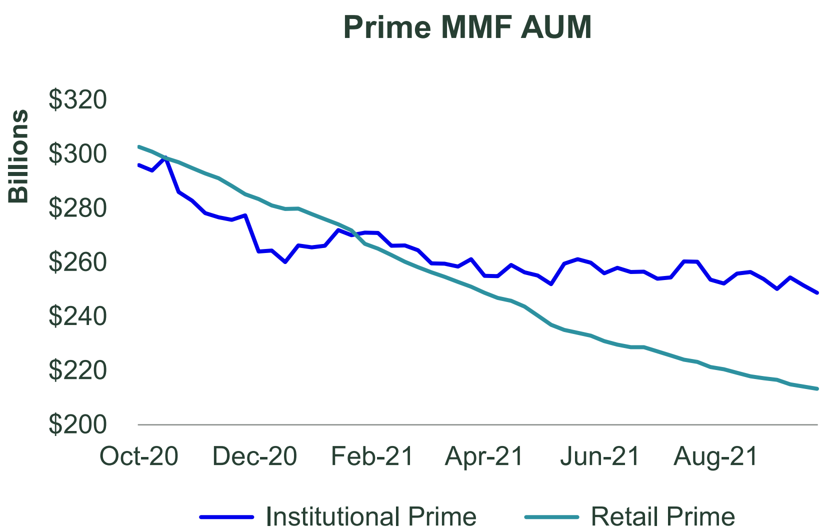
Expect Reform in '22



Government and Treasury Money Market Fund AUM remains elevated. Prime MMF AUM continues to decline at a steady pace, with retail declining faster than institutional.

SEC's reform proposal has been released. The SEC should have something to say as early as the first quarter. Swing pricing is the focus of the industry along with the prohibition of the reverse distribution mechanism

Much of the work of the SEC appears to be happening through voluntary shareholder movement, Prime MMF AUM is continuously lower for over a year now. But if the yield spread widens could those flows reverse?



Graph Source: State Street Global Advisors, ICI, Jan 20, 2022
Key: MMF- Money Market Fund; AUM- Assets Under Management

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Callan

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Memorandum

To: MCERA Board of Trustees

From: Jim Callahan, CFA

Anne Heaphy

Date: March 10, 2022

Subject: TimesSquare Capital Management Personnel Update

TimesSquare announced that David Hirsch has been named as a co-Portfolio Manager on the International Small Cap strategy. He will work with lead Portfolio Manager, Magnus Larsson. Hirsch has been a member of the International Small Cap team since its inception in 2012. He began as an analyst covering Europe and other regions. He was promoted to Assistant Portfolio Manager in 2019. Callan is comfortable with this announcement particularly since it provides a back-up portfolio manager to Larsson.

Callan

March 16, 2022

Marin County Employees' Retirement Association

2022 Capital Market Projections and 2022 Asset-Liability Study

Outline and Agenda

Callan’s 2022 Capital Market Projections

MCERA 2022 Asset Allocation and Liability Study

- Introduction and Process Overview
- Asset Allocation
- Asset-Liability Modeling
- Recommendation

Callan

Callan’s 2022 Capital Market Projections

Why Make Capital Markets Projections?

Guiding objectives and process

A long-term strategic investment plan is the cornerstone of a prudent process.

- Capital markets projections are key elements to set reasonable return and risk expectations for the appropriate time horizon.
- Projections represent our best thinking regarding the long-term (10-year) outlook, recognizing our median projections represent the midpoint of a range, rather than a specific number.
- Develop results that are readily defensible both for individual asset classes and for total portfolios
- Be conscious of the level of change suggested in strategic allocations for long-term investors: DB plan sponsors, foundations, endowments, trusts, DC participants, families, and individuals
- Reflect common sense and recent market developments, within reason

Callan's forecasts are informed by current market conditions, but are not built directly from them.

- Balance recent, immediate performance and valuation against long-term equilibrium expectations

How are Capital Market Projections Constructed?

Guiding objectives and process

Underlying beliefs guide the development of the projections:

- An initial bias toward long-run averages
- A conservative bias
- An awareness of risk premiums
- A presumption that markets are ultimately clear and rational

Reflect our beliefs that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital market expectations

Long-term compensated risk premiums represent “beta”—exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks:

- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- A path for interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan beliefs about the long-term operation and efficiencies of the capital markets

2022 Risk and Returns

Summary of Callan's Long-Term Capital Market Assumptions (2022 – 2031)

		Projected Return			Projected Risk
Asset Class	Index	1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation
Equities					
Broad U.S. Equity	Russell 3000	8.00%	6.60%	4.35%	17.95%
Large Cap U.S. Equity	S&P 500	7.85%	6.50%	4.25%	17.70%
Small/Mid Cap U.S. Equity	Russell 2500	8.75%	6.70%	4.45%	21.30%
Global ex-U.S. Equity	MSCI ACWI ex USA	8.70%	6.80%	4.55%	20.70%
Developed ex-U.S. Equity	MSCI World ex USA	8.25%	6.50%	4.25%	19.90%
Emerging Market Equity	MSCI Emerging Markets	9.80%	6.90%	4.65%	25.15%
Fixed Income					
Short Duration Gov't/Credit	Bloomberg 1-3 Yr G/C	1.50%	1.50%	-0.75%	2.00%
Core U.S. Fixed	Bloomberg Aggregate	1.80%	1.75%	-0.50%	3.75%
Long Government	Bloomberg Long Gov	1.85%	1.10%	-1.15%	12.50%
Long Credit	Bloomberg Long Cred	2.60%	2.10%	-0.15%	10.50%
Long Government/Credit	Bloomberg Long G/C	2.30%	1.80%	-0.45%	10.40%
TIPS	Bloomberg TIPS	1.35%	1.25%	-1.00%	5.05%
High Yield	Bloomberg High Yield	4.40%	3.90%	1.65%	10.75%
Global ex-U.S. Fixed	Bloomberg Gl Agg xUSD	1.20%	0.80%	-1.45%	9.20%
Emerging Market Sovereign Debt	EMBI Global Diversified	4.00%	3.60%	1.35%	9.50%
Alternatives					
Core Real Estate	NCREIF ODCE	6.60%	5.75%	3.50%	14.20%
Private Infrastructure	MSCI Glb Infra/FTSE Dev Core 50/50	7.10%	6.10%	3.85%	15.45%
Private Equity	Cambridge Private Equity	11.45%	8.00%	5.75%	27.60%
Private Credit	N/A	6.40%	5.50%	3.25%	14.60%
Hedge Funds	Callan Hedge FOF Database	4.35%	4.10%	1.85%	8.20%
Commodities	Bloomberg Commodity	4.05%	2.50%	0.25%	18.00%
Cash Equivalents	90-Day T-Bill	1.20%	1.20%	-1.05%	0.90%
Inflation	CPI-U		2.25%		1.60%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

What Are We Talking With Investors?

- Strategic conversations remain focused on "Where do we go from here?"
  - Many investors just enjoyed the best fiscal and calendar year returns in a generation
  - The elation is tempered by sobering return expectations for the capital markets
- Investors are reevaluating the purpose and future of all asset classes; fixed income remains a primary focus
  - How low can the fixed income allocation go? Do we have to have bonds at all?
  - What can serve as an equity diversifier equal to bonds with zero interest rates?

Hedge funds and other absolute return strategies gain a new appreciation when compared to fixed income

- Diversify growth risk with less of a return penalty
- For all the talk about inflation spiking, we see few inquiries about "doing something" to address it in portfolios
  - Are we hedging inflation or outperforming it?
- Growing concern about a market drawdown, given the heady valuations for all asset classes
  - Equity market paused in 3Q21, but roared back in 4Q
  - We still see investors risking up in pursuit of return rather than de-risking
  - Discussion of the value of new diversifying asset classes (e.g. cryptocurrency, gold or insurance-linked securities?)

Resurgent U.S. Equity Market in 4Q21

Strong performance across both growth and value strategies during 2021

- 2021 returns for U.S. equity markets are eye-popping:
  - S&P 500: +28.7%
  - U.S. Small Cap: +14.8%
  - Non-U.S. equity markets lagged:
  - MSCI World ex USA: +12.6%
  - Emerging Markets: -2.5%
- Economic data recovered in 4Q after softening in 3Q. Tight labor market and mismatch between jobs and job seekers is vexing employers.
- Inflation spiked and recorded 7% for the first time in decades.
- 4Q GDP hit a robust 6.8% (estimate), after dropping in 3Q. Growth for the year is 5.7% (estimate). The economic recovery is still solid. Supply chain issues and sentiment surrounding the end of fiscal stimulus, the Omicron variant, and the Fed taper vex investors as we head into 2022.

Returns for Periods ended 12/31/21

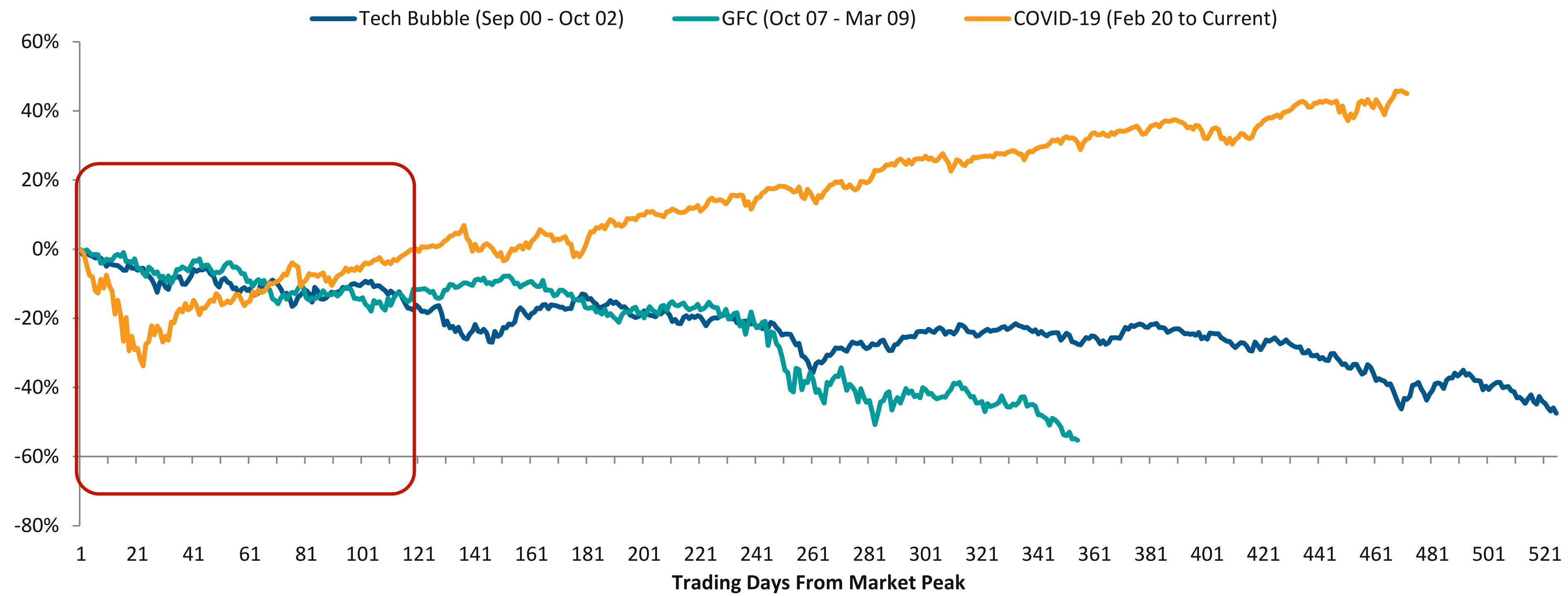
	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	9.28	25.66	17.97	16.30	9.81
S&P 500	11.03	28.71	18.47	16.55	9.76
Russell 2000	2.14	14.82	12.02	13.23	8.99
Global ex-U.S. Equity					
MSCI World ex USA	3.14	12.62	9.63	7.84	5.39
MSCI Emerging Markets	-1.31	-2.54	9.88	5.49	--
MSCI ACWI ex USA Small Cap	0.62	12.93	11.21	9.46	6.93
Fixed Income					
Bloomberg Aggregate	0.01	-1.54	3.57	2.90	4.94
90-day T-Bill	0.01	0.05	1.14	0.63	2.06
Bloomberg Long Gov/Credit	2.15	-2.52	7.39	5.72	7.31
Bloomberg Global Agg ex-US	-1.18	-7.05	3.07	0.82	3.40
Real Estate					
NCREIF Property	5.23	16.67	7.57	9.23	9.34
FTSE Nareit Equity	16.31	43.24	10.75	11.38	9.89
Alternatives					
CS Hedge Fund	0.94	8.23	5.47	4.90	6.74
Cambridge Private Equity*	4.81	49.51	21.16	17.17	15.72
Bloomberg Commodity	-1.56	27.11	3.66	-2.85	1.13
Gold Spot Price	4.08	-3.51	9.69	1.56	6.61
Inflation - CPI-U	1.64	7.04	2.92	2.14	2.28

*Cambridge PE preliminary data through 09/30/21.
Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

Unprecedented Shock to Global Capital Markets—But It Was Over in a Flash!

V-shaped recovery in equity—back in black by mid-August 2020, up 119% from market bottom!

S&P 500 Cumulative Returns
Market Peak-to-Trough for Recent Corrections vs. Current Path of COVID-19 Correction Through 12/31/21



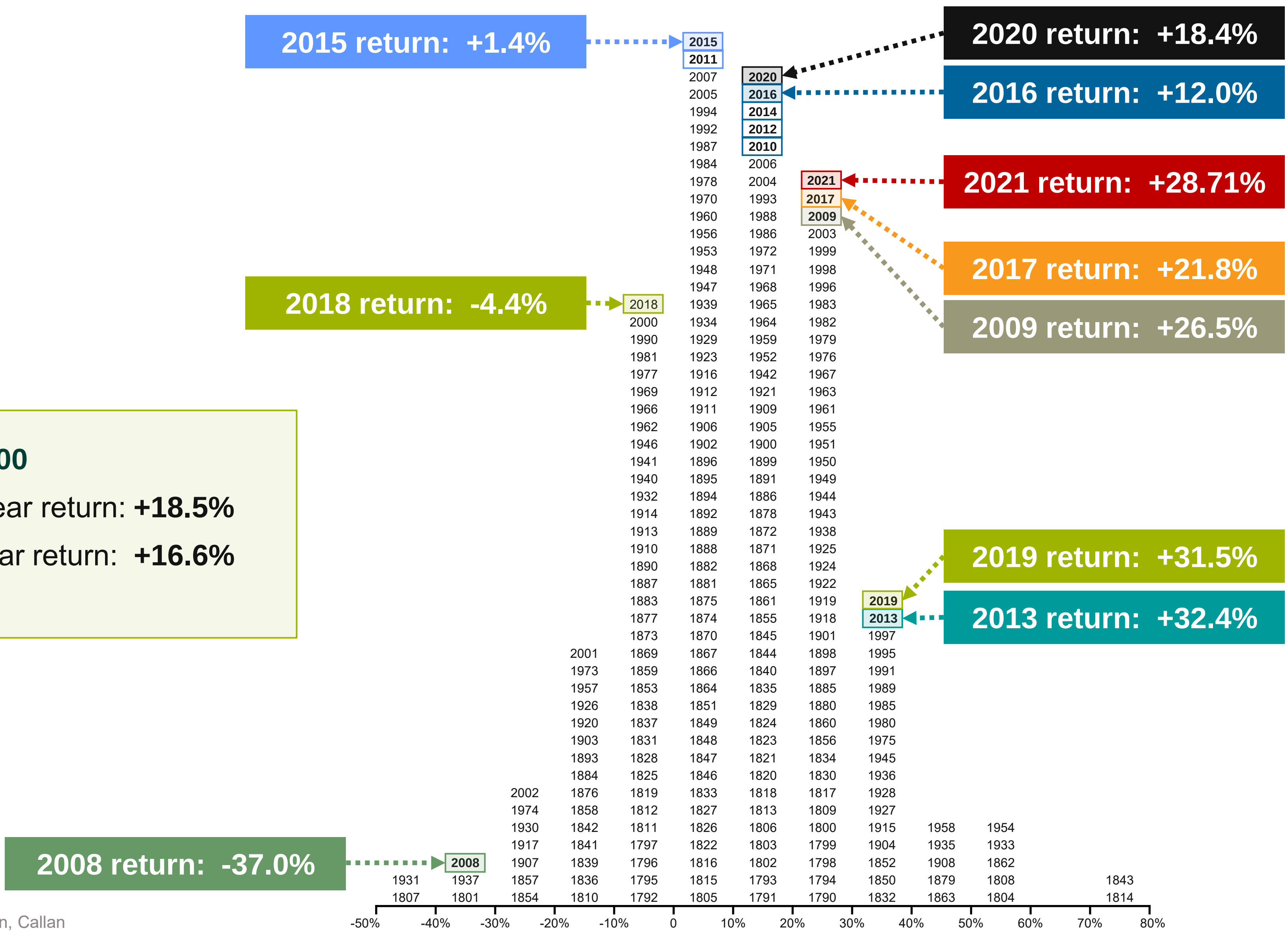
Sharpest and fastest equity market decline ever: 16 trading days to reach bear market; -34% after just 23 days
– S&P 500 recovered all its pandemic-related losses by Aug. 10, 2020, only 97 days from the bottom.
– S&P 500 up 28.7% in 2021.

Fun fact: As of Dec. 31, 2021, or 472 trading days, the S&P is up over 45% from the previous market peak on 2/19/20. In contrast, during the GFC the market was still down 31% from the previous market peak after 472 trading days (Aug. 24, 2009).

Sources: Callan, S&P Dow Jones Indices

Stock Market Returns by Calendar Year

2021 performance in perspective: History of the U.S. stock market (232 years of returns)



S&P 500

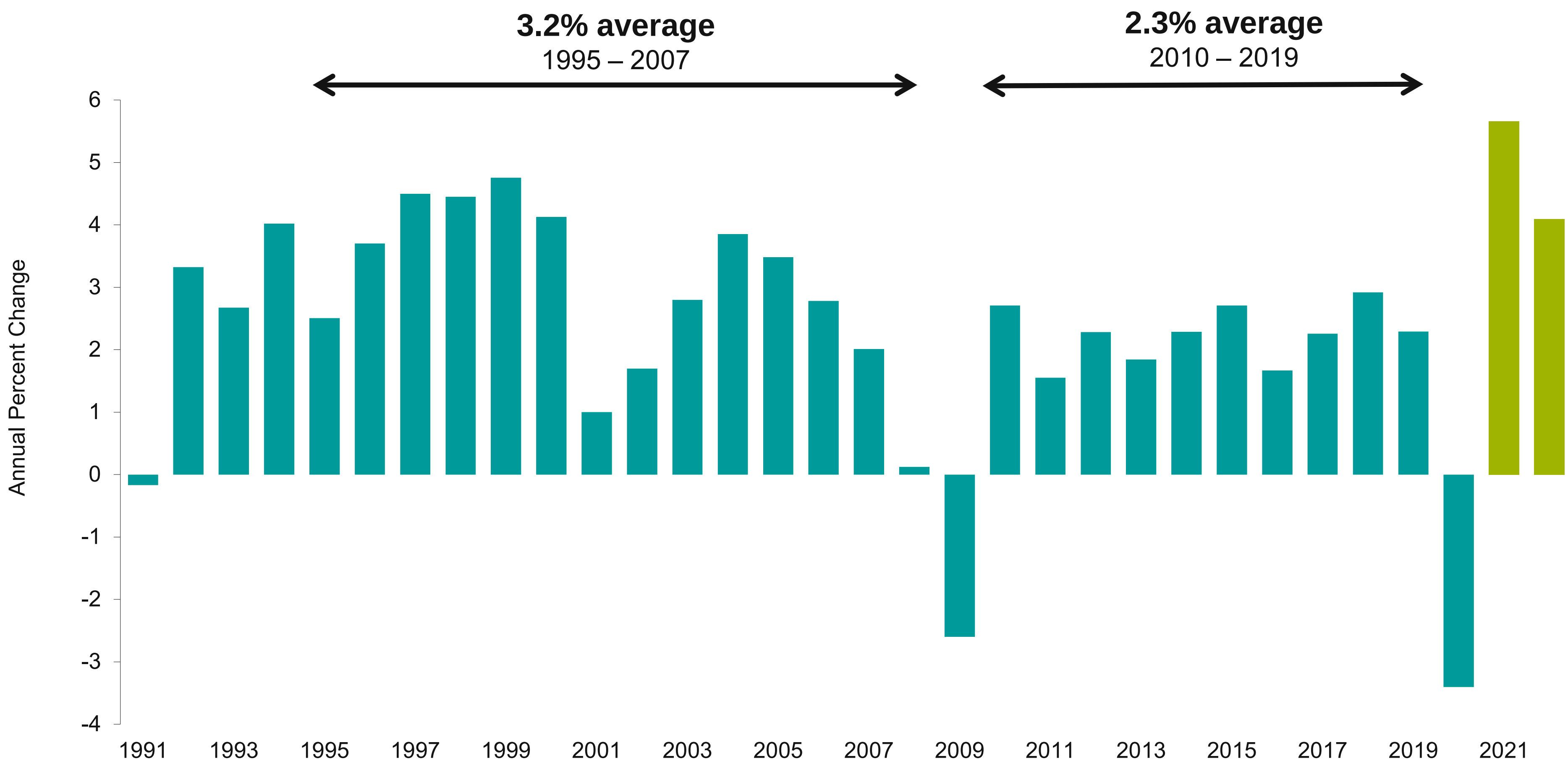
Five-year return: **+18.5%**

Ten-year return: **+16.6%**

Source: Ibbotson, Callan

U.S. GDP Growth to Return to a Slower Trajectory After Recovery From 2020

Real GDP growth

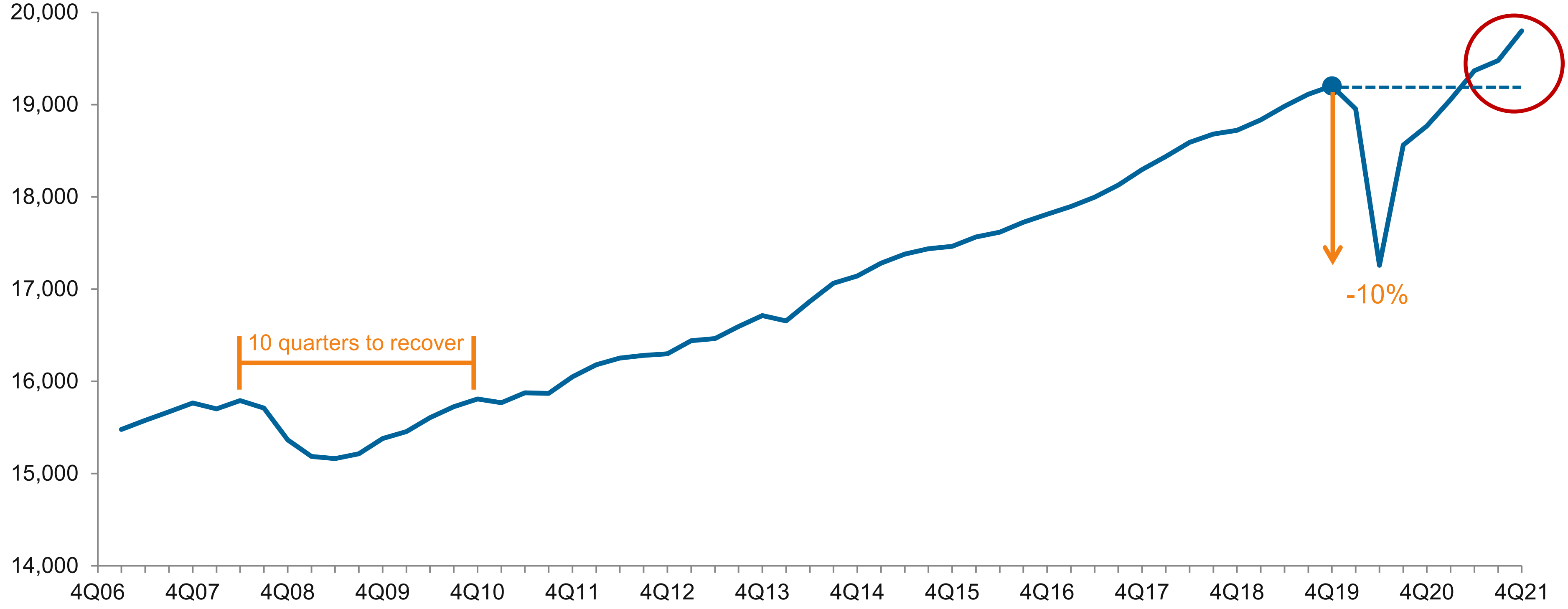


Note: 2021 and 2022 Forecast: IHS Markit

Source: IHS Markit

GDP Recovered Pre-Pandemic Level in 2Q21 After Deepest Drop in 75 Years

Seasonally Adjusted Real GDP in Billions of Dollars



After the Global Financial Crisis, it took 2.5 years before real GDP reclaimed its pre-recession highs.
- GFC peak to trough down 4%

2Q20 real GDP level was down over 10% from 4Q19.
- Pre-pandemic peak level of GDP reached in 2Q21: $19.368T vs. $19.202T for 4Q19

2021 GDP on track for annual growth of 5.7%, with consensus estimates just north of 4.0% for 2022, followed by return to trend.

Source: Federal Reserve Bank of St. Louis

Economic Outlook

Role of economic variables

GDP and inflation

- GDP forecasts provide a very rough estimate of future earnings growth
- Inflation forecasts provide an approximate path for short-term yields
- Inflation is added to the real return forecasts for equity and fixed income

GDP forecasts

- 2% to 2.5% for the U.S.
- 1.5% to 2.0% for developed ex-U.S. markets
- 4% to 5% for emerging markets
- All forecasts are below long-term averages
- Path to longer-term growth will include cycles with recessions

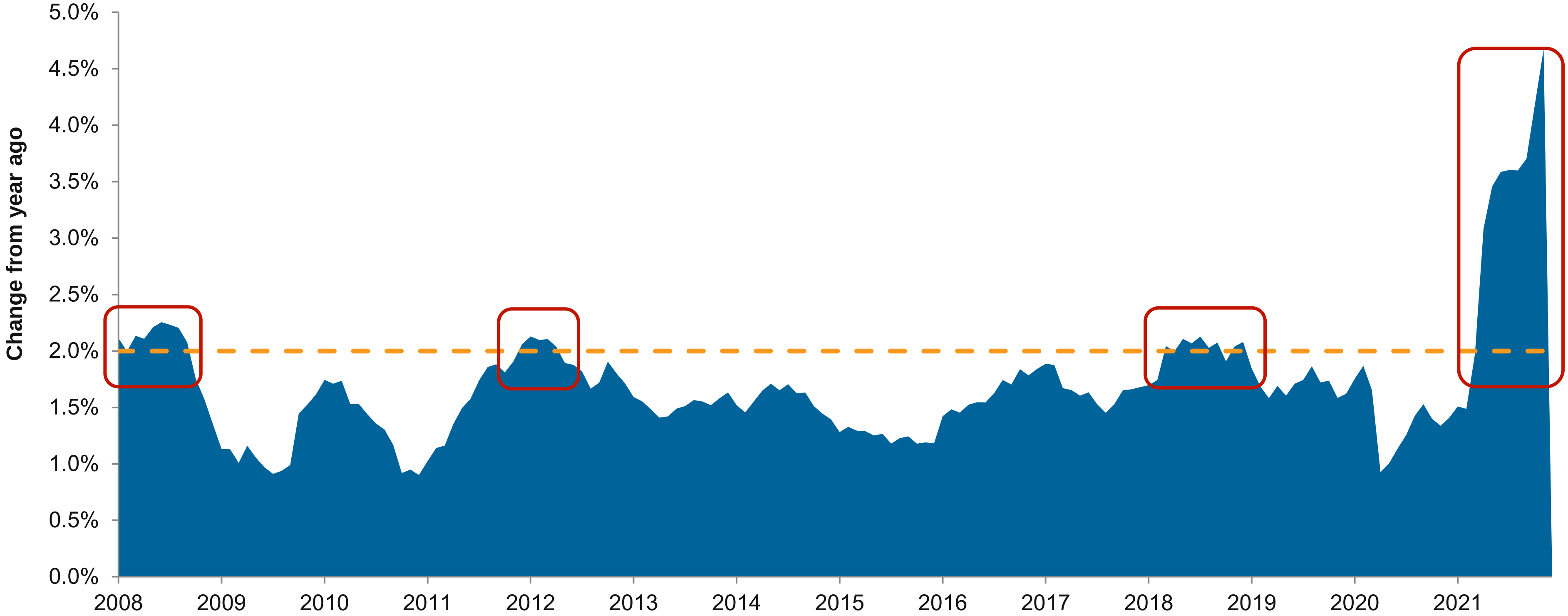
Inflation forecasts

- 2.0% to 2.5% for the U.S.
- 1.75% to 2.25% for developed ex-U.S. markets
- 2.40% to 2.90% for emerging markets

The Fed's New Inflation Framework

Targeting core Personal Consumption Expenditures Index

Personal Consumption Expenditures Excluding Food and Energy (Chain-Type Price Index)



- Inflation worries are in the headlines, and the data are clearly signaling a sharp rise in the short term.
- Inflation had consistently undershot the Fed's 2% target, prompting the Fed to change its inflation framework.
- Fed's aim is to achieve an average of 2% inflation over the medium term, which is not specifically defined.
- PCE is the Fed's target, different from and typically lower than CPI-U, which had a year-over-year gain of 7.0% in December 2021.

Sources: Federal Reserve Bank of St. Louis, U.S. Bureau of Economic Analysis

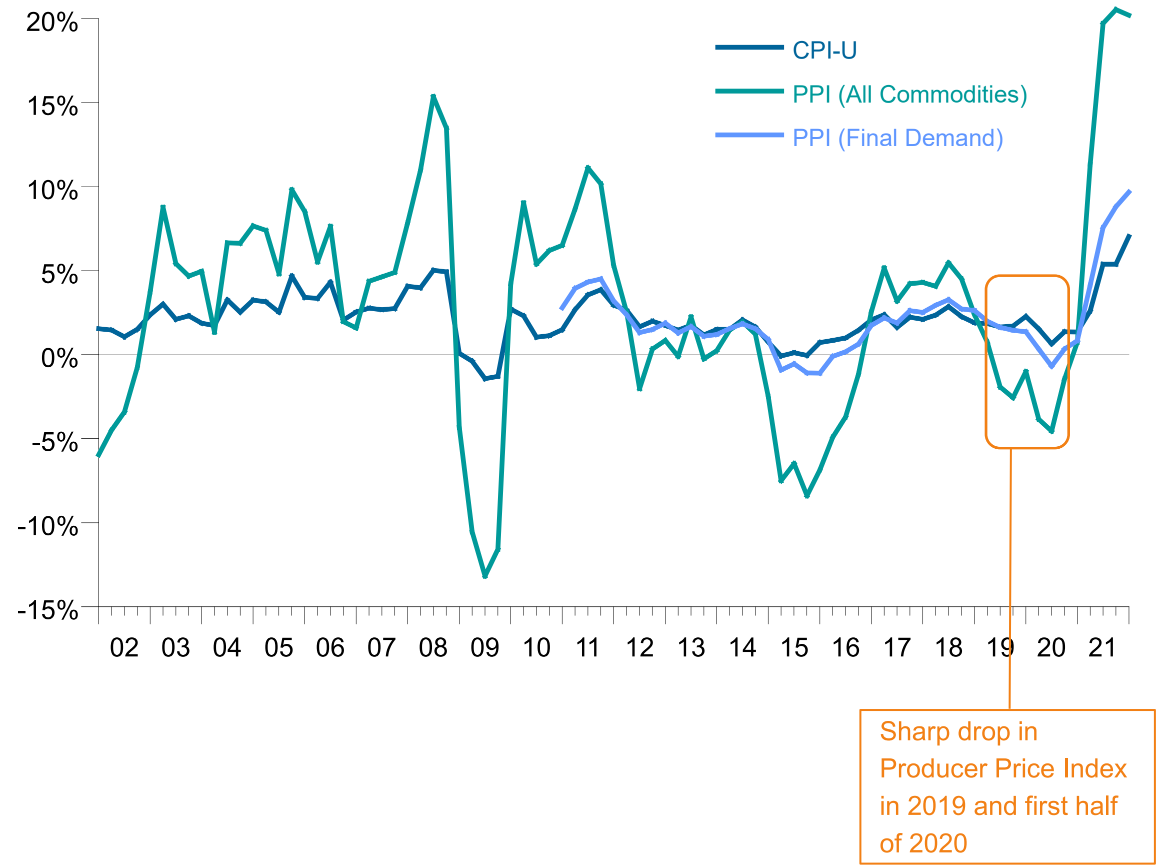
Inflation Rebounds and Spurs Headline Concerns

CPI and PPI up sharply again in 4Q21

Inflation fell sharply at the onset of the pandemic, starting in February 2020.

- The recovery to pre-pandemic levels in the Consumer Price Index required a 2.6% year-over-year change.
- 7% jump in 4Q CPI-U represents kinks in supply chains and labor markets after a year of global economic disruption and shutdown.
- Producer prices had been tumbling for more than a year prior to the pandemic; recovery to 2018 price ***levels*** generated eye-popping year-over-year percent change through 2Q, and the sharp rise continued through the second half of 2021.
- Driving the PPI's rise were prices for transportation goods, energy and food.

Consumer and Producer Price Indexes – Inflation Year-Over-Year

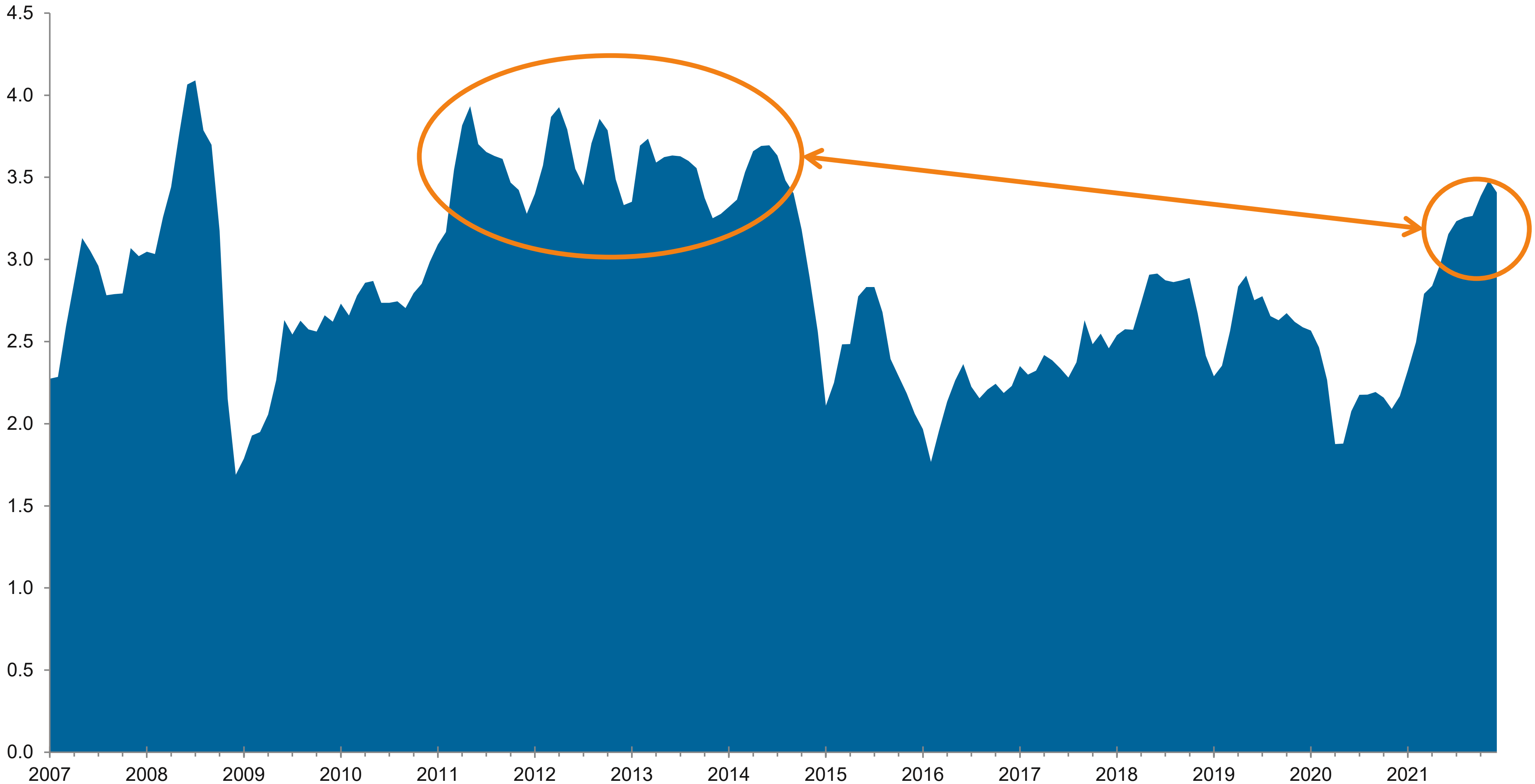


Source: Federal Reserve Bank of St. Louis

Gasoline Prices Are Top of Mind for Consumers, but Still Below Early 2010s Peaks

A highly visible inflation measure; feeds expectations

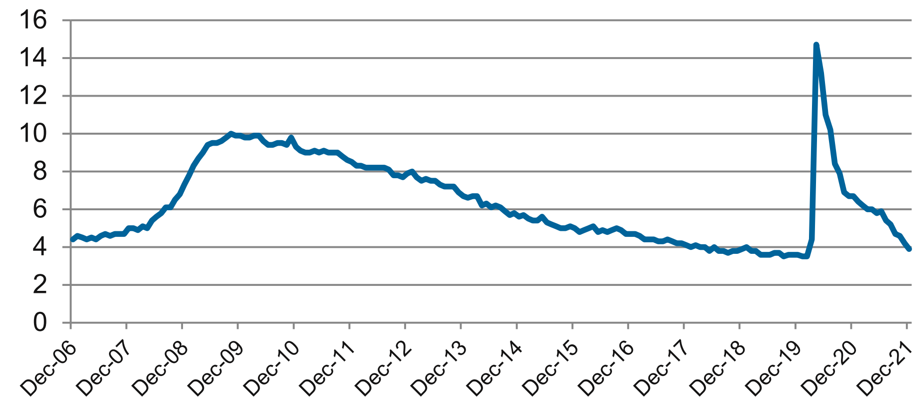
Average Price: Gasoline, Unleaded Regular (Cost per Gallon / 3.785 Liters) in U.S. City Average



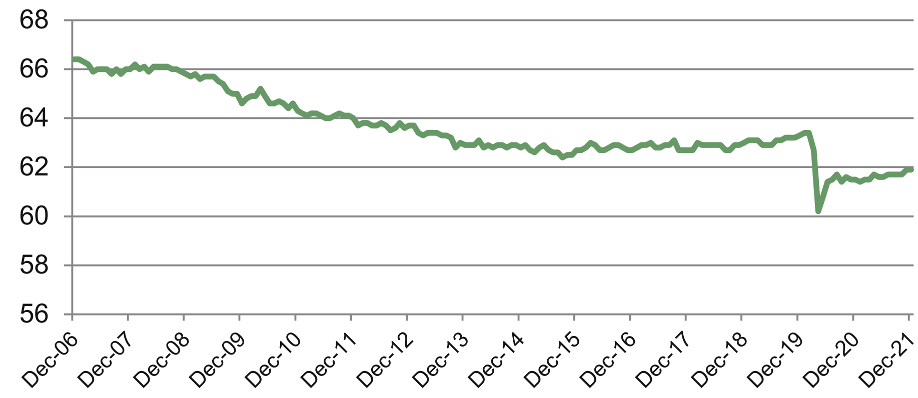
Source: Federal Reserve Bank of St. Louis

Wages and Employment

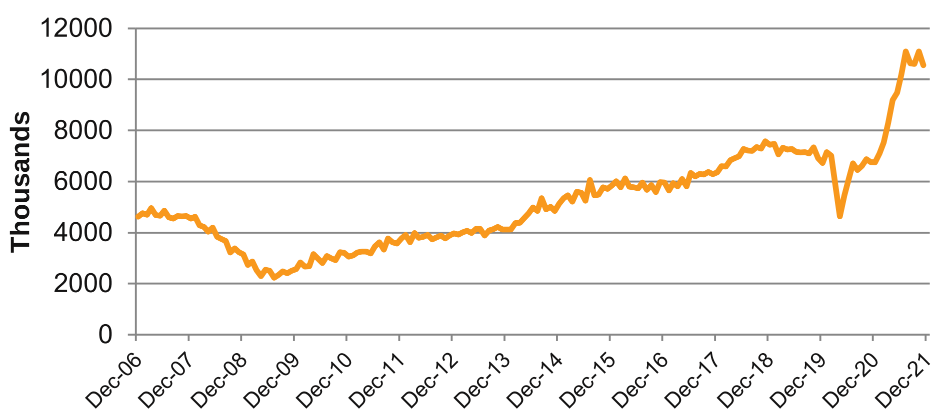
Unemployment Rate



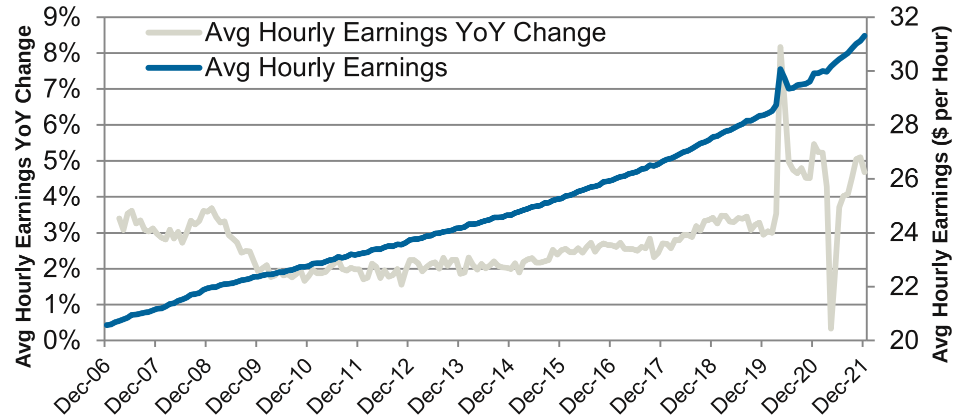
Labor Force Participation Rate



Job Openings



Average Hourly Earnings



Unemployment continues to fall even as the labor force participation rate has trended slightly upward.

Job openings are significantly elevated but appear to have paused their rapid ascension, at least temporarily.

Average hourly earnings rose about 4.7% for the YoY period ending in December.

Wage-related inflation could persist if the labor force does not expand to fill open jobs.

Source: U.S. Bureau of Labor Statistics

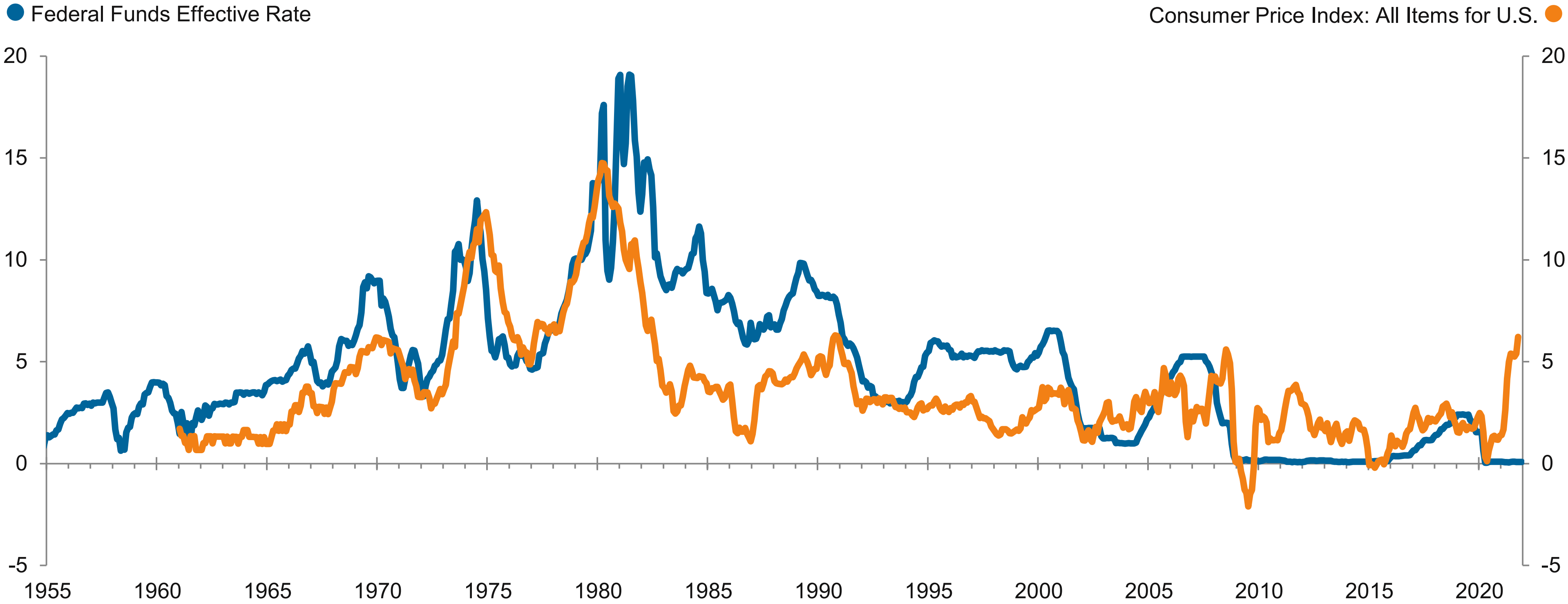
So When Does Inflation Become a Problem?

The majority of the working-age and younger population has no experience with sustained inflation.

- Last spurt above 5% happened in 2007, when oil prices spiked to above $100 per barrel; this spike evaporated with the GFC.
- Last ***sustained*** bout of inflation was wrung out of the U.S. economy by serial recessions in 1980 and 1981. Inflation had reached double-digits in the late 1970s, and short interest rates were hiked to just below 20%, twice!
- Decades of policy error, both monetary and fiscal, led to the build-up of inflation during the late 1960s and into the 1970s—the wage-price spiral of the 1970s did not materialize out of thin air.
- Current global monetary and fiscal policies were enacted to combat an unprecedented pandemic, the shutdown of production, transportation, and distribution, and severe interruption in consumer and business activities that led to the steepest recession in 75 years.
- The policies were key to the incredible economic recovery seen in the U.S. and around the world.
- The interruption of supply chains, labor markets, manufacturing processes, and the delivery of goods and services was substantial; the working-out of these kinks was both expected and actually better/faster than projected just a year ago.
- This recession was also the first to feature substantial job loss but no decline in aggregate income, which suggests substantial pent-up demand.
- The current spike in inflation was completely expected; there are no surprises. Inflation is working itself out at different rates and at different levels of pervasiveness across commodities, materials, goods, manufacturing, and services. The labor market suffered some of the greatest disruption and will take the longest to iron out the kinks.
- While the current spike is alarming, the return toward normal markets means that underlying demand will return to normal, and pressures on prices will abate, likely toward the second half of 2022 and in the following years.

Inflation versus Interest Rates Over the Long Term

Federal Funds vs. Consumer Price Index



We are a long way from the inflation and interest rate spike of 1980–1981, and even the last rise in inflation from 2005–2008.

Source: Federal Reserve Bank of St. Louis

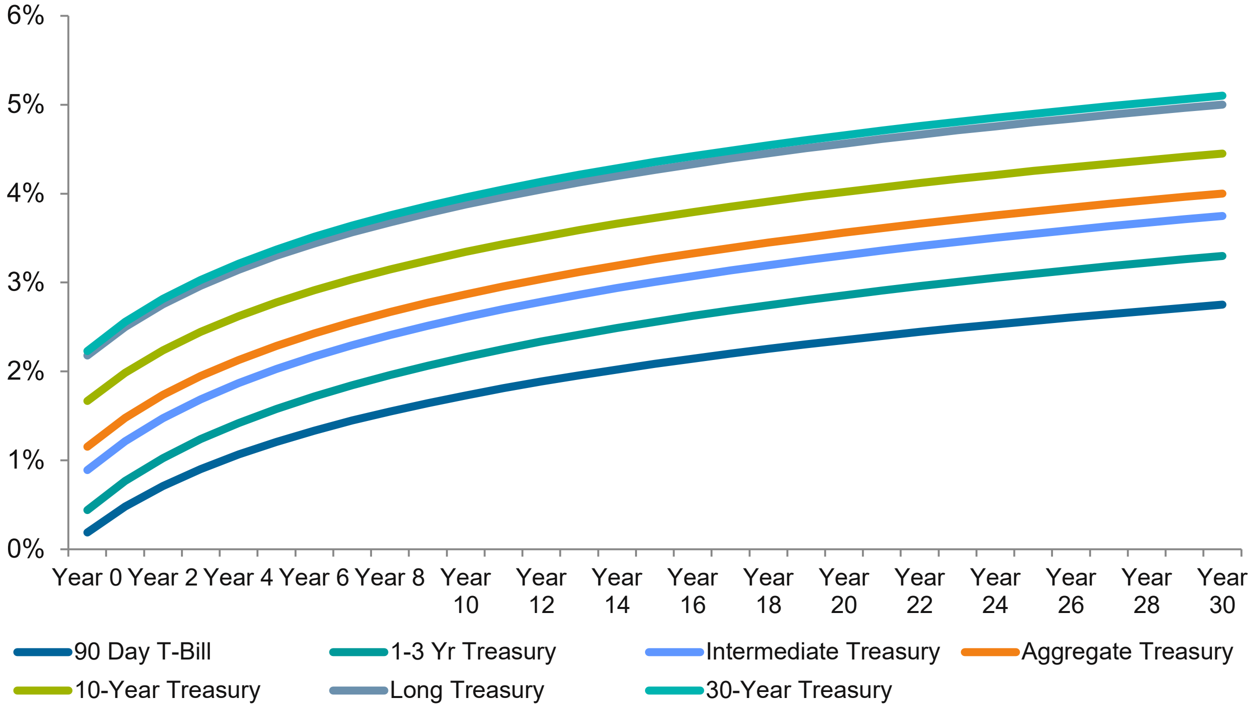
10-Year Expected Returns

10-Year Projections

	Income Return	+	Capital Gain/Loss	+	Credit Default	+	Roll Return	=	2022 Expected Return	2021 Expected Return	Change
Cash	**1.20%**		**0.00%**		**0.00%**		**0.00%**		**1.20%**	**1.00%**	**0.20%**
Short Duration 1-3 Year G/C	**1.65%**		**-0.40%**		**0.00%**		**0.25%**		**1.50%**	**1.50%**	**0.00%**
1-3 Year Government	1.55%		-0.40%		0.00%		0.25%		1.40%		
1-3 Year Credit	2.15%		-0.50%		-0.10%		0.25%		1.80%		
Intermediate G/C	**2.35%**		**-0.80%**		**-0.10%**		**0.25%**		**1.70%**	**1.50%**	**0.20%**
Intermediate Government	2.05%		-0.80%		0.00%		0.25%		1.50%		
Intermediate Credit	2.95%		-1.00%		-0.20%		0.25%		2.00%		
Aggregate	**2.90%**		**-1.30%**		**-0.10%**		**0.25%**		**1.75%**	**1.75%**	**0.00%**
Government	2.25%		-1.20%		0.00%		0.25%		1.30%		
Securitized	2.55%		-0.90%		0.00%		0.25%		1.90%		
Credit	3.85%		-1.80%		-0.30%		0.25%		2.00%		
Long Duration G/C	**4.25%**		**-2.85%**		**-0.20%**		**0.60%**		**1.80%**	**1.80%**	**0.00%**
Long Government	3.30%		-2.80%		0.00%		0.60%		1.10%		
Long Credit	4.70%		-2.90%		-0.30%		0.60%		2.10%		
TIPS	**2.50%**		**-1.50%**		**0.00%**		**0.25%**		**1.25%**	**1.70%**	**-0.45%**
Non-U.S. Fixed (unhedged)	**2.15%**		**-1.50%**		**-0.10%**		**0.25%**		**0.80%**	**0.75%**	**0.05%**
High Yield	**6.95%**		**-1.30%**		**-2.00%**		**0.25%**		**3.90%**	**4.35%**	**-0.45%**
Emerging Market Debt	**6.05%**		**-1.40%**		**-1.30%**		**0.25%**		**3.60%**	**3.50%**	**0.10%**
Bank Loans	**6.50%**		**-0.30%**		**-1.60%**		**0.00%**		**4.60%**	**4.30%**	**0.30%**

Yield Curve Path

Smoothed Yield Curve Paths



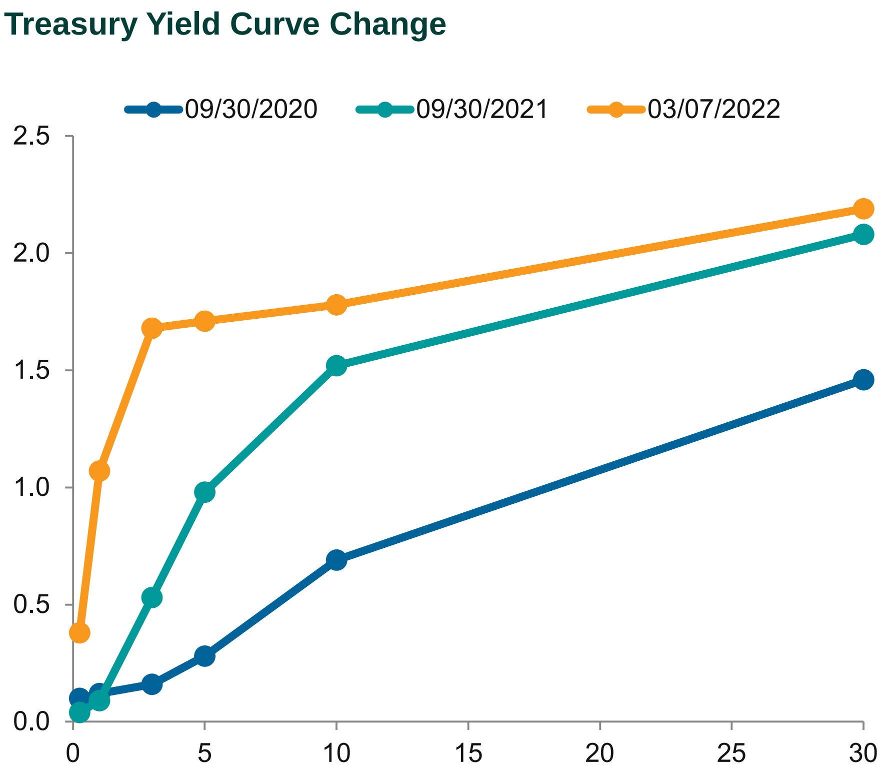
	Long Term Premium	Final Yield	Premium Over
Inflation	0.00%	2.25%	N/A
90 Day T-Bill	0.50%	2.75%	Inflation
TIPS	1.50%	4.25%	Cash
1-3 Year Treasury	0.55%	3.30%	
Intermediate Treasury	1.00%	3.75%	
Aggregate Treasury	1.25%	4.00%	
10-Year Treasury	1.70%	4.45%	
Long Treasury	2.25%	5.00%	
30-Year Treasury	2.35%	5.10%	

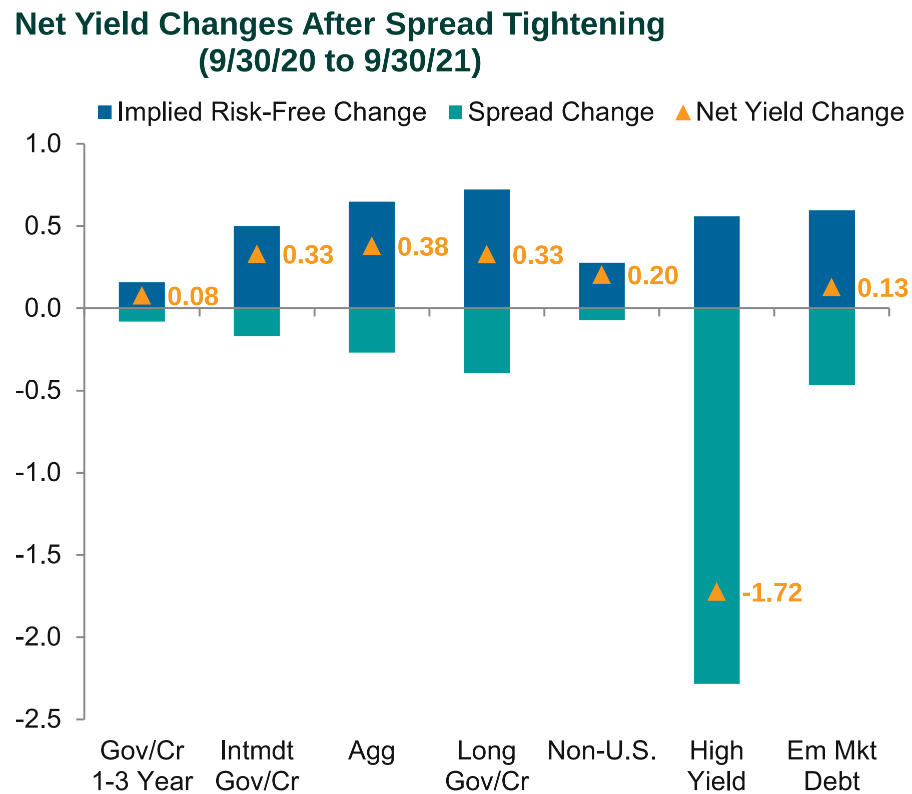
We updated the bond model this year to extend our yield forecast horizon over 30 years.
- Allows for a longer-term view on reversion to equilibrium rates, durations, convexity, and spreads.
- We used a smoothing approach where yields rise faster early in the horizon and reach equilibrium at year 30.

Cash at the end of the 30-year horizon is 2.75%.
- Reflects a 50 basis point premium over projected inflation, which is consistent with long-term U.S. interest rate history.

Term premiums are consistent with long-term historical medians.
- For example, in Year 30 the 10-Year Treasury yield is 4.45%, or 1.70% above cash.

Rate Movement in the Last Year



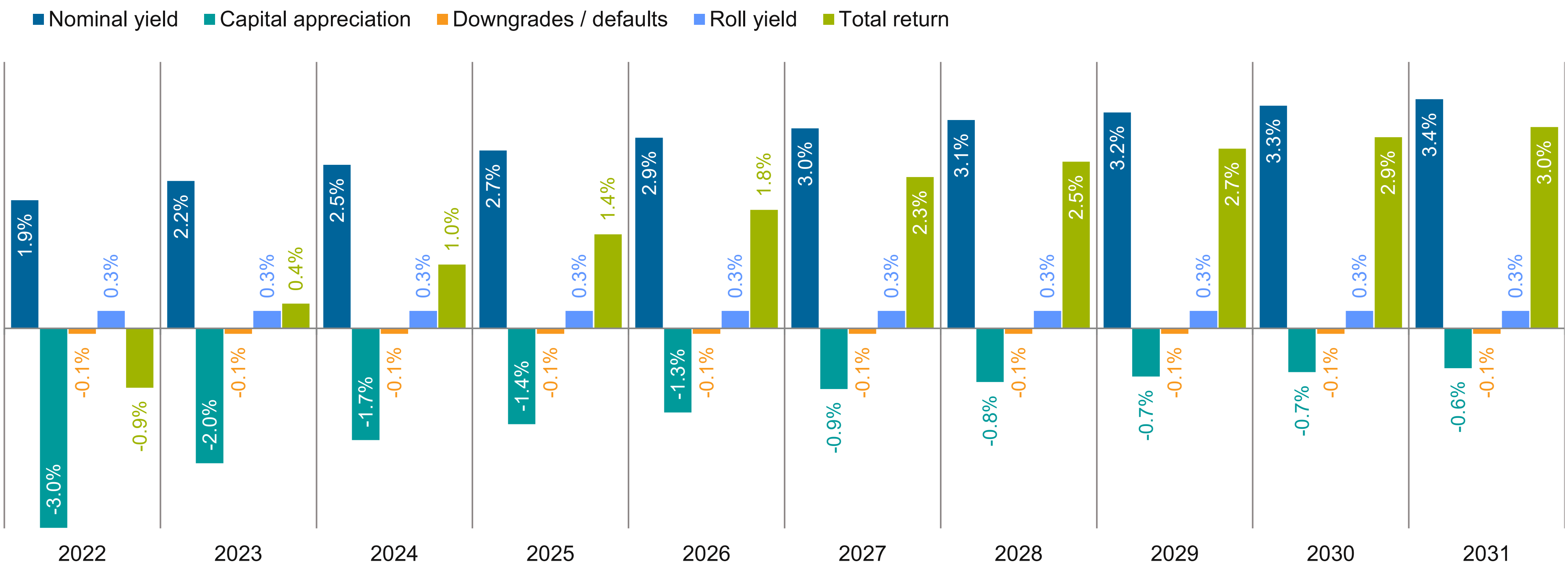


The Treasury yield curve rose meaningfully in the last year.
- However, spreads also tightened and absorbed some of the rise in rates.
- In the case of high yield, spreads tightened so much the overall yield on the sector dropped by over 1.7%.

Sources: Bloomberg, Federal Reserve

Core Fixed Income Return Components

Total Return Attribution



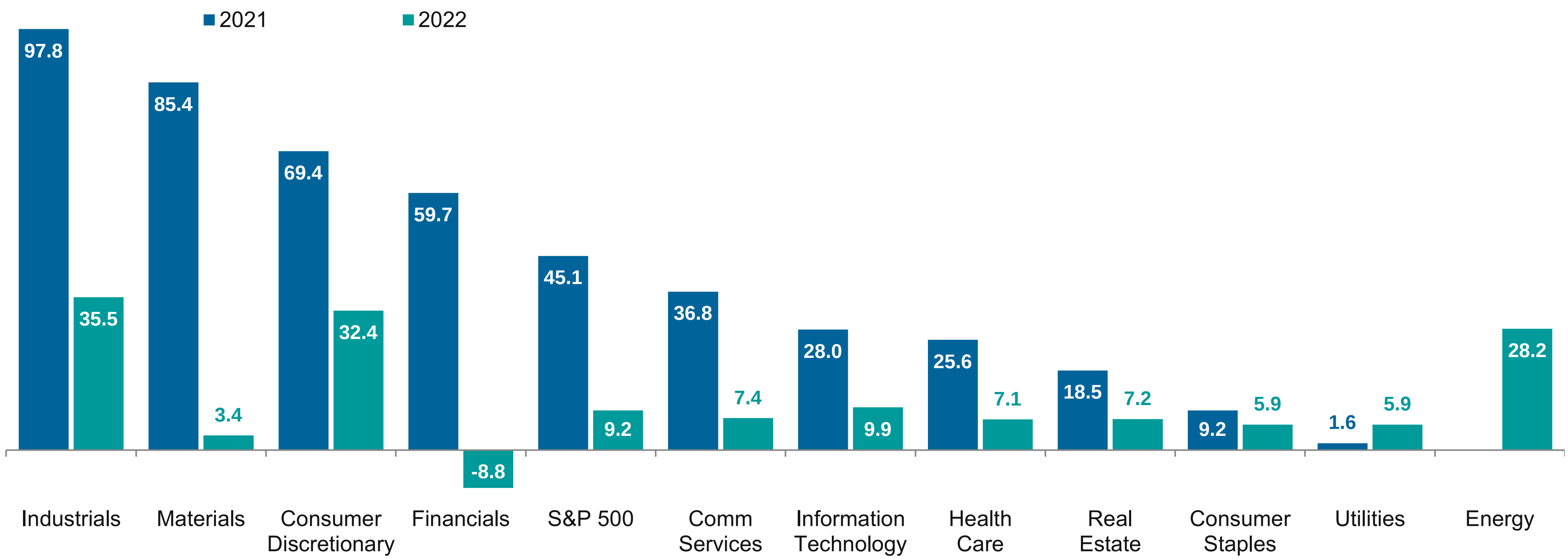
Higher yields relative to last year are offset by capital losses from our rising rate projection.

– We project rates to rise faster early in the forecast, leading to larger capital losses and lower total returns.
– As rates stabilize, the carry from yield outweighs capital losses, leading to positive total returns.

U.S. Equity Assumptions

Current earnings growth

Percent S&P 500 Earnings Growth



- Projections are as of December 2021.
- Earnings growth for 2021 continues to surprise on the upside.
- The magnitude of that growth was due to poor earnings in 2020 as well as demand from the economy’s reopening.
- Projected earnings growth for 2021 is likely to outpace return, which was 29% for 2021.
  - Keeps backward-looking P/E in line

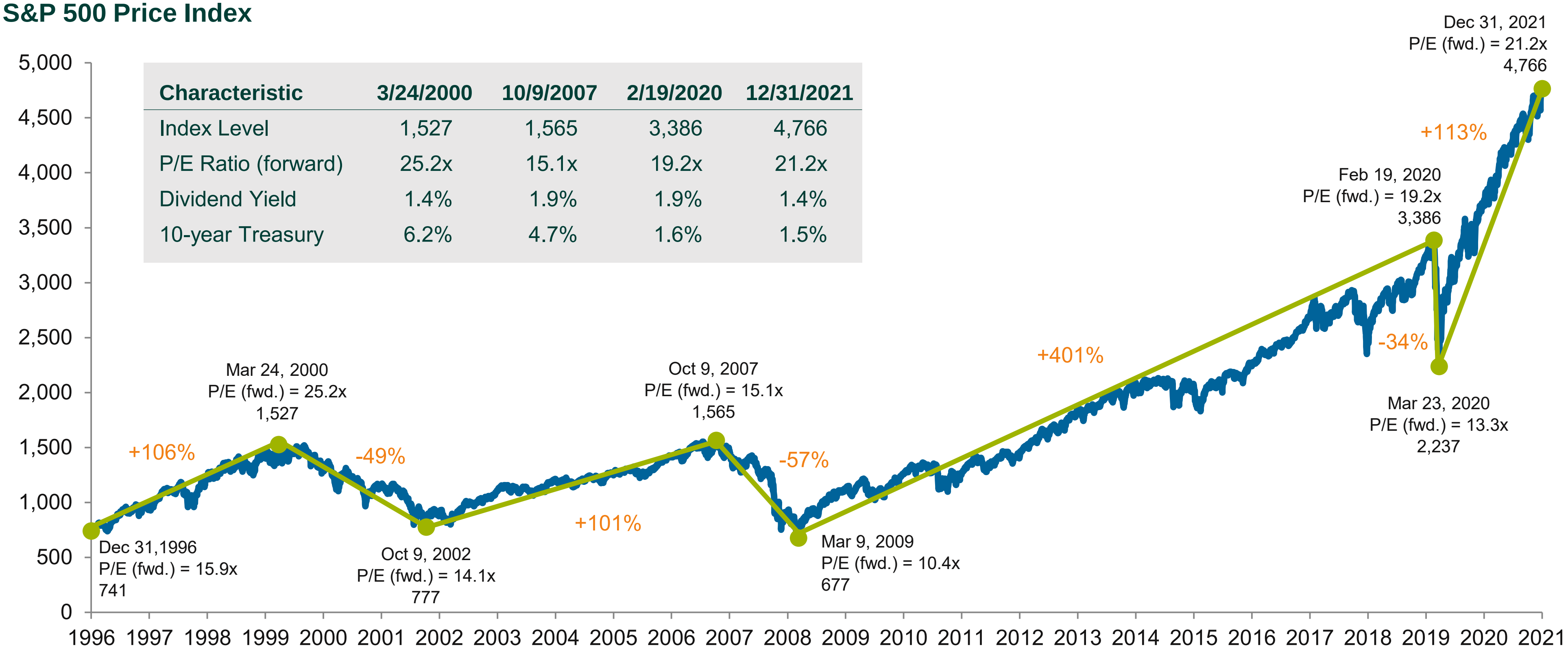
Source: Factset, Standard & Poors

U.S. Equity Assumptions

Price appreciation

S&P 500 Price Index

Characteristic	3/24/2000	10/9/2007	2/19/2020	12/31/2021
Index Level	1,527	1,565	3,386	4,766
P/E Ratio (forward)	25.2x	15.1x	19.2x	21.2x
Dividend Yield	1.4%	1.9%	1.9%	1.4%
10-year Treasury	6.2%	4.7%	1.6%	1.5%



– The S&P has more than doubled since the pandemic low.
– Appreciation has outpaced forward earnings estimates and valuations have increased above pre-pandemic levels.

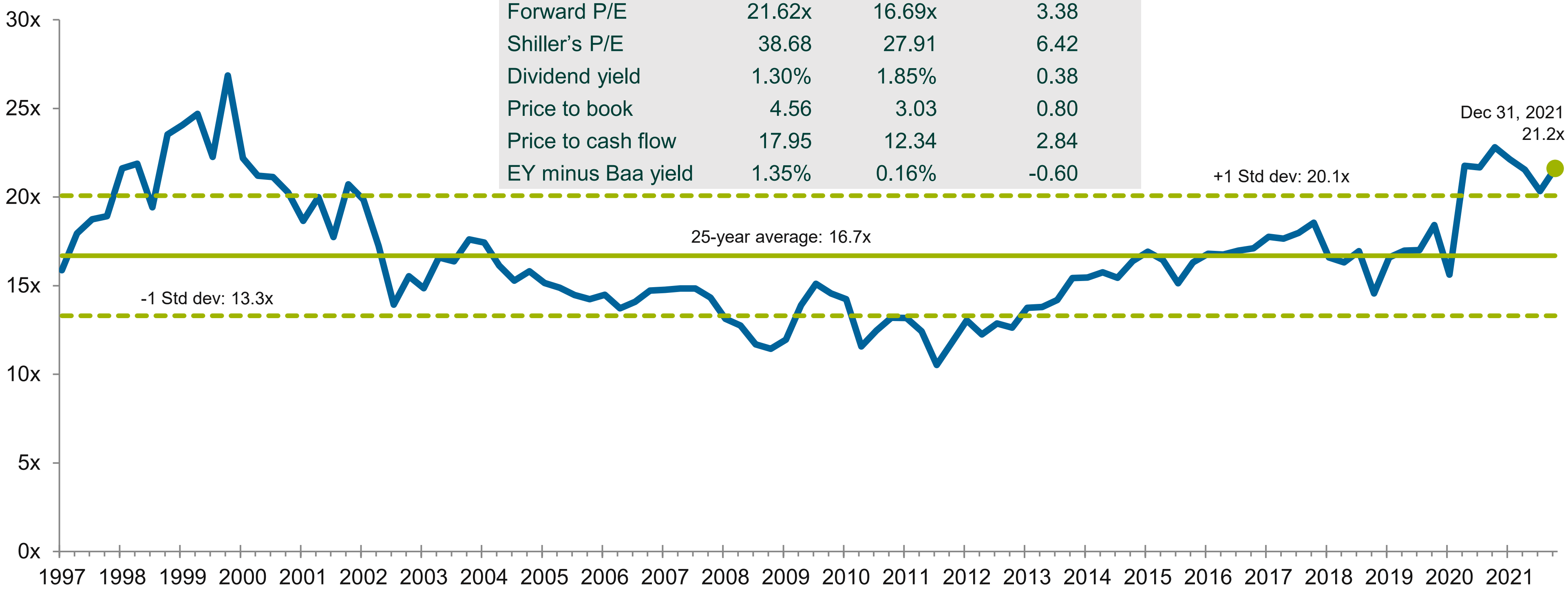
Source: Federal Reserve, Standard & Poor's

U.S. Equity Assumptions

Large cap valuations

S&P 500 Index: Forward P/E Ratio

Valuation Measure	Latest	25-year Average	Std Dev Over- / Under-valued
Forward P/E	21.62x	16.69x	3.38
Shiller's P/E	38.68	27.91	6.42
Dividend yield	1.30%	1.85%	0.38
Price to book	4.56	3.03	0.80
Price to cash flow	17.95	12.34	2.84
EY minus Baa yield	1.35%	0.16%	-0.60



- All valuation measures in excess of one standard deviation above 25-year averages.
- Forward P/E has stalled even with exceptional forecast returns for 2022.
- Return to more normal earnings growth in future years limits price appreciation without further valuation expansion.

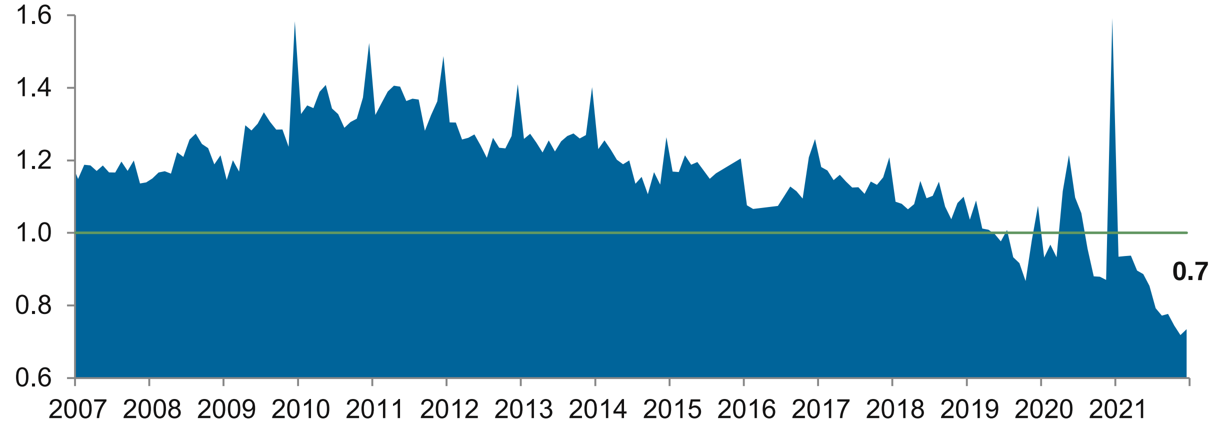
Source: FactSet, FRB, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management

U.S. Equity Assumptions

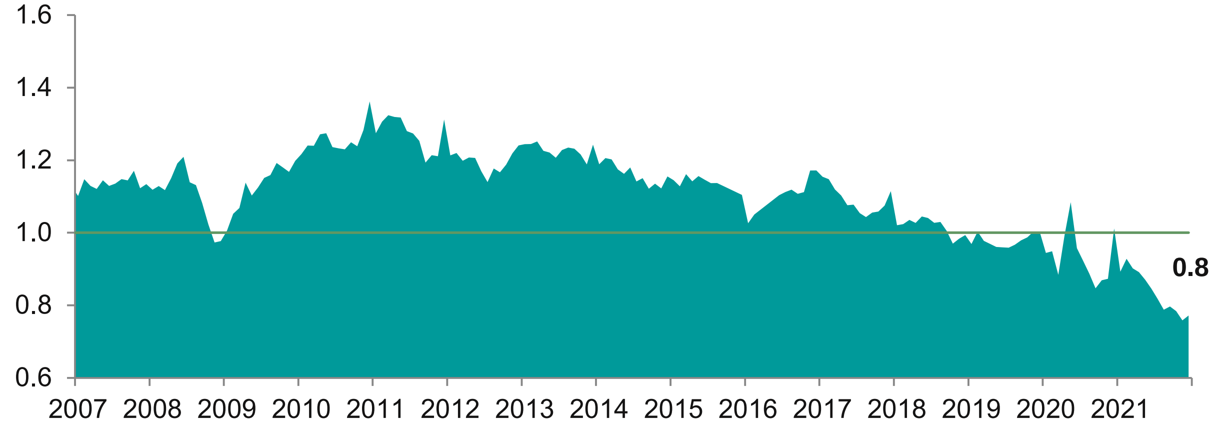
Mid and small cap relative valuations

- Large capitalization stocks have relatively high valuations.
- Historically, smaller cap stocks have had higher valuations than large caps.
  - Investors buying future rather than historical earnings
- The small cap S&P 600 P/E is only 69% of the S&P 500 P/E.
- The mid cap S&P 400 P/E is only 76% of the S&P 500 P/E.
- Lower valuations improve the potential for higher returns relative to large cap going forward.

S&P 600/S&P 500 Relative Forward P/E Ratios



S&P 400/S&P 500 Relative Forward P/E Ratios



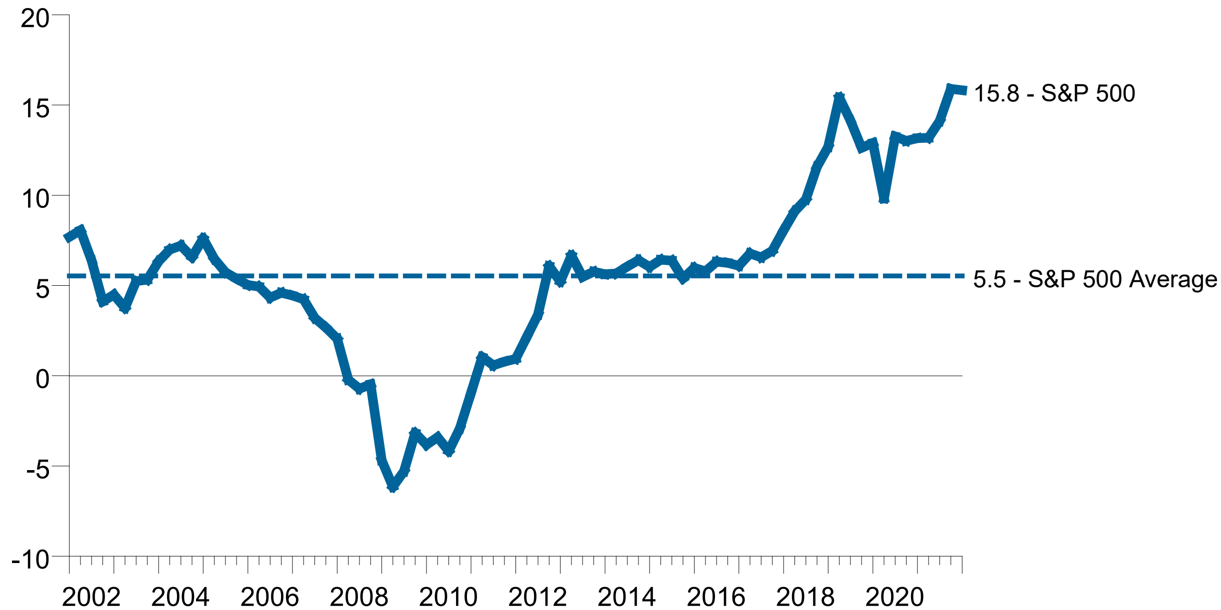
Source: Standard & Poor's

U.S. Equity Assumptions

Risk premium

- Over the very long term, the equity risk premium (ERP) vs. cash is around 6%.
- Callan equity projection is at T-bills + 5.3%, consistent with long-term history.
  - Over the past 20 years ERP vs. cash has been 5.5%.
- Cash at 1.2%, ERP at 5.3% = Equity Return of 6.50%

Rolling 40 Quarter Relative Returns Relative To 3 Month T-Bill for 20 Years Ended December 31, 2021

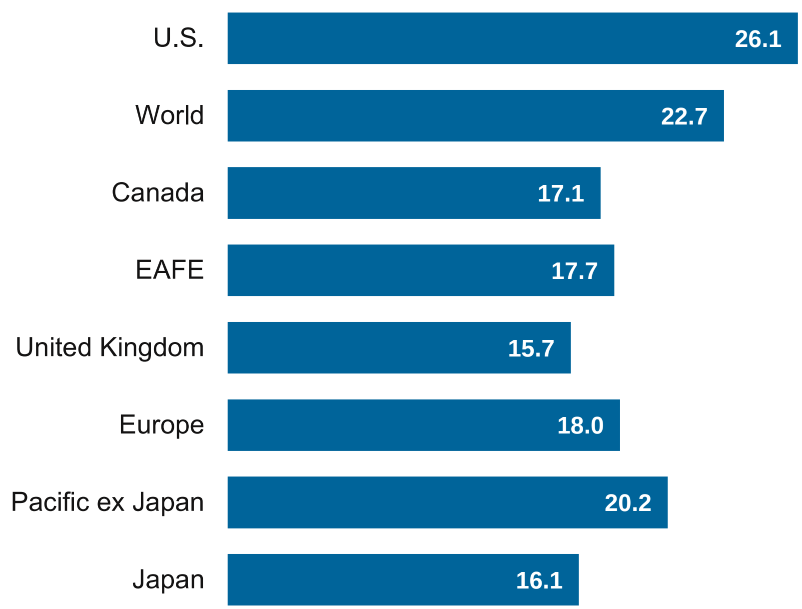


Source: Standard & Poor's

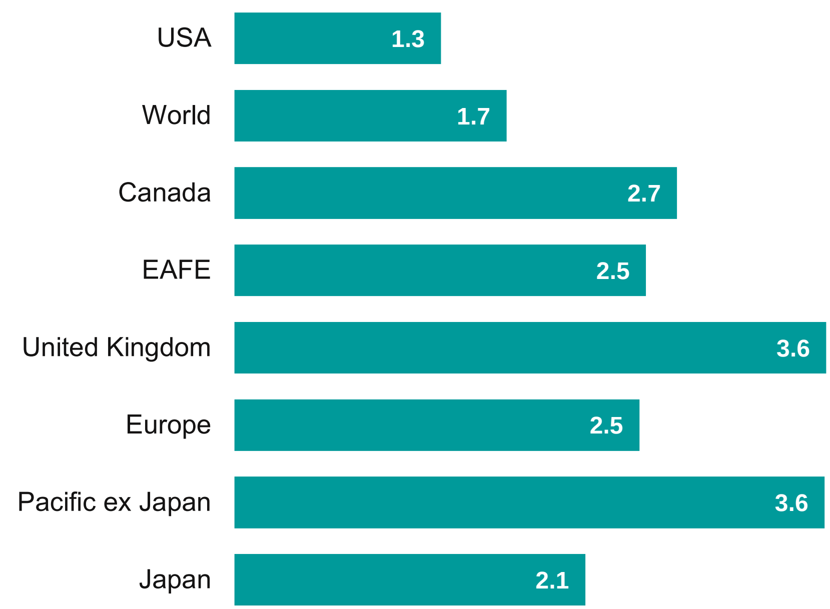
Global ex-U.S. Equity Assumptions

Developed markets valuations and dividend yield

Price Earnings Ratio



Dividend Yield



Valuations are generally high in developed markets.

– Valuations have changed only modestly over the past year.

– U.S. continues to have the highest valuations.

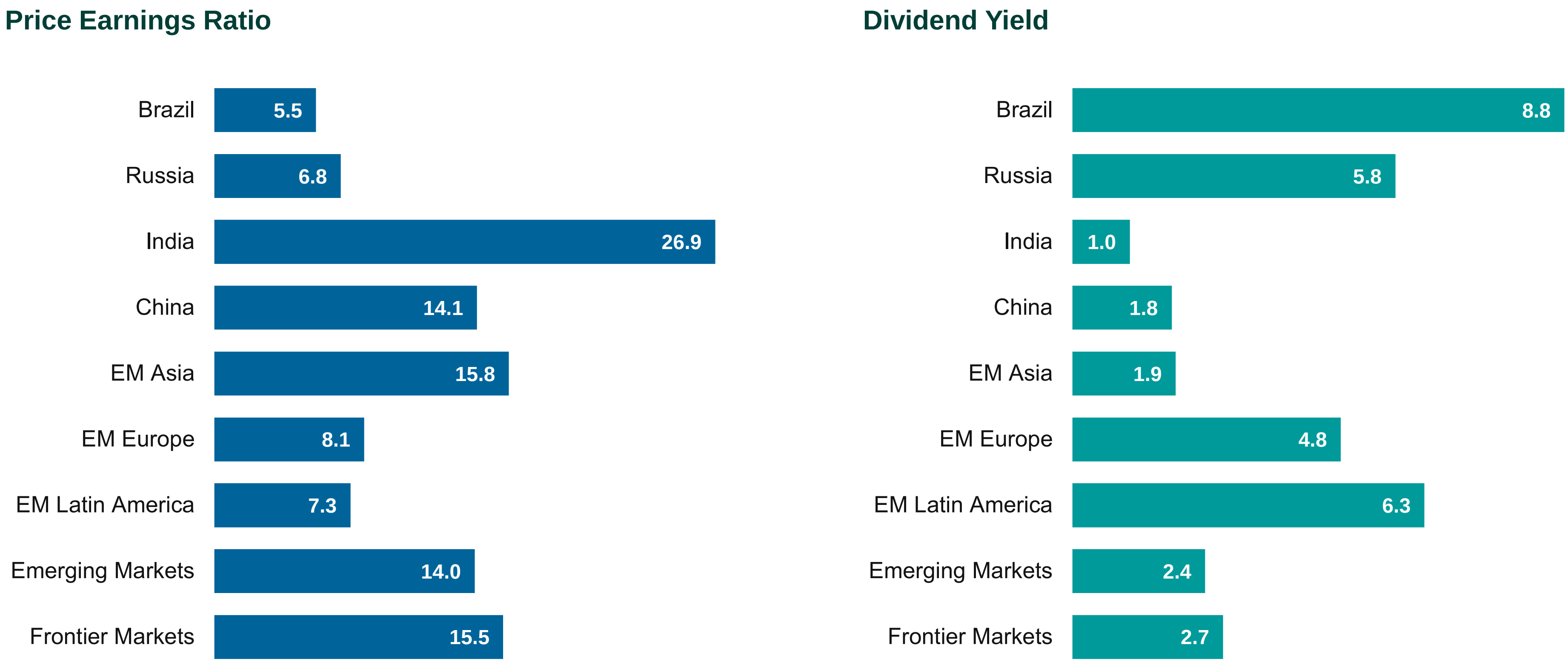
Low dividend yields have a direct impact on returns.

– Dividend yields have generally stayed the same or fallen since last year.

Source: MSCI (Dec. 31, 2021)

Global ex-U.S. Equity Assumptions

Emerging markets valuations and dividend yield



Emerging markets also have elevated valuations.

– Among the BRICs, India has the highest valuation metrics while Brazil has fallen dramatically.
– Asia has the highest regional valuations, Latin America the lowest.

Significant dilution is realized as growing companies issue more shares.

Source: MSCI (Dec. 31, 2021)

Public Equity Assumptions

Index	Current Dividend Yield*	Forecasts Dividend Yield	Net Buyback Yield	Inflation	Real Earnings Growth**	Valuation Adjustment	Total Geometric Return	2021 Return	Change
S&P 500	1.35%	1.75%	0.50%	2.25%	2.25%	-0.25%	6.50%	6.50%	0.00%
Russell 2500	1.17%	1.50%	0.00%	2.25%	2.95%	0.00%	6.70%	6.70%	0.00%
Russell 3000	1.24%	1.70%	0.45%	2.25%	2.35%	-0.20%	6.55%	6.60%	-0.05%
MSCI World ex USA	2.53%	2.75%	0.00%	2.00%	1.75%	0.00%	6.50%	6.50%	0.00%
MSCI Emerging Markets	2.38%	2.10%	-2.10%	2.65%	4.25%	0.00%	6.90%	6.90%	0.00%
Aggregate							1.75%	1.75%	0.00%
Cash							1.20%	1.00%	0.20%

Index	Forecast ERP Cash^	Historical ERP Cash	Delta ERP Cash	Forecast ERP Aggregate	Historical ERP Aggregate^^	Delta ERP Aggregate
S&P 500	5.30%	7.62%	-2.32%	4.75%	4.80%	-0.05%
Russell 2500	5.50%	8.04%	-2.54%	4.95%	5.21%	-0.26%

No changes in public equity projections
- Change in Russell 3000 projection due to a difference in rounding
- 25 bps increase in inflation is offset by a 25 bps decrease in dividend yields

* Index yields as of December 31, 2021
** S&P 500 real earnings growth is forecast real GDP growth. R 2500 real earnings growth is an 70 bps spread over S&P 500. Developed and emerging markets earnings growth in line with their respective GDP assumptions.
^ Assumes cash return of 1.2%.
^^ Assumes Aggregate forecast is 1.75%.

2022 Risk and Returns

Summary of Callan's Long-Term Capital Market Assumptions (2022 – 2031)

		Projected Return			Projected Risk
Asset Class	**Index**	**1-Year Arithmetic**	**10-Year Geometric***	**Real**	**Standard Deviation**
Equities					
Broad U.S. Equity	Russell 3000	8.00%	6.60%	4.35%	17.95%
Large Cap U.S. Equity	S&P 500	7.85%	6.50%	4.25%	17.70%
Smid Cap U.S. Equity	Russell 2500	8.75%	6.70%	4.45%	21.30%
Global ex-U.S. Equity	MSCI ACWI ex USA	8.70%	6.80%	4.55%	20.70%
Developed ex-U.S. Equity	MSCI World ex USA	8.25%	6.50%	4.25%	19.90%
Emerging Market Equity	MSCI Emerging Markets	9.80%	6.90%	4.65%	25.15%
Fixed Income					
Short Duration Gov/Credit	Bloomberg 1-3 Yr G/C	1.50%	1.50%	-0.75%	2.00%
Core U.S. Fixed	Bloomberg Aggregate	1.80%	1.75%	-0.50%	3.75%
Long Government	Bloomberg Long Gov	1.85%	1.10%	-1.15%	12.50%
Long Credit	Bloomberg Long Cred	2.60%	2.10%	-0.15%	10.50%
Long Government/Credit	Bloomberg Long G/C	2.30%	1.80%	-0.45%	10.40%
TIPS	Bloomberg TIPS	1.35%	1.25%	-1.00%	5.05%
High Yield	Bloomberg High Yield	4.40%	3.90%	1.65%	10.75%
Global ex-U.S. Fixed	Bloomberg Gl Agg xUSD	1.20%	0.80%	-1.45%	9.20%
Emerging Market Sovereign Debt	EMBI Global Diversified	4.00%	3.60%	1.35%	9.50%
Alternatives					
Core Real Estate	NCREIF ODCE	6.60%	5.75%	3.50%	14.20%
Private Infrastructure	MSCI Glb Infra/FTSE Dev Core 50/50	7.10%	6.10%	3.85%	15.45%
Private Equity	Cambridge Private Equity	11.45%	8.00%	5.75%	27.60%
Private Credit	N/A	6.40%	5.50%	3.25%	14.60%
Hedge Funds	Callan Hedge FOF Database	4.35%	4.10%	1.85%	8.20%
Commodities	Bloomberg Commodity	4.05%	2.50%	0.25%	18.00%
Cash Equivalents	90-Day T-Bill	1.20%	1.20%	-1.05%	0.90%
Inflation	CPI-U		2.25%		1.60%

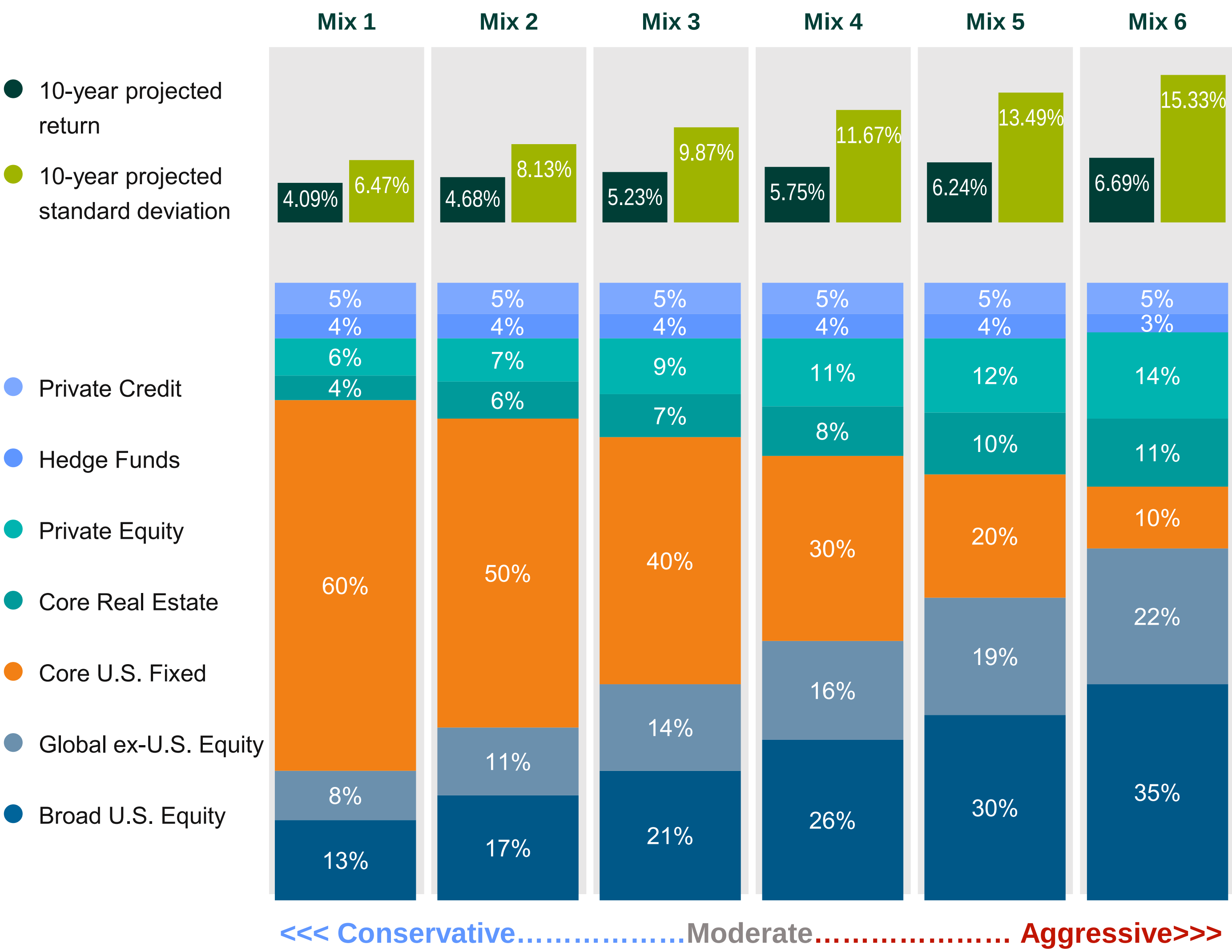
* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

2022 Correlations

	Large Cap	Smid Cap	Dev ex-U.S. Equity	Em Markets	Short Duration	Core Fixed	Long Gov	Long Credit	TIPS	High Yield	Gl ex-U.S. Fixed	EM	Core Real Estate	Private Infra	Private Equity	Private Credit	Hedge Funds	Comm	Cash Equiv	Inflation
U.S. Large Cap	1.00																			
U.S. Smid Cap	0.90	1.00																		
Dev ex-U.S. Equity	0.77	0.77	1.00																	
Em Market Equity	0.79	0.76	0.84	1.00																
Short Dur Gov/Credit	-0.06	-0.08	-0.06	-0.10	1.00															
Core U.S. Fixed	-0.10	-0.12	-0.11	-0.14	0.78	1.00														
Long Government	-0.15	-0.16	-0.13	-0.16	0.67	0.84	1.00													
Long Credit	0.28	0.25	0.26	0.24	0.64	0.80	0.69	1.00												
TIPS	-0.08	-0.08	-0.09	-0.10	0.56	0.70	0.53	0.52	1.00											
High Yield	0.71	0.68	0.69	0.69	-0.01	0.00	-0.08	0.40	0.06	1.00										
Global ex-U.S. Fixed	0.01	0.00	0.05	0.08	0.48	0.50	0.42	0.49	0.45	0.12	1.00									
EM Sovereign Debt	0.56	0.54	0.55	0.61	0.08	0.14	0.05	0.35	0.18	0.60	0.15	1.00								
Core Real Estate	0.64	0.60	0.60	0.56	-0.01	-0.04	-0.09	0.24	-0.02	0.53	-0.02	0.33	1.00							
Private Infrastructure	0.65	0.60	0.61	0.58	0.00	0.01	-0.03	0.27	-0.02	0.50	0.03	0.35	0.76	1.00						
Private Equity	0.77	0.73	0.73	0.72	-0.10	-0.19	-0.21	0.15	-0.14	0.59	0.06	0.40	0.50	0.62	1.00					
Private Credit	0.68	0.65	0.65	0.64	0.00	-0.06	-0.10	0.28	-0.09	0.63	0.06	0.48	0.47	0.52	0.65	1.00				
Hedge Funds	0.79	0.74	0.75	0.74	0.10	0.13	0.07	0.39	0.09	0.64	0.05	0.53	0.45	0.47	0.57	0.61	1.00			
Commodities	0.28	0.27	0.27	0.27	-0.10	-0.10	-0.10	0.01	0.10	0.15	0.15	0.19	0.21	0.18	0.23	0.17	0.23	1.00		
Cash Equivalents	-0.06	-0.08	-0.10	-0.10	0.30	0.15	0.08	-0.05	0.12	-0.11	0.00	-0.07	0.00	-0.07	0.00	-0.06	-0.04	-0.02	1.00	
Inflation	-0.02	0.02	0.00	0.03	-0.21	-0.25	-0.23	-0.25	0.08	0.05	-0.10	0.00	0.10	0.06	0.06	0.06	0.15	0.29	0.05	1.00

Optimization Set – Public Stocks and Bonds Plus Alternatives

Asset mix alternatives



Private Credit:

Absolute constraint: <5%

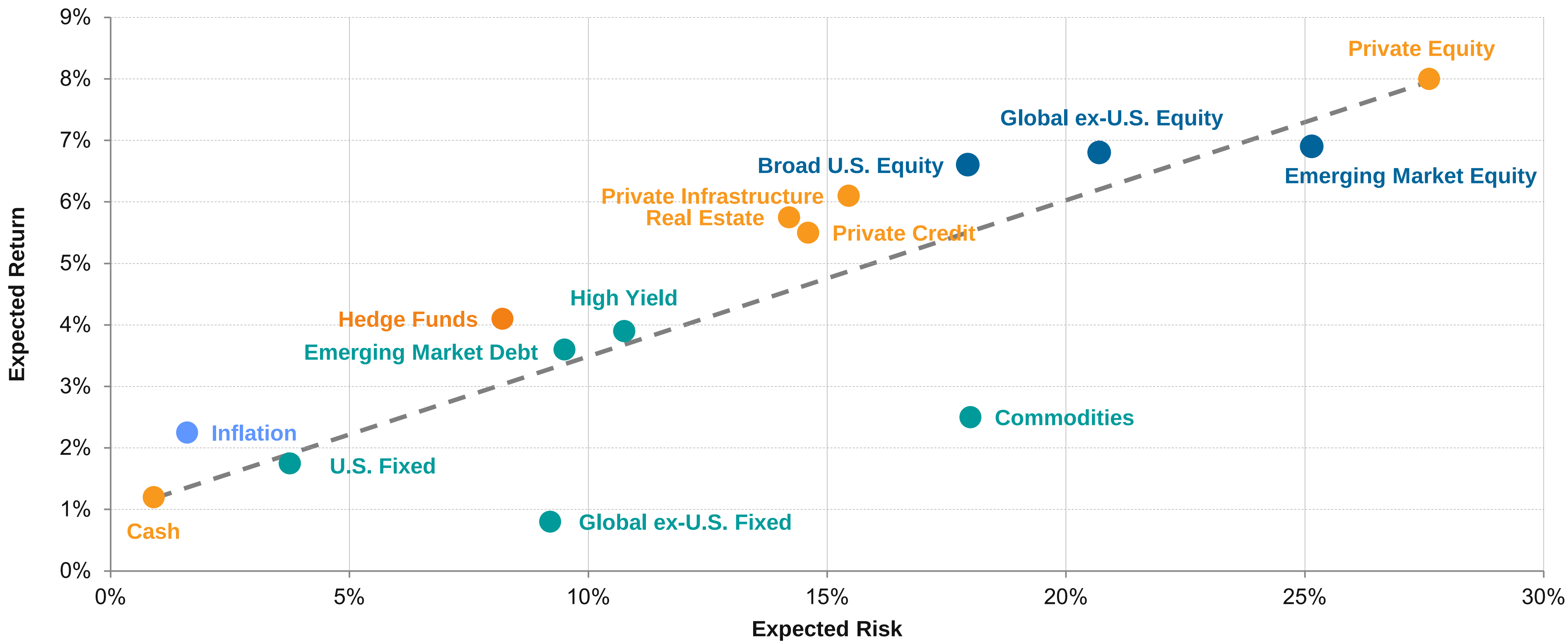
Note on public equity:

We tune large cap, small cap, developed ex-U.S. and emerging separately.

Prefer to optimize portfolios with broad U.S. and broad global ex-U.S. equity

Relationship Between Expected Return and Risk – Capital Market Line

Visualizing Callan's 2022–2031 capital markets assumptions



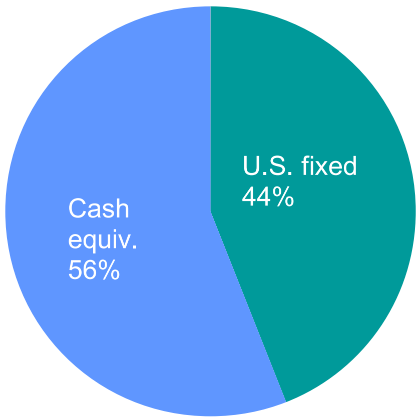
Our forecasts link expected return to risk

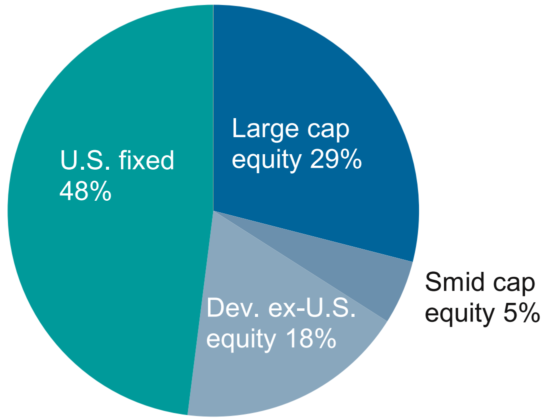
For example, investors demand a greater return from private equity than public equity as compensation for higher risk

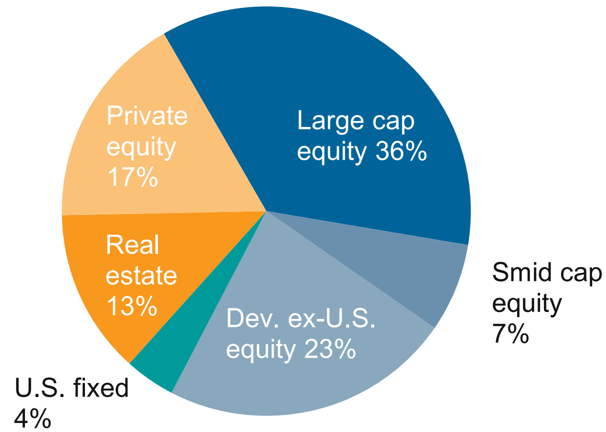
Source: Callan

7% Expected Returns Over Past 30 Years

Increasing Complexity







	1992	2007	2022
Return:	**7.0%**	**7.0%**	**7.0%**
Risk:	**3.2%**	**9.4%**	**16.8%**

Increasing Risk

In 1992, our expectations for cash and broad U.S. fixed income were 6.2% and 7.9%, respectively

Return-seeking assets were not required to earn a 7% projected return

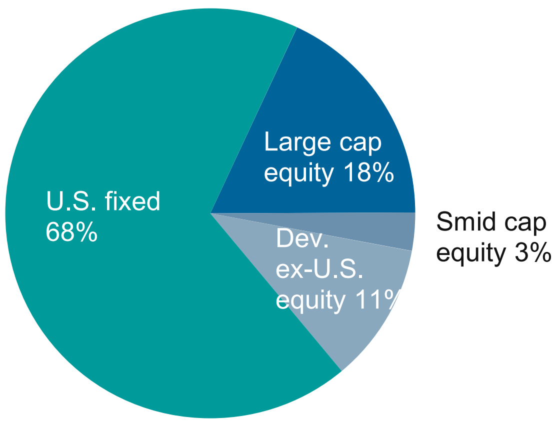
15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return, with approximately 3x the portfolio volatility of 1992

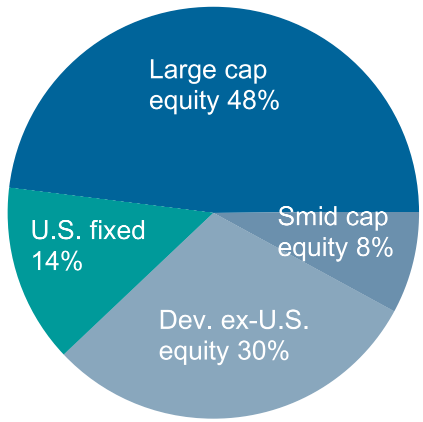
Today an investor is required to include 96% in return-seeking assets (including 30% in private market investments) to earn a 7% projected return at over 5x the volatility compared to 1992

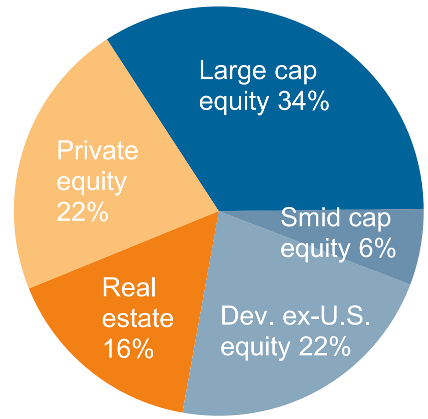
Source: Callan

5% Expected Real Returns Over Past 30 Years

Increasing Complexity







	1992	2007	2022
Inflation:	**4.50%**	**2.75%**	**2.25%**
Real Return:	**5.0%**	**5.0%**	**5.0%**
Risk:	**7.2%**	**14.6%**	**17.8%**

Increasing Risk

Despite a 4.5% inflation projection, an investor could have over two-thirds of the portfolio in low-risk assets (fixed income) and still earn a 5% projected real return in 1992

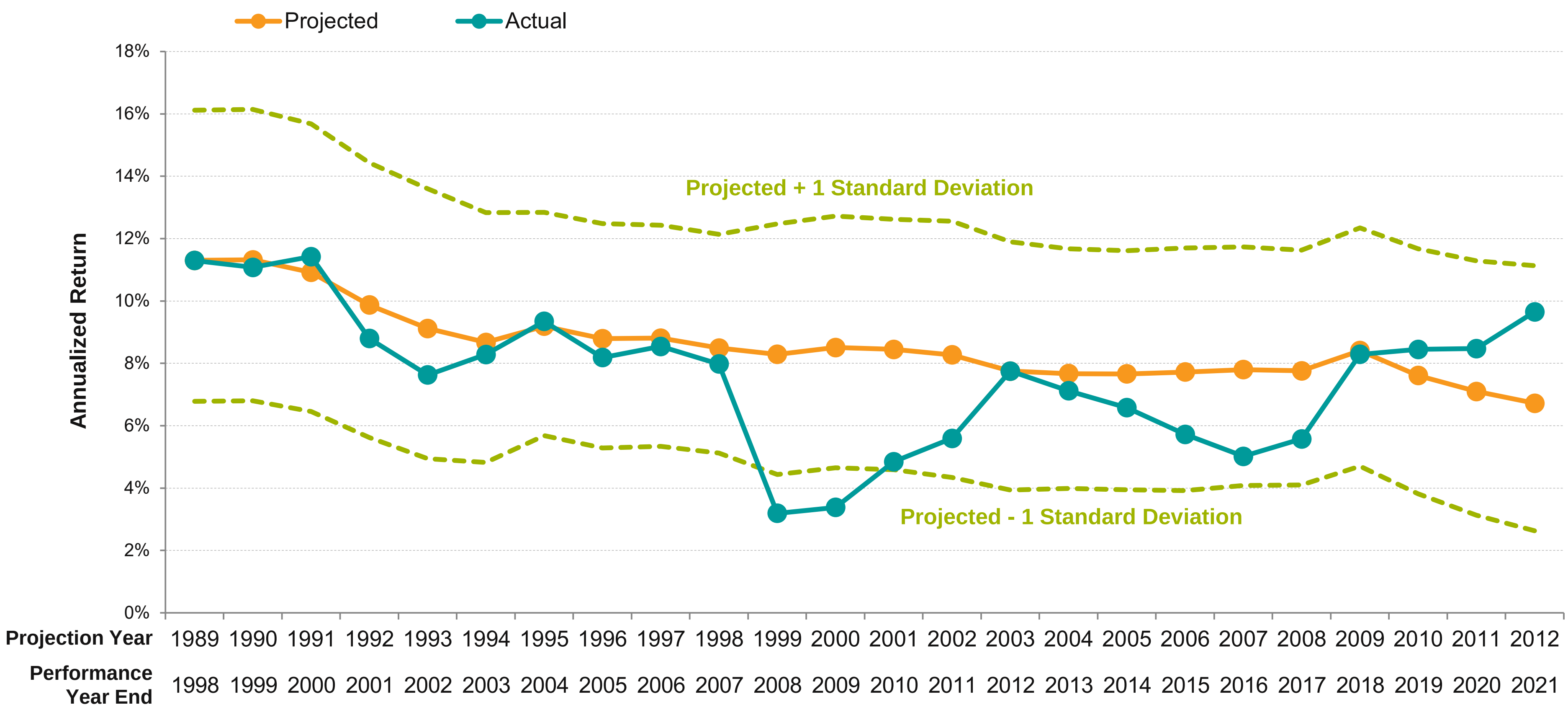
15 years later, an investor would have needed 86% in public equities to achieve a 5% projected real return with over 2x the portfolio volatility of 1992

Today an investor must have 100% of the portfolio in return-seeking assets to earn a 5% projected real return at approximately 2.5x the volatility compared to 1992

Actual Returns versus Callan Projections

Projection Years 1989-2012

Historical Comparison: Actual Returns vs. Callan Capital Markets Projections
Portfolio (60% Equity, 30% Fixed, 10% Real Estate)



- Our projections are generally within one standard deviation of the actual return experienced
- The glaring exceptions are the 10-year periods ended in 2008 and 2009 which contained not one but two major collapses in the equity market: the Dot-Com Bubble in 2001-02 and the Global Financial Crisis in 2008

2022 Capital Market Assumptions Comparison

Callan versus Other Organizations

2022 Capital Market Return Assumptions	Callan	Aon	AQR	BlackRock	JP Morgan	Northern Trust	Robeco	SSGA	Voya	GMO	High*	Median*	Average*	Low*
Equities											**Equities**			
Broad US Equity	6.60%	5.80%	6.20%	6.45%	4.23%		5.25%	5.58%	4.80%	-7.45%	6.60%	5.69%	5.61%	4.23%
Large Cap US Equity	6.50%			6.70%	4.10%	4.30%		5.40%	4.80%	-7.50%	6.70%	5.10%	5.30%	4.10%
Small/Mid Cap US Equity	6.70%			6.20%	4.35%			5.75%	4.95%	-7.40%	6.70%	5.75%	5.59%	4.35%
Global ex-US Equity	6.80%	6.75%	7.65%	8.60%	6.80%	5.21%	5.06%	5.80%	3.63%	0.18%	8.60%	6.75%	6.26%	3.63%
Developed ex-US Equity	6.50%	6.30%	6.90%	8.30%	6.50%	4.95%	5.25%	5.20%	3.40%	-2.60%	8.30%	6.30%	5.92%	3.40%
Emerging Market Equity	6.90%	6.90%	7.90%	8.70%	6.90%	5.30%	5.00%	7.00%	3.70%	1.10%	8.70%	6.90%	6.48%	3.70%
Fixed Income											**Fixed Income**			
Short Duration Gov't/Credit	1.50%				2.10%						2.10%	1.80%	1.80%	1.50%
Core US Fixed	1.75%	1.75%	2.22%	1.60%	2.60%	2.40%	1.00%	0.90%	1.30%	-3.50%	2.60%	1.75%	1.72%	0.90%
Long Duration Gov't/Credit	1.80%			0.65%	2.30%						2.30%	1.80%	1.58%	0.65%
TIPS	1.25%	1.30%		2.70%	2.10%	2.20%		0.10%	1.00%	-3.50%	2.70%	1.30%	1.52%	0.10%
High Yield	3.90%	3.30%	2.90%	3.40%	3.90%	3.50%	2.75%	2.90%	2.90%		3.90%	3.30%	3.27%	2.75%
Global ex-US Fixed	0.80%		2.00%	1.30%	2.40%		0.75%	-0.20%	0.00%	-4.40%	2.40%	0.80%	1.01%	-0.20%
Emerg Mkt Sovereign Debt	3.60%	3.90%	4.00%	3.90%	5.20%		4.75%	4.80%	4.00%	-1.40%	5.20%	4.00%	4.27%	3.60%
Other											**Other**			
Core Real Estate	5.75%	4.70%	5.20%	6.40%	5.80%		4.75%				6.40%	5.48%	5.43%	4.70%
Private Equity	8.00%	8.20%	8.30%	18.70%	8.10%	7.60%		7.00%			18.70%	8.10%	9.41%	7.00%
Private Credit	5.50%			9.40%	6.90%	6.00%		4.60%			9.40%	6.00%	6.48%	4.60%
Hedge Funds	4.10%	3.20%		5.30%	3.60%	2.90%		4.90%			5.30%	3.85%	4.00%	2.90%
Commodities	2.50%		4.00%		2.60%		7.00%	3.90%	1.60%		7.00%	3.25%	3.60%	1.60%
Cash Equivalents	1.20%		1.00%	1.20%	1.30%	0.30%	1.00%	1.50%	1.50%	-1.00%	1.50%	1.20%	1.13%	0.30%
Inflation	2.25%	2.20%	2.60%	3.20%	2.30%	2.00%	2.25%	2.00%	2.47%	2.20%	3.20%	2.25%	2.36%	2.00%
Projection Period	10 Years	10 Years	5-10 Years	10 Years	10-15 Years	5 Years	5 Years	10+ Years	10 Years	7 Years	Shading denotes Callan is the (or one of the) high/low			

*Excludes GMO

Callan

MCERA 2022 Asset Allocation and Liability Study

Introduction

The goal of this asset-liability study is to establish a long-term strategic asset allocation policy for the Marin County Employees' Retirement Association (MCERA, the Plan)

An appropriate asset allocation will depend on MCERA's investment objectives

- Minimize costs over the long run (long-term goal)
- Minimize funded status volatility (short-term goal)

Asset allocation will vary by the unique circumstances of the Plan

- No "one-size-fits-all" solution exists

The asset-liability study helps MCERA quantify the impact that different strategies might have on relevant metrics

Factors to consider:

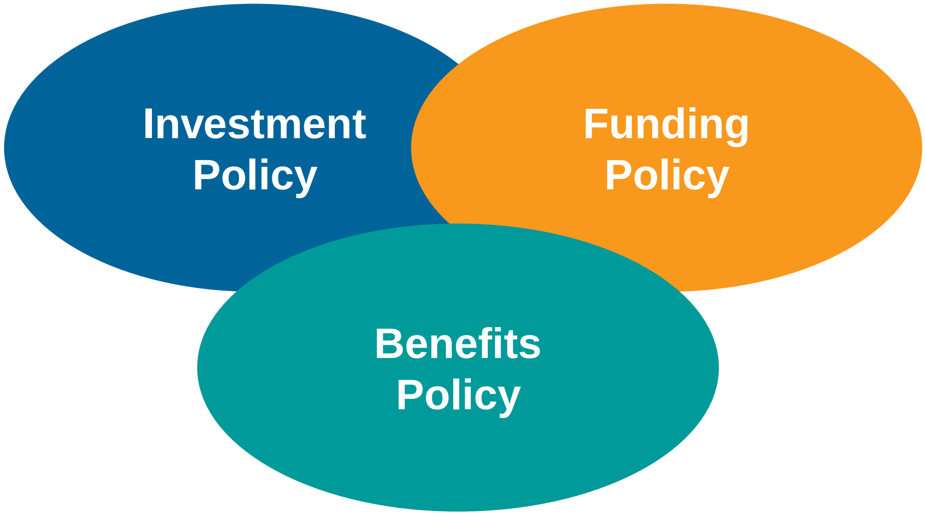
- Liability characteristics
- Funded status
- Contribution policy
- Time horizon
- Liquidity needs

Where Does Asset Allocation Fit In?

Evaluate the interaction of three key policies to identify the optimal investment policy

Investment Policy

– How will the assets supporting the benefits be invested?
– What risk and return objectives?
– How to manage cash flows?



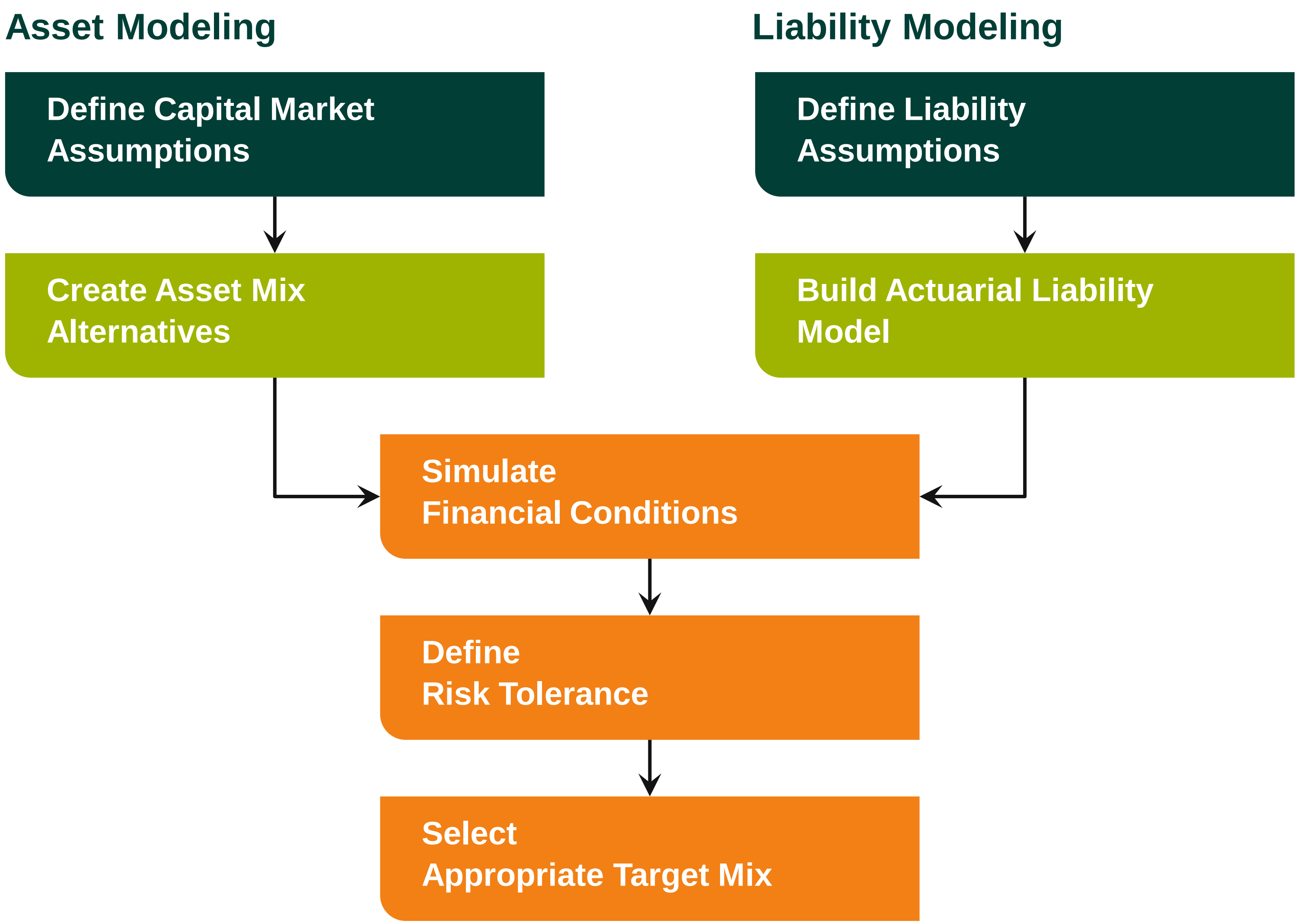
Funding Policy

– How will the benefits/deficits be paid for (funded)?
– What are the actuarial assumptions to use?

Benefits Policy

– What type/kind of benefits?
– What level of benefit?
– When and to whom are they payable?

Callan Asset-Liability Modeling Process



Callan

Asset Allocation

Callan Capital Market Process and Philosophy

Underlying beliefs guide the development of the projections

- An initial bias toward long-run averages
- An awareness of risk premiums
- A presumption that markets ultimately clear and are rational

Reflect our belief that long-term equilibrium relationships between the capital markets and lasting trends in global economic growth are key drivers to setting capital market expectations

Long-term compensated risk premiums represent “beta”—exposure to each broad market, whether traditional or “exotic,” with limited dependence on successful realization of alpha

The projection process is built around several key building blocks

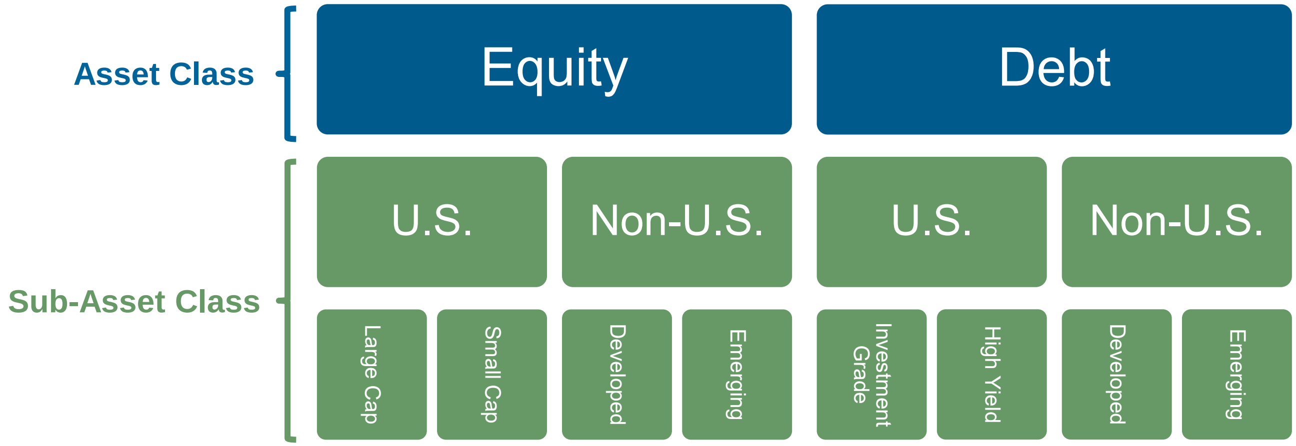
- Advanced modeling at the individual asset class level (e.g., a detailed bond model, an equity model)
- Pathways for both interest rates and inflation
- A cohesive economic outlook
- A framework that encompasses Callan’s beliefs about the long-term operation and efficiencies of the capital markets

The Focus is on Broad Asset Classes

Breakdowns between investment styles within asset classes (growth vs. value, large cap vs. small cap) are best addressed in a manager structure analysis

Primary asset classes and important sub-asset classes include:

- U.S. Stocks
- U.S. Bonds
- Non-U.S. Stocks
- Non-U.S. Bonds
- Real Estate
- Private Equity
- Absolute Return
- Cash



Callan Capital Market Assumptions

Return and Risk

Summary of Callan's Long-Term Capital Market Assumptions (2022 - 2031)

Asset Class	Index	Projected Return*	Projected Risk
Equities			
Broad U.S. Equity	Russell 3000	6.60%	17.95%
Large Cap U.S. Equity	S&P 500	6.50%	17.70%
Small/Mid Cap U.S. Equity	Russell 2500	6.70%	21.30%
Global ex-U.S. Equity	MSCI ACWI ex USA	6.80%	20.70%
Developed ex-U.S. Equity	MSCI World ex USA	6.50%	19.90%
Emerging Market Equity	MSCI Emerging Markets	6.90%	25.15%
US REITS	NAREIT All Equity	6.20%	20.70%
Natural Resures Equity	S&P500 Global Nat. Res.	6.10%	23.60%
Fixed Income			
Short Duration Govt/Credit	Bloomberg Barclays 1-3 Yr G/C	1.50%	2.00%
Core U.S. Fixed	Bloomberg Barclays Aggregate	1.75%	3.75%
Long Government/Credit	Bloomberg Barclays Long G/C	1.80%	10.40%
TIPS	Bloomberg Barclays TIPS	1.25%	5.05%
High Yield	Bloomberg Barclays High Yield	3.90%	10.75%
Global ex-U.S. Fixed	Bloomberg Barclays Glbl Agg xUSD	0.80%	9.20%
Emerging Market Sovereign Debt	EMBI Global Diversified	3.60%	9.50%
Alternatives			
Core Real Estate	NCREIF ODCE	5.75%	14.20%
Private Infrastructure	MSCI Glb Infra/FTSE Dev Core 50/50	6.10%	15.45%
Private Equity	Cambridge Private Equity	8.00%	27.60%
Private Credit	N/A	5.50%	14.60%
Hedge Funds	Callan Hedge FoF Database	4.10%	8.20%
Commodities	Bloomberg Commodity	2.50%	18.00%
Cash Equivalents	90-Day T-Bill	1.20%	0.90%
Inflation	CPI-U	2.25%	1.60%

*Geometric returns are derived from arithmetic returns and the associated risk (standard deviation)

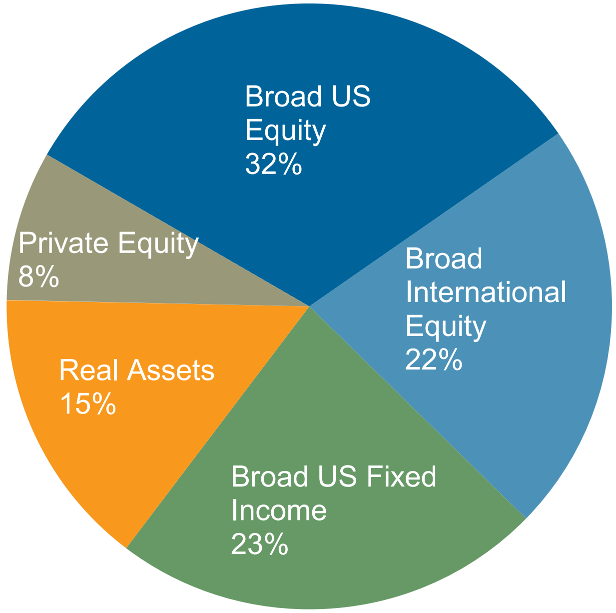
- Most capital market expectations represent passive exposure (beta only); however, return expectations for private market investments reflect active management premiums
- Return expectations are net of fees

Target Allocation

The target allocation consists of 62% equity, 23% fixed income, and 15% real assets

- Opportunistic allocation of 0-5% is not shown
  - The goal of the opportunistic allocation is to enhance the risk-adjusted return of the total portfolio
- While the Plan's target is projected to return 6.0% over the next 10 years versus an actuarial discount rate of 6.75%, two key items should be noted
- Callan's public market return projections do not incorporate active management premiums
  - Active management premiums accrue when investment firms selected by MCERA outperform their passive benchmarks net-of-fees
    - *It is important to note, though, that investment firms will at times underperform their passive benchmarks*
    - *It is also important to point out that the sum total of active management premium after fees would typically not be enough to close the gap between Callan's 6.0% return projection and the actuarial return assumption of 6.75%*
- Callan's 10-year projections are below longer-term expectations due to the current economic environment and the forecast for the next several years

Target Allocation



Expected Return = 6.0%
Expected Standard Deviation = 13.1%

Active vs. Passive Management

Historical Results

Active management should be considered when the investor believes there will be compensation on a net-of-fee basis

Historical data can help indicate attractive market segments

- US large and mid cap strategies have been challenged to beat passive strategies, even gross-of-fees
- US SMID and small cap, non-US equity, and fixed income strategies have had greater historical success

Style	Benchmark	Average Annualized 3-Year Excess Gross Return – Median Manager
US Large Cap Equity	Russell 1000	-0.02%
US Mid Cap Equity	Russell Midcap	-0.29%
US SMID Cap Equity	Russell 2500	0.38%
US Small Cap Equity	Russell 2000	1.35%
Global ex-US Equity	MSCI ACWI ex USA	1.22%
Developed ex-US Equity	MSCI EAFE	1.19%
Emerging Market Equity	MSCI Emerging Markets	0.98%
Global ex-US Small Cap Equity	MSCI ACWI ex USA Small Cap	1.41%
US Core Fixed	BB Aggregate	0.39%
US Core Plus Fixed	BB Aggregate	0.81%
Global ex-USD Fixed	BB Global Aggregate ex-USD	0.80%
EM USD Debt	JPM EMBI Global Diversified	1.23%

Source: Callan (80 quarters of rolling 12-quarter average annualized excess gross returns ended 12/31/21)

Role of Asset Classes

Growth (62%)

Equities
- Global equity*
- Private equity*
- Alternative indexing

Credit Sensitive
- High yield
- Emerging debt
- Bank loans
- Long credit
- Private debt

Risk Mitigation (23%)

Income Producing
- Short duration
- US fixed income*
- Non-US fixed income

Rising Rate Protection
- Cash equivalents
- Short duration
- Floating rate securities

Flight to Quality
- Long Treasury

Inflation Hedging (15%)

Short/Intermediate Hedge
- Inflation-linked debt*
- Commodities*

Growth-Oriented
- REITs*
- MLPs
- Nat. res. eq.*
- Private real estate*
- Infrastructure
- Timber
- Agriculture

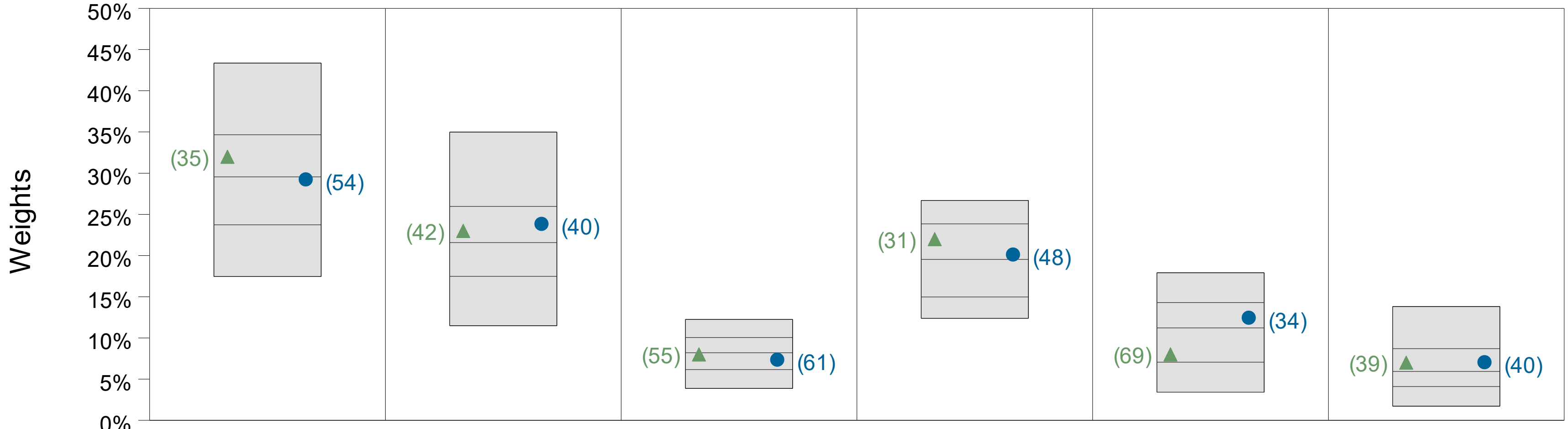
Other Diversifying Assets (0%)

- Hedge Funds
- Liquid Strategies
- Multi-asset class
- Options-based
- Managed Futures

- The current target allocation is growth-oriented with lesser allocation to risk mitigation and inflation hedging which is reasonable for a long-term investor (MCERA investments identified by *)

Peer Comparison at December 31, 2021

Asset Class Weights vs Callan Public Fund Spons - Large (>1B)



	Domestic Equity	Fixed Income	Real Estate	International Equity	Private Equity	Public Real Assets
10th Percentile	43.36	34.99	12.26	26.70	17.91	13.81
25th Percentile	34.66	25.96	10.06	23.85	14.29	8.70
Median	29.55	21.58	8.21	19.54	11.21	5.94
75th Percentile	23.73	17.48	6.16	14.98	7.05	4.11
90th Percentile	17.45	11.48	3.88	12.39	3.42	1.73
Fund ●	29.04	23.66	7.17	19.94	12.24	6.87
Target ▲	32.00	23.00	8.00	22.00	8.00	7.00
% Group Invested	100%	98%	82%	98%	46%	33%

- The target allocation has similar allocations to public equity, fixed income, real estate, and public real assets relative to peers
- While the target is underweight private equity relative to a majority of peers the actual allocation is above median

Alternative Asset Mixes

Real Assets Constrained to 15% of Portfolio

				Alternative Asset Mixes				
Asset Class	**MCERA Target**	**Min Alloc**	**Max Alloc**	**Mix 1**	**Mix 2**	**Mix 3**	**Mix 4**	**Mix 5**
Broad US Equity	32%	0%	100%	24%	27%	29%	32%	34%
Broad International Equity	22%	0%	100%	16%	17%	19%	20%	22%
Broad US Fixed Income	23%	0%	100%	35%	30%	25%	20%	15%
Real Assets	15%	15%	15%	15%	15%	15%	15%	15%
Private Equity	8%	0%	100%	10%	11%	12%	13%	14%
Totals	**100%**			**100%**	**100%**	**100%**	**100%**	**100%**
Expected Return	6.0%			5.5%	5.8%	6.0%	6.3%	6.5%
Real Return	3.8%			3.3%	3.5%	3.8%	4.0%	4.3%
Risk (Standard Deviation)	13.1%			11.0%	12.0%	12.9%	13.9%	14.9%
% Equity	62%			50%	55%	60%	65%	70%
% Fixed income	23%			35%	30%	25%	20%	15%
% Real Assets	15%			15%	15%	15%	15%	15%
% Illiquid	16%			18%	19%	20%	21%	22%

- Mixes are constrained to hold 15% real assets
  – Real assets expands the real estate allocation to include other real assets, all publicly traded: TIPS, commodities, natural resource equity and REITs
- Maximum private equity allocation = 25% of public equity exposure
- No new asset classes included
- These mixes are employed throughout the remainder of the study

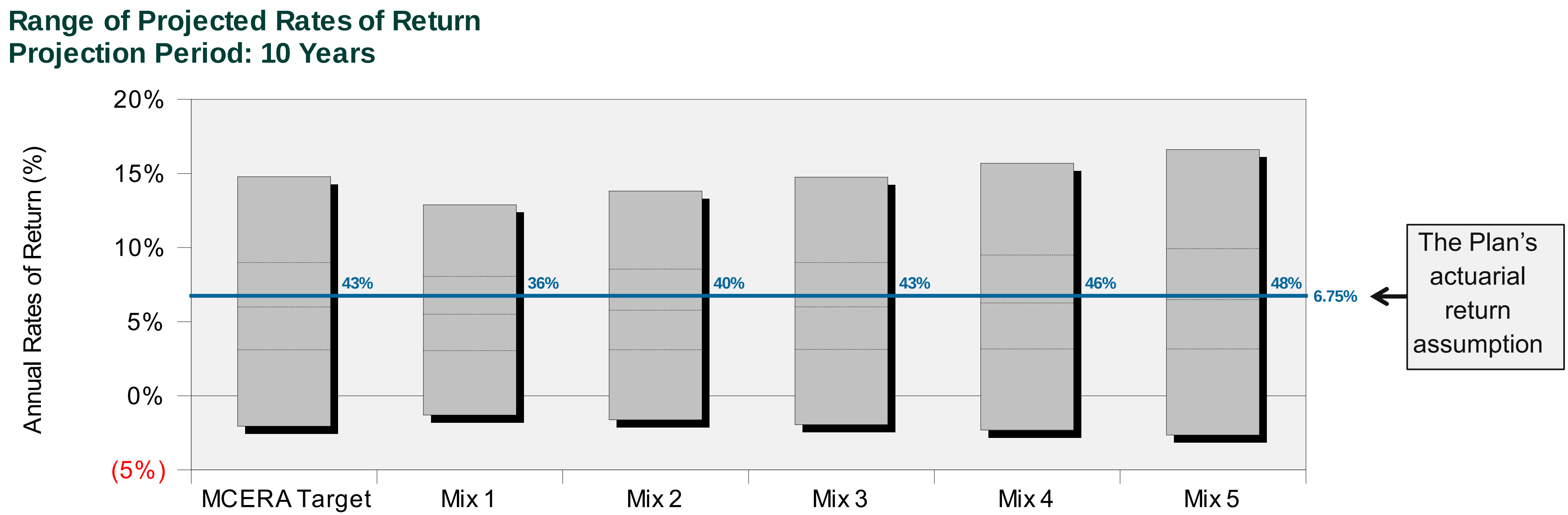
Alternative Asset Mixes

Real Assets Constrained to 15% of Portfolio and Private Equity to 10%

				Alternative Asset Mixes				
Asset Class	MCERA Target	Min Alloc	Max Alloc	Mix 1A	Mix 2A	Mix 3A	Mix 4A	Mix 5A
Broad US Equity	32%	0%	100%	24%	27%	30%	33%	36%
Broad International Equity	22%	0%	100%	16%	18%	20%	22%	24%
Broad US Fixed Income	23%	0%	100%	35%	30%	25%	20%	15%
Real Assets	15%	15%	15%	15%	15%	15%	15%	15%
Private Equity	8%	0%	10%	10%	10%	10%	10%	10%
Totals	**100%**			**100%**	**100%**	**100%**	**100%**	**100%**
Expected Return	6.0%			5.5%	5.8%	6.0%	6.2%	6.4%
Real Return	3.8%			3.3%	3.5%	3.7%	4.0%	4.2%
Risk (Standard Deviation)	13.1%			11.0%	11.9%	12.8%	13.7%	14.7%
% Equity	62%			50%	55%	60%	65%	70%
% Fixed income	23%			35%	30%	25%	20%	15%
% Real Assets	15%			15%	15%	15%	15%	15%
% Illiquid	16%			18%	18%	18%	18%	18%

- Mixes above are identical to those on the prior page though with private equity limited to a maximum of 10%
- Private equity allocations above 10% are reallocated to public equity
- The resulting impact on total portfolio return and risk is modest
  - Slight reduction in return and risk for Mixes 2 through 5 relative to the prior page

Projected Rates of Return (10 Years)



	MCERA Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
2.5th Percentile	14.8%	12.9%	13.8%	14.8%	15.7%	16.6%
25th Percentile	9.0%	8.1%	8.6%	9.0%	9.5%	9.9%
Median	6.0%	5.5%	5.8%	6.0%	6.3%	6.5%
75th Percentile	3.1%	3.1%	3.1%	3.1%	3.2%	3.2%
97.5th Percentile	(2.1%)	(1.3%)	(1.6%)	(1.9%)	(2.3%)	(2.7%)
Prob > 6.75%	43%	36%	40%	43%	46%	48%

- Chart reflects annualized return distribution over the next ten years
- Bar heights proportional to return volatility
  - Higher expected (median) returns associated with higher volatilities
  - Increased volatility leads to lower worse-case (97.5th percentile) returns
- The target has over a reasonable chance (>40%) of earning 6.75% or better over the next 10 years

Callan

Asset-Liability Modeling

Current Conditions

Build Actuarial Liability Model

Callan's liability model is based on Cheiron's June 30, 2020 actuarial valuation report

Model used to forecast future liabilities

Assets rolled forward using June 30, 2021 actual asset value of $3.4 billion

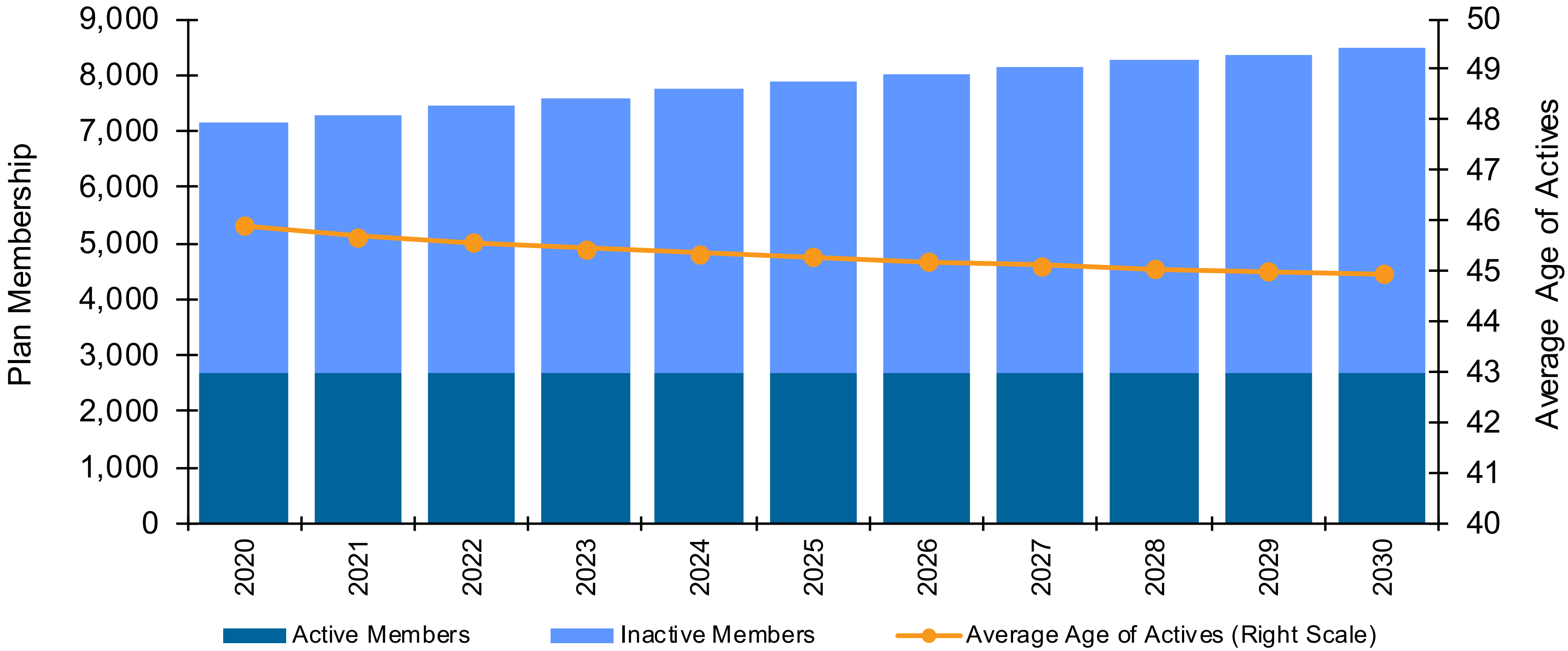
MCERA	June 30, 2020 Actuarial Valuation	June 30, 2021 Actuarial Valuation
Actuarial Accrued Liability	$3,125 mm	$3,217 mm
Market Value of Assets	$2,625 mm	$3,362 mm
Actuarial Value of Assets	$2,625 mm	$3,362 mm
Market Funded Status (MVA/AL)	84.0%	104.5%
Actuarial Funded Status (AVA/AL)	84.0%	104.5%
Employer Contribution (%)	30.5%	27.6%
Employee Contribution (%)	~7-22%	~7-22%

Key Assumptions	Actuarial Assumption	Callan 10-year Expectation
Investment Return	6.75%	6.0%*
Price Inflation	2.5%	2.25%

**Based on Callan's capital market assumptions applied to the MCERA's target asset allocation; used throughout the remainder of the study*

Plan Population

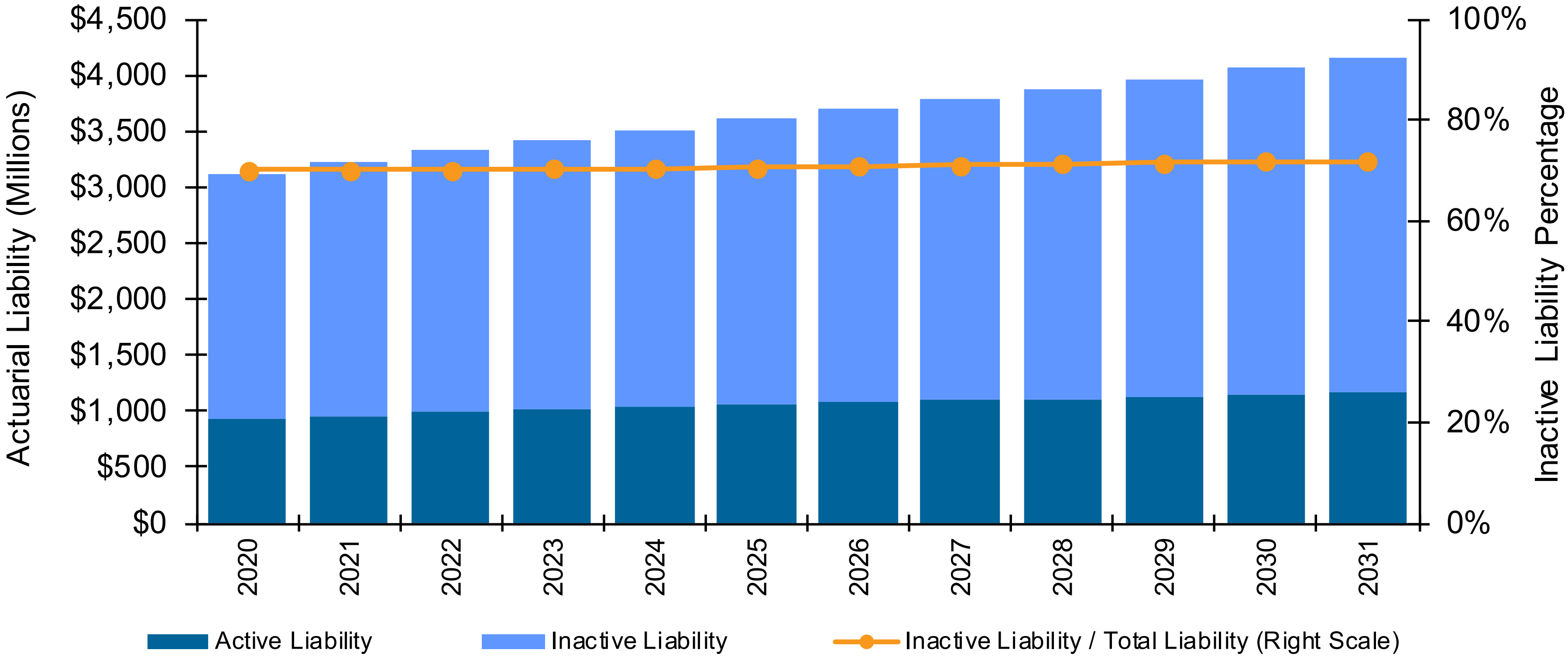
Baseline Projection



- Number of active members assumed to remain constant (0% workforce growth)
  – Future new hires replace exits due to retirement, death, disability, and withdrawal
  – Average age of active population gradually falls over the projection period
- The inactive population rises over the projection period which is typical for an open plan

Plan Liabilities

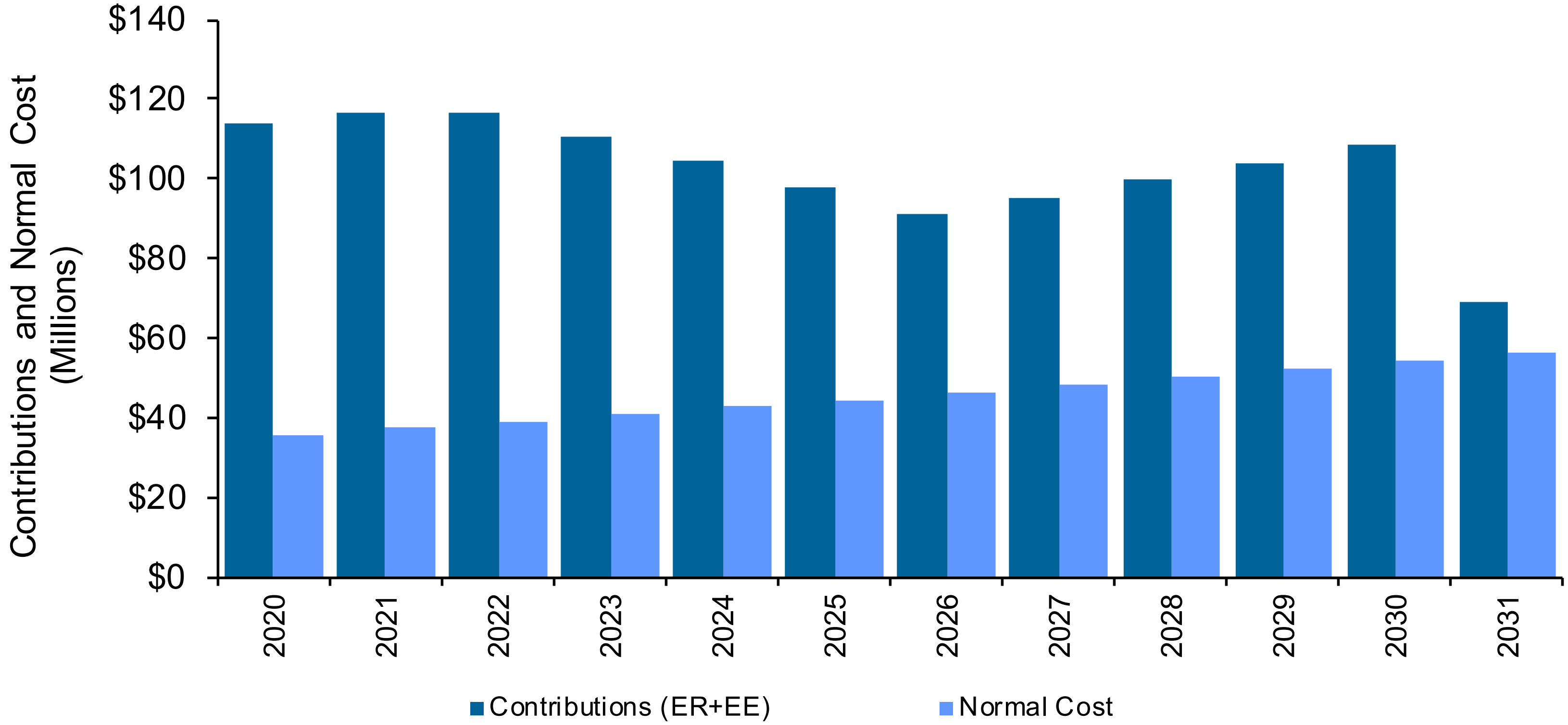
Baseline Projection



- The inactive liability grows at a 2.8% annualized growth rate and accounts for 70-72% of the total liability over the projection period
- The active liability, by comparison, is growing at an annualized rate of 2.0% over the next 10 years

Contributions and Normal Cost

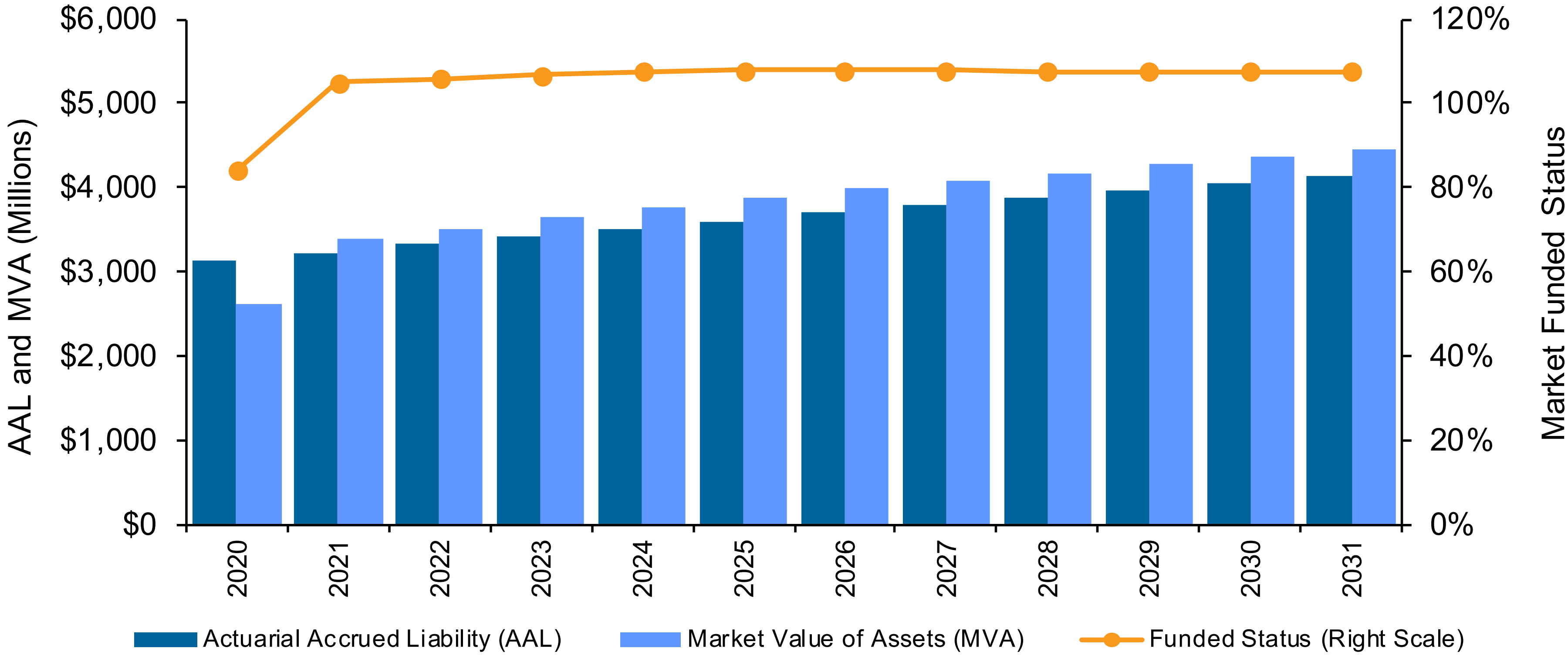
Baseline Projection



- Contributions are projected to exceed normal cost over the ten-year projection period
- Employer contribution rates are projected to steadily decline from approximately 30% of pay in 2020 to roughly 18% by 2030 before falling to just over 7% in 2031 as the 2013 UAL amortization payment ends
- Employee contributions as a percentage of payroll slowly decline from approximately 11% to 10% over the 10 year period

Market Assets, Liabilities, and Funded Status

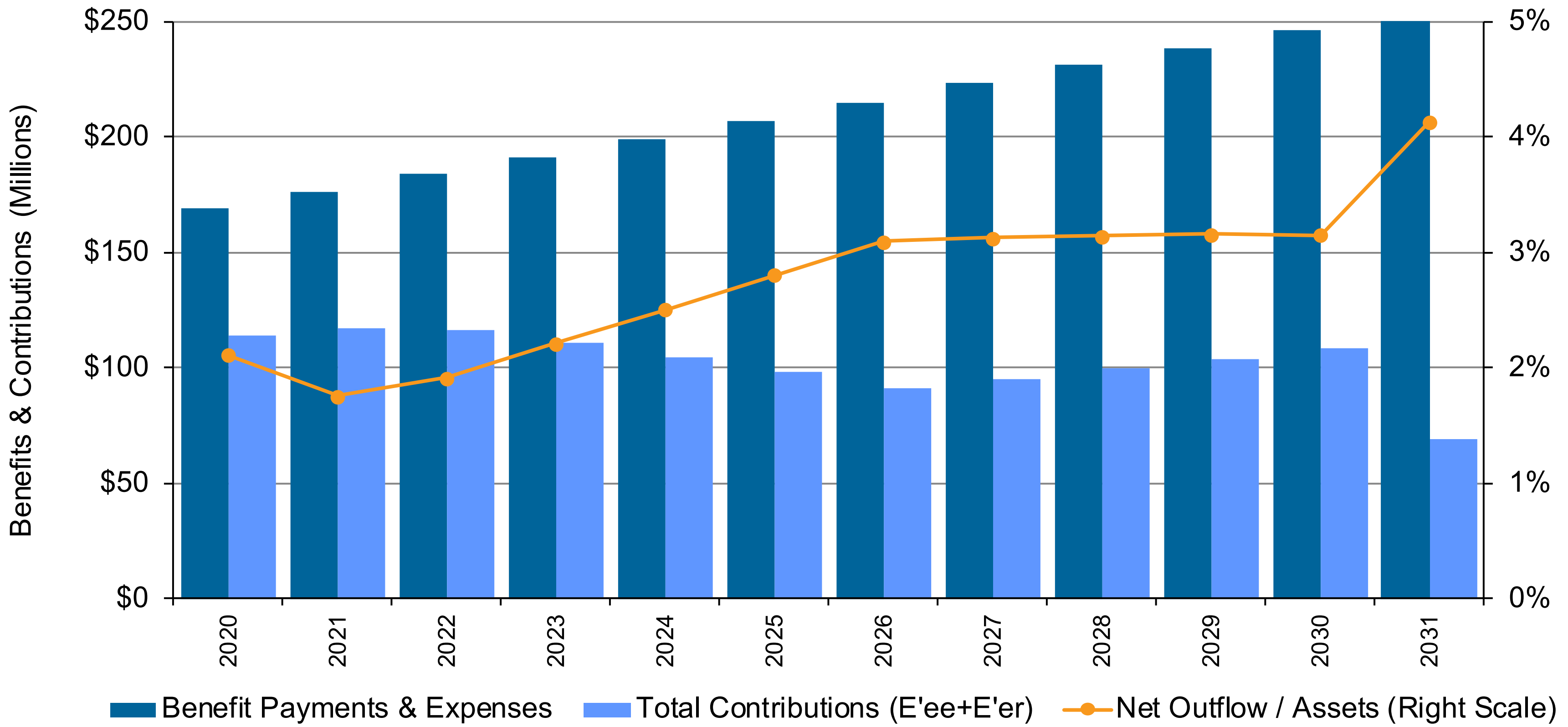
Baseline Projection: 6.0% Return and 2.25% Inflation



- Growth in assets slightly outpaces liability growth leading to a gradual improvement in the funded status early on in the projection period before leveling off
  - Change in assets due to both investment returns (6.0%) and net cash flows (contributions net of benefit payments and expenses)
  - Funded status increase in 2021 is due to strong realized performance
- Projected funding depends on adherence to the contribution policy (normal cost plus supplemental cost)

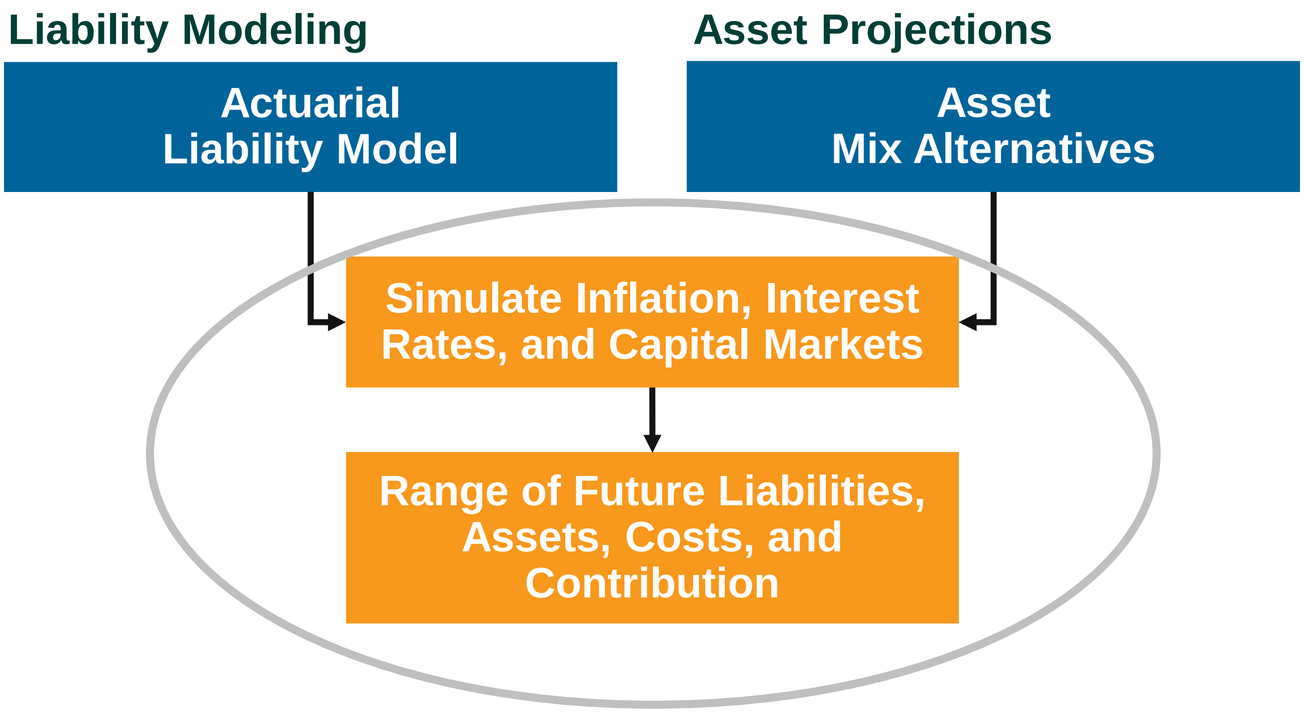
Cash Flows and Liquidity

Baseline Projection



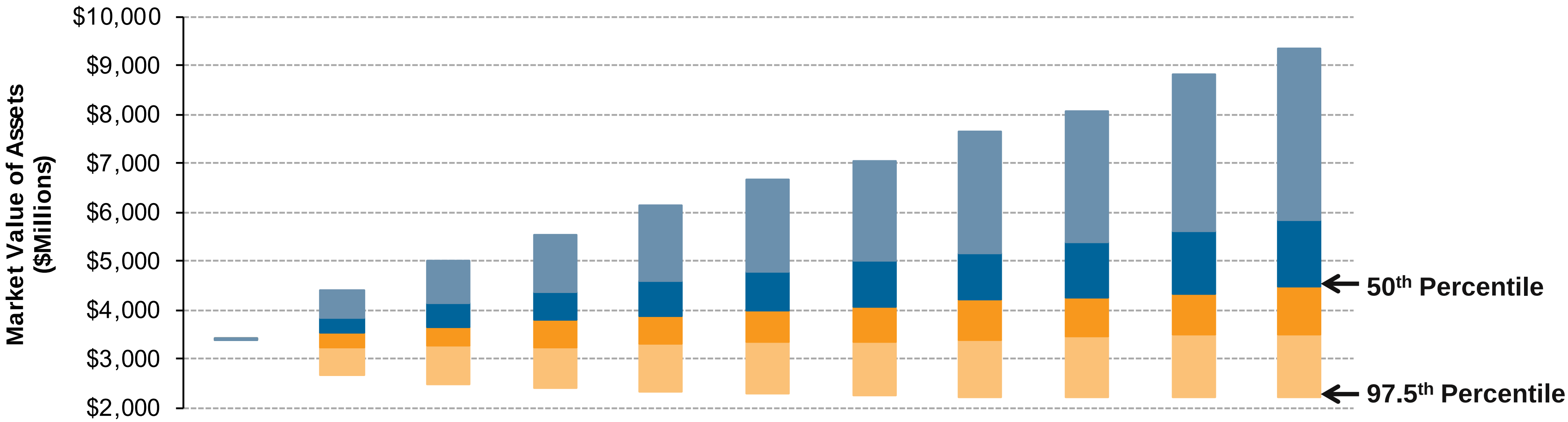
- Net Outflow = Benefit Payments + Expenses – Employer Contributions – Employee Contributions
- Net outflow as a percentage of assets ranges between 2-3% over the first 11 years before rising to just over 4% in 2031 as the employer contribution rate falls
- As long as the Plan adheres to the current funding policy, net outflow should be manageable over the next 10 years but should be assessed along the way

Simulate Financial Condition



- Generate 2,000 simulations per year, per asset mix to capture possible future economic scenarios and their effect on the Plan
- The simulation results are then ranked from highest to lowest to develop probability distributions

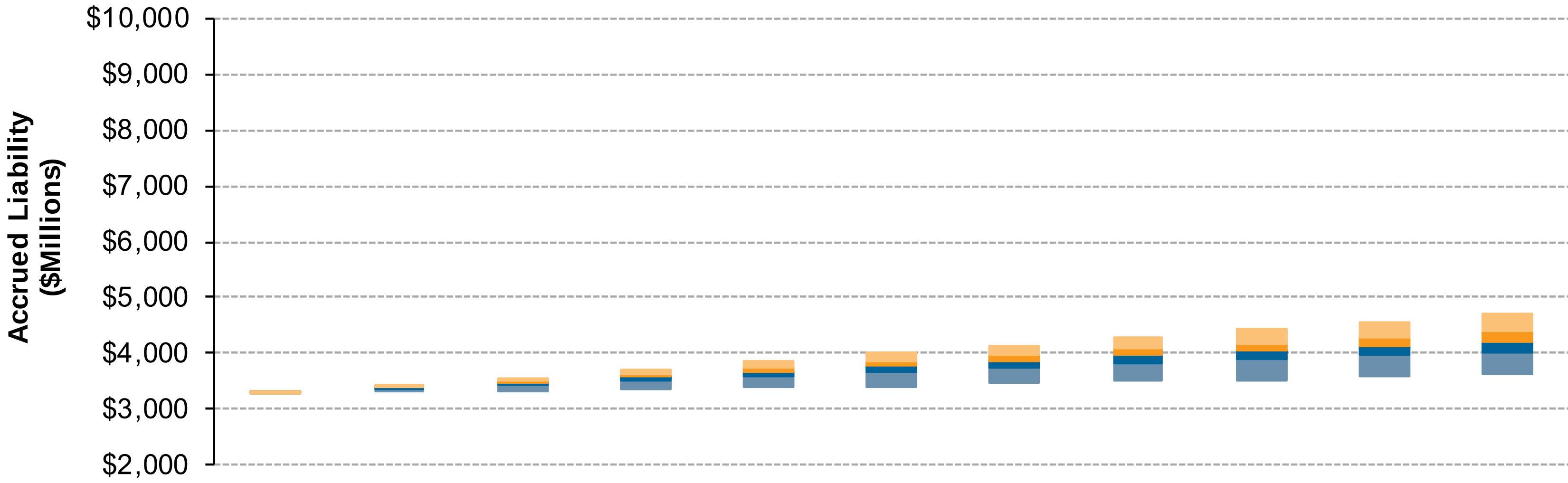
Market Value of Assets (Target Mix)



Percentile	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
2.5th	$3,385	$4,429	$5,018	$5,560	$6,152	$6,662	$7,058	$7,645	$8,062	$8,830	$9,362
25th	3,385	3,834	4,131	4,358	4,587	4,799	5,013	5,150	5,380	5,609	5,865
50th	3,385	3,544	3,663	3,793	3,897	4,000	4,069	4,206	4,260	4,353	4,506
75th	3,385	3,249	3,263	3,255	3,328	3,346	3,374	3,398	3,487	3,496	3,516
97.5th	3,385	2,681	2,504	2,421	2,327	2,292	2,261	2,217	2,242	2,217	2,238
Range	0	1,748	2,513	3,140	3,825	4,371	4,797	5,428	5,820	6,613	7,123

- Plan assets are expected to grow over $1.1 billion in the median outcome (2.9% annual growth rate)
- The expected (median) outcome is the 50th percentile
  - There is a 50% chance that asset values will be above the value shown and a 50% chance they will be below the value shown
- The worse-case scenario is the 97.5th percentile
  - There is a 1-in-40 chance (2.5% probability) that the 6/30/2031 market value of assets will be $2.238 billion or less

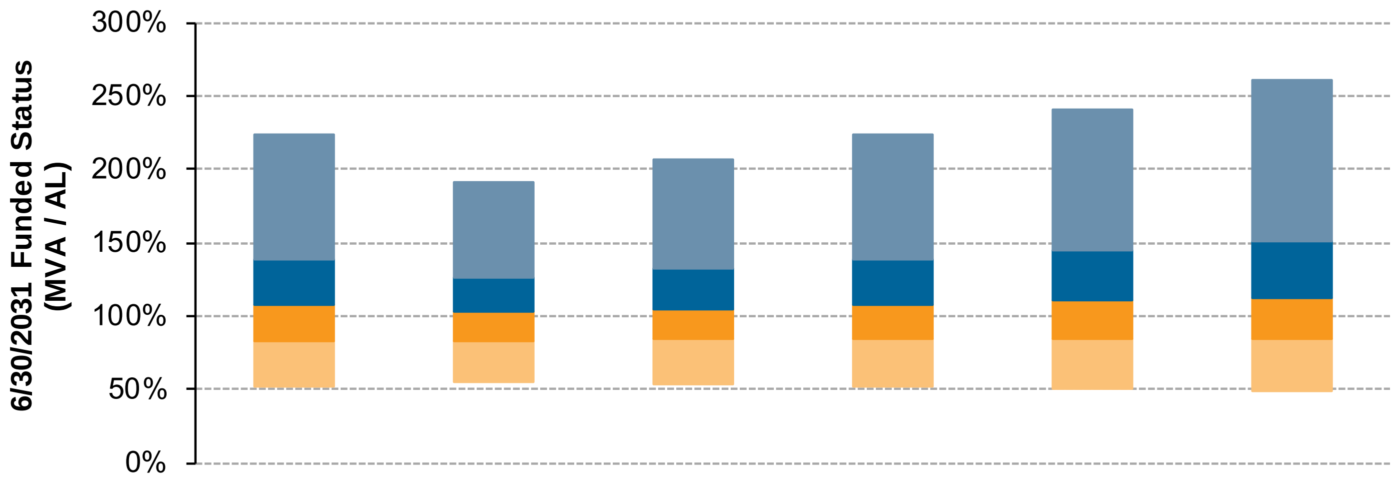
Actuarial Accrued Liability



Percentile	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
97.5th	$3,270	$3,421	$3,568	$3,713	$3,861	$4,006	$4,144	$4,287	$4,422	$4,555	$4,699
75th	3,270	3,399	3,522	3,638	3,754	3,865	3,975	4,085	4,186	4,291	4,398
50th	3,270	3,381	3,483	3,583	3,681	3,775	3,865	3,959	4,046	4,135	4,220
25th	3,270	3,361	3,440	3,515	3,585	3,661	3,740	3,815	3,890	3,961	4,026
2.5th	3,270	3,310	3,332	3,349	3,389	3,415	3,463	3,506	3,530	3,585	3,634
Range	0	111	236	364	472	592	681	781	892	970	1,065

- Plan liabilities are much less volatile than Plan assets
  – Volatility in the liability is due to volatility in Inflation which flows through to member compensation which is a component of the retirement benefit formula
- Plan liabilities are steadily increasing over the next 10 years
  – Median increasing at an annual rate of 2.6%
- Liabilities increase with ongoing benefit accrual, interest cost and are reduced by benefit payments

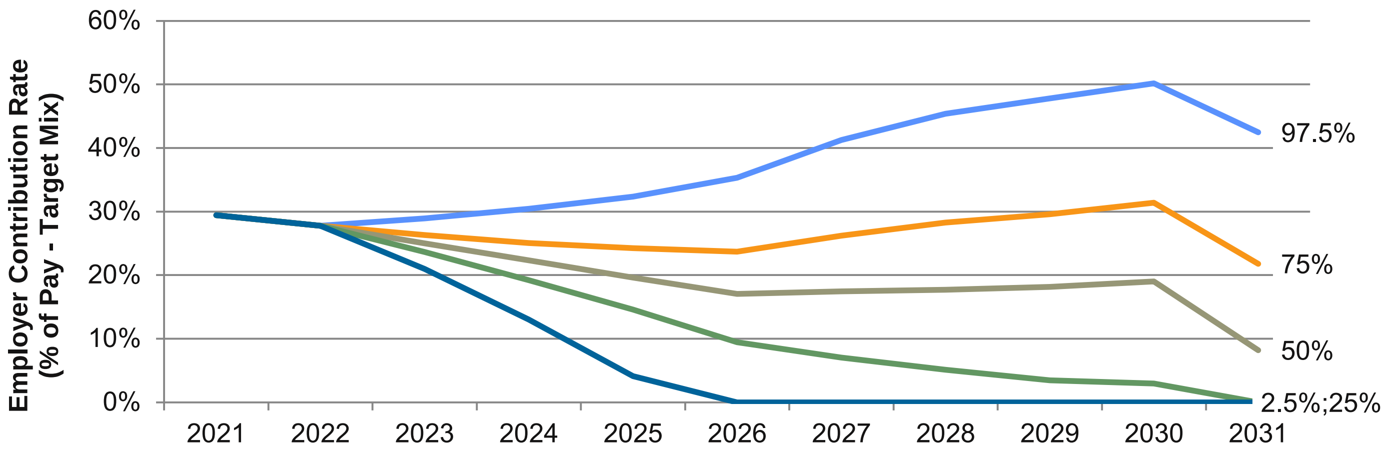
Market Funded Ratio in 2031 (10 Years)



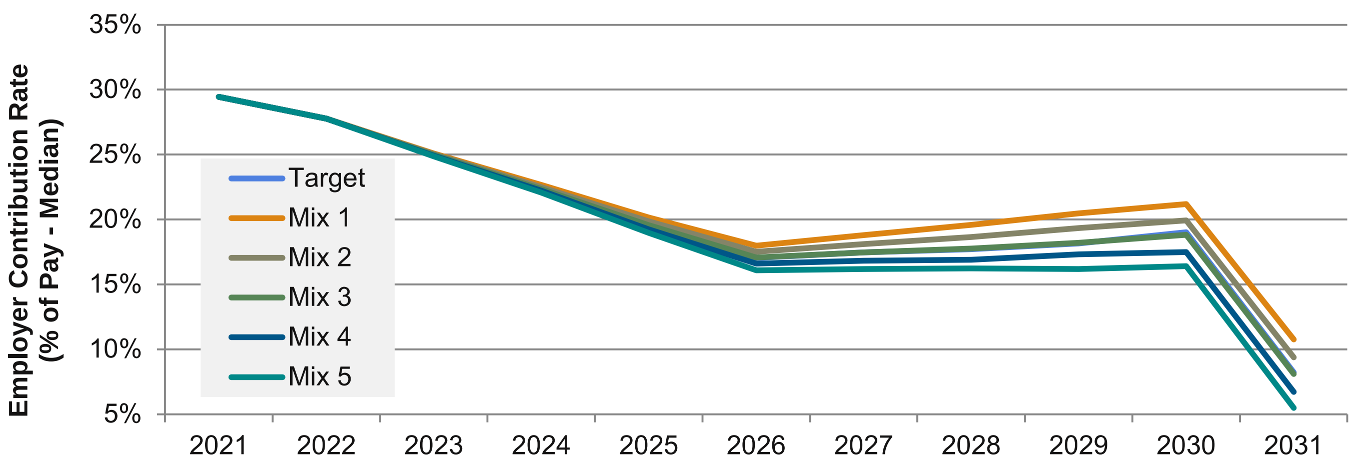
Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
2.5th	223%	192%	207%	223%	240%	261%
25th	138%	126%	132%	138%	145%	151%
50th	107%	102%	105%	108%	110%	112%
75th	83%	83%	84%	84%	84%	84%
97.5th	52%	56%	54%	52%	50%	49%
Expected Return	6.0%	5.5%	5.8%	6.0%	6.3%	6.5%
Standard Deviation	13.1%	11.0%	12.0%	12.9%	13.9%	14.9%
Prob. Full Funding	58%	53%	56%	58%	60%	62%

- Funded status is expected to improve over the next 10 years under all mixes with the exception of Mix 1
  - 6/30/2021 estimated funded status of 104%
  - More than a 50% probability of full funding in 10 years for all mixes
- More aggressive mixes are expected (50th percentile) to have a higher funded ratio but will have a lower funded status in a worse-case scenario (97.5th percentile)

Employer Contribution Rates (% of Pay)

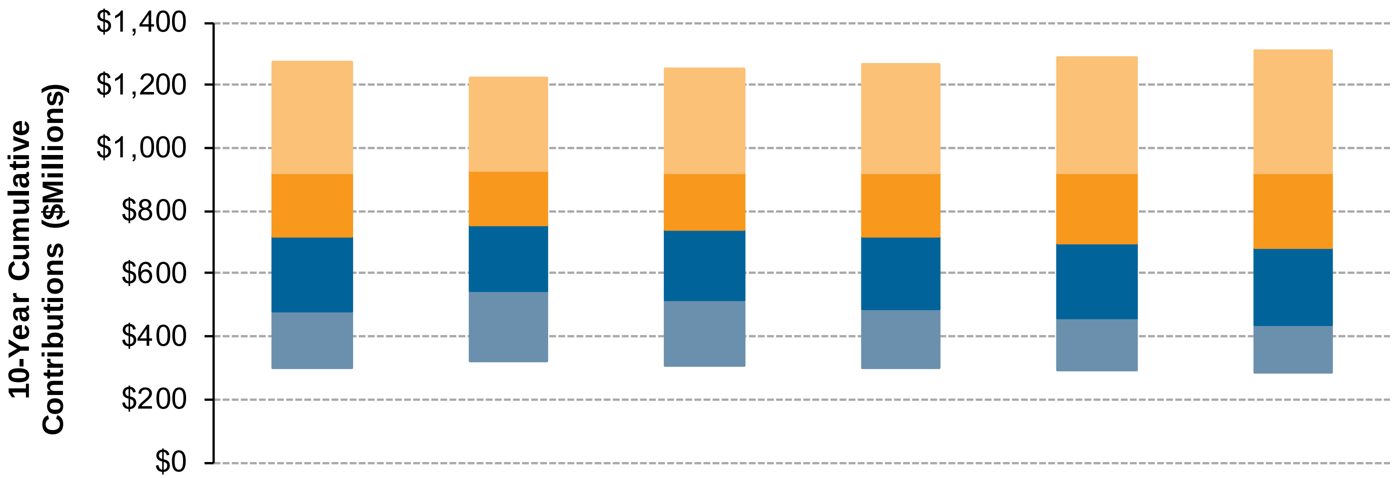


- Top chart illustrates the total employer contribution (ERC) as a percentage of payroll over time under the current target allocation
  - The ERC rate is expected to decline through 2026 then slowly rise to almost 20% by 2030 before falling to just 8% in 2031 as the 2013 UAL amortization payment ends
  - The ERC rate reaches 50% by 2030 in a worse-case scenario (97.5th percentile)



- Bottom chart shows median ERC rates for all mixes
  - More aggressive mixes are expected (50th percentile) to result in lower employer contribution rates over time
  - Mix 5 is the only mix that is able to maintain a flat contribution rate from 2026-2030

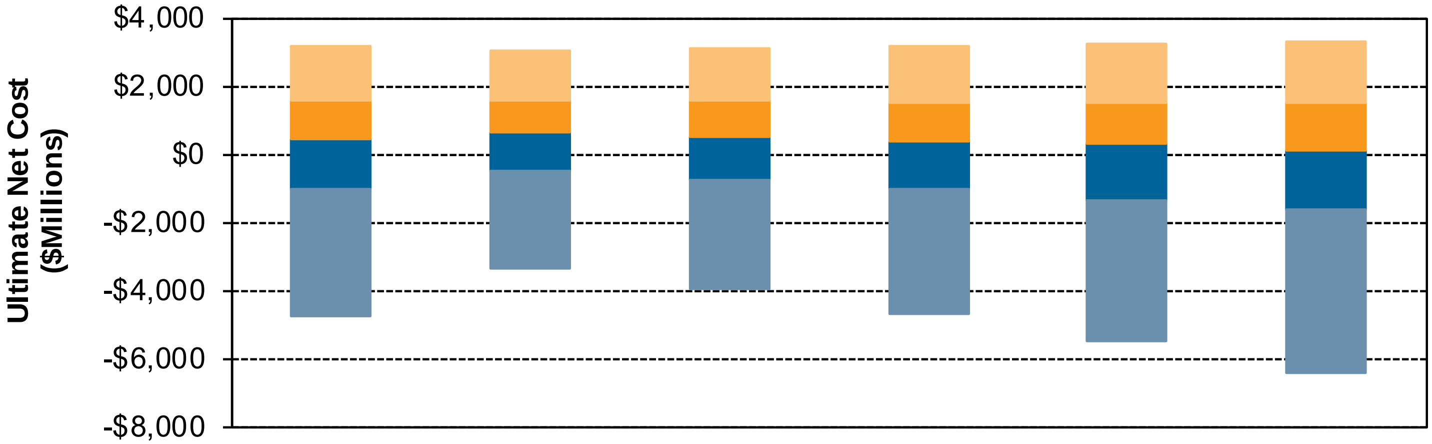
Cumulative Employer Contributions (6/30/21-6/30/31)



Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
97.5th	$1,272	$1,225	$1,252	$1,269	$1,290	$1,313
75th	$923	$926	$924	$923	$922	$921
50th	$720	$756	$739	$719	$699	$682
25th	$481	$548	$515	$484	$458	$434
2.5th	$297	$321	$310	$299	$291	$283
Expected Return	6.0%	5.5%	5.8%	6.0%	6.3%	6.5%
Standard Deviation	13.1%	11.0%	12.0%	12.9%	13.9%	14.9%

- Above chart illustrates total employer contributions over the next 10 years
  - Expected contributions are approximately $680-760 million
- More aggressive mixes are expected (50th percentile) to result in lower employer contributions but result in higher contributions in a worse-case scenario (97.5th percentile)

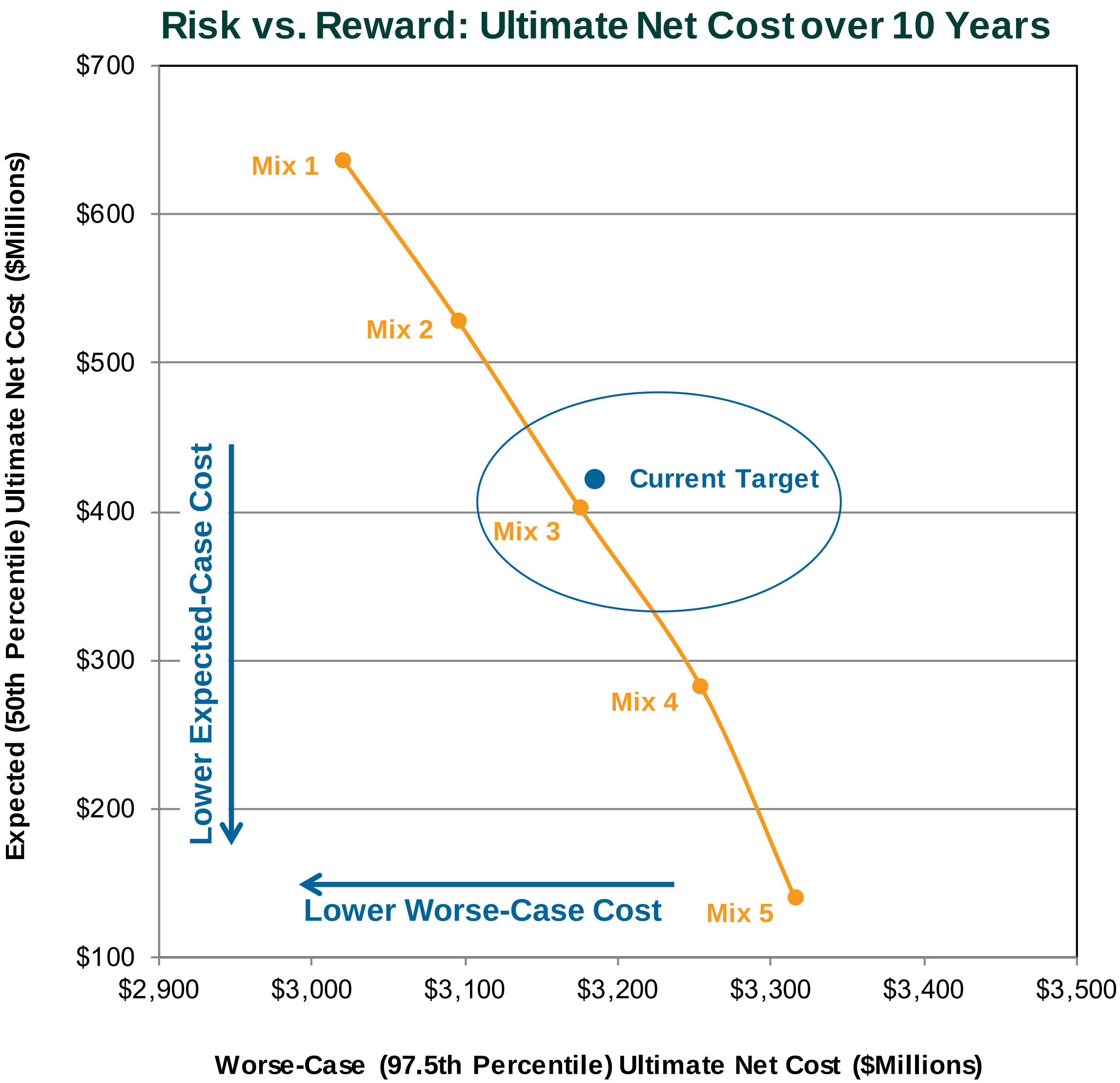
Ultimate Net Cost (UNC)



Percentile	Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
97.5th	$3,185	$3,020	$3,095	$3,175	$3,254	$3,315
75th	1,552	1,599	1,568	1,544	1,522	1,525
50th	421	637	529	403	282	141
25th	-1,038	-484	-770	-1,040	-1,322	-1,619
2.5th	-4,737	-3,339	-3,946	-4,691	-5,508	-6,399
Expected Return	6.0%	5.5%	5.8%	6.0%	6.3%	6.5%
Standard Deviation	13.1%	11.0%	12.0%	12.9%	13.9%	14.9%

- UNC = 10-Year Cumulative Contributions + 6/30/2031 Unfunded Actuarial Liability
  - UNC captures what is expected to be paid over 10 years plus what is owed at the end of the 10 year period
  - Negative numbers indicate the plan is in a surplus position at 6/30/2031
- More aggressive mixes lower UNC in the expected case but result in a greater UNC in a worse-case scenario

Risk vs. Reward in Ultimate Net Cost



Bottom left quadrant is the desired location

- Lower cost in both the expected and worse-case scenarios

Moving to Mix 3 is reasonable from a total cost perspective as it reduces cost in both the expected and worse-case scenarios

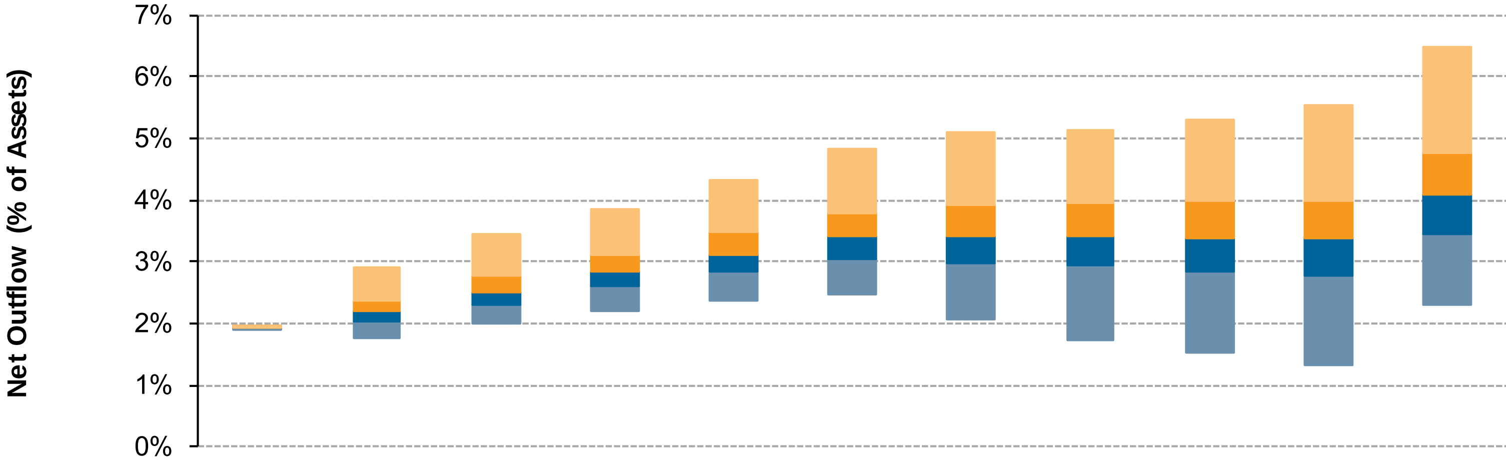
A move to Mix 2 would increase expected-case cost more than the decrease in worse-case cost

- Expected cost rises $107 million while worse-case cost declines $90
- Risk/reward tradeoff is unfavorable

A move to Mix 4 would reduce expected-case cost more than the increase in worse-case cost

- Expected cost declines $139 million while worse-case cost increases $69
- A favorable risk/reward tradeoff

Net Outflow as a Percentage of Assets (Target Mix)



Percentile	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
97.5th	1.9%	2.9%	3.4%	3.9%	4.3%	4.9%	5.1%	5.1%	5.3%	5.5%	6.5%
75th	1.9%	2.4%	2.8%	3.1%	3.5%	3.8%	3.9%	4.0%	4.0%	4.0%	4.8%
50th	1.9%	2.2%	2.5%	2.8%	3.1%	3.4%	3.4%	3.4%	3.4%	3.4%	4.1%
25th	1.9%	2.0%	2.3%	2.6%	2.9%	3.1%	3.0%	2.9%	2.8%	2.8%	3.5%
2.5th	1.9%	1.8%	2.0%	2.2%	2.4%	2.5%	2.1%	1.7%	1.5%	1.3%	2.3%

0% - 7%
7% - 10%
> 10%

- NOF/Assets < 7% typically manageable liquidity needs
- 7% < NOF/Assets < 10% warrants monitoring and could impact asset allocation
- NOF/Assets > 10% has high liquidity needs and may preclude investment in illiquid investments

- Net outflow (NOF) = Benefits + administration expenses – employee contributions - employer contributions
  - NOF/assets ranges from 1.8% to 6.5% per year
  - Portfolio income (not reflected) can assist with paying benefits
- Plan has manageable liquidity needs that don’t preclude allocations to illiquid investments or warrant a “liquidity sleeve” to pay benefits

Recommendation

Summary of Asset-Liability Results

Factor	Description
Return Objective	• Assumed 6.75% return is based on 2.5% expected inflation • None of the alternative asset mixes are expected to achieve 6.75% over the next 10 years
Time Horizon	• The time horizon is long as the Plan is open and ongoing
Liquidity Needs	• Liquidity needs are growing but are expected to remain manageable over the next 10 years (<5% net outflow as a percentage of assets in 2031) • Illiquid assets (real estate and private equity) represent 16% of the total portfolio
Actuarial Methodology	• No asset smoothing (AVA=MVA) • Assumptions, actuarial gains/losses, and amendments are amortized over periods ranging from 17 – 30 years
Contribution Risk	• Contribution risk is high, with worse-case cumulative contributions approximately double the expected case
Risk Tolerance	• Risk tolerance is the ability and willingness to take risk • What is comfort level in taking more risk? • Consider worse-case results for funded status, cumulative contributions and ultimate net cost
Liability Growth	• Liabilities are growing steadily over the projection period • Annualized growth is 2.6% over the next 10 years
Funded Status	• Plan is overfunded at 6/30/2021 (104%) • Funded status is expected to improve slightly over the next 10 years for all mixes except Mix 1 as asset growth modestly outpaces liability growth • Expected funded status at 6/30/2031 is 107% under the current target allocation

Recommendation

Asset Class	MCERA Target	Mix 3A	% Change	$ Change (Millions)	Mix 4A	% Change	$ Change (Millions)
Public Equity	**54%**	**50%**	**-4%**	**(135)**	**55%**	**1%**	**34**
Broad US Equity	32%	30%	-2%	-68	33%	1%	34
Broad International Equity	22%	20%	-2%	-68	22%	0%	0
Fixed Income	**23%**	**25%**	**2%**	**68**	**20%**	**-3%**	**-102**
Broad US Fixed Income	23%	25%	2%	68	20%	-3%	-102
Alternatives	**23%**	**25%**	**2%**	**68**	**25%**	**2%**	**68**
Real Assets	15%	15%	0%	0	15%	0%	0
Private Equity	8%	10%	2%	68	10%	2%	68
Expected Return	**6.0%**	**6.0%**	**0.0%**		**6.2%**	**0.2%**	
Expected Standard Deviation	**13.1%**	**12.8%**	**-0.3%**		**13.7%**	**0.7%**	
Expected Sharpe Ratio	**0.369**	**0.373**	**0.004**		**0.364**	**-0.005**	
Illiquid Assets	**16%**	**18%**	**2%**	**68**	**18%**	**2%**	**68**

- Asset-liability results support the current return/risk profile (MCERA Target or Mix 3A) or possibly increasing return/risk (Mix 4A)
  - Liabilities are growing steadily over the projection period
  - Liquidity needs are manageable and gains/losses are being amortized over long periods of time
  - We support increasing private equity from 8% to 10%, and we use Mixes 3A and 4A from Slide 15 (with PE constrained to 10%)
- Mix 3A has similar return and risk relative to the current target which is reasonable and could be maintained going forward
  - Mix 3A reduced public equity 4% to fund increases in fixed income (2%) and private equity (2%)
- Mix 4A requires higher risk tolerance but is expected to better maintain the funded status over the long run
  - Fixed income is reduced by 3% and re-allocated to public and private equity
  - The 20% fixed income allocation shown above does not factor in the almost 2% TIPS mandate within the real assets allocation

Disclaimers

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This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.

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Past performance is no guarantee of future results.

The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.

D.4 Future Meetings

This is a discussion with no backup.

E.1

Callan

March 16, 2022

Fourth Quarter 2021 Summary Investment Presentation

Jim Callahan, CFA
President

Anne Heaphy
Senior Vice President

Callan

Economic and Capital Markets Review

Resurgent U.S. Equity Market in 4Q21

Strong performance across both growth and value strategies during 2021

U.S. equity 2021 returns are eye-popping:
- *S&P 500: +28.7%*
- *U.S. Small Cap: +14.8%*

Global ex-U.S. markets lagged:
- *MSCI World ex USA: +12.6%*
- *Emerging Markets: -2.5%*
- Economic data recovered in 4Q after softening in 3Q. Tight labor market and mismatch between jobs and job seekers is vexing employers.
- Inflation spiked and recorded 7% for the first time in decades.
- 4Q GDP hit a robust 6.9%, after dropping in 3Q. Growth for the year was 5.7%. The recovery is still solid. Supply chain issues and sentiment surrounding the end of fiscal stimulus, the Omicron variant, and the Fed taper vex investors as we head into 2022.

Returns for Periods ended 12/31/21

	1 Quarter	1 Year	5 Years	10 Years	25 Years
U.S. Equity					
Russell 3000	9.28	25.66	17.97	16.30	9.81
S&P 500	11.03	28.71	18.47	16.55	9.76
Russell 2000	2.14	14.82	12.02	13.23	8.99
Global ex-U.S. Equity					
MSCI World ex USA	3.14	12.62	9.63	7.84	5.39
MSCI Emerging Markets	-1.31	-2.54	9.88	5.49	--
MSCI ACWI ex USA Small Cap	0.62	12.93	11.21	9.46	6.93
Fixed Income					
Bloomberg Aggregate	0.01	-1.54	3.57	2.90	4.94
90-day T-Bill	0.01	0.05	1.14	0.63	2.06
Bloomberg Long Gov/Credit	2.15	-2.52	7.39	5.72	7.31
Bloomberg Global Agg ex-US	-1.18	-7.05	3.07	0.82	3.40
Real Estate					
NCREIF Property	6.15	17.70	7.75	9.32	9.38
FTSE Nareit Equity	16.31	43.24	10.75	11.38	9.89
Alternatives					
CS Hedge Fund	0.94	8.23	5.47	4.90	6.74
Cambridge Private Equity*	5.01	48.82	21.29	17.11	15.64
Bloomberg Commodity	-1.56	27.11	3.66	-2.85	1.13
Gold Spot Price	4.08	-3.51	9.69	1.56	6.61
Inflation - CPI-U	1.64	7.04	2.92	2.14	2.28

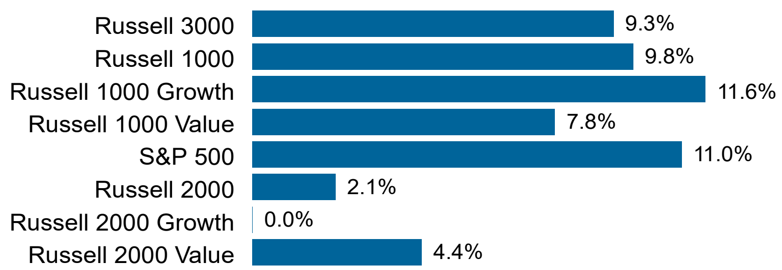
*Cambridge PE data through 09/30/21.
Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

U.S. Equity Performance: 4Q21

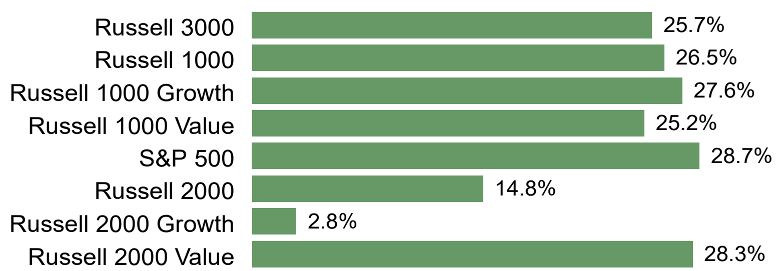
Returns grind higher despite mounting concerns

- S&P 500 posted a strong 11.0% gain in 4Q21; large cap growth (Russell 1000 Growth) was the top performer, which contrasted with the worst-performing asset class, small cap growth (Russell 2000 Growth).
- The new Omicron variant, continued supply chain disruptions, and renewed fears of persistent inflation pushed investors into the perceived safety of the largest stocks during the quarter.
- S&P 500 sector results were mixed, with Real Estate (+17.5%) posting the top returns alongside Technology (+16.7%) and Materials (+15.2%); Communication Services (0.0%) and Financials (+4.6%) lagged broad returns.
- In 2021, small value outperformed small growth by over 2,500 bps (RUS2V 28.3% vs. RUS2G 2.8%), a stark reversal from 2020 and a pattern consistent with periods of robust GDP growth.

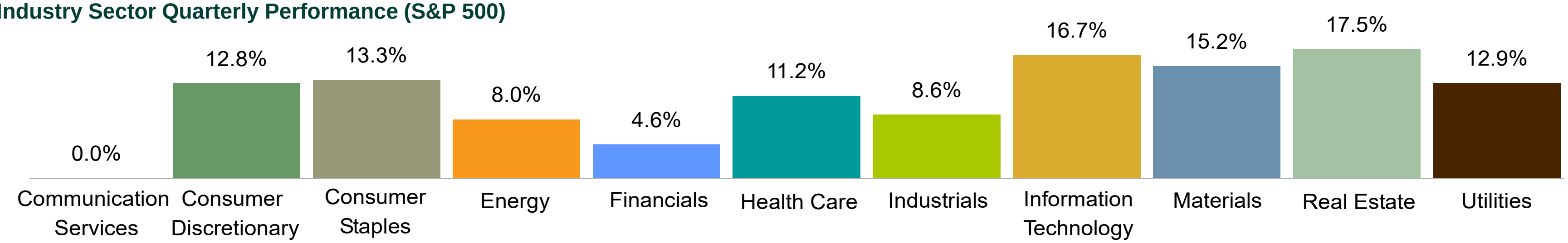
U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Industry Sector Quarterly Performance (S&P 500)



Sources: FTSE Russell, S&P Dow Jones Indices

Global ex-U.S. Equity Performance: 4Q21

Omicron takes center stage

- A recovery-driven market shifted back to COVID favorites, boosting Information Technology stocks.
- Small cap underperformed large amid global growth concerns.
- Emerging markets struggled relative to developed markets as China experienced significant pressure from an economic slowdown and its regulatory crackdown.

Stalled recovery

- As the new variant took hold, Energy and Communication Services lagged on fear of restrained growth.
- Japan suffered from both supply chain issues and economic constraints from COVID-19.
- Growth and momentum factors outperformed in developed markets but not in emerging markets.

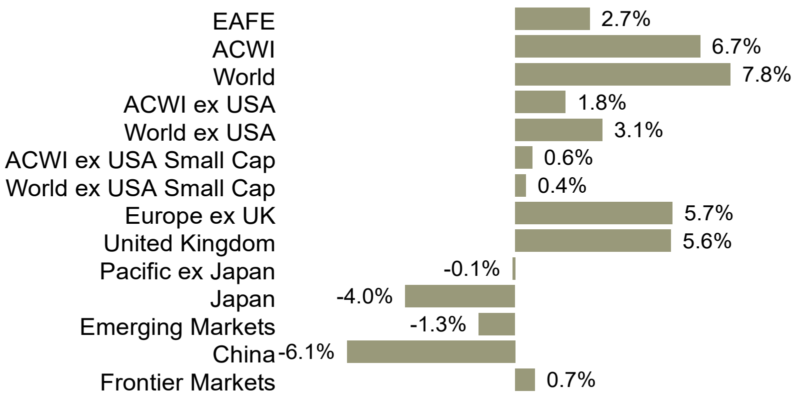
U.S. dollar vs. other currencies

- The U.S. dollar rose against other major currencies as tapering accelerated alongside the expectation for 2022 rate hikes, which notably detracted from global ex-U.S. results.

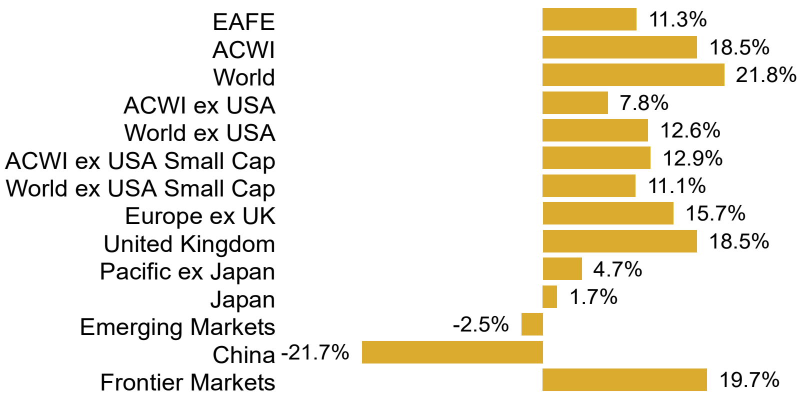
Growth vs. value

- Inflationary pressures and the ultimate rebound from COVID-19 supported value's leadership for the full year, despite the shift to growth in 4Q21.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI

U.S. Fixed Income Performance: 4Q21

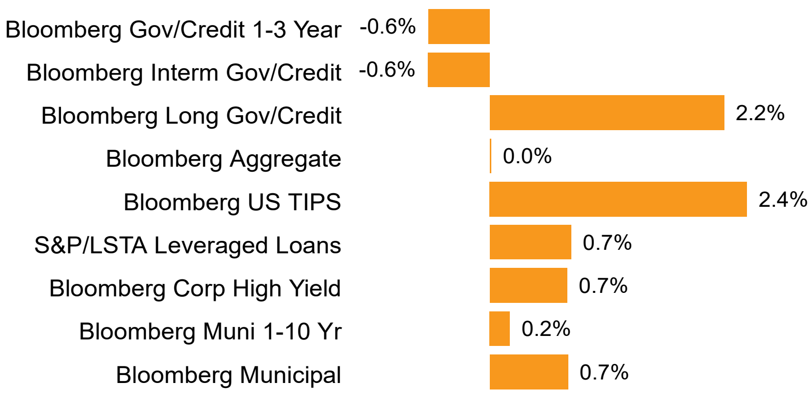
Treasury yields again unchanged
- 10-year at 1.52% at 9/30 and 12/31, up from 1.45% on 6/30
- TIPS outperformed nominal Treasuries and 10-year breakeven spreads widened to 2.56%.
- Real yields remain solidly in negative territory.

Bloomberg Aggregate was literally flat in 4Q
- Spread sectors (Agencies, ABS, CMBS, MBS, and Credit) all underperformed UST by a modest amount (but positive YTD).
- One of four years with negative returns for the Agg dating back to 1976
- Yield curve flattened; curve positioning had a meaningful impact on returns in 4Q.

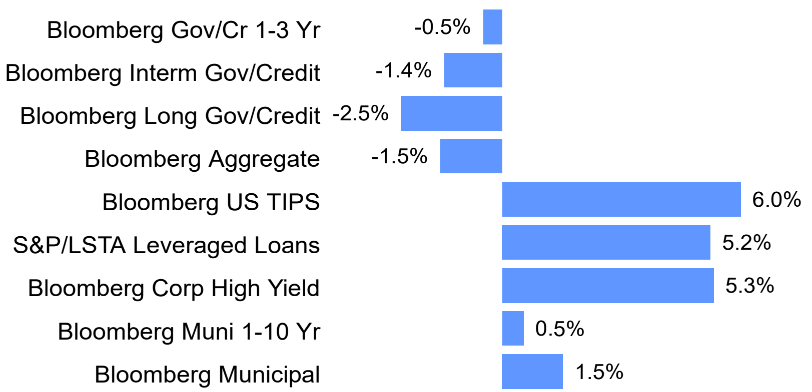
High yield and leveraged performed relatively well
- Spreads remain near historic tights.
- High yield issuers' default rate declined to a record low in December (J.P. Morgan).
- New issuance hit a record for the second year in a row as issuers looked to finance at relatively low rates.

Munis outperformed Treasuries
- Lower-quality bonds continued their trend of outperformance as investors sought yield.

U.S. Fixed Income: Fourth Quarter Returns



U.S. Fixed Income: 2021 Returns



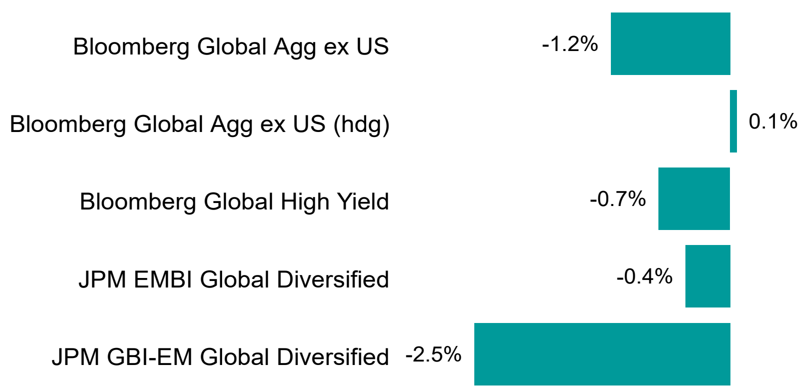
Source: Bloomberg

Global Fixed Income Performance: 4Q21

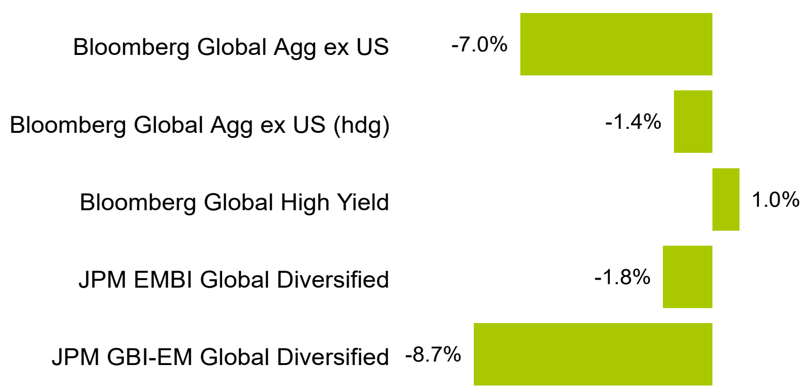
Global fixed income flat on a hedged basis

- Returns were muted and U.S. dollar strength eroded returns for unhedged U.S. investors in both 4Q and 2021.
- Yen was a notable underperformer in developed markets, falling 10% for the year.
- Emerging market debt posted negative returns.
- Emerging market debt indices underperformed most other fixed income sectors in 2021.
- Currencies fared the worst vs. the U.S. dollar; the Turkish lira sank 44% on spiking inflation.

Global Fixed Income: Fourth Quarter Returns



Global Fixed Income: 2021 Returns



Sources: Bloomberg, JPMorgan Chase

U.S. Private Real Estate Market Trends

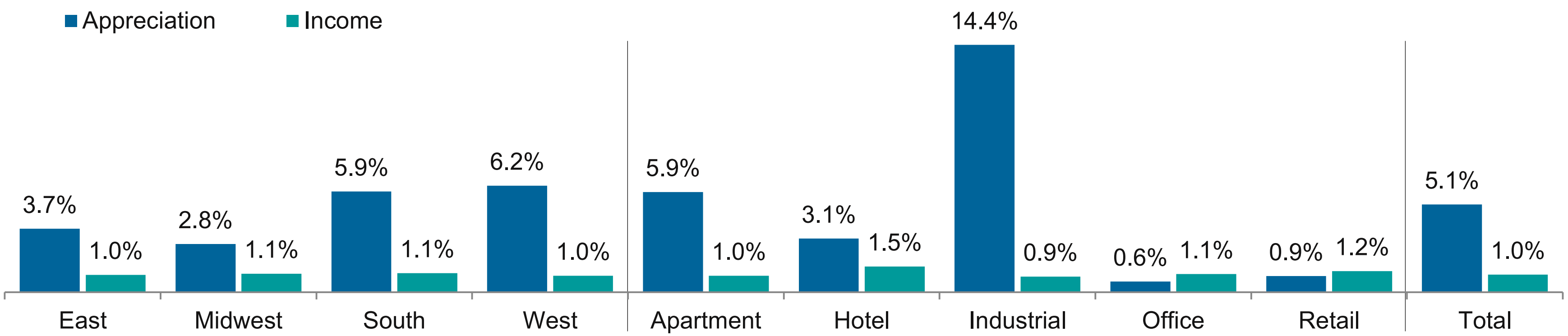
Continued strong performance across the asset class

Strongest gains for ODCE in history
- ODCE posted its best return ever in 4Q21; Industrial was the best performer.
- Income returns were positive across sectors.
- Appraisers are pricing in a recovery due to strong fundamentals in Industrial and Multifamily.
- Return dispersion by manager within the ODCE Index was due to the composition of underlying portfolios.
- Niche sectors such as self-storage and life sciences continued to be accretive.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	7.7%	21.0%	8.2%	7.7%	9.4%
Income	0.8%	3.1%	3.1%	3.2%	3.6%
Appreciation	6.9%	17.6%	5.0%	4.4%	5.7%
NCREIF Property Index	6.2%	17.7%	8.4%	7.8%	9.3%
Income	1.0%	4.2%	4.3%	4.5%	4.9%
Appreciation	5.1%	13.1%	3.9%	3.2%	4.3%

Returns are geometrically linked

NCREIF Property Index Quarterly Returns by Region and Property Type



Source: NCREIF, ODCE return is net

Recent Trends in Private Equity

Investment pace to slow

- 2021 was notable for the pace of capital deployment by private equity GPs. The amount of capital invested in 2021 was 65% higher than 2020.
- GPs expect to slow down to a more normalized pace of investment in 2022, particularly given current inflation concerns.

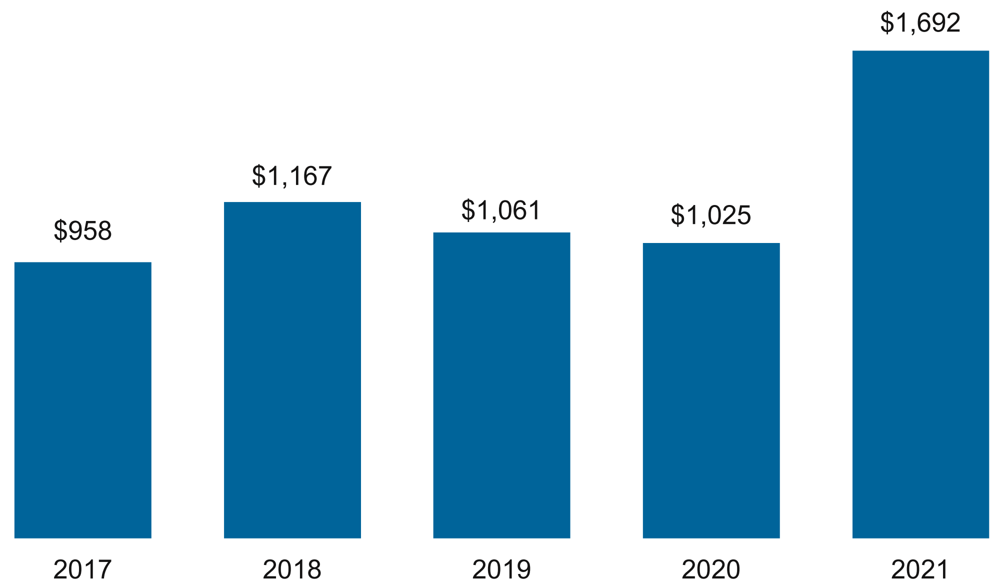
Constrained 2022 capital budgets

- With so many funds in the market or expected to come to market in 2022, many investors' pipelines for 2022 are already full with re-up opportunities. Some will face difficult decisions between new allocations and re-ups to existing managers.

Fundraising timelines extended

- Given the number of funds in or soon to be in the market, GPs are facing greater competition for LP commitments. This dynamic has resulted in longer fundraising timelines as well as incentives for LPs to close quickly, such as first-closer fee discounts.

Capital Invested – Global Private Equity (bn)



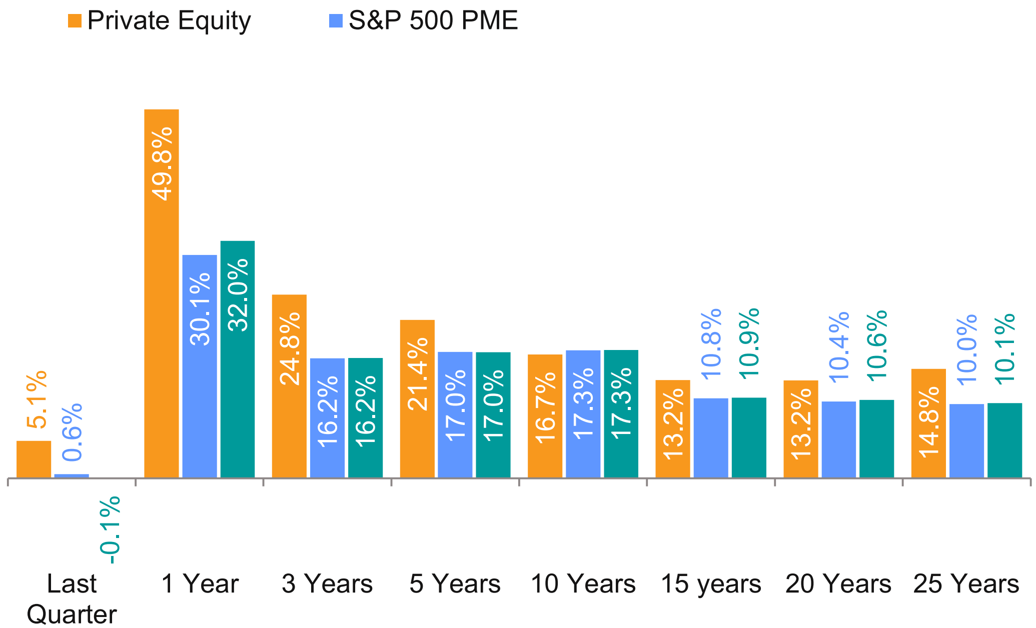
Source: PitchBook

Private Equity Performance

Huge gains over the last year, outpacing public equity

- Significant outperformance over one-year period with private equity exceeding the public markets by 18 to 20 percentage points
- Private equity 3Q21 gains ahead of those of public equity by 5 percentage points
- Private equity consistently ahead of public equity by ~2 to 4 percentage points across all longer-term time horizons, except over the last 10 years
- Volatility in recent public markets performance yet to translate to private markets performance

Net IRRs as of 09/30/21



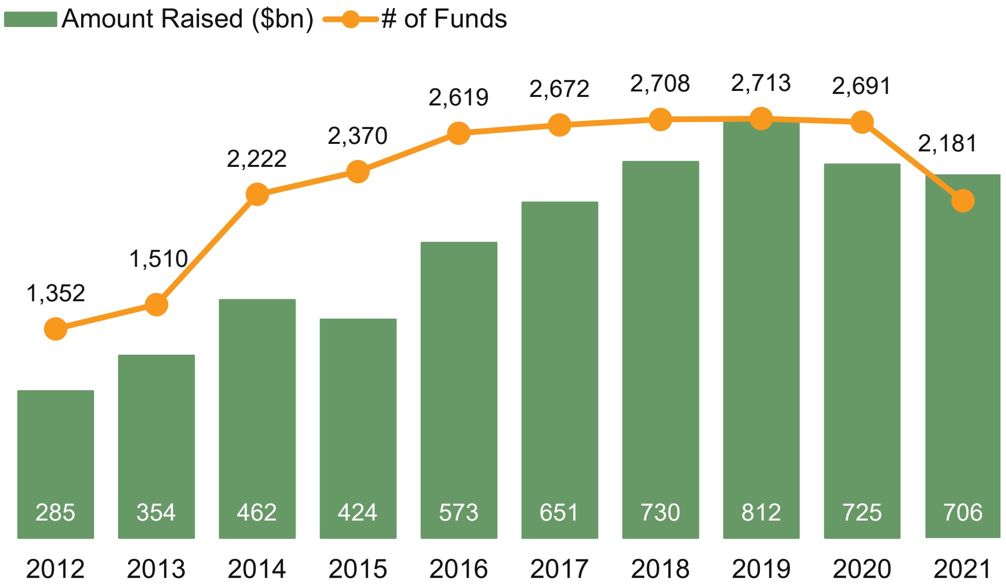
Source: Refinitiv/Cambridge

Private Equity Global Fundraising

2021 fundraising holds steady

– 2021 fundraising lagging 2019's peak by 13%, but remains consistent with 2020 fundraising
– While a large number of funds were raising in 2021, many did not hold final closes until 2022 due to LP capital budgeting constraints. Fundraising timelines have consequently become extended.
– As a result, a surge in fundraising stats is expected in 1Q22.

Annual Fundraising



Source: PitchBook, data through 12/31/21

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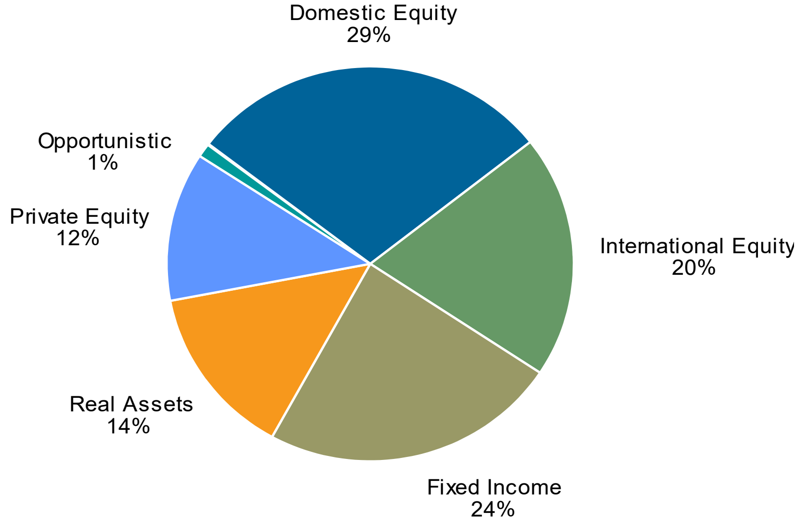
MCERA Total Fund Review

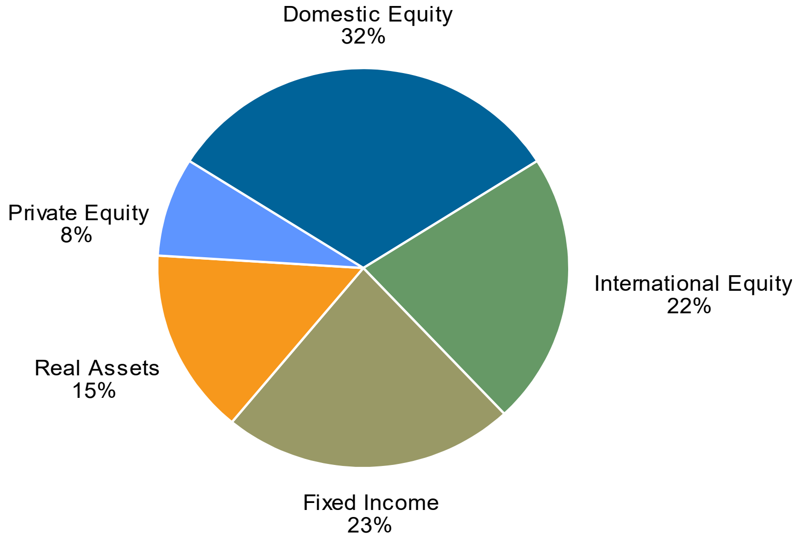
Total Fund Asset Allocation

As of December 31, 2021

Actual Asset Allocation



Target Asset Allocation



Asset Class	$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	$000s Difference
Domestic Equity	1,017,297	29.0%	28.0%	32.0%	36.0%	(3.0%)	(103,851)
International Equity	698,468	19.9%	19.0%	22.0%	25.0%	(2.1%)	(72,322)
Fixed Income	828,865	23.7%	20.0%	23.0%	26.0%	0.7%	23,039
Real Assets	491,687	14.0%	12.0%	15.0%	18.0%	(1.0%)	(33,851)
Private Equity	428,844	12.2%	0.0%	8.0%	12.0%	4.2%	148,557
Opportunistic	38,428	1.1%	0.0%	0.0%	5.0%	1.1%	38,428
Total	3,503,589	100.0%		100.0%			

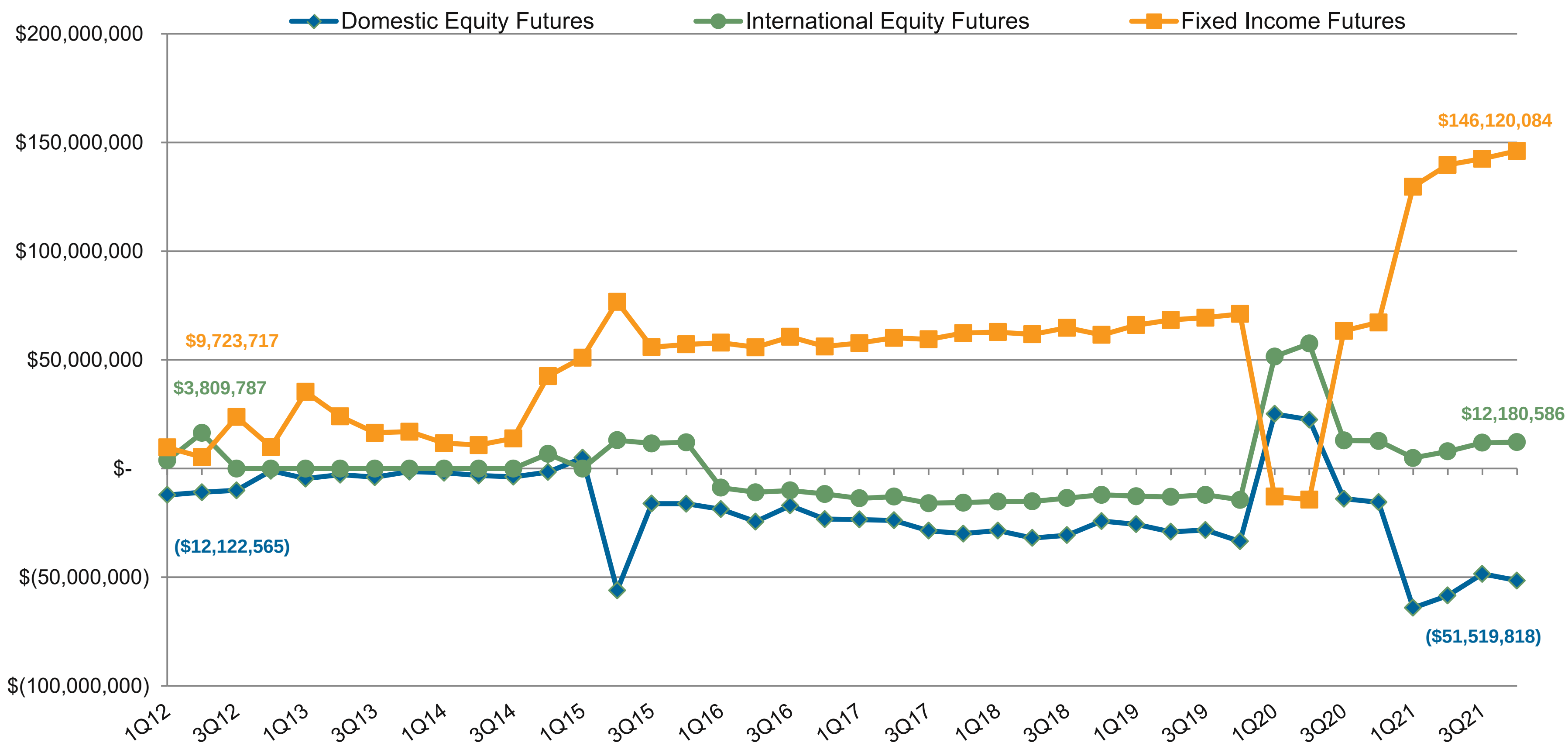
Total Fund Asset Distribution

	December 31, 2021				September 30, 2021	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equity	**$1,017,297,346**	**29.04%**	**$(54,946,531)**	**$87,567,158**	**$984,676,719**	**29.04%**
SSGA Russell 1000 Index	809,926,066	23.12%	(17,716,001)	73,399,414	754,242,653	22.24%
DFA Small Cap Core	258,891,098	7.39%	(36,400,713)	16,415,406	278,876,405	8.22%
Parametric Domestic Equity Futures	-51,519,818	(1.47%)	(829,817)	(2,247,662)	-48,442,339	(1.43%)
International Equity	**$698,467,612**	**19.94%**	**$(1,213,653)**	**$6,940,063**	**$692,741,202**	**20.43%**
Morgan Stanley Value	209,808,354	5.99%	0	5,078,349	204,730,004	6.04%
Artisan Partners Growth	219,516,684	6.27%	0	5,471,031	214,045,653	6.31%
TimesSquare Intl Small Cap	131,502,625	3.75%	(289,377)	(2,684,910)	134,476,912	3.97%
Parametric Emerging Markets	0	0.00%	(22,592,738)	(27,783)	22,620,521	0.67%
FIAM Select Emerging Equity	125,459,362	3.58%	22,000,000	(1,543,505)	105,002,867	3.10%
Parametric International Equity Futures	12,180,586	0.35%	(331,538)	646,880	11,865,244	0.35%
Fixed Income	**$828,864,668**	**23.66%**	**$70,319,240**	**$(3,036,791)**	**$761,582,219**	**22.46%**
Wellington Core Plus	334,562,672	9.55%	38,341,643	526,325	295,694,704	8.72%
Western Intermediate Credit	176,500,901	5.04%	(1,353,663)	(1,204,475)	179,059,039	5.28%
Colchester Global	171,681,011	4.90%	29,833,285	(2,453,047)	144,300,773	4.26%
Parametric Fixed Income Futures	146,120,084	4.17%	3,497,975	94,406	142,527,703	4.20%
Real Estate	**$251,134,218**	**7.17%**	**$(6,521,144)**	**$14,429,110**	**$243,226,251**	**7.17%**
Woodmont	18,099,990	0.52%	0	(1,153,783)	19,253,772	0.57%
UBS Trumbull Property Fund	110,011,244	3.14%	(5,314,135)	5,289,249	110,036,130	3.25%
AEW Core Property Trust	123,022,984	3.51%	(1,207,009)	10,293,644	113,936,349	3.36%
Public Real Assets	**$240,552,842**	**6.87%**	**$(102,222)**	**$16,946,989**	**$223,708,075**	**6.60%**
INVESCO Commodities Fund	58,876,689	1.68%	(102,222)	2,089,217	56,889,694	1.68%
BlackRock TIPS Index Fund	56,785,325	1.62%	0	1,285,567	55,499,757	1.64%
KBI Global Resources Fund	60,685,920	1.73%	0	4,145,897	56,540,023	1.67%
Blackrock REIT Index Fund	64,204,909	1.83%	0	9,426,308	54,778,602	1.62%
Private Equity*	**$428,844,458**	**12.24%**	**$(23,755,925)**	**$(0)**	**$452,600,383**	**13.35%**
Abbott ACE VI*	53,467,850	1.53%	(5,321,606)	(0)	58,789,456	1.73%
Abbott ACE VII*	55,834,321	1.59%	(6,125,000)	0	61,959,321	1.83%
Abbott 2016*	71,514,791	2.04%	(433,750)	0	71,948,541	2.12%
Abbott 2017*	19,374,044	0.55%	(67,500)	0	19,441,544	0.57%
Abbott 2021*	3,727,695	0.11%	0	0	3,727,695	0.11%
Pathway PPEF 2008*	74,466,970	2.13%	(8,269,420)	(0)	82,736,390	2.44%
Pathway PE I-7*	47,231,498	1.35%	(4,349,700)	(0)	51,581,198	1.52%
Pathway PE I-8*	75,483,066	2.15%	(2,011,740)	0	77,494,806	2.29%
Pathway PE I-9*	16,681,701	0.48%	414,403	0	16,267,298	0.48%
Pathway PE I-10*	11,062,521	0.32%	2,408,387	0	8,654,134	0.26%
Opportunistic**	**$38,428,030**	**1.10%**	**$6,021,775**	**$145,847**	**$32,260,409**	**0.95%**
CarVal Credit Value V**	7,395,245	0.21%	(24,604)	49,396	7,370,453	0.22%
Fortress Credit Opps Fund V**	9,222,913	0.26%	3,621,408	(0)	5,601,505	0.17%
Varde Dislocation Fund**	21,809,872	0.62%	2,424,971	96,451	19,288,451	0.57%
Total Fund	**$3,503,589,174**	**100.0%**	**$(10,198,459)**	**$122,992,376**	**$3,390,795,258**	**100.0%**

Reduced small cap allocation – rebalanced into fixed income beginning in 3Q and finished in 4Q.

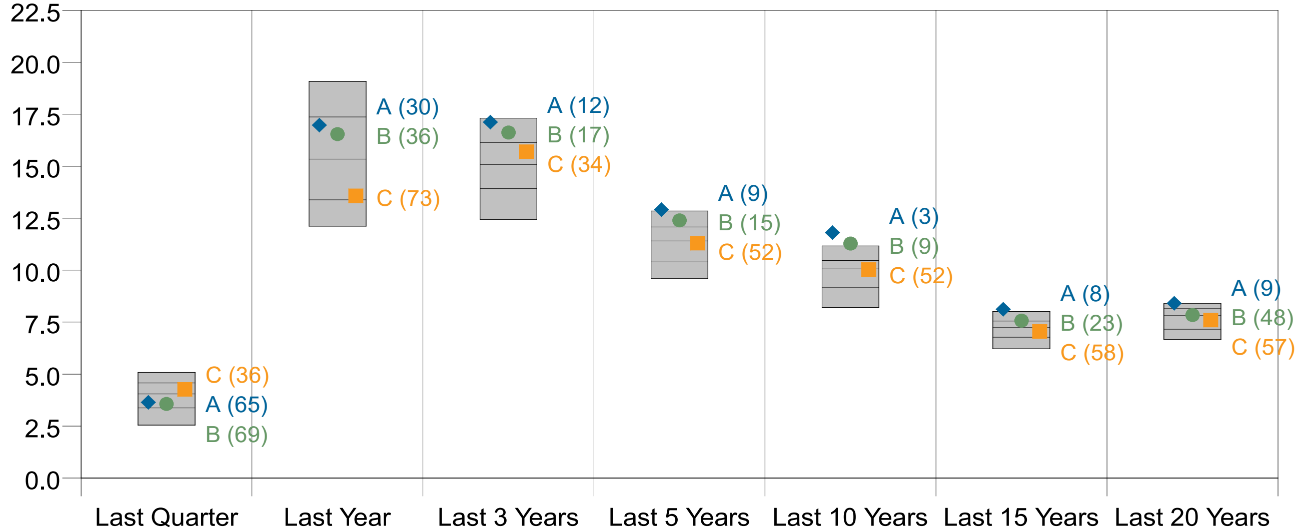
Process of transitioning emerging markets portfolio from Parametric to Fidelity began in August and was completed in October.

Parametric Overlay Positions – Changes Over Time



Total Fund Performance - Annualized

Returns for Periods Ended December 31, 2021
Group: Callan Public Fund Sponsor - Large (>1B)

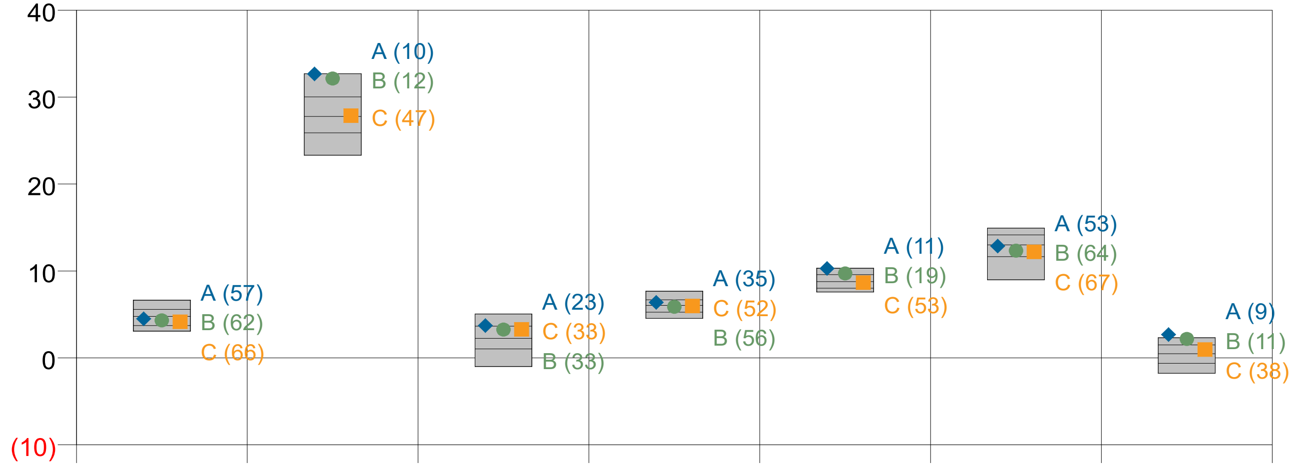


		Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years	Last 20 Years
10th Percentile		5.09	19.09	17.31	12.85	11.17	8.02	8.39
25th Percentile		4.58	17.38	16.15	12.08	10.46	7.55	8.15
Median		4.05	15.35	15.08	11.41	10.06	7.24	7.81
75th Percentile		3.38	13.39	13.93	10.40	9.16	6.78	7.16
90th Percentile		2.55	12.12	12.45	9.59	8.21	6.22	6.67
MCERA Total Fund - Gross	◆ A	3.64	16.99	17.12	12.92	11.82	8.12	8.41
MCERA Total Fund - Net	● B	3.57	16.55	16.62	12.40	11.29	7.57	7.84
MCERA Total Fund Target	■ C	4.27	13.58	15.70	11.30	10.04	7.06	7.60

Current Quarter Target = 32.0% Russell 3000 Index, 22.0% MSCI ACWI ex US IMI Index, 11.5% Bloomberg Aggregate Index, 5.8% Bloomberg Intermediate Credit Index, 5.8% FTSE World Government Bond Index, 8.0% NCREIF NFI-ODCE Equal Weight Net, 1.8% Bloomberg Commodity Price Index, 1.8% S&P Global Natural Resources Index, 1.8% S&P DJ US Select REIT Index, 1.8% Bloomberg US TIPS Index, 4.8% Russell 3000 Index (Lagged)and 3.2% MSCI ACWI ex US IMI Index (Lagged).

Total Fund Performance – Fiscal Year

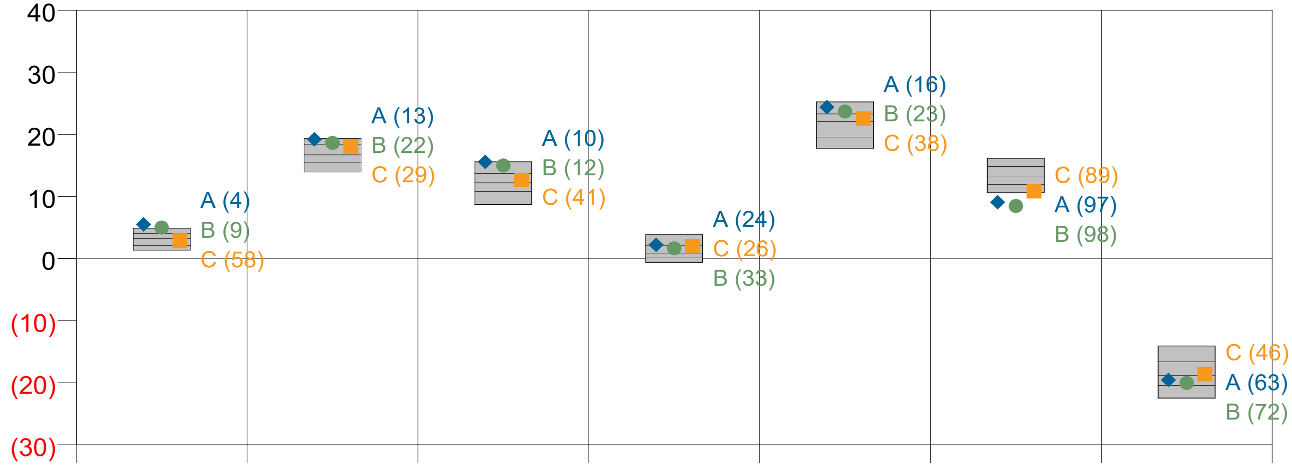
Fiscal Year Returns
Group: Callan Public Fund Sponsor - Large (>1B)



		Fiscal Year 2022	Fiscal Year 2021	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
10th Percentile		6.65	32.69	5.06	7.68	10.32	14.95	2.34
25th Percentile		5.59	30.05	3.66	6.70	9.58	14.15	1.50
Median		4.78	27.80	2.27	6.05	8.78	13.00	0.50
75th Percentile		3.74	25.91	1.05	5.27	8.02	11.67	(0.62)
90th Percentile		3.09	23.33	(0.99)	4.56	7.60	8.99	(1.75)
MCERA Total Fund - Gross	◆ A	4.52	32.69	3.74	6.39	10.29	12.88	2.68
MCERA Total Fund - Net	● B	4.34	32.15	3.26	5.88	9.74	12.34	2.19
MCERA Total Fund Target	■ C	4.18	27.89	3.29	5.99	8.67	12.20	0.98

Total Fund Performance – Fiscal Year

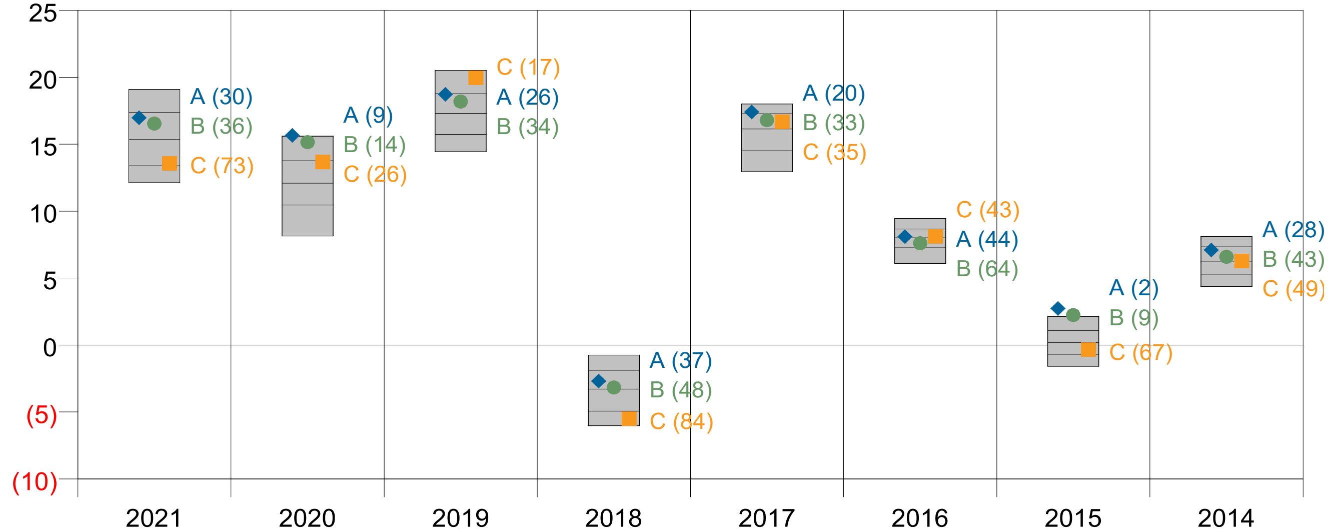
Fiscal Year Returns
Group: Callan Public Fund Sponsor - Large (>1B)



		Fiscal Year 2015	Fiscal Year 2014	Fiscal Year 2013	Fiscal Year 2012	Fiscal Year 2011	Fiscal Year 2010	Fiscal Year 2009
10th Percentile		4.93	19.33	15.59	3.87	25.26	16.18	(14.06)
25th Percentile		4.08	18.43	13.72	2.09	23.33	14.82	(16.60)
Median		3.29	16.73	12.22	0.90	22.07	13.33	(18.82)
75th Percentile		2.15	15.53	10.84	0.11	19.59	11.95	(20.39)
90th Percentile		1.39	13.95	8.71	(0.57)	17.78	10.62	(22.46)
MCERA Total Fund - Gross	◆ A	5.52	19.22	15.60	2.26	24.42	9.11	(19.54)
MCERA Total Fund - Net	● B	5.02	18.65	15.01	1.67	23.71	8.49	(20.02)
MCERA Total Fund Target	■ C	2.91	18.09	12.68	2.02	22.58	10.87	(18.58)

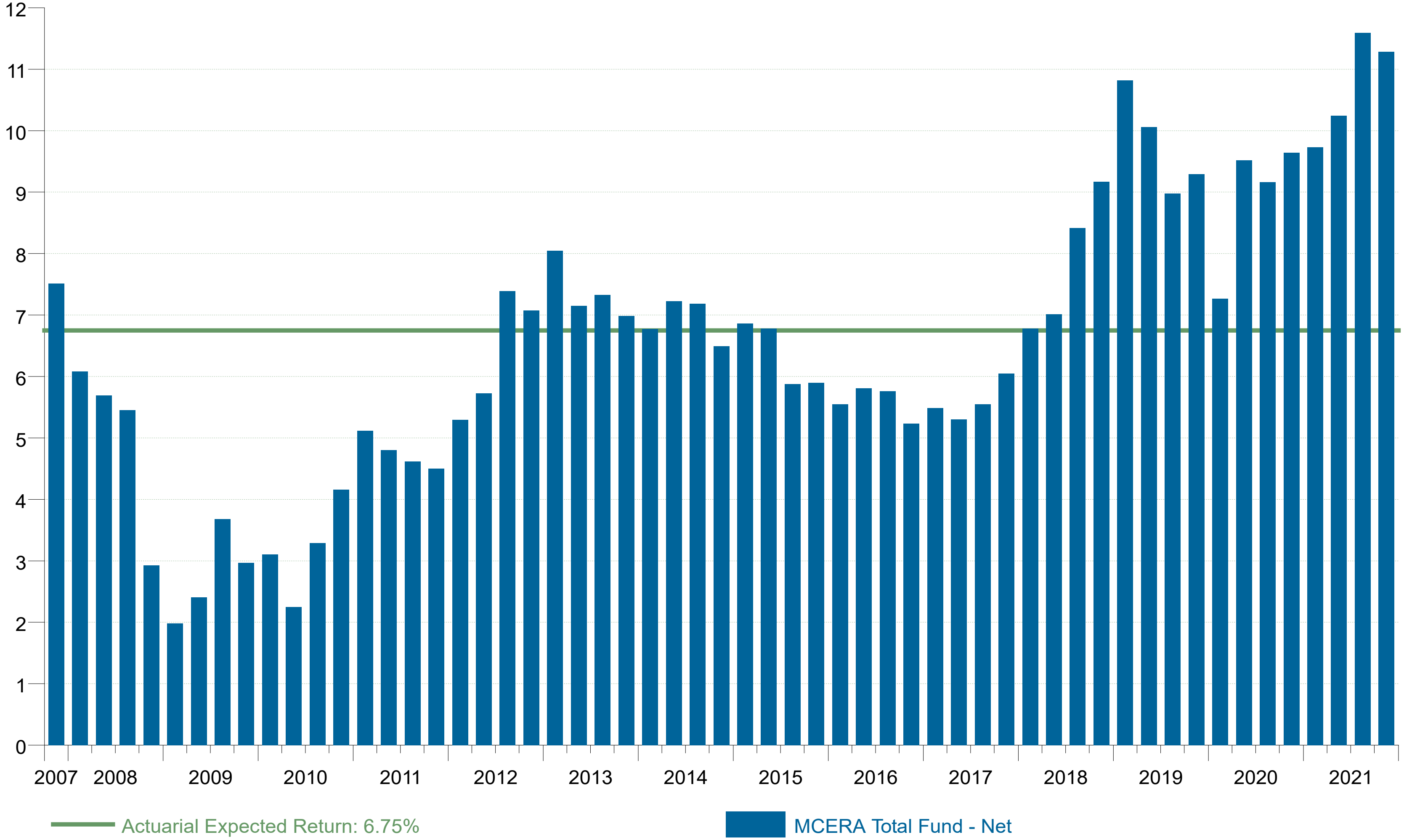
Total Fund Performance – Calendar Years

Returns for Periods Ended December 31, 2021
Group: Callan Public Fund Sponsor - Large (>1B)



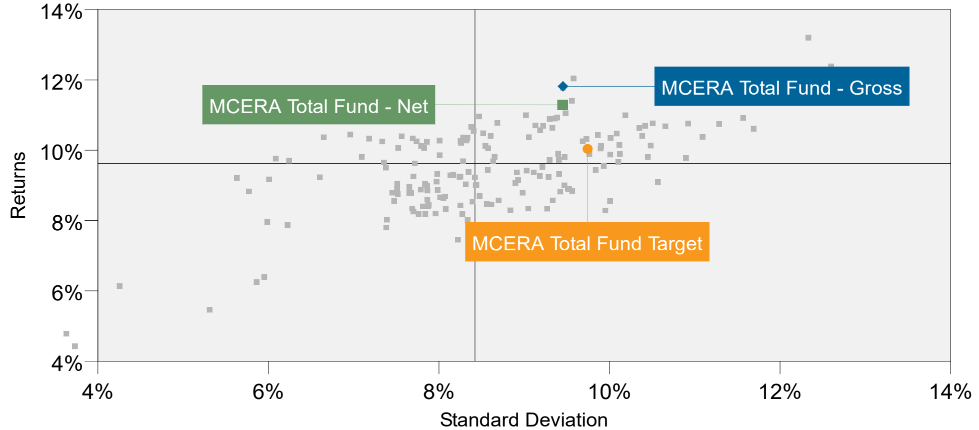
		2021	2020	2019	2018	2017	2016	2015	2014
10th Percentile		19.09	15.61	20.52	(0.74)	18.01	9.47	2.15	8.11
25th Percentile		17.38	13.77	18.77	(1.88)	17.28	8.67	1.10	7.34
Median		15.35	12.10	17.31	(3.28)	16.14	8.01	0.20	6.22
75th Percentile		13.39	10.47	15.74	(4.92)	14.52	7.31	(0.67)	5.25
90th Percentile		12.12	8.15	14.45	(6.02)	12.95	6.08	(1.58)	4.38
Total Fund - Gross	A	16.99	15.66	18.73	(2.68)	17.41	8.10	2.73	7.10
MCERA Total Fund - Net	B	16.55	15.16	18.19	(3.16)	16.81	7.61	2.24	6.59
Total Fund Target	C	13.58	13.68	19.97	(5.49)	16.68	8.13	(0.34)	6.28

Annualized 10 Year Total Fund Net Returns (Quarterly Roll)

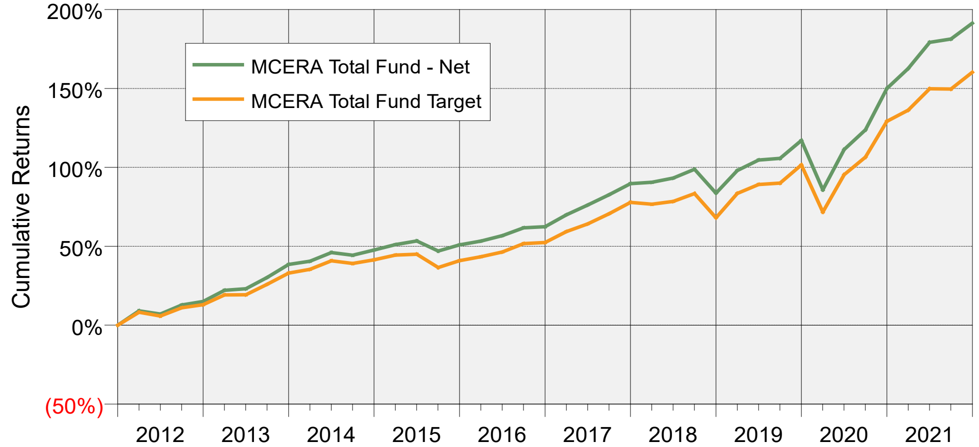


Total Fund – Cumulative Returns Relative to Target

Ten Year Annualized Risk vs. Return
As of December 31, 2021



Total Fund Cumulative Returns vs. Target
10 Years Ended December 31, 2021



Watchlist

Investment Manager Monitoring Summary Report
Active Managers as of December 31, 2021

Investment Manager	Organization/ Team	3 Year Performance vs Benchmark	3 Year Performance vs Peers	5 Year Performance vs Benchmark	5 Year Performance vs Peers	Qualify for Watchlist?	Date Added
DFA Small Cap Core Equity *Russell 2000 Index*		N/A	N/A	N/A	N/A		
Morgan Stanley International Value Equity *MSCI EAFE Index*						Yes	4Q17
Artisan International Growth Equity *MSCI EAFE Index*						Yes	4Q17
TimesSquare International Small Cap Equity *MSCI EAFE Small Cap Index*		N/A	N/A	N/A	N/A		
Fidelity Emerging Markets Equity *MSCI Emerging Markets Index*		N/A	N/A	N/A	N/A		
Wellington Core Plus Fixed Income *Bloomberg Barclays Aggregate Index*						No	
Western Asset Intermediate Credit Fixed Income *Bloomberg Barclays Intermediate Credit Index*						No	
Colchester Global Fixed Income *FTSE World Government Bond Index*						Yes	4Q20
Invesco Balanced Risk Commodity Fund *Bloomberg Commodity Index*						No	4Q20
KBI Global Natural Resources Fund *S&P Global Natural Resource Index*			N/A		N/A	No	
UBS Trumbull Property Fund* *NFI-ODCE Index*		N/A	N/A	N/A	N/A	Under Review	4Q19

*UBS Trumbull Property Fund placed on watch for organizational concerns. Quantitative criteria for private market portfolios under review by Governance Committee.

Quantitative Criteria

If a manager trails its relevant benchmark by more than 100 basis points (net of fees) <u>and</u> ranks in the bottom quartile of its peer universe (gross of fees ranking) for the trailing three years, <u>or</u> if a manager trails its relevant benchmark (net of fees) <u>or</u> ranks below median of its peer universe (gross of fees ranking) for the trailing five years, then the manager may be placed on the Watchlist.

Color Code

- meets watch list criteria, no concerns, no actions recommended
- concerns exist, no actions recommended
- violates watch list criteria, concerns exist, action to be determined

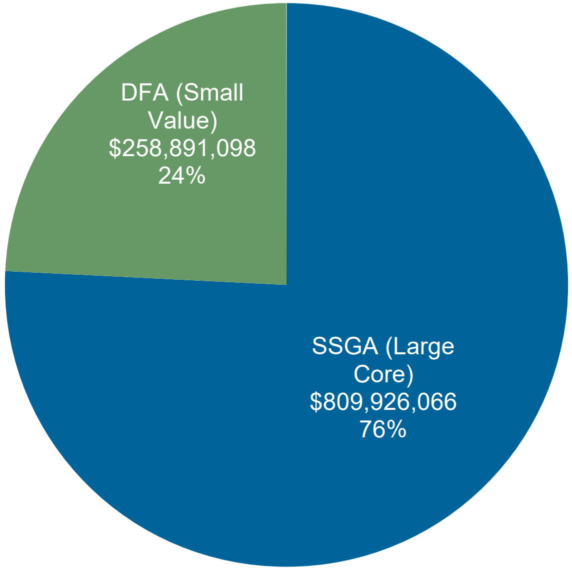
Watchlist

Investment Manager	3 Year Net Return Trails Benchmark by more than 100 bps (relative return shown in bps)	AND	3 Year Gross Return Ranks 75th - 100th%	OR	5 Year Net Return Trails Benchmark (relative return shown in bps)	OR	5 Year Gross Return Ranks 50th - 100th%	Qualify for Watchlist (Quantitative)
DFA Small Cap Core Equity *Russell 2000 Index*	N/A		N/A		N/A		N/A	No
Morgan Stanley International Value Equity *MSCI EAFE Index*	-119		31st		-54		3rd	Yes
Artisan International Growth Equity *MSCI EAFE Index*	147		81st		275		65th	Yes
TimesSquare International Small Cap Equity *MSCI EAFE Small Cap Index*	N/A		N/A		N/A		N/A	No
Fidelity Emerging Markets Equity *MSCI Emerging Markets Index*	N/A		N/A		N/A		N/A	No
Wellington Core Plus Fixed Income *Bloomberg Barclays Aggregate Index*	146		35th		105		30th	No
Western Asset Intermediate Credit Fixed Income *Bloomberg Barclays Intermediate Credit Index*	121		1st		73		1st	No
Colchester Global Fixed Income *FTSE World Government Bond Index*	46		71st		41		57th	Yes
Invesco Balanced Risk Commodity Fund *Bloomberg Commodity Index*	88		50th		115		28th	No
KBI Global Natural Resources Fund *S&P Global Natural Resource Index*	1288		N/A		529		N/A	No
UBS Trumbull Property Fund *NCREIF NFI-ODCE Index*	Quantitative criteria for private markets portfolios under review by Governance Committee. On watch due to organizational changes.							Under Review

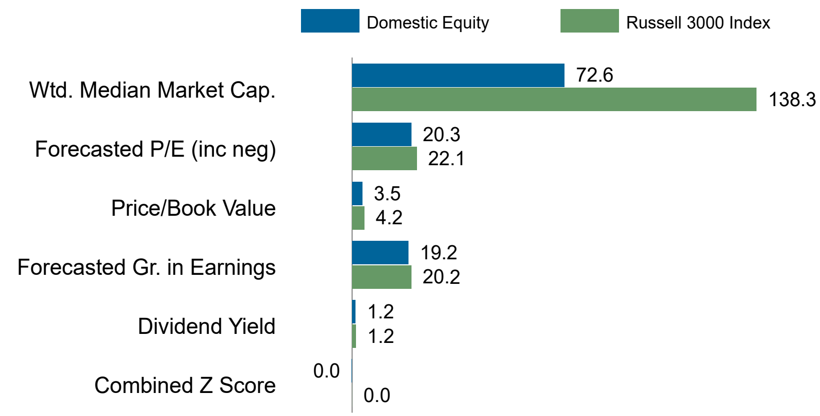
Callan

MCERA Asset Class Review

Domestic Equity Composite



Portfolio Characteristics as of December 31, 2021

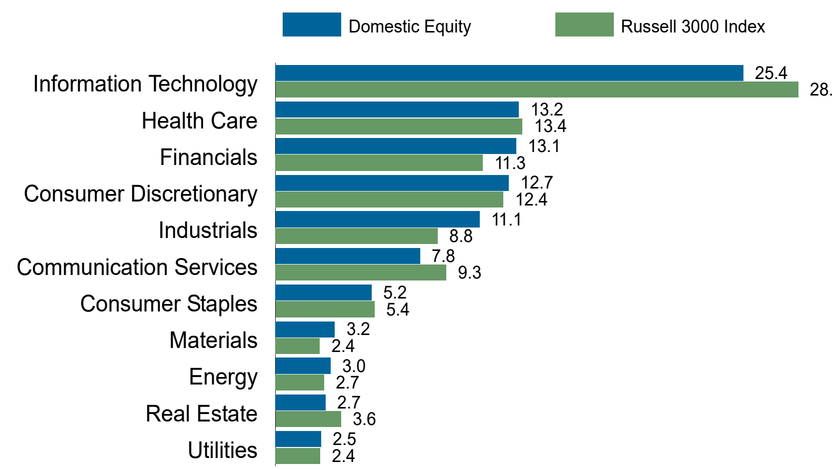


Style Exposure Matrix
Holdings as of December 31, 2021

-- Domestic Equity
-- Russell 3000 Index

	Value	Core	Growth	Total
Large	16.4% (102) 20.9% (102)	13.7% (95) 17.5% (95)	30.3% (104) 38.6% (104)	60.4% (301) 77.0% (301)
Mid	4.2% (169) 4.8% (170)	5.5% (212) 5.5% (217)	6.1% (207) 5.5% (216)	15.8% (588) 15.8% (603)
Small	5.3% (244) 1.6% (299)	7.5% (358) 2.4% (513)	6.8% (300) 2.2% (395)	19.6% (902) 6.3% (1207)
Micro	2.0% (418) 0.3% (314)	1.5% (269) 0.4% (423)	0.8% (130) 0.2% (168)	4.3% (817) 0.9% (905)
Total	27.9% (933) 27.7% (885)	28.2% (934) 25.8% (1248)	44.0% (741) 46.6% (883)	100.0% (2608) 100.0% (3016)

Sector Allocation as of December 31, 2021



Domestic Equity Composite

Returns and Rankings for Periods Ended December 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equity - Net	**9.03**	**29.73**	**25.33**	**17.58**	**15.89**
Domestic Equity Target	9.28	25.66	25.79	17.97	16.30
Large Cap Equity - Net	**9.81**	**27.28**	**25.74**	**18.24**	**16.48**
SSGA - Net	**9.79**	**27.16**	**25.52**	**18.16**	**16.40**
Large Cap Blended Benchmark	9.78	27.15	25.56	18.19	16.41
Ranking vs. Large Cap Equity	30	48	53	51	53
Small Cap Equity - Net	**6.68**	**34.93**	**23.39**	**15.03**	**13.86**
DFA Small Core - Net	6.04	29.21	20.70	--	--
Russell 2000 Index	2.14	14.82	20.02	12.02	13.23
Ranking vs. Small Cap Equity	42	21	52	--	--

Returns and Rankings for Calendar Years

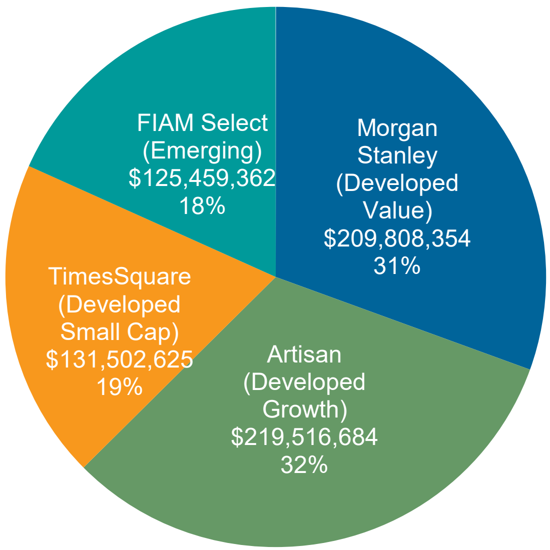
	2021	2020	2019	2018	2017	2016
Domestic Equity - Net	**29.73**	**17.85**	**28.76**	**(5.34)**	**20.61**	**13.26**
Domestic Equity Target	25.66	20.89	31.02	(5.24)	21.13	12.74
Large Cap Equity - Net	**27.28**	**18.65**	**31.63**	**(4.59)**	**21.86**	**12.01**
SSGA - Net	**27.16**	**18.33**	**31.43**	**(4.39)**	**21.82**	**12.00**
Large Cap Blended Benchmark	27.15	18.40	31.49	(4.38)	21.83	11.96
Ranking vs. Large Cap Equity	48	53	44	46	51	35
Small Cap Equity - Net	**34.93**	**14.26**	**21.86**	**(8.79)**	**17.50**	**15.99**
DFA Small Core - Net	29.21	11.74	21.80	--	--	--
Russell 2000 Index	14.82	19.96	25.52	(11.01)	14.65	21.31
Ranking vs. Small Cap Equity	21	54	71	--	--	--

- The domestic equity composite modestly underperformed the index in the fourth quarter but had strong relative outperformance for the year due to the small cap composite.

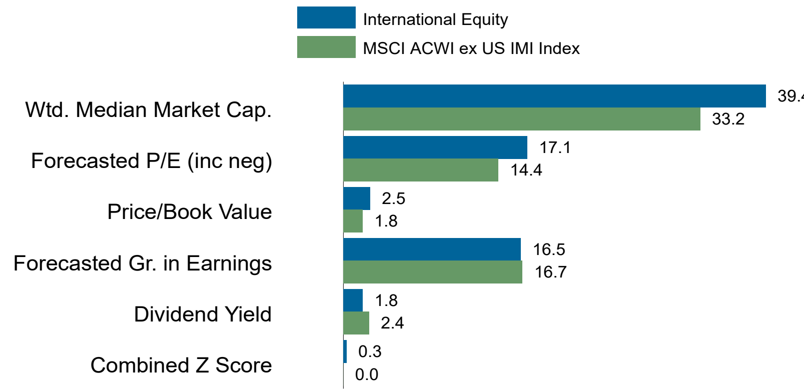
The Domestic Equity Target is comprised of 51.1% S&P/BARRA Value, 22.2% S&P 500, 15.6% Russell 2000 and 11.1% S&P/BARRA Growth through 12/31/1999, 80% S&P 500 and 20% Russell 2000 from 12/31/1999 to 06/30/2010, and 100% Russell 3000 from 06/30/2010 to present.

The Large Cap Blended Benchmark consists of the S&P 500 Index to 7/31/2021 and the Russell 1000 Index thereafter.

International Equity Composite



Portfolio Characteristics as of December 31, 2021

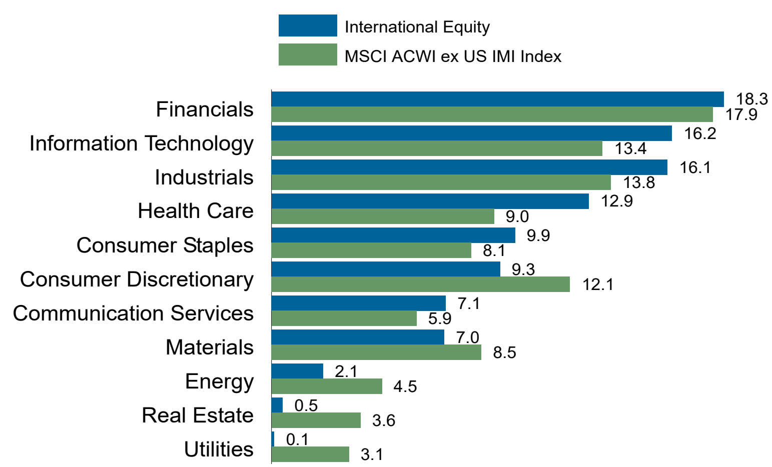


Region & Style Exposure Matrix
Holdings as of December 31, 2021

-- International Equity
-- MSCI ACWI ex US IMI Index

	Value	Core	Growth	Total
Europe	10.5% (23) / 12.8%	25.4% (52) / 13.4%	22.2% (51) / 15.4%	58.1% (126) / 41.6%
N. America	0.0% (1) / 1.2%	1.0% (3) / 1.7%	4.2% (6) / 1.3%	5.2% (10) / 4.2%
Pacific	0.4% (4) / 7.4%	3.7% (12) / 7.8%	9.0% (27) / 9.1%	13.1% (43) / 24.3%
Emerging	4.1% (659) / 7.6%	7.2% (498) / 9.7%	12.2% (289) / 12.7%	23.6% (1446) / 29.9%
Total	15.1% (687) / 28.9%	37.3% (565) / 32.6%	47.6% (373) / 38.5%	100.0% (1625) / 100.0%

Sector Allocation as of December 31, 2021



International Equity Composite

Returns and Rankings for Periods Ended December 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
International Equity - Net	**0.94**	**5.27**	**12.94**	**9.94**	**8.46**
International Equity Target	1.64	8.53	13.62	9.83	7.57
Morgan Stanley - Net	**2.34**	**4.71**	**12.35**	**9.01**	**7.63**
MSCI EAFE Index	2.69	11.26	13.54	9.55	8.03
Ranking vs. Non-US Developed Value Equity	26	98	31	3	30
Artisan - Net	**2.56**	**8.59**	**15.01**	**12.30**	**9.33**
MSCI EAFE Index	2.69	11.26	13.54	9.55	8.03
Ranking vs. Non-US Developed Growth Equity	52	61	81	65	59
TimesSquare - Net	**(2.00)**	**2.17**	**--**	**--**	**--**
MSCI EAFE Small Cap	0.07	10.10	15.62	11.04	10.80
Ranking vs. International Small Cap Equity	85	94	--	--	--
FIAM Select EM - Net	**(1.01)**	**--**	**--**	**--**	**--**
MSCI Emerging Markets Index	(1.31)	(2.54)	10.94	9.88	5.49
Ranking vs. Emerging Markets Equity	56	--	--	--	--

Returns and Rankings for Periods Ended December 31, 2021

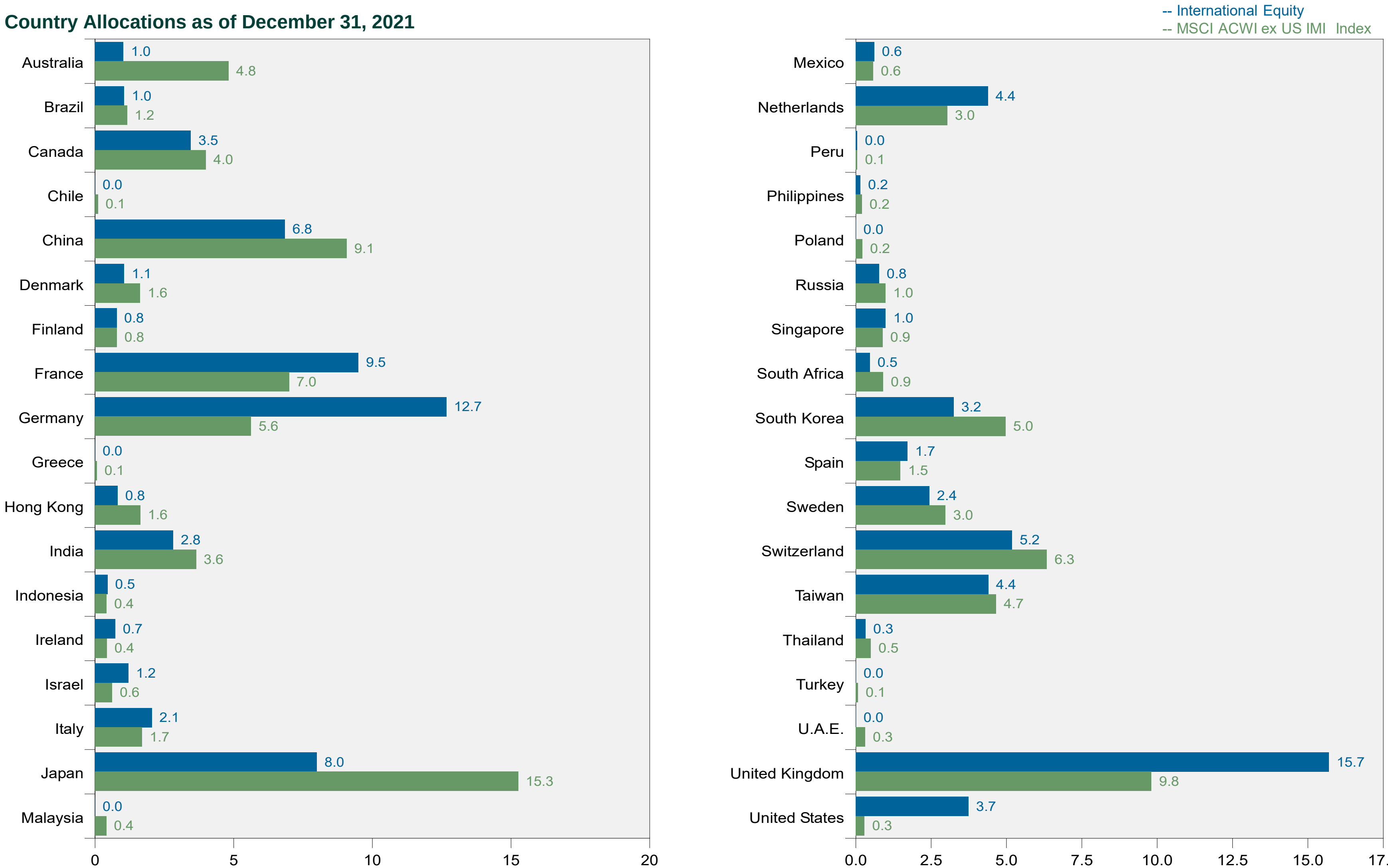
	2021	2020	2019	2018	2017
International Equity - Net	**5.27**	**10.79**	**23.52**	**(13.51)**	**28.92**
International Equity Target	8.53	11.12	21.63	(14.76)	27.81
Morgan Stanley - Net	**4.71**	**11.99**	**20.92**	**(13.46)**	**25.42**
MSCI EAFE Index	11.26	7.82	22.01	(13.79)	25.03
Ranking vs. Non-US Developed Value Equity	98	1	34	14	41
Artisan - Net	**8.59**	**8.08**	**29.61**	**(10.56)**	**31.24**
MSCI EAFE Index	11.26	7.82	22.01	(13.79)	25.03
Ranking vs. Non-US Developed Growth Equity	61	96	26	13	25
TimesSquare - Net	**2.17**	**13.87**	**--**	**--**	**--**
MSCI EAFE Small Cap	10.10	12.34	24.96	(17.89)	33.01
Ranking vs. International Small Cap Equity	94	39	--	--	--

- The International Equity composite underperformed on a relative basis during the fourth quarter and the year. International markets have favored low quality, cyclical companies in which your managers do not invest.
  - Morgan Stanley: defensive positioning, an overweight to consumer staples, and selection within staples, health care, financials and energy detracted from relative returns.
  - Artisan: the majority of Artisan's relative underperformance for the year occurred in the first quarter with the sharp reversal to value. High quality, stable growth companies were out of favor and their underweight to banks and energy also hurt relative returns.
  - TimesSquare: quality growth style detracted along with stock selection in Japan and Europe.
  - FIAM Select: exposure with information technology and real estate were key contributors to relative outperformance last quarter.

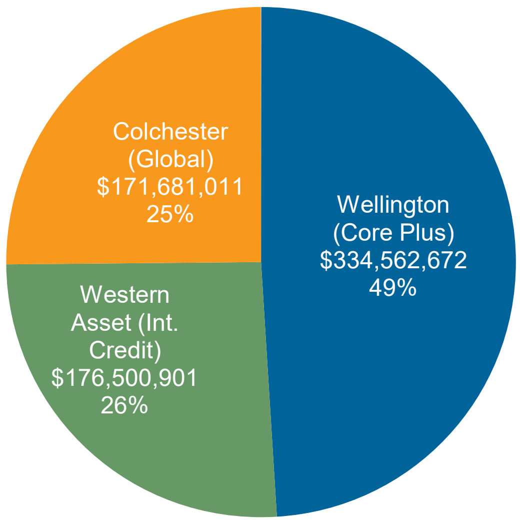
The International Equity Target is comprised of 100% MSCI EAFE Index through 06/30/2010, and 100% MSCI ACWI ex-US IMI Index thereafter.

International Equity Composite

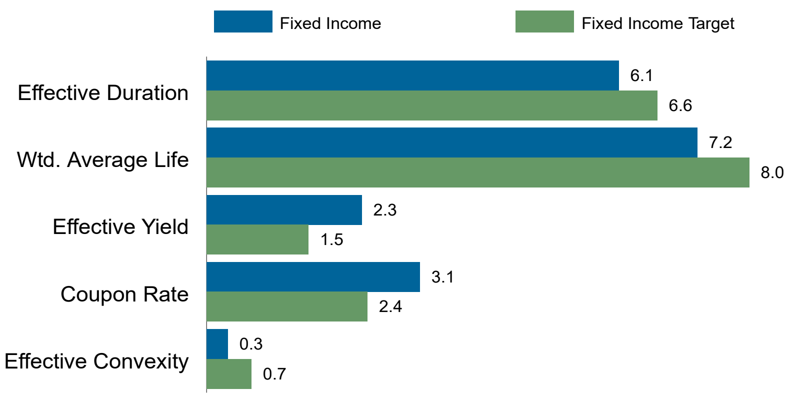
Country Allocations as of December 31, 2021



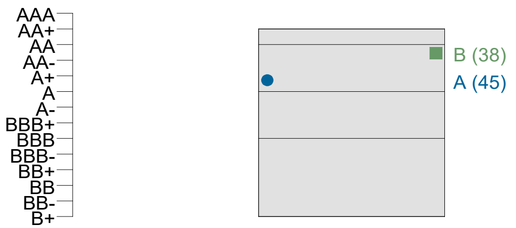
Fixed Income Composite



Portfolio Characteristics as of December 31, 2021

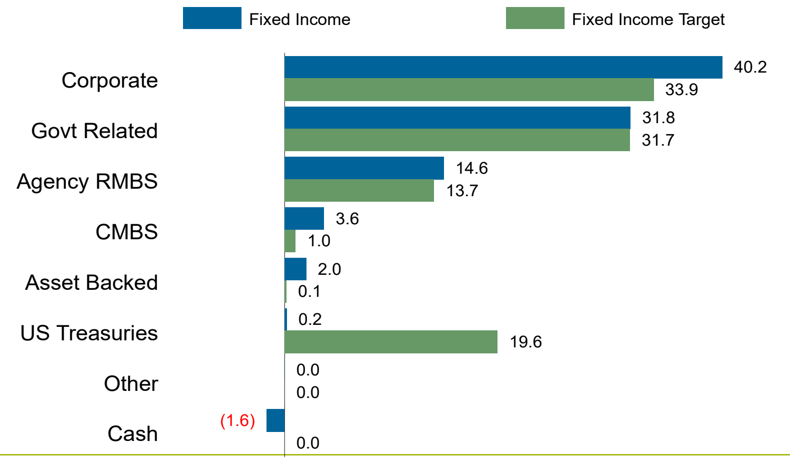


Quality Rating as of December 31, 2021
Total Domestic Fixed Income Database



10th Percentile	AA+
25th Percentile	AA
Median	A
75th Percentile	BBB
90th Percentile	B+
Fixed Income ● A	A+
Fixed Income Target ■ B	AA-

Sector Allocation as of December 31, 2021



Fixed Income Composite

Returns and Rankings for Periods Ended December 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Fixed Income - Net	**(0.43)**	**(2.50)**	**5.70**	**4.35**	**3.59**
Fixed Income Target	(0.41)	(2.79)	4.38	3.48	2.55
Wellington - Net	**0.11**	**(0.74)**	**6.25**	**4.62**	**4.06**
Bloomberg Aggregate Index	0.01	(1.54)	4.79	3.57	2.90
Ranking vs. Core Plus Fixed Income	27	64	35	30	47
Western Asset - Net	**(0.75)**	**(0.49)**	**6.30**	**4.50**	**4.09**
Bloomberg Intermediate Credit Index	(0.55)	(1.03)	5.10	3.77	3.53
Ranking vs. Intermediate Fixed Income	94	2	1	1	1
Colchester - Net	**(1.58)**	**(8.01)**	**3.21**	**3.35**	**--**
FTSE World Government Bond Index	(1.10)	(6.97)	2.75	2.94	0.96
Ranking vs. Global Fixed Income (Uhedged)	87	97	71	57	--

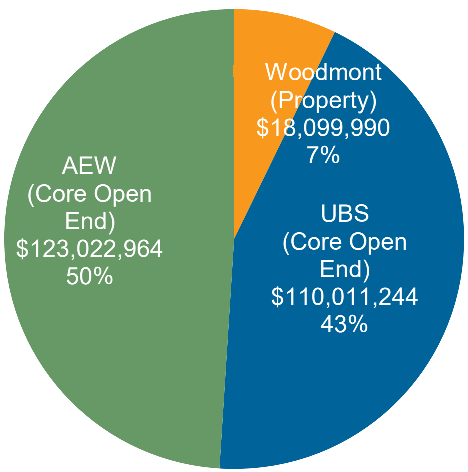
Returns and Rankings for Calendar Years

	2021	2020	2019	2018	2017	2016
Fixed Income - Net	**(2.50)**	**11.47**	**8.65**	**(0.35)**	**5.14**	**4.26**
Fixed Income Target	(2.79)	8.10	8.21	(0.17)	4.55	2.70
Wellington - Net	**(0.74)**	**9.91**	**9.94**	**(0.37)**	**4.90**	**4.72**
Bloomberg Aggregate Index	(1.54)	7.51	8.72	0.01	3.54	2.65
Ranking vs. Core Plus Fixed Income	64	26	44	42	41	43
Western Asset - Net	**(0.49)**	**9.96**	**9.78**	**(0.37)**	**4.12**	**4.89**
Bloomberg Intermediate Credit Index	(1.03)	7.08	9.52	0.01	3.67	3.68
Ranking vs. Intermediate Fixed Income	2	2	1	99	2	1
Colchester - Net	**(8.01)**	**11.12**	**7.56**	**(0.90)**	**8.20**	**3.87**
FTSE World Government Bond Index	(6.97)	10.11	5.90	(0.84)	7.49	1.60
Ranking vs. Global Fixed Income (Uhedged)	97	26	59	19	35	15

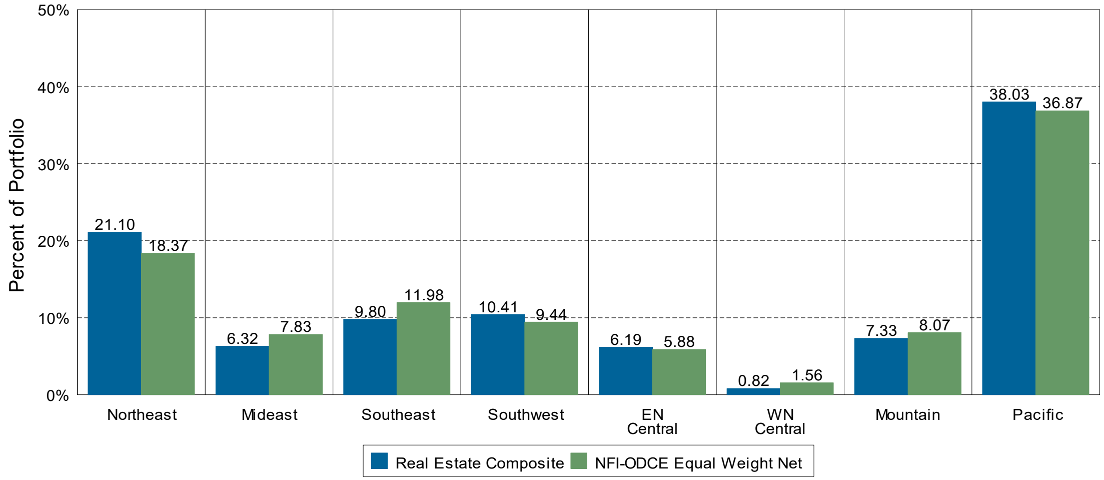
- The Fixed Income composite performed in line with its target in the fourth quarter, and outperformed on a relative basis for the year.
  - Wellington: selection within investment grade credit plus an allocation to high yield contributed to performance.
  - Western Asset: an overweight to lower quality issuers plus selection within banking and energy were positive for the year.
  - Colchester: both bond positioning (underweight United States and United Kingdom) and currency positioning (Swedish Krona) detracted during the year.

Fixed Income Target is comprised of 100% Bloomberg Aggregate Index until 03/31/2014 and 50% Bloomberg Aggregate Index, 25% Bloomberg Intermediate Credit Index, and 25% FTSE World Government Bond Index thereafter.

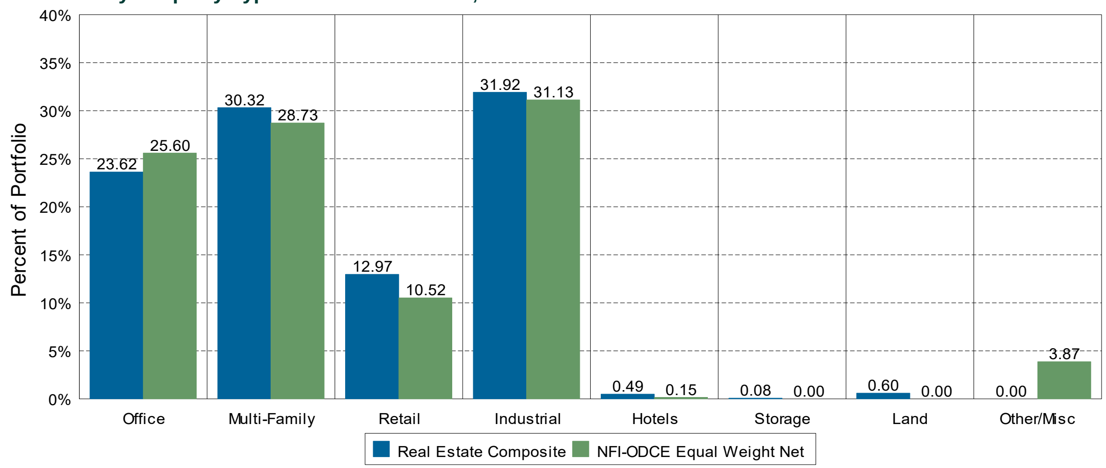
Real Estate Composite



Diversification by Geographic Region as of December 31, 2021



Diversification by Property Type as of December 31, 2021



Real Estate Composite

Returns and Rankings for Periods Ended December 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Real Estate - Net	**5.87**	**16.16**	**4.53**	**5.14**	**10.09**
Real Estate Target	7.38	21.88	8.90	8.18	9.68
AEW Core Property Trust - Net	**8.80**	**21.00**	**8.61**	**7.92**	**--**
NFI-ODCE Equal Wt Net Index	7.38	21.88	8.90	8.18	9.70
Ranking vs. Core Open End Funds	5	34	40	44	--
UBS Trumbull Property Fund - Net	**4.86**	**15.41**	**2.23**	**3.61**	**--**
NFI-ODCE Equal Wt Net Index	7.38	21.88	8.90	8.18	9.70
Ranking vs. Core Open End Funds	25	84	96	96	--

Returns and Rankings for Calendar Years

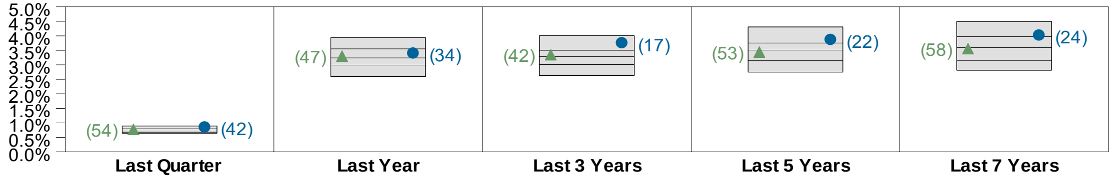
	2021	2020	2019	2018	2017	2016
Real Estate - Net	**16.16**	**(2.29)**	**0.64**	**6.46**	**5.66**	**7.14**
Real Estate Target	21.88	0.75	5.18	7.30	6.92	8.36
AEW Core Property Trust - Net	**21.00**	**0.57**	**5.29**	**6.77**	**6.99**	**7.51**
NFI-ODCE Equal Wt Net Index	21.88	0.75	5.18	7.30	6.92	8.36
Ranking vs. Core Open End Funds	34	66	71	76	43	67
UBS Trumbull Property Fund - Net	**15.41**	**(4.68)**	**(2.88)**	**6.12**	**5.32**	**6.16**
NFI-ODCE Equal Wt Net Index	21.88	0.75	5.18	7.30	6.92	8.36
Ranking vs. Core Open End Funds	84	96	96	89	85	82

- The AEW Core Property Trust’s current leverage is 24.4% (NFI-ODCE leverage: 22.1%).
  - All sectors produced positive returns for the year. The industrial sector continues to lead performance for AEW. Multi-family was also a strong contributor followed by retail and office.
- The UBS Trumbull Property Fund’s current leverage is 16.9%.
  - During the year, the industrial sector contributed the most to returns followed by multi-family and office. Retail and hotel returns were negative.

The Real Estate Target is comprised of the NCREIF Classic Index through 12/31/2004, NCREIF Total Property Index through 12/31/2014, and the NFI-ODCE Equal Weight Net thereafter.

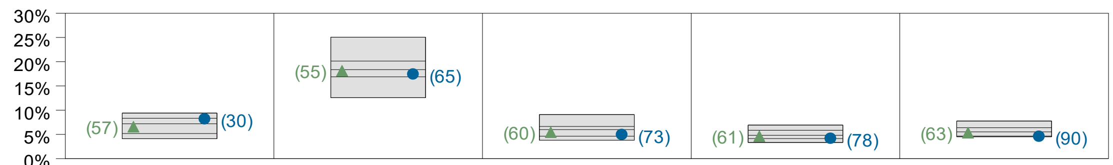
AEW Income and Appreciation Returns

Income Rankings vs Callan Real Estate ODCE
Periods ended December 31, 2021



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
10th Percentile	0.89	3.94	4.01	4.31	4.50
25th Percentile	0.87	3.55	3.50	3.75	3.97
Median	0.80	3.24	3.29	3.51	3.59
75th Percentile	0.68	2.99	3.01	3.14	3.15
90th Percentile	0.64	2.60	2.63	2.75	2.82
AEW Core Property Trust ●	0.82	3.37	3.72	3.84	3.98
NFI-ODCE Equal Weight Net ▲	0.78	3.30	3.35	3.44	3.56

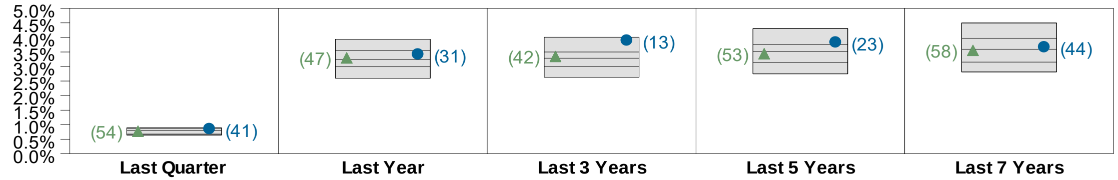
Appreciation Rankings vs Callan Real Estate ODCE
Periods ended December 31, 2021



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
10th Percentile	9.40	25.05	9.09	6.93	7.76
25th Percentile	8.34	20.13	6.64	5.86	6.37
Median	7.18	18.37	6.00	4.83	5.52
75th Percentile	5.18	16.87	4.65	4.14	4.67
90th Percentile	4.12	12.57	3.80	3.34	4.51
AEW Core Property Trust ●	7.97	17.21	4.75	3.96	4.41
NFI-ODCE Equal Weight Net ▲	6.60	18.13	5.45	4.64	5.36

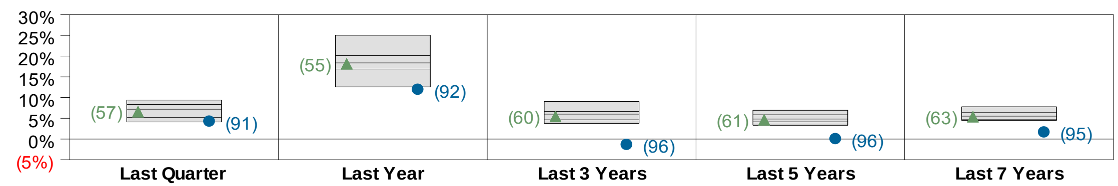
UBS Income and Appreciation Returns

Income Rankings vs Callan Real Estate ODCE
Periods ended December 31, 2021



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
10th Percentile	0.89	3.94	4.01	4.31	4.50
25th Percentile	0.87	3.55	3.50	3.75	3.97
Median	0.80	3.24	3.29	3.51	3.59
75th Percentile	0.68	2.99	3.01	3.14	3.15
90th Percentile	0.64	2.60	2.63	2.75	2.82
UBS Trumbull Property Fund ●	0.82	3.39	3.87	3.80	3.64
NFI-ODCE Equal Weight Net ▲	0.78	3.30	3.35	3.44	3.56

Appreciation Rankings vs Callan Real Estate ODCE
Periods ended December 31, 2021

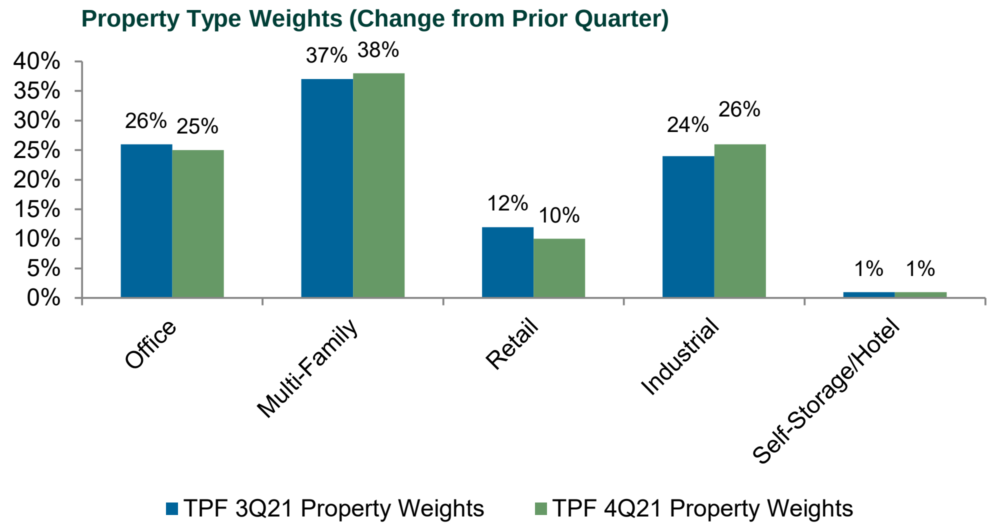


	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 7 Years
10th Percentile	9.40	25.05	9.09	6.93	7.76
25th Percentile	8.34	20.13	6.64	5.86	6.37
Median	7.18	18.37	6.00	4.83	5.52
75th Percentile	5.18	16.87	4.65	4.14	4.67
90th Percentile	4.12	12.57	3.80	3.34	4.51
UBS Trumbull Property Fund ●	4.04	11.72	(1.60)	(0.19)	1.43
NFI-ODCE Equal Weight Net ▲	6.60	18.13	5.45	4.64	5.36

UBS Trumbull Property Fund Snapshot

As of December 31, 2021

As of 4Q 2021	
Gross Asset Value	$18.1B
Net Asset Value	$14.8 B
Leverage	16.9%
Number of Investments	158
Number of Investors	443
Redemption Queue	$7.2 billion
4Q21 Redemption Queue Payout	$800 million
Contribution Queue	$0 million



- The Fund has a current redemption pool of $7.4 billion. The Fund made a 4Q 2021 redemption payment of $800 million, bringing the total paid during 2021 to $1.5 billion, above the initial plan of $1.2 billion. The Fund has successfully sold 42% of the Non-Strategic Asset pool to date. With a targeted $1.6 billion in sales in 2022, the Non-Strategic Asset pool is expected to be 82% divested by year-end 2022, with the final dispositions occurring in 2023.
  - MCERA submitted a partial redemption request for $20 million in January 2020 and has received about $17.2 million thus far.
- In September 2019, the fund announced investors would have a choice between two fee incentives: loyalty incentive (discounted fees of 15% over 3 years or 25% over 4 years) and top-up incentive ($0 base fee on additional dollars deposited).
  - The amount of client assets in the Loyalty Fee Program is $4.9 billion.
  - MCERA elected for the 4 year/25% discount loyalty incentive on approximately $100 million NAV.

NFI-ODCE Funds - Net of Fee Returns

As of December 31, 2021

Fund Name	Last Quarter	Last Year	Last 3 Years	Last 5 Years
AEW Core Property Trust	8.85%	21.13%	8.70%	8.00%
AFL-CIO Building Investment Trust	4.68%	12.76%	4.89%	5.25%
ARA Core Property Fund	8.54%	20.59%	8.48%	8.02%
ASB Allegiance Real Estate Fund	3.81%	13.94%	6.09%	5.77%
Bailard Real Estate Fund	5.23%	21.37%	11.62%	11.59%
Barings Core Property Fund	7.42%	19.20%	8.15%	7.58%
BentallGreenOak BGO Diversified	7.01%	21.70%	8.54%	7.87%
BlackRock U.S. Core Property Fund	7.71%	19.05%	8.77%	8.41%
CBRE U.S. Core Partners LP	10.23%	32.75%	14.02%	12.07%
CIM Urban Income Investments	6.52%	23.83%	9.55%	9.96%
Clarion Lion Property Fund	7.61%	22.46%	9.75%	9.22%
DWS RREEF America REIT II	10.63%	23.88%	10.00%	8.76%
GWL U.S. Property Fund L.P.	8.80%	24.62%	10.16%	8.37%
GSAM U.S. Real Property Income Fund, L.P. (USRPI)	3.35%	26.04%	10.33%	9.04%
Heitman America Real Estate Trust	8.88%	23.87%	7.54%	7.10%
Intercontinental U.S. Real Estate Investment Fund	6.63%	20.14%	9.53%	9.10%
Invesco Core Real Estate USA	5.64%	20.18%	7.49%	7.71%
J.P. Morgan Strategic Property Fund	7.86%	19.78%	7.53%	7.14%
LaSalle US Property Fund	5.29%	19.38%	8.01%	7.71%
MetLife Core Property Fund	8.26%	26.86%	11.22%	9.70%
Morgan Stanley Prime Property Fund	9.59%	21.46%	9.28%	8.91%
NYL Madison Core Property Fund	11.02%	23.82%	10.39%	9.39%
PGIM PRISA	6.37%	20.93%	9.05%	8.30%
Principal U.S. Core Property	10.05%	22.72%	9.42%	8.90%
Stockbridge Smart Markets Fund	6.23%	25.37%	11.20%	9.68%
TA Realty	8.33%	29.47%	14.00%	--
UBS Trumbull Property Fund	4.86%	16.24%	2.98%	4.43%

NFI-ODCE Funds - Gross of Fee All Sector Returns

As of December 31, 2021

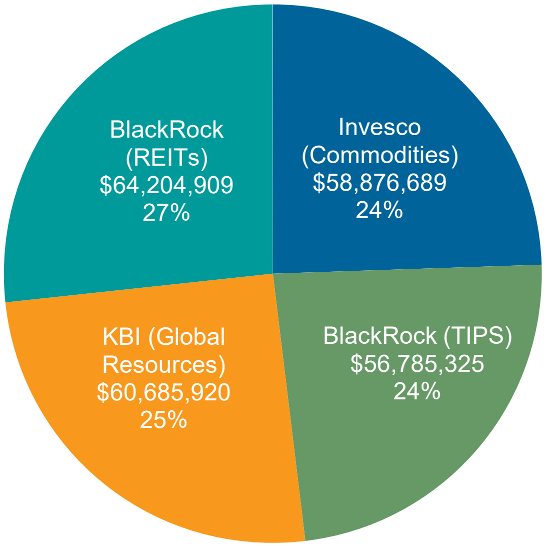
Fund	Retail 4Q 2021	Apartment 4Q 2021	Industrial 4Q 2021	Office 4Q 2021
AEW	3.00%	9.14%	15.57%	1.90%
ARA	2.26%	10.13%	16.94%	2.50%
ASB	-5.77%	4.58%	7.56%	1.30%
Bailard	3.26%	5.85%	7.06%	1.48%
Barings	1.11%	9.69%	11.78%	0.87%
BGO	2.93%	2.48%	12.48%	0.89%
Blackrock	1.73%	6.07%	14.47%	0.59%
CBRE	3.26%	10.98%	10.15%	5.29%
CIM Group	3.89%	5.25%	9.32%	1.42%
Clarion	2.26%	10.13%	16.94%	2.50%
DWS	1.54%	10.16%	19.64%	0.41%
Everwest	1.05%	6.24%	16.60%	-2.33%
Heitman	2.50%	8.60%	12.65%	2.28%
Intercontinental	3.23%	13.23%	14.52%	4.21%
Invesco	2.15%	5.06%	11.33%	1.57%
JP Morgan	2.73%	4.12%	19.75%	1.81%
LaSalle	2.14%	4.83%	9.07%	0.43%
MetLife	1.75%	7.59%	14.78%	1.82%
MSIM	0.65%	6.57%	17.73%	1.67%
NYLIM	9.38%	18.26%	39.91%	3.71%
PGIM	1.33%	4.17%	14.29%	-0.36%
Principal	1.70%	9.28%	19.13%	0.53%
Stockbridge	3.42%	5.34%	8.28%	2.10%
TA Realty	0.94%	8.06%	9.26%	0.58%
UBS	-1.46%	6.49%	9.32%	0.73%

NFI-ODCE Funds - Gross of Fee Retail Returns (trailing 4 quarters)

As of December 31, 2021

Fund	Fund Allocation Weight	Retail 4Q 2021	Retail 3Q 2021	Retail 2Q 2021	Retail 1Q 2021
AEW	15.25%	3.00%	2.17%	2.01%	-0.39%
ARA	14.61%	2.26%	2.01%	1.23%	0.87%
ASB	11.46%	-5.77%	1.35%	0.27%	-0.44%
Bailard	8.19%	3.26%	3.51%	1.75%	2.37%
Barings	13.84%	1.11%	1.59%	1.32%	1.58%
BGO	2.06%	2.93%	3.14%	1.99%	-0.29%
Blackrock	15.22%	1.73%	1.55%	1.06%	1.06%
CBRE	8.33%	3.26%	1.69%	1.35%	1.42%
CIM Group	9.17%	3.89%	5.38%	-2.93%	1.06%
Clarion	7.61%	2.26%	-0.91%	0.90%	-0.15%
DWS	12.26%	1.54%	0.23%	1.20%	-0.10%
Everwest	11.57%	1.05%	1.66%	1.38%	1.09%
Heitman	14.85%	2.50%	0.91%	0.35%	0.78%
Intercontinental	1.61%	3.23%	3.25%	3.04%	0.05%
Invesco	13.30%	2.15%	2.28%	1.07%	0.50%
JP Morgan	20.98%	2.73%	3.30%	1.08%	0.69%
LaSalle	12.98%	2.14%	1.46%	2.12%	0.99%
MetLife	9.80%	1.75%	2.75%	1.65%	0.47%
MSIM	9.20%	0.65%	0.83%	0.21%	0.05%
NYLIM	2.83%	9.38%	3.28%	1.06%	2.00%
PGIM	10.53%	1.33%	2.04%	1.44%	0.83%
Principal	11.22%	1.70%	1.71%	1.12%	0.45%
Stockbridge	14.48%	3.42%	3.02%	1.48%	-3.25%
TA Realty	5.68%	0.94%	4.97%	0.24%	2.20%
UBS	10.00%	-1.46%	2.44%	0.16%	-3.31%

Real Assets Composite



- The BlackRock TIPS and REITs Funds are passive.
- The Invesco Balanced Risk Commodities Fund underperformed during the year due to its strategic underweight to energy, including natural gas and oil whose prices have soared.
- All three strategies within the KBI Global Resources Solutions Fund (agribusiness, energy solutions and water) produced positive absolute returns for the year with water being the largest contributor.

Returns and Rankings for Periods Ended December 31, 2021

	Last Quarter	Last Year	Last 3 Years	Last 4 Years
Real Assets - Net	**7.47**	**23.97**	**16.73**	**10.00**
Real Assets Target	6.30	25.60	12.95	7.52
BlackRock TIPS Index Fund - Net	**2.31**	**5.91**	**8.50**	**6.01**
Bloomberg US TIPS Index	2.36	5.96	8.44	5.93
Ranking vs. Real Returns Database	53	59	42	41
BlackRock REIT Index Fund - Net	**17.19**	**45.79**	**16.79**	**11.14**
S&P Dow Jones US Select REIT	17.22	45.91	16.84	11.18
MSCI US REIT Index	16.32	43.06	18.50	12.25
Ranking vs. Real Estate Mutual Funds	16	17	87	82
Invesco Commodity Fund - Net	**3.49**	**19.67**	**10.74**	**4.67**
Bloomberg Commodity Index	(1.56)	27.11	9.86	4.16
Ranking vs. Commodities Funds	16	86	50	45
KBI Global Resources Fund - Net	**7.11**	**24.07**	**26.00**	**14.32**
S&P Global Natural Resources Index	7.18	24.40	13.12	5.91
KBI Custom Benchmark	4.29	7.22	26.55	14.98

Returns and Rankings Calendar Years

	2021	2020	2019	2018
Real Assets - Net	**23.97**	**11.08**	**15.51**	**(7.97)**
Real Assets Target	25.60	0.57	14.08	(7.27)
BlackRock TIPS Index Fund - Net	**5.91**	**11.17**	**8.49**	**(1.15)**
Bloomberg US TIPS Index	5.96	10.99	8.43	(1.26)
Ranking vs. Real Returns Database	59	24	37	43
BlackRock REIT Index Fund - Net	**45.79**	**(11.21)**	**23.07**	**(4.22)**
S&P Dow Jones US Select REIT Index	45.91	(11.20)	23.10	(4.22)
MSCI US REIT Index	43.06	(7.57)	25.84	(4.57)
Ranking vs. Real Estate Mutual Funds	17	96	89	23
Invesco Commodity Fund - Net	**19.67**	**7.57**	**5.49**	**(11.61)**
Bloomberg Commodity Index	27.11	(3.12)	7.69	(11.25)
Ranking vs. Commodities Funds	86	5	81	46
KBI Global Resources Fund - Net	**24.07**	**29.16**	**24.81**	**(14.60)**
S&P Global Natural Resources Index	24.40	(0.05)	16.41	(13.08)
KBI Custom Benchmark	7.22	46.83	28.74	(13.77)

The Real Assets Target is comprised of 25% Bloomberg US TIPS Index, 25% Bloomberg Commodity Index, 25% S&P Dow Jones US Select REIT Index, and 25% S&P Global Natural Resources Index.
The KBI Custom Benchmark consists of 1/3 each: S-Network Global Water Index, Wilderhill New Energy Global Innovation Index, and Dax Global Agribusiness Index.

Private Equity Portfolio

- 86% Paid-In through 9/30/21.
- When ranked against the Thomson-Cambridge Private Equity Database, MCERA is ranked in the second quartile for Total Value to Paid-In (TVPI) basis.
- The total portfolio is well diversified by vintage year and investment type.

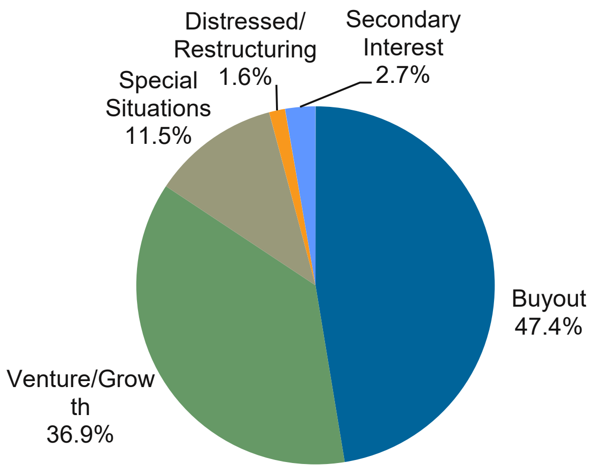
	September 30, 2021	Quarter Change	June 30, 2021
Summary			
Vintage Years	14 in 2008-2021		14 in 2008-2021
# Total Partnerships	457	56	401
# Active Partnerships	444	50	394
# Liquidated Partnerships	13	6	7
Changes in Value			
Capital Commitments	$450,000,000	-	$450,000,000
Paid-In Capital	$386,691,808	$5,860,537	$380,831,271
Uncalled Capital	$77,021,251	$(5,453,889)	$82,475,140
% Paid-In	85.93%	1.30%	84.63%
Distributed Capital	$380,097,447	$29,334,359	$350,763,089
Net Asset Value	$452,600,383	$8,591,330	$444,009,053
Total Realized and Unrealized Value	**$832,697,830**	**$37,925,689**	**$794,772,142**
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.98x	0.06x	0.92x
Residual Value to Paid-In Capital (RVPI)	1.17x	0.00x	1.17x
Total Value to Paid-In Capital (TVPI)	2.15x	0.07x	2.09x
Quartile Ranking	2nd		2nd
Net IRR	17.93%	0.30%	17.63%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		6.61%	
Unrealized Gain/(Loss), Dollars		$32,065,151	
Unrealized Gain/(Loss), %		7.22%	

Quartile Rankings against the All Private Equity, All Regions Refinitiv/Cambridge Database.

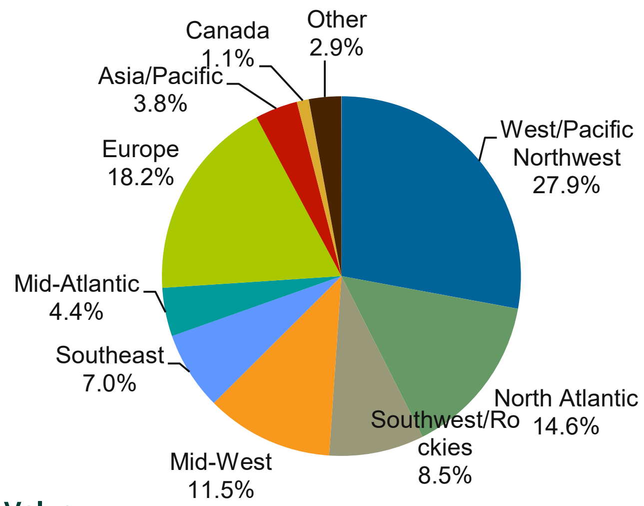
Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.

Private Equity Portfolio Exposure

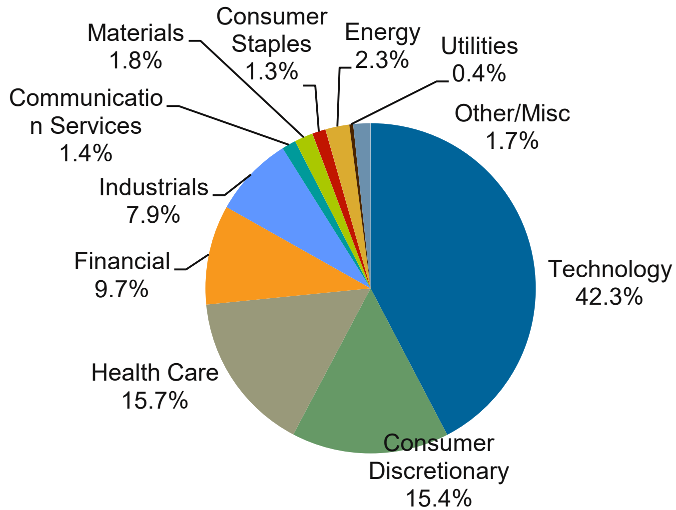
Strategy Mix by Net Asset Value



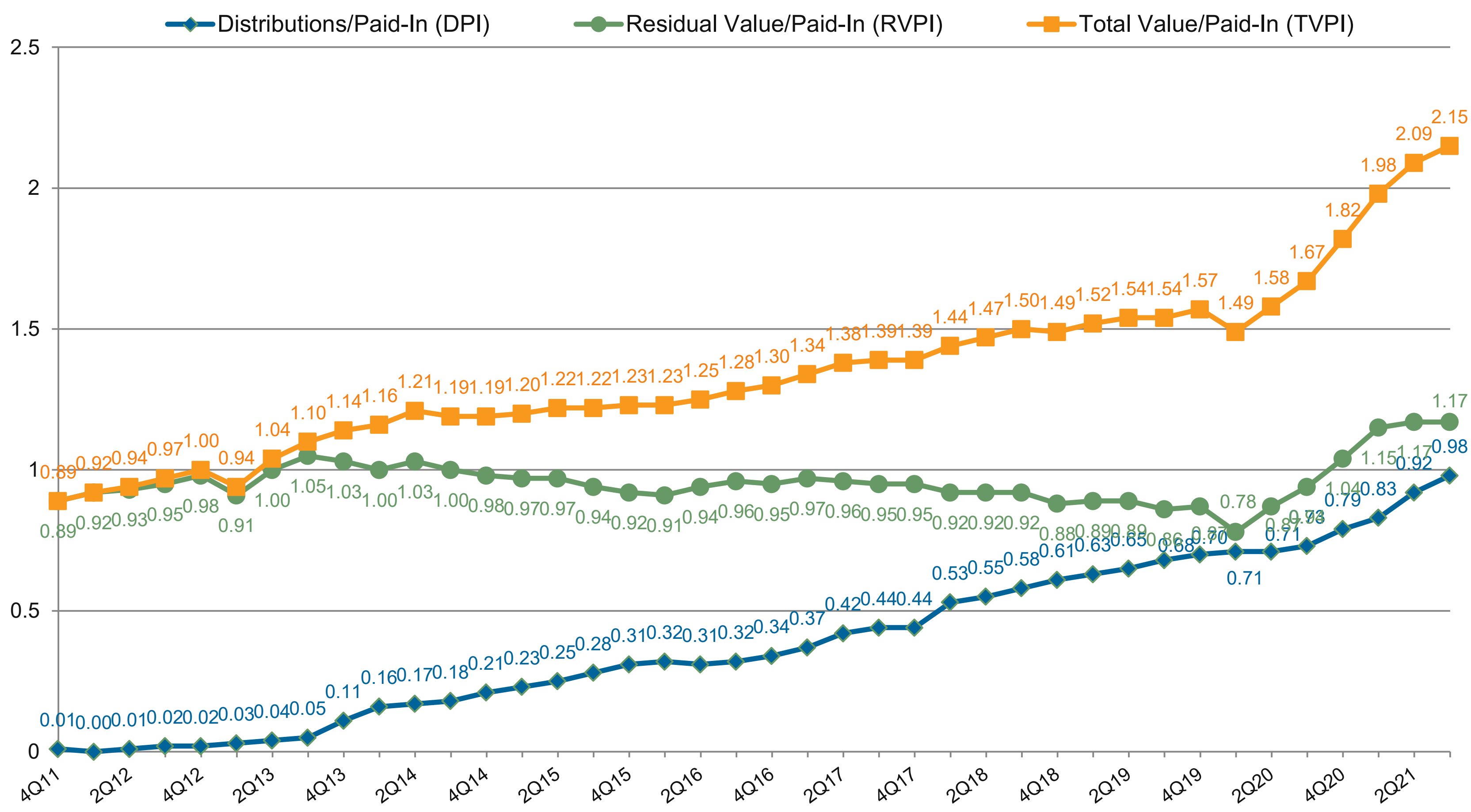
Geographic Mix by Net Asset Value



Industry Mix by Net Asset Value



Private Equity Ratios – Changes Over Time



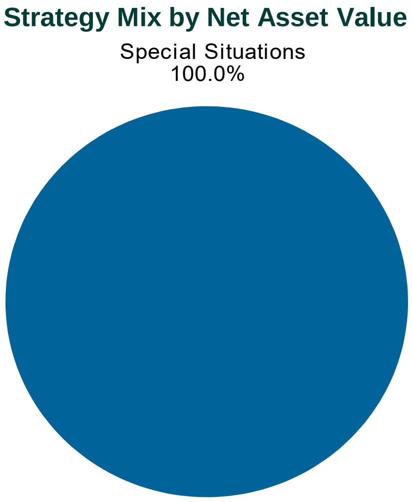
Opportunistic Portfolio

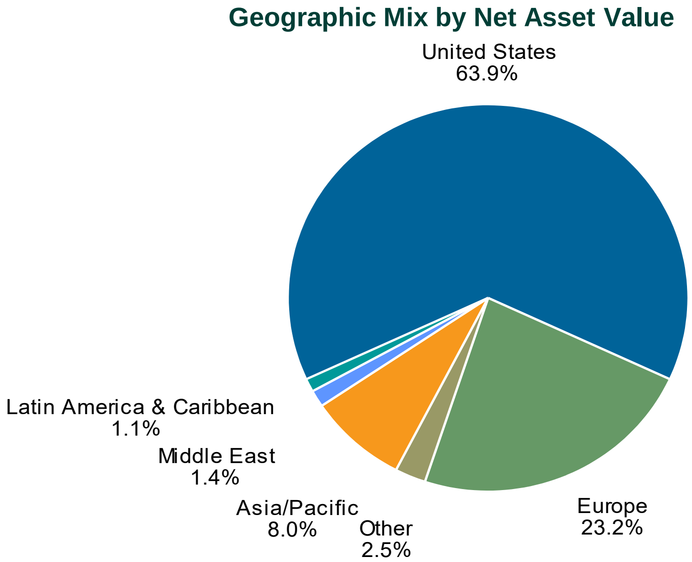
- 34.6% Paid-In through 12/31/21.
- The total portfolio is diversified by industry type and geographic location.

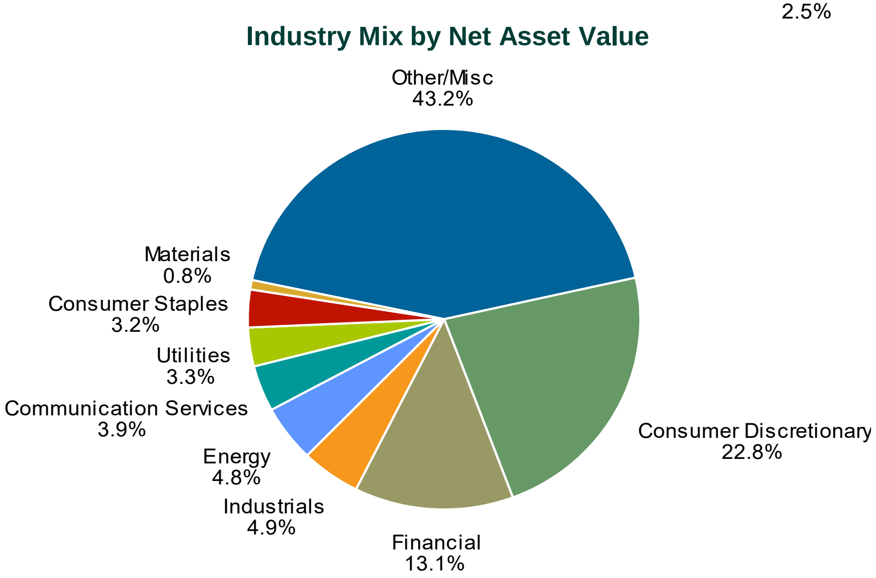
	December 31, 2021	Quarter Change	September 30, 2021
Summary			
Vintage Year	2020		2020
# Total Partnerships	183	-	183
# Active Partnerships	183	-	183
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	$100,000,000	-	$100,000,000
Paid-In Capital	$34,606,863	$6,133,908	$28,472,955
Uncalled Capital	$65,466,092	$(6,133,908)	$71,600,000
% Paid-In	34.61%	6.13%	28.47%
Distributed Capital	$0	-	$0
Net Asset Value	$38,428,030	$6,167,621	$32,260,409
Total Realized and Unrealized Value	**$38,428,030**	**$6,167,621**	**$32,260,409**
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.00x	-	0.00x
Residual Value to Paid-In Capital (RVPI)	1.11x	(0.02)x	1.13x
Total Value to Paid-In Capital (TVPI)	1.11x	(0.02)x	1.13x
Quartile Ranking	2nd		2nd
Net IRR	14.70%	(7.10%)	21.80%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		0.00%	
Unrealized Gain/(Loss), Dollars		$33,713	
Unrealized Gain/(Loss), %		0.10%	

Quartile rankings against the 2020 vintage Control Oriented Distressed and Credit Opportunities Refinitiv/Cambridge Database.

Opportunistic Portfolio Exposure







Callan

Preliminary Performance Summary (Net of Fees)

Marin County Employees' Retirement Association
Defined Benefit Plan

Managers	February 2022 Market Value	Fiscal Year To Date 7/1/21 - 2/28/22	Calendar Year To Date 1/1/22 - 2/28/22
Domestic Equity	**$940,683,910**	**0.2%**	**-7.6%**
Russell 3000 Index		*0.2%*	*-8.3%*
Large Cap Equity	**$725,827,396**	**1.3%**	**-8.2%**
SSGA Russell 1000 Index	**$742,249,871**	**1.3%**	**-8.2%**
SSGA Blended Benchmark		*1.3%*	*-8.2%*
Parametric Large Cap Futures	**-$16,422,475**		
Small Cap Equity	**$214,856,514**	**-2.3%**	**-5.6%**
Dimensional Fund Advisors	**$244,280,030**	**-2.3%**	**-5.6%**
Russell 2000 Index		*-10.8%*	*-8.7%*
Parametric Small Cap Futures	**-$29,423,516**		
International Equity	**$634,694,063**	**-10.5%**	**-9.2%**
MSCI ACWI ex-US IMI Index		*-6.8%*	*-5.9%*
Morgan Stanley	**$200,779,691**	**-6.9%**	**-4.4%**
Artisan Partners	**$192,972,051**	**-9.9%**	**-12.1%**
MSCI EAFE Index		*-4.4%*	*-6.5%*
TimesSquare	**$112,690,615**	**-16.5%**	**-14.2%**
MSCI EAFE Small Cap Index		*-7.6%*	*-8.5%*
FIAM/Parametric Emerging Markets*	**$116,570,343**	**-11.3%**	**-7.2%**
MSCI Emerging Markets Index		*-13.7%*	*-4.8%*
Parametric International Futures	**$11,681,364**		
Fixed Income	**$794,605,382**	**-4.1%**	**-3.3%**
Blended Benchmark		*-3.8%*	*-3.1%*
Wellington	**$320,540,854**	**-3.5%**	**-3.8%**
Bloomberg US Aggregate Index		*-3.2%*	*-3.3%*
Western Asset	**$170,151,660**	**-3.7%**	**-3.1%**
Bloomberg US Intermediate Credit Index		*-3.3%*	*-2.8%*
Colchester	**$167,560,174**	**-5.6%**	**-2.4%**
FTSE World Government Bond Index		*-5.4%*	*-3.1%*
Parametric Fixed Income Futures	**$136,352,694**		

*FIAM was funded in multiple tranches beginning in mid-August and completed in mid-October.
All market values and returns shown are preliminary and subject to revision.

Callan

Preliminary Performance Summary (Net of Fees)

Marin County Employees' Retirement Association
Defined Benefit Plan

Managers	February 2022 Market Value	Fiscal Year To Date 7/1/21 - 2/28/22	Calendar Year To Date 1/1/22 - 2/28/22
Public Real Assets	**$237,294,810**	**6.6%**	**-1.4%**
Blended Benchmark		*11.1%*	*3.3%*
BlackRock TIPS Index Fund	**$56,145,218**	**2.9%**	**-1.1%**
Bloomberg US TIPS Index		*2.9%*	*-1.2%*
BlackRock REIT Index Fund	**$57,927,793**	**7.1%**	**-9.8%**
DJ S&P US Select REIT Index		*7.1%*	*-9.8%*
Invesco Balanced Risk Commodities Fund	**$64,650,564**	**12.9%**	**9.5%**
Bloomberg Commodities Index		*21.2%*	*15.6%*
KBI Global Resources Fund	**$58,571,234**	**2.8%**	**-3.5%**
S&P Global Natural Resources Index		*13.0%*	*8.6%*
Real Estate(1)	**$251,134,218**	**15.5%**	**4.0%**
NFI-ODCE Equal Weight Net(1)		*20.3%*	*5.0%*
Woodmont	$18,099,990	-	-
UBS Trumbull Property Fund	$110,011,244	-	-
AEW Core Property Trust	$123,022,984	-	-
Private Equity(2)	**$428,844,457**	**7.3%**	**0.0%**
Abbott ACE VI	$53,467,850	-	-
Abbott ACE VII	$55,834,321	-	-
Abbott AP 2016	$71,514,791	-	-
Abbott AP 2017	$19,374,044	-	-
Abbott AP 2021	$3,727,695		
Pathway PPEF 2008	$74,466,970	-	-
Pathway PPEF I-7	$47,231,498	-	-
Pathway PPEF I-8	$75,483,066	-	-
Pathway PPEF I-9	$16,681,701	-	-
Pathway PPEF I-10	$11,062,521		
Opportunistic(3)	**$38,428,030**	**1.2%**	**0.1%**
CarVal Credit Value Fund V	$7,395,245	-	-
Fortress Credit Opportunities Fund V Expansion	$9,222,913	-	-
Varde Dislocation Fund	$21,809,872	-	-
Total Fund	**$3,325,684,870**	**-0.5%**	**-4.6%**

(1)Market values as of December 31, 2021. FYTD and YTD returns use MCERA's and ODCE's pro-rata performance of prior quarter.
(2)Market values as of December 31, 2021. FYTD and YTD returns use MCERA's pro-rata performance of prior quarter.
(3)Market values as of December 31, 2021. FYTD and YTD returns use MCERA's pro-rata performance of prior quarter.
All market values and returns shown are preliminary and subject to revision.