

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

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

June 21, 2023 – 9:00 a.m.

This meeting will be held at the address listed above and, absent technological disruption, will be accessible via videoconference and conducted in accordance with Government Code section 54953 and 54954.2 through December 31, 2025.

Instructions for watching the meeting and/or providing public comment, as well as the links for access, are available on the [Watch & Attend Meetings](https://www.mcera.org/retirementboard/agendas-minutes/watchmeetings) 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

**CONSIDER ANY BOARD MEMBER REQUESTS TO TELECONFERENCE FOR
“JUST CAUSE” OR “EMERGENCY,” AS SET FORTH ON THIS AGENDA BELOW**

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. MANAGER REPORTS

1. Manager Overview – Jim Callahan, Callan LLC
2. Wellington Management – Fixed Income – Anand Dharan, Molly Conway
TIME CERTAIN: 9:05 a.m.
3. Western Asset Management – Fixed Income – Frances Coombes, Julien Scholnick
TIME CERTAIN: 9:35 a.m.
4. Artisan Partners – International Growth Equity – Sean Howley, Brett Meyer
TIME CERTAIN: 10:05 a.m.

C. NEW BUSINESS

1. Investment Manager Personnel Update – AEW Capital Management
2. Investment Manager Update – Fortress Investment Management Group LLC
3. International Equity Structure – Jim Callahan, Callan LLC
Consider and discuss international equity allocation
4. Future Meetings

D. INVESTMENT CONSULTANT QUARTERLY REPORT

1. Summary Report as of March 31, 2023
 - a. Flash Performance Update as of May 30, 2023

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.

Note on Board Member requests to participate by teleconference under Government Code section 54953, subdiv. (f): At least a quorum of the Committee must be present together physically at the meeting to invoke this provision. The provision is limited to “just cause” and “emergency” circumstances, as follows:

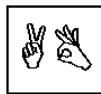
“Just cause” is only: (1) a childcare or caregiving need of a child, parent, grandparent, grandchild, sibling, spouse or domestic partner that requires them to participate remotely; (2) a contagious illness that prevents a member from attending in person; (3) a need related to a physical or mental disability, as defined; or (4) travel while on official

business of MCERA or another state or local agency. A Board member invoking “just cause” must provide a general description of the circumstances relating to their need to appear remotely at a given meeting, and it may not be invoked by a Board member for more than two meetings in a calendar year.

“Emergency circumstances” is only: “a physical or family medical emergency that prevents a member from attending in person.” The Board member invoking this provision must provide a general description of the basis for the request, which shall not require the member to disclose personal medical information. Unlike with “just cause,” the Board must by majority vote affirm that an “emergency circumstance” situation exists.

As to both of the above circumstances, the Board member “shall publicly disclose at the meeting before any action is taken whether any other individuals 18 years of age or older are present in the room at the remote location with the member and the general nature of the member’s relationship with any such individuals.” Also, the Board member “shall participate through both audio and visual technology,” and thus be both audible and visible to those attending. Finally, no Board member may invoke these teleconference rules for more than three consecutive months or 20 percent of the regular meetings of the Board.

Note on teleconference disruption that interrupts the live stream: In the event of a technological or similar disruption, and provided no Board/committee members are attending by teleconference, the meeting will continue in person.



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>

B.1 Manager Overview

This is a discussion with no backup.

Marin County Employees Retirement Association (MCERA)

WELLINGTON
MANAGEMENT®

Core Bond Plus

For institutional use only. Not intended for reproduction or use with the public. Any views expressed herein are those of the author(s), are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. The material and/or its contents are current as of the most recent quarter end, unless otherwise noted. Certain data provided is that of a third party. While data is believed to be reliable, no assurance is being provided as to its accuracy or completeness.

Biography

B.2



Molly Conway, CFA

Vice President and Relationship Manager

Molly is a Relationship Manager based in Wellington's San Francisco office. In this role, she works with clients in the western US, including endowments, foundations, public funds, corporate pension plans, private wealth firms and family offices to understand their objectives, provide pertinent research and analysis and identify solutions to their evolving investment needs.

Previously, Molly was a member of our US Financial Intermediaries Group, serving as a portfolio advisor. In this role, she worked closely with Portfolio Managers, Macroanalysts, and Asset Allocation Strategists to articulate our investment strategies to clients and prospects on behalf of our Subadvisory Partners.

Before joining the firm in 2016, Molly spent nine years at Pioneer Investments in several capacities. Most recently, she worked on subadvisory and retirement consultant business development efforts (2012 – 2016), managing many of Pioneer's largest recordkeeper relationships. Prior to that, she held the roles of portfolio consultant supporting Pioneer's defined contribution investment-only business (2011 – 2012) and regional sales specialist supporting Pioneer's independent and broker/dealer presence in Georgia and South Carolina (2008 – 2011). She joined Pioneer in 2007 as a divisional sales associate.

Molly received her BA in psychology, magna cum laude, from Boston College (2007). Additionally, she holds the Chartered Financial Analyst (CFA) designation and is a member of the CFA Society San Francisco.

Biography

B.2



Anand R. Dharan, CFA Managing Director and Investment Director

As an investment director in Investment Product & Fund Strategies, Anand is responsible for covering the Core Bond, Core Bond Plus, and Multi-Sector Credit approaches managed by the Broad Markets Fixed Income Team. He works closely with the fixed income investment teams to help ensure the integrity of their investment approaches. This includes meeting regularly with the teams and overseeing portfolio positioning, performance, and risk exposures, as well as developing new products and client solutions and managing business issues such as capacity, fees, and guidelines. He also meets with clients, prospects, and consultants to communicate our investment philosophy, strategy, positioning, and performance.

Prior to joining Wellington Management in 2015, Anand was an engagement manager at McKinsey & Company (2011 – 2015), where he served a variety of broker-dealers and asset managers, focusing on strategy and risk-management topics. Prior to business school, he was at Lehman Brothers (and subsequently Barclays Capital), where he structured derivative solutions to help corporate clients hedge fixed income market risk (2007 – 2009).

Anand earned his MBA, with distinction, from Harvard Business School (2011), and his AB in molecular biology, cum laude, from Princeton University (2007). Additionally, he holds the Chartered Financial Analyst designation and is a member of the CFA Institute and the CFA Society Boston.

BY THE NUMBERS

Business

USD 1,176 billion of client assets under management

2,565 clients

61 countries in which clients are based

People and portfolios

1,063 investment professionals

16 years of experience, on average

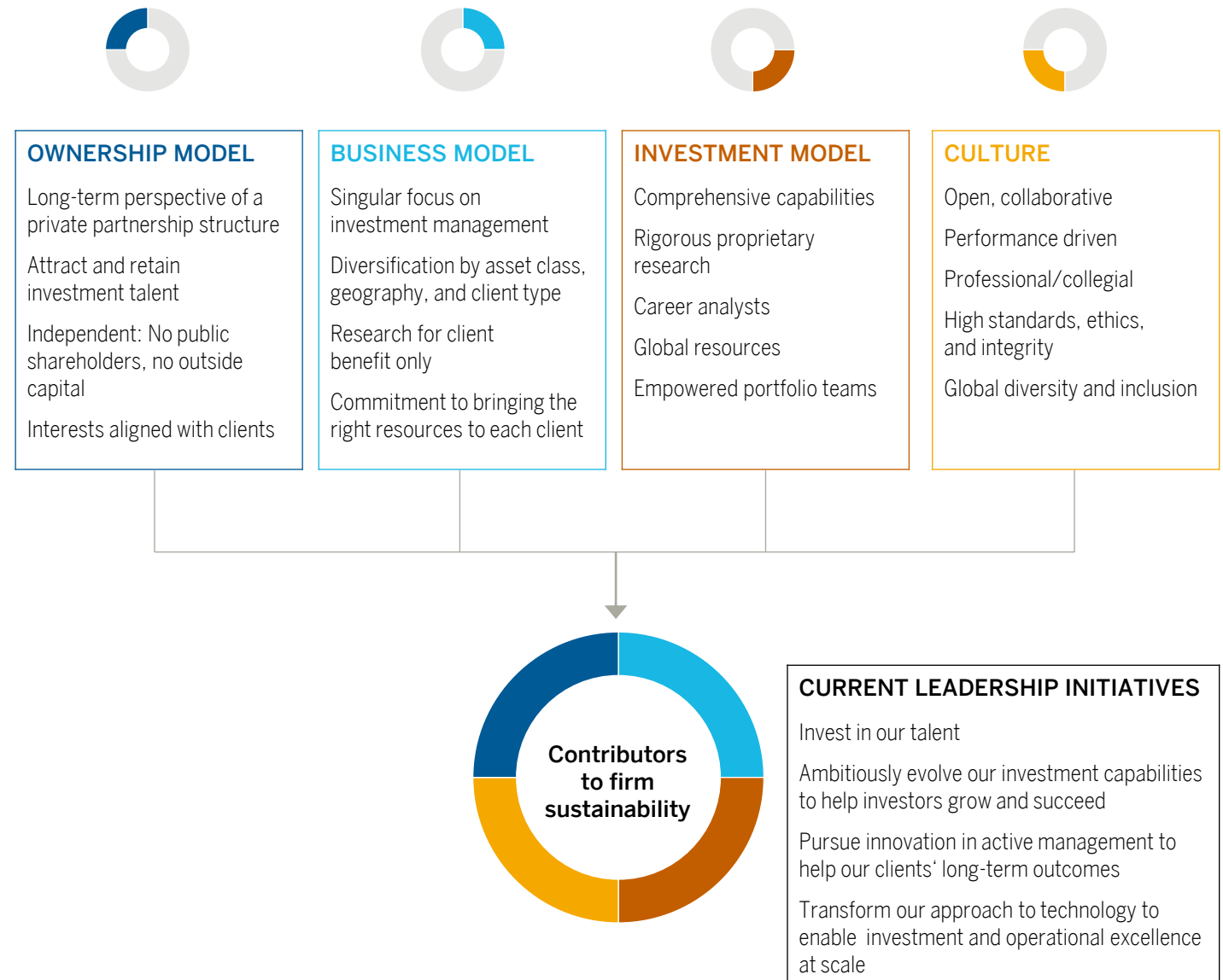
204 partners all active at the firm

Heritage: key dates

1928	Wellington Fund – the first US balanced fund
1979	Establishment of our private partnership
1994	Our first long – short strategy
2014	Our first dedicated private equity strategy
2015	Global Impact: Our first diversified impact investing strategy in public equities

B.2 Wellington Management today

A trusted advisor and strategic partner to clients worldwide



Broad Markets Investment team

B.2

Broad markets team

Joe Marvan, CFA Portfolio Manager 35 years of professional Experience	Campe Goodman, CFA Portfolio Manager 24 years of professional experience	Rob Burn, CFA Portfolio Manager 22 years of professional experience	Brij Khurana Portfolio Manager 15 years of professional experience	Lia Kirakossian Solutions Portfolio Manager 18 years of professional Experience	Adam Chrissis, CFA, FRM Senior Portfolio Analyst 10 years of professional Experience	Mihir Shah, CFA Senior Portfolio Analyst 8 years of professional experience
Kyra Fecteau, CFA Portfolio Manager 14 years of professional experience	Jeremy Forster Portfolio Manager 18 years of professional experience	Caroline Casavant Fixed Income Team Analyst 7 years of professional experience		Aaron Mayo, CFA Portfolio Analyst 7 years of professional experience	Evelyn Chen Portfolio Analyst 4 years of professional experience	

Sector specialist portfolio managers

Brian Conroy, CFA Agency Mortgages 17 years of professional experience	Michael Barry Global High Yield 20 years of professional experience
Samuel Epee-Bounya Emerging Markets 23 years of professional experience	Kevin Murphy Emerging Markets 36 years of professional experience
Tim Haney, CFA Municipals 34 years of professional experience	Cory D. Perry, CFA Securitized Credit 25 years of professional experience
Jeff Heuer, CFA Bank Loans 34 years of professional experience	Scott St. John, CFA Investment Grade Credit 30 years of professional experience
Michael Hong, CFA Global High Yield 27 years of professional experience	

Research/Trading

Global High Yield/Bank Loans 16 Credit analysts	IG Credit/Taxable Municipals 17 Credit analysts
Emerging Markets Debt 5 Credit analysts	Fixed Income Syndicate 5 traders
Securitized 4 Credit analysts	Secondary Trading 44 traders

Product Management

Anand Dharan, CFA Investment Director
Jennifer Kaing Investment Specialist
Sam Rowley Investment Analyst

Additional resources

14 Macro strategists	53 Global Industry analysts	16 ESG/Sustainability research	42 Risk Professionals	26 Multi-Asset analysts
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31 May 2023

Core Bond Plus

Investment strategy

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Objective

We seek to consistently outperform the broad fixed income market as represented by the Bloomberg US Aggregate Bond Index with equivalent or lower levels of risk

Philosophy

We believe a diversity of high quality investment ideas managed in a risk-controlled framework may lead to superior investment results

Approach

We seek to provide consistent excess returns through all market environments by

- Diversifying sources of return across multiple perspectives, investment styles, and time horizons
- Identifying skilled investors and allowing them to focus exclusively on their area of expertise
- Measuring and controlling the aggregation of risks

Core Bond Plus

Investment returns

B.2

As of 31 May 2023 (% , USD)

	3 mos	1 yr	3 yrs	5 yrs	10 yrs	SI
MCERA CBP (net)	1.93	-1.79	-2.72	1.50	2.12	3.83
Bloomberg US Aggregate Bond	2.04	-2.14	-3.65	0.81	1.39	3.23
Active return (net vs benchmark)	-0.10	0.35	0.93	0.69	0.73	0.59

YTD 2022 2021 2020 2019 2018

MCERA CBP (net)	2.97	-13.69	-0.71	9.94	9.96	-0.37
Bloomberg US Aggregate Bond	2.46	-13.01	-1.54	7.51	8.72	0.01
Active return (net vs benchmark)	0.51	-0.68	0.83	2.43	1.24	-0.38

2017 2016 2015 2014 2013

MCERA CBP (net)	4.91	4.71	0.10	6.26	-0.97
Bloomberg US Aggregate Bond	3.54	2.65	0.55	5.97	-2.02
Active return (net vs benchmark)	1.36	2.07	-0.45	0.29	1.06

Inception date: 31 October 2002. | Sums may not total due to rounding. | Performance returns for periods one year or less are not annualized. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

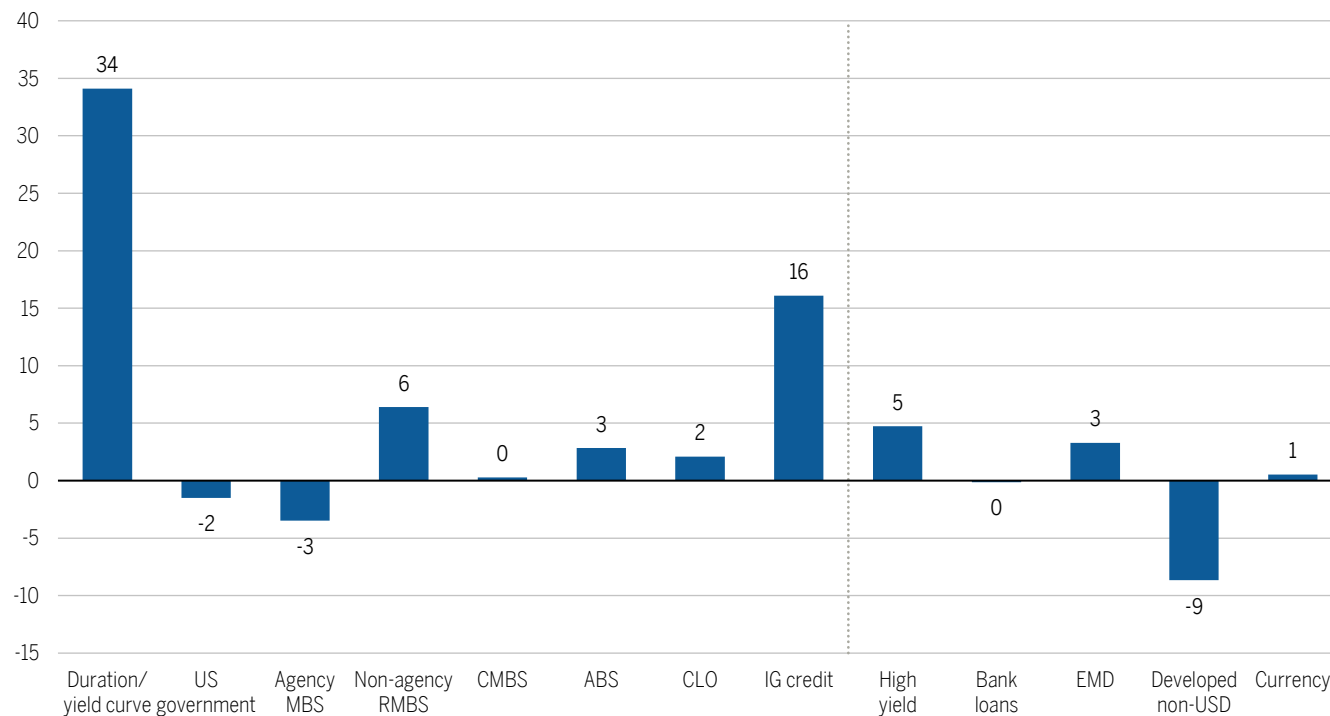
Core Bond Plus

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Performance review (USD): Five months as of 31 May 2023

Active return: 59 bps

Contribution to active return (gross, bps)



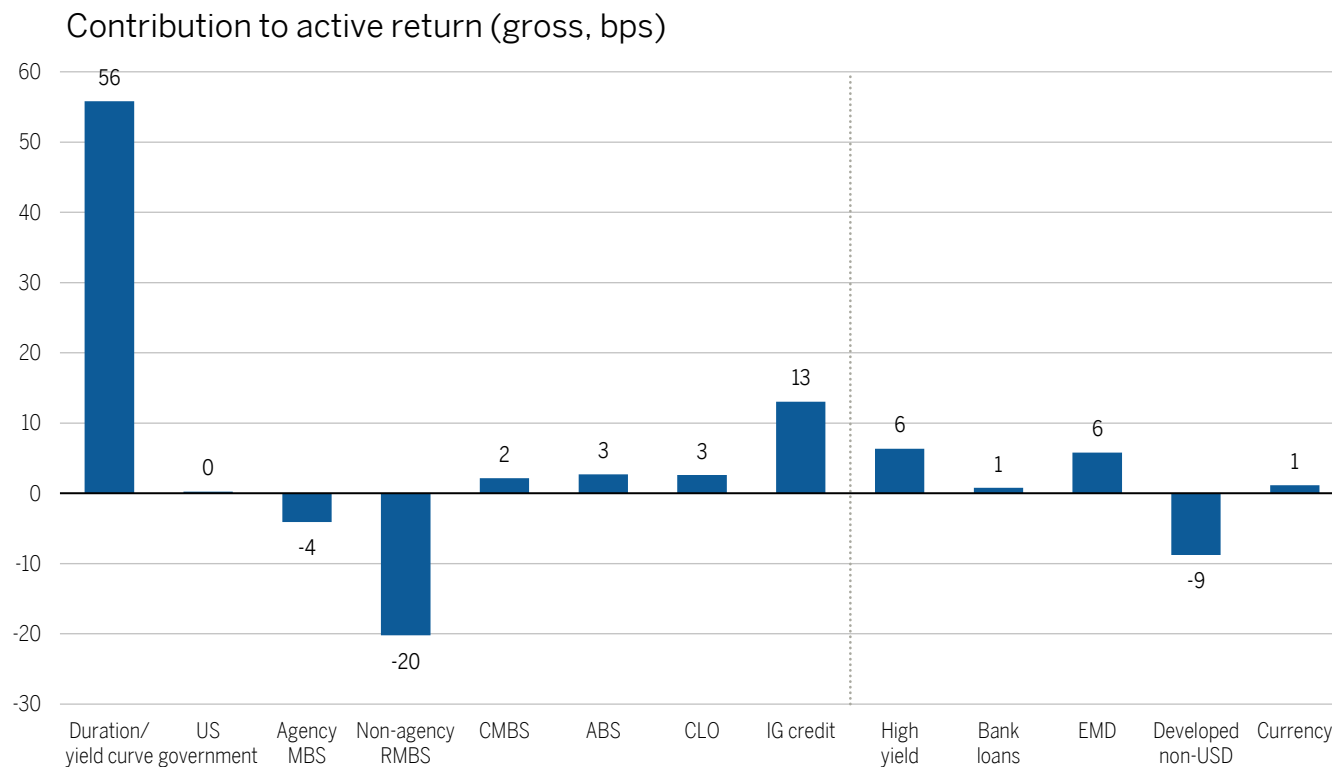
Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | Sums may not total
due to rounding. | The contribution from Cash & cash
equivalents is 0 bps. | **PAST
PERFORMANCE DOES NOT
PREDICT FUTURE RETURNS. AN
INVESTMENT CAN LOSE VALUE.**

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Performance review (USD): One year as of 31 May 2023

Active return: 53 bps



Benchmark used in the calculation of attribution data: Bloomberg US Aggregate Bond. | Results shown for periods greater than one year are annualized. | Sums may not total due to rounding. | The contribution from Cash & cash equivalents is -2 bps. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

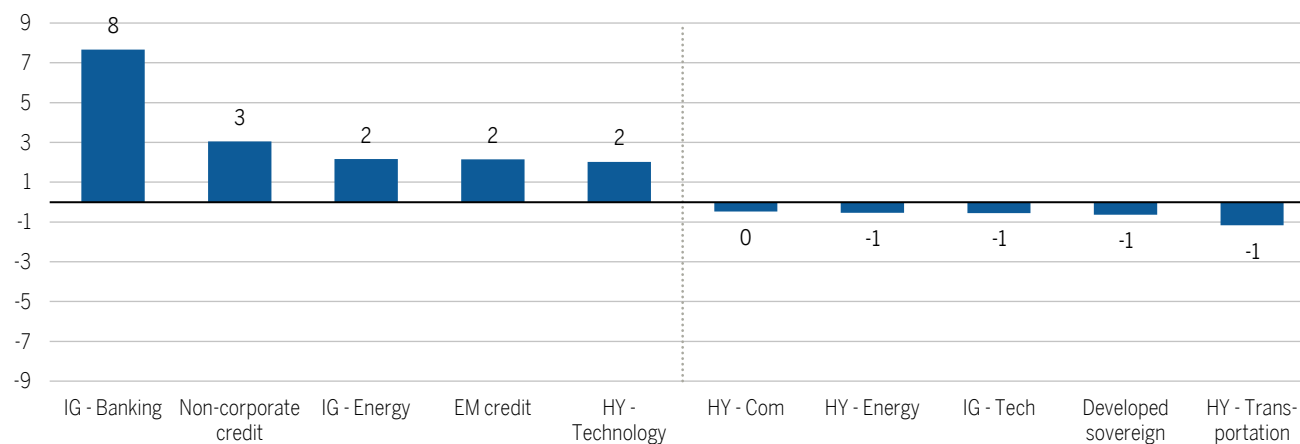
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Performance review (USD): Five months as of 31 May 2023

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Discovery Communications	IG - Com	0.5	3
HSBC	IG - Banking	0.6	2
Romania	Dev sovereign	0.4	2
Metropolitan Tran NY	Non-corporate credit	0.3	2
Kernel Holding Sa	EM credit	0.0	1

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Credit Suisse Group	IG - Banking	0.3	-2
International Airport Fin	HY - Transportation	0.2	-1
Republic of Philippines	Dev sovereign	0.1	-1
Capital One Fin	IG - Banking	0.4	-1
Republic of Chile	Dev sovereign	-0.0	-1

Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

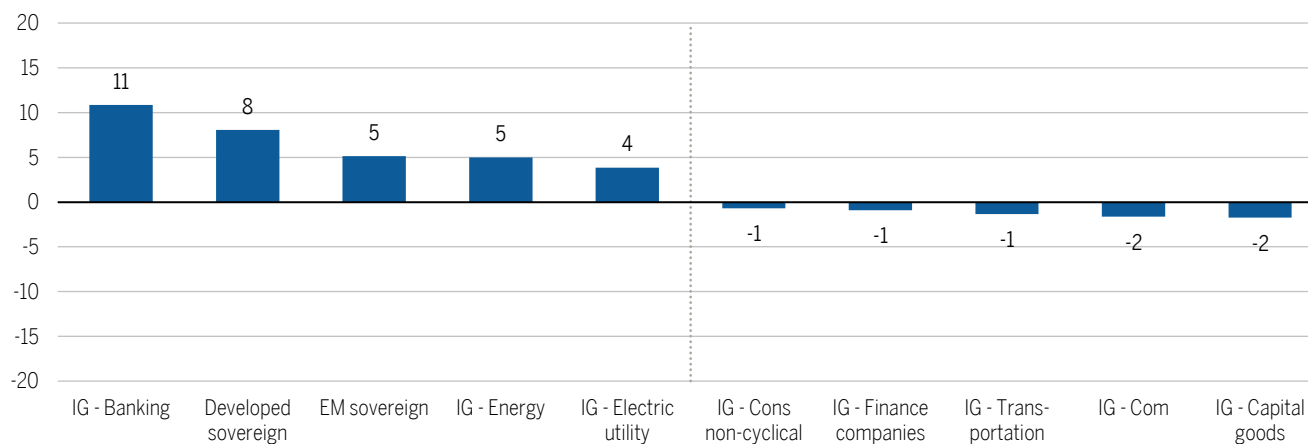
Core Bond Plus

B.2

Performance review (USD): One year as of 31 May 2023

Credit detail

Top five and bottom five sector contributors, contribution to active return (gross, bps)



Top relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Romania	Dev sovereign	0.4	4
HSBC	IG - Banking	0.6	3
PG&E	IG - Electric utility	0.7	3
United Mexican States	Dev sovereign	0.1	2
Former Yugoslav Republic	EM sovereign	0.2	2

Bottom relative contributors

Issuer	Sector	Average benchmark relative positioning (MV%)	Contribution (gross, bps)
Credit Suisse Group	IG - Banking	0.3	-3
Republic of Ghana	EM sovereign	0.0	-1
Tullow Oil Plc	HY - Energy	0.0	-1
Cineworld	BL - Cons cycl	0.0	-1
Panama Govt Intl Bd	Dev sovereign	0.1	-1

Benchmark used in the calculation of attribution data:
Bloomberg US Aggregate Bond. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

Core Bond Plus B.2

Outlook and strategy – Second quarter 2023

	Outlook	Strategy
Economy/ Interest rates	<p>US economy is likely to enter a recession as banks restrict access to credit and consumers exhaust their savings</p> <p>Central banks have room to cut rates if a significant recession occurs, enabling duration to stabilize total returns</p> <p>The effect of tighter lending standards will likely be uneven</p>	<p>Defensive risk posture</p> <p>Long duration bias</p> <p>Preserve high-quality, liquid assets to take advantage of market dislocations</p>
MBS	<p>It is our view that MBS market fundamentals and, especially, valuations have improved amid rising rates, but technicals are now the biggest driver of performance</p> <p>We expect elevated volatility to gradually come down and we anticipate that will be supportive of spreads</p>	<p>Overweight to agency pass-throughs, focusing on relative value opportunities and income</p> <p>Up-in-coupon bias</p>
Corporate bonds	<p>Credit spreads reflect an optimistic soft-landing scenario and bouts of volatility could create better entry points to add exposure</p> <p>We believe corporate fundamentals will deteriorate at the margin, but balance sheets appear well-positioned to weather the expected economic slowdown</p>	<p>Underweight IG corporate bonds in favor of better opportunities in other sectors</p> <p>Focus on identifying inefficiencies in the pricing of risk</p>
Structured finance	<p>We believe low supply will continue to support the housing market and offset weak affordability</p> <p>Loan defaults set to rise but issuers starting from position of strength, and CLOs have strong structures, in our view</p>	<p>Avoid new issues and favor seasoned RMBS, which embed substantial home price appreciation and can weather falling prices</p> <p>Focus on income and manager quality</p>
High yield	<p>Spreads reflect an optimistic soft-landing scenario and bouts of volatility could create better entry points to add exposure</p> <p>Fundamentals likely to deteriorate as policy effects work through economy, though we do not foresee a full-scale default cycle on the horizon</p>	<p>Maintain up in quality bias in cash bonds</p> <p>Favor higher-quality issuers that can weather expected economic slowdown</p>
EMD	<p>EM fundamentals have on the whole, remained relatively resilient with external debt/exports and budget deficits improving with prospects for further improvement</p> <p>EM corporates benefiting from improved cash flows and lower debt loads; spreads remain attractive relative to history</p>	<p>Maintain pro-risk lean within the EM allocation, with a focus on exporters and countries with good macro policies</p> <p>Allocate to EM corporate issuers with prudent balance sheet management within oil gas, telecom, utilities, and infrastructure sectors</p>

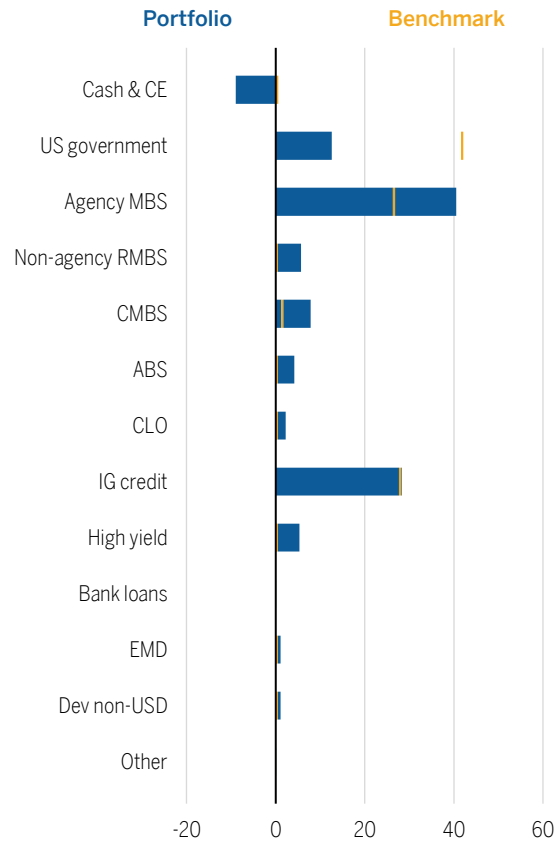
Information contained within Outlook section contains estimates and forecasts. Actual results may differ significantly from information shown. Forecasts rely upon assumptions and other expectations of future outcomes and is therefore subject to numerous limitations and biases. Future occurrences and results, which may also be formulated based on subjective inputs (i.e., strategist/analyst judgment), will differ, perhaps significantly, from those reflected in the charts and/or graphs within.

Core Bond Plus

B.2

Portfolio positioning as of 31 May 2023

Sector (MV %)



Sector (MV %)

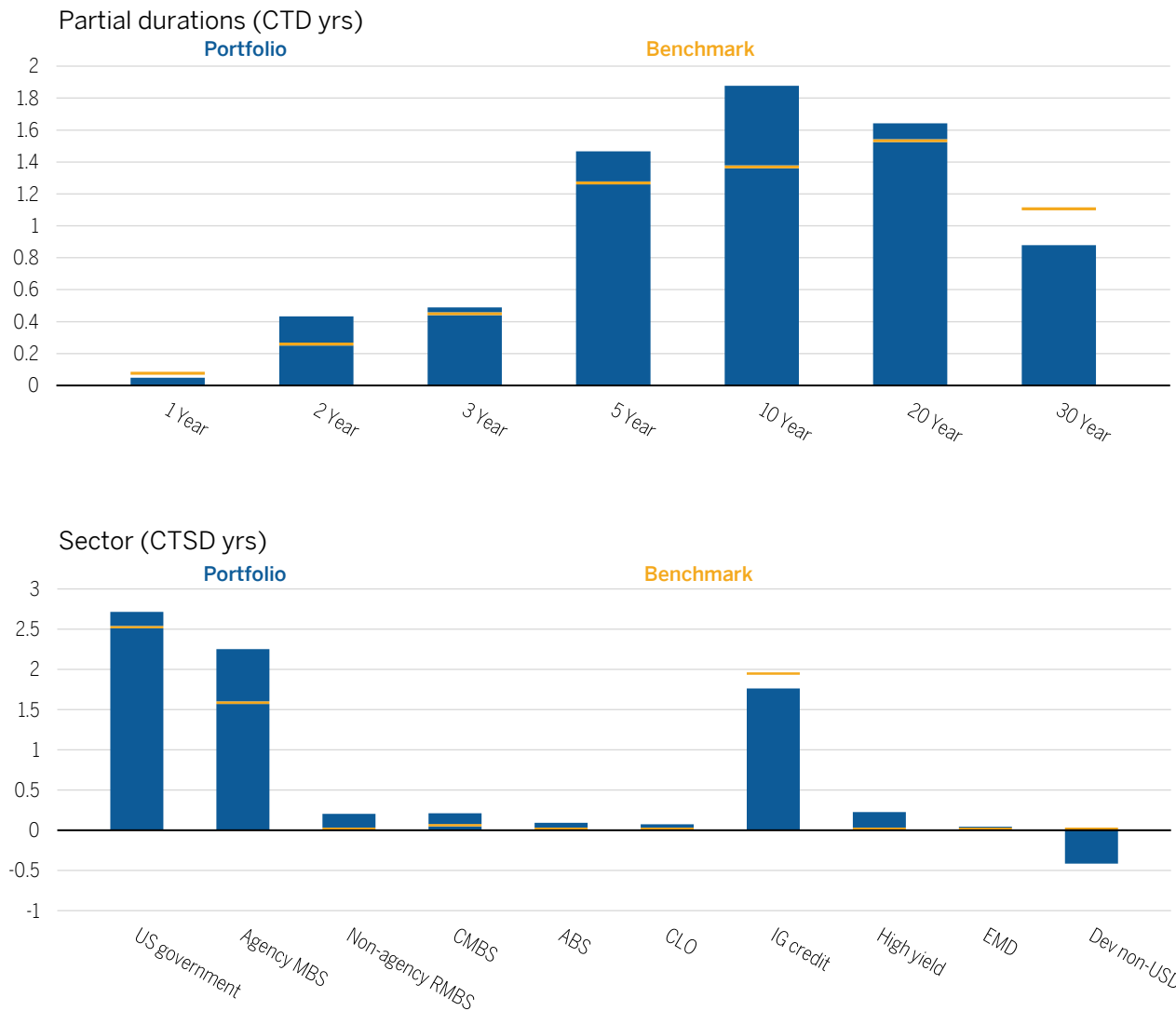
	Portfolio	Benchmark
Cash & CE	-8.95	0.57
US government	12.56	42.09
Treasuries	7.41	40.94
TIPS	5.14	—
US agencies	—	1.15
Agency MBS	40.50	26.84
Pass-throughs	37.68	26.84
CMO	2.82	—
ARMs	0.00	—
Non-agency RMBS	5.67	—
CMBS	7.84	1.75
Cash bonds	7.84	1.75
ABS	4.18	0.48
Autos	2.46	0.21
Other ABS	1.72	0.27
CLO	2.27	—
IG credit	28.29	28.18
Financials	11.18	8.10
Industrials	11.07	13.71
Utilities	4.06	2.07
Taxable municipal	1.42	0.95
Non-corporates	0.46	3.35
Tax exempt municipal	0.10	—
High yield	5.35	—
Cash bonds	5.35	—
Other	0.04	—
EMD	1.11	0.09
EM external	1.11	0.09
Dev non-USD	1.13	—

Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

Core Bond Plus

B.2

Portfolio positioning as of 31 May 2023



Benchmark: Bloomberg US Aggregate Bond. | "Other" within Sector (when applicable) includes security types that do not fall within the displayed categories.

Core Bond Plus

B.2

Portfolio characteristics

Statistics

	As of 31 May 2023		
	Portfolio	Benchmark	Difference
Yield to worst (%)	5.09	4.58	0.52
Option-adjusted spread (bps)	135	53	82
Average quality	AA-	AA	
Duration - effective (yrs)	6.83	6.13	0.70
Duration - spread (yrs)	7.16	6.20	0.96
Duration - inflation-linked (yrs)	0.44	0	0.44
Convexity - effective	0.14	0.36	-0.23
% TBAs (%)	11.9	0	11.9
% CoCos (%)	0	0.1	-0.1
% Emerging (%)	4.1	1.4	2.7
Below investment grade (%)	6.4	0	6.4
Non-USD currency exposure (%)	1.5	0	1.5
Non-USD denominated holdings (%)	1.5	0	1.5

Benchmark: Bloomberg US Aggregate Bond. Quality ratings are based on the middle of Moody's, S&P, and Fitch (split low).

Core Bond Plus

Investment process

B.2

Cycle risk decision

Desired level
of cycle risk



Sector allocation

- US Treasuries and Agencies
- Agency MBS
- Investment Grade Credit
- Structured Finance (RMBS, CMBS, ABS)
- High Yield, Bank Loans, Emerging Market Debt as permitted

- Opportunistic positions, including
- Single names and sectors
- Security-specific relative value trades

- Interest rate and yield curve exposure

Security selection

- Multiple inputs on individual securities
- Lead portfolio managers
- Sector specialist portfolio managers
- Analysts
- Traders

- Close collaboration with specialist investment teams, including
- Investment Grade Credit
- Securitized
- High Yield and Bank Loans
- Emerging Market Debt

Portfolio construction



Portfolio

Risk management

Broad risk allocation

Rates
Sectors

Specialist collaboration

Alpha/tracking risk
Drawdown

Risk oversight

Ex-ante active risk
Ex-post attribution

B.2 Investment risk oversight at Wellington Management

Line Management

- Team/resource focus
- High frequency interaction
- Assess resource needs
- Investment team reviews

Product Management

- Independent reporting line
- Trade and client portfolio level focus
- High frequency interaction
- Style consistency/capacity/risks

Risk Advisory Council

- Informal, tactical
- Small group of specialists
- Focus on investment risk topics

Portfolio Manager

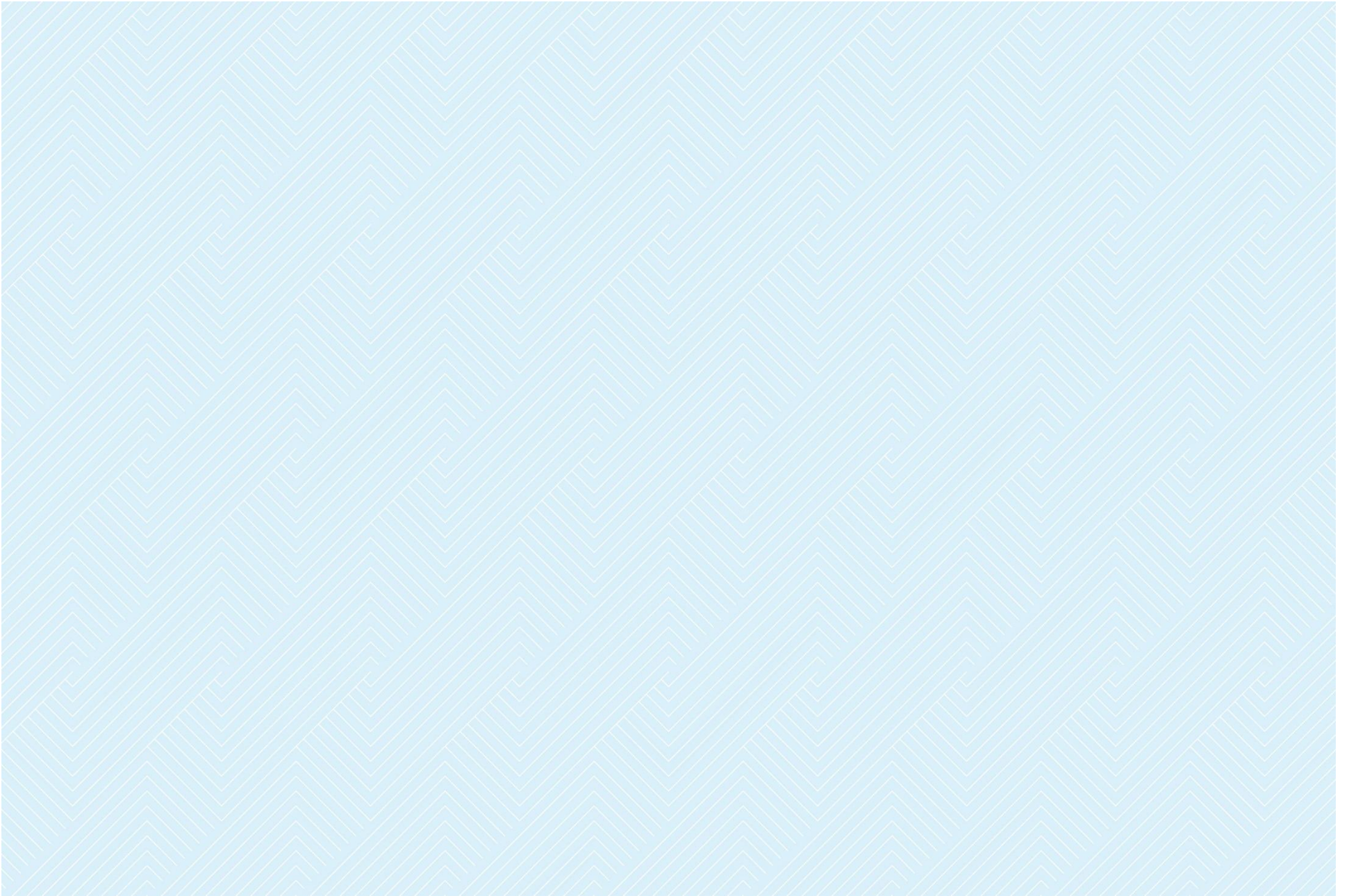
Philosophy
Process
Risk Approach

Investment Review Group

- Formal, strategic
- Senior Portfolio Manager peer oriented review
- Focus on fiduciary topics

Global Risk and Analytics

- Independent reporting line
- Lead independent oversight
- Strategy level across asset classes
- Match risk with conviction
- Set best practices for analytics/tools



US market outlook^{B.2}

Second quarter 2023

We believe...

US economy is likely to enter a recession as banks restrict access to credit and consumers exhaust their savings while unemployment increases

Inflation should further decelerate, led by housing, but remain above the Fed's target

Corporate fundamentals will deteriorate at the margin but balance sheets appear well-positioned to weather the expected economic slowdown. Weaker credits will experience reduced access to financing.

Credit spreads have widened to more attractive levels but bouts of volatility could create better entry points to add exposure. Bank stress should exacerbate illiquidity during such episodes.

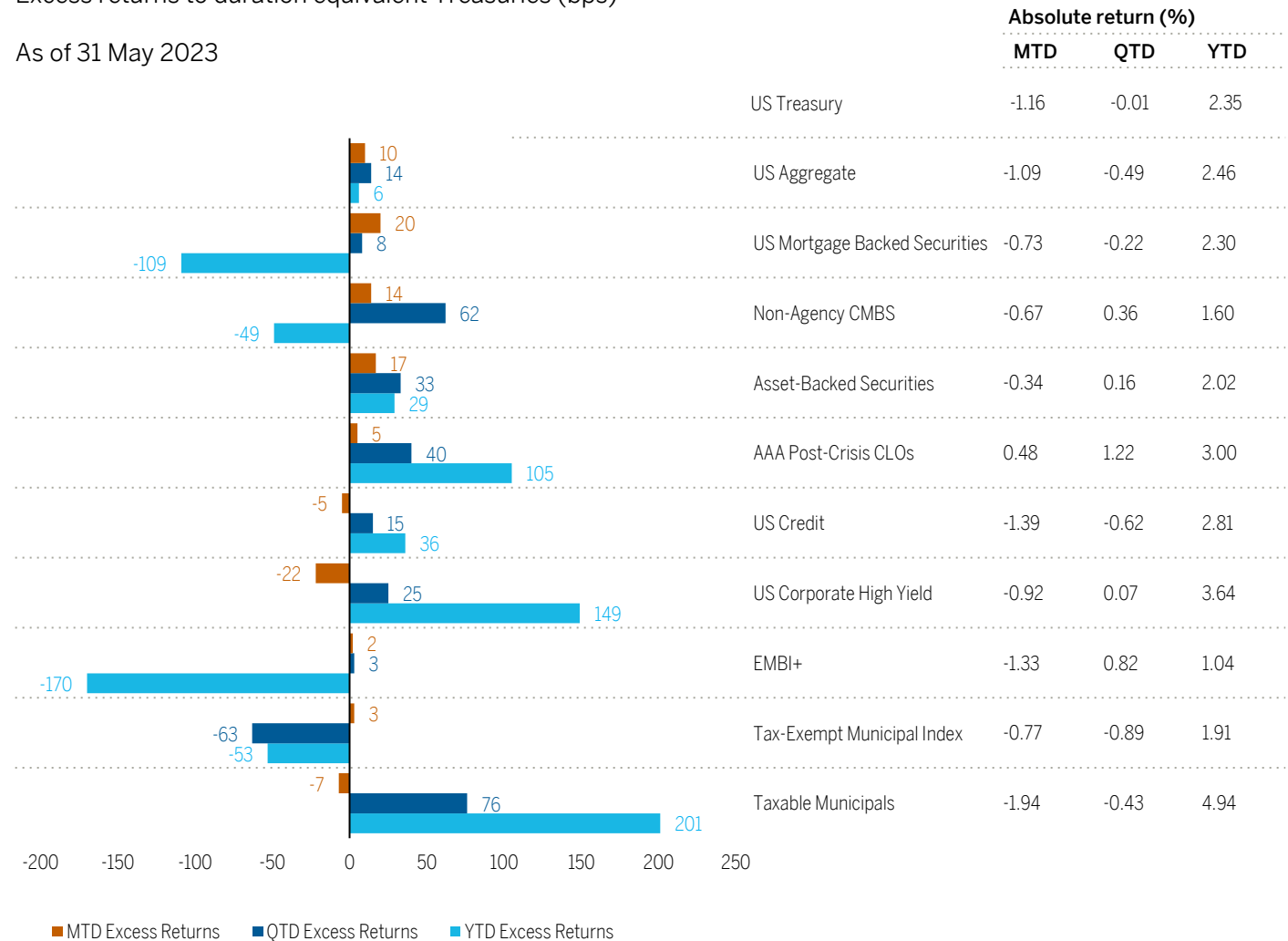
Risks we are monitoring: financial instability, implications of diverging global central bank policies, geopolitical uncertainty, impact of tighter lending standards and job losses on consumer behavior

Views expressed herein are those of the investment team, are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. This is not to be construed as investment advice, or a recommendation to buy or sell any specific security.

B.2 Fixed income sector performance

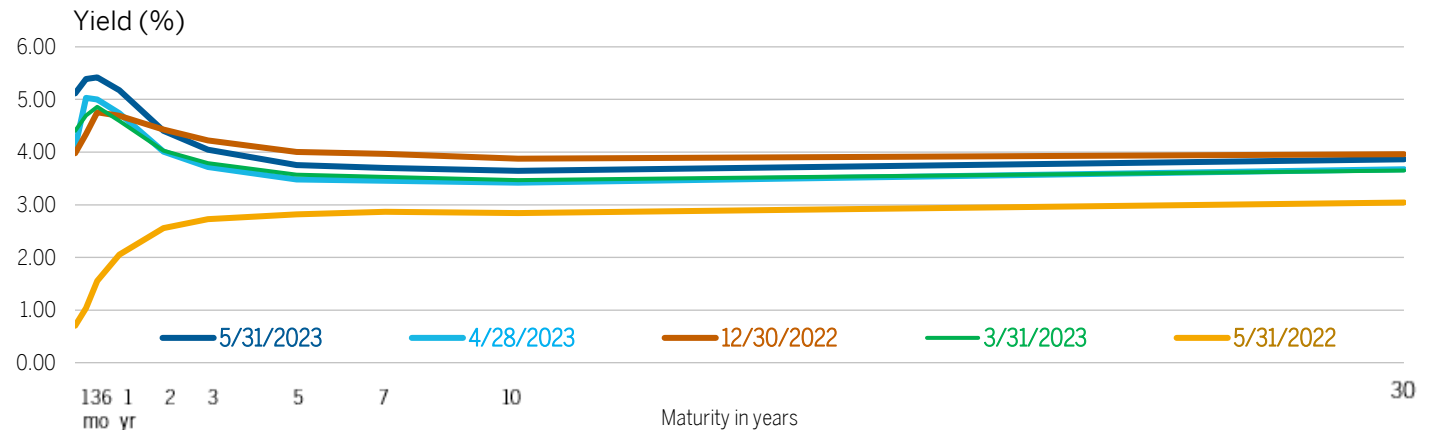
Excess returns to duration equivalent Treasuries (bps)

As of 31 May 2023



Sources: Bloomberg, JPMorgan, Merrill Lynch, Wellington Management | The EMBI+ is comprised of US dollar denominated debt instruments of the Emerging Markets | Return data presented based on representative indexes for each fixed income sector: Bloomberg US Treasury Index, Bloomberg US Aggregate Index, Bloomberg US Agency Index, Bloomberg US Fixed Rate Agency MBS Index, Bloomberg Non-Agency Investment Grade CMBS Index, Bloomberg ABS Index, JPMorgan Post-Crisis AAA CLO Index, Bloomberg US Credit Index, Bloomberg US Corporate High Yield Index, JPMorgan EMBI+ Index, Bloomberg Taxable Municipal Index, BofA Merrill Lynch US Municipal Securities Index. MBS excess returns are based on an internally calculated proxy for the US MBS sector. Investments cannot be made directly into an index. **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.**

US Treasury curve ^{B.2}



		3 mos	2 yrs	5 yrs	10 yrs	30 yrs
Curve data (yield %)	31 May 2023	5.39	4.40	3.76	3.64	3.86
	30 April 2023	5.03	4.01	3.48	3.42	3.67
	31 March 2023	4.69	4.03	3.57	3.47	3.65
	31 December 2022	4.34	4.43	4.00	3.88	3.96
	31 May 2022	1.04	2.56	2.82	2.84	3.05
Changes (bps)	MTD (04/30/2023-05/31/2023)	36	40	27	22	19
	QTD (03/31/2023-05/31/2023)	70	38	18	18	21
	YTD (01/01/2023-05/31/2023)	105	-2	-25	-23	-10
	TTM (05/31/2022-05/31/2023)	435	185	94	80	82

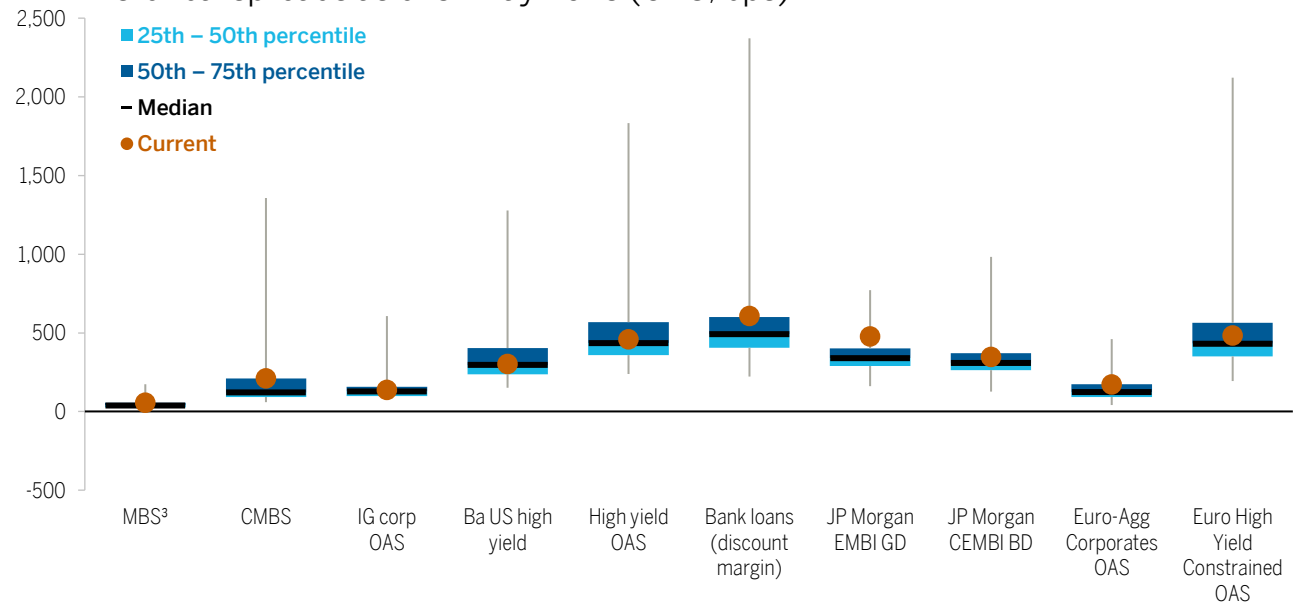
Forward curve matrix¹

		Treasury maturity					
Forward time period		1 mo	3 mos	2 yrs	5 yrs	10 yrs	30 yrs
	31 May 2023	5.11	5.39	4.40	3.75	3.64	3.86
	3 mos	5.48	5.43	4.13	3.66	3.62	3.84
	1 yr	3.63	3.68	3.47	3.42	3.55	3.78
	2 yrs	3.22	3.28	3.28	3.39	3.62	3.78
	3 yrs	3.24	3.31	3.30	3.44	3.74	3.80
	5 yrs	3.53	3.58	3.56	3.53	3.99	3.84
	10 yrs	4.48	4.57	4.56	4.56	4.56	3.88

¹The analysis presented contains forward looking estimates/projections. Actual results may vary, perhaps significantly, from data shown. | Source: Bloomberg | As of 31 May 2023

B.2 Fixed income spread sectors Historical spread analysis

Historical spreads as of 31 May 2023 (OAS, bps)¹



Current

Spread rank (%)	74	76	59	52	55	76	89	63	74	62
Yield (%) ²	4.61	6.22	5.37	7.24	8.81	10.78	8.62	7.36	4.21	7.41

Spread (current)

31 May 2023	55	211	137	303	459	608	476	346	171	483
30 Apr 2023	66	210	136	286	451	576	483	340	162	479
31 Mar 2023	63	233	138	283	454	590	484	347	170	474
31 Dec 2022	51	193	130	295	469	645	456	322	167	498
31 May 2022	34	160	130	263	406	551	447	329	162	474

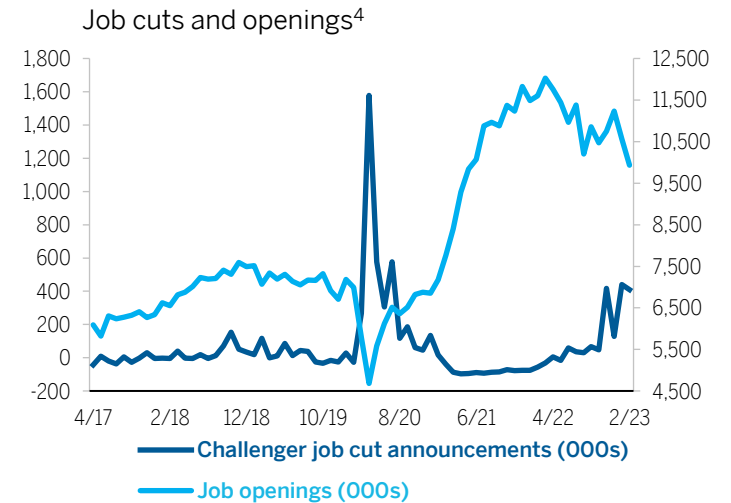
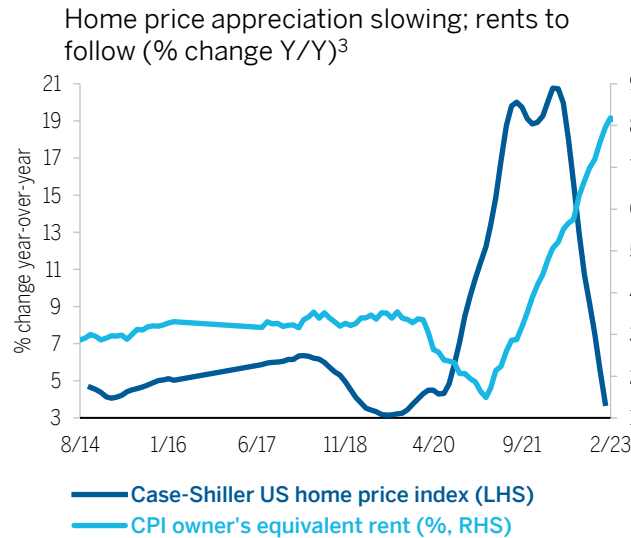
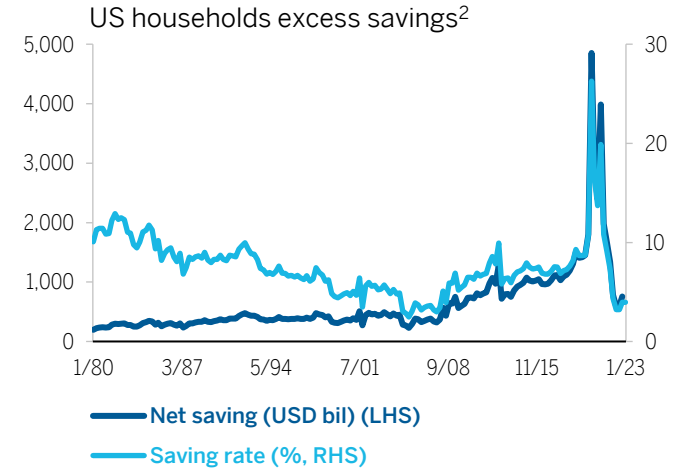
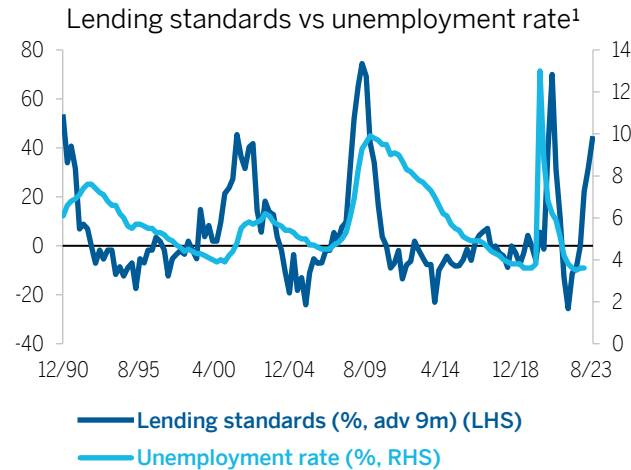
Spread (historical)

Max	173	1358	607	1278	1833	2373	771	983	461	2123
75 th percentile	55	210	157	404	569	602	402	371	173	564
Median	39	121	129	297	436	492	340	310	123	432
25 th percentile	27	92	99	237	358	406	289	264	93	351
Min	-5	59	77	151	238	222	161	127	42	194

¹Historical spread analysis based on trailing 20 years of month-end option adjusted spreads, as of 31 May 2023, except for Euro-Agg Corporates and Euro High Yield Constrained, which date back to the index inceptions of 31 March 2005. | ²Yield to maturity for bank loans. | ³In April 2020, May 2021 and January 2022, MBS Index spreads were impacted by updates to the Bloomberg prepayment model. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. AN INVESTMENT CAN LOSE VALUE.** | Sources: JPMorgan, Bloomberg, Morningstar LSTA LLI

Fixed Income Outlook^{B.2}

Economic environment

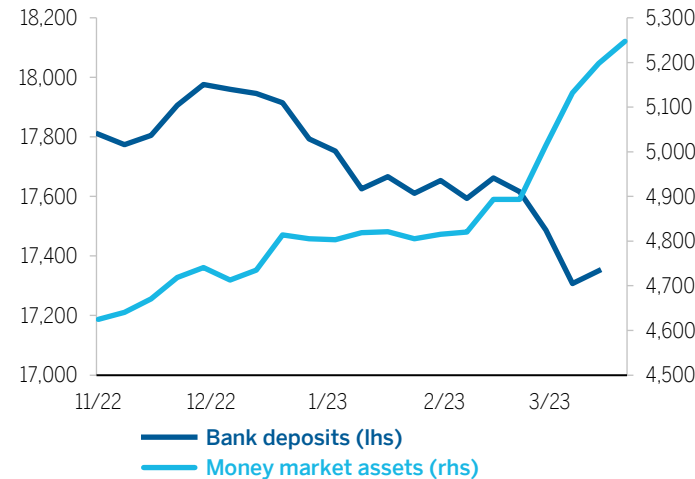


¹Sources: Chart data: December 1990 – March 2023 | Federal Reserve Bank of St. Louis, Bloomberg. Net Percentage of Domestic Banks Tightening Standards for Commercial and Industrial Loans to Small Firms
²Source: Federal Reserve Bank of St. Louis. Chart data: January 1980 – Jan 2023 | ³Source: Haver. | Chart data: August 2014 – February 2023 | ⁴Sources: Bureau of Labor Statistics, Bloomberg | Chart data: April 2017 – February 2023

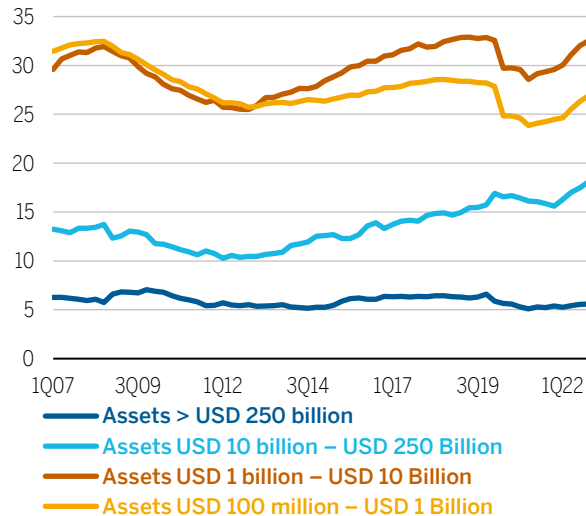
Bank Stress

B.2

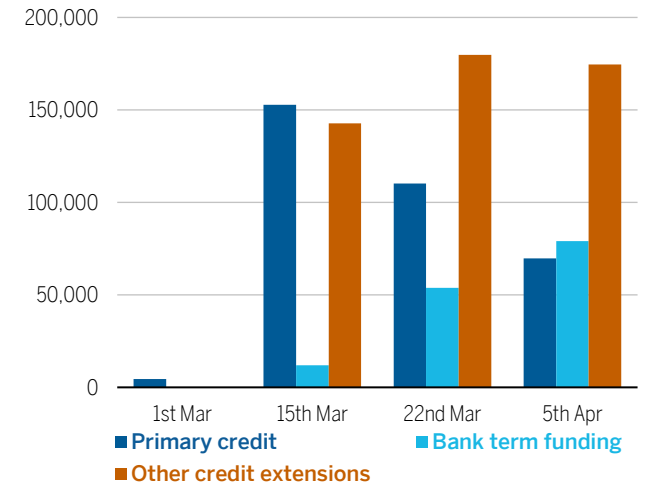
Funds moving from banks to money markets (USD bil)¹



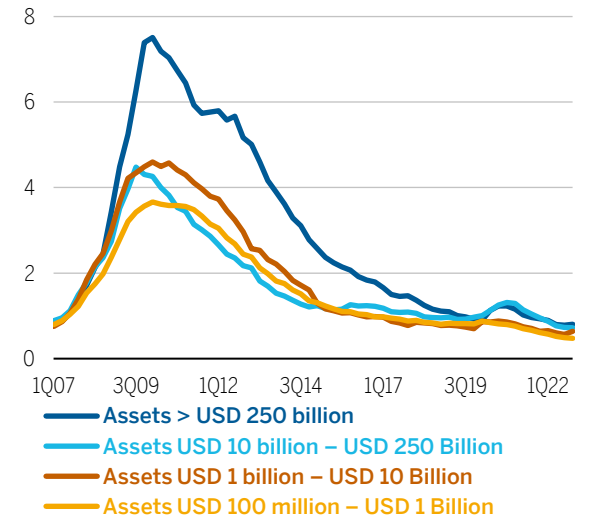
Commercial real estate loans, % of total assets³



Federal reserve credit extension (millions)²



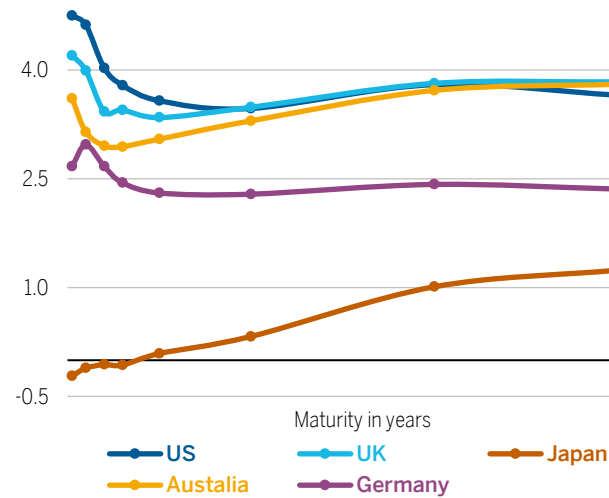
Noncurrent loans, % of total loans & leases⁴



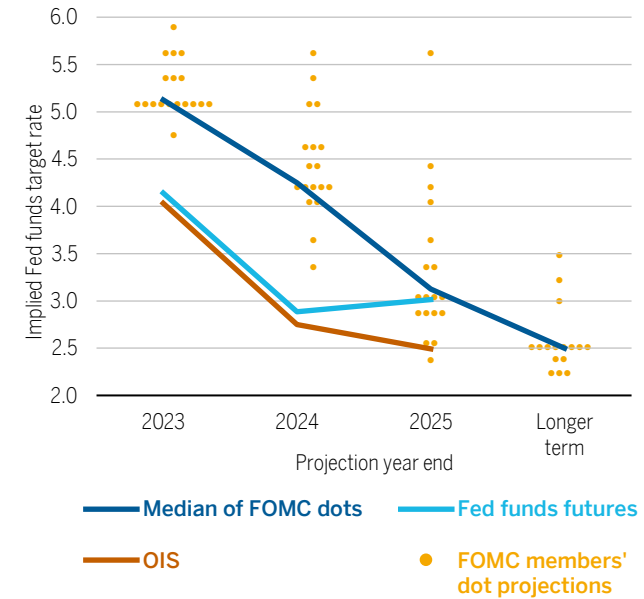
¹Sources: Federal Reserve Bank of St. Louis, ICI, Bloomberg. Chart data: 16 Nov 2022 – 5 Apr 2023 |
²Source: Federal Reserve Bank of St. Louis | ³Source: Federal Deposit Insurance Corporation. Chart data: Mar 2007 – Dec 2022 | ⁴Source: Federal Deposit Insurance Corporation. Chart data: Mar 2007 – Dec 2022 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

B.2 US interest rate policy

Many global yield curves flat/inverted (%)¹



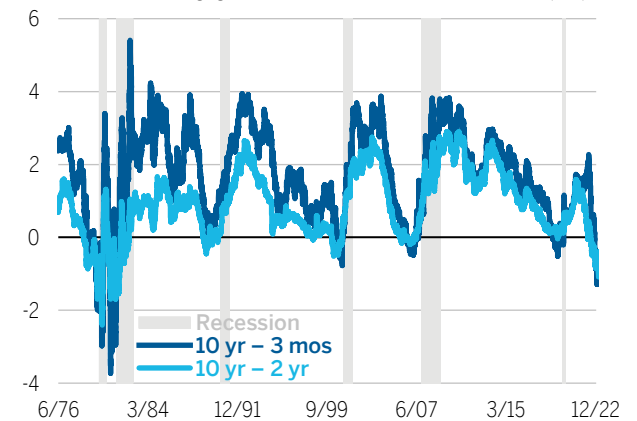
Market vs Fed (%)²



US Treasury yields (%)³



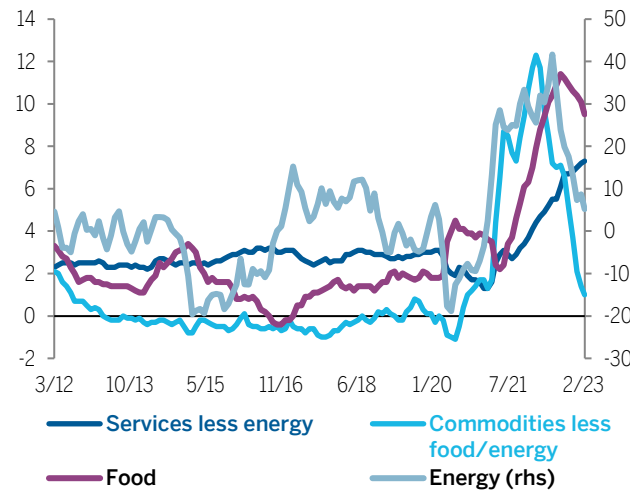
US Treasury yield curve and recessions (%)⁴



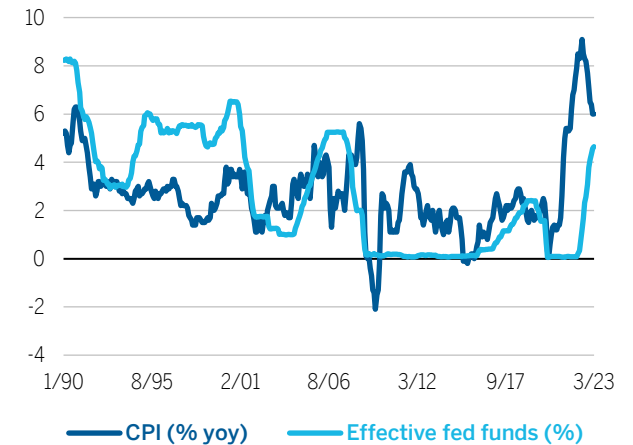
¹Source: Bloomberg. Released 22 March 2023. | ²Each shaded circle indicated the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer term. Sources: Bloomberg, US Federal Reserve. Released 21 September 2022. Longer-term - the peak for the fed funds rate once the Fed has finished tightening (or "normalizing") policy from its current levels. | ³Source: Bloomberg. Chart data: Jan 1990 – Mar 2023 | ⁴Source: Haver, National Bureau of Economic Research. Chart data: 1 June 1976 – 31 March 2023 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

B.2 Inflation environment

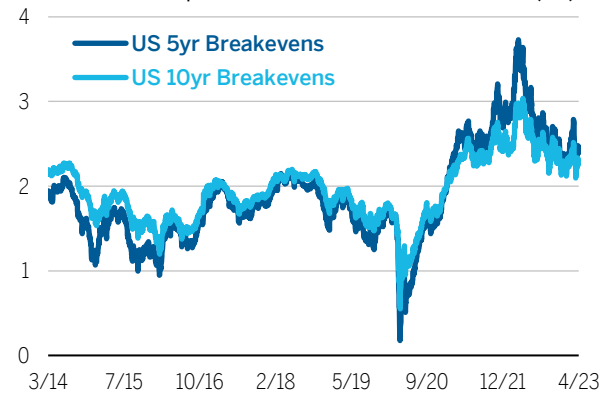
CPI components (% yoy)¹



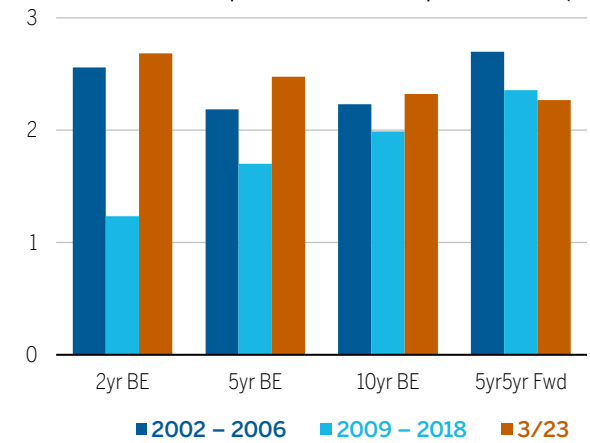
Headline CPI vs fed funds rate²



Inflation expectations have come down (%)³

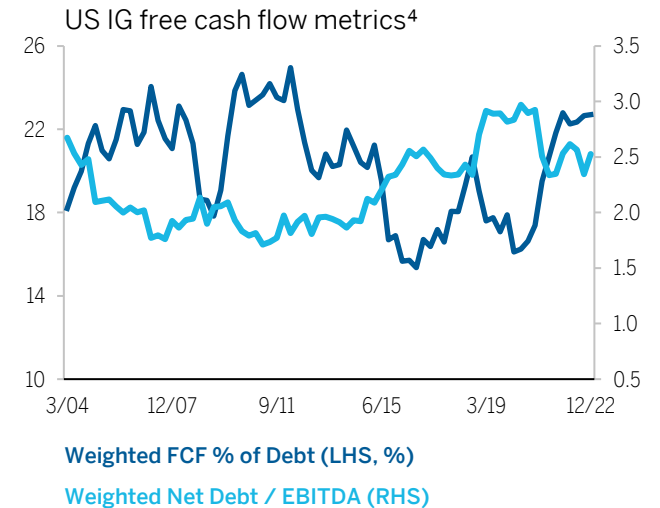
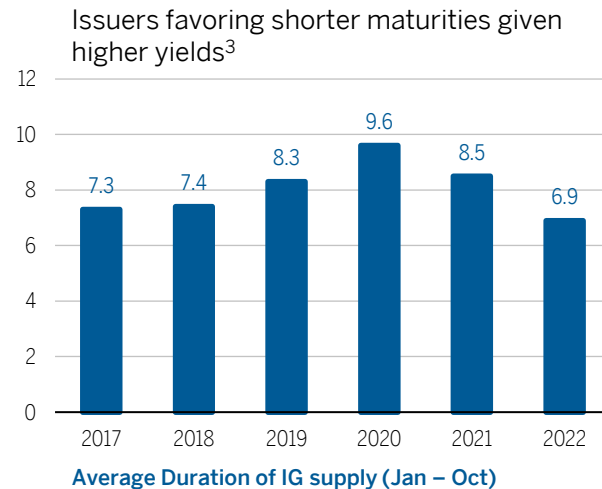
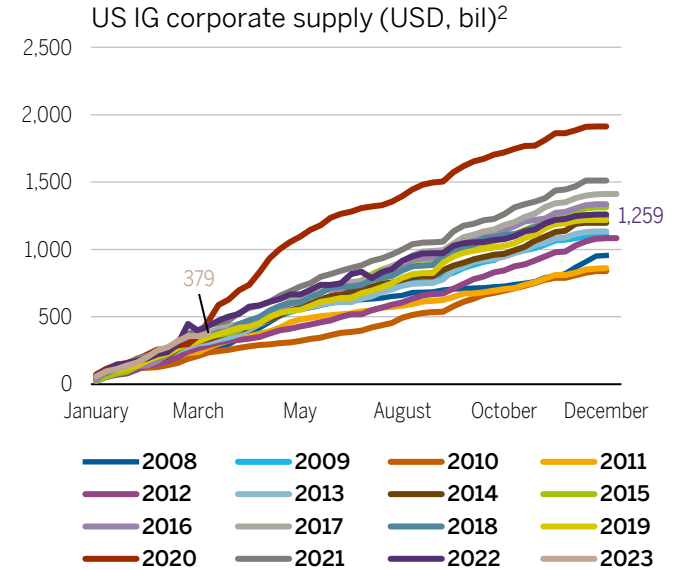
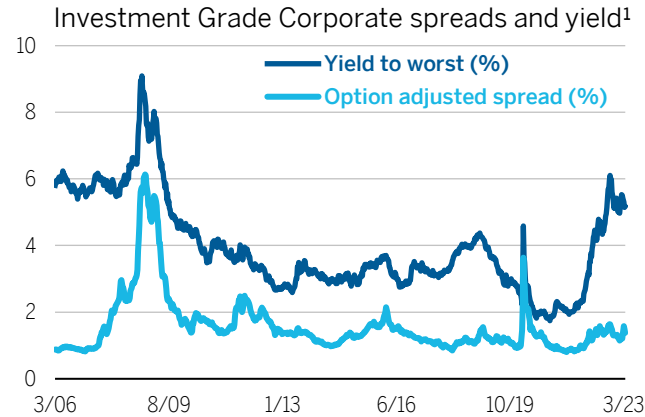


US-market implied inflation expectations (%)⁴



¹Sources: Haver. Chart data March 2012 – February 2023. | ²Source: Bloomberg. Chart data: January 1990 – March 2023. | ³Source: Bloomberg. Chart data: March 2014 – April 2023. | ⁴Source: Bloomberg |
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

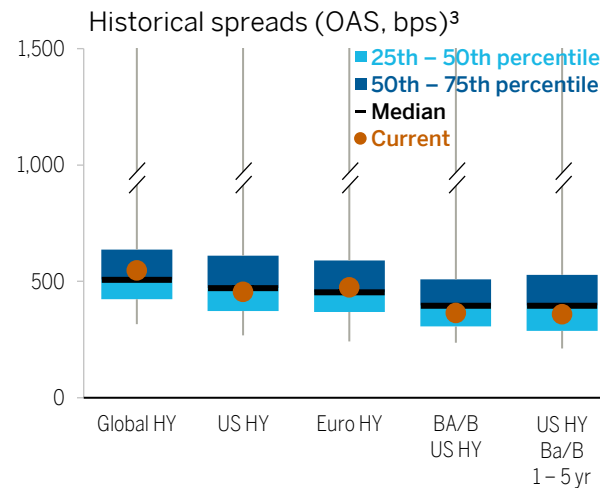
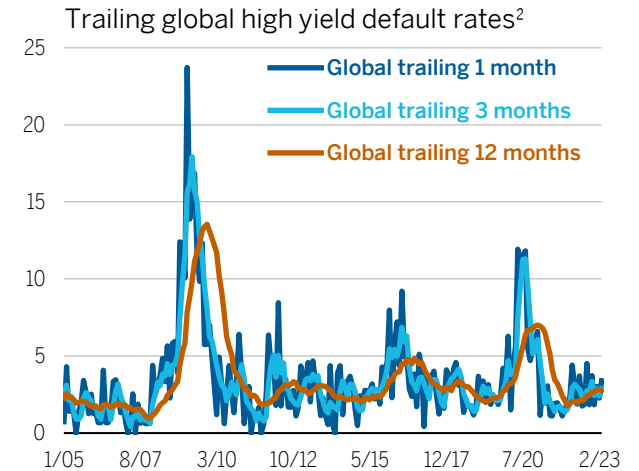
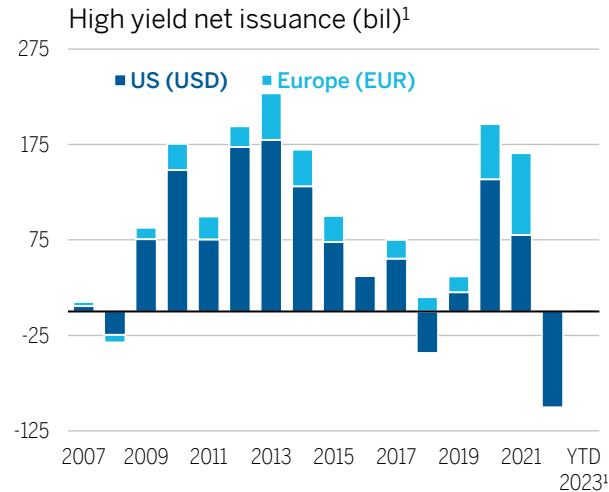
B.2 Investment grade corporate environment



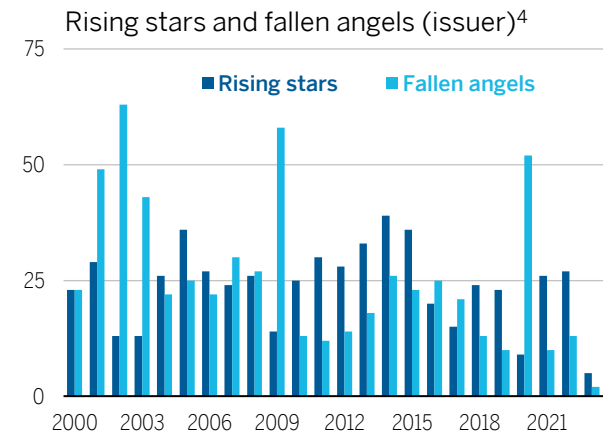
¹Source: Bloomberg. Chart data: 31 March 2006 – 31 March 2023. | ²Source: Bloomberg. Chart data: 1 January 2008 – 31 March 2023. | ³Source: BofA Global Research. Chart data: 1 January 2017 – 31 October 2022. Reprinted by permission. Copyright © 2023 Bank of America Corporation ("BAC"). The use of the above in no way implies that BAC or any of its affiliates endorses the views or interpretation or the use of such information or acts as any endorsement of the use of such information. The information is provided "as is" and none of BAC or any of its affiliates warrants the accuracy or completeness of the information. | ⁴Sources: S&P Global Market Intelligence, Wellington Management. Chart data: 31 March 2004 – 31 December 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

High yield Market Outlook

B.2

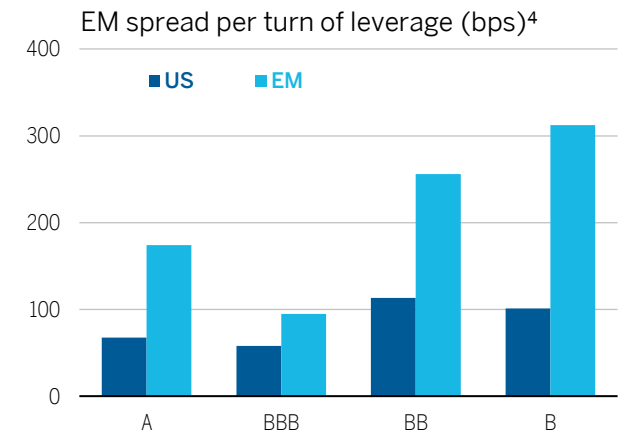
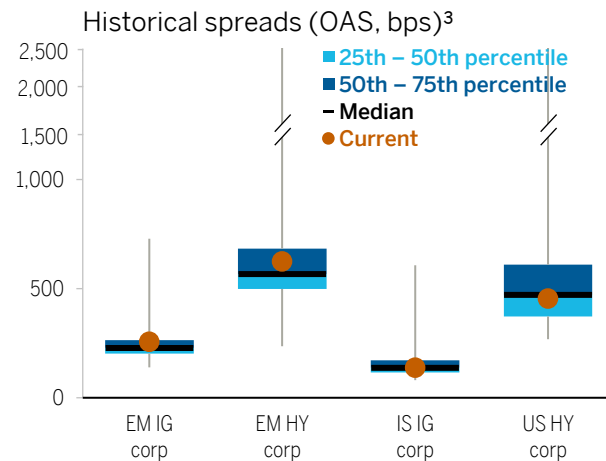
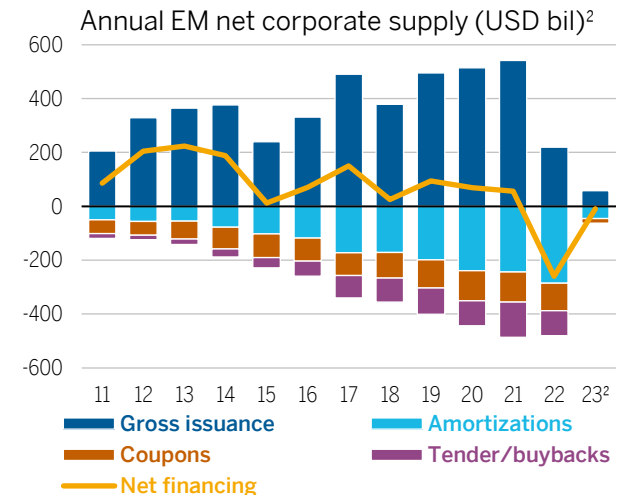
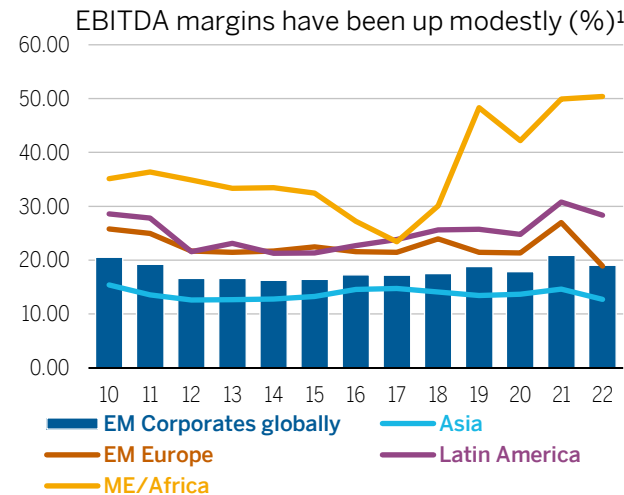


Current OAS (bps)	547	455	474	364	358
Percentile rank (%)	58	45	56	40	40



¹Chart data: 1 January 2007 – 31 March 2023. Source: JPMorgan. Europe includes high yield and leveraged loans. | ²Chart data: 1 January 2005 – 28 February 2023. Source: Moody's. | ³Based on monthly historical data for 15 years from 30 April 2008 – 31 March 2023: BofA Merrill Lynch Global High Yield Constrained Index; Bloomberg US High Yield Index; BofA Merrill Lynch Euro High Yield Constrained Index; Bloomberg US High Yield All Ba/B Rated 2% Capped Index; Bloomberg US High Yield Ba/B 1–5 Year Index | ⁴Chart data: 1 January 2000 – 31 March 2023. Source: JPMorgan. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

B.2 Emerging markets corporate environment



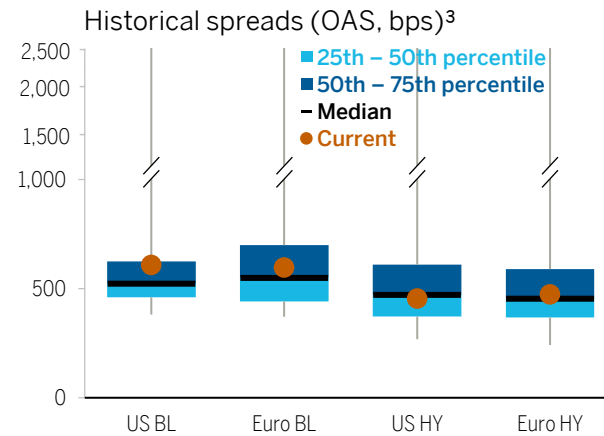
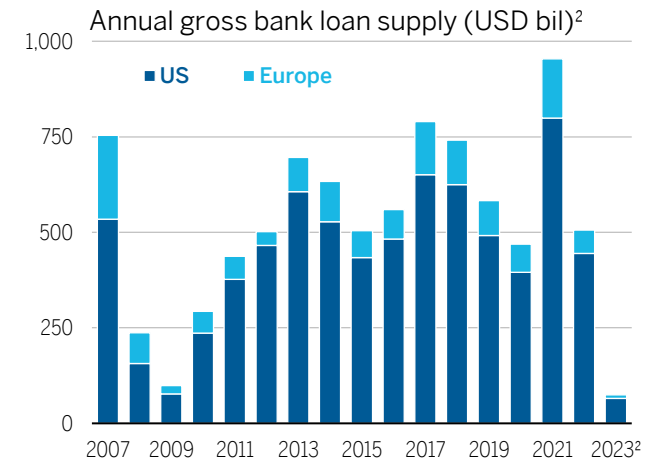
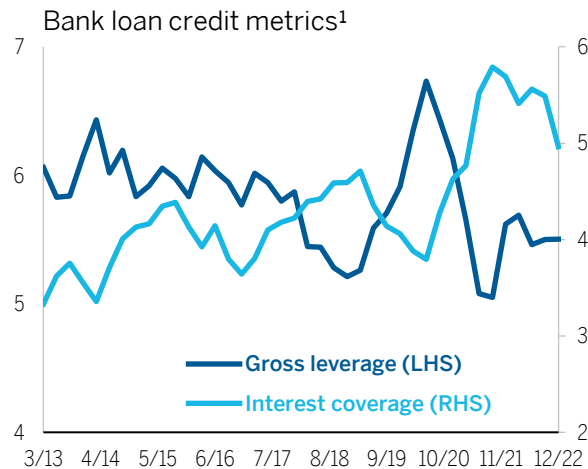
Current OAS (bps)	257	625	138	455
Percentile rank (%)	70	64	53	45

¹Source: JPMorgan. Chart data: 1 January 2010 – 31 December 2022. Based on a sample of about 150 EM corporate bond issuers where estimates are available. | ²Source: JPMorgan. As of 31 March 2023. | ³Based on monthly historical data for 15 years from 30 April 2008 – 31 March 2023: JPMorgan CEMBI; Bloomberg US Corporate Index; Bloomberg US High Yield Index | ⁴Leverage as of 30 June 2022. Spreads as of 31 March 2023. Source: Bank of America Merrill Lynch. |

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

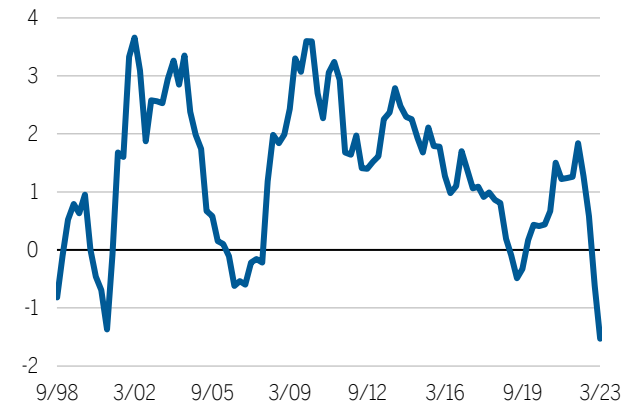
Bank loans Market Outlook

B.2



Current OAS (bps)	609	597	455	474
Percentile rank (%)	73	64	45	56

US 10-Year Treasury Rate minus Fed Funds Rate⁴



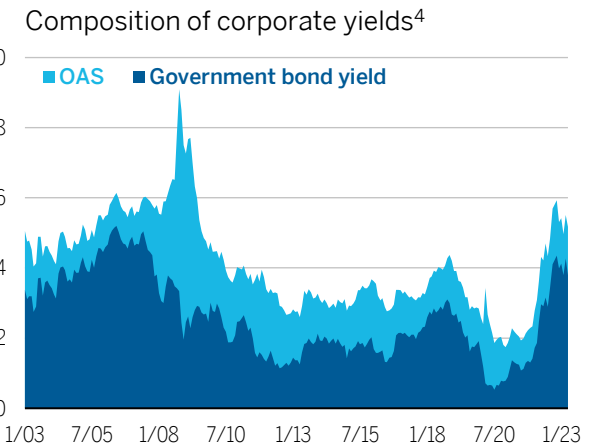
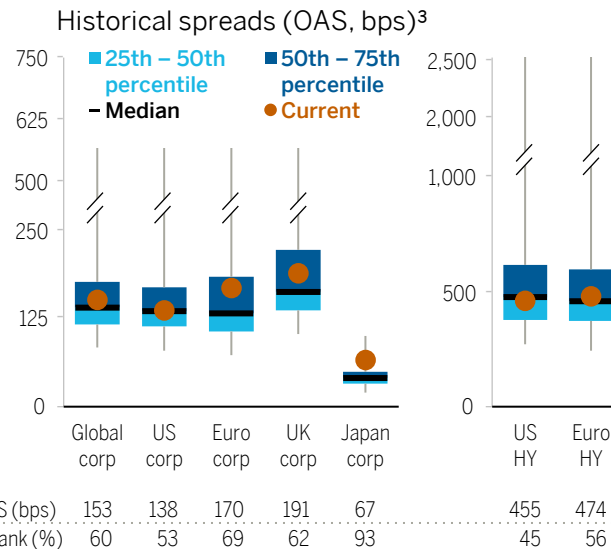
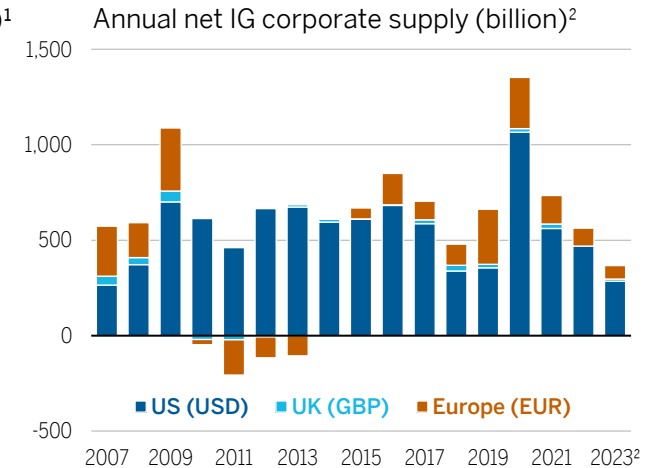
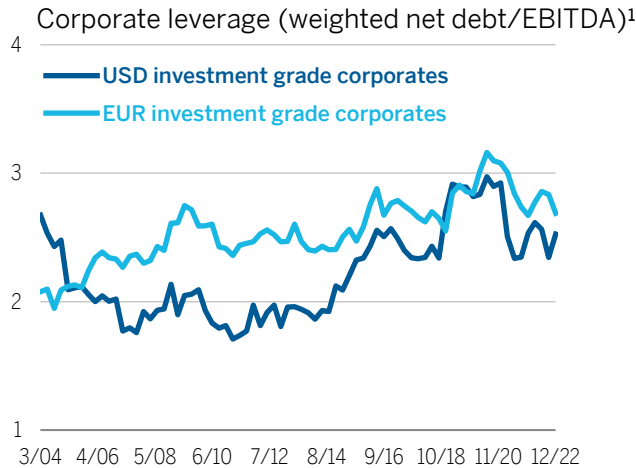
¹Trailing 10 years from 31 March 2013 – 31 December 2022. Source: S&P Global Market Intelligence. Gross leverage = Weighted-average total/LTM EBITDA. Interest coverage = LTM EBITDA/LTM Interest expense. | ²Chart data: 1 January 2007 – 31 March 2023. Source: S&P Global Market Intelligence. |

³Based on monthly historical data for 15 years from 30 April 2008 – 31 March 2023. Sources: Credit Suisse Leveraged Loan Index, Credit Suisse Western European Leveraged Loan Index. Bloomberg US High Yield Index, and BofA Merrill Lynch Euro Constrained Index. Spreads based on Discount Margin (3-year life). | ⁴Chart data: 30 September 1998 – 31 March 2023. Source: Bloomberg |

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

Global Credit Market outlook

B.2

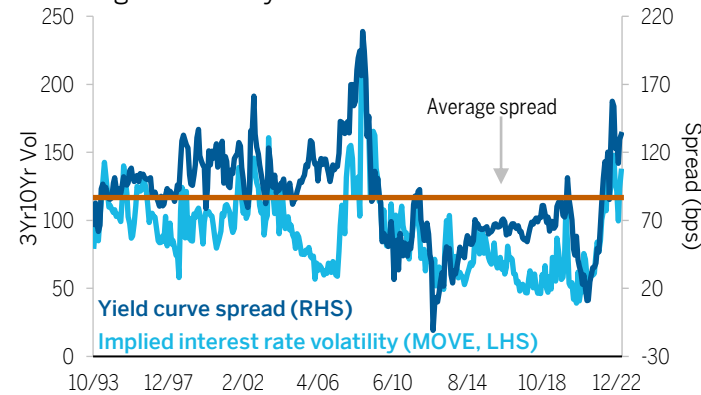


¹Sources: JPMorgan, Capital IQ. Chart data: 31 March 2004 – 31 March 2023. | ²Source: Barclays Credit Research. Chart data: 1 January 2007 – 31 March 2023 | ³Based on monthly historical data for 15 years from 30 April 2008 – 31 March 2023: Bloomberg Global Aggregate Corporate Index; Bloomberg US Corporate Index; Bloomberg Euro Aggregate Corporate Index; Bloomberg UK Aggregate Corporate Index; Bloomberg Japan Aggregate Corporate Index; Bloomberg US High Yield Index; BofA Merrill Lynch Euro High Yield Constrained Index | ⁴Source: Bloomberg Global Aggregate Corporate Index. Chart Data: 31 January 2003 – 31 March 2023 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

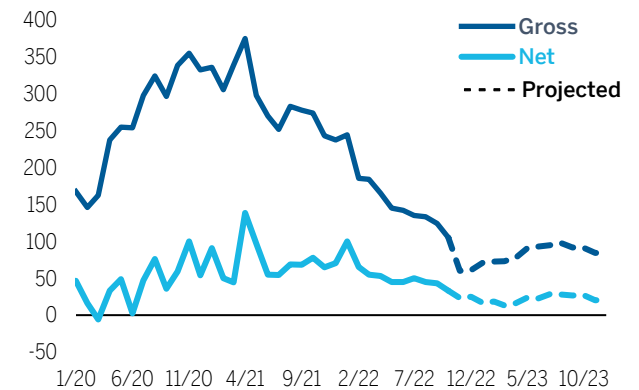
Agency MBS

B.2

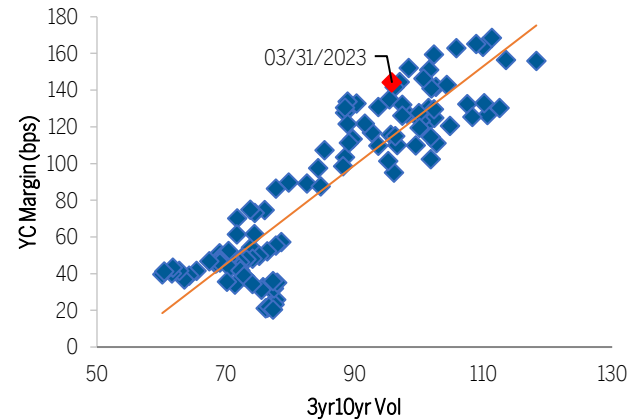
Mortgage spreads have widened along with higher volatility¹



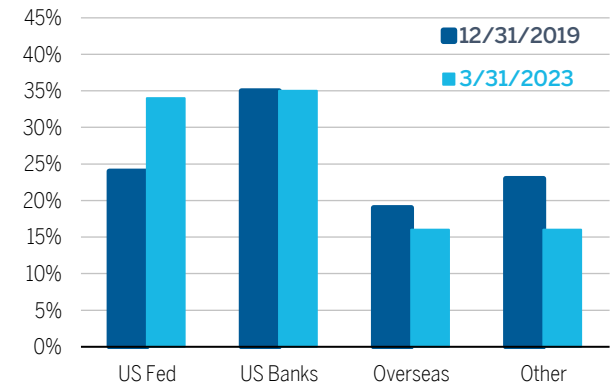
MBS issuance – Gross and net, billions (\$)²



MBS valuations have become more attractive³



Ownership Share of Agency MBS⁴

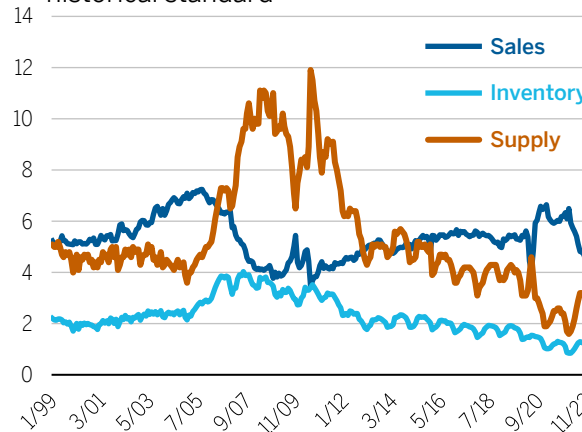


¹Sources: Bloomberg, Barclays LIVE, JPMorgan. Chart data: 29 October 1993 – 31 March 2023. | ²Source: Wellington Management. Chart data: 1 January 2020 – 1 December 2023 (projected). | ³Sources: JPMorgan, Barclays, as of 31 March 2023. | ⁴Source: Bloomberg. Chart data: 31 December 2019 – 31 March 2023.

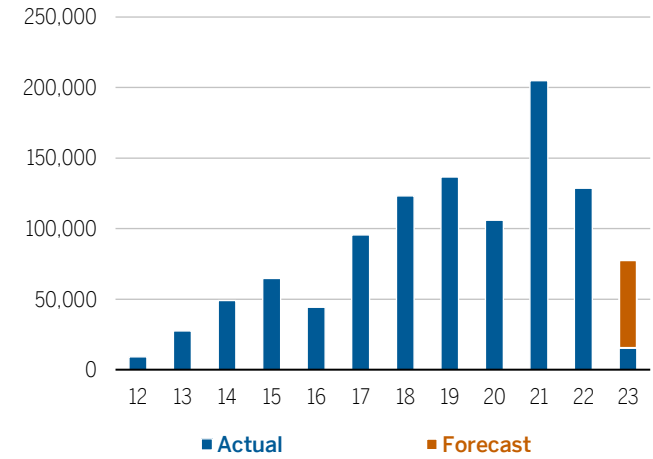
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

Non-Agency Residential MBS (RMBS) Sector outlook

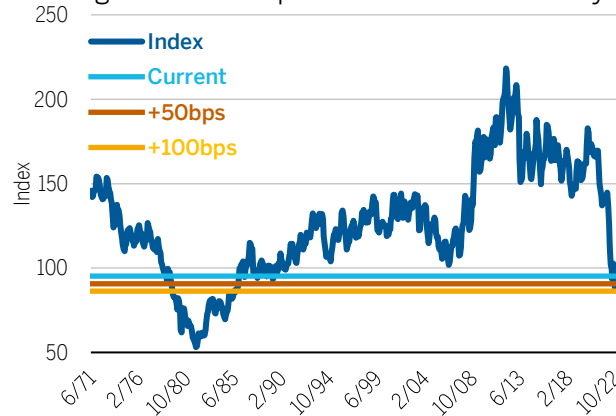
Housing supply/demand balance still low by historical standard¹



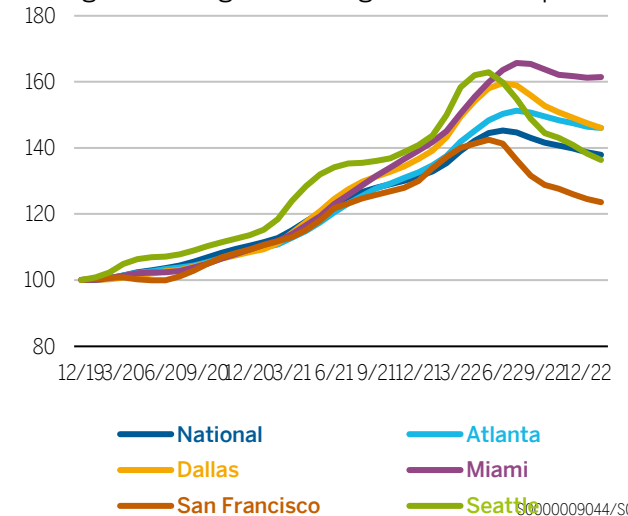
RMBS Issuance to date²



Higher rates and prices have hit affordability³



Significant regional divergence in home price⁴

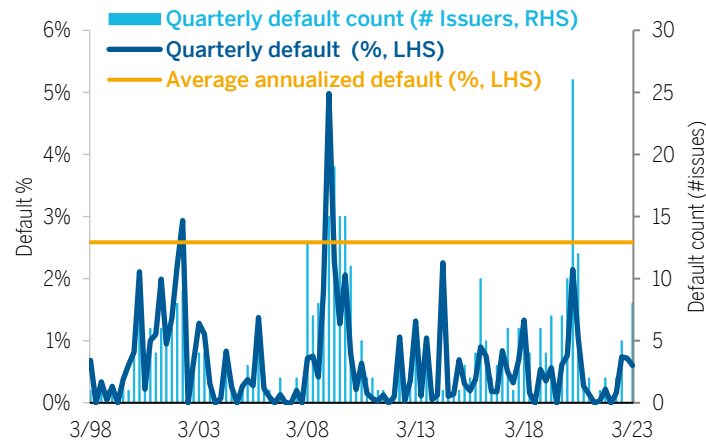


¹Sources: Bloomberg & NAR (National Association of Realtors). Chart data: 31 January 1999 – 28 February 2023. Million for sales and inventory, number of months for supply | ²As of 31 March 2023. Source: JPMorgan. Courtesy J.P. Morgan Chase & Co., Copyright 2022., and Bloomberg Finance L.P. | ³Sources: Bloomberg, NAR, Census. Chart data: April 1971 – December 2022. Current affordability is the NAR housing affordability index | ⁴Chart data: 31 December 2019 – 31 January 2023. Source: Federal Reserve Bank of St. Louis, S&P/Case Shiller | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

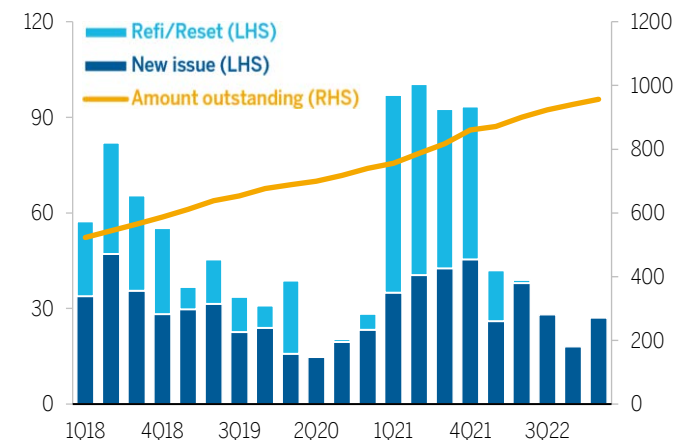
Collateralized Loan Obligations (CLOs)^{B 2}

Sector outlook

Leveraged loan defaults increasing off lows¹

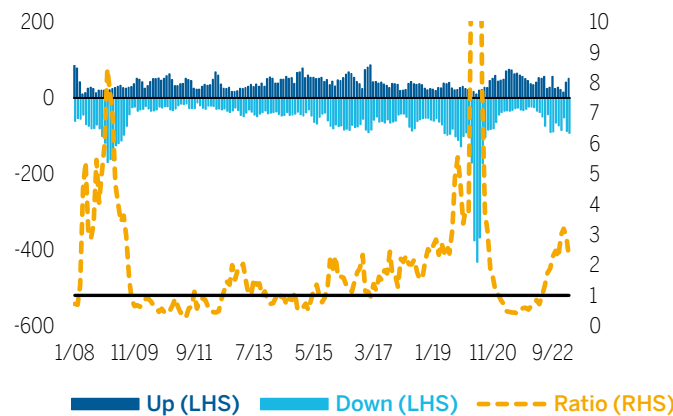


CLO issuance volume, billions (\$)²

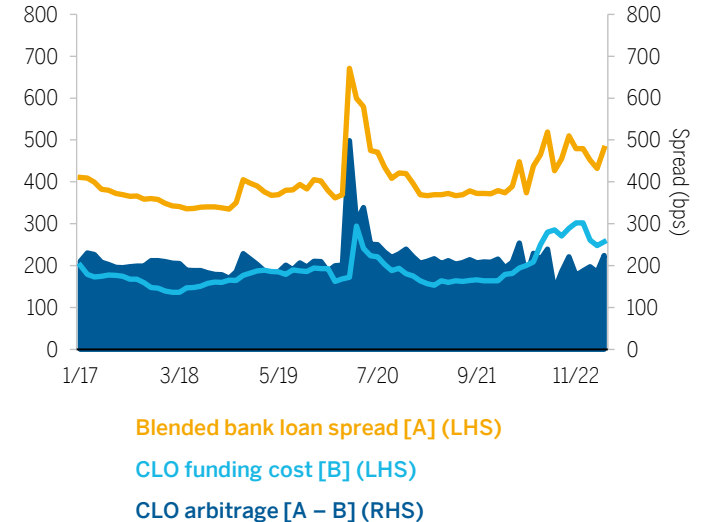


¹Source: S&P LSTA. Chart data: 1Q98 – 1Q23 (As of 31 March 2023) | ²Sources: Intex, Bloomberg, Bank of America. Chart data: 1Q18 – 1Q23 Reprinted by permission. Copyright © 2023 Bank of America Corporation ("BAC"). The use of the above in no way implies that BAC or any of its affiliates endorses the views or interpretation or the use of such information or acts as any endorsement of the use of such information. The information is provided "as is" and none of BAC or any of its affiliates warrants the accuracy or completeness of the information. | ³Source: LCD, an offering of S&P Global Market Intelligence; S&P/LSTA Leveraged Loan Index. Chart data: January 2008 – March 2023. Ratio January 2008 – March 2023. Data series calculated as rolling 3-month count of loan upgrades and downgrades | ⁴Source: Bloomberg, LCD, S&P, Intex. Chart data: January 2017 – March 2023 | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

Downgrades outpacing upgrades³

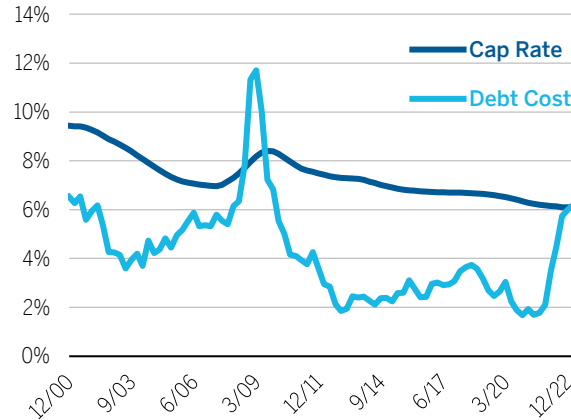


CLO Arbitrage remains challenged⁴

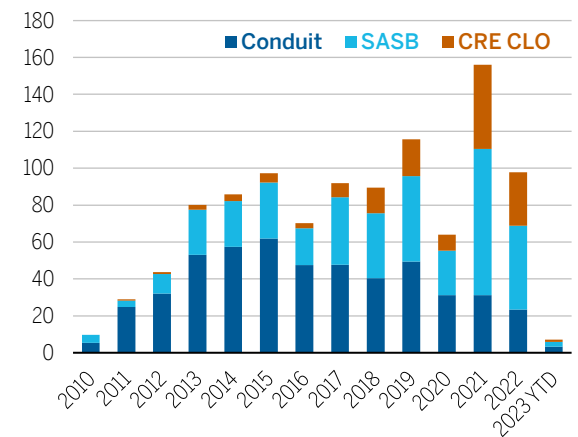


Commercial MBS (CMBS)^{B 2} Sector outlook

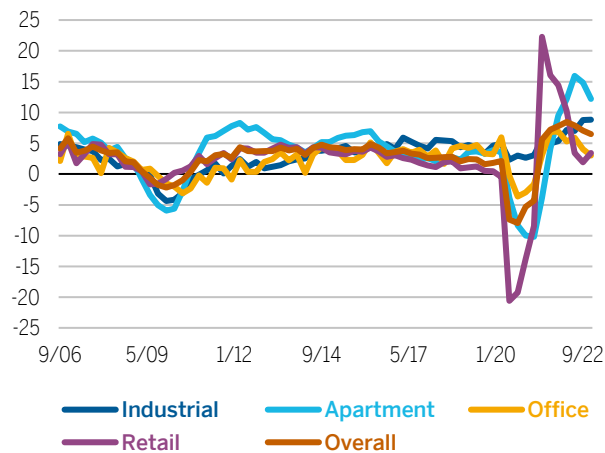
CRE under pressure as debt costs approach/exceed cap rates¹



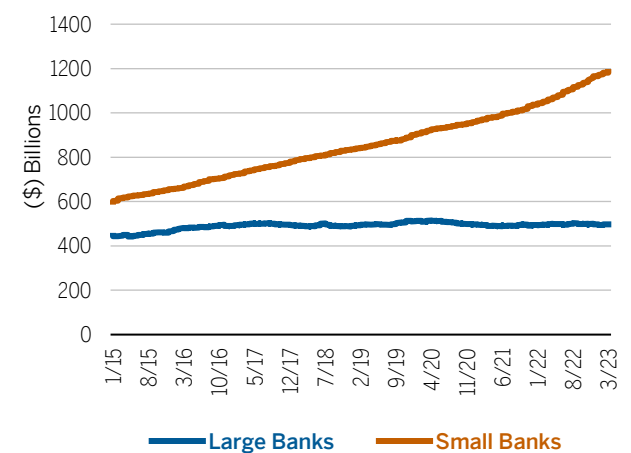
Annual CMBS Issuance, billions (\$) ²



NOI growth (QoQ%) slowing in most sectors³



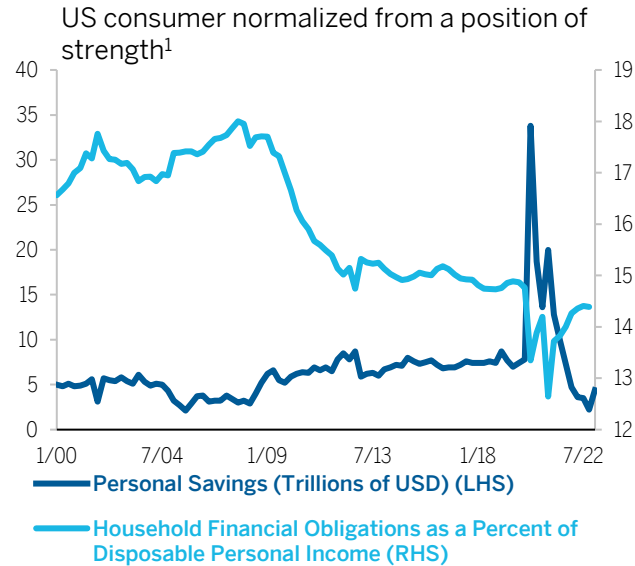
Bank Commercial Real Estate Lending⁴



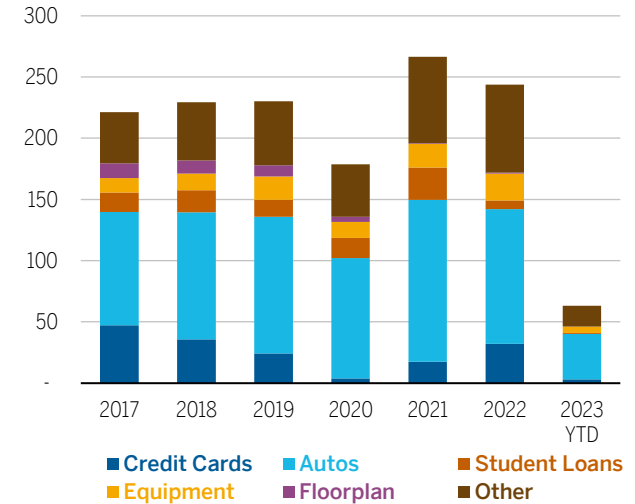
¹ Debt cost is approximated by using the yield of ICE BofA US Fixed Rate CMBS Index and Cap Rate is calculated by using the major property types. Source: CoStar, Bloomberg, ICE BofA. Chart data: December 2000 – March 2023. | ²Data as of March 2023. Sources: Courtesy J.P. Morgan Chase & Co., Copyright 2023., Bloomberg Finance L.P. and Commercial Mortgage Alert. Chart data: 2010 – 1Q2023. |

³Sources: Bloomberg, NAREIT | Chart data: March 2012 – December 2022. | ⁴Sources: Federal Reserve of St. Louis | Chart data: January 2007 – March 2023 |
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

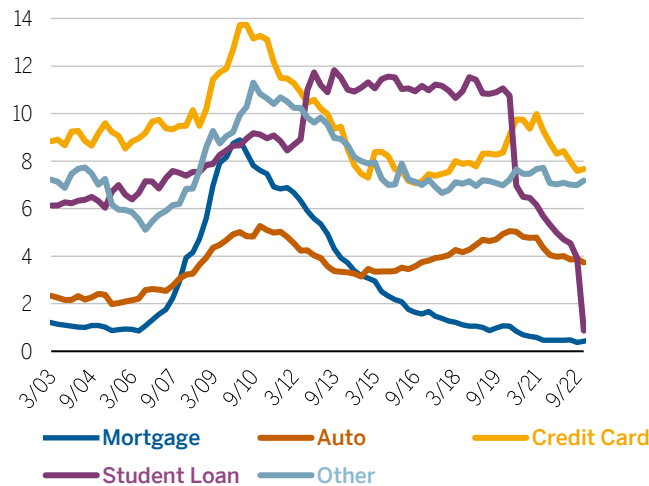
Asset-Backed Securities (ABS) Sector outlook



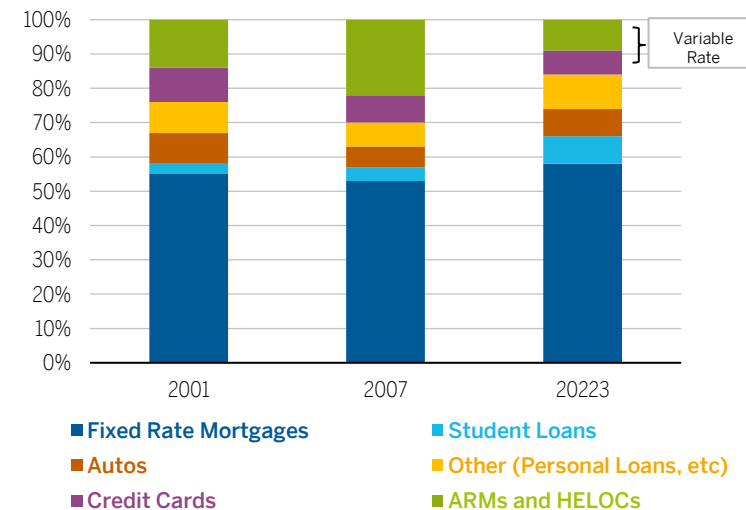
ABS Annual Issuance, billions (\$)²



90+ days delinquency (%) remain low³



Variable and Fixed Rate U.S. Consumer Debt⁴

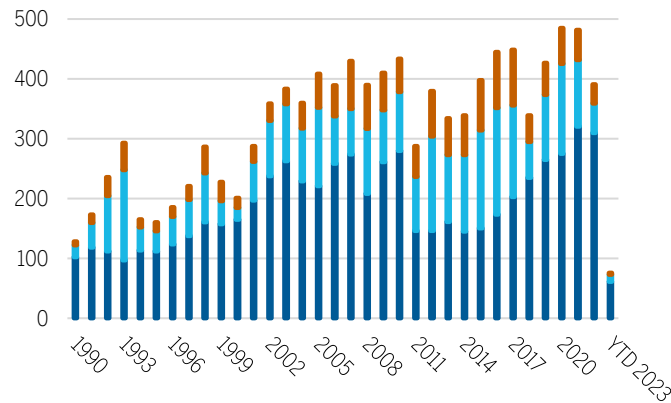


¹Source: Federal Reserve Bank of St. Louis. Chart data: January 2000 - January 2023. | ²Other includes unsecured consumer and miscellaneous ABS. Courtesy J.P. Morgan Chase & Co., Copyright 2022. and Bloomberg Finance L.P.. Chart data: 2017 – March 2023. | ³Source: New York Fed Consumer Credit Panel/Equifax. Data as of 31 December 2022. | ⁴Source: Federal Reserve Board, Federal Reserve of New York. Data as of December 2022. | **PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.**

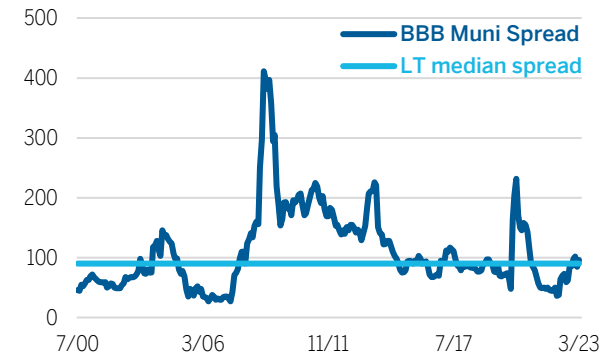
Fixed Income Sector^{B.2}

Municipal environment

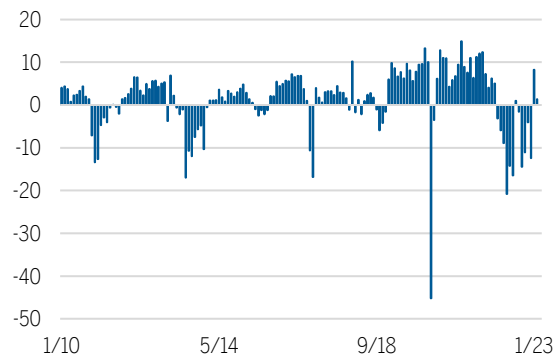
Muni Issuance was lower in 2022¹



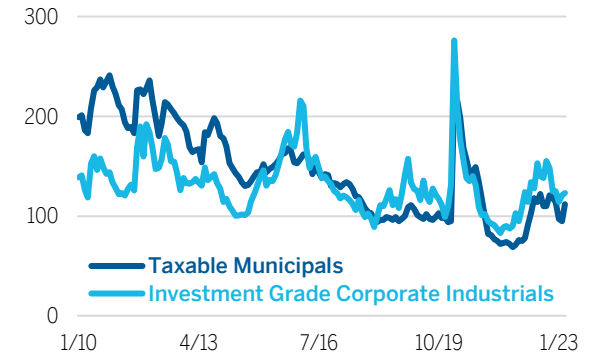
BBB muni spreads remain tight (OAS, in bps)²



Municipal bond fund flows (USD bil)³



Taxable munis look rich relative to corporates⁴



¹Data series begins in 1987. Sources: The Bond Buyer, Merrill Lynch, Wellington Management. Chart data: December 1990 – March 2023. | ²Source: Bloomberg. BofA Merrill Lynch BBB Municipal Index. Chart data: July 2000 – March 2023. | ³Source: EPFR. Chart data: January 2010 – February 2023. | ⁴Sources: BofA Merrill Lynch Taxable Municipal Index, Bloomberg Barclays Investment Grade Corporate Industrials Index. Chart data: January 2010 – March 2023. |
PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS.

Important disclosures

WELLINGTON
MANAGEMENT®

Additional performance information

PAST PERFORMANCE DOES NOT PREDICT FUTURE RETURNS. There can be no assurance nor should it be assumed that future investment performance of any strategy will conform to any performance examples set forth in this material or that the portfolio's underlying investments will be able to avoid losses. The investment results and any portfolio compositions set forth in this material are provided for illustrative purposes only and may not be indicative of the future investment results or future portfolio composition. The composition, size of, and risks associated with an investment in the strategy may differ substantially from the examples set forth in this material. An investment can lose value.

Impact of fees

Illustration of impact of fees: If USD100,000 was invested and experienced a 10% annual return compounded monthly for ten years, its ending value, without giving effect to the deduction of advisory fees, would be USD270,704 with an annualized compounded return of 10.47%. If an advisory fee of 0.95% of average net assets per year were deducted monthly for the ten-year period, the annualized compounded return would be 9.43% and the ending USD value would be USD246,355. Information regarding the firm's advisory fees is available upon request.

Selection of representative account

The current representative account became effective on 1 October 2014 because it was the least restrictive account at the time of selection. For data shown prior to the current representative account effective date, data of the representative account(s) deemed appropriate for the time period was used. Further information regarding former representative accounts can be provided upon request. Each client account is individually managed; individual holdings will vary for each account and there is no guarantee that a particular account will have the same characteristics as described. Actual results may vary for each client due to specific client guidelines, holdings, and other factors. In limited circumstances, the designated representative account may have changed over time, for reasons including, but not limited to, account termination, imposition of significant investment restrictions, or material asset size fluctuations.

Access products

If access products are held by the portfolio they may not be included in the calculation of characteristic data. Access products are instruments used to gain access to equity markets not otherwise available and may include (but are not limited to) instruments such as warrants, total return swaps, p-notes, or zero strike options.

Additional disclosures

Securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly into an index.

Risk model

Noether is an internal proprietary system that comprises a risk model, a stress testing and scenario framework, associated software and infrastructure to calibrate the model, and to perform risk calculations. Noether provides comprehensive and internally calibrated absolute return and benchmark relative ex ante risk measurement across all portfolios managed at Wellington along with an integrated stress testing and scenario analysis capability that leverages Noether's statistical risk model, which is a multi-asset class, globally specified multi factor risk model and covers all asset classes managed at Wellington, including equity, fixed income, multi-asset, and commodities. The model was implemented starting on 1 October 2020 and could result in significant one-time value changes as a result of the risk model change. Prior to this date, the statistical model underlying the risk system is based on Barclays Capital POINT and is fully integrated with Wellington Management's pricing and analytics to provide complete coverage for all securities in Wellington Management's investable universe. The projected tracking risk for portfolios is estimated by calculating the exposures of portfolios to the risk factors in the model, which include factors such as currency, yield curve, and credit spreads, based on the historical volatilities and correlations of these risk factors. For portfolios with a history prior to 1 October 2020, over time risk data presented will have data points from both the Barclays Capital POINT model and the Noether model. Additional information is available upon request.

Benchmark definition

Bloomberg US Aggregate Bond: The Index measures the performance of the U.S. investment grade bond market.

The U.K. Financial Conduct Authority has announced cessation and non-representative dates on 35 London Inter-Bank Offered Rate (LIBOR) settings across various tenors and currencies after 2021. Notably, certain widely used US dollar (USD) LIBOR rate settings (overnight, 1-, 3-, 6-, and 12-month) will continue to be published in representative forms until 30 June 2023, enabling a smoother transition to alternative reference rates by allowing more time for “difficult-to-amend” legacy contracts/securities to mature. The elimination of LIBOR may adversely affect the interest rates on, as well as the liquidity and value of, certain portfolio investments.

Wellington has established a working group of stakeholders from key areas across the firm to manage the transition away from IBORs. Our LIBOR Replacement Working Group oversees work streams covering all aspects of the management of client assets that we anticipate could be impacted by LIBOR transition to help ensure that our client portfolios are well prepared for this upcoming change. Wellington is utilizing a multi-step implementation framework for transitioning from IBORs to alternative rates, including:

- Establishing a transition program
- Implementing a communication strategy with internal and external constituents, including several white papers
- Identifying and validating exposures across instruments, portfolios, and products as well as contractual and derivatives agreement language
- Developing operational and technology readiness plans to address the large-scale operating model, data, and technology implications required for IBOR transition
- Assessing the potential accounting and reporting implications associated with the transition away from IBORs

When IBORs are discontinued, securities that contain fallback language will transition to an alternative reference rate, depending on the deal documents. Fallback language can vary significantly for cash products based on product type, contract originator, and even origination date, as industry practices have evolved over time. For example, fallback language may provide that the replacement rate be determined based on reference bank quotations, remain permanently fixed from the previous interest period, or be determined by reference to another rate. Some securities lack any fallback language, or contain fallback language that differs from current industry standards. As a result, the liquidity and value of these securities may be adversely impacted in advance of the discontinuation of IBORs. In the event that securities lacking adequate fallback language become illiquid, clients may be forced to hold these securities to maturity.

Important Notice

B.2

Wellington Management Company LLP (WMC) is an independently owned investment adviser registered with the US Securities and Exchange Commission (SEC). WMC is also registered with the US Commodity Futures Trading Commission (CFTC) as a commodity trading advisor (CTA) and serves as a CTA to certain clients including commodity pools operated by registered commodity pool operators. WMC provides commodity trading advice to all other clients in reliance on exemptions from CTA registration. WMC, along with its affiliates (collectively, Wellington Management), provides investment management and investment advisory services to institutions around the world. Wellington Management Group LLP (WMG), a Massachusetts limited liability partnership, serves as the ultimate parent holding company of the Wellington Management global organization. All of the partners are full-time professional members of Wellington Management. Located in Boston, Massachusetts, Wellington Management also has offices in Chicago, Illinois; New York, New York; Radnor, Pennsylvania; San Francisco, California; Frankfurt; Hong Kong; London; Luxembourg; Madrid; Milan; Shanghai; Singapore; Sydney; Tokyo; Toronto; and Zurich. ■ This material is prepared for, and authorized for internal use by, designated institutional and professional investors and their consultants or for such other use as may be authorized by Wellington Management. This material and/or its contents are current at the time of writing and may not be reproduced or distributed in whole or in part, for any purpose, without the express written consent of Wellington Management. This material is not intended to constitute investment advice or an offer to sell, or the solicitation of an offer to purchase shares or other securities. Investors should always obtain and read an up-to-date investment services description or prospectus before deciding whether to appoint an investment manager or to invest in a fund. Any views expressed herein are those of the author(s), are based on available information, and are subject to change without notice. Individual portfolio management teams may hold different views and may make different investment decisions for different clients. While any third-party data used is considered reliable, its accuracy is not guaranteed. Forward-looking statements should not be considered as guarantees or predictions of future events. Past results are not a reliable indicator of future results. Wellington assumes no duty to update any information in this material in the event that such information changes.

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Marin County Employees' Retirement Association

June 21, 2023

Frances L. Coombes
Julien A. Scholnick, CFA

Biographies



FRANCES L. COOMBES

25 Years' Experience

- *Western Asset Management Company, LLC, 1998-, Client Service Executive*
- *Columbia University, School of International and Public Affairs, M.P.P.*
- *University of California, Berkeley, B.A., magna cum laude*



JULIEN A. SCHOLNICK

26 Years' Experience

- *Western Asset Management Company, LLC, 2003-, Portfolio Manager*
- *Salomon Smith Barney, 2000-2001, Associate, Private Client Group*
- *Digital Coast Partners, 1999-2000, Senior Analyst*
- *Arthur Andersen, LLP, 1997-1999, Senior Analyst*
- *Cornell University, M.B.A.*
- *University of California, Los Angeles, B.A., magna cum laude*
- *Chartered Financial Analyst*

Western Asset experience reflects current position title and hire date.

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- II. Philosophy, Process and People
- III. Portfolio Review
- IV. Investment Outlook
- V. Appendix

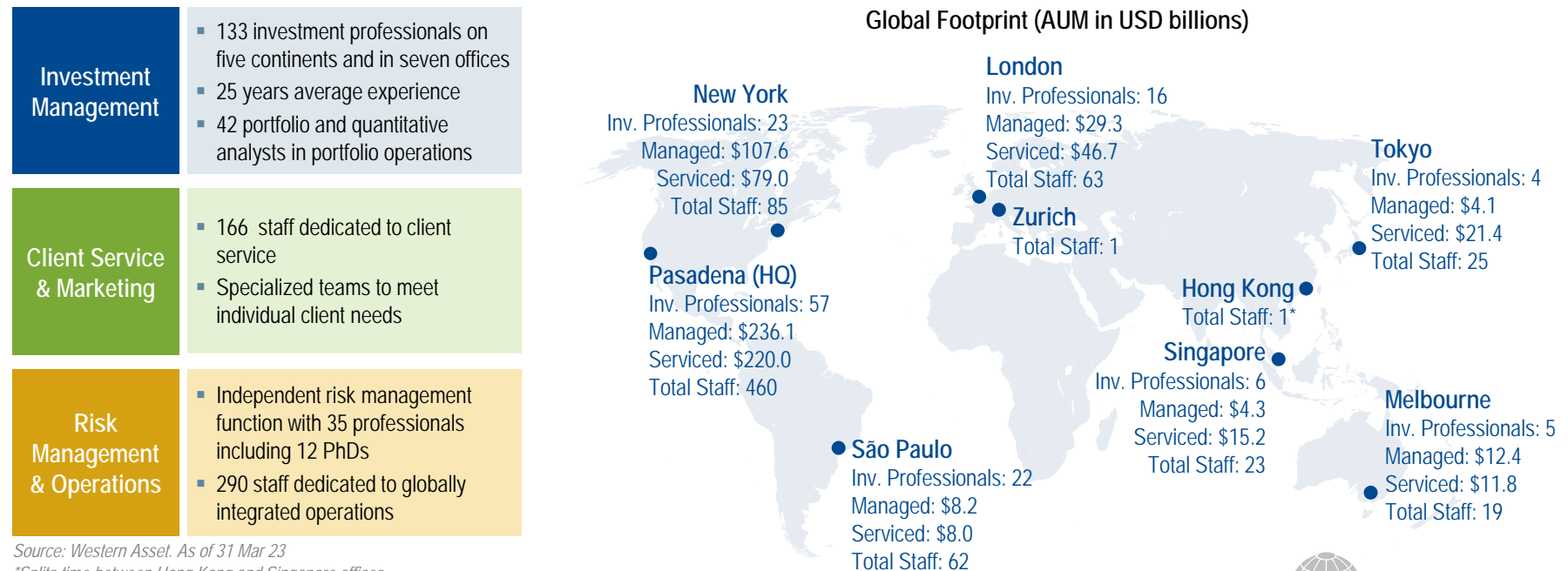
About Western Asset

About Western Asset

Western Asset is a globally integrated fixed-income manager, sourcing ideas and investment solutions worldwide.



Western Asset's Deep Global Integration Allows Us to Source Investment Ideas and Investment Solutions Across Regions



Source: Western Asset. As of 31 Mar 23

*Splits time between Hong Kong and Singapore offices

Investment Solutions

Western Asset offers a full range of fixed-income products that can be tailored to meet the needs of our clients.

Identifying Investment Solutions to Align With Client Objectives and Risk Tolerances		
<ul style="list-style-type: none"> Protect from rising rates Protect from inflation Preserve capital 	<ul style="list-style-type: none"> Diversify globally Hedge liabilities Enhance income 	<ul style="list-style-type: none"> Generate tax-free income Generate total return Achieve ESG objectives
Selected Investment Strategies		
Broad Market <ul style="list-style-type: none"> Global Aggregate Regional Core/Core Plus Regional Intermediate Global Sovereign 	Credit <ul style="list-style-type: none"> Global Credit Investment-Grade Credit Global High-Yield US Bank Loans US High-Yield Short-Duration High Income 	Unconstrained / Alternatives <ul style="list-style-type: none"> Macro Opportunities Total Return Unconstrained Multi-Asset Credit Global Multi-Sector Tail Risk Protection
Long Duration / LDI <ul style="list-style-type: none"> Long Duration Long Credit Liability-Driven Investing 	Mortgage and Consumer Credit <ul style="list-style-type: none"> US Agency MBS US Agency MBS Plus Structured Products Select Credit Opportunities in Real Estate (SCORE) 	Emerging Markets <ul style="list-style-type: none"> EM Diversified EM Corporate
Inflation-Linked <ul style="list-style-type: none"> US TIPS Global Inflation-Linked Regional Inflation-Linked 	US Municipals <ul style="list-style-type: none"> US Taxable Municipal US Tax-Exempt Municipal 	Liquidity / Short Duration <ul style="list-style-type: none"> Liquidity Enhanced Liquidity Short Duration Constrained Short Duration

About Western Asset – Clients

Committed to excellence in client service

Representative Client List

Corporate	Public / Government	Multi-Employer / Unions	Eleemosynary
AT&T Services, Inc. Bayer Corporation Campbell Soup Company Caterpillar Inc. Clark Enterprises, Inc. GXO Logistics UK Hawaiian Airlines, Inc. Treasury International Paper Company Kvaerner Lee Enterprises NISource Inc. Norfolk Southern Corporation Northrop Grumman Corporation NXP Semiconductor, Inc. Ryder System, Inc. SMART Bowling Scholarship Funding Corporation Solvay USA Inc. Southern California Edison Company Springpoint Senior Living Stellantis Thyssenkrupp North America, Inc. Unisys Corporation Verizon Investment Management Corp Weil, Gotshal & Manges, LLP Westlake Chemical Corporation XPO Logistics Inc	Anne Arundel (MD) Retirement Systems Arkansas Local Police and Fire Retirement System Baltimore County (MD) Employees Retirement System California State Teachers' Retirement System City of Aurora City of Grand Rapids Retirement Systems City of Phoenix Employees' Retirement System compenswiss Employees' Retirement System of the City of Baton Rouge and Parish of East Baton Rouge Employees' Retirement System of the State of Rhode Island Fife Council Pension Fund Firemen's Annuity and Benefit Fund of Chicago Fresno County Employees' Retirement Association Government of Bermuda Public Funds Holyoke Contributory Retirement System Indiana State Treasurer's Office Kansas Public Employees Retirement System Los Angeles County Employees Retirement Association Louisiana Sheriff's Pension & Relief Fund Marin County Employees' Retirement Association Minnesota State Board of Investment Ohio Police & Fire Pension Fund Oklahoma City Employee Retirement System Oregon Public Employees Retirement System (PERS) Public Employee Retirement System of Idaho Public School Teachers' Pension and Retirement Fund of Chicago Salt River Project Agricultural Improvement and Power District School Employees Retirement System of Ohio State of Ohio Bureau of Workers Compensation Tennessee Valley Authority Ventura County Employees' Retirement Association Washington Metro Area Transit Authority Wichita (KS) Retirement Systems	1199SEIU Health Care Employees Pension Fund 4th District IBEW Health Fund Alaska Electrical Trust Funds Automotive Machinists Pension Trust Boilermaker Blacksmith National Pension Trust Carpenters' Pension Trust Fund of Kansas City Construction Industry Laborers Directors Guild of America-Producer Pension and Health Plans (DGA - PPHP) Electrical Workers, IBEW, Local 531 Graphic Arts Industry Joint Pension Trust Heavy & General Laborers' Locals 472/172 IBEW Local 683 Pension Fund IBEW Local No. 9 ILWU-PMA Benefit Plans Iron Workers Local #11 Benefit Funds IUOEE Construction Ind Ret Plan, Locals 302 and 612 Line Construction Benefit Fund Local 804 & 447 UPS Multi-Employer Retirement Plan National Education Association of the United States New England Healthcare Employees Union, District 1199, AFL-CIO New Jersey Building Laborers Statewide Welfare Fund New Jersey Transit Operating Engineers Local #428 Trust Funds Pacific Coast Roofers PacificCorp/IBEW Local 57 Retirement Trust Fund Pittsburgh Plumbers Local No. 27 Pension Fund Plumbers & Pipefitters Local 396 Pension Fund Retail Wholesale & Department Store Union Roofers Local Union No. 8 Pension Fund Roofers Pension Fund Southern Nevada Culinary & Bartenders Pension Trust Fund Teamsters Union Local No. 52 Pension Fund UNITE HERE Local 5 United Association Union Local No. 290 Plumber, Steamfitter & Shipfitter Industry Pension Trust United Auto Workers (UAW) United Crafts Benefits Fund United Food and Commercial Workers Union Local 919 Western Washington Laborers Employers Pension Trust	Alfred P. Sloan Foundation Baha'i World Centre Catholic Umbrella Pool Columbus Medical Association Foundation Commonfund Communities Foundation of Texas Community Foundation of Louisville Community Foundation of Southern Indiana, Inc. Domestic & Foreign Missionary Society ECUSA Dubois County Community Foundation Glass-Glen Burnie Foundation Jewish Federation of Greater Philadelphia Jewish Heritage Fund for Excellence National Aquarium in Baltimore Polytechnic School Rockford Woodlawn Fund, Inc Saint Louis University Strada Education Network, Inc. Texas Presbyterian Foundation The Catholic Foundation of Central Florida The Diocese of Allentown The Donald B. and Dorothy L. Stabler Foundation The Foundation for the Children's Home of Cincinnati, Inc University of Southern California University System of Maryland Foundation Washington State University
Financial Services	Insurance		Health Care
Asset Management One Co., Ltd. Desjardins GuideStone Capital Management, LLC Highbury Pacific Capital Corp. Omnis Investments Ltd Refineria Isla Curaçao B.V Russell Investments SEI Tokio Marine Asset Management Co., Ltd.	Blue Cross and Blue Shield of Massachusetts, Inc. Capital BlueCross Inc. CONTASSUR s.a./n.v Elevance Health, Inc Empower Annuity Insurance Company of America Everen Investment Ltd Fremtind Forsikring AS Genworth Financial, Inc. Pacific Life Insurance Company		AmeriHealth Caritas Ascension Investment Management Baylor Scott & White Holdings Children's Hospital Colorado CHRISTUS Health Holy Name Medical Center LCMC Health Norman Regional Health System Seattle Children's Hospital St. George Corporation

As of 30 Apr 23, Western Asset's Representative Client List includes clients who have provided written consent or verbal permission for inclusion in Western Asset's marketing materials. The list is limited to current clients directly contracted with Western Asset whose assets are actively managed at the time of the list's production. A client's inclusion on this list does not imply their approval, recommendation or otherwise of Western Asset or the advisory services provided.

Philosophy, Process and People

Investment Philosophy

These are the core beliefs that drive our investment decision-making.

Long-term fundamental value

- **Markets often misprice securities.** Prices can deviate from fundamental fair value, but over time, they typically adjust to reflect inflation, credit quality fundamentals and liquidity conditions. Consistently investing in undervalued securities may deliver attractive investment returns.
- **We can systematically identify mispricings.** We believe we can identify and capitalize on markets and securities that are priced below fundamental fair value. We do this through disciplined and rigorous analysis, comparing prices to the fundamental fair values estimated by our macroeconomic and credit research teams around the globe.
- **Our portfolios emphasize our highest convictions.** The greater the difference between our view of fair value and markets' pricing, the bigger the potential value opportunity. The greater the degree of confidence in our view of fundamentals, the greater the emphasis of the strategies in our portfolios.

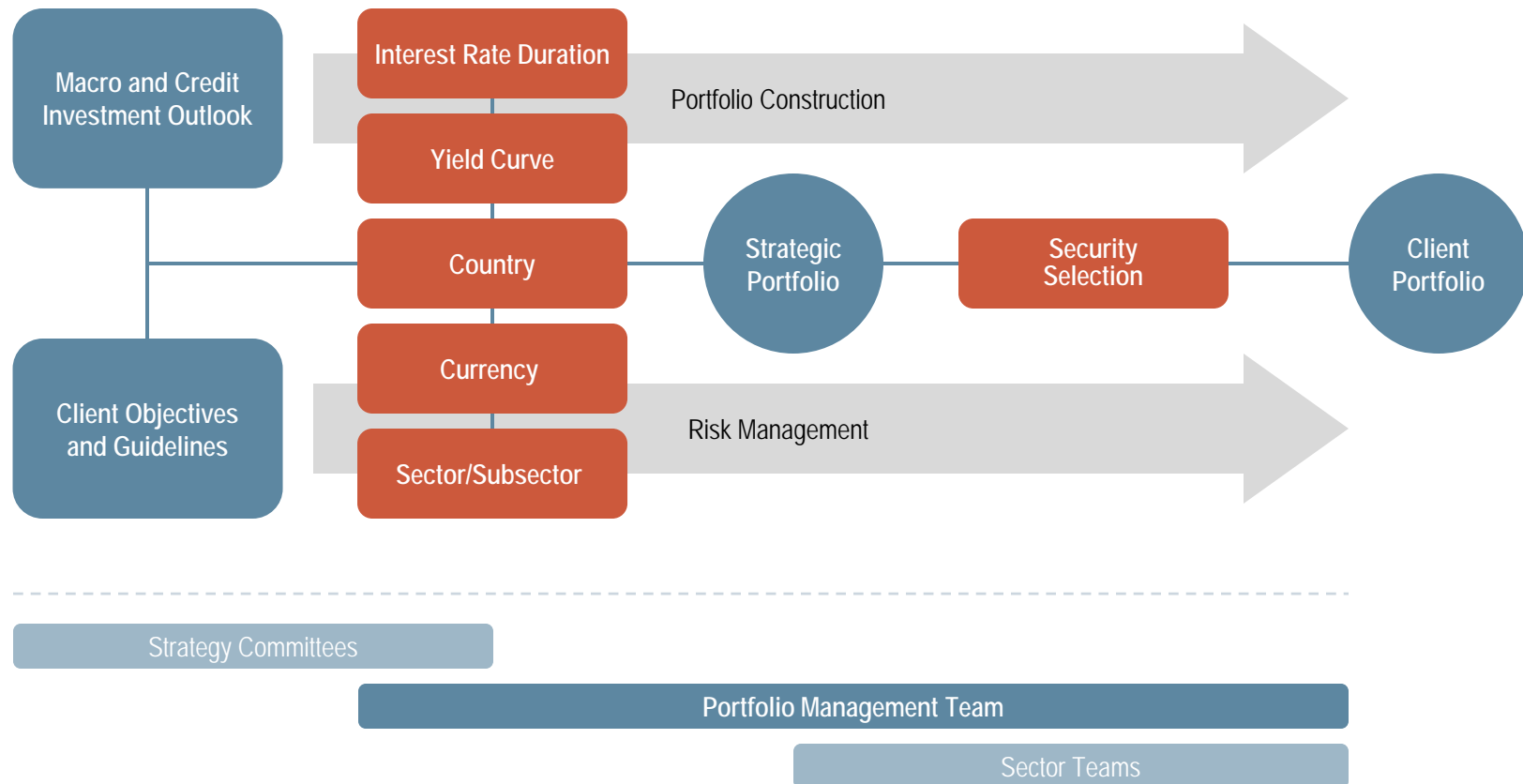
Multiple diversified strategies

- **We seek diversified sources of returns.** Our objective is to meet or exceed our investors' performance objectives within their tolerances for risk. We seek to diversify investments and add value across interest rate duration, yield curve, sector allocation, security selection, country and currency strategies. We deploy multiple diversified strategies that benefit in different environments so no one strategy dominates performance, helping to dampen volatility.

Investment Process

Our time-tested investment process is designed around our value philosophy and our team-based approach.

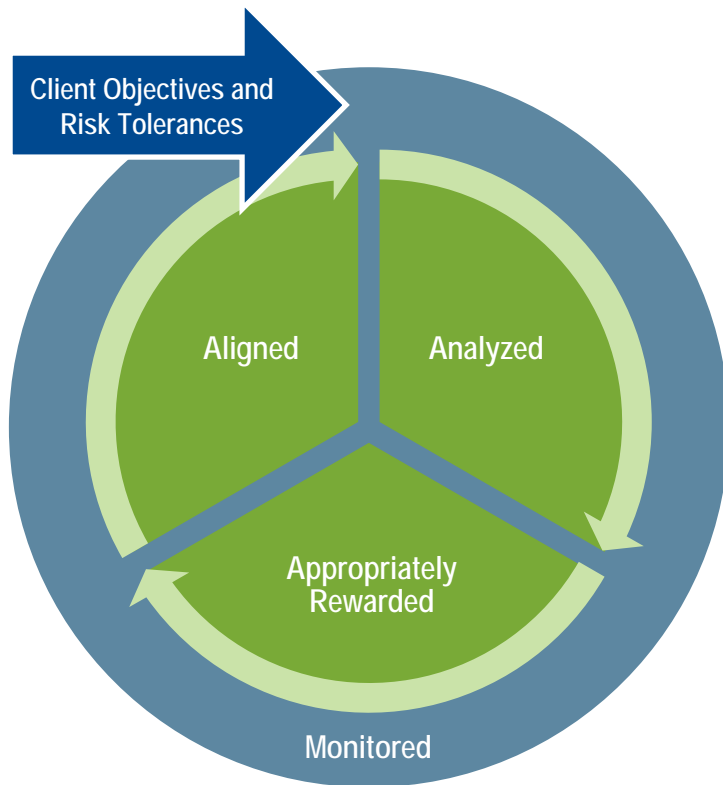
Western Asset Investment Process and Team Interaction



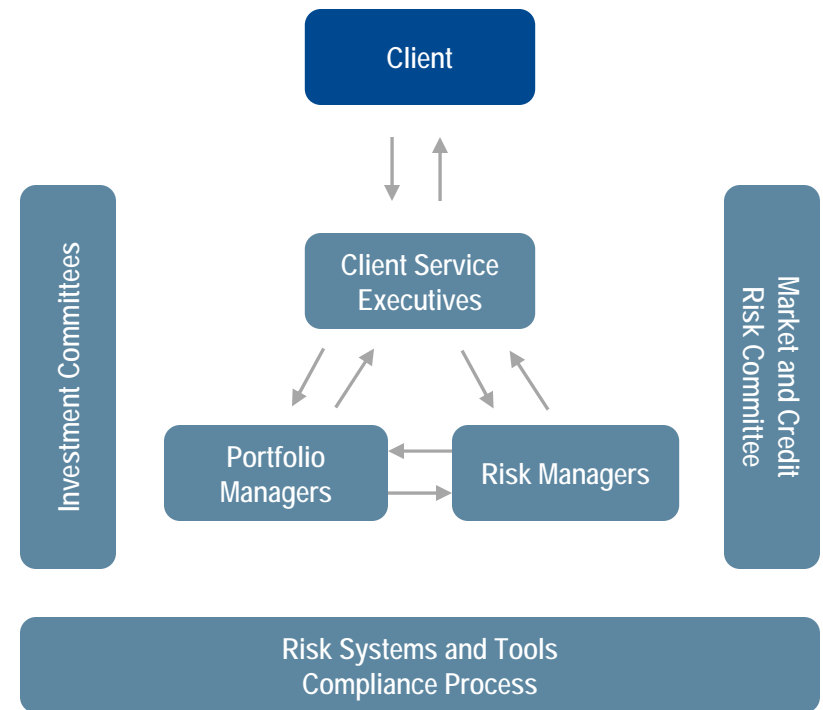
Risk Management

In our culture, effective risk management is critical to successful portfolio management.

Integrating risk management into portfolio construction and in the independent review of portfolio risks strengthens its effectiveness.



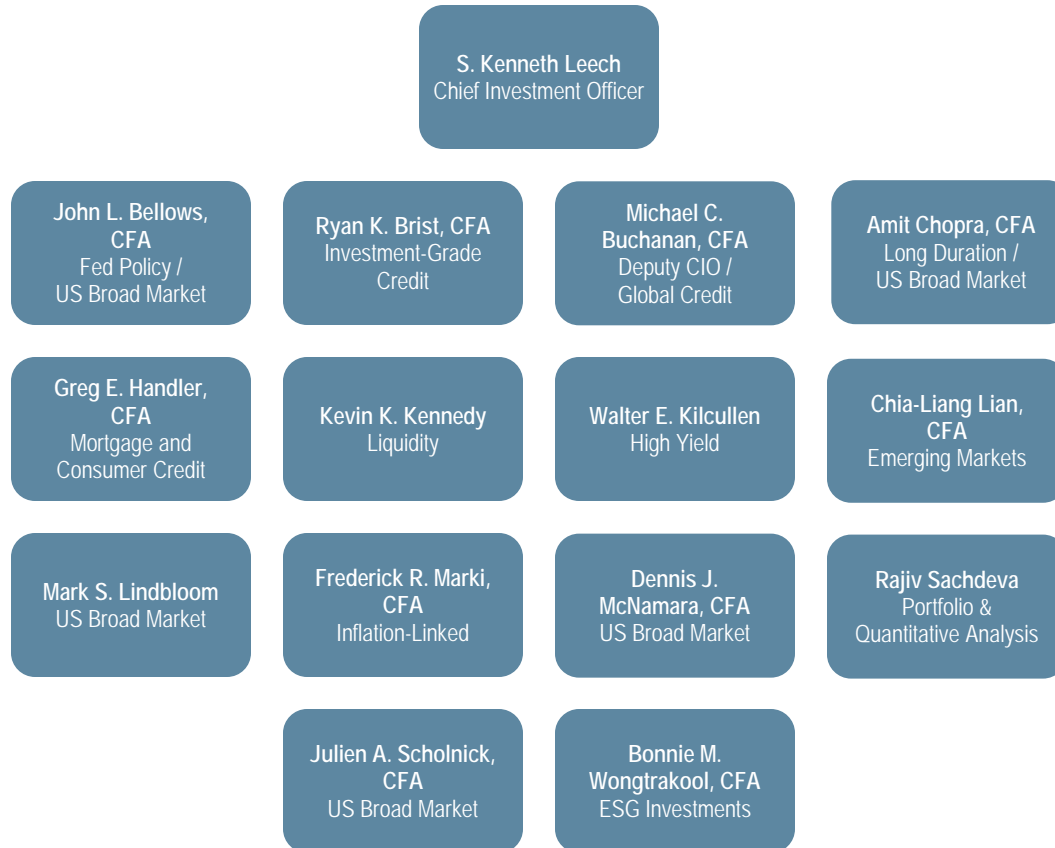
Risk management is a team effort. Robust communication and escalation procedures underpin the independence and transparency of risk management.



People

The US Broad Strategy Committee sets the overall themes for the US broad market investment strategies.

US Broad Strategy Committee



- Sets macro and sector investment themes
- Meets weekly to evaluate and establish the US investment outlook over a 6-9 month horizon.
 - Within the context of our global investment outlook
 - Based on long-term economic developments and market valuations
 - Leveraging sector input and broad top-down analysis
- Evaluates risk factors and potential scenarios. Sets the risk tone for US investment strategies

People

The US Broad Market Team leverages Western Asset's global investment capabilities.

US Broad Market Team

Portfolio Management

S. Kenneth Leech
Portfolio Manager / CIO

Scott M. Beatty, CFA
Portfolio Manager

John L. Bellows, PhD, CFA
Portfolio Manager

Amit Chopra, CFA
Portfolio Manager

Mark S. Lindbloom
Portfolio Manager

Keith A. Luna, CFA
Portfolio Manager

Frederick R. Marki, CFA
Portfolio Manager

Nicholas Mastroianni, CFA
Portfolio Manager

Julien A. Scholnick, CFA
Portfolio Manager

Molly Schwartz, CFA
Portfolio Manager

Theresa Veres
Portfolio Manager

Bonnie M. Wongtrakool, CFA
Portfolio Manager

Rafael Zielonka, CFA
Portfolio Manager

Derivatives

Scott M. Beatty, CFA¹
Portfolio Manager

Jim K. Huynh
Portfolio Manager

Keith A. Luna, CFA¹
Portfolio Manager

Risk Management

Robert Gingrich, PhD
Manager of Alternatives &
Derivatives Risk

Pornatawee Nantamanasikarn, PhD
Portfolio Risk Manager

Han Zheng, CFA
Portfolio Risk Manager

Product

Travis M. Carr, CFA
Product Specialist

Virgil F. Esguerra, CAIA
Product Analyst

Douglas Wade, CFA
Product Specialist

Trading

Nicholas Mastroianni, CFA¹
Trader

Rafael Zielonka, CFA¹
Trader

Portfolio Analysis

Zachary Klein, CFA
Portfolio Analyst

John Rodli, CFA
Portfolio Analyst

Western Asset Investment Team

Investment Management Professionals

- Chief Investment Officer: S. Kenneth Leech
- Deputy CIO: Michael C. Buchanan
- 133 Investment Professionals on five continents and seven offices, as of March 31, 2023
- 25 years of average experience

Major Investment Committees

- Global Investment Strategy Committee
- Global Credit Committee
- US Broad Strategy Committee
- Global Emerging Markets Strategy Committee
- Unconstrained Asset Allocation Committee

Sector and Regional Teams

- Global credit
- Investment-grade
- High-yield
- Emerging markets
- Mortgage and consumer credit
- Long duration
- US municipal
- Liquidity
- Insurance
- US
- Europe
- UK
- Japan
- Asia
- Brazil
- Australia / New Zealand

Independent Risk Management Function

- Chief Risk Officer: Ahmet E. Kocagil
- Independent evaluation of strategies and risks
- Market and Credit Risk Committee
- 35 investment risk professionals

As of 31 May 23

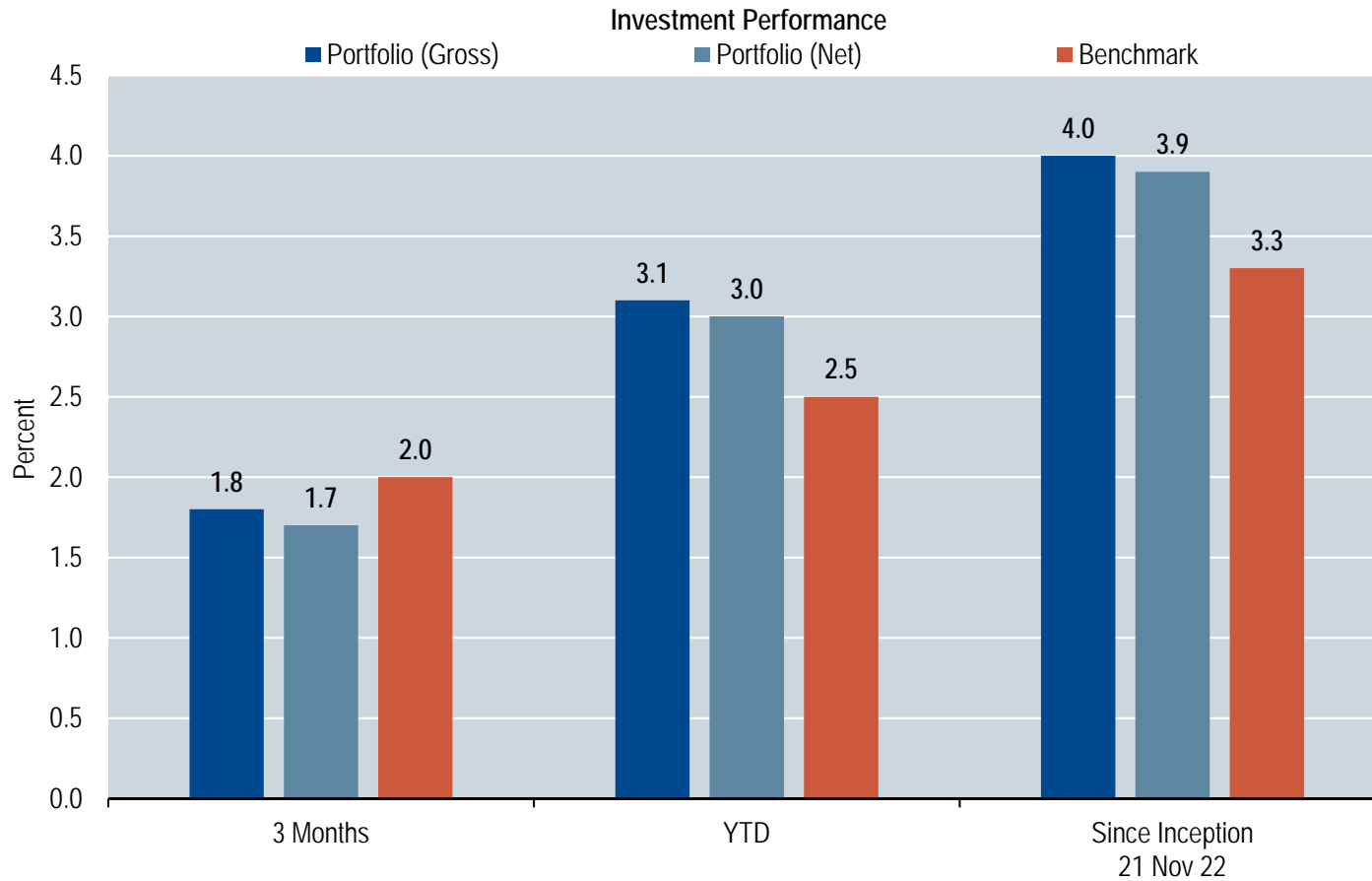
¹Dual role with Portfolio Management

Portfolio Review

Investment Results

Marin County Employees' Retirement Association Core Plus Fixed Income vs. Bloomberg US Aggregate USD Unhedged Index

May 31, 2023

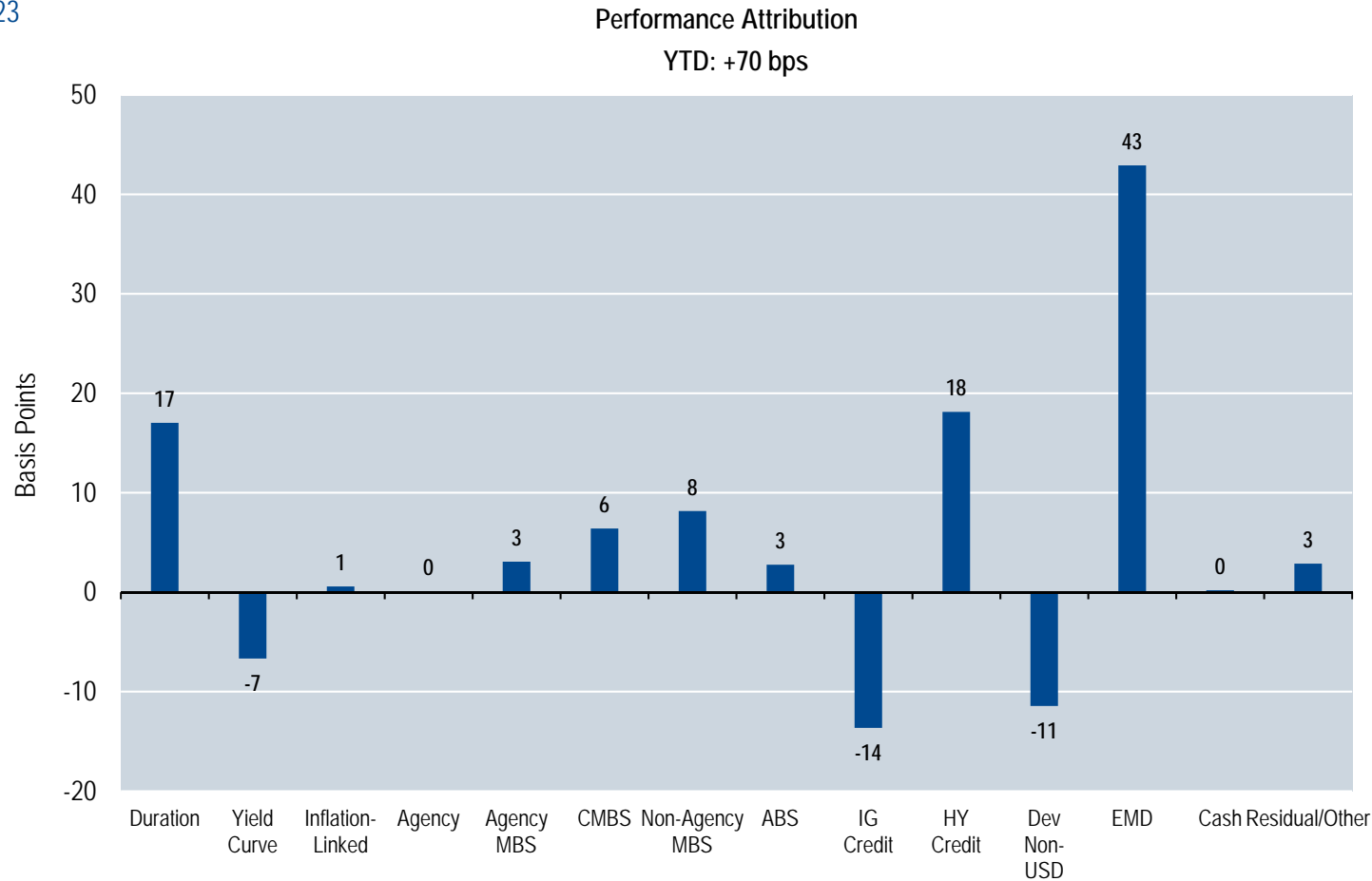


Source: Western Asset. Performance shown is gross of fees. Returns for periods greater than one year are annualized. Returns since inception are as of the indicated close of business day. The account's actual return will be reduced by those fees and any other expenses chargeable to the account. The fee schedule for this strategy may be found in Part 2 of Western Asset's Form ADV. As fees are deducted quarterly, the compounding effect will be to increase the impact of the fees by an amount directly related to the gross account performance. For example, on an account with a 1% annual fee, if the gross performance were 10%, the compounding effect of the fees would result in a net performance of approximately 8.93%.

Attribution Analysis

Marin County Employees' Retirement Association Core Plus Fixed Income vs. Bloomberg US Aggregate USD Unhedged Index

May 31, 2023



Source: Western Asset

Western Asset believes that attribution is not a hard science, but rather a means of evaluating strategies to determine their relative impact on overall portfolio performance.

The intent of the manager, therefore, is critical in the evaluation of different strategies, and the return attribution for any sector or strategy could be over or understated due to its inclusion in another component.

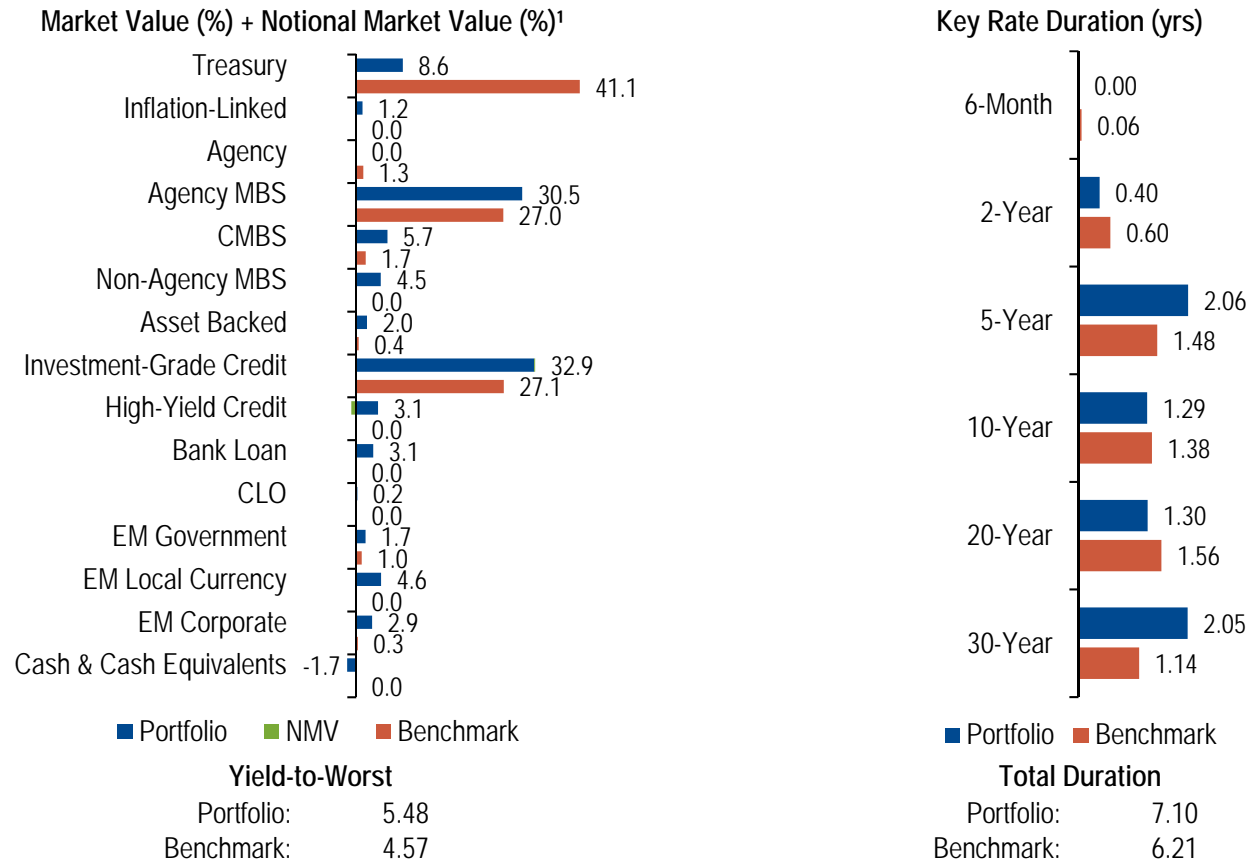
Note: Attribution is calculated using prices sourced from independent pricing vendors or brokers in accordance with Western Asset's approved pricing hierarchy. Therefore, performance presented here may differ from performance calculated by official sources for benchmarks as well as for funds that use a third-party administrator.

Data may not sum to total due to rounding.

Sector Exposure

Marin County Employees' Retirement Association Core Plus Fixed Income vs. Bloomberg US Aggregate USD Unhedged Index

May 31, 2023



Source: Western Asset

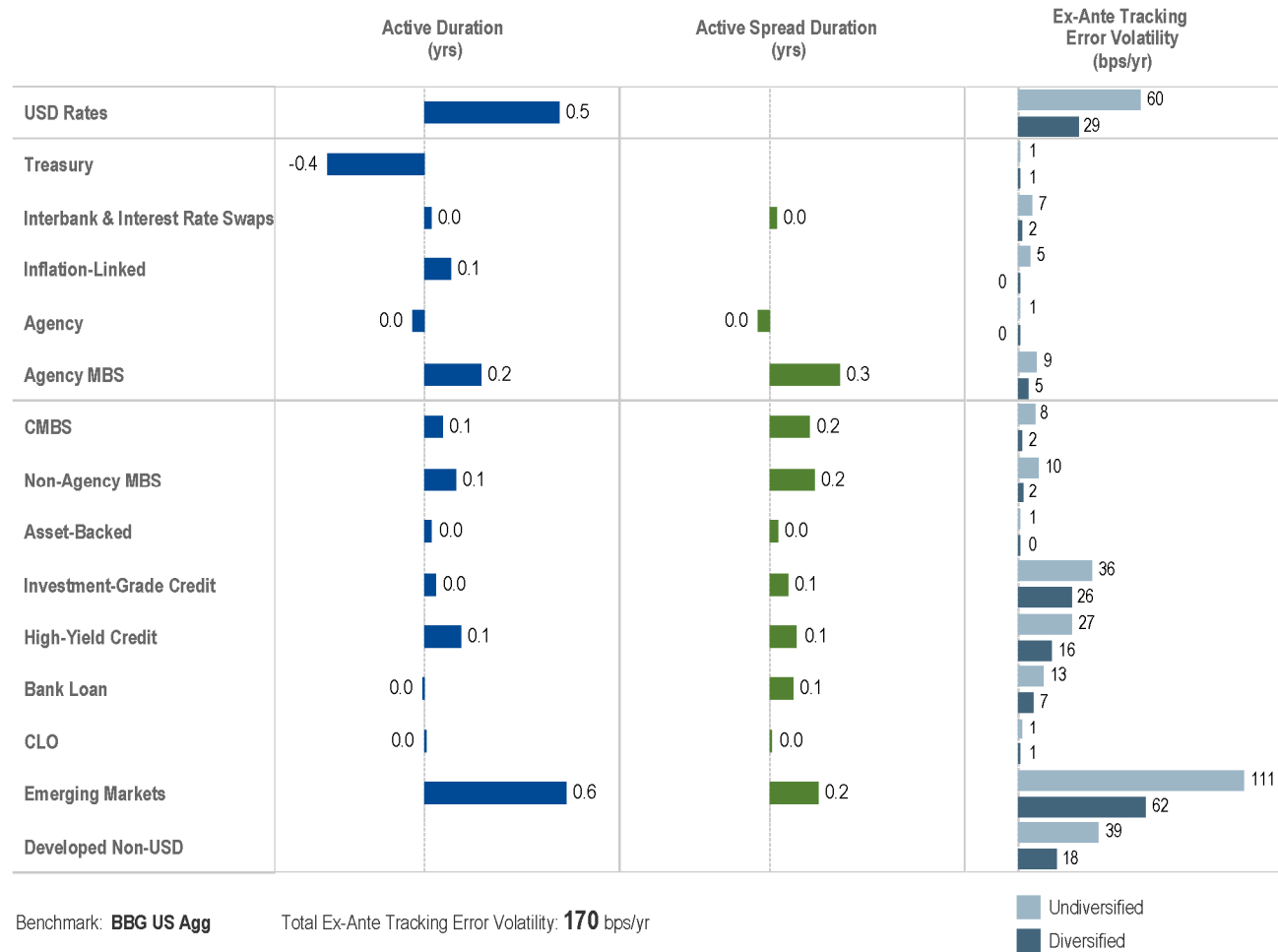
¹Notional market value represents derivatives notional market value excluding interbank derivatives.

Note: Sector allocation includes look-through to any underlying commingled vehicles if held. All weightings are a percentage of total market value. A negative cash position may be reported, which is primarily due to the portfolio's unsettled trade activity. Data may not sum to total due to rounding. The benchmark does not provide an allocation to the "Emerging Markets" sector. The emerging market sector allocation shown for the benchmark above is based on Western Asset's emerging market countries definition for comparison purposes.

Portfolio Positioning

Marin County Employees' Retirement Association Core Plus Fixed Income vs. Bloomberg US Aggregate USD Unhedged Index

May 31, 2023



Source: Western Asset

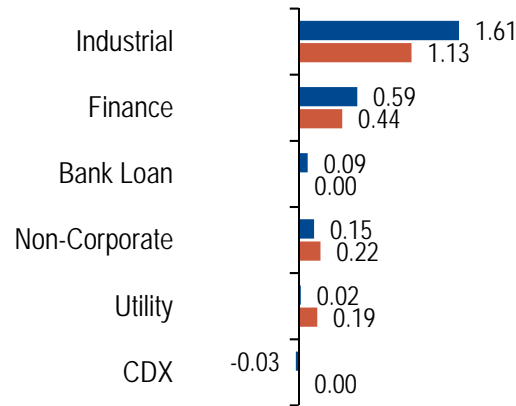
Note: Sector exposure and tracking error contribution include look-through to any underlying commingled vehicles if held. For active duration exposures and tracking error contribution, "USD Rates" includes rates risk from all USD securities in the portfolio, including emerging market hard currency bonds. The sum of the active duration overweights may not total the overall portfolio's duration overweight. "Emerging Markets" and "Developed Non-USD" include risks from non-USD rates, FX, and spread. All other buckets include only spread risk (excluding rates and FX).

Credit Sector Exposure

Marin County Employees' Retirement Association Core Plus Fixed Income vs. Bloomberg US Aggregate USD Unhedged Index

May 31, 2023

Spread Duration Contribution (yrs)

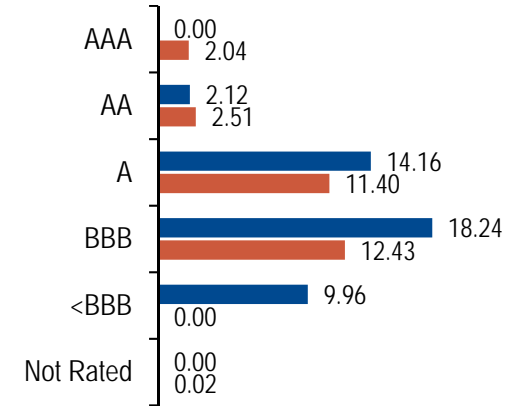


■ Portfolio ■ Benchmark

Credit Spread Duration

Portfolio: 2.44
Benchmark: 1.98

Quality Exposure (%)¹



■ Portfolio ■ Benchmark

44.47 % of Portfolio

Bloomberg U.S. Credit Index Excess Returns

	2022	2023*
Finance	-1.76%	0.15%
Utility	-0.92%	-0.23%
Industrial	-1.01%	0.48%
Non-Corporate	-0.28%	0.70%

*As of 31 May 23

	2022	2023*
AAA	-0.20%	0.39%
AA	-0.48%	0.55%
A	-1.04%	0.27%
BBB	-1.41%	0.40%
<BBB**	-3.71%	1.49%

*As of 31 May 23; **Bloomberg U.S. High-Yield Index

Source: Western Asset

Note: Sector exposure includes look-through to any underlying commingled vehicles if held. Data may not sum to total due to rounding. Includes investment-grade, high-yield, bank loans, emerging market governments and emerging market corporates.

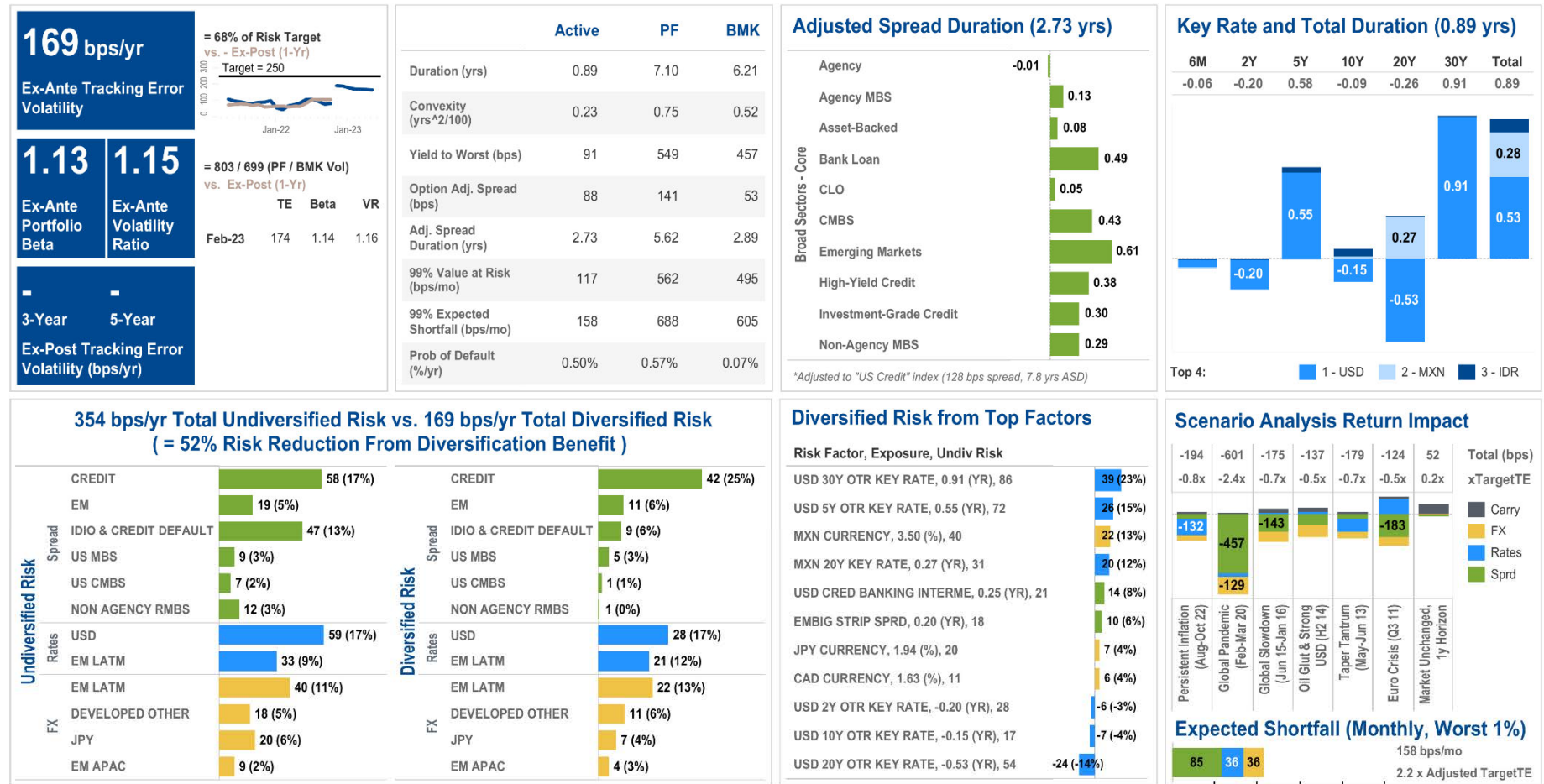
¹All weightings are a percentage of total market value.

WISER Risk Report

Marin County Employees' Retirement Association Core Plus Fixed Income

US Aggregate USD Unhedged Index

Portfolio MV (millions, USD): 300 | May 31, 2023 | Benchmark: Bloomberg



Source: Western Asset

Note: This risk dashboard is for illustrative purposes only and reflects Western Asset's best efforts to identify and measure the major sources of risk in the portfolio. Results depicted are dependent on an underlying statistical model and/or varying market conditions and are therefore subject to change without notice. There is no guarantee that ex-ante risk measures will be in line with their ex-post realizations.

Investment Outlook

2023 Outlook

Current banking stress extremely complex but not systemic

Fed tightening near end

Disinflation ongoing but uneven

Fixed-income outlook

- US growth will slow but should avoid recession
- Global growth has downshifted, but with China's reopening will remain resilient
- Global inflation will continue to recede
- The dollar will weaken moderately
- Emerging markets should outperform
- Central bank overtightening is a meaningful risk
- Spread sectors are still attractive but the outlook is clouded by macro risk
- Geopolitical uncertainty continues to add to volatility

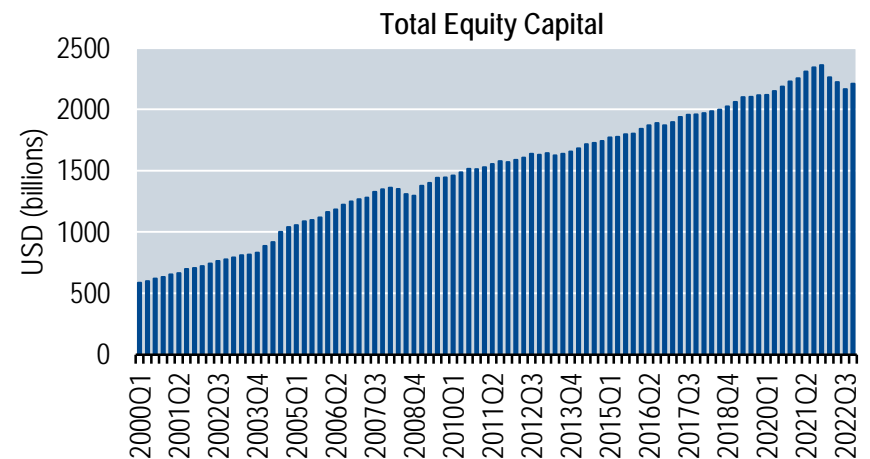
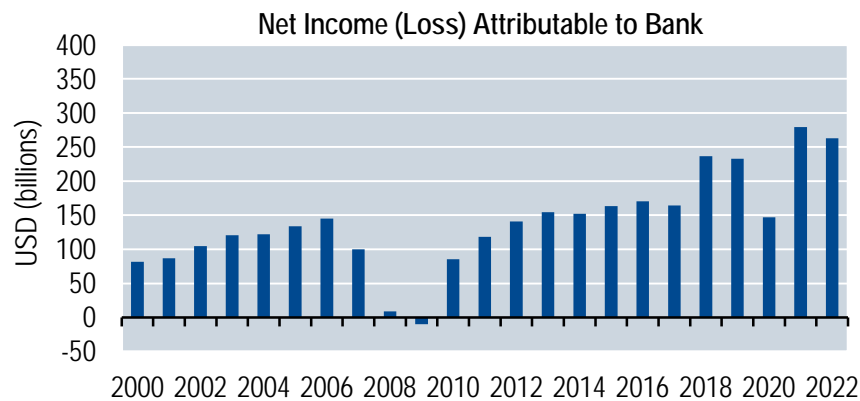
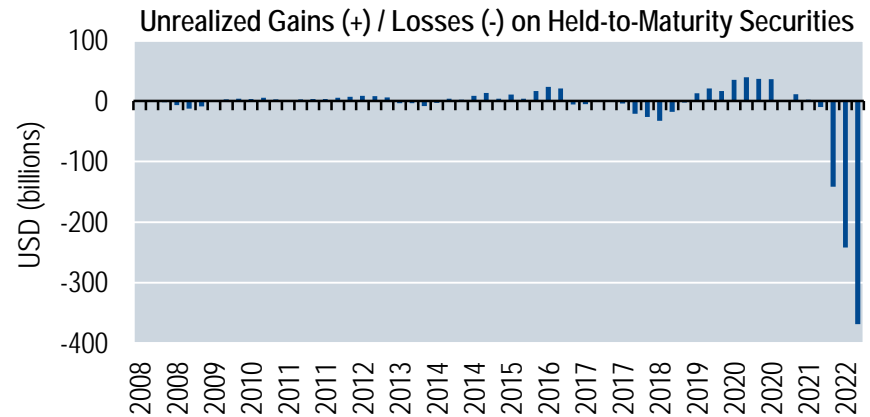
The above reflects current opinions of Western Asset and are subject to change with market conditions. As of 22 Mar 23

US Banking System Is Well Capitalized

Unrealized losses in held-to-maturity securities: \$360 bn

Annual income in 2022: \$260 bn

Equity Capital at the end of 2022: \$2,200 bn



Source: FDIC. As of 31 Dec 22

March FOMC Meeting

Focus on financial stability; limited scope for rate cuts

Financial Stability:

"The Federal Reserve working with the Treasury Department and the FDIC took decisive actions to protect the U.S. economy and strengthen public confidence in our banking system. These actions demonstrate that all depositors' savings in the banking system are safe."

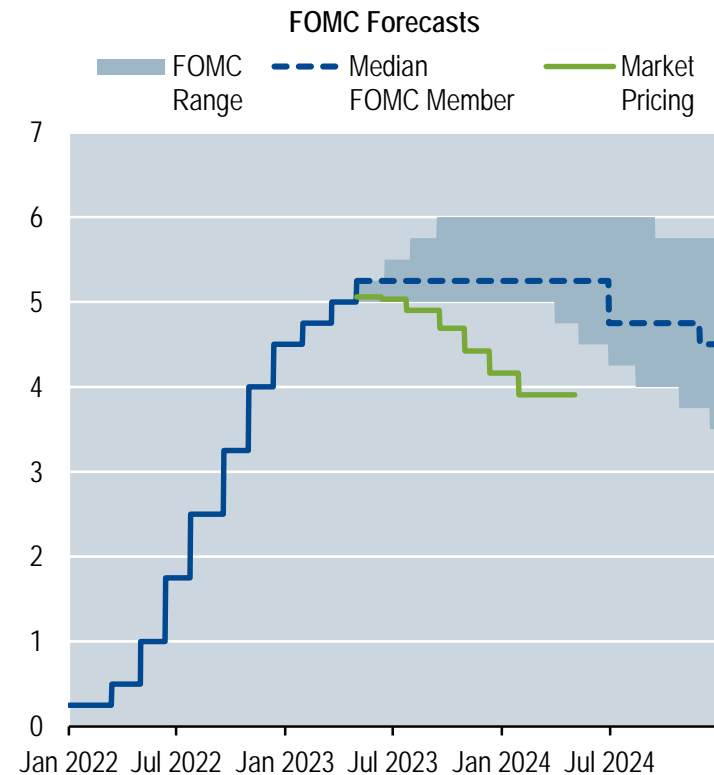
"Our banking system is sound and resilient with strong capital and liquidity."

Limited Scope for Rate Cuts:

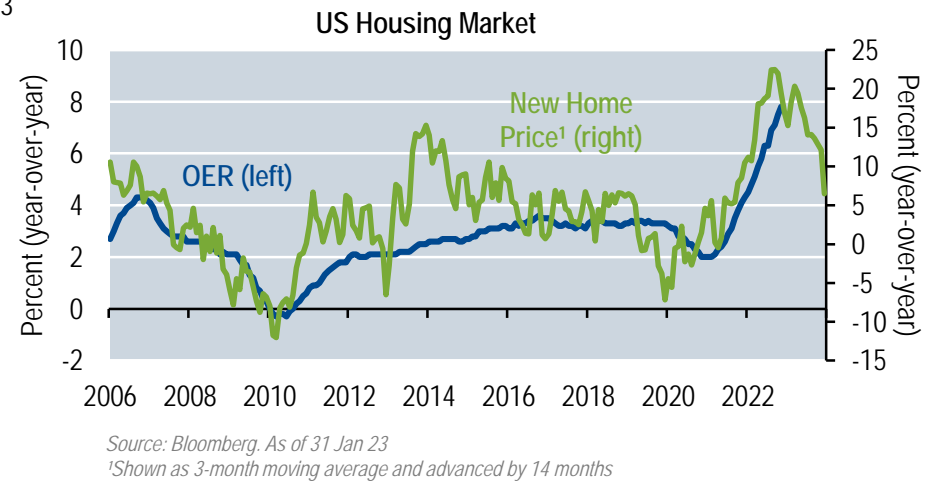
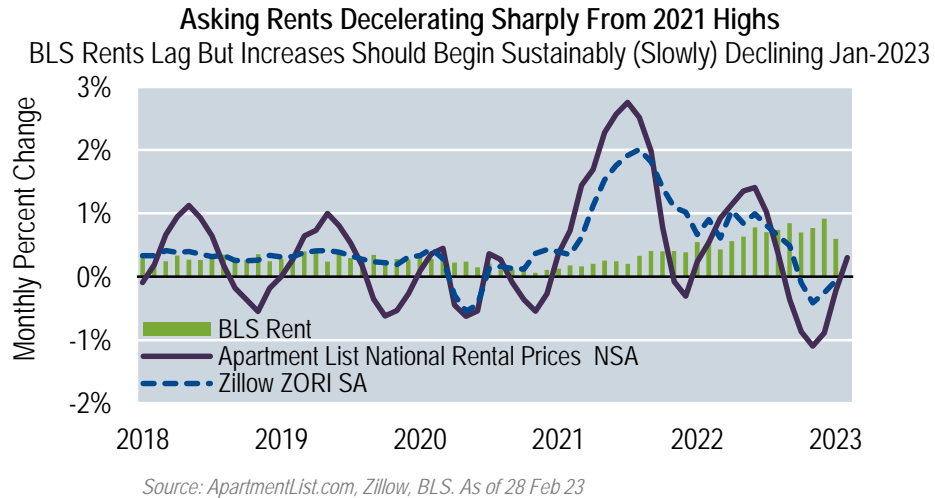
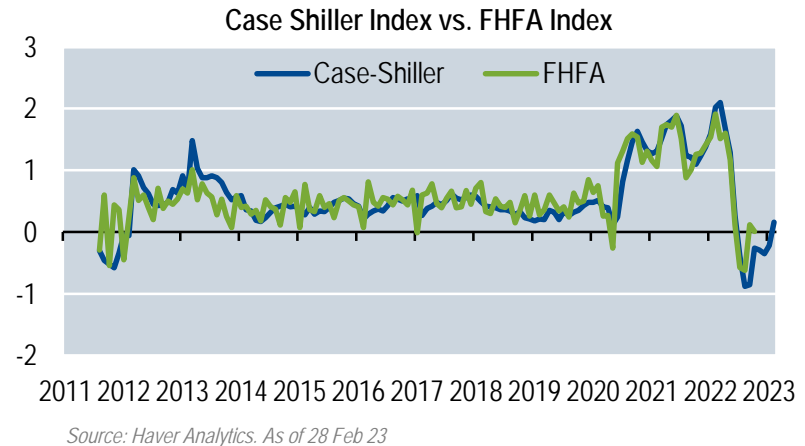
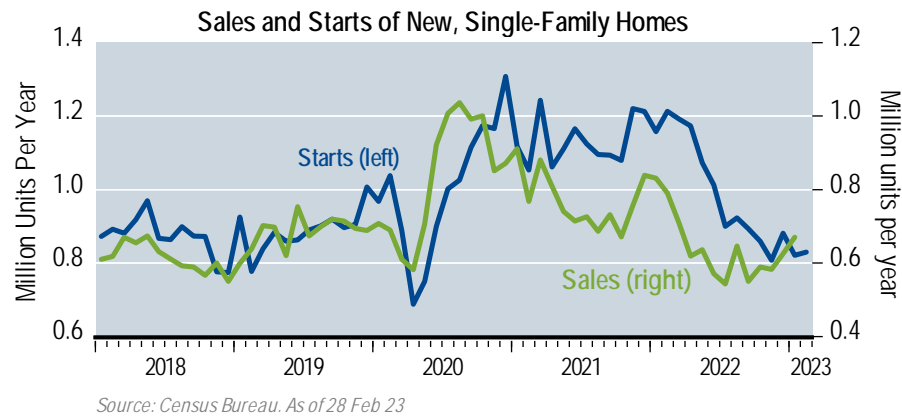
"Inflation remains too high, and the labor market continues to be very tight. My colleagues and I understand the hardship that high inflation is causing, and we remain strongly committed to bringing inflation back down to our 2% goal."

"In that most likely case, participants don't see rate cuts this year. They just don't."

– Fed Chair Powell, 21 Mar 23

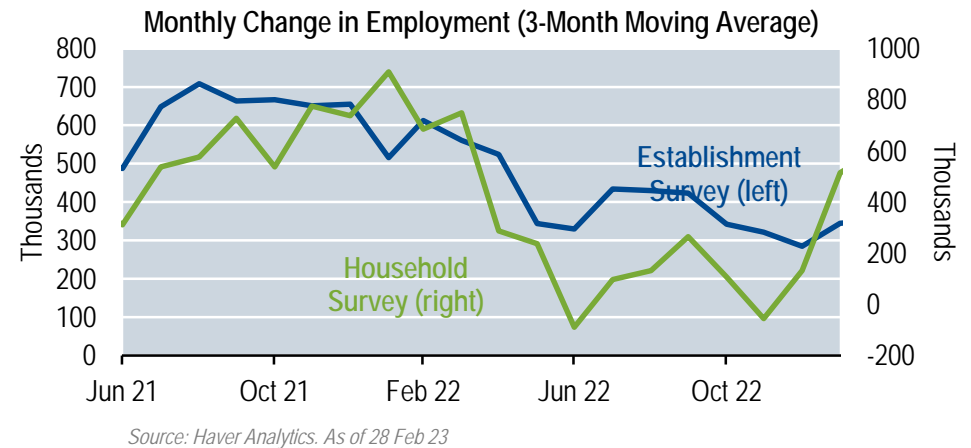
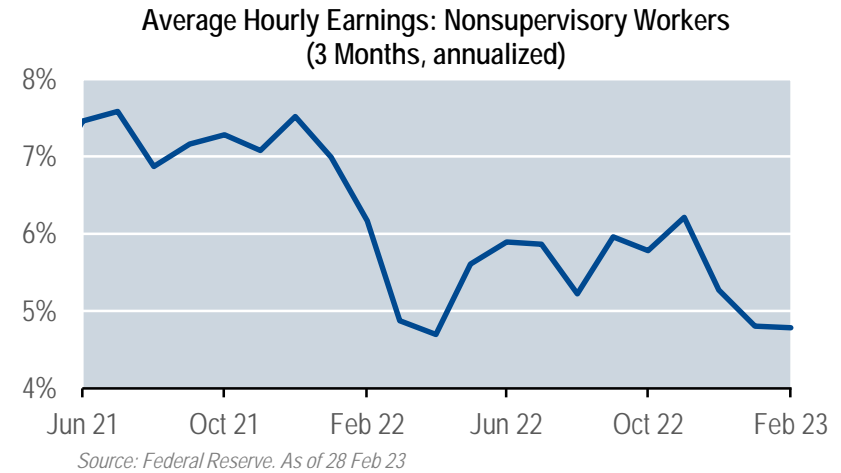
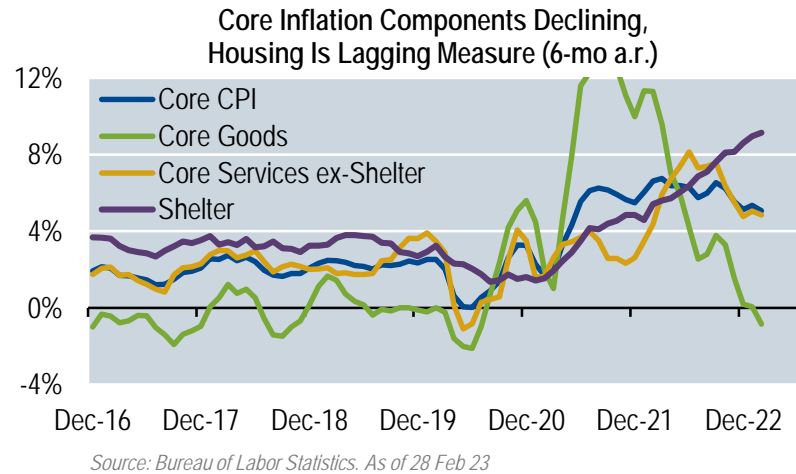


Housing Market Turning



A Bumpy Process of Getting Inflation Back Down To 2%

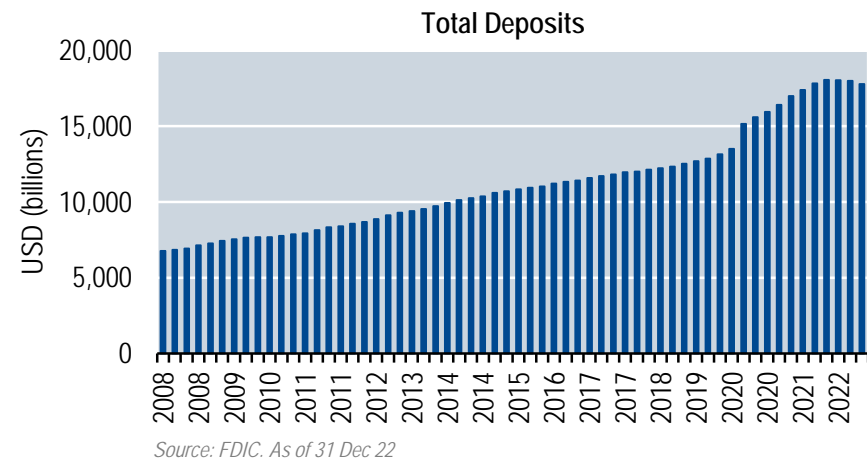
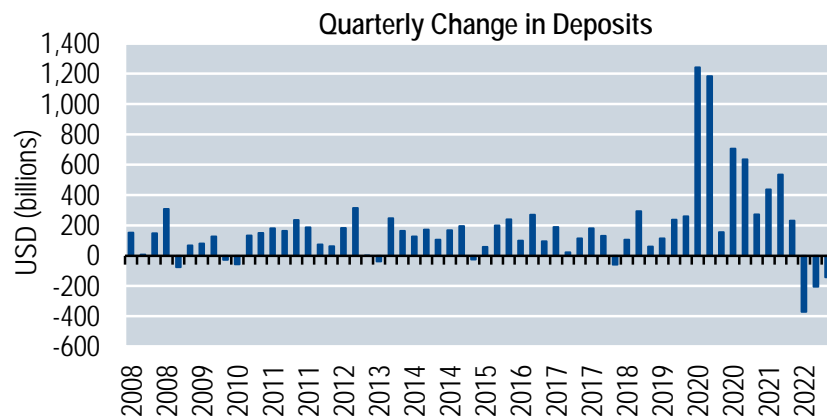
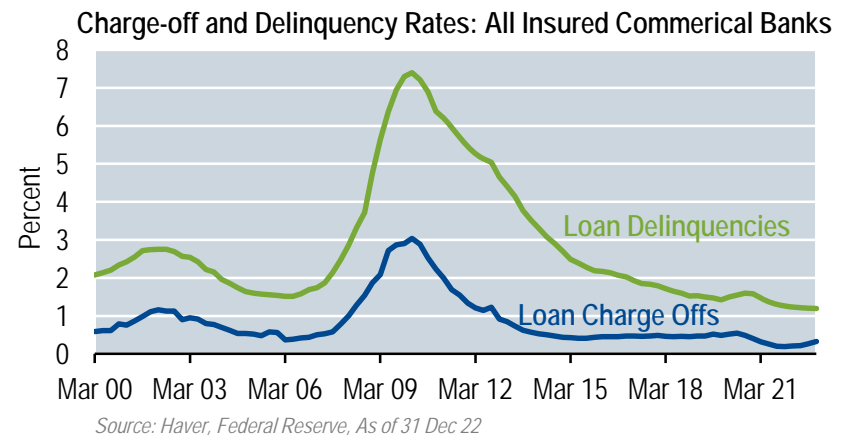
But there are some signs of improvement in supply chains and wages are decelerating



Bank Asset Quality Remains High, Deposits Remain Abundant

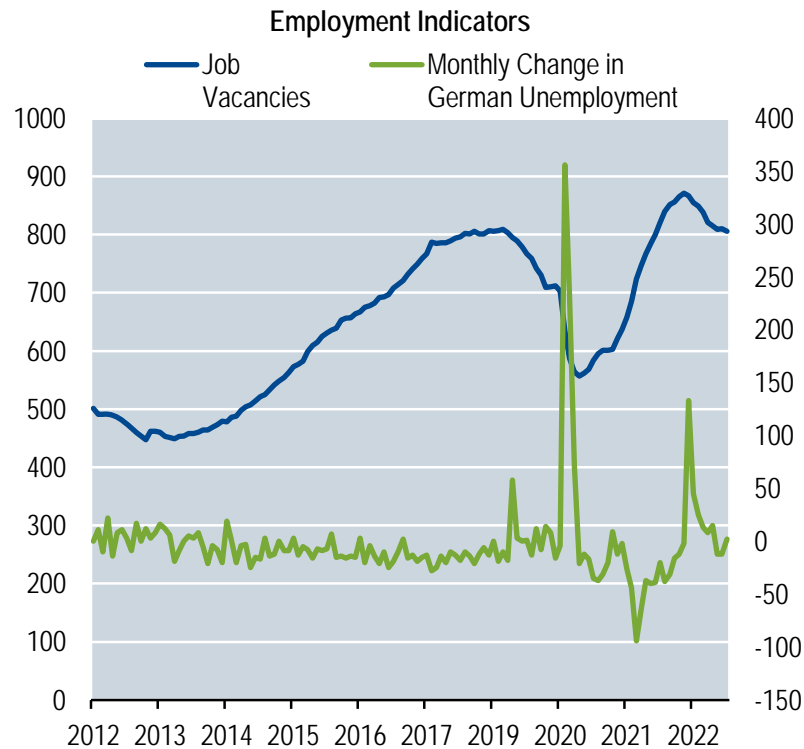
Policy Response:

- Implicit Guarantees:
 - President Biden: “Americans can have confidence that the banking system is safe. Your deposits will be there when you need them”
 - Secretary Yellen: “Our intervention was necessary to protect the broader US banking system. And similar actions could be warranted if smaller institutions suffer deposit runs that pose the risk of contagion”
- Liquidity Provision:
 - Emergency Tools: Bank Term Funding Program (BTFP)
 - Traditional Tools: Discount window and Federal Home Loan Bank borrowing
 - More than \$450 of emergency liquidity was provided during the week ending March 17



Europe's Growth Prospects Have Improved but Remain Weak

- Demand has improved but forward looking indicators remains soft
- Past support to production from healing supply chains and large order backlogs are receding
- Jobs market has slowed modestly but remains buoyant

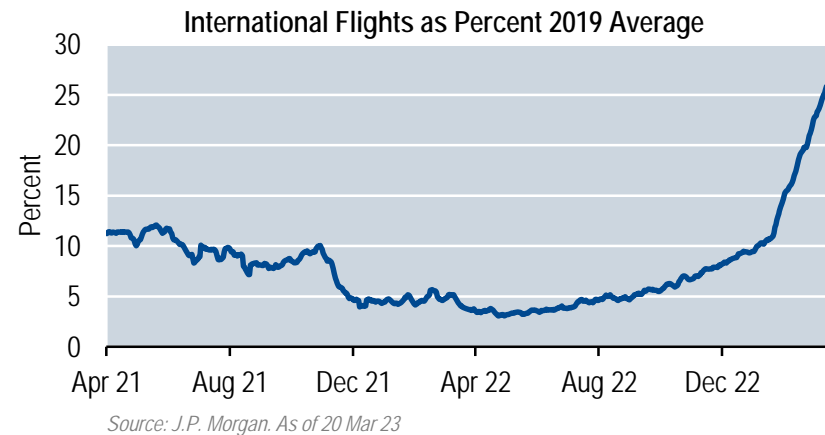


China Outlook: Cyclical Rebound, Secular Concerns



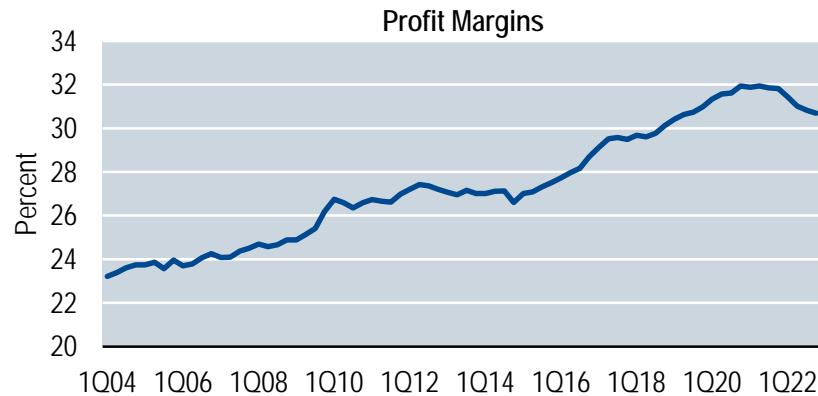
2023 Growth

- Abrupt exit from zero-Covid strategy in early December sets the stage for growth recovery in the first half of 2023
- Broad policy accommodation should nonetheless remain intact until the economy is on strong footing
- Support for property market should help contain further fallout from current market doldrums
- Consumption will be a key growth driver, although the trend in China remains unimpressive
- Services should see a strong boost from increased travel – both domestic and international

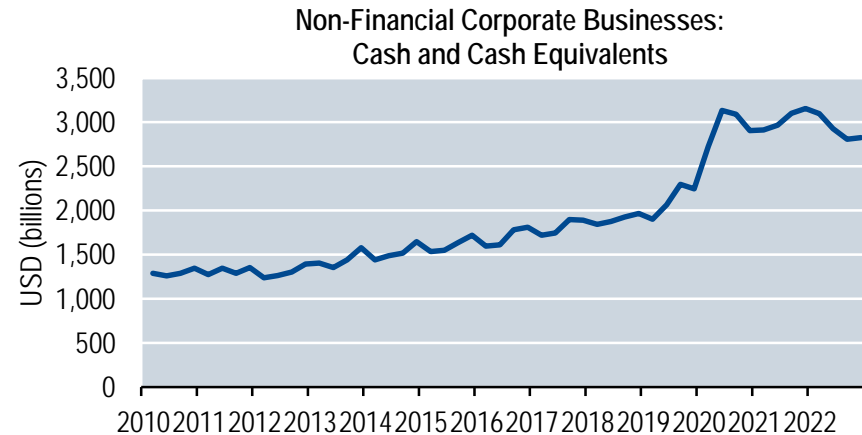


Investment-Grade Credit

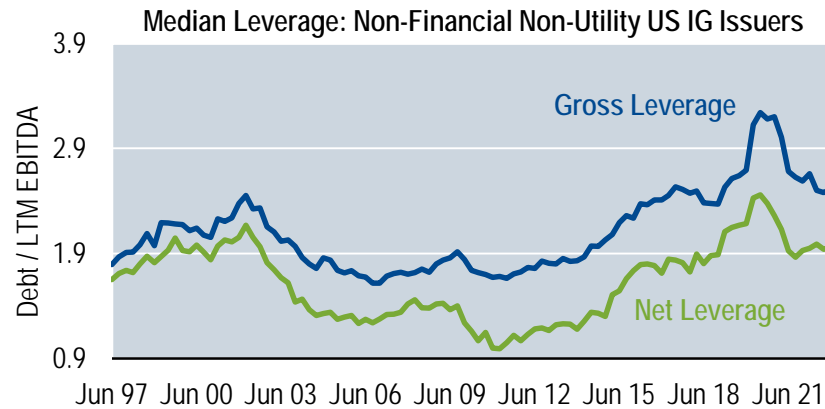
Cash Flow and Debt Metrics are Healthy



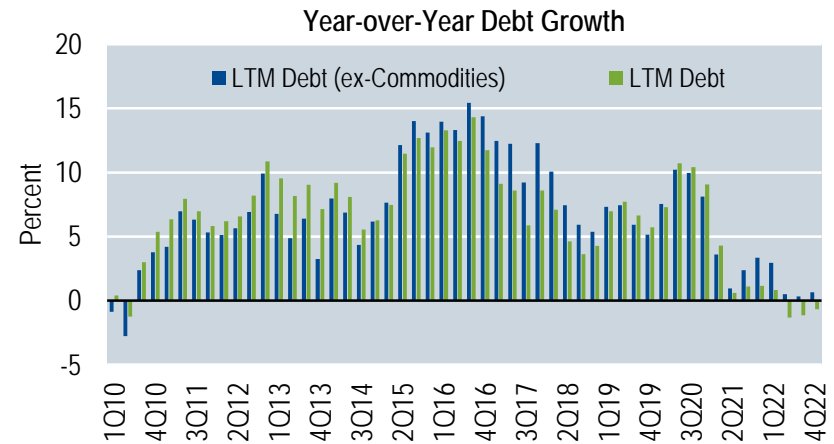
~180 Non-Financial Companies (JULI Based)
 Weighting based on amount of debt in the benchmark
 Source: J.P. Morgan. As of 31 Dec 22



Source: Goldman Sachs, Federal Reserve. As of 31 Dec 22



Source: BofA Global Research*. As of 31 Dec 22



Source: J.P. Morgan. As of 31 Dec 22

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The Two Tiers of the US Banking System

We prefer large US banks over regionals.

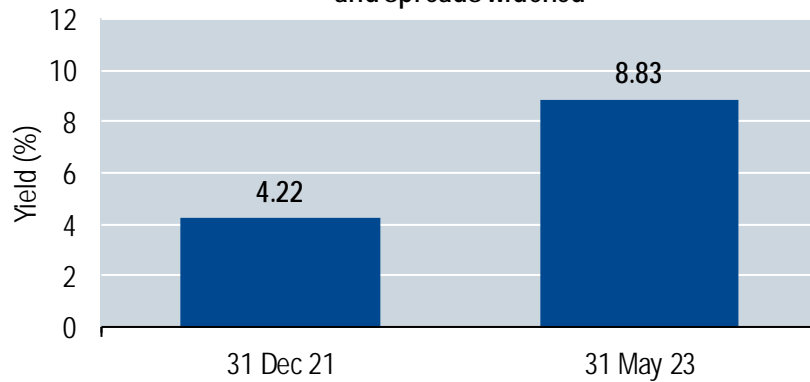
	Regulatory Scrutiny	Balance Sheet Strength	Deposit Mix	Interest Rate Risk	Current Market Confidence
Large US Banks	High	Very High	Diversified, Low Risk	Low	High
Regional US Banks	Moderate	Moderate	Narrow, Medium Risk	Medium	Low

Expectations:

- Large banks will get stronger while weaker regionals will consolidate
- Regulation (and issuance) will increase for regional banks
- Regional bank ratings will come under pressure

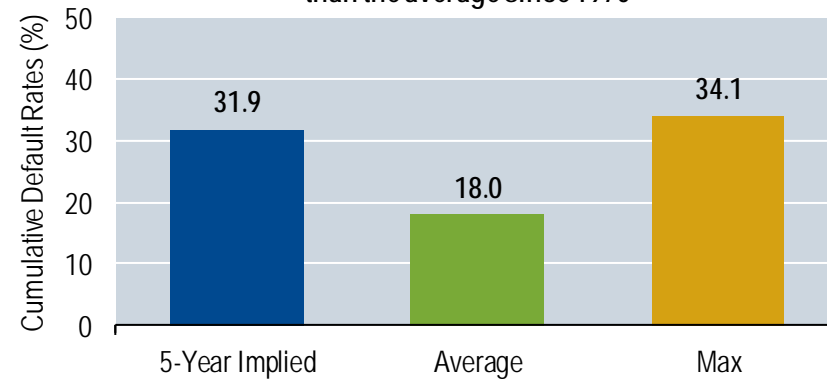
High-Yield Credit: Valuations Are Compelling

Yields rose by more than 4% since 2021 as rates rose and spreads widened



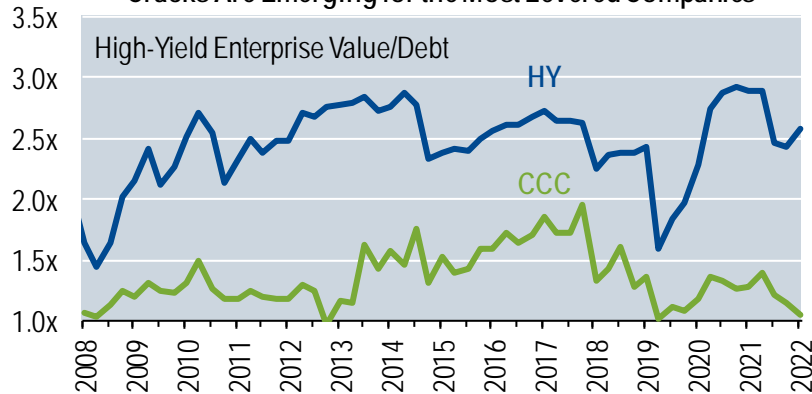
Bloomberg US High-Yield 2% Issuer Cap Index
Source: Bloomberg. As of 31 May 23

Spreads now imply much higher defaults than the average since 1970



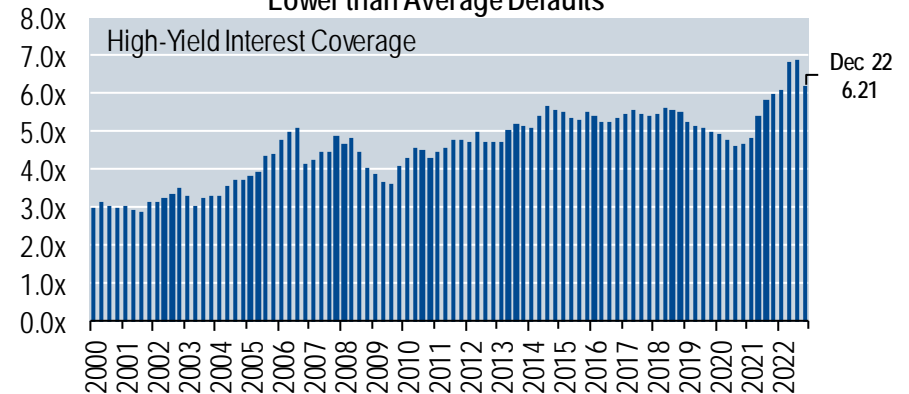
Source: Bloomberg, Moody's, Western Asset. As of 31 May 23
40% recovery assumption was used and spread used to imply cumulative defaults over 5 years.
Worst cumulative 5-year default period since 1970 was 1992

Cracks Are Emerging for the Most Levered Companies



The sample is confined to public reporters for which we are able to retrieve four consecutive quarters of data from Bloomberg or S&P Capital IQ. New constituents are integrated quarterly based on additions to the Bloomberg US Corporate HY Bond Index).

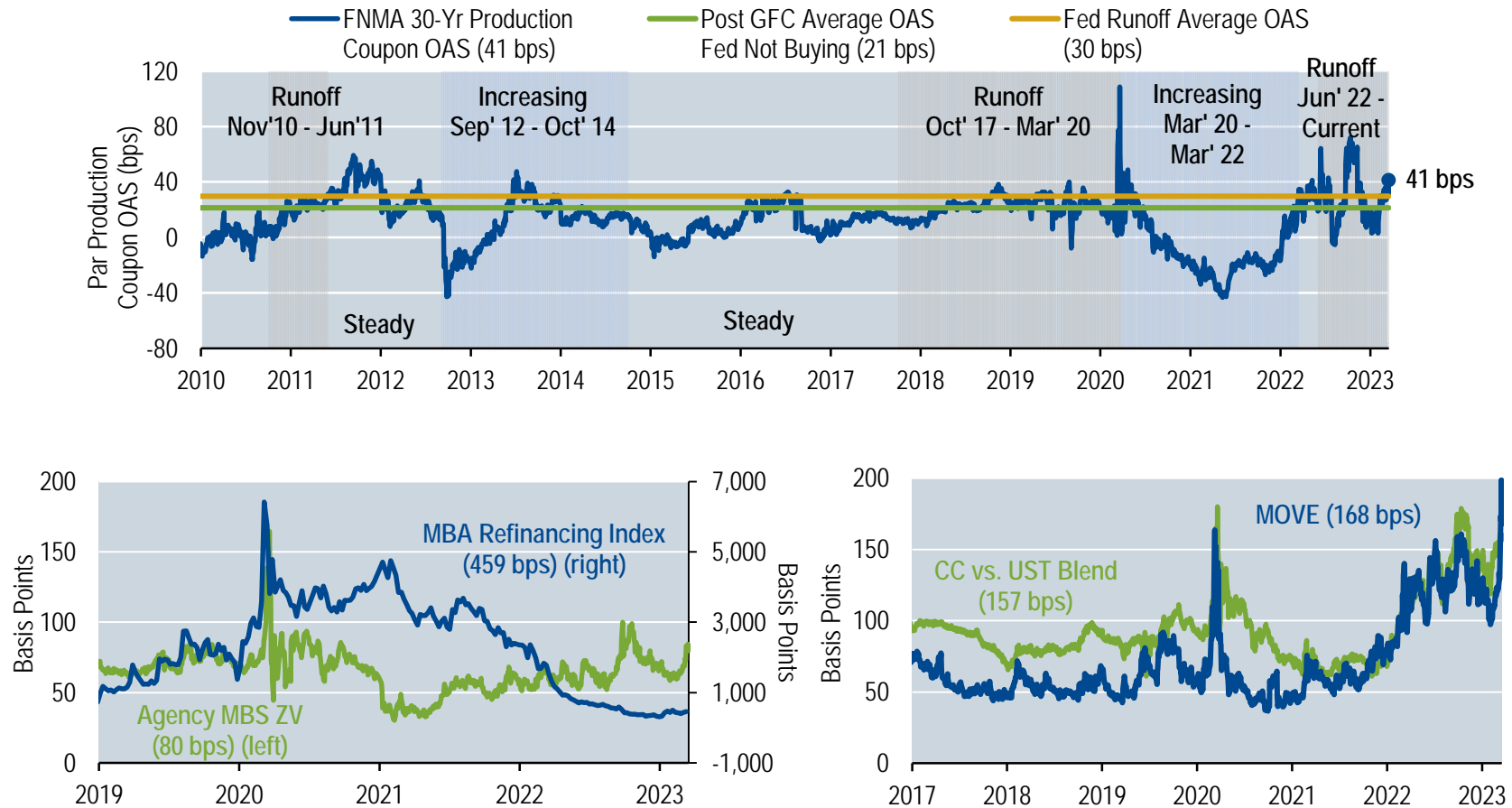
Ability to Service Debt Also Supportive of Lower than Average Defaults



The sample is confined to public reporters for which we are able to retrieve four consecutive quarters of data from Bloomberg or S&P Capital IQ. New constituents are integrated quarterly based on additions to the Bloomberg US Corporate HY Bond Index).

Agency Mortgage-Backed Securities: Fundamentals and Valuations Have Improved

- Mortgage spreads have widened significantly as Fed and bank support diminished
- Currently around average levels when Fed balance sheet is in runoff
- Agency MBS spreads have widened with elevated volatility
- Prepayment risk remains muted as mortgage borrowers have little refinancing incentive



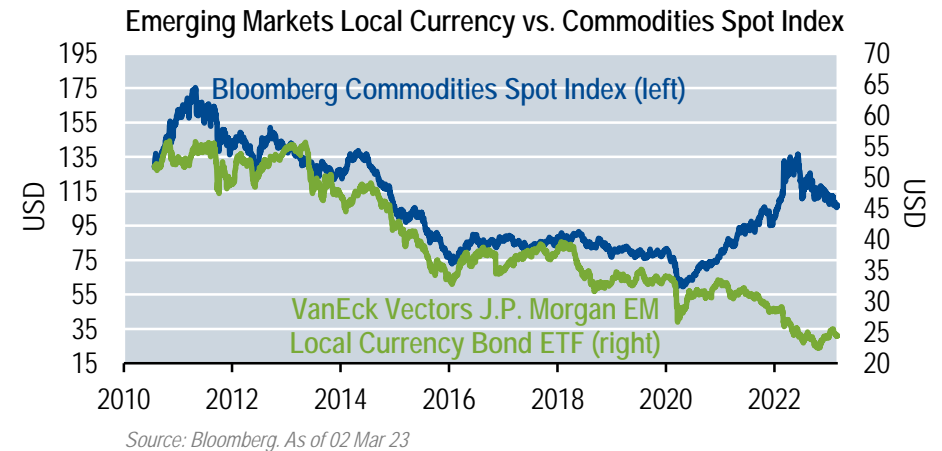
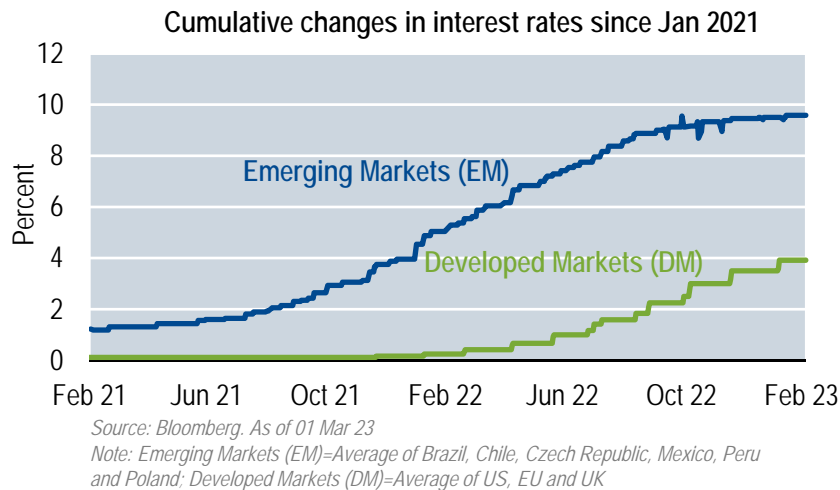
Source: Bloomberg, MS Research, Western Asset. As of 16 Mar 23

Emerging Markets: As Tightening Nears End, USD and Commodities are Key Drivers

EM central banks are closer to the end of the tightening cycle relative to the developed world.

USD relative strength and commodity prices are both inputs into EM economic conditions and returns.

A Fed pause combined with China reopening bodes well for EM



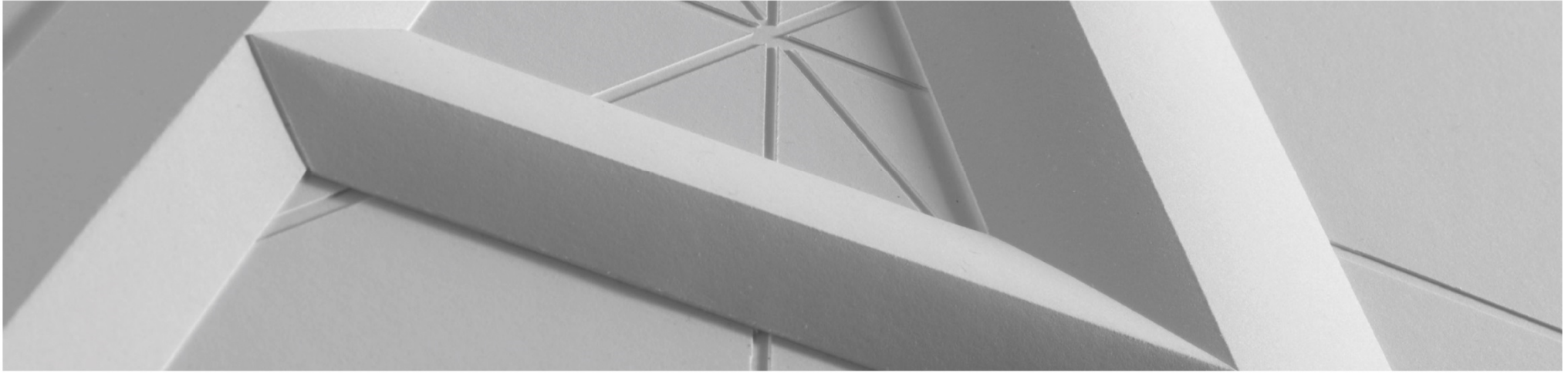
Appendix

Risk Disclosure

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Q1 2023

Artisan International Growth Trust

Marin County Employees' Retirement Association

The Artisan International Growth Trust is a trust for the collective investment of assets of participating tax qualified pension and profit sharing plans and related trusts, and governmental plans, as more fully described in the Declaration of Trust for the Artisan International Growth Trust. The Artisan International Growth Trust is managed by SEI Trust Company based on the investment advice of Artisan Partners Limited Partnership. As a bank collective trust, Artisan International Growth Trust is exempt from registration as an investment company.

Biographies — Artisan Partners Global Equity Team



Brett J. Meyer, CFA, is the chief operating officer of the Artisan Partners Global Equity Team. In this role, he is responsible for a number of non-investment responsibilities to ensure the focus of the team's portfolio managers and analysts is on managing the team's investment strategies. His responsibilities include day-to-day coordination of the research processes, hiring investment talent, and the information flow among the members of the investment team and trading. In addition, he acts as the team's liaison with Artisan Partners' business management team on legal, compliance, accounting, finance, facilities and IT matters. Mr. Meyer joined Artisan Partners in February 2013 as a director in the Investment Operations group which supports the firm's existing investment teams as well as identifies new investment talent. Prior to joining Artisan, Mr. Meyer served as an equity analyst on the investment team at Quantum Capital Management. Previously, Mr. Meyer spent 12 years at Callan Associates in a variety of capacities, including director of research for the Independent Adviser Group. Mr. Meyer holds a bachelor's degree in business administration and sports management from Principia College.



Sean J. Howley is a managing director of Artisan Partners and a business leader for the firm's Global Equity team. Prior to joining Artisan Partners in March 2007, Mr. Howley was the managing director and product manager for international and global equity products at Putnam Investments, where he was responsible for overseeing communications on policy, strategy and tactics with institutional clients. Before that, he was head of sales and distribution for Pioneer Investment Management, where he developed sales and marketing channels in the United Kingdom and Ireland. Mr. Howley holds a bachelor's degree in commerce from University College Dublin and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Contents

- I. Firm Overview
- II. Investment Team, Philosophy and Process
- III. Performance Analysis and Positioning

Appendix

Holdings

Statistics

Biographies

Notes and Disclosures

Client Service Team

Sean Howley

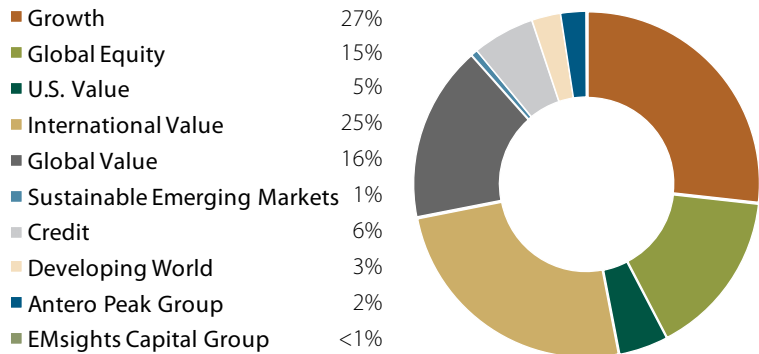
T 415 283 1075

sean.howley@artisanpartners.com

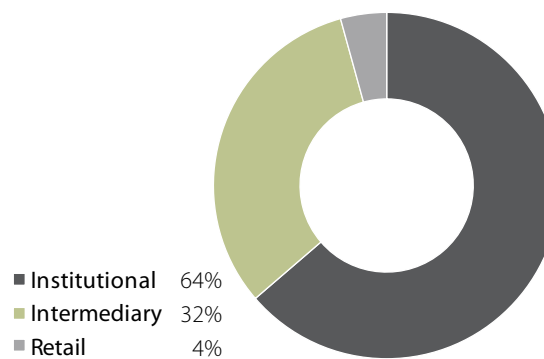
About Artisan Partners

- Founded in 1994; solely focused on providing high value-added investment strategies to sophisticated investors
- Autonomous investment teams oversee a range of investment strategies across multiple asset classes
- Primary offices in Atlanta, Boston, Chicago, Denver, Dublin, Hong Kong, London, Milwaukee, New York, San Francisco, Singapore, Sydney and Wilmington, with 550 associates
- Approximately \$138.5 billion under management as of 31 March 2023

AUM by Investment Team



AUM by Client Type



Growth Team

Global Opportunities
Global Discovery
U.S. Mid-Cap Growth
U.S. Small-Cap Growth

Global Equity Team

Global Equity
Non-U.S. Growth
Non-U.S. Small-Mid Growth
China Post-Venture

U.S. Value Team

Value Equity
U.S. Mid-Cap Value
Value Income

International Value Team

International Value
International Explorer

Global Value Team

Global Value
Select Equity

Sustainable Emerging Markets Team

Sustainable Emerging Markets

Credit Team

High Income
Credit Opportunities
Floating Rate

Developing World Team

Developing World

Antero Peak Group

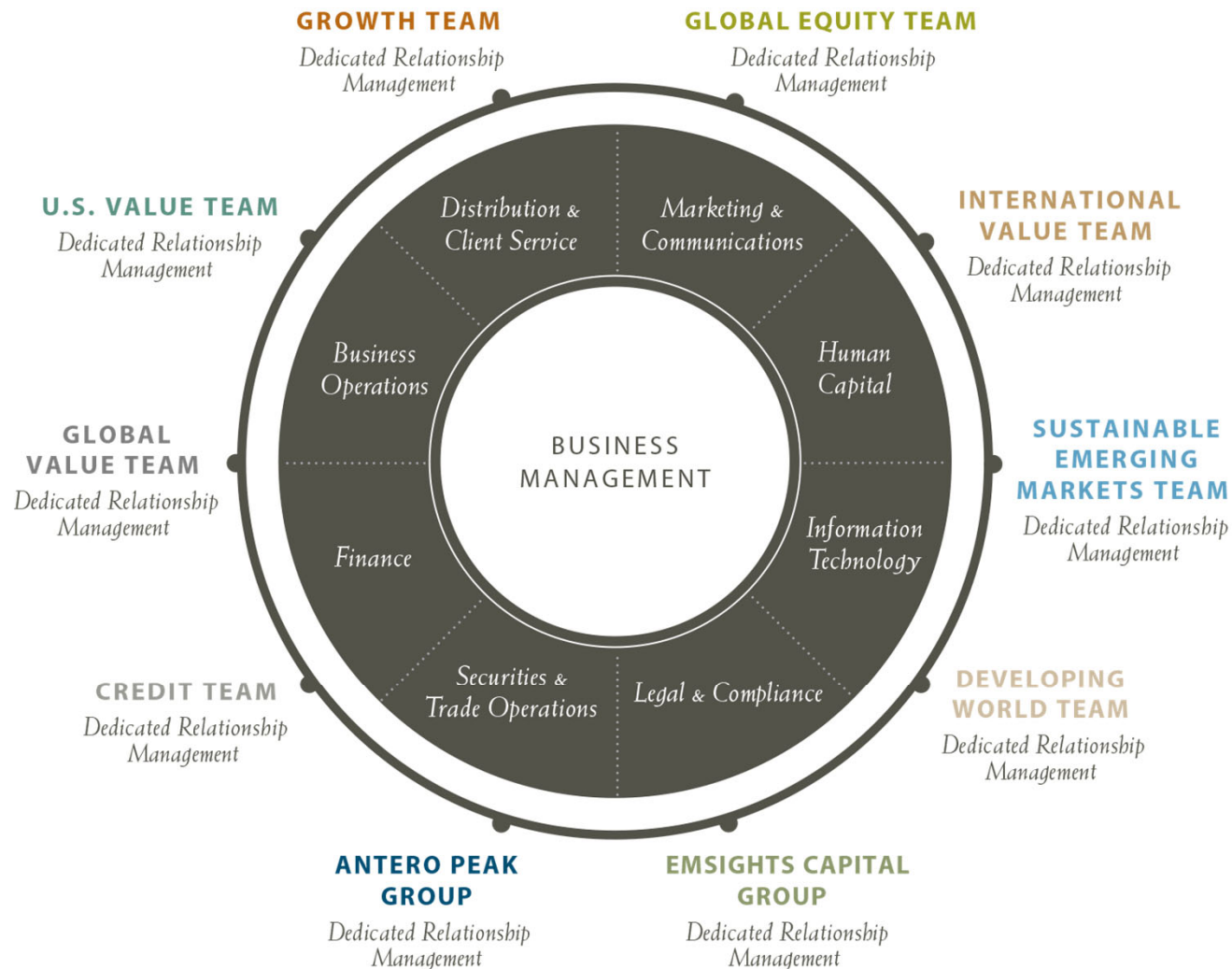
Antero Peak
Antero Peak Hedge

EMSights Capital Group

Global Unconstrained
Emerging Markets Debt Opportunities
Emerging Markets Local Opportunities

As of 31 Mar 2023.

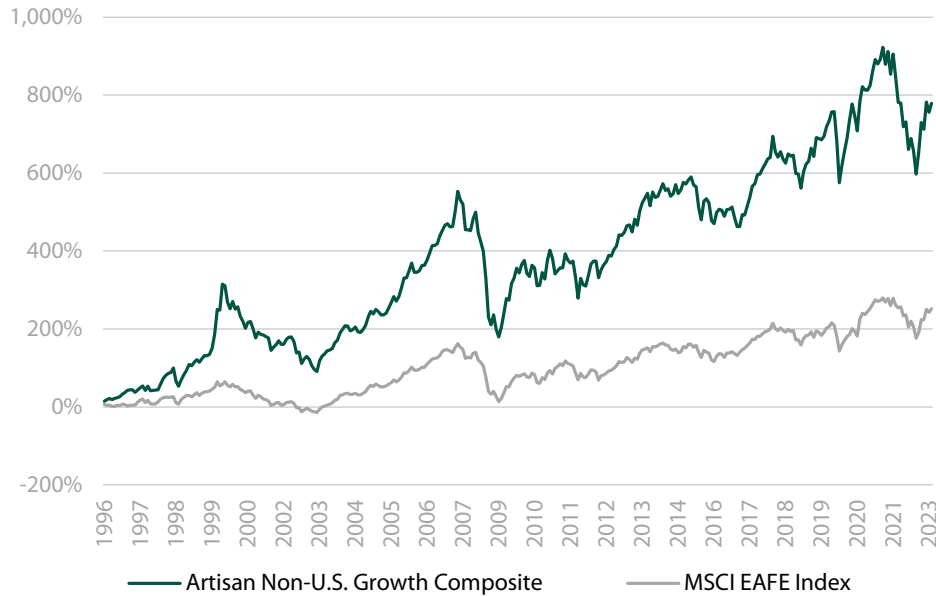
Talent-Driven Business Model



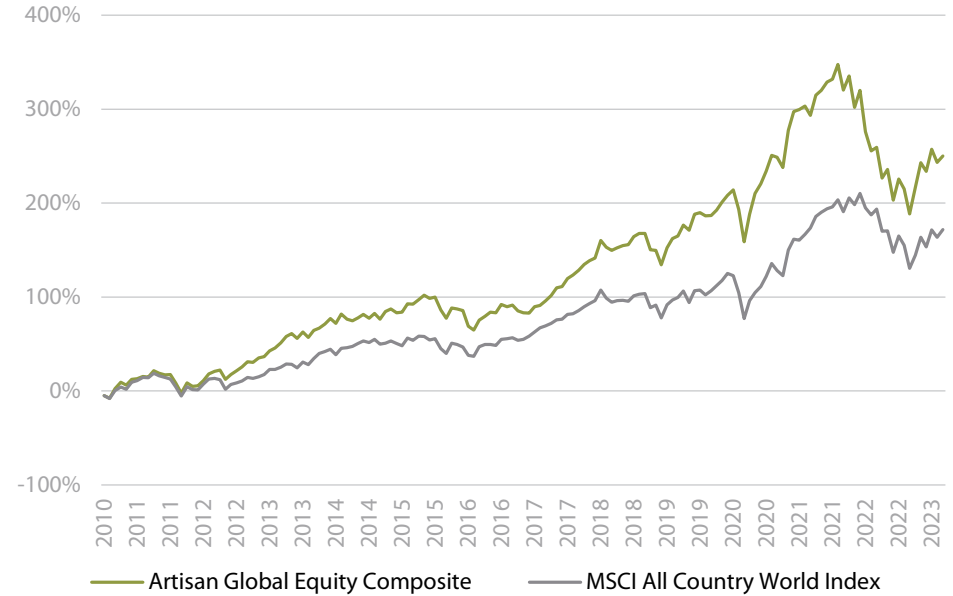
Our investment teams focus on generating results for our clients in a distraction-free environment

Long-Term Alpha Generation (USD)

Artisan Non-U.S. Growth Composite Cumulative Returns (% Net)



Artisan Global Equity Composite Cumulative Returns (% Net)



(%) as of 31 Mar 2023

Artisan Non-U.S. Growth Composite: Gross (1 Jan 1996)

Artisan Non-U.S. Growth Composite: Net

MSCI EAFE Index

Artisan Global Equity Composite: Gross (1 Apr 2010)

Artisan Global Equity Composite: Net

MSCI All Country World Index

(Inception)

Status

Open

Open

Average Annual Total Returns

1 Yr

3 Yr

5 Yr

10 Yr

Inception

0.85

10.19

4.44

5.81

9.31

-0.08

9.19

3.49

4.85

8.30

-1.38

12.99

3.52

5.00

4.72

-1.72

11.56

7.97

9.79

11.17

-2.60

10.59

6.98

8.75

10.11

-7.44

15.36

6.92

8.05

7.99

Source: Artisan Partners/MSCI. Past performance does not guarantee and is not a reliable indicator of future results. Gross- and net-of-fees performance shown for the Composite. Current performance may be lower or higher than performance shown.

Artisan Partners Global Equity Team

Seasoned Leadership, Continuity of Decision Makers, Diverse Perspectives

Portfolio Leadership

- Process
- Research
- Decisions
- Construction / Risk



Mark Yockey, CFA

Global Equity
Non-U.S. Growth
New York
Investment Experience:
42 Years



Charles-Henri Hamker

Global Equity
Non-U.S. Growth
New York
Investment Experience:
33 Years



Andrew Euretig

Global Equity
Non-U.S. Growth
San Francisco
Investment Experience:
19 Years



Michael Luciano

Global Equity
Non-U.S. Growth
London
Investment Experience:
22 Years

Portfolio Specialists

Sean Howley | Ben Helsby | Ami Fox

Chief Operating Officer

Brett Meyer, CFA, FRM

- Talent, ESG, Risk

Research Analysts

- Diverse Perspectives
- Idea Generation
- Experienced
- Deep Stock Research
- Thematic Research

FINANCIALS

- Claudia Corra
- Brice Vandamme

HEALTH CARE

- Daniel Reagan, CFA
- Navdeep Singh

INDUSTRIALS / CYCLICALS / TECHNOLOGY

- Richard Logan, CFA
- Sam Zarnegar
- Mike West

MULTI-SECTOR

- Nikola Legetic, CFA

CONSUMER BUSINESSES

- Stephen Chan
- Jeff Zhu, CFA

RESEARCH ASSOCIATES (7)

- Fundamental Modeling
- Sector Research Support

Team Offices



Team Interaction

- Twice weekly research meetings
- Daily interaction between team members
- Daily meetings and conferences with management teams

Investment Portfolio Committee

- Monthly meetings
- Members include: Mark Yockey, Charles-Henri Hamker, Andrew Euretig, Brett Meyer, Claudia Corra, Michael Luciano and Nik Legetic

Investment Portfolio Committee (IPC)

Members

Chair: Brett Meyer
Mark Yockey | Charles-Henri Hamker | Andrew Euretig | Michael Luciano | Claudia Corra | Nik Legetic

Primary Functions

- Define thematic research priorities
- Evaluate risk
- Oversee ESG integration
- Consider macroeconomic, geopolitical impacts

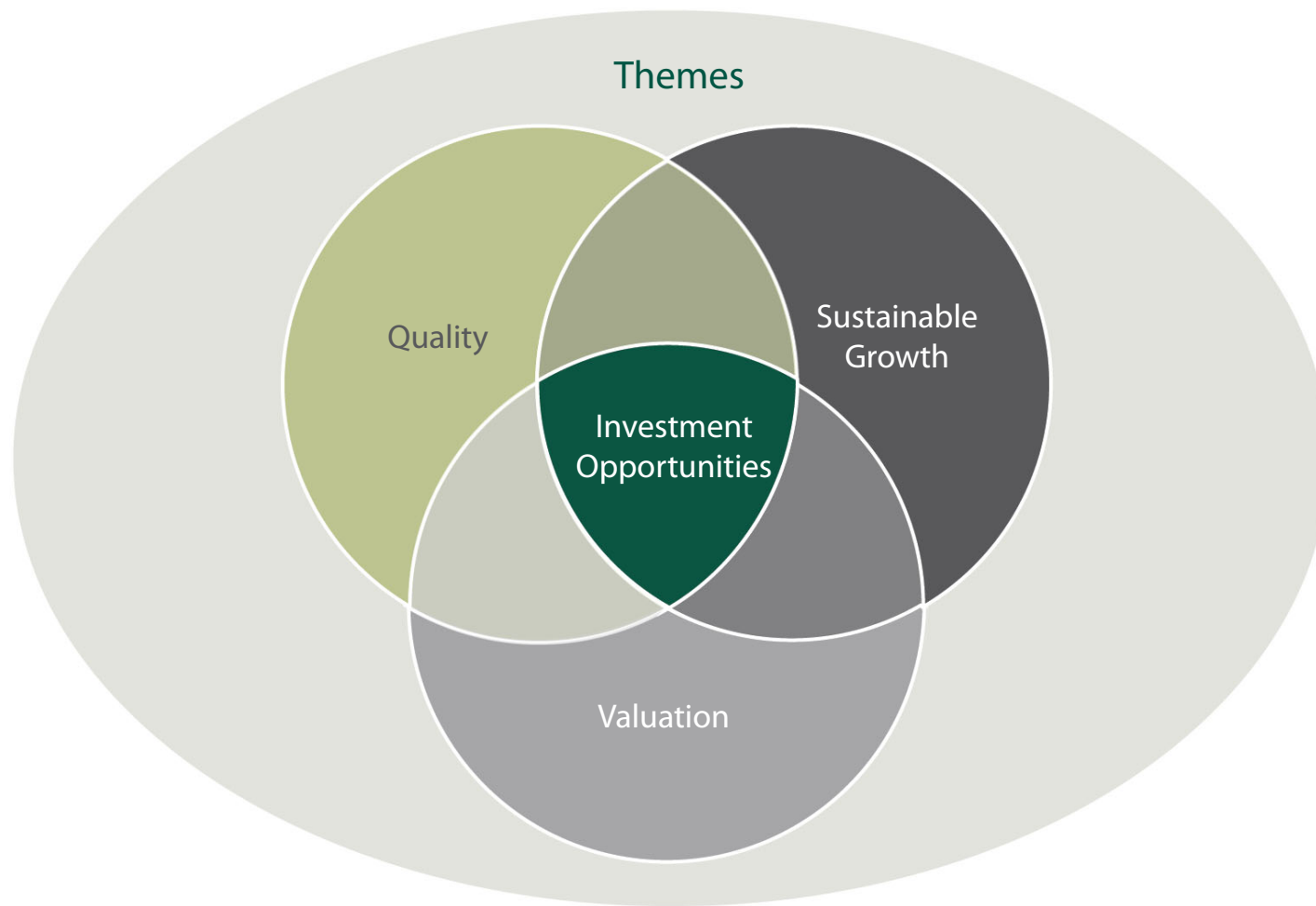
Process

- Meet monthly, distribute information weekly
- Document and maintain strategic decisions
- Review capital market environment and macroeconomic factors
- Review portfolio positioning and performance
- Evaluate pipeline of stock ideas and priorities
- Assess portfolio level risk factors

Investment Philosophy

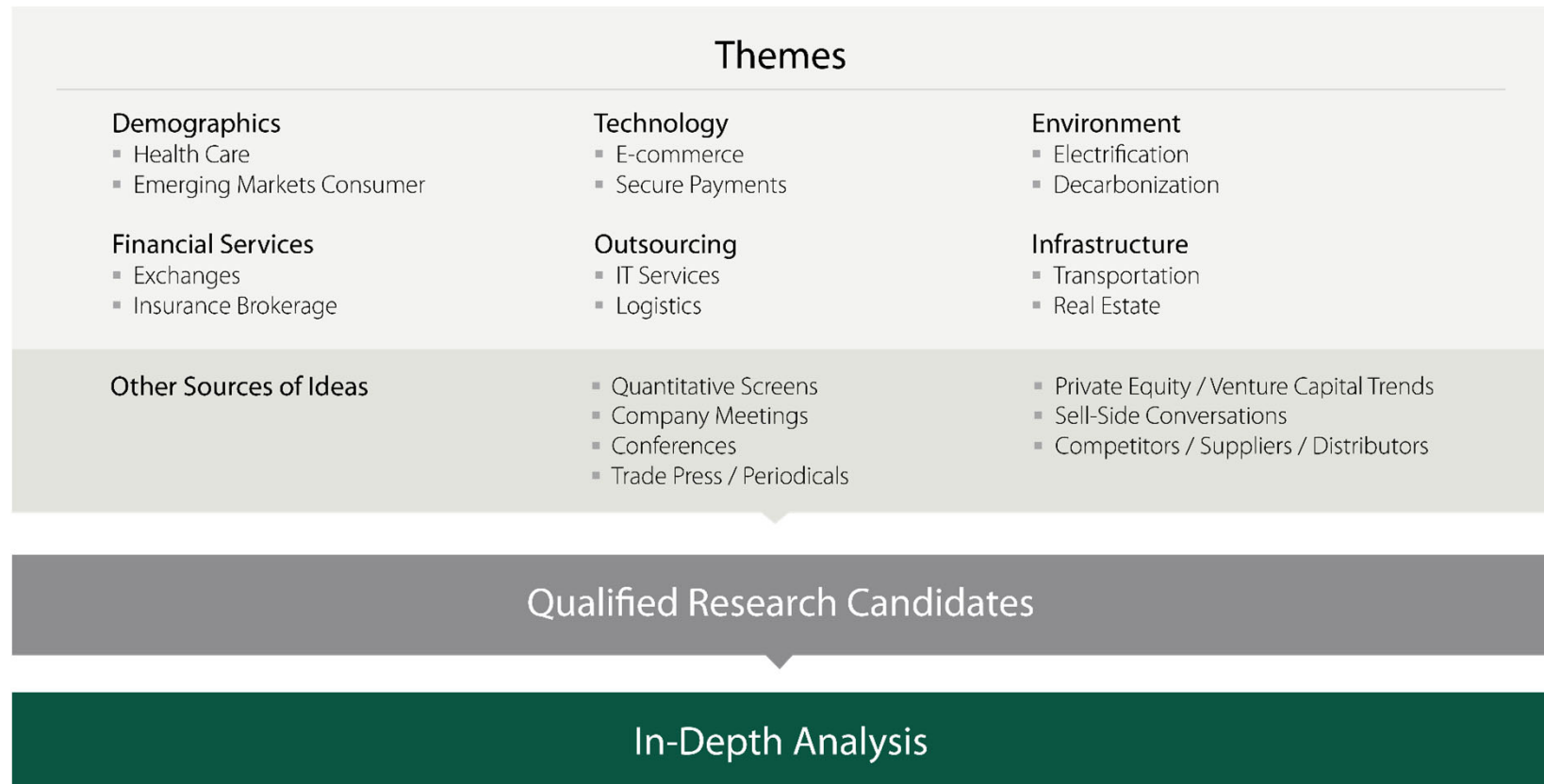
We believe investing in high-quality companies with sustainable growth characteristics at attractive valuations will lead to outperformance over a full market cycle.

Investment Process — Quality, Growth and Valuation



Investment Process—Idea Generation

Our ability to cut through the enormous amount of noise and remain focused on what matters is critical to directing our research appropriately.



Investment Process—In-Depth Analysis

Quality

- Focused management and strong governance
- Proven track record, clear business strategy
- Alignment of interest, treatment of stakeholders
- Financial strength, ROE, ROIC

Sustainable Growth

- Dominant market position, high barriers to entry
- Unique assets, brand strength → pricing power
- Investing for the future, responsible practices
- High and/or improving profit margins
- Significant free cash flow

Valuation

- EV/EBITDA
- FCF yield
- PEG ratio
- Sum-of-the-parts
- Relative to history and peers

Sustainable Growth factors outlined above apply to the investment selection criteria.

Investment Process—ESG Integration



Investment Process—Risk Management

A multi-faceted approach to mitigate risk of capital impairment

Security Level Know What You Own

- Continuous review of investment thesis
- Deep sector and industry knowledge
- Competitive landscape evaluation
- In-depth financial models and scenario analysis

Portfolio Construction

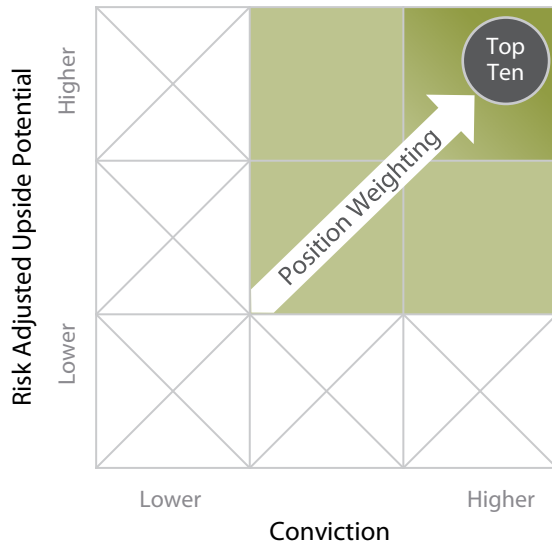
- Diversified by sectors, industries, themes
- Cognizant of common risk factors
- Mitigate unintended risks (Barra/Bloomberg)
- Monthly IPC meetings

Rigorous Sell Discipline

- Disruption of competitive advantages
- Deterioration in business quality and/or growth metrics
- Valuation levels
- Management or regulatory changes

Investment Process—Position Sizing

High conviction, benchmark agnostic and stock selection driven.



Portfolio Construction

Maximum position size generally 5%*

Number of holdings range from 50 to 90

Maximum of 25% in any one industry*

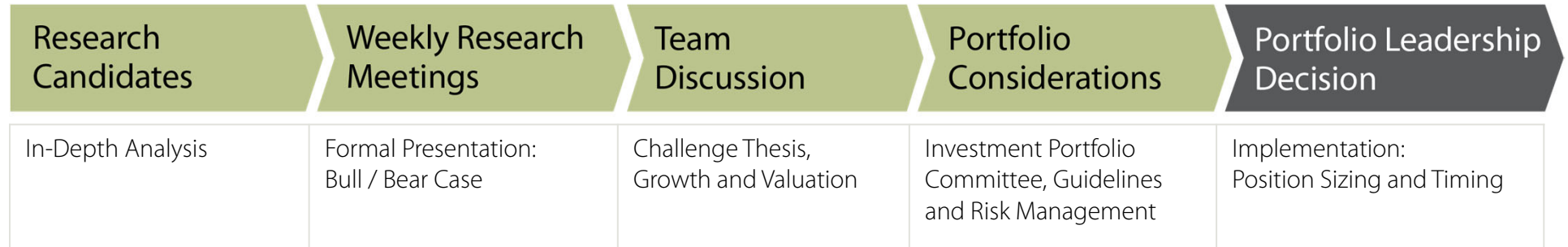
Maximum of 30% in any one country*

May invest up to 35% in emerging markets*

Typically less than 5% cash

Source: Artisan Partners. The investment process is provided for illustrative purposes only and individual securities may vary from the general approach shown. Determination of Risk Adjusted Upside Potential is based on analyst estimates. *Limitations apply at the time of purchase.

Investment Process—Decision-Making Process



Demographics—Luxury Goods

Pursue leading brands that can provide pricing power and secular growth

Personal Luxury

- Heritage, provenance and exclusivity create high barriers to entry
- Millennial and Gen Z consumers driving growth trends
- Affluent less affected by economic downturns than middle class

Premium Brands

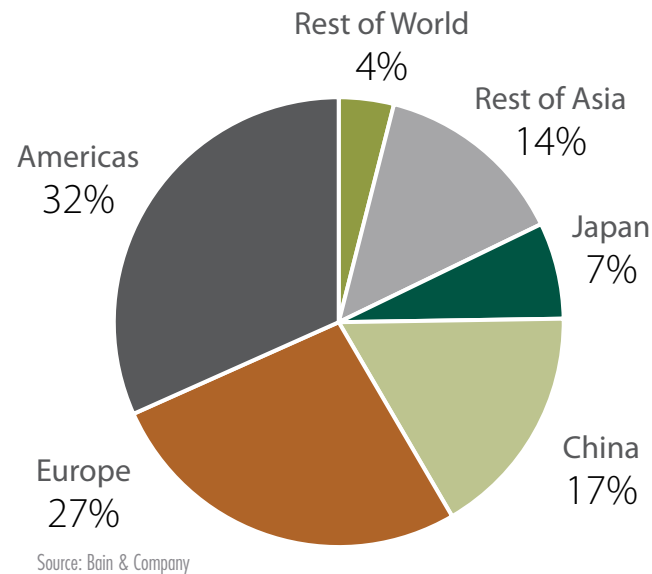
- Brand equity and strong positioning provide pricing power
- “Premiumization” trend has led to market share growth for top brands
- Long-term growth opportunities in developing markets

Selected Holdings

Company	Trusts	
	International Growth	Global Equity
Richemont	■	■
LVMH	■	■
Porsche	■	■

Source: Artisan Partners. As of 31 Mar 2023. Portfolio holdings are subject to change without notice. The holdings mentioned comprised the following weights as of 31 Mar 2023 in the Artisan International Growth Trust: Cie Financiere Richemont SA 2.2%, LVMH Moet Hennessy Louis Vuitton SE 2.3%, Dr Ing hc F Porsche AG 1.2%, Wuliangye Yibin Co Ltd 1.6%, Pernod Ricard SA 0.8% and Diageo PLC 2.1%. Artisan Global Equity Trust: Cie Financiere Richemont SA 0.7%, LVMH Moet Hennessy Louis Vuitton SE 1.9%, Dr Ing hc F Porsche AG 0.5%, Wuliangye Yibin Co Ltd 1.4% and Pernod Ricard SA 0.8%. Refer to Notes and Disclosures for additional information.

Share of Personal Luxury Goods Market



Market Size = Appr.
\$376 Billion in 2022

Demographics—Health Care

Seek high-conviction holdings with strong balance sheets, novel approaches for treatment and promising pipelines

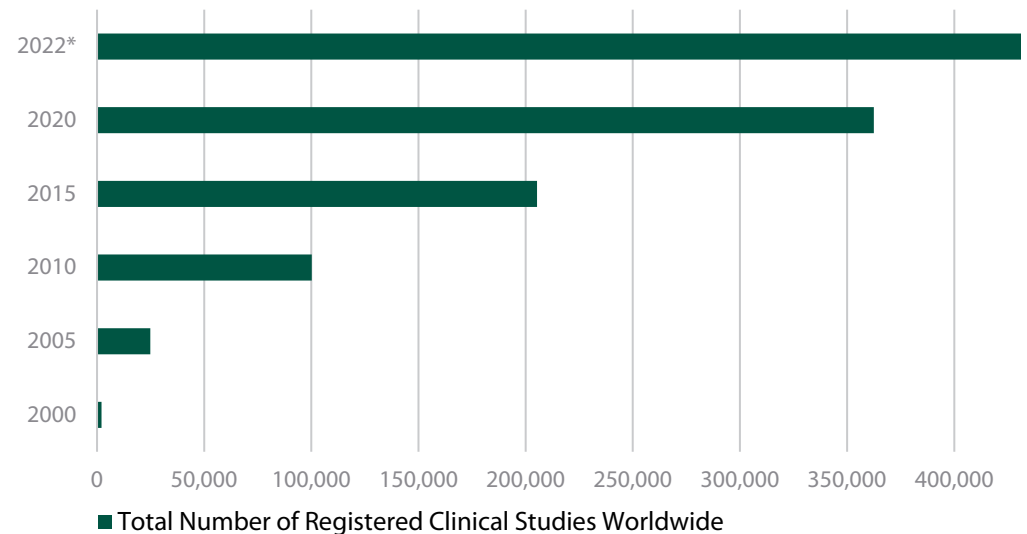
Consumer-Driven Care

- People living longer lives, requiring more care
- Patients becoming stakeholders in their own care
- Health systems moving toward patient-centric models

Tech Driving Continued Improvement in R&D

- Increased collaboration bringing together multiple stakeholders to produce more targeted results
- Advanced computing allowing companies to increase the scope and scale of research to reduce time to market
- Technology advancements helping to increase speed and effectiveness of clinical trials and approvals

Life Sciences Innovation Setting New Records Each Year



Source: Statista, 2022. *Through 24 Nov 22.

Selected Holdings

Company	Trusts	
	International Growth	Global Equity
Argenx	■	■
Ascendis Pharma	■	■
Novo Nordisk	■	■

Company	Trusts	
	International Growth	Global Equity
UCB	■	■
AstraZeneca	■	■
Daiichi Sankyo	■	■

Source: Artisan Partners. As of 31 Mar 2023. Portfolio holdings are subject to change without notice. The holdings mentioned comprised the following weights as of 31 Mar 2023 in the Artisan International Growth Trust: Argenx SE 2.4%, Ascendis Pharma 1.4%, Novo Nordisk A/S 2.9%, UCB 1.9%, AstraZeneca PLC 2.2%, and Daiichi Sankyo Co Ltd 3.7%. Artisan Global Equity Trust: Argenx SE 2.0%, Ascendis Pharma A/S 0.8%, Novo Nordisk A/S 2.6%, UCB 1.0%, AstraZeneca PLC 2.0% and Daiichi Sankyo Co Ltd 3.2%. Refer to Notes and Disclosures for additional information.

Environment—Energy Efficiency and Clean Energy

Look for industry leaders that are providing the solutions to achieve the global energy transition

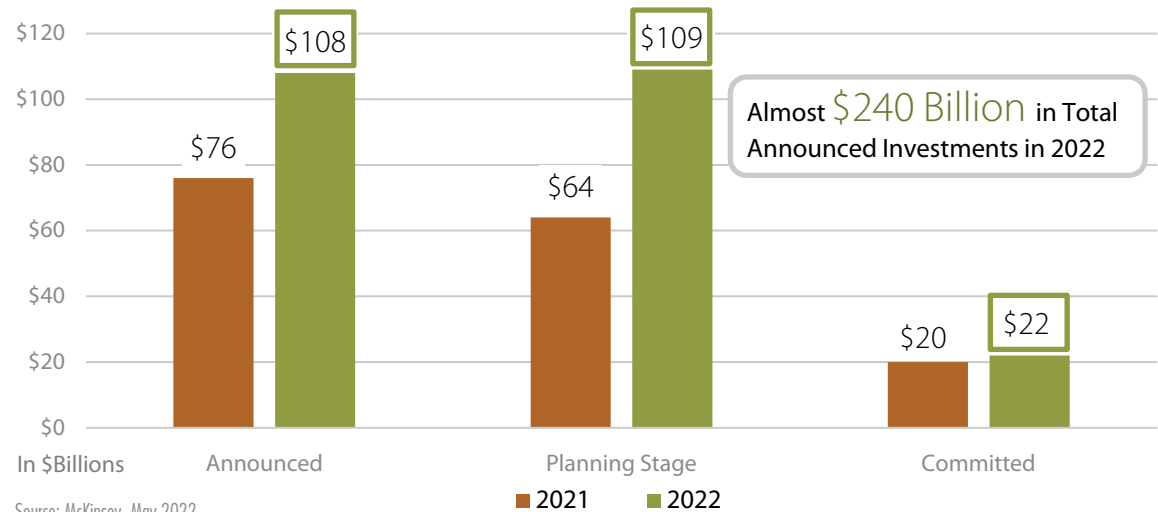
Energy Efficiency

- Industrial gases—reduced emissions and natural resources consumption
- Smarter, more efficient building materials
- Efficient climate control technologies

Clean Energy

- Renewable capacity growth
- Clean hydrogen
- Carbon capture and sequestration

Total Announced Direct Hydrogen Investments by Maturity



Selected Holdings

Company	Trusts	
	International Growth	Global Equity
Linde	■	■
Air Liquide	■	
Safran	■	

Company	Trusts	
	International Growth	Global Equity
Rockwool		■
NIBE Industrier		■
Trane Technologies		■

Source: Artisan Partners. As of 31 Mar 2023. Portfolio holdings are subject to change without notice. The holdings mentioned comprised the following weights as of 31 Mar 2023 in the Artisan International Growth Trust: Linde PLC 4.7%, Air Liquide 3.7% and Safran SA 0.6%. Artisan Global Equity Trust: Linde PLC 0.9%, Rockwool A/S 1.8%, Nibe Industrier AB 1.4% and Trane Technologies PLC 0.9%. Refer to Notes and Disclosures for additional information.

Financial Services—Volatility and Inflation

Research competitively-advantaged beneficiaries of higher volatility and/or inflation with attractive capital return profiles

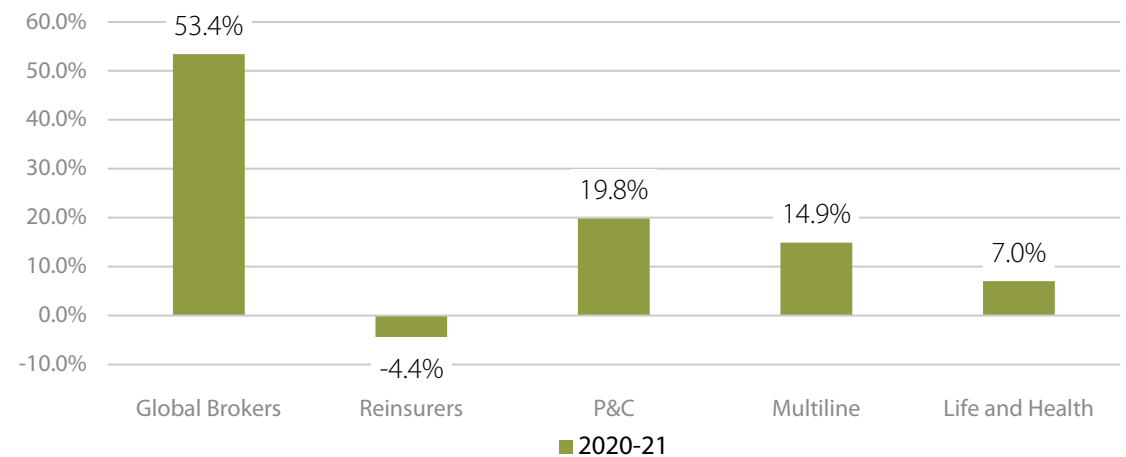
Exchanges

- Increased volatility drives trade volume and revenues higher
- “Mini-monopolies” approved by regulators
- Network effects

Insurance & Insurance Brokerage

- Hard market + inflation = pricing power
- High renewal rates, high recurring cash flows
- Attractive dividend yields

Insurance Industry Total Shareholder Returns



Selected Holdings

Company	Trusts	
	International Growth	Global Equity
Aon	■	■
UBS	■	■
AIA	■	■
Allianz	■	
Deutsche Boerse	■	

Company	Trusts	
	International Growth	Global Equity
Chubb		■
ICE		■
Gallagher		■
BFF Bank		■
CME Group		■

Source: Artisan Partners. As of 31 Mar 2023. Portfolio holdings are subject to change without notice. The holdings mentioned comprised the following weights as of 31 Mar 2023 in the Artisan International Growth Trust: Aon PLC 2.9%, UBS Group AG 3.1%, AIA Group Ltd 1.1%, Allianz SE 2.4% and Deutsche Boerse AG 4.3%. Artisan Global Equity Trust: Aon PLC 1.3%, UBS Group AG 3.5%, AIA Group Ltd 0.9%, Chubb Ltd 0.9%, Intercontinental Exchange Inc 1.9%, Arthur J Gallagher & Co 1.2%, BFF Bank SpA 2.8% and CME Group Inc 1.2%. Refer to Notes and Disclosures for additional information.

Market Review

- With growing concerns over the economy, many investors sought higher quality large-cap growth stocks as a defensive strategy hoping to benefit from a potential drop in bond yields should the economy turn recessionary.
- Globally, stocks produced moderately strong returns across geography.
- International equity stocks, as measured by the MSCI EAFE Index, were mainly positive, but returns varied greatly with strong performance in information technology, consumer discretionary and communication services.
- Growth outperformed value during the quarter.

		MSCI EAFE Index Total Returns (Local) %	
		Q1 2023	1 Yr
	Energy	-1.0	16.7
	Consumer Staples	6.2	5.9
	Health Care	4.2	1.2
	Communication Services	9.9	-1.1
	Utilities	6.6	2.6
	Financials	1.9	3.7
	Consumer Discretionary	16.2	10.8
	Real Estate	-2.0	-16.0
	Industrials	10.9	5.1
	Materials	6.9	-0.3
	Information Technology	18.8	2.0
	MSCI EAFE Index	7.5%	3.8%
MSCI EAFE Growth Index		10.1%	2.0%
MSCI EAFE Value Index		5.0%	5.3%

Source: Artisan Partners/FactSet/GICS/MSCI. As of 31 Mar 2023. Past performance does not guarantee and is not a reliable indicator of future results. An investment cannot be made directly in an index.

Investment Results—Average Annual Total Returns

(%) as of 31 Mar 2023	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception
Linked Mutual Fund and Trust: Tier 3	8.56	-0.10	9.48	3.62	5.05	7.52
MSCI EAFE Index	8.47	-1.38	12.99	3.52	5.00	6.81
MSCI All Country World ex USA Index	6.87	-5.07	11.80	2.47	4.17	7.02

Inception of Marin County investment into Artisan International Fund — Institutional Class: 30 Dec 2002, invested through 15 Feb 2018.

Transition to Marin County investment into Artisan International Growth Trust — Tier 3: 28 Feb 2018.

Period from 16 Feb 2018 through 27 Feb 2018 assumes a 0% return.

Differences between the Mutual Fund and Trust include, but are not limited to, the fee structure of each vehicle. Each vehicle's fee structure may have a different impact on performance. Performance is calculated using the date on which you first invested in the Fund as your "inception" date. The linked returns shown, which do not take cash flows into consideration, are computed by taking monthly NAV-based returns (as calculated by Artisan Partners for the Fund and SEI for the Trust) and then geometrically linking those daily returns. The linked performance is hypothetical and actual returns may vary due to different valuation policies and methodology.

As of 31 Mar 2023	Ending Market Value	Number of Shares	Share Price	Account Inception
Marin County (CA) Employees' Retirement Association	\$192,836,964.15	6,754,359.515	\$28.55	30 December 2002

Source: SEI/Artisan Partners/MSCI. Past performance does not guarantee and is not a reliable indicator of future results. Net-of-fees performance shown for the Trust. The principal value and investment return of the Trust will fluctuate, so you may have a gain or loss when you sell your units. Current performance may be lower or higher than performance shown. Trust returns were calculated net of total Trust fees and expenses (0.90% annually) which are incurred by each participating Tier 1 plan in the Trust. The Composite includes all accounts managed by Artisan Partners in the investment strategy, including the Collective Investment Trust. Composite performance is presented for informational purposes only and represents gross and net of investment management fees performance. Composite performance varies from Trust performance based on individual account restrictions and applicable fees and does not represent past or present Trust returns. Net-of-fees Composite returns were calculated using the highest fee applicable to portfolios within the Composite and does not reflect fees and expenses associated with the Trust. Returns less than one year are not annualized. Trust inception: 5 Jan 2009. Composite inception: 1 Jan 1996. MSCI ACWI ex USA Index performance represents the MSCI ACWI ex USA (Gross) Index from inception to 31 Dec 2000 and the MSCI ACWI ex USA (Net) Index from 1 Jan 2001 forward.

Sector Attribution — Q1 2023

Economic Sector	Portfolio		MSCI EAFE		Attribution Analysis		
	% Average Weight	% Return	% Average Weight	% Return	Allocation Effect	Selection Effect	Total Effect
Communication Services	5.09	19.45	4.47	10.45	0.03	0.40	0.43
Consumer Discretionary	14.41	16.22	11.88	17.19	0.14	-0.41	-0.28
Consumer Staples	9.39	8.64	10.19	7.58	0.11	0.08	0.18
Energy	6.97	-4.82	4.73	0.42	-0.22	-0.46	-0.67
Financials	23.59	7.14	19.08	2.72	-0.13	0.95	0.82
Health Care	14.93	5.34	12.98	5.37	0.02	0.01	0.03
Industrials	10.71	12.07	15.39	11.73	-0.15	0.04	-0.10
Information Technology	1.91	15.44	7.54	19.51	-0.64	-0.05	-0.69
Materials	8.05	13.64	7.84	7.59	0.00	0.47	0.48
Real Estate	--	--	2.55	-2.09	0.25	0.03	0.28
Utilities	--	--	3.36	8.18	0.04	-0.02	0.02
Cash	4.94	0.43	--	--	-0.41	-0.15	-0.55
Total	100.00	8.40	100.00	8.46	-0.96	0.89	-0.07

Source: FactSet/GICS/MSCI. As of 31 Mar 2023. Past performance does not guarantee and is not a reliable indicator of future results. Security values are reported in local currency and returns attributable to currency exposures are represented within Selection Effect. Refer to Notes and Disclosures for attribution information.

Sector Attribution — 1 Yr

Economic Sector	Portfolio		MSCI EAFE		Attribution Analysis		
	% Average Weight	% Return	% Average Weight	% Return	Allocation Effect	Selection Effect	Total Effect
Communication Services	6.28	1.47	4.71	-6.82	-0.11	0.45	0.34
Consumer Discretionary	9.75	-0.77	11.46	4.97	0.01	-0.74	-0.73
Consumer Staples	7.13	-2.15	10.58	1.33	-0.09	-0.23	-0.32
Energy	9.28	7.38	4.76	9.60	0.75	-0.13	0.62
Financials	22.02	8.62	18.36	-1.41	0.08	1.96	2.04
Health Care	12.68	-1.17	13.49	-2.64	-0.00	0.14	0.14
Industrials	14.21	-0.09	15.27	-0.61	-0.13	0.09	-0.04
Information Technology	3.83	-8.61	7.44	-3.62	-0.45	-0.03	-0.48
Materials	9.32	5.14	7.73	-6.53	-0.16	1.13	0.96
Real Estate	--	--	2.74	-20.39	0.58	-0.00	0.57
Utilities	--	--	3.45	-1.09	0.05	-0.05	-0.00
Cash	5.50	1.98	--	--	-0.05	0.26	0.21
Total	100.00	1.95	100.00	-1.38	0.48	2.84	3.32

Source: FactSet/GICS/MSCI. As of 31 Mar 2023. Past performance does not guarantee and is not a reliable indicator of future results. Security values are reported in local currency and returns attributable to currency exposures are represented within Selection Effect. Refer to Notes and Disclosures for attribution information.

Contribution to Return—Q1 2023 and 1 Yr

Q1 2023

Top

Deutsche Telekom	Communication Services
Air Liquide	Materials
Ryanair Holdings	Industrials
Cie Financiere Richemont	Consumer Discretionary
Deutsche Boerse	Financials

Bottom

China Tourism Group Duty Free	Consumer Discretionary
Schlumberger	Energy
Ascendis Pharma	Health Care
Reliance Industries (sold)	Energy
Sands China	Consumer Discretionary

1 Yr

Top

Deutsche Telekom	Communication Services
Schlumberger	Energy
Cie Financiere Richemont	Consumer Discretionary
Novo Nordisk	Health Care
ING Groep	Financials

Bottom

Alphabet (sold)	Communication Services
Amazon.com	Consumer Discretionary
DSM (sold)	Materials
Capgemini (sold)	Information Technology
UCB	Health Care

Source: Artisan Partners/FactSet/GICS. As of 31 Mar 2023. Past performance does not guarantee and is not a reliable indicator of future results. These securities made the greatest contribution to, or detracted most from, performance during the period. This is not a complete listing of portfolio activity. Upon request, Artisan will provide: (i) the calculation methodology and/or (ii) a list showing the contribution of each holding to overall performance during the measurement period. Securities of the same issuer are aggregated to determine the weight in the portfolio. Refer to Portfolio Holdings for security weights. The holdings mentioned above comprised the following average weights in the portfolio during the Q1 2023 time period: Deutsche Telekom AG 4.1%, Air Liquide SA 3.5%, Ryanair Holdings PLC 2.6%, Cie Financiere Richemont SA 2.5%, Deutsche Boerse AG 4.1%, China Tourism Group Duty Free Corp Ltd 1.1%, Schlumberger NV 3.8%, Ascendis Pharma A/S 1.5%, Reliance Industries Ltd 0.8%, Sands China Ltd 0.4%. The holdings mentioned above comprised the following average weights in the portfolio during the one-year time period: Deutsche Telekom AG 3.7%, Schlumberger NV 3.8%, Cie Financiere Richemont SA 1.7%, Novo Nordisk A/S 1.3%, ING Groep NV 2.4%, Alphabet Inc 2.3%, Amazon.com Inc 2.5%, Koninklijke DSM NV 1.1%, Capgemini SE 2.4%, UCB SA 1.9%.

Representative Transactions — Q1 2023

New Positions	Sector	Description and Investment Thesis
Daiichi Sankyo Co Ltd	Health Care	Japanese drug maker that has three drug treatments that are either on the market or in testing to treat different types of breast and lung cancer. We are attracted to the company's ability to leverage its R&D capability to develop a number of drug candidates from a body of research and thus increase its likelihood of success.
Carlsberg AS	Consumer Staples	A global producer of beer and other non-alcoholic beverages. China accounts for approximately 30% of earnings before interest and taxes. Overall, we like the company's pricing power in developed markets and its growth profile in emerging markets.
China Tourism Group Duty Free Corp	Consumer Discretionary	A state-owned enterprise that sells duty-free products to Chinese travelers in the domestic and overseas travel markets. We believe the company will come to dominate the duty-free trade in China by using its ability to scale up while widening margins. In addition, the opening of the new Haikou International Duty-Free City—the biggest in the world—represents an opportunity for the company to expand its total addressable market.
Sold Positions	Sector	Reason(s) for Sale
Capgemini SE	Information Technology	Slowing growth
Canadian National Railway Co	Industrials	Valuation
Reliance Industries Limited	Energy	Slowing growth

Source: Artisan Partners/FactSet/GICS. As of 31 Mar 2023. This presentation is not a complete listing of portfolio activity. Refer to Portfolio Holdings for security weights.

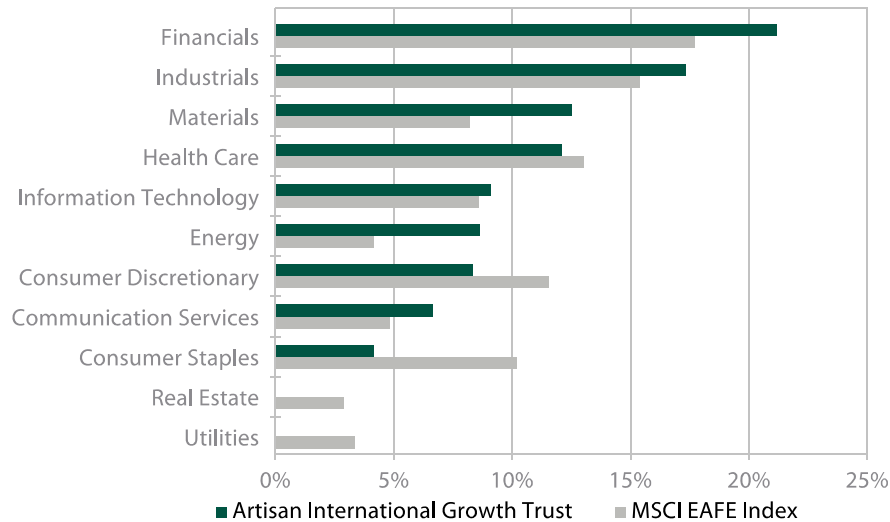
Top 10 Holdings

Company		% of total portfolio
Linde PLC	One of the world's largest industrial gas providers, supplying customers across a diverse range of industries.	4.7
Deutsche Telekom AG	Europe's largest integrated telecom company.	4.4
Deutsche Boerse AG	Largest exchanges operator in Europe.	4.3
Nestle SA	A global packaged foods company.	4.1
Alibaba Group Holding Ltd	Chinese e-commerce and cloud leader.	3.8
Air Liquide SA	One of the leading industrial gas companies in the world.	3.7
Daiichi Sankyo Co Ltd	Japanese drug maker for human and veterinary use.	3.7
UBS Group AG	A global financial services company offering investments, banking and fund servicing.	3.1
Aon PLC	A leading global risk management, insurance and reinsurance brokerage provider.	2.9
Novo Nordisk A/S	Global pharmaceutical company that develops drugs for diabetes care, hemostasis (blood clotting), chronic weight management and hormone therapy.	2.9
Total		37.7%

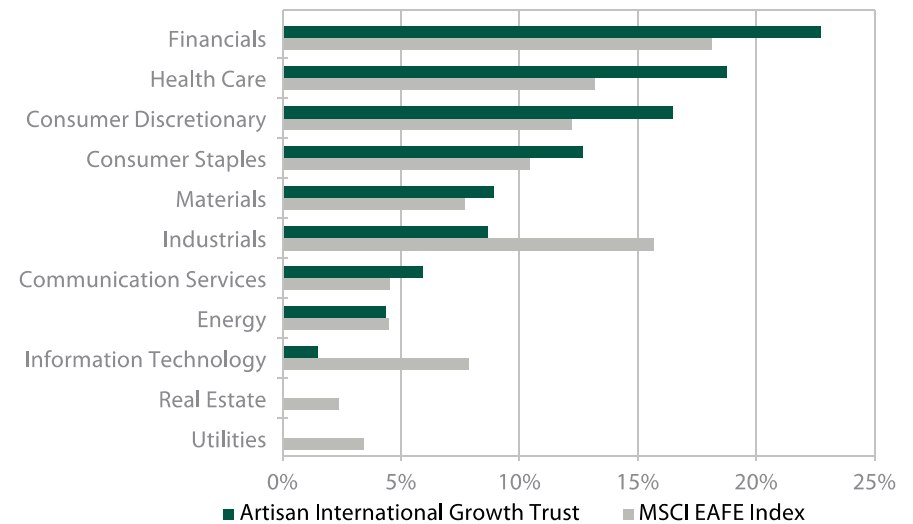
Source: Artisan Partners. As of 31 Mar 2023. Securities of the same issuer are aggregated to determine the weight in the portfolio.

Sector Weights

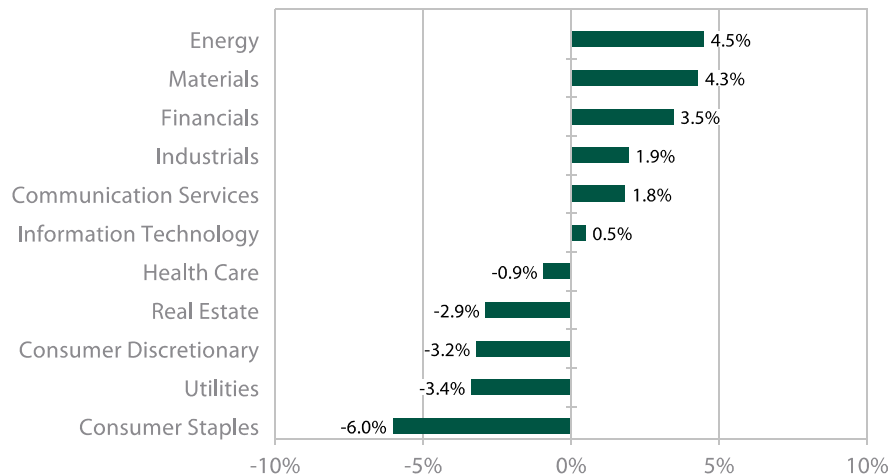
Sector Weights (31 Mar 2022)



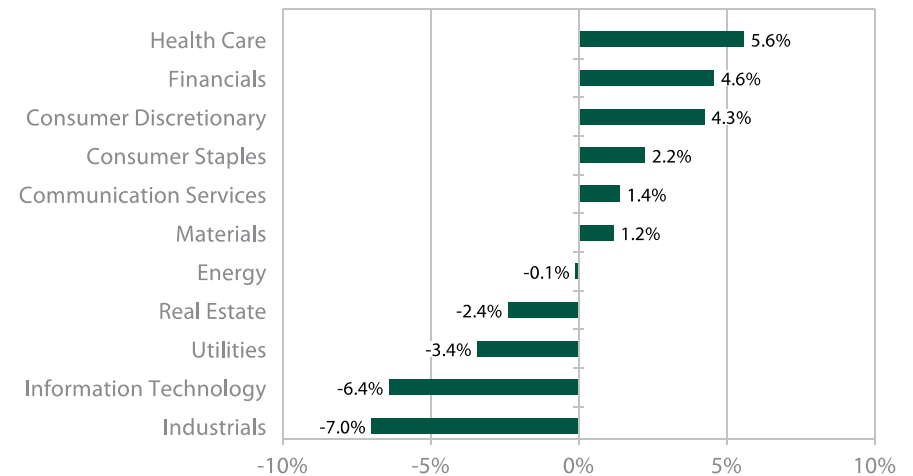
Sector Weights (31 Mar 2023)



Relative Sector Weights (31 Mar 2022)



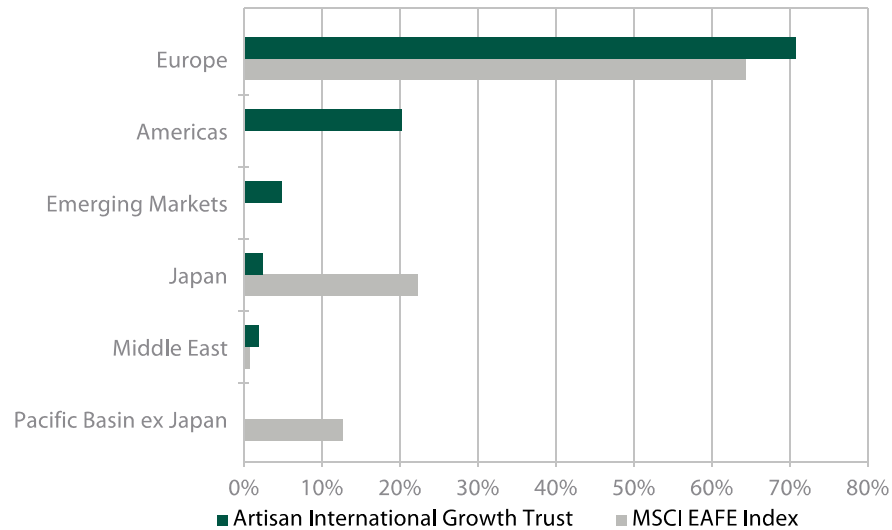
Relative Sector Weights (31 Mar 2023)



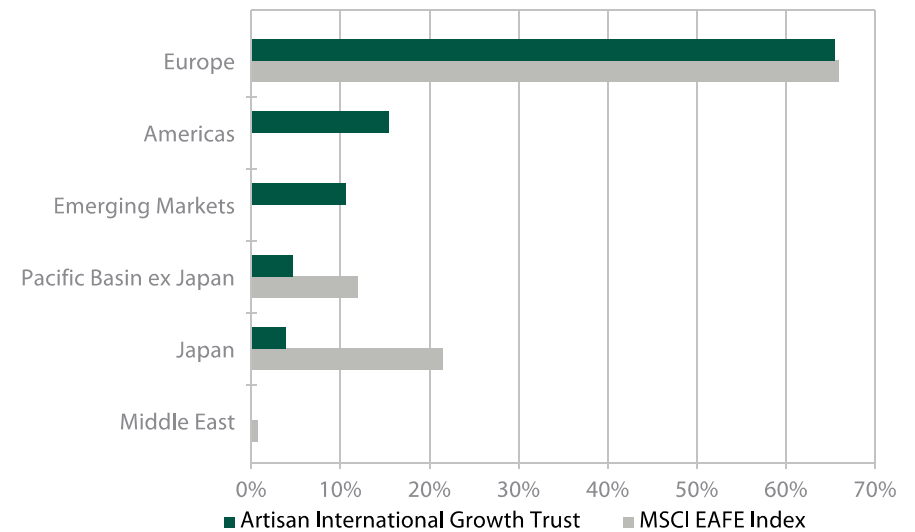
Source: GICS/MSCI. Percentages shown are of the portfolio securities compared to the MSCI EAFE Index. Cash represented 3.6% of the total portfolio at 31 Mar 2022 and 5.5% at 31 Mar 2023.

Region Weights

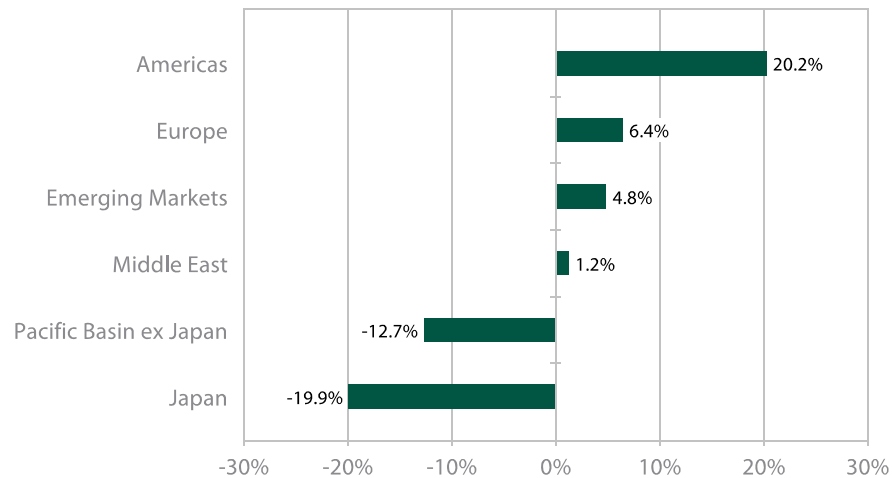
Region Weights (31 Mar 2022)



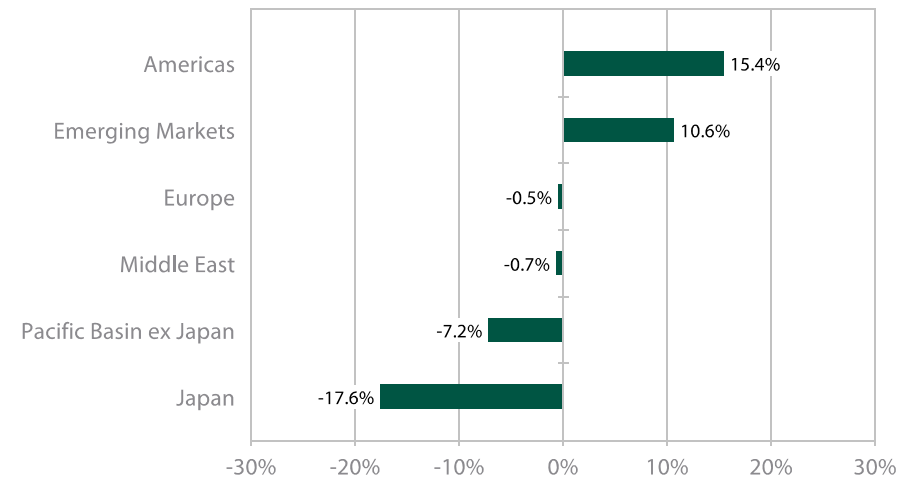
Region Weights (31 Mar 2023)



Relative Region Weights (31 Mar 2022)



Relative Region Weights (31 Mar 2023)



Source: MSCI. Percentages shown are of the portfolio securities compared to the MSCI EAFE Index. Cash represented 3.6% of the total portfolio at 31 Mar 2022 and 5.5% at 31 Mar 2023.

Portfolio Holdings (% of total portfolio)

Communication Services

- 4.4 Deutsche Telekom AG
- 1.2 Tencent Holdings Ltd

Consumer Discretionary

- 3.8 Alibaba Group Holding Ltd
- 2.4 Amazon.com Inc
- 2.3 LVMH Moët Hennessy Louis Vuitton SE
- 2.2 Cie Financière Richemont SA
- 1.3 ANTA Sports Products Ltd
- 1.2 China Tourism Group Duty Free Corp Ltd
- 1.2 Dr Ing hc F Porsche AG
- 0.6 Galaxy Entertainment Group Ltd
- 0.5 Sands China Ltd

Consumer Staples

- 4.1 Nestlé SA
- 2.1 Diageo PLC
- 1.8 Carlsberg AS
- 1.6 Wuliangye Yibin Co Ltd
- 1.2 Unilever PLC
- 0.8 Pernod Ricard SA
- 0.4 Barry Callebaut AG

Energy

- 2.6 Schlumberger NV
- 1.6 Shell PLC

Financials

- 4.3 Deutsche Boerse AG
- 3.1 UBS Group AG
- 2.9 Aon PLC
- 2.4 Allianz SE
- 1.8 BNP Paribas SA
- 1.1 United Overseas Bank Ltd
- 1.1 DBS Group Holdings Ltd
- 1.1 AIA Group Ltd
- 1.0 Barclays PLC
- 1.0 ING Groep NV
- 0.7 Intesa Sanpaolo SpA
- 0.6 Adyen NV
- 0.3 Danske Bank A/S
- 0.0 Sberbank of Russia PJSC

Health Care

- 3.7 Daiichi Sankyo Co Ltd
- 2.9 Novo Nordisk A/S
- 2.4 Argenx SE
- 2.2 AstraZeneca PLC
- 1.9 UCB SA
- 1.7 Alcon Inc
- 1.4 Ascendis Pharma A/S
- 1.0 ICON PLC
- 0.6 Medacta Group SA

Industrials

- 2.4 Ryanair Holdings PLC
- 1.5 Airbus SE
- 1.4 Canadian Pacific Railway Ltd
- 1.2 BAE Systems PLC
- 1.1 Ferrovial SA
- 0.6 Safran SA

Information Technology

- 0.9 Taiwan Semiconductor Manufacturing Co Ltd
- 0.5 Kinaxis Inc

Materials

- 4.7 Linde PLC
- 3.7 Air Liquide SA
- 0.0 MMC Norilsk Nickel PJSC

Source: GICS. As of 31 Mar 2023. Cash represented 5.5% of the total portfolio at 31 Mar 2023. Securities of the same issuer are aggregated to determine the weight in the portfolio. As of 3 Mar 2022, Russian holdings are valued at zero.

Portfolio Statistics

	Trust	MSCI EAFE Index	MSCI All Country World ex USA Index
Weighted Avg. Market Cap (Billions)	\$150.0	\$84.8	\$88.9
Median Market Cap (Billions)	\$65.6	\$12.8	\$8.6
Weighted Avg. P/E Ratio (FY1) ¹	17.0X	12.8X	12.6X
Weighted Avg. P/E Ratio (FY2) ¹	15.1X	12.3X	11.9X
Weighted Avg. LT EPS Growth Rate (3-5 Yr)	15.7%	11.0%	10.9%
Weighted Avg. PEG Ratio ²	1.3X	1.2X	1.2X
Weighted Avg. Operating Margin	18.6%	19.1%	19.6%
Number of Countries	18	21	46
Number of Securities	57	795	2,262
Percent in Top 10 Holdings	37.7%	14.7%	11.5%
Active Share	81.7%	—	—

Source: FactSet/MSCI. As of 31 Mar 2023. ¹Harmonic; excluding negative earners. ²Harmonic; excluding negative earners and companies with negative growth rates.

B.4

Artisan Partners Global Equity Team

Biographies — Artisan Partners Global Equity Team

Mark L. Yockey, CFA, is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Non-U.S. Growth and Global Equity Strategies. Prior to joining Artisan Partners in December 1995, Mr. Yockey was the portfolio manager of the United International Growth Fund and vice president of Waddell & Reed from January 1990 through December 1995. Before assuming responsibility for the United International Growth Fund, Mr. Yockey was an analyst for Waddell & Reed from 1986 through 1989, specializing in the worldwide health care industry and international special situations. Earlier in his career, he was a health care analyst for the State of Michigan Retirement Fund for five years. Mr. Yockey holds a bachelor's degree and a master's degree in finance from Michigan State University. He completed one year of undergraduate work at the Université d'Aix-en-Provence in France. He also worked for the French bank, La Société Générale. He is fluent in French.

Charles-Henri Hamker is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Global Equity Strategy and an associate portfolio manager for the Artisan Non-U.S. Growth Strategy. He also conducts research, primarily focusing on companies within the consumer discretionary and consumer staples sectors. Prior to joining Artisan Partners in August 2000, Mr. Hamker worked on the European Equities Desk in the New York office of Banque Nationale de Paris. Earlier in his career, he worked in the Paris and London offices of J.P. Morgan. Mr. Hamker holds a bachelor's degree with a specialization in finance and economics from the European Business School in Paris. He is fluent in French and German.

Andrew J. Euretig is a managing director of Artisan Partners and a portfolio manager on the Global Equity team. In this role, he is a portfolio manager for the Artisan Global Equity Strategy and an associate portfolio manager for the Artisan Non-U.S. Growth Strategy. He also conducts research, primarily focusing on companies within the industrials and utilities sectors. Prior to joining Artisan Partners in June 2005, Mr. Euretig was a graduate student at the University of California at Berkeley. He previously served in the United States Navy as an amphibious operations officer. Mr. Euretig holds a bachelor's and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Michael Luciano is a managing director of Artisan Partners and associate portfolio manager on the Global Equity team. In this role, he is an associate portfolio manager for the Artisan Global Equity and Non-U.S. Growth Strategies. He also conducts research as a generalist with a primary focus on companies within the consumer, financials, information technology and industrials sectors. Prior to joining Artisan Partners in November 2022, Mr. Luciano was a partner at AKO Capital, where he was part of the team managing the AKO Capital Global Fund. Before that, he spent over a decade at Fidelity Investments in portfolio management and investment research roles. Mr. Luciano started his career in sell side investment research notably at Credit Suisse First Boston and Deutsche Bank. Mr. Luciano holds a bachelor's degree in economics and finance from the University of Sydney.

Claudia P. Corra is an analyst on the Artisan Partners Global Equity Team. In this role, she conducts fundamental research, primarily focusing on global financial services companies. Prior to joining Artisan Partners in December 2003, Ms. Corra was an equity analyst for Independence Investors covering the financial services sector for the firm's domestic strategy and the global insurance sector for its international strategy. Earlier in her career, Ms. Corra worked at the Federal Reserve Bank of New York in various analyst positions. Ms. Corra holds a bachelor's degree in history and political science from New York University, a master's degree from Columbia University and a master's degree from Harvard University. She is fluent in German and Italian.

Stephen C. Chan is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on companies within the Asia Pacific region. Prior to joining Artisan Partners in April 2005, Mr. Chan was a managing director for American Century Investment Management Asia Pacific, where he led research efforts for Asia Pacific equities. Earlier in his career, Mr. Chan was a vice president at Merrill Lynch, where he conducted investment research for the technology sector. Mr. Chan holds a bachelor's degree in economics (magna cum laude) from the Wharton School, University of Pennsylvania and a master's degree in business administration from Stanford University. He is fluent in Mandarin and Cantonese.

B.4

Artisan Partners Global Equity Team

Biographies — Artisan Partners Global Equity Team

Brice Vandamme is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on global financial services companies. Prior to joining Artisan Partners in June 2011, Mr. Vandamme was an equity research analyst at Deutsche Bank in London where he covered European banks. Earlier in his career, he was a manager on the banking and finance advisory team at Ernst & Young that conducted management consulting projects for leading French banks. Mr. Vandamme holds a business degree from the Reims Management School in France. He is fluent in French.

Richard Logan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the global chemicals and energy sectors. Prior to joining Artisan Partners in April 2013, Mr. Logan headed up the Goldman Sachs European Chemicals equity research team in London. Earlier in his career, he trained as a chartered accountant at Arthur Andersen before working in securities lending with Morgan Stanley. Mr. Logan holds a bachelor's degree in chemical engineering from Aston University in Birmingham, England, and a master's degree in finance from London Business School.

Nikola Legetic, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research on multiple sectors. Prior to joining Artisan Partners in May 2017, Mr. Legetic was an analyst at GQG Partners LLC, where he covered emerging markets, global and international equities. Before that, Mr. Legetic was a senior research analyst at Riverloft Capital Management LP, where he worked on special situations, long/short equity, capital structure arbitrage and credit. Earlier in his career, he was an equity research analyst at Raymond James Financial/Eagle Asset Management, where he focused on financial services and energy. Mr. Legetic holds a bachelor's degree in international finance and international relations (with honors) from Eckerd College. He is fluent in Serbo-Croatian.

Sam Zarnegar is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the technology sector. Prior to joining Artisan Partners in July 2017, Mr. Zarnegar was an analyst for Glenview Capital Management where he covered the technology sector for the firm's long/short equity hedge fund. Before that, he worked as an investment associate at Sageview Capital, a public/private equity hybrid fund, where he focused on TMT investments across the capital structure. Earlier in his career, Mr. Zarnegar was an investment banking analyst across a variety of industry verticals at Evercore Partners. Mr. Zarnegar holds a bachelor's degree in economics from Cornell University. He is fluent in Persian.

Daniel Reagan, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the health care sector. Prior to joining Artisan Partners in June 2015, Mr. Reagan interned at UBS Global Asset Management and Balyasny Asset Management while studying for his MBA. Earlier in his career, he was an equity analyst at Hamlin Capital Management. Mr. Reagan holds bachelor's degrees in biology and economics from Bowdoin College and a master's degree in business administration from New York University.

Jeffrey Zhu, CFA, is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on the media, internet and communication sectors. Prior to joining Artisan Partners in July 2014, Mr. Zhu was an analyst at J.P. Morgan Investment Management where he covered the financial services sector. Mr. Zhu holds bachelor's degrees in mathematics and economics from Yale University and a master's degree in business administration from the Wharton School, University of Pennsylvania.

Navdeep Singh is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research, primarily focusing on biopharmaceutical companies. Prior to joining Artisan Partners in June 2020, Mr. Singh was a global biotechnology research analyst for Fidelity Institutional Asset Management. Before that, he conducted equity research in biotechnology as a vice president for both Goldman Sachs and Deutsche Bank. Earlier in his career, Mr. Singh served as an associate in equity biotechnology research at three different companies which included Citi, Banc of America and C.E. Unterberg, Towbin. Mr. Singh has bachelor's degrees in biology and economics from the University of Rochester.

B.4

Artisan Partners Global Equity Team

Biographies — Artisan Partners Global Equity Team

Mike West is an analyst on the Artisan Partners Global Equity Team. In this role, he conducts fundamental research on technology companies. Prior to joining Artisan Partners in June 2018, Mr. West was a manager in human resource analytics at Morgan Stanley. Before that, he was a human resource management analyst at Mount Sinai Health System. Mr. West holds a bachelor's degree in management from Florida Gulf Coast University and a master's degree in business administration from the University of North Carolina, Kenan-Flagler Business School.

Derek G. de Petra is a managing director and head of global trading at Artisan Partners. Prior to joining Artisan Partners in January 2000, Mr. de Petra was a trader with Montgomery Asset Management where he was responsible for trading in developed and emerging Europe for the international and emerging strategies. Mr. de Petra began trading at Mellon Capital Management in San Francisco where he traded the firm's passive international strategies. Mr. de Petra holds a bachelor's degree in history from the University of California-Los Angeles and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Biographies—Operations and Client Service Team

Eric R. Colson, CFA, is a managing director and chief executive officer of Artisan Partners. Mr. Colson also serves as a director of Artisan Partners Funds, Inc. Prior to joining Artisan Partners in January 2005, Mr. Colson was an executive vice president of Callan Associates, Inc. where he managed the institutional consulting group, providing business and investment advice to asset management firms. Prior to managing the institutional consulting group, he managed Callan's global manager research. Mr. Colson holds a bachelor's degree in economics from the University of California-Irvine.

Brett J. Meyer, CFA, is the chief operating officer of the Artisan Partners Global Equity Team. In this role, he is responsible for a number of non-investment responsibilities to ensure the focus of the team's portfolio managers and analysts is on managing the team's investment strategies. His responsibilities include day-to-day coordination of the research processes, hiring investment talent, and the information flow among the members of the investment team and trading. In addition, he acts as the team's liaison with Artisan Partners' business management team on legal, compliance, accounting, finance, facilities and IT matters. Mr. Meyer joined Artisan Partners in February 2013 as a director in the Investment Operations group which supports the firm's existing investment teams as well as identifies new investment talent. Prior to joining Artisan, Mr. Meyer served as an equity analyst on the investment team at Quantum Capital Management. Previously, Mr. Meyer spent 12 years at Callan Associates in a variety of capacities, including director of research for the Independent Adviser Group. Mr. Meyer holds a bachelor's degree in business administration and sports management from Principia College.

Sean J. Howley is a managing director of Artisan Partners and a business leader for the firm's Global Equity team. Prior to joining Artisan Partners in March 2007, Mr. Howley was the managing director and product manager for international and global equity products at Putnam Investments, where he was responsible for overseeing communications on policy, strategy and tactics with institutional clients. Before that, he was head of sales and distribution for Pioneer Investment Management, where he developed sales and marketing channels in the United Kingdom and Ireland. Mr. Howley holds a bachelor's degree in commerce from University College Dublin and a master's degree in business administration from the Haas School of Business at the University of California-Berkeley.

Benjamin C. Helsby is a director on the institutional client services team at Artisan Partners with responsibility for institutional marketing and client service of the strategies managed by the firm's Global Equity team. Prior to joining Artisan Partners in June 2018, Mr. Helsby was an investment consultant at Willis Towers Watson. Mr. Helsby holds a bachelor's degree in finance from the University of Florida.

Ami Fox is a director on the institutional client services team at Artisan Partners with responsibility for institutional marketing and client service of the strategies managed by the firm's Global Equity team. Prior to joining Artisan Partners in September 2018, Ms. Fox was a marketing and client service associate at DePrince, Race & Zollo, Inc. Ms. Fox holds a bachelor's degree in international business from Rollins College and is fluent in French.

Notes and Disclosures

This section of this presentation contains information important to a complete understanding of the material presented. Please review it carefully.

Artisan Partners Limited Partnership (APLP) is an investment adviser registered with the U.S. Securities and Exchange Commission (SEC). Artisan Partners UK LLP (APUK) is authorized and regulated by the Financial Conduct Authority and is a registered investment adviser with the SEC. APEL Financial Distribution Services Limited (AP Europe) is authorized and regulated by the Central Bank of Ireland. APLP, APUK and AP Europe are collectively, with their parent company and affiliates, referred to as Artisan Partners herein.

Form ADV: Additional information about APLP or APUK, the firms, its partners, ownership, investment strategies, fees and expenses and policies is contained in each firm's respective Form ADV. Each firm will supply a copy of its Form ADV upon request.

SEI Trust Company: The collective investment trust is a trust for the collective investment of assets of participating tax qualified pension and profit sharing plans and related trusts, and governmental plans, as more fully described in the Declaration of Trust. The Trust is managed by SEI Trust Company based on the investment advice of Artisan Partners Limited Partnership. As a bank collective trust, the Trust is exempt from registration as an investment company.

Artisan International Growth Trust

International investments involve special risks, including currency fluctuation, lower liquidity, different accounting methods and economic and political systems, and higher transaction costs. These risks typically are greater in emerging and less developed markets, including frontier markets. Securities of small- and medium-sized companies tend to have a shorter history of operations, be more volatile and less liquid and may have underperformed securities of large companies during some periods. Growth securities may underperform other asset types during a given period.

This material may include the views of the portfolio manager and other information relating to the portfolio and portfolio securities. While we believe the data accurately reflects the investment process, this information is presented as of the date indicated and will change over time.

ESG assessments represent one of many pieces of research available and the degree to which it impacts holdings may vary based on manager discretion.

Composite Performance: Net-of-fees composite returns were calculated using the highest model investment advisory fees applicable to portfolios within the composite. All performance results are net of commissions and transaction costs, and have been presented gross and net of investment advisory fees. For performance presented net of fees, fees may be higher for certain pooled vehicles and the composite may include accounts with performance-based fees. Dividend income is recorded net of foreign withholding taxes on ex-dividend date or as soon after the ex-dividend date as the information becomes available to Artisan Partners. Interest income is recorded on the accrual basis. Performance results for the index include reinvested dividends and are presented net of foreign withholding taxes but, unlike the portfolio's returns, do not reflect the payment of sales commissions or other expenses incurred in the purchase or sale of the securities included in the indices.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used to create indices or financial products. This report is not approved or produced by MSCI.

The index(es) are unmanaged; include net reinvested dividends; do not reflect fees or expenses; and are not available for direct investment.

Totals may not sum due to rounding. All data shown is in USD unless otherwise indicated.

Return on Equity (ROE) is a profitability ratio that measures the amount of net income returned as a percentage of shareholders' equity. **Return on Invested Capital (ROIC)** is a measure of how well a company generates cash flow relative to capital invested in the business. **Free Cash Flow** is a measure of financial performance calculated as operating cash flow minus capital expenditures. **Enterprise Value to Earnings Before Interest and Taxes (EV/EBIT)** is a valuation multiple defined as an enterprise value (EV) divided by earnings before interest and tax (EBIT). **Free Cash Flow Yield** is an overall return evaluation ratio of a stock, which standardizes the free cash flow per share a company is expected to earn against its market price per share. The ratio is calculated by taking the free cash flow per share divided by the share price. **Median** is the data's midpoint value. **Weighted Average** is the average of values weighted to the data set's composition. **Price-to-Earnings Ratio (P/E Ratio)** measures how expensive a stock is. Earnings figures used for FY1 and FY2 are estimates for the current and next unreported fiscal years. **LT EPS Growth Rate** is the average of the 3-5 year forecasted EPS growth rate of a company. **Active Share** is the percentage of a portfolio that differs from its benchmark. Active Share can range from 0% for an index fund to 100% for a portfolio with no overlap with an index. **Median Market Cap** provides a measure of the market capitalization value of the companies in a portfolio. Equal numbers of companies in the portfolio have market capitalizations higher and lower than the median. **PEG Ratio** (an indicator of a stock's potential value) measures the ratio of the P/E of a company to the growth rate. **Weighted Average Market Cap** is the average of the market capitalizations of the companies in the portfolio weighted by the size of each company's position within the portfolio. Market capitalization is the aggregate value of all of a company's outstanding equity securities.

MSCI All Country World Index measures the performance of developed and emerging markets. MSCI EAFE Index measures the performance of developed markets, excluding the US and Canada. MSCI EAFE Growth Index measures the performance of developed markets companies, excluding the US and Canada, that exhibit growth style characteristics according to MSCI. MSCI EAFE Value Index measures the performance of developed markets companies, excluding the US and Canada, that exhibit value style characteristics according to MSCI. MSCI All Country World ex USA Index measures the performance of developed and emerging markets, excluding the US.

Assets Under Management (AUM) refers to the assets of pooled vehicles and accounts to which Artisan Partners provides investment services. Artisan Partners' AUM as reported here includes assets for which Artisan Partners does not have investment discretion, including certain assets for which we earn only investment-related service fees. Non-discretionary assets are reported on a one-month lag. Artisan's definition of AUM is not based on any definition of Assets Under Management contained in the ADV or in any of Artisan's fund management agreements.

Country Allocation: Historical country exposure percentages reflect country designations as classified by MSCI as of the date shown. Securities not classified by MSCI reflect country designations as of the date the report was generated.

Sector Allocation: Unless otherwise noted, sector exposure percentages reflect sector designations as currently classified by GICS. The Global Industry Classification Standard (GICS®) is the exclusive intellectual property of MSCI Inc. (MSCI) and Standard & Poor's Financial Services, LLC (S&P). Neither MSCI, S&P, their affiliates, nor any of their third party providers ("GICS Parties") makes any representations or warranties, express or implied, with respect to GICS or the results to be obtained by the use thereof, and expressly disclaim all warranties, including warranties of accuracy, completeness, merchantability and fitness for a particular purpose. The GICS Parties shall not have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of such damages.

Portfolio Statistics: Portfolio statistics are intended to provide a general view of the entire portfolio, or Index, at a certain point in time. Statistics are calculated using information obtained from various data sources. Artisan Partners excludes outliers when calculating portfolio statistics. If information is unavailable for a particular security Artisan may use data from a related security to calculate portfolio statistics.

Security Examples: The security examples provided do not constitute recommendations to buy or sell investments. The examples present information about the companies believed to be accurate and are the views of the portfolio managers as of the date indicated.

Notes and Disclosures

Attribution: Attribution quantifies the relationship between a portfolio's relative returns and the active management decisions differentiating the portfolio from the benchmark. Allocation Effect examines the relative return attributable to group (e.g., asset class, sector, region) allocations. Selection Effect examines the relative return attributable to security selections. For international portfolios, Currency Effect examines the relative return attributable to currency exposures. Contribution to Return is calculated by multiplying a security's portfolio weight by its in-portfolio return for the period. Securities of the same issuer are aggregated to determine the weight in the portfolio; aggregation of corporate affiliates is subject to the determination of Artisan Partners. Attribution and Contribution to Return are not exact, but should be considered an approximation of the relative contribution from factors considered. The analysis of relative returns is not representative of portfolio returns due to several variables (e.g., fees, expenses transactions) and therefore should be examined in conjunction with the portfolio's actual returns for the period. Further information on the methodology used is available upon request.

Portfolio Holdings: For the purpose of determining the portfolio's holdings, securities of the same issuer are aggregated to determine the weight in the portfolio. For an index, the largest holdings are calculated at the security level and do not aggregate securities held by an issuer. Holdings information is not intended to represent or predict portfolio investment performance or as a recommendation of any individual security. A complete list of the securities held by portfolio, other than cash and cash equivalents unless otherwise noted, as of the date indicated is included. Securities named in this material, but not listed within the portfolio holdings page were not held as of the date reported. Portfolio holdings are subject to change without notice.

This material is provided for informational purposes without regard to your particular investment needs. This material shall not be construed as investment or tax advice on which you may rely for your investment decisions. Investors should consult their financial and tax adviser before making investments in order to determine the appropriateness of any investment product discussed herein. We expressly confirm that neither Artisan Partners nor its affiliates have made or are making an investment recommendation, or have provided or are providing investment advice of any kind whatsoever (whether impartial or otherwise), in connection with any decision to hire Artisan Partners as an investment adviser, invest in or remain invested in any funds to which we serve as investment adviser or otherwise engage with Artisan Partners in a business relationship. In no event shall Artisan Partners have any liability for direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) losses or any other damages resulting from the use of this material.

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Memorandum

To: MCERA Board of Trustees
From: Jim Callahan, CFA
Anne Heaphy
Date: June 21, 2023
Subject: AEW Core Property Trust Personnel Update

AEW recently announced that Dan Bradley, a senior portfolio manager for the Core Property Trust (CPT), will be retiring at the end of the year. Bradley has been a key member of the team since CPT started in 2007 and has over 40 years of experience. He had taken a step back from day-to-day operations of the fund over the past few years as Lily Kao and Sara Cassidy, both senior portfolio managers, have taken on lead responsibilities. Kao joined the firm in 1998 and has been a portfolio manager on CPT since 2015. Cassidy joined AEW and CPT in 2018 and has over 20 years of experience.

Succession planning for Bradley's eventual retirement has been in place for some time. While there is no immediate concern with these changes, we will continue to monitor the team and fund.

Memorandum

To: MCERA Board of Trustees
From: Jim Callahan, CFA
Anne Heaphy
Date: June 21, 2023
Subject: Fortress Investment Group Organizational Update

Background

SoftBank Group Co. purchased Fortress Investment Group ("Fortress") in 2017 and currently owns 90.01% of Fortress equity. In 2019, Mubadala Capital, the asset management subsidiary of the \$280 billion United Arab Emirates sovereign fund, Mubadala Investment Company, purchased a 9.9% equity stake in Fortress.

Recent Announcement

It was recently announced that Fortress and Mubadala have entered an agreement to acquire SoftBank's 90.01% equity stake. Fortress management will own up to 30% and have majority control of the board of directors. Mubadala will own the remaining 70% and will have two representatives on the board (they have had one board representative since the purchase in 2019).

Fortress will continue to operate autonomously and employee ownership will be expanded beyond the founding partners. Callan views this positively as it increases the Fortress management ownership stake from around 10% to 30%. Softbank will not have any residual ownership.

The change in ownership may require updates in the assignment of the investment advisory arrangement for the fund in which MCERA is invested, Fortress Credit Opportunities Fund V Expansion (FCOVE), with the fund's investment manager. Fortress is asking Limited Partners in FCOVE for their consent or objection to the assignment and requires majority consent in order for Fortress to continue providing investment advisory services to the fund. Callan recommends that MCERA consent to the assignment.

Callan

June 21, 2023



Marin County Employees' Retirement Association

Non-US Equity Structure

Jim Callahan, CFA
Fund Sponsor Consulting

Anne Heaphy
Fund Sponsor Consulting

Overview

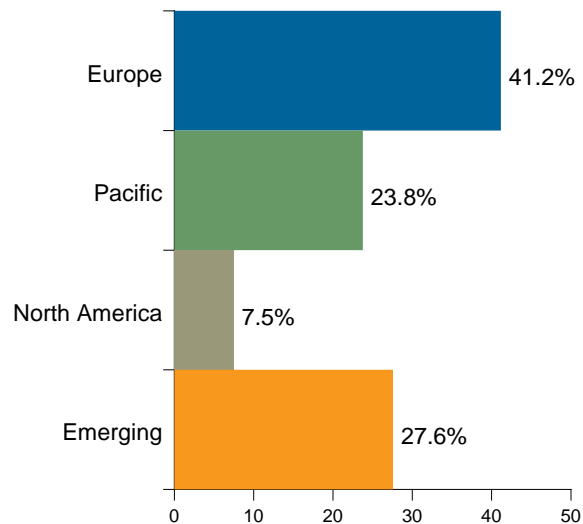
- MCERA has an overall 22% target allocation to Non-US equity.
- Within Non-US equity, the target allocations are:
 - 30% Non-US Developed Value
 - 30% Non-US Developed Growth
 - 20% Non-US Small Cap
 - 20% Emerging Markets
- MCERA's Non-US equity allocations were implemented in 2010; however, the current manager structure has been in place since 2021.
 - Non-US Developed Value – Morgan Stanley Investment Management, hired 2001
 - Non-US Developed Growth – Artisan Partners, hired 2003
 - Non-US Small Cap – TimesSquare Capital Management, hired 2019
 - Emerging Markets – Fidelity Institutional Asset Management (FIAM), hired 2021
- MCERA's Non-US equity structure is currently 100% actively managed.
- The benchmark for the Non-US equity allocation is the MSCI ACWI ex-US Investible Markets Index (IMI).

MSCI ACWI ex-US IMI Index

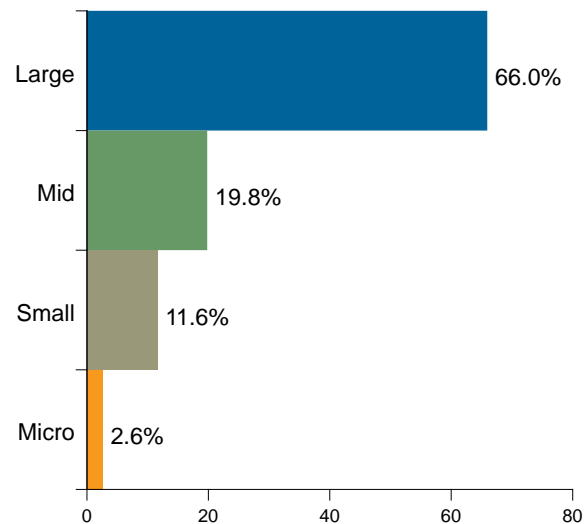
Allocations as of March 31, 2023

- The MSCI ACWI ex-US Investible Markets Index (IMI) captures large, mid, and small cap representation across 22 of the 23 developed markets countries (excluding the United States) and 27 emerging markets countries.
- With 6,614 constituents, the index covers approximately 99% of the global opportunity set outside of the U.S.

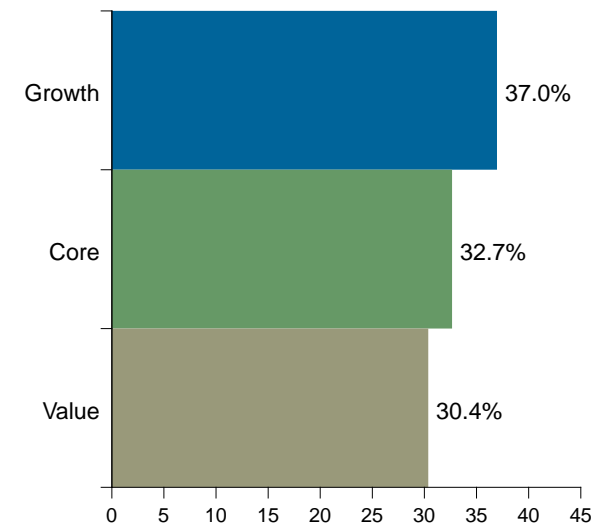
All Regions: MSCI:ACWI xUS IMI



All Caps: MSCI:ACWI xUS IMI



All Styles: MSCI:ACWI xUS IMI



Non-US Equity Structure

Key Decision Variables

The role of Non-US equity in the asset allocation is capital growth.

Primary determinants of equity risk and return:

- Size exposures as measured by market capitalization
- Styles exposures - value, core, and growth
- Regional exposures
- The amount of active/passive management

A diversified structure should generally reflect the characteristics of the market.

- The default structure is style and capitalization neutral.
- Active management has historically added value in Non-US investing.

MCERA's Non-US Equity Structure - two primary determinants of risk vs. benchmark (Tracking Error):

- Active/Passive exposures
 - MCERA's Non-US equity allocation is 100% actively managed, so there will be tracking error vs. benchmark.
 - “Misfit” Risk – different exposures than benchmark (i.e. growth overweight to benchmark)
 - MCERA's Non-US equity allocation currently has a growth bias. This misfit will result in higher tracking risk vs. benchmark and can lead to periods of both outperformance and underperformance.
- Discussion items: should these determinants be adjusted within MCERA's Non-US equity structure?

Equity Structure Considerations

Seek to maximize plan alpha at a palatable level of active risk relative to the plan benchmark

- Think of manager structure in an overall portfolio context
- Incorporate active managers only if they are expected to contribute sufficient alpha to compensate for the possibility of underperforming the benchmark
- This is a net-of-fees exercise

Spend plan's active risk budget efficiently

- Spend active risk in sectors and regions where active management has high probability of succeeding
- Otherwise, rely heavily on indexes in order to control both expenses and risk
- Keep magnitude of systematic bets vs. the plan benchmark (misfit risk) under control

Incorporate diversification

- Seek broad diversification across global equity markets
- The risk an individual active manager contributes to the overall portfolio depends on both its size and its tracking error
- Avoid excessive risk contribution from any one manager
- However, avoid over diversification or “closet indexing”

Simplify where appropriate

- Structure should meet investment objective with the minimum level of complexity
- Benefit is lower monitoring costs as well as explicit costs
- Active manager mandate sizes must be large enough to be meaningful to the fund but not overwhelming to the manager

Sources of Active Risk in the Equity Structure

Selection Risk

Risk stemming from active managers' bets relative to their benchmarks

- Risk which is expected to be rewarded with alpha if manager is skillful
- The risk you are paying your active managers to take
- This risk at the plan level is reduced as the number of active managers increases due to diversification

Misfit Risk

Risk which results when the overall style exposures of the plan's manager benchmarks differ from the plan's benchmark

- When unintentional, misfit confers additional active risk without any expected return
- Misfit can be controlled by ensuring overall manager style exposures (large vs. small; value vs. growth, U.S. vs. international) are generally consistent with the plan's benchmark
- When intentional, some misfit can be justified if reflects a high conviction bet on styles, capitalizations, or regions
- However, the bar for skill is high and tactical bets should be scaled as to not be a disproportionate driver of active risk

Active vs. Passive Management

Non-US Equity 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.

Equity Style	Benchmark	Avg. Gross Excess Return over Benchmark
Global ex-US Broad Equity	MSCI ACWI ex-US	1.25%
Global ex-US Growth Equity	MSCI ACWI ex-US Growth	1.15%
Global ex-US Value Equity	MSCI ACWI ex-US Value	0.69%
Developed ex-US Broad Equity	MSCI EAFE	1.04%
Developed ex-US Growth Equity	MSCI EAFE Growth	1.30%
Developed ex-US Value Equity	MSCI EAFE Value	1.34%
Developed ex-US Small Cap Equity	MSCI EAFE Small Cap	1.09%
Global ex-US Small Cap Equity	MSCI ACWI ex-US Small Cap	1.06%
Emerging Markets Broad Equity	MSCI Emerging Markets	0.98%

ACWI indices: Based on 19 ¼ years of rolling 3 year average annualized returns ending 1Q 2023.

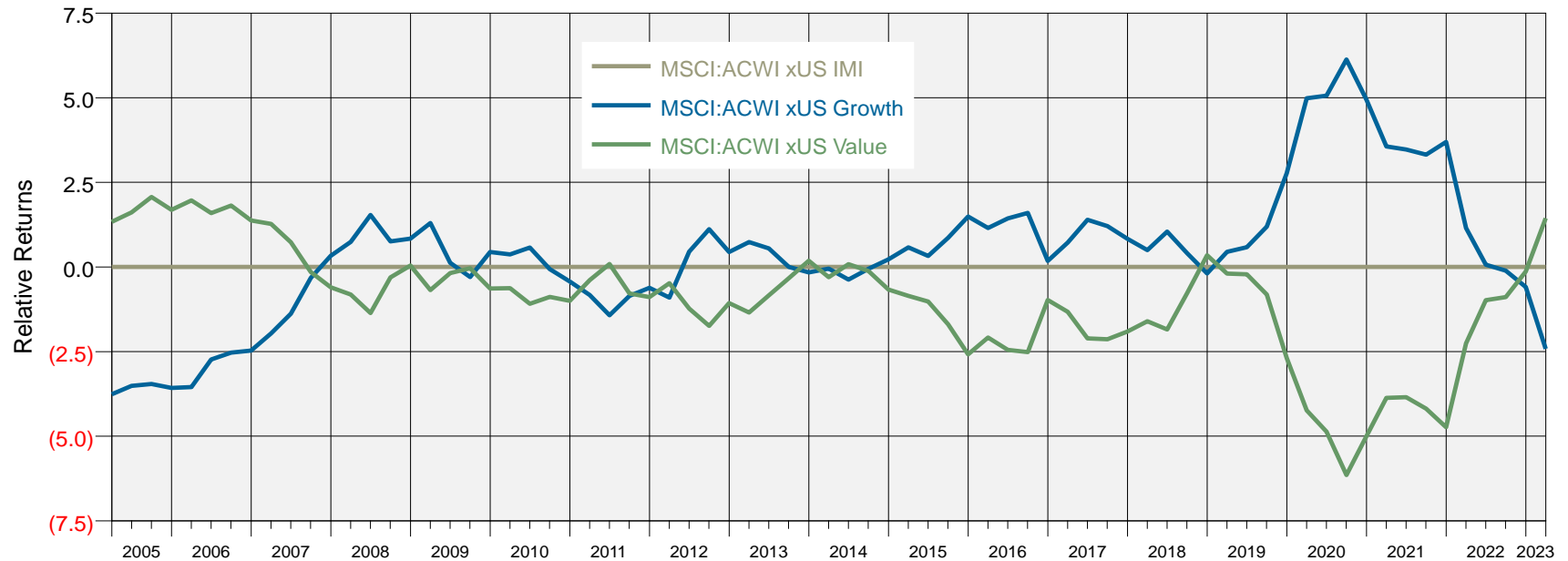
EAFE indices: Based on 20 years of rolling 3 year average annualized returns ending 1Q 2023.

Source: Callan Active vs. Passive Data.

MSCI ACWI ex-US Growth vs. Value

Rolling Three Year Relative Returns

Rolling 3 Year Relative Returns vs. MSCI:ACWI xUS IMI
for 18 Years Ended March 31, 2023



Callan

Current Structure

MCERA Non-US Equity Structure

Manager	Allocation	Benchmark	Target Allocation (%)	Current Allocation (%)	Current Value (\$)
Morgan Stanley	Non-US Developed Value	MSCI EAFE	30%	34%	\$202,589,135
Artisan	Non-US Developed Growth	MSCI EAFE	30%	32%	\$192,836,964
TimesSquare	Non-US Small Cap	MSCI EAFE Small Cap	20%	17%	\$103,940,439
FIAM	Emerging Markets	MSCI Emerging Markets Equity	20%	17%	\$100,491,675

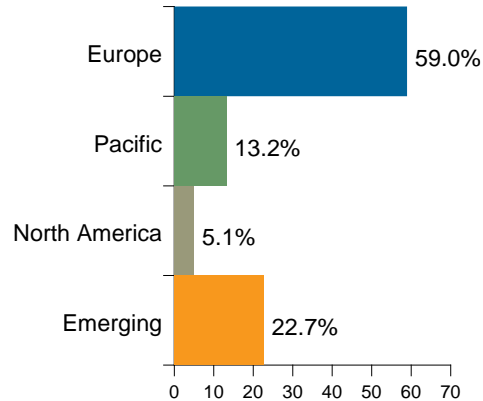
Risk (tracking) relative to MSCI ACWI ex-US IMI comes from:

- 100% active management
- Misfit Risk – primarily from significant overweight in growth stocks versus the benchmark (56% vs. 39%) and regional differences (overweight Europe, underweight Emerging Markets)
 - Growth tilt is a function of manager selection and targeted allocations
 - Regional differences are a function of active management decisions

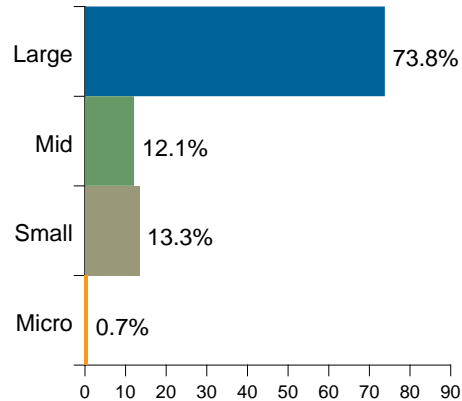
MCERA Non-US Equity vs. MSCI ACWI-ex US IMI

Allocations as of March 31, 2023

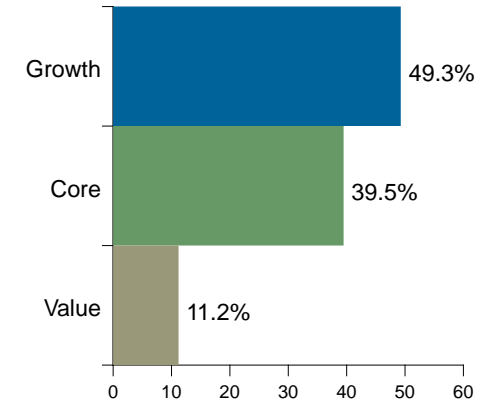
All Regions: MCERA



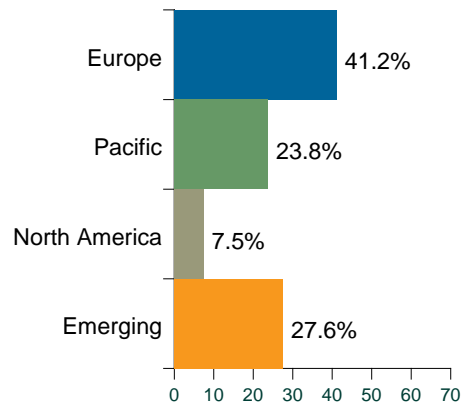
All Caps: MCERA



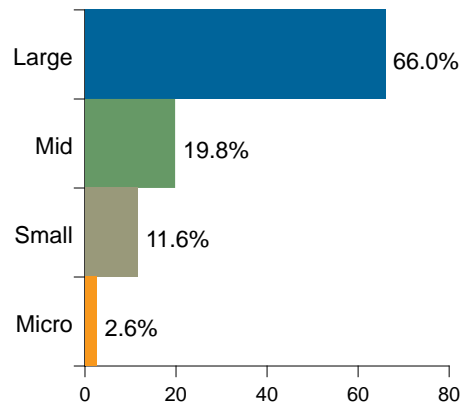
All Styles: MCERA



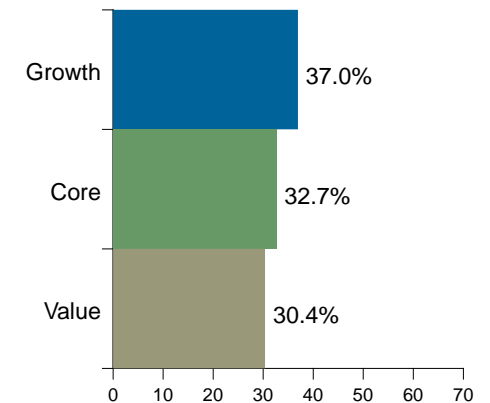
All Regions: MSCI ACWI ex-US IMI



All Caps: MSCI ACWI ex-US IMI

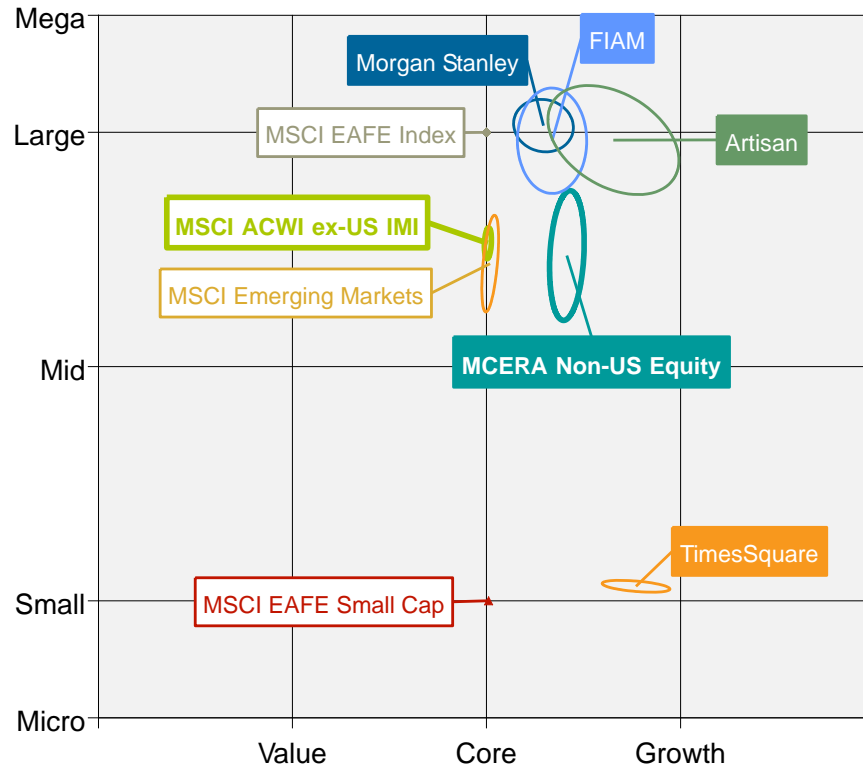


All Styles: MSCI ACWI ex-US IMI



MCERA Non-US Equity Structure

**Non-US Equity Style Map
for 5 Years Ended March 31, 2023**



**Style Exposure Matrix
5 Years as of March 31, 2023**

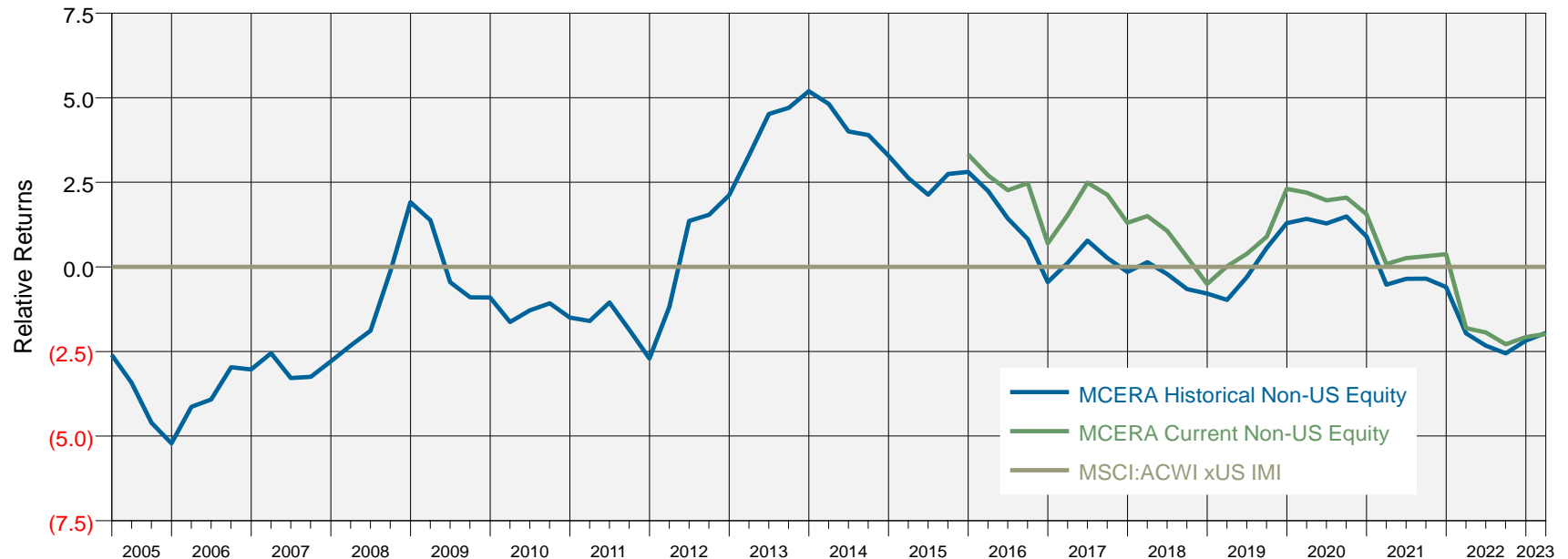
	11.6% (54)	18.9% (62)	34.1% (80)	64.6% (195)
Large	18.5% (208)	19.4% (190)	26.8% (245)	64.7% (644)
Mid	2.4% (96)	4.7% (93)	9.6% (91)	16.7% (280)
	6.3% (377)	6.5% (420)	8.1% (491)	20.9% (1288)
Small	3.1% (166)	5.7% (154)	7.6% (103)	16.3% (423)
	3.8% (817)	4.3% (934)	3.7% (826)	11.7% (2576)
Micro	0.7% (147)	1.1% (117)	0.6% (38)	2.4% (302)
	0.9% (700)	0.9% (695)	0.9% (537)	2.7% (1932)
Total	17.8% (463)	30.3% (425)	51.9% (312)	100.0% (1200)
	29.4% (2102)	31.2% (2238)	39.4% (2099)	100.0% (6439)
	Value	Core	Growth	Total

-- MCERA Non-US Equity
-- MSCI ACWI ex-US IMI Index

MCERA Non-US Equity

Rolling Three Year Relative Returns

Rolling 3 Year Relative Returns vs. MSCI:ACWI xUS IMI
for 18 Years Ended March 31, 2023



MCERA Historical Non-US Equity = MCERA's actual Non-US equity performance (including terminated managers)

MCERA Current Non-US Equity = MCERA's current managers at target allocations (rebalanced annually). The manager returns use the following:

-Morgan Stanley = MCERA's portfolio returns

-Artisan = MCERA's portfolio returns

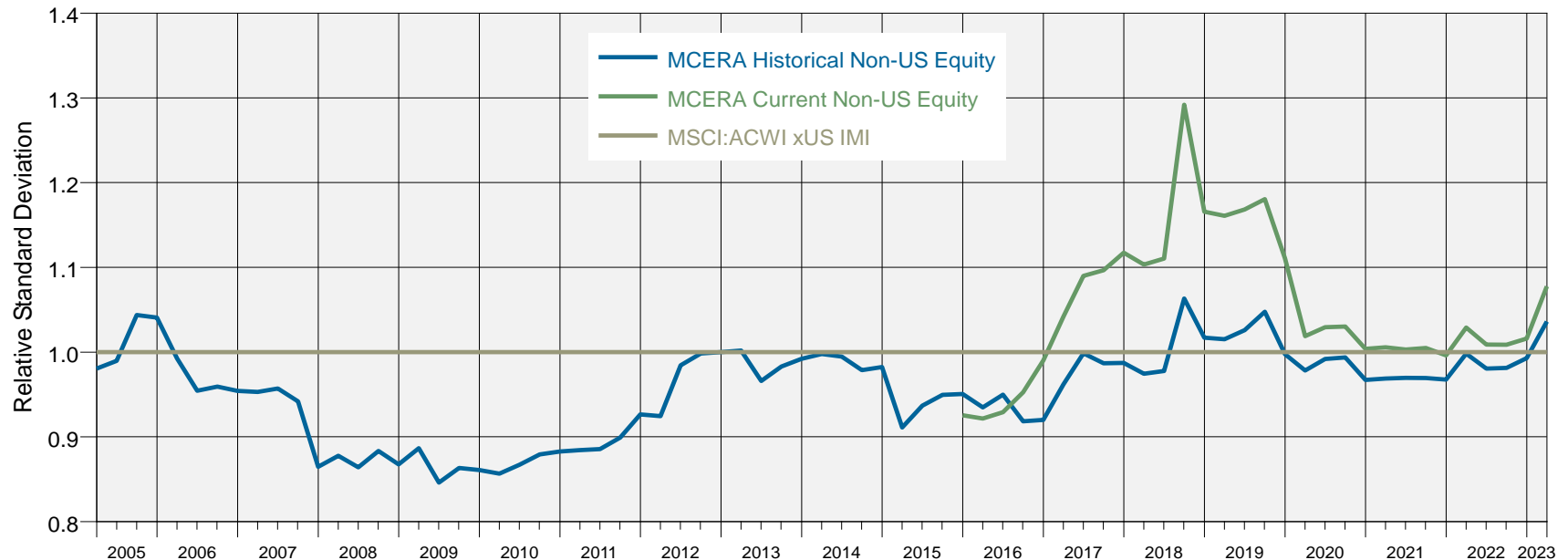
-TimesSquare = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

-FIAM = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

MCERA Non-US Equity

Rolling Three Year Standard Deviation

**Rolling 3 Year Relative Standard Deviation vs. MSCI:ACWI xUS IMI
for 18 Years Ended March 31, 2023**



MCERA Historical Non-US Equity = MCERA's actual Non-US equity performance (including terminated managers)

MCERA Current Non-US Equity = MCERA's current managers at target allocations (rebalanced annually). The manager returns use the following:

-Morgan Stanley = MCERA's portfolio returns

-Artisan = MCERA's portfolio returns

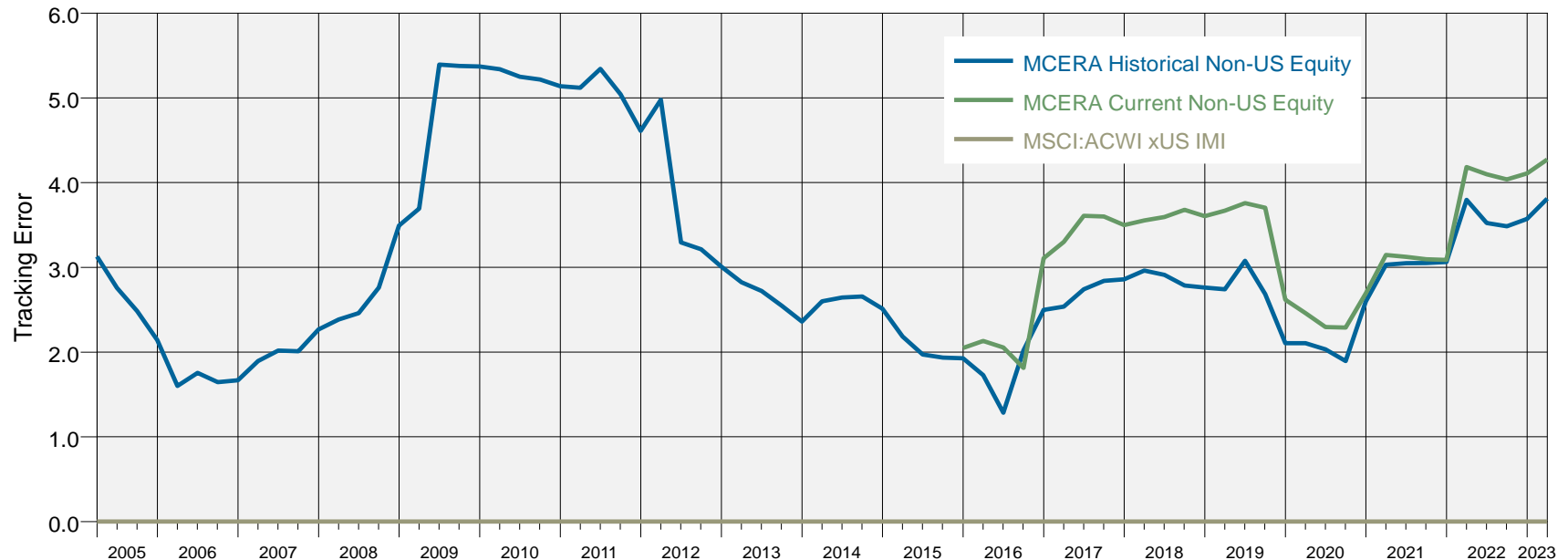
-TimesSquare = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

-FIAM = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

MCERA Non-US Equity

Rolling Three Year Tracking Error

Rolling 3 Year Tracking Error vs. MSCI:ACWI xUS IMI
for 18 Years Ended March 31, 2023



MCERA Historical Non-US Equity = MCERA's actual Non-US equity performance (including terminated managers)

MCERA Current Non-US Equity = MCERA's current managers at target allocations (rebalanced annually). The manager returns use the following:

-Morgan Stanley = MCERA's portfolio returns

-Artisan = MCERA's portfolio returns

-TimesSquare = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

-FIAM = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

MCERA Non-US Equity Net Performance

Annualized Returns for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years	Last 20 Years
MCERA Non-US Equity - Net	8.71	(2.85)	10.01	1.74	4.38	3.37	7.37
MSCI ACWI ex-US IMI	6.56	(5.84)	12.20	2.35	4.28	2.82	7.75
Morgan Stanley - Net	10.99	2.45	12.05	3.58	4.65	3.64	7.32
MSCI EAFE Index	8.47	(1.38)	12.99	3.52	5.00	3.00	7.32
MSCI EAFE Value Index	5.93	(0.31)	14.58	1.75	3.75	1.90	6.78
Artisan - Net	8.56	(0.10)	9.48	3.61	4.86	3.91	8.30
MSCI EAFE Index	8.47	(1.38)	12.99	3.52	5.00	3.00	7.32
MSCI EAFE Growth Index	11.09	(2.79)	10.95	4.88	6.01	3.92	7.68
TimesSquare - Net	9.18	(6.73)	9.12	(2.35)	5.82	--	--
MSCI EAFE Small Cap Index	4.92	(9.83)	12.07	0.87	5.86	4.58	9.45
MSCI EAFE Small Cap Growth Index	5.33	(12.70)	10.25	0.95	6.23	4.78	9.49
FIAM - Net	5.24	(9.74)	7.83	(1.04)	3.46	--	--
MSCI Emerging Markets Index	3.96	(10.70)	7.83	(0.91)	2.00	1.69	9.27

TimesSquare returns = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

FIAM returns = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

MCERA Non-US Equity Net Performance

Calendar Year Returns

	1 Qtr.									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
MCERA Non-US Equity - Net	8.71	(19.28)	5.28	10.79	23.52	(13.50)	28.92	(0.40)	(1.32)	(3.92)
MSCI ACWI ex-US IMI	6.56	(16.58)	8.53	11.12	21.63	(14.76)	27.81	4.41	(4.60)	(3.89)
Morgan Stanley - Net	10.99	(13.62)	4.70	12.00	20.93	(13.46)	25.42	(1.45)	0.52	(5.70)
MSCI EAFE Index	8.47	(14.45)	11.26	7.82	22.01	(13.79)	25.03	1.00	(0.81)	(4.90)
MSCI EAFE Value Index	5.93	(5.58)	10.89	(2.63)	16.09	(14.78)	21.44	5.02	(5.68)	(5.39)
Artisan - Net	8.56	(19.08)	8.59	8.09	29.62	(10.53)	31.24	(9.41)	(3.63)	(0.74)
MSCI EAFE Index	8.47	(14.45)	11.26	7.82	22.01	(13.79)	25.03	1.00	(0.81)	(4.90)
MSCI EAFE Growth Index	11.09	(22.95)	11.25	18.29	27.90	(12.83)	28.86	(3.04)	4.09	(4.43)
TimesSquare - Net	9.18	(26.82)	2.18	13.87	30.26	(24.41)	40.06	0.81	14.12	1.95
MSCI EAFE Small Cap Index	4.92	(21.39)	10.10	12.34	24.96	(17.89)	33.01	2.18	9.59	(4.95)
MSCI EAFE Small Cap Growth Index	5.33	(27.62)	8.36	22.50	27.67	(17.62)	35.85	(1.43)	13.99	(4.65)
FIAM - Net	5.24	(23.89)	(4.52)	25.94	22.62	(18.52)	44.97	11.95	(12.04)	2.53
MSCI Emerging Markets Index	3.96	(20.09)	(2.54)	18.31	18.44	(14.57)	37.28	11.19	(14.92)	(2.19)

TimesSquare returns = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

FIAM returns = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

MCERA Non-US Equity Net Performance

Rolling 3 Year Returns

	3 Yrs. Ending 3/31/23	3 Yrs. Ending 3/31/22	3 Yrs. Ending 3/31/21	3 Yrs. Ending 3/31/20	3 Yrs. Ending 3/31/19	3 Yrs. Ending 3/31/18	3 Yrs. Ending 3/31/17	3 Yrs. Ending 3/31/16	3 Yrs. Ending 3/31/15	3 Yrs. Ending 3/31/14
MCERA Non-US Equity - Net	10.01	5.75	5.96	(0.95)	6.88	6.89	0.93	3.03	9.31	9.33
MSCI ACWI ex-US IMI	12.20	7.87	6.51	(2.34)	7.94	6.75	0.82	0.76	6.52	4.32
Morgan Stanley - Net	12.05	6.04	6.22	(1.11)	6.81	5.29	0.32	1.92	8.64	9.07
MSCI EAFE Index	12.99	7.78	6.02	(1.82)	7.27	5.55	0.50	2.23	9.02	7.21
MSCI EAFE Value Index	14.58	5.24	1.85	(6.65)	6.90	4.30	(0.61)	0.59	9.03	7.16
Artisan - Net	9.48	6.59	7.92	3.14	6.81	3.24	(1.30)	2.93	12.19	11.61
MSCI EAFE Index	12.99	7.78	6.02	(1.82)	7.27	5.55	0.50	2.23	9.02	7.21
MSCI EAFE Growth Index	10.95	9.78	9.84	2.98	7.61	6.73	1.50	3.80	8.96	7.22
TimesSquare - Net	9.12	4.42	2.80	(4.04)	6.20	16.05	7.86	11.45	13.77	--
MSCI EAFE Small Cap Index	12.07	8.51	6.32	(2.88)	7.50	12.25	3.60	7.29	10.67	9.40
MSCI EAFE Small Cap Growth Index	10.25	9.61	8.78	(0.22)	7.81	13.57	4.30	8.31	10.18	8.96
FIAM - Net	7.83	5.67	8.42	(0.62)	12.25	12.07	4.59	(2.27)	1.70	(4.23)
MSCI Emerging Markets Index	7.83	4.94	6.48	(1.62)	10.68	8.81	1.18	(4.50)	0.31	(2.86)

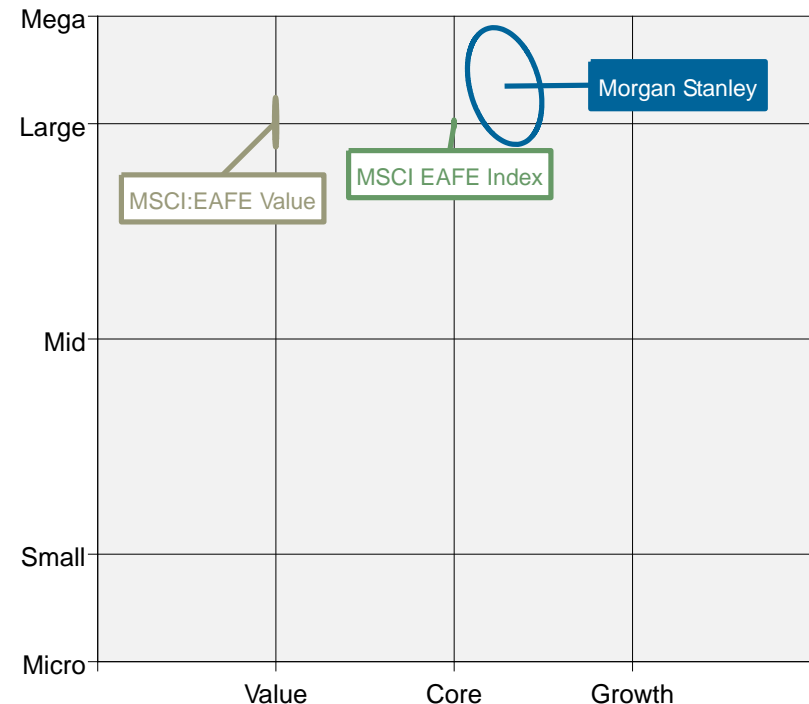
TimesSquare returns = TimesSquare composite returns from 1Q2012 to 2Q2019. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.85%.

FIAM returns = FIAM composite returns from 3Q2008 to 3Q2021. MCERA's portfolio returns thereafter. Fee used to calculate net of fee returns: 0.58%.

Morgan Stanley Investment Management

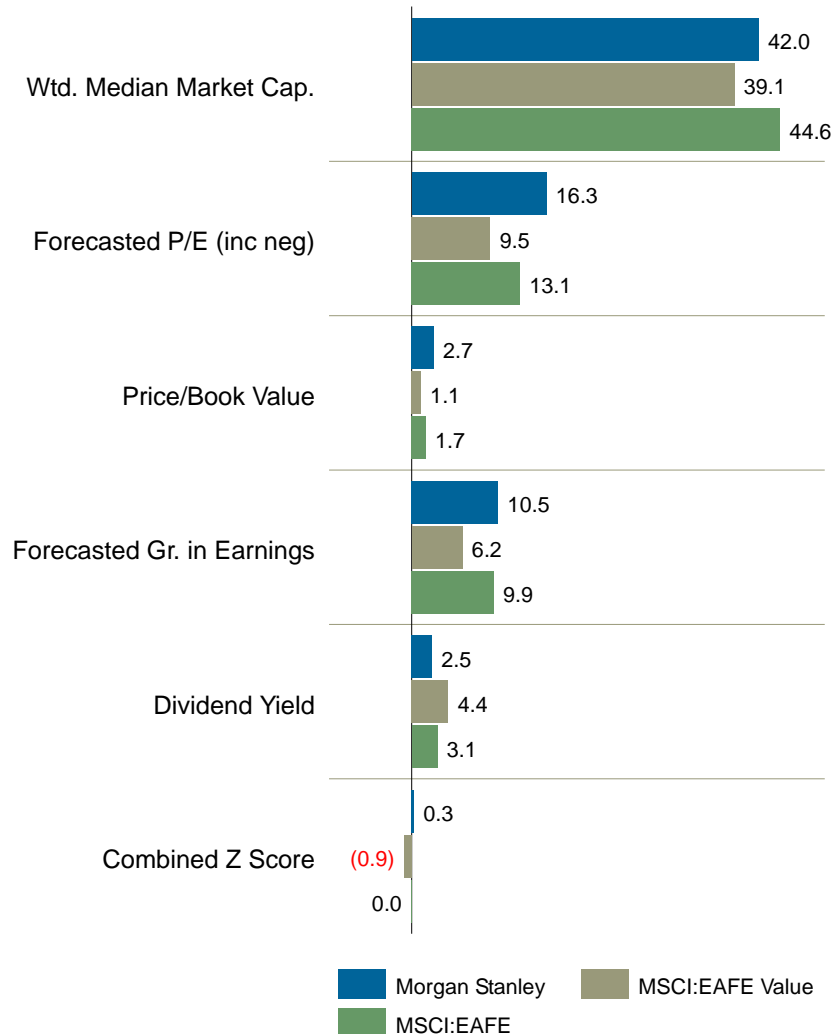
- Hired by MCERA in 2001
- 30% of Non-US equity structure (Non-US Developed Value)
- Actively managed portfolio
- The Morgan Stanley Non-US Equity portfolio is fundamentally based and focused on absolute return through buying superior franchises at the right price.
- The team is focused on understanding the franchise (dominant market share with effective barriers to entry), financial strength (improving returns on operating capital employed), and management (allocation of capital and compensation).
- They seek to generate excess returns by investing in two types of companies: high quality compounders and value opportunities.
- Approximate Annual Fee: 0.55% (based on 3/31/23 assets)
- Fee Schedule:
 - 0.75% on the first \$25 million
 - 0.65% on the next \$50 million
 - 0.60% on the next \$25 million
 - 0.45% on the balance over \$100 million

**Non-US Equity Style Map
for 10 Years Ended March 31, 2023**

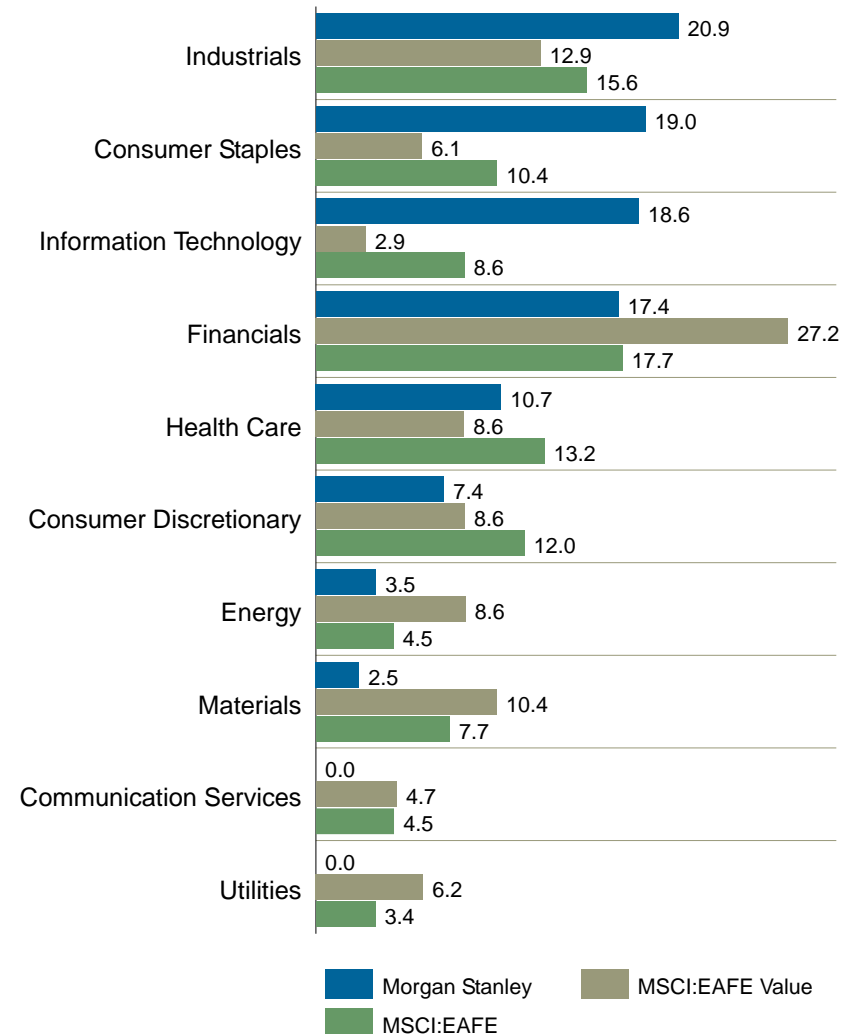


Morgan Stanley

Portfolio Characteristics as of March 31, 2023

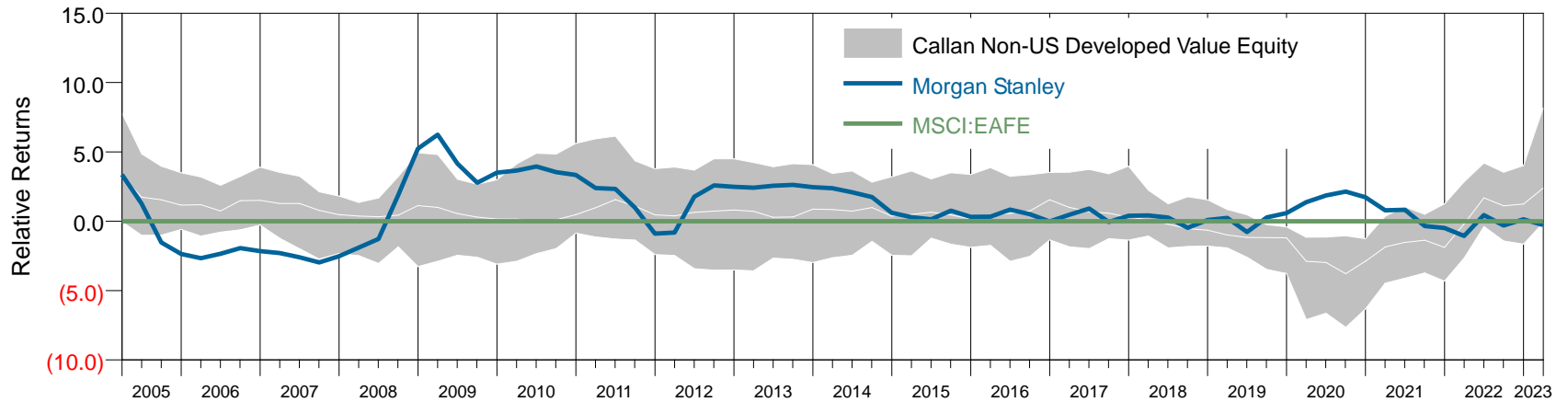


Sector Allocation as of March 31, 2023

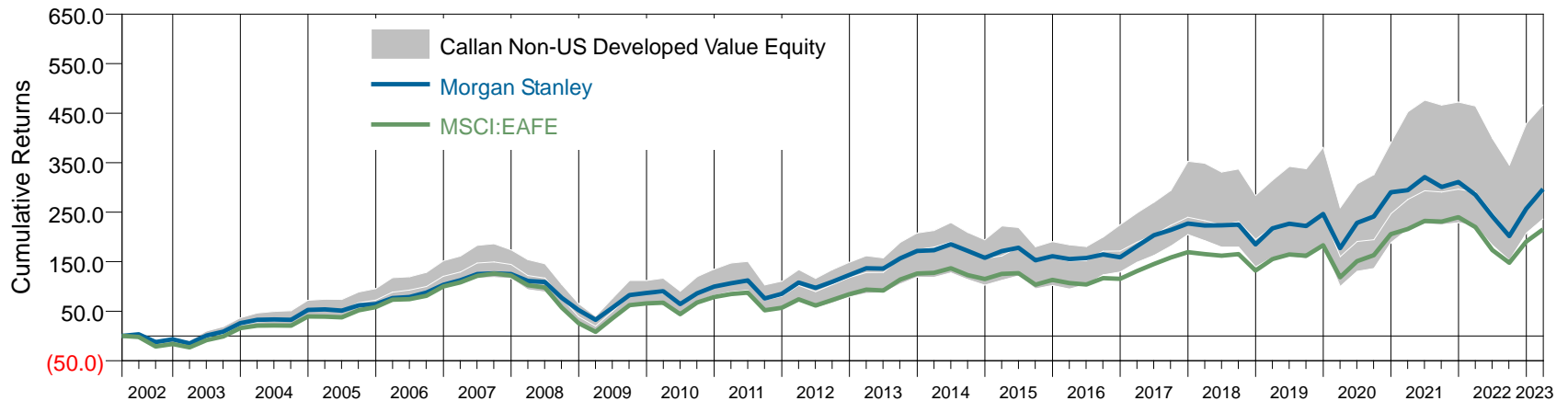


Morgan Stanley

Rolling 3 Year Relative Returns vs. MSCI:EAFE
for 18 Years Ended March 31, 2023

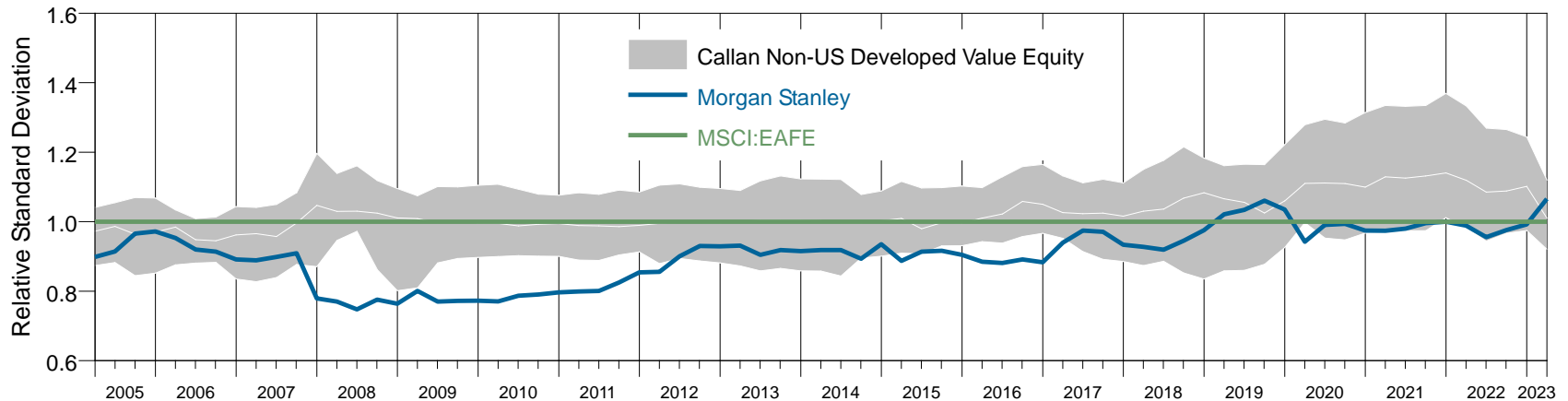


Cumulative Returns vs. MSCI:EAFE
for 21 Years Ended March 31, 2023

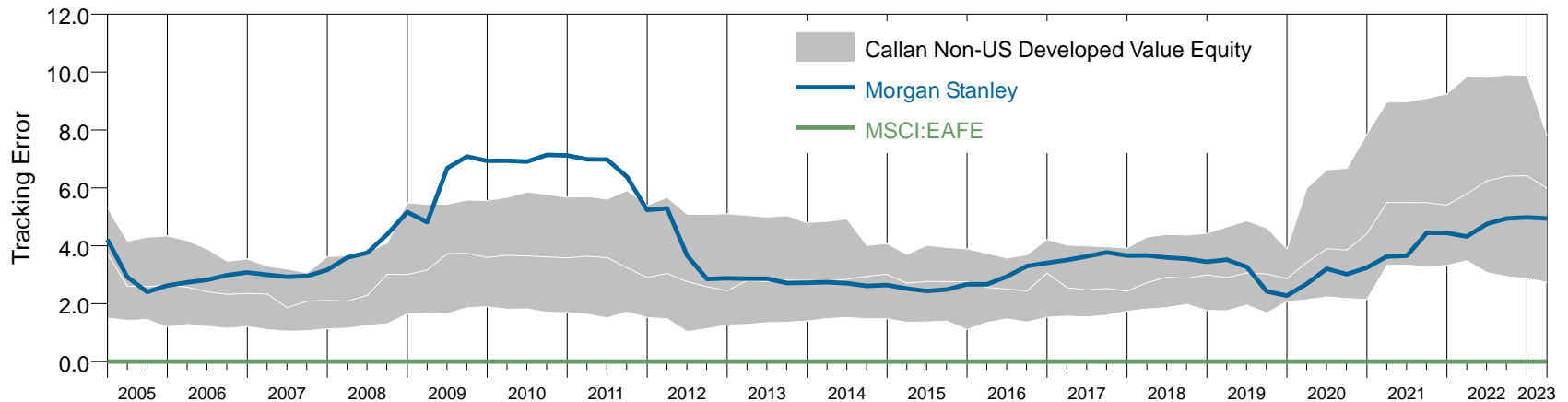


Morgan Stanley

Rolling 3 Year Relative Standard Deviation vs. MSCI:EAFE
for 18 Years Ended March 31, 2023

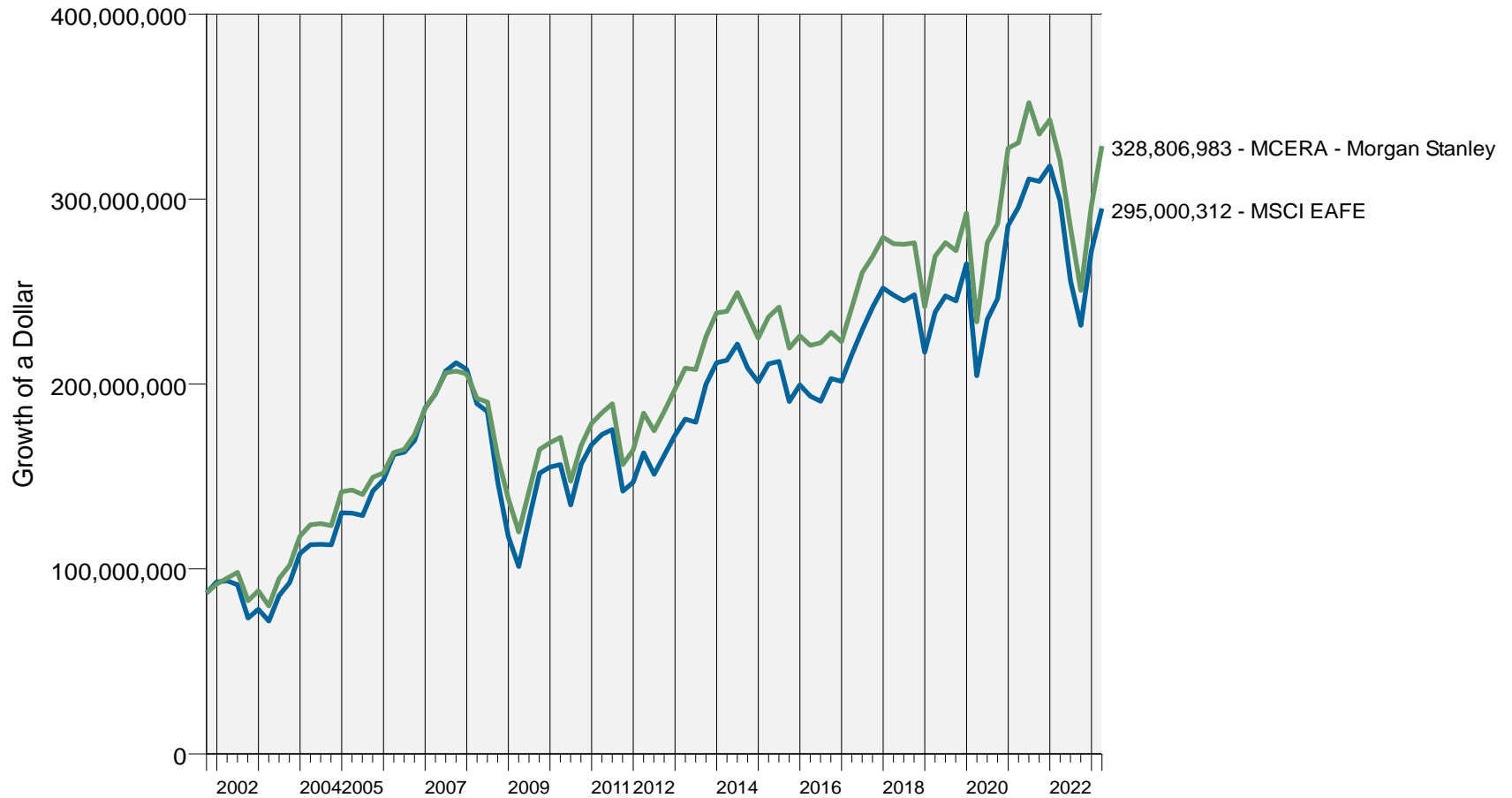


Rolling 3 Year Tracking Error vs. MSCI:EAFE
for 18 Years Ended March 31, 2023



Morgan Stanley – MCERA Performance

Net of Fee Growth of a Dollar for a \$87,000,000 Mandate
for 21 1/2 Years Ended March 31, 2023

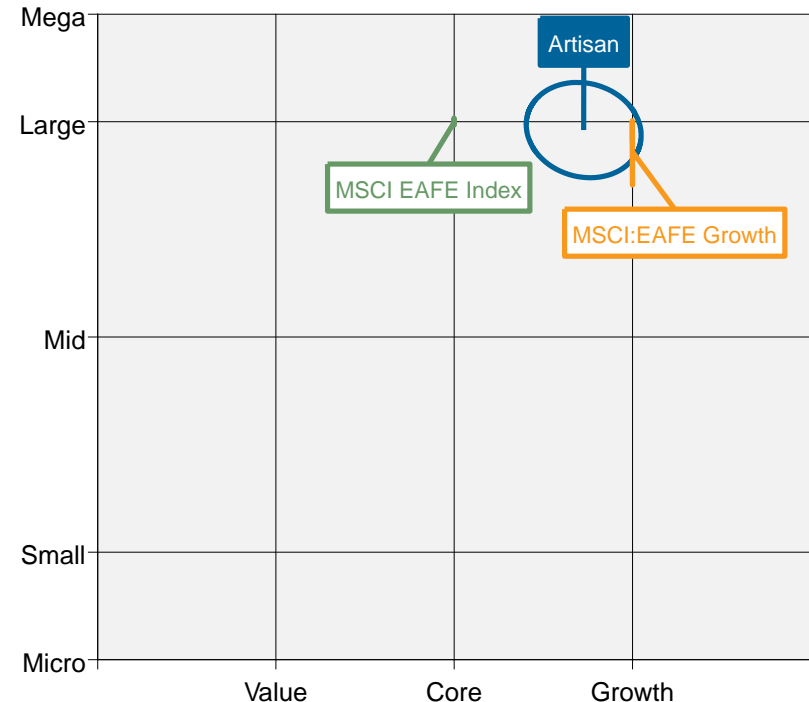


MCERA Inception: \$87 million in 3Q 2001

Artisan Partners

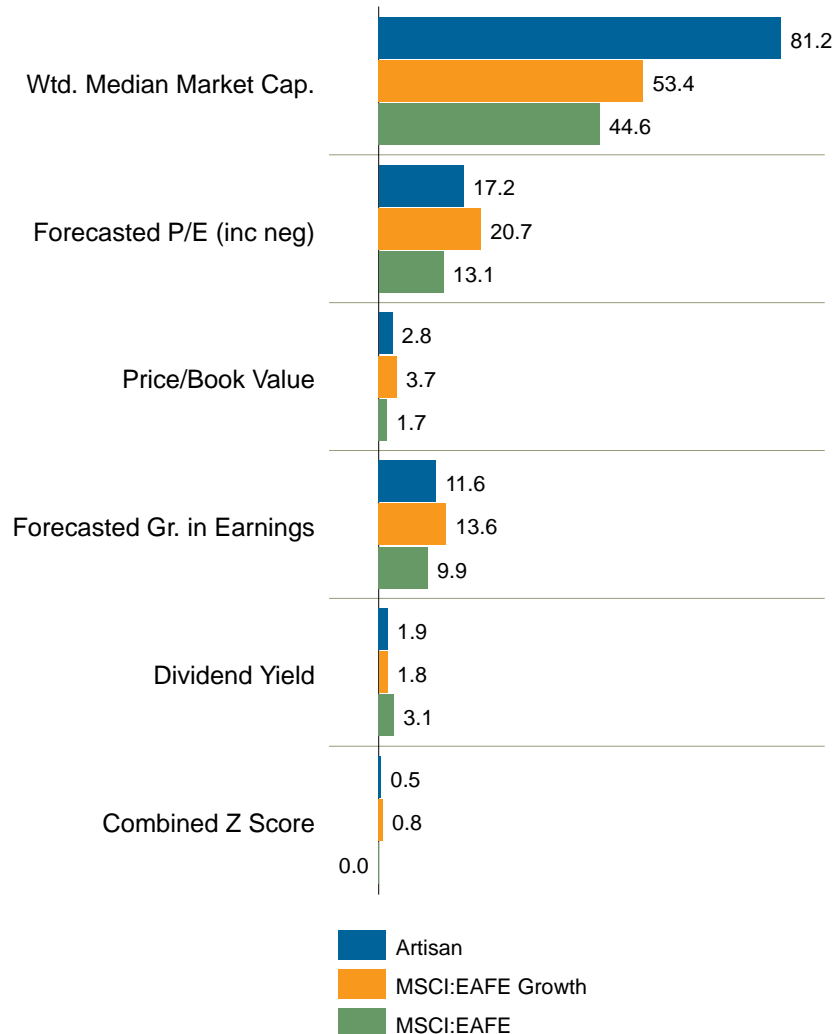
- Hired by MCERA in 2003
- 30% of Non-US equity structure (Non-US Developed Growth)
- Actively managed portfolio
- Artisan employs a bottom-up stock selection process focused on identifying long-term growth opportunities. The team seeks to invest in attractively valued companies that are industry leaders and have meaningful exposure to, and will benefit from, long-term secular growth trends.
- The team identifies global or regional investment themes and corresponding companies that are likely to benefit from their exposure to above trend growth rates. Current themes include: changing demographics, developing technology, environment, financial services, outsourcing, and infrastructure.
- Annual Fee: 0.80%
- Fee Schedule:
 - 0.80% on all assets

**Non-US Equity Style Map
for 10 Years Ended March 31, 2023**

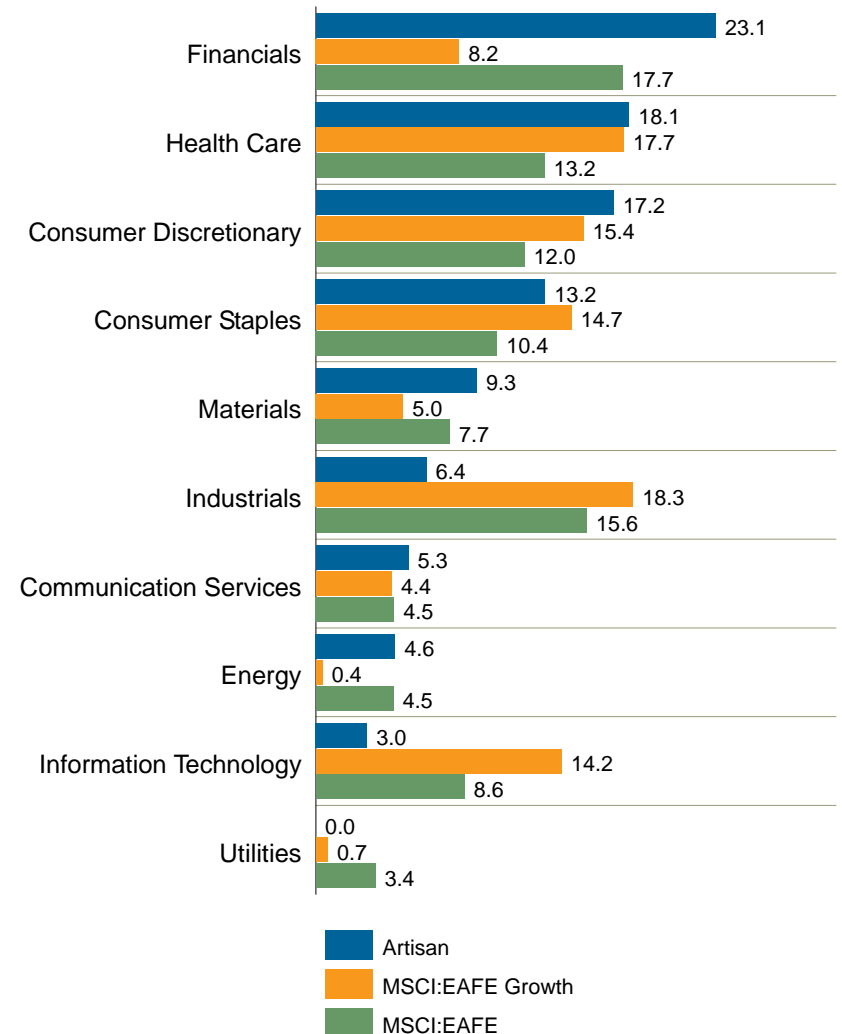


Artisan

Portfolio Characteristics as of March 31, 2023

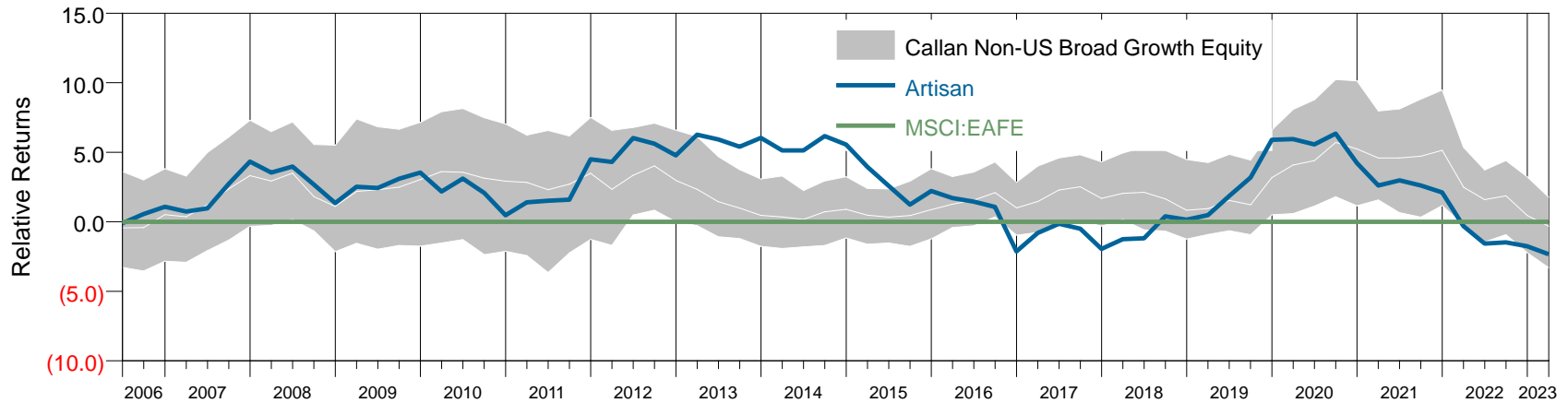


Sector Allocation as of March 31, 2023

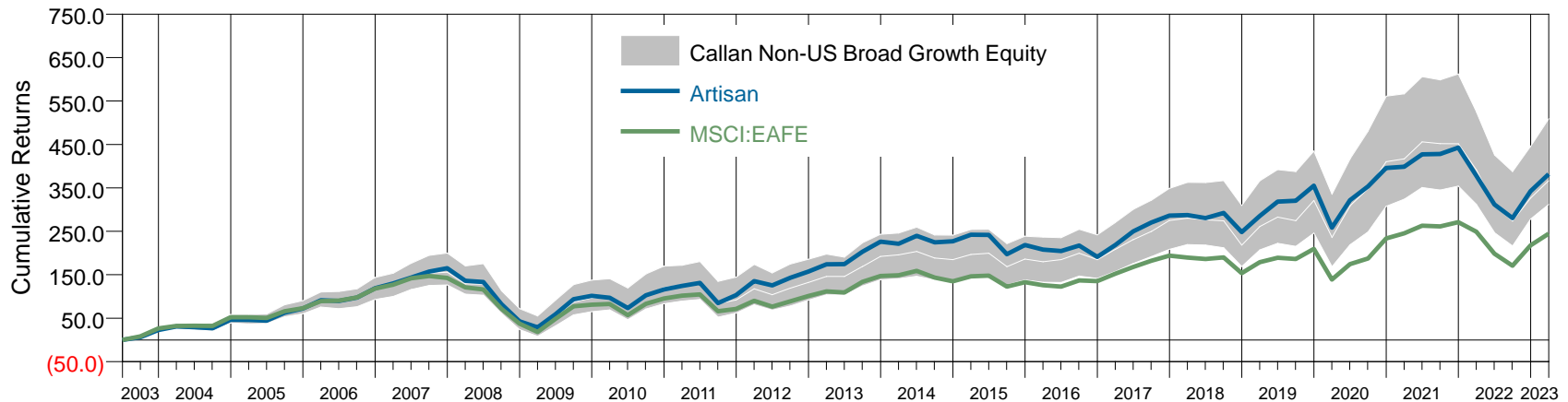


Artisan

Rolling 3 Year Relative Returns vs. MSCI:EAFE
for 16 3/4 Years Ended March 31, 2023

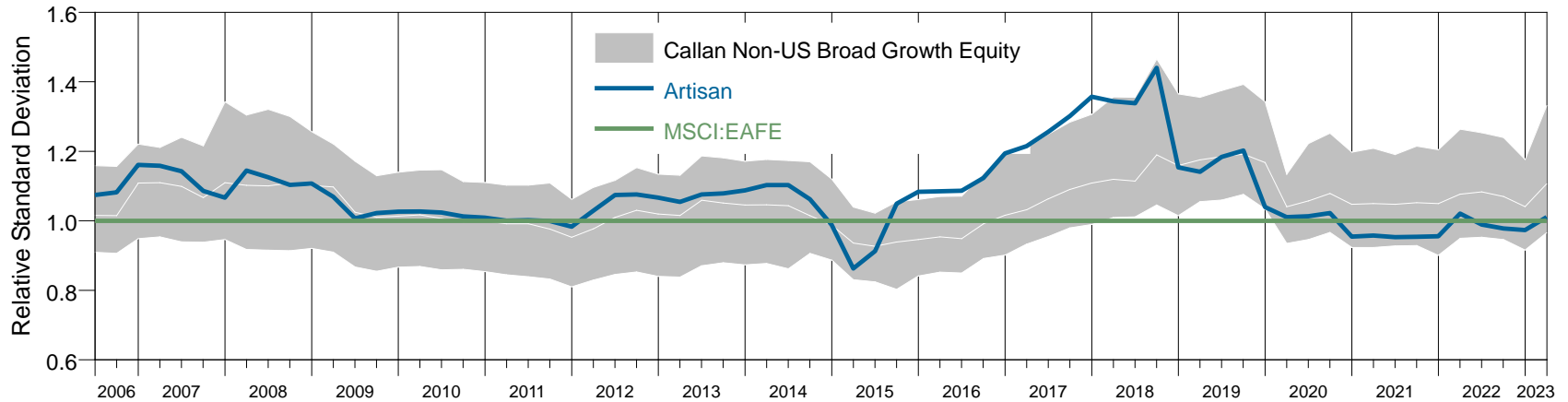


Cumulative Returns vs. MSCI:EAFE
for 19 3/4 Years Ended March 31, 2023

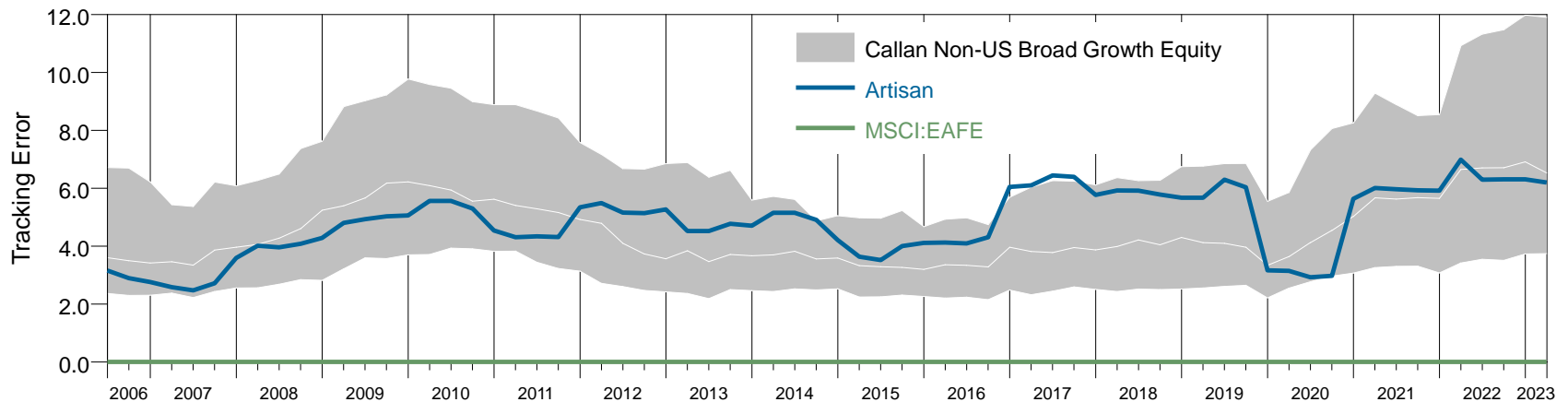


Artisan

Rolling 3 Year Relative Standard Deviation vs. MSCI:EAFE
for 16 3/4 Years Ended March 31, 2023

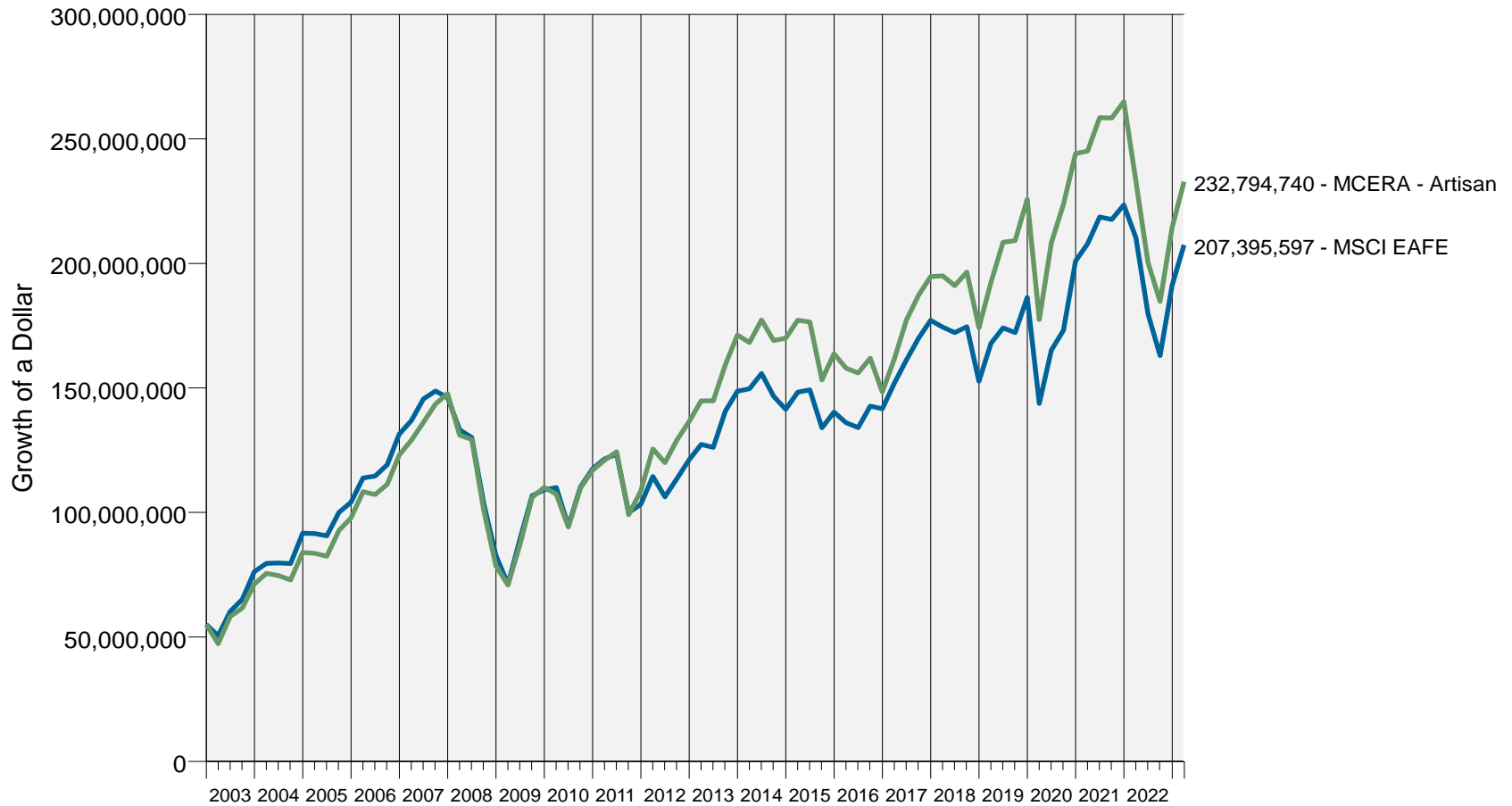


Rolling 3 Year Tracking Error vs. MSCI:EAFE
for 16 3/4 Years Ended March 31, 2023



Artisan – MCERA Performance

Net of Fee Growth of a Dollar for a \$55,000,000 Mandate
for 20 1/4 Years Ended March 31, 2023

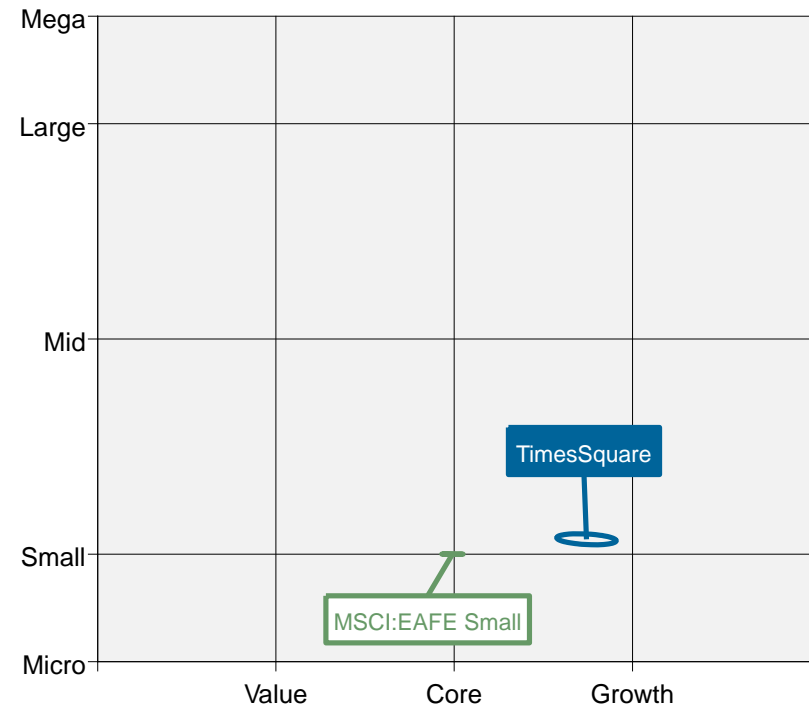


MCERA Inception: \$55 million in 4Q 2002

TimesSquare Capital Management

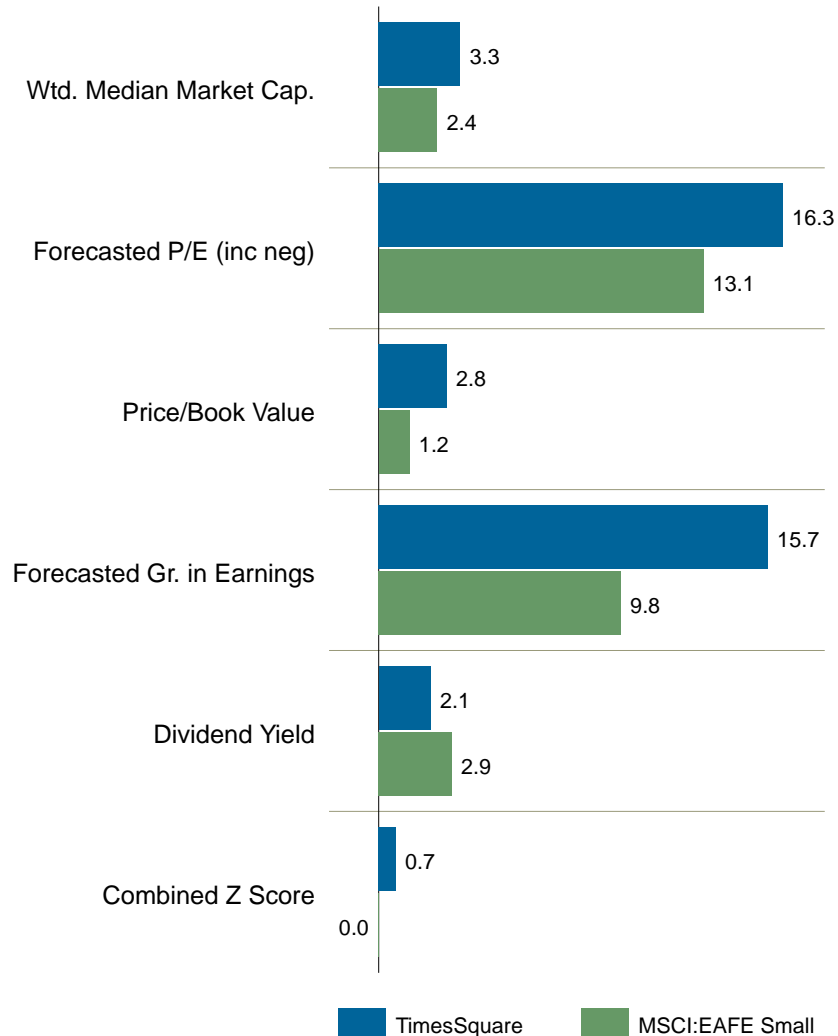
- Hired by MCERA in 2019
- 20% of Non-US equity structure (Non-US Small Cap)
- Actively managed portfolio
- TimesSquare uses a bottom-up, fundamental approach to select stocks with high quality management teams and superior business models.
- Their initial universe consists of companies with market capitalizations less than \$5 billion at the time of purchase and exhibits qualities such as revenue growth, profitability hurdles, and return on capital.
- Annual Fee: 0.85%
- Fee Schedule:
 - 0.85% on all assets

**Non-US Equity Style Map
for 10 Years Ended March 31, 2023**

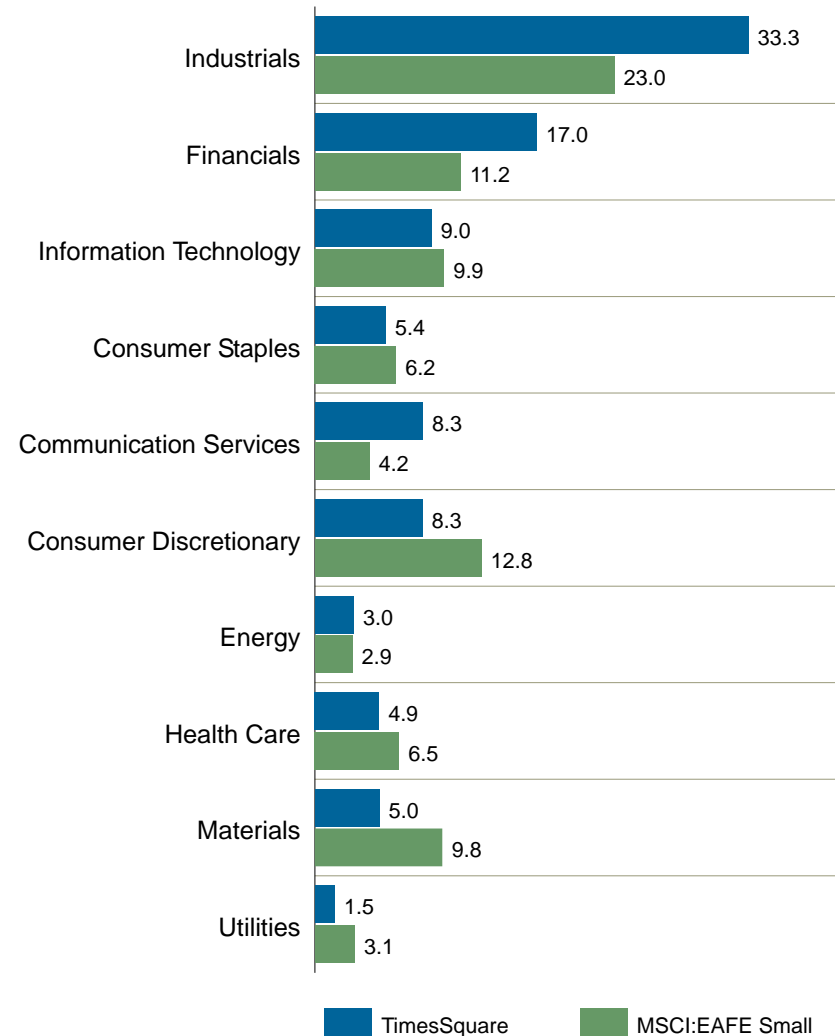


TimesSquare

Portfolio Characteristics as of March 31, 2023

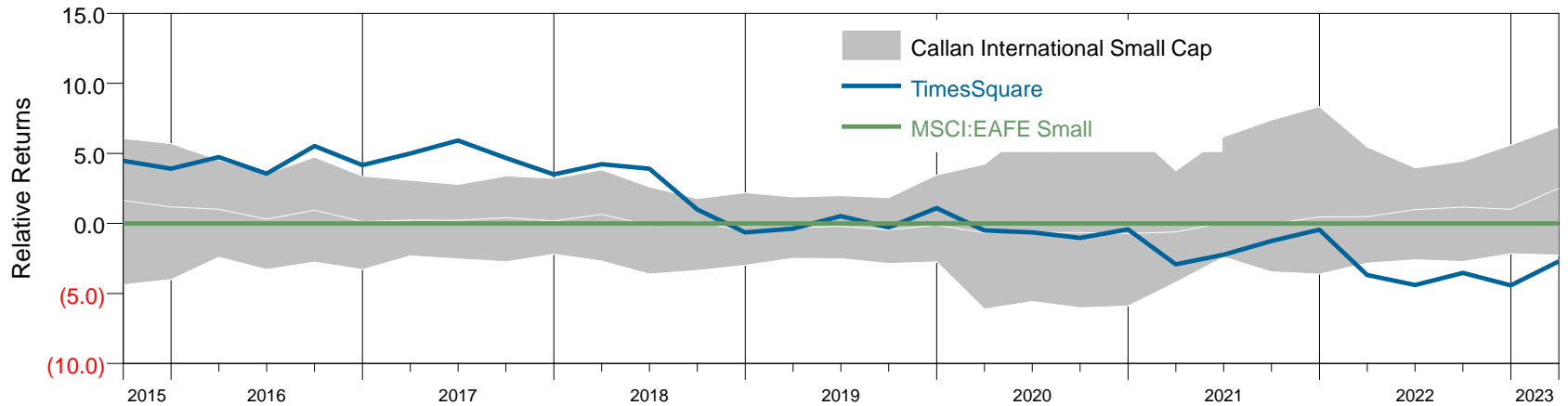


Sector Allocation as of March 31, 2023

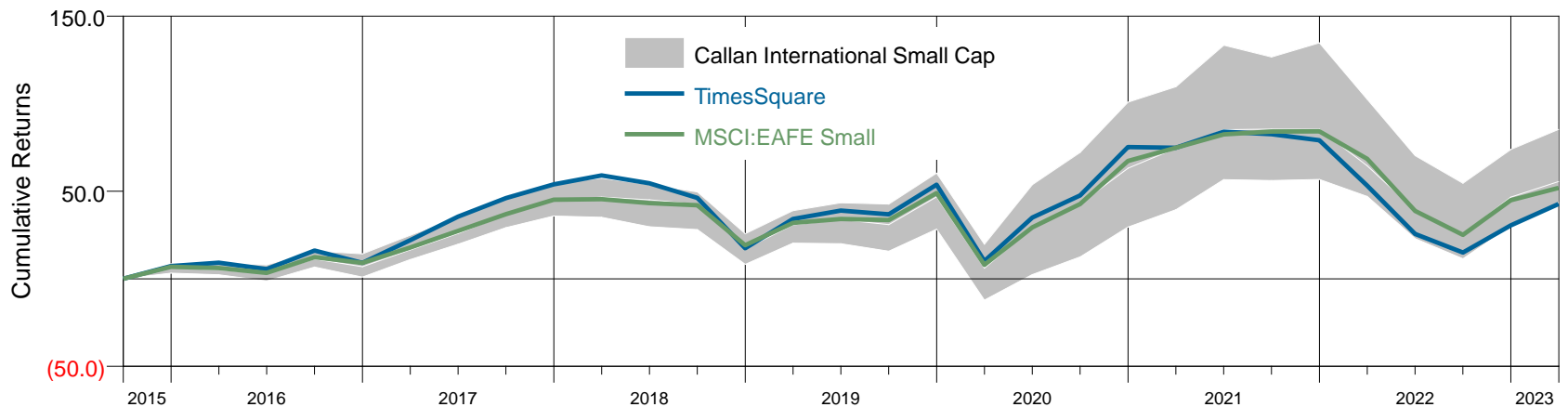


TimesSquare

Rolling 3 Year Relative Returns vs. MSCI:EAFE Small
for 7 1/2 Years Ended March 31, 2023

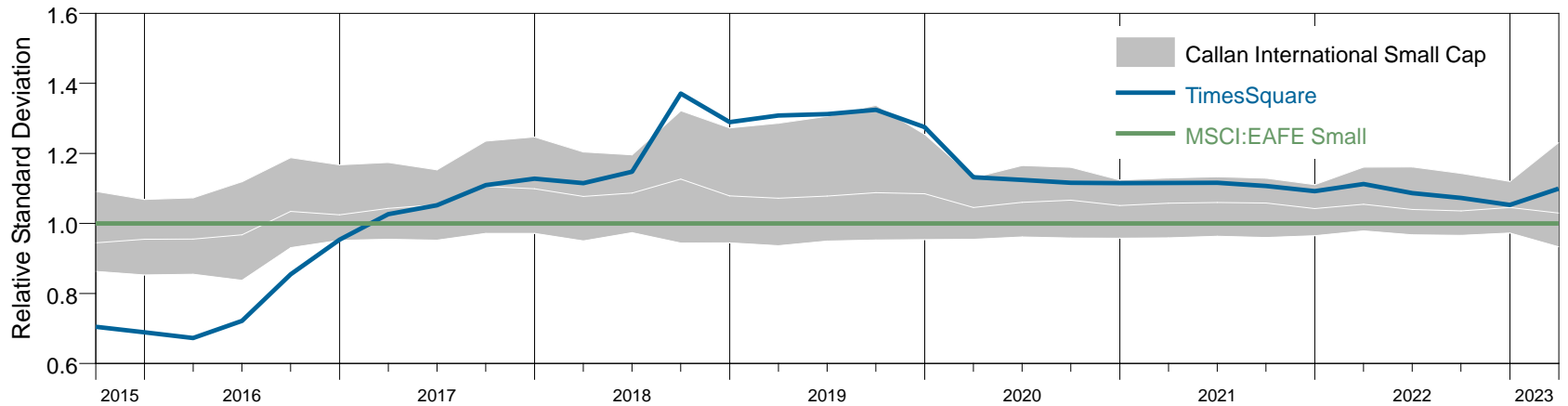


Cumulative Returns vs. MSCI:EAFE
for 7 1/2 Years Ended March 31, 2023

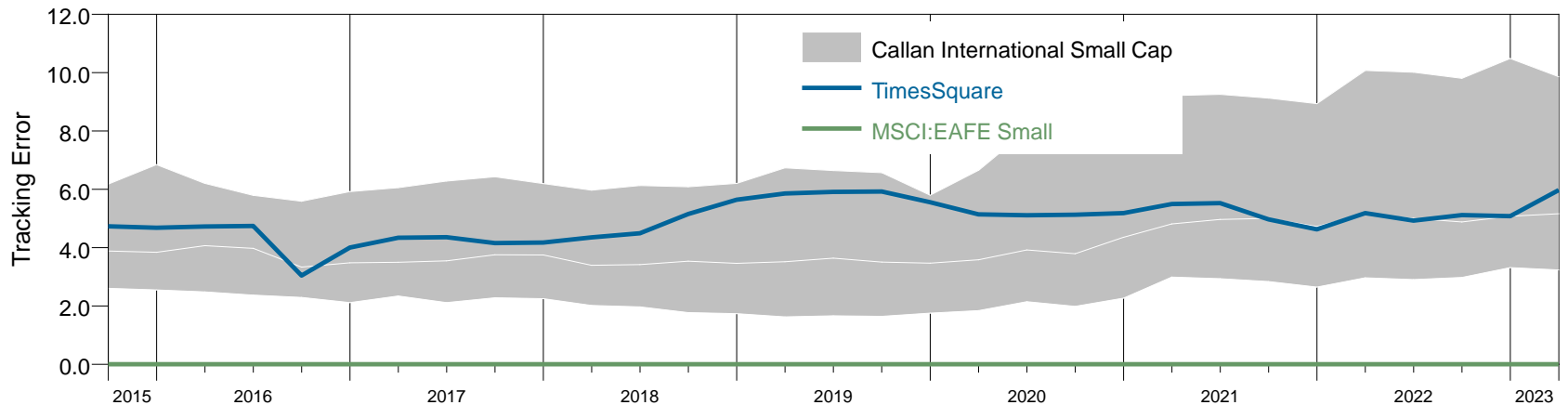


TimesSquare

Rolling 3 Year Relative Standard Deviation vs. MSCI:EAFE Small
for 7 1/2 Years Ended March 31, 2023



Rolling 3 Year Tracking Error vs. MSCI:EAFE Small
for 7 1/2 Years Ended March 31, 2023



TimesSquare – MCERA Performance

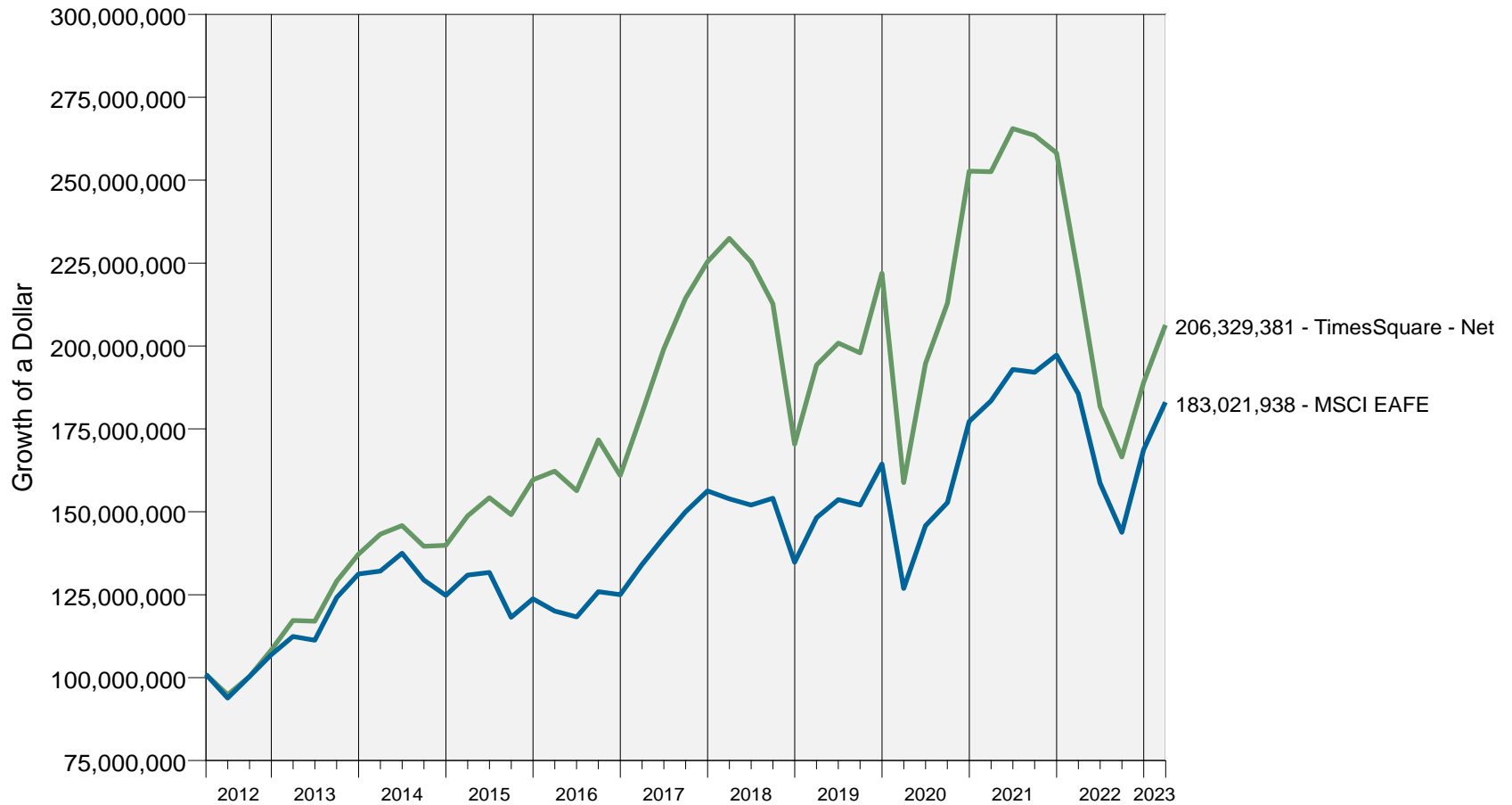
Net of Fee Growth of a Dollar for a \$101,000,000 Mandate
for 3 3/4 Years Ended March 31, 2023



MCERA Inception: \$101 million in 2Q 2019

TimesSquare – Linked Performance to Composite

Net of Fee Growth of a Dollar for a \$101,000,000 Mandate
for 11 Years Ended March 31, 2023

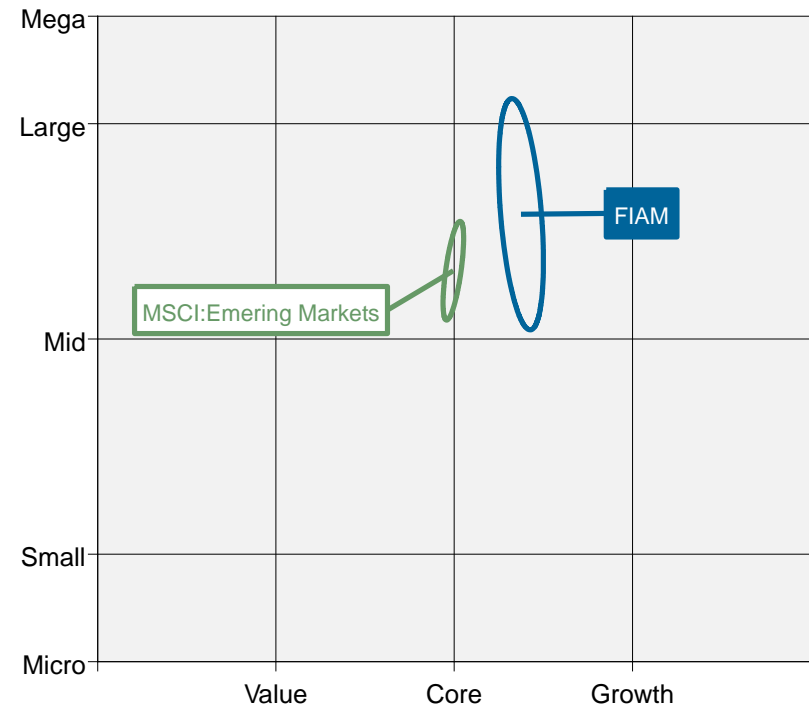


MCERA returns linked to product composite for longer history. Product composite performance from 1Q 2012 to 2Q 2019, MCERA performance thereafter.
MCERA fee (0.85%) deducted from gross composite returns.

Fidelity Institutional Asset Management (FIAM)

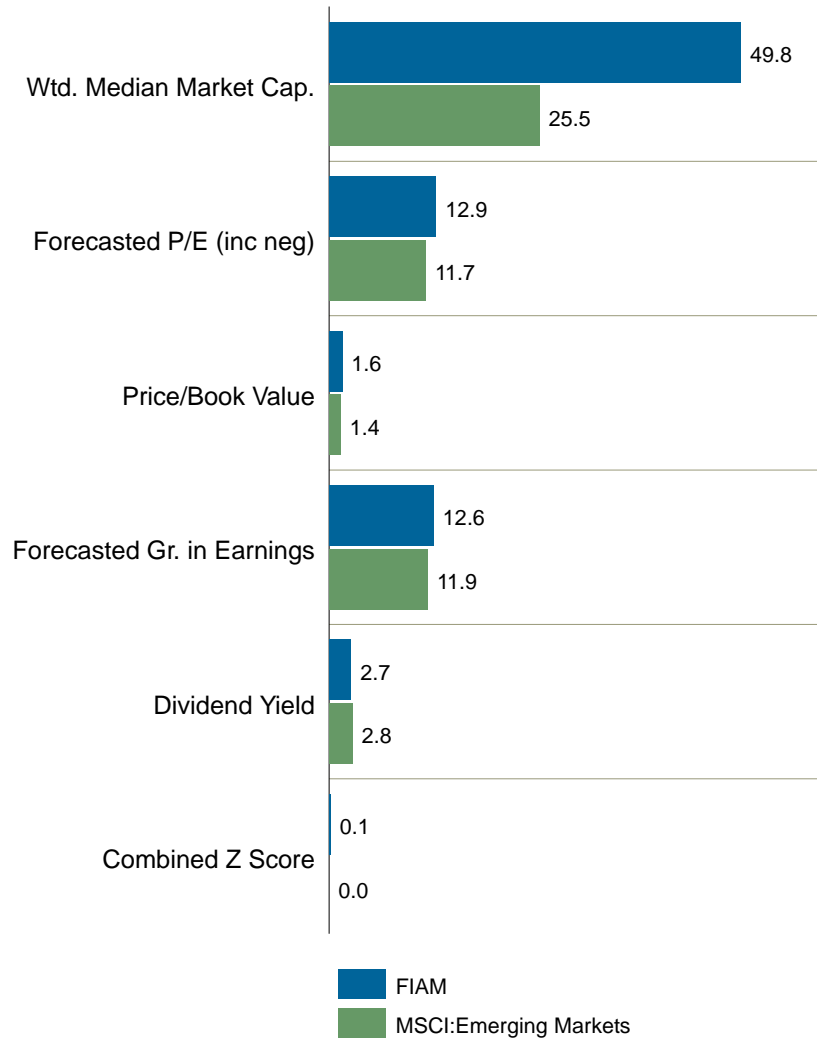
- Hired by MCERA in 2021
- 20% of Non-US equity structure (Emerging Markets)
- Actively managed portfolio
- FIAM employs a systematic process to construct a risk-controlled portfolio.
- The team leverages the research platform by optimizing the strategy with highly rated securities held in analyst-run portfolios.
- Country and sector exposures are +/-5% relative to the benchmark. Excess return is generated primarily through active stock selection versus sector or regional bets.
- Approximate Annual Fee: 0.58% (based on 3/31/23 assets)
- Fee Schedule:
 - 0.60% on the first \$50 million
 - 0.55% on the next \$150 million
 - 0.45% on the balance over \$200 million

**Non-US Equity Style Map
for 10 Years Ended March 31, 2023**

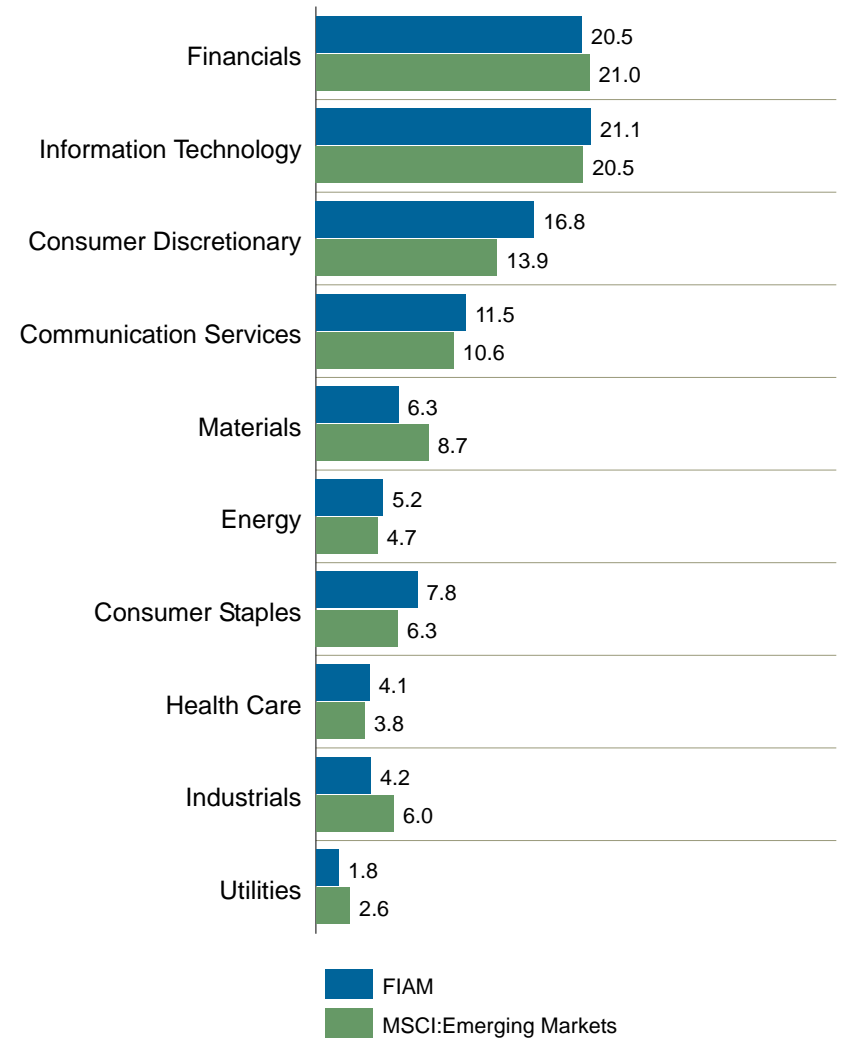


FIAM

Portfolio Characteristics as of March 31, 2023

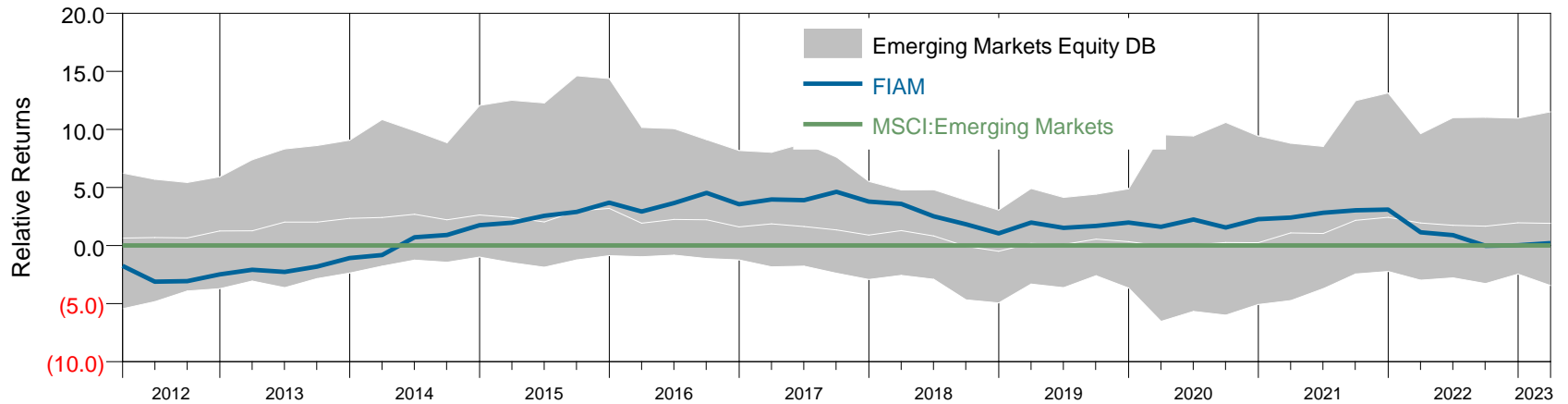


Sector Allocation as of March 31, 2023

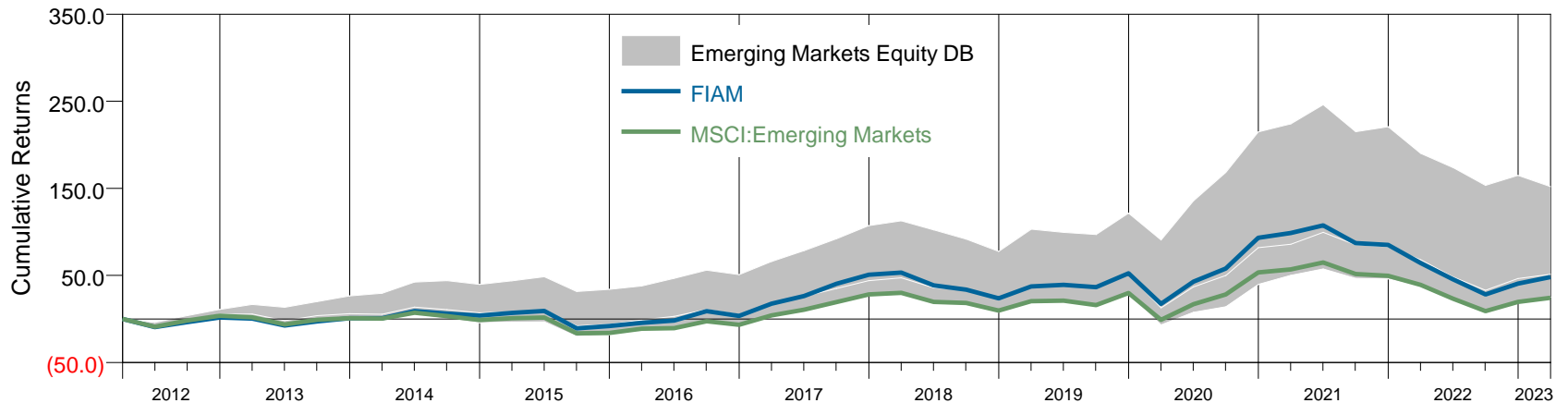


FIAM

Rolling 3 Year Relative Returns vs. MSCI:EM
for 11 Years Ended March 31, 2023

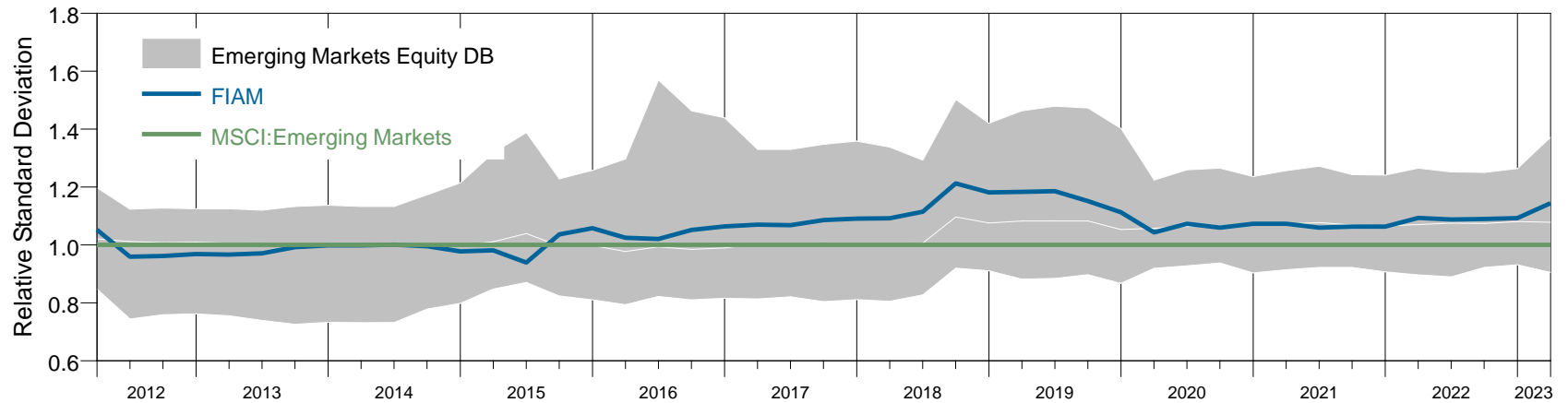


Cumulative Returns vs. MSCI:EAFE
for 11 Years Ended March 31, 2023

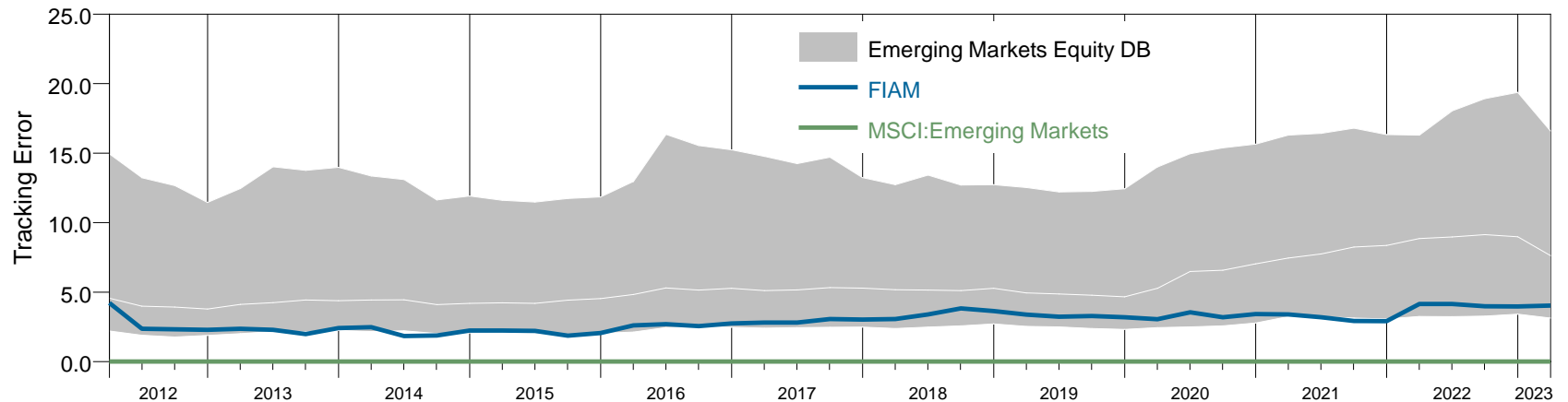


FIAM

Rolling 3 Year Relative Standard Deviation vs. MSCI:EM
for 11 Years Ended March 31, 2023

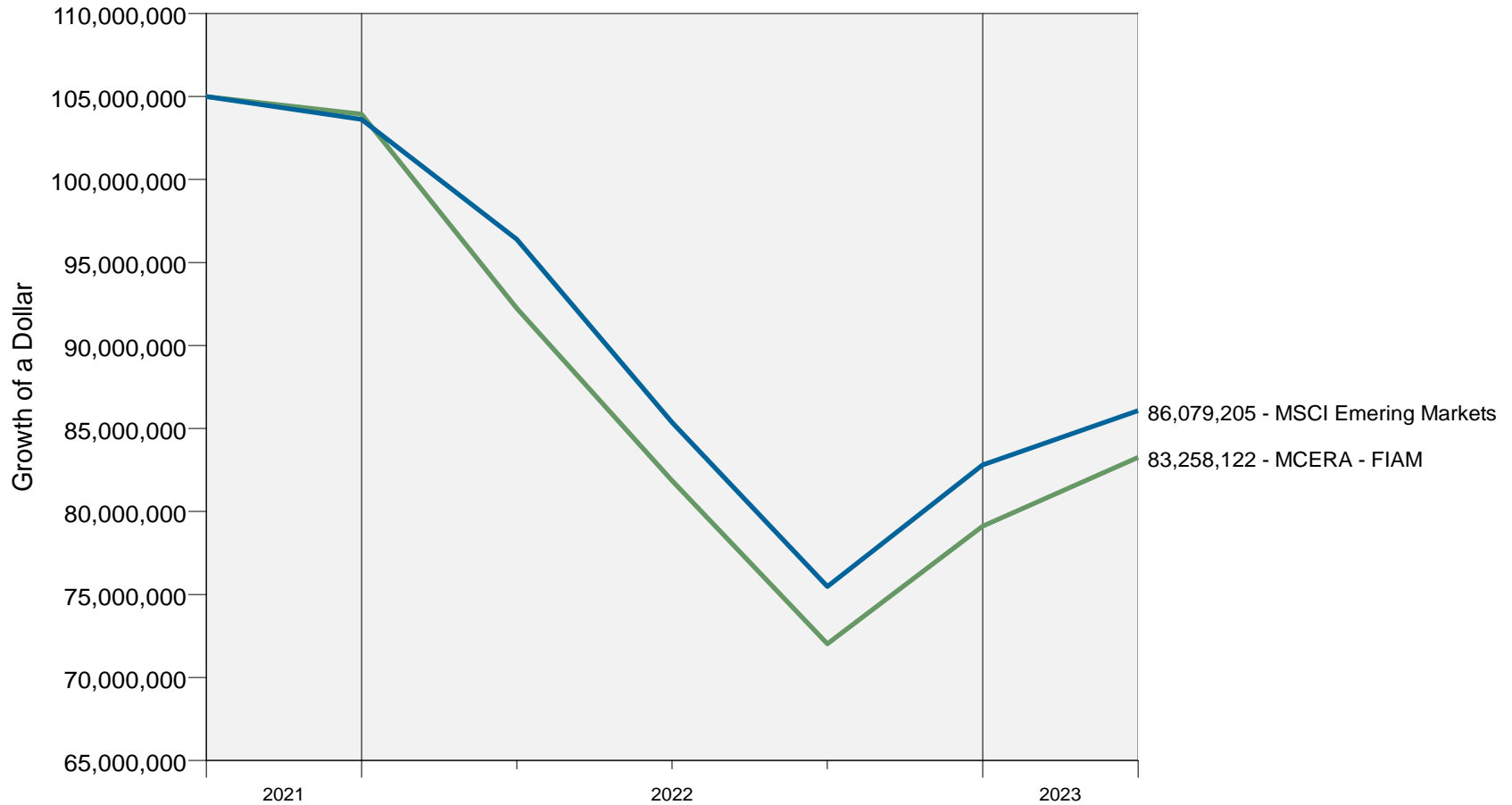


Rolling 3 Year Tracking Error vs. MSCI:EM
for 11 Years Ended March 31, 2023



FIAM – MCERA Performance

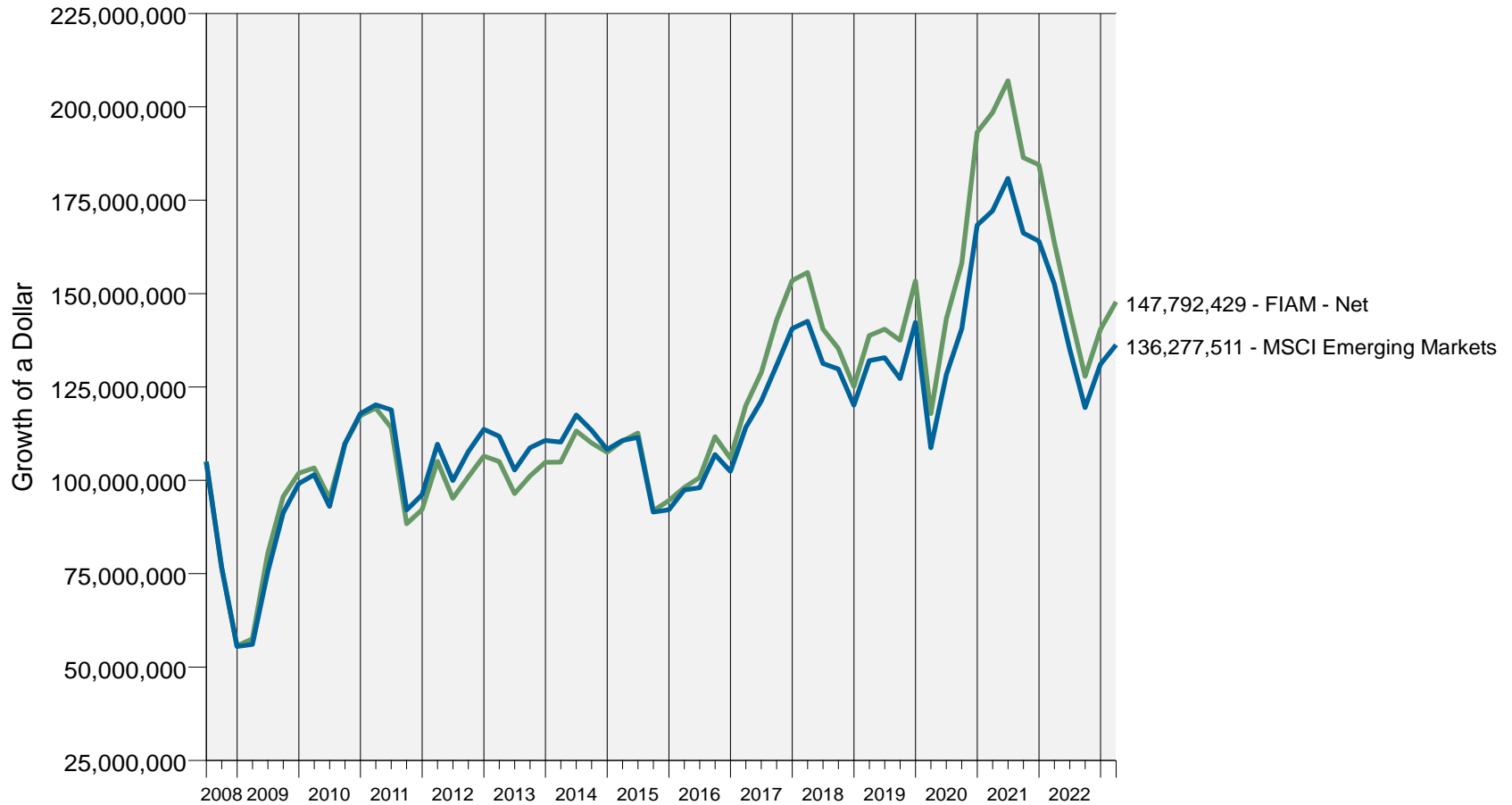
Net of Fee Growth of a Dollar for a \$105,000,000 Mandate
for 1 1/2 Years Ended March 31, 2023



MCERA Inception: \$105 million in 3Q 2021

FIAM – Linked Performance to Composite

**Net of Fee Growth of a Dollar for a \$105,000,000 Mandate
for Since Inception Ended March 31, 2023**



MCERA returns linked to product composite for longer history. Product composite performance from 3Q 2008 to 3Q 2021, MCERA performance thereafter.
MCERA current fee (0.58%) deducted from gross composite returns.

Holding Overlap between Portfolios

Holding Overlap for Period Ended March 31, 2023

FIAM Select Emerging Equity	6%	4%	16%	7%	0%	0%		
(2)			(4)		(0)			
*TimesSquare Intl Small Cap	1%	1%	0%	0%		0%	0%	
(1)			(0)			(0)		
Artisan Partners Growth	19%	18%			0%	0%	7%	16%
(10)					(0)		(4)	
Morgan Stanley Value			18%	19%	1%	1%	4%	6%
			(10)		(1)		(2)	
	Morgan Stanley Value		Artisan Partners Growth		*TimesSquare Intl Small Cap		FIAM Select Emerging Equity	

The holding overlap matrix shows the degree of individual stock overlap between portfolios.

- The number in parentheses in the lower left corner of each box is the number of stocks that a given portfolio pair have in common.
- The percentage in the upper left corner is the total weight of these overlapping holdings in the y-axis (vertical) portfolio.
- The percentage in the lower right corner is the total weight of those same stocks in the x-axis (horizontal) portfolio.

Total number of stocks in each portfolio:

- Morgan Stanley: 62
- Artisan: 53
- TimesSquare: 75
- FIAM: 125

Morgan Stanley and Artisan have the most overlap. They hold 10 names that are the same.

Conclusion

- Callan is comfortable with the target allocations within the Non-US equity:
 - 30% Non-US Developed Value
 - 30% Non-US Developed Growth
 - 20% Non-US Small Cap
 - 20% Emerging Markets
- However, there currently is a pronounced growth bias within the Non-US equity allocation given managers' styles and processes that will increase the tracking error and potentially display more pronounced periods of over- or underperformance when growth is in or out of favor.
- MCERA could consider alternative portfolio structures to reduce risk vs. benchmark or to reduce fees.

Alternative Portfolio Structures

1. Do nothing

- Leaving the structure unchanged is a viable option if the Board is comfortable with the managers and growth bias.

2. Keep current structure, but add some passive exposure

- Passive exposure can help moderate the overall style bias and add lower cost market exposure.

3. Replace Morgan Stanley with a more traditional non-US developed value manager

- Morgan Stanley's focus on high quality, more defensive stocks does cause it to look and act differently from traditional value managers who are generally looking to buy stocks trading at a discount.
- Morgan Stanley's differentiation from traditional value is the largest factor is the portfolio's overall growth bias.

4. Replace Artisan

- If concerned with recent underperformance, MCERA could conduct a replacement search.

Callan

Appendix

Global ex-U.S. Equity Broad Style vs. MSCI ACWI ex USA

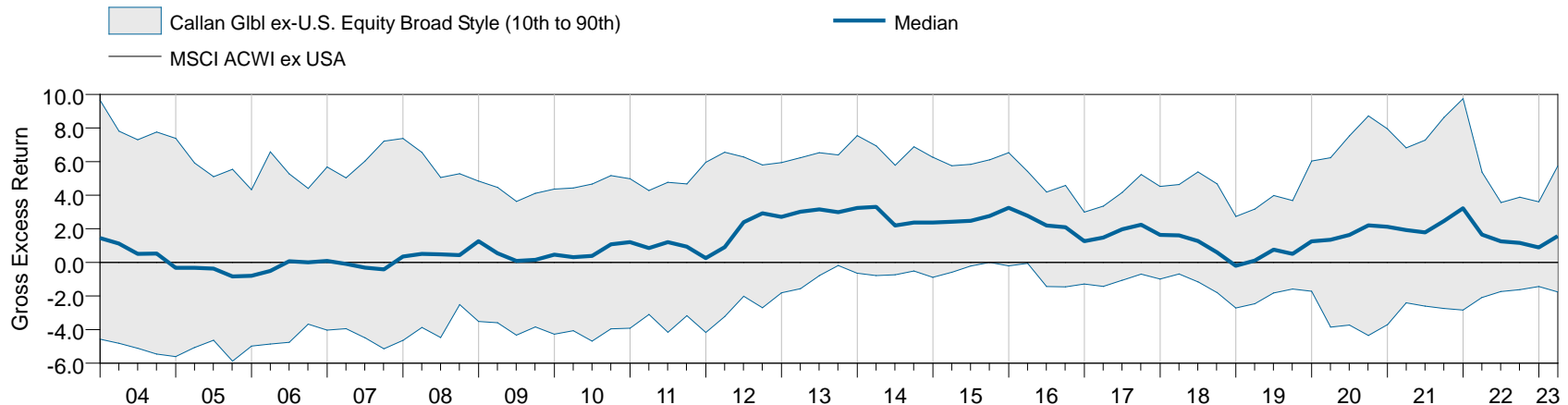
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	73%	70%	64%	62%	62%	62%	62%	61%	60%	58%
45th Percentile	83%	82%	81%	81%	81%	79%	77%	75%	74%	69%
40th Percentile	95%	94%	92%	91%	90%	86%	86%	84%	84%	83%
35th Percentile	100%	99%	99%	99%	97%	97%	97%	96%	95%	94%
30th Percentile	100%	100%	100%	100%	100%	100%	100%	99%	99%	99%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.25%

Rolling 3-Year Gross Excess Return relative to MSCI ACWI ex USA for 19 1/4 Years ended March 31, 2023



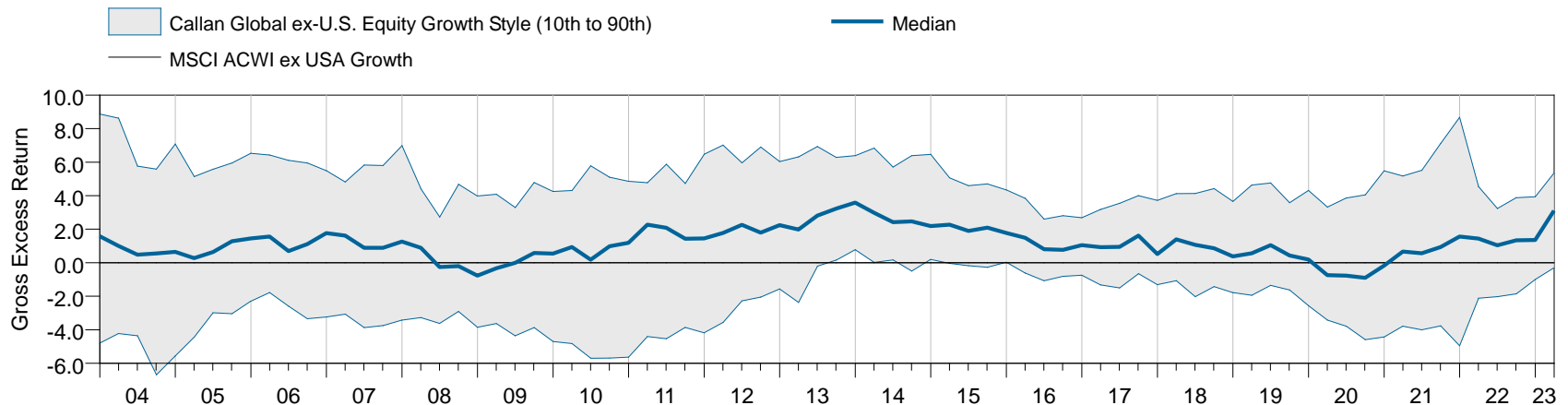
Global ex-U.S. Equity Growth Style vs. MSCI ACWI ex USA Growth

How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	82%	81%	78%	73%	70%	68%	68%	66%	65%	60%
45th Percentile	88%	88%	88%	87%	84%	79%	79%	78%	74%	71%
40th Percentile	95%	94%	94%	94%	94%	92%	91%	91%	91%	90%
35th Percentile	99%	99%	99%	99%	97%	97%	96%	96%	95%	95%
30th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager: 1.15%

Rolling 3-Year Gross Excess Return relative to MSCI ACWI ex USA Growth for 19 1/4 Years ended March 31, 2023



Global ex-U.S. Equity Value Style vs. MSCI ACWI ex USA Value

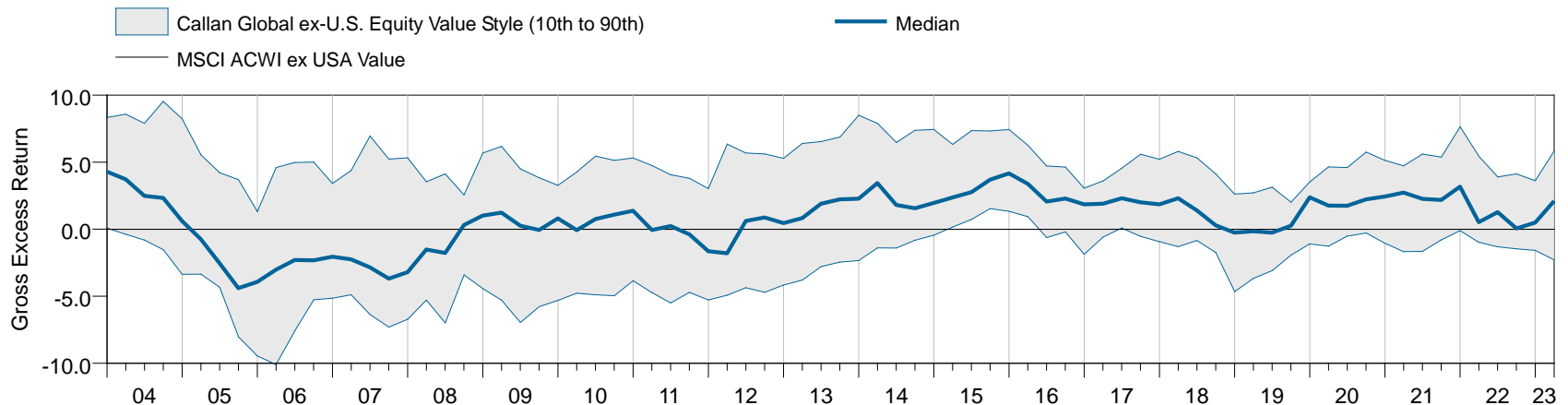
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	62%	60%	58%	58%	56%	56%	56%	55%	52%	51%
45th Percentile	69%	68%	68%	68%	65%	65%	64%	64%	62%	57%
40th Percentile	73%	71%	71%	71%	71%	70%	70%	69%	69%	69%
35th Percentile	78%	78%	78%	78%	78%	77%	75%	75%	75%	74%
30th Percentile	83%	83%	82%	82%	81%	81%	81%	81%	81%	79%
25th Percentile	91%	91%	91%	90%	90%	90%	88%	88%	88%	87%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.69%

Rolling 3-Year Gross Excess Return relative to MSCI ACWI ex USA Value for 19 1/4 Years ended March 31, 2023



Developed ex-U.S. Broad Equity Style vs. MSCI EAFE

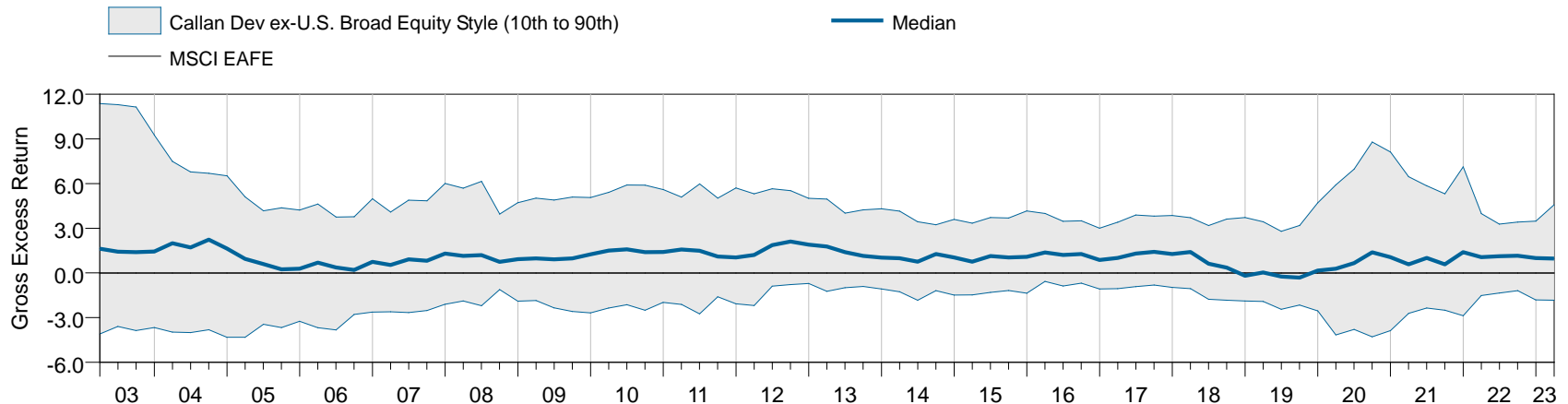
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	86%	86%	85%	81%	80%	78%	74%	73%	71%	70%
45th Percentile	95%	95%	93%	90%	88%	88%	88%	85%	85%	83%
40th Percentile	98%	96%	96%	95%	95%	95%	95%	94%	94%	93%
35th Percentile	100%	99%	99%	99%	96%	95%	95%	95%	95%	95%
30th Percentile	100%	100%	100%	100%	100%	100%	99%	99%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.04%

Rolling 3-Year Gross Excess Return relative to MSCI EAFE
for 20 Years ended March 31, 2023



Developed ex-U.S. Growth Equity Style vs. MSCI EAFE Growth

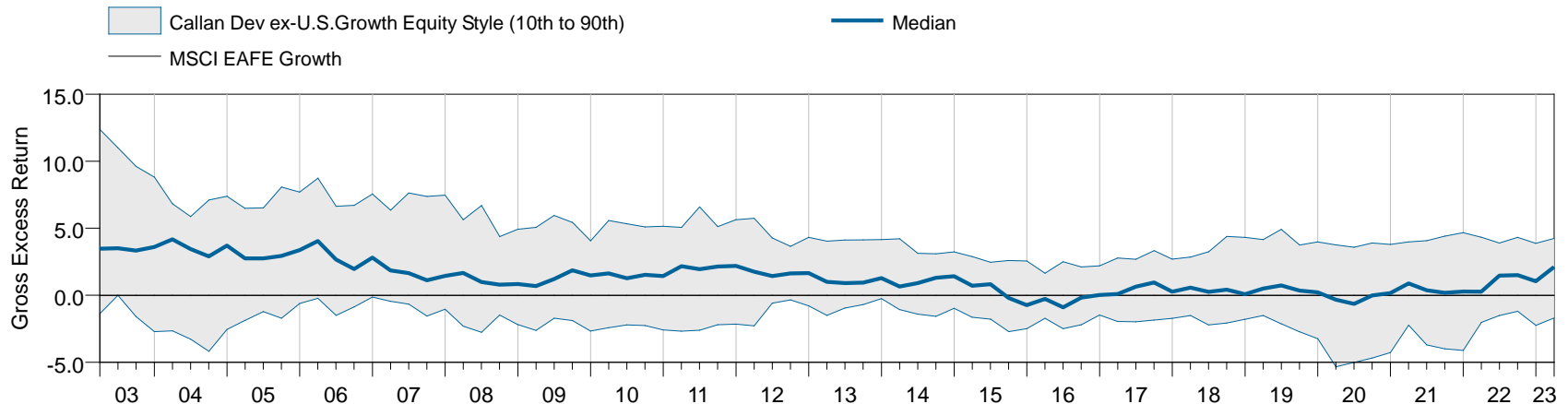
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	74%	73%	73%	71%	69%	68%	65%	64%	61%	60%
45th Percentile	85%	85%	84%	80%	80%	79%	78%	75%	75%	70%
40th Percentile	89%	89%	89%	89%	89%	86%	85%	84%	83%	80%
35th Percentile	93%	91%	91%	90%	90%	90%	90%	90%	89%	88%
30th Percentile	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
25th Percentile	96%	96%	95%	95%	95%	95%	95%	95%	95%	95%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.30%

Rolling 3-Year Gross Excess Return relative to MSCI EAFE Growth
for 20 Years ended March 31, 2023



Developed ex-U.S. Value Equity Style vs. MSCI EAFE Value

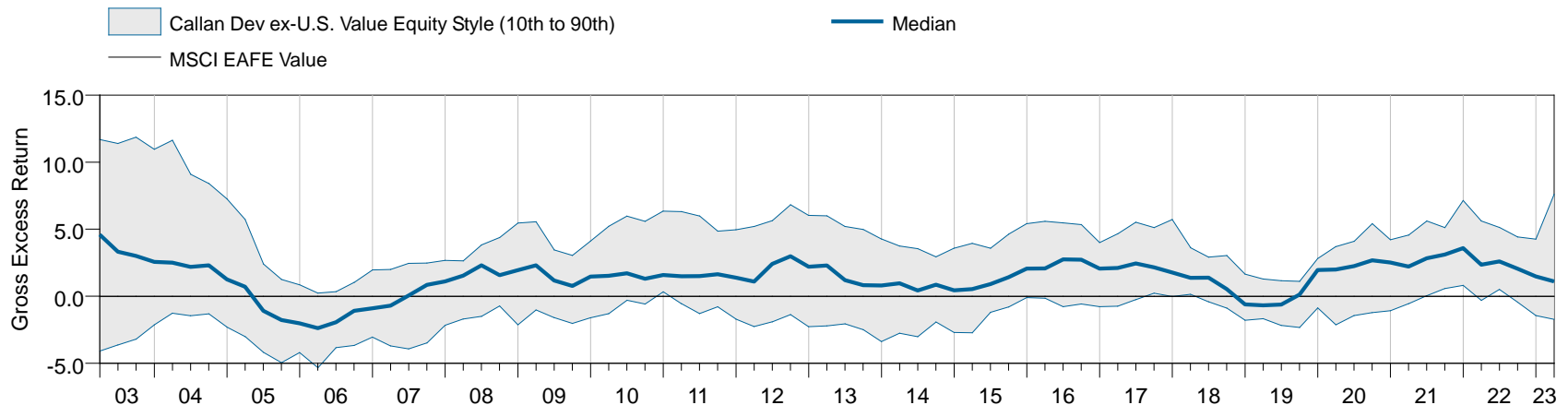
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	81%	81%	79%	79%	79%	79%	78%	76%	74%	71%
45th Percentile	84%	84%	84%	83%	83%	83%	80%	80%	79%	76%
40th Percentile	84%	84%	84%	84%	83%	83%	83%	83%	81%	80%
35th Percentile	86%	85%	85%	84%	84%	84%	84%	84%	83%	81%
30th Percentile	89%	89%	88%	88%	86%	86%	85%	85%	85%	85%
25th Percentile	91%	91%	91%	90%	89%	89%	88%	88%	88%	88%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.34%

Rolling 3-Year Gross Excess Return relative to MSCI EAFE Value
for 20 Years ended March 31, 2023



Global ex-U.S. Equity Small Cap Style vs. MSCI EAFE Small Cap

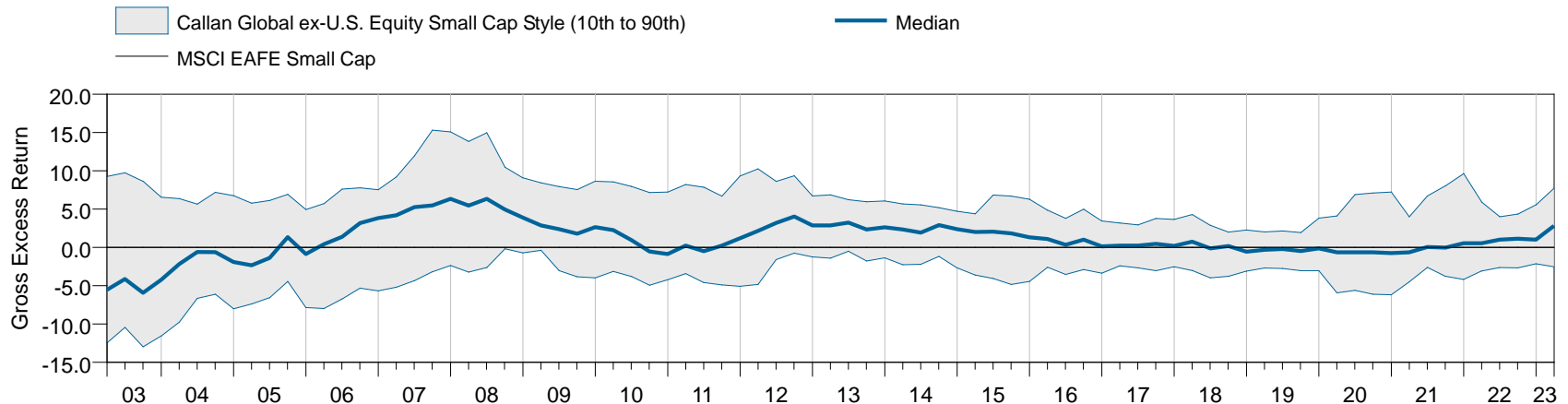
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	51%	51%	51%	51%	50%	50%	46%	45%	44%	43%
45th Percentile	61%	60%	56%	54%	54%	54%	53%	53%	53%	53%
40th Percentile	74%	70%	70%	66%	64%	60%	60%	60%	59%	55%
35th Percentile	89%	86%	84%	84%	83%	80%	80%	79%	75%	71%
30th Percentile	94%	94%	94%	94%	93%	91%	91%	90%	90%	89%
25th Percentile	99%	99%	98%	96%	96%	96%	96%	96%	95%	95%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.09%

Rolling 3-Year Gross Excess Return relative to MSCI EAFE Small Cap
for 20 Years ended March 31, 2023



Global ex-U.S. Equity Small Cap Style vs. MSCI ACWI ex USA Small Cap

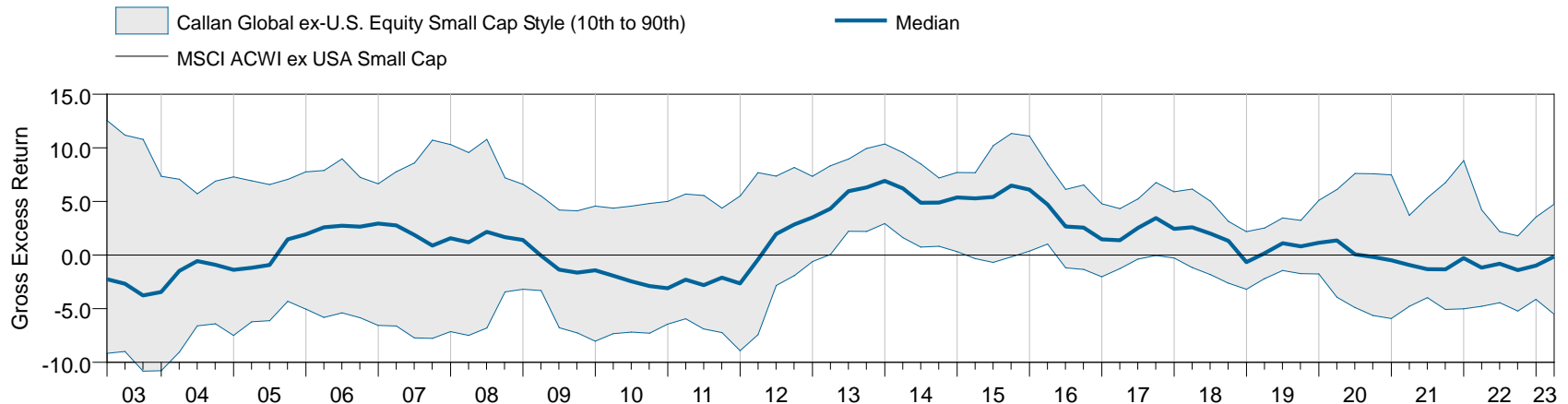
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	55%	55%	54%	53%	53%	53%	53%	51%	50%	49%
45th Percentile	55%	55%	55%	55%	55%	55%	54%	54%	54%	54%
40th Percentile	61%	61%	61%	60%	59%	59%	58%	58%	58%	58%
35th Percentile	73%	73%	73%	71%	71%	71%	70%	70%	70%	69%
30th Percentile	81%	81%	81%	81%	81%	80%	80%	78%	76%	75%
25th Percentile	88%	88%	86%	85%	85%	85%	83%	83%	83%	83%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.06%

Rolling 3-Year Gross Excess Return relative to MSCI ACWI ex USA Small Cap
for 20 Years ended March 31, 2023



Global ex-U.S. Small Cap Style vs. S&P Developed Ex-U.S. SmallCap

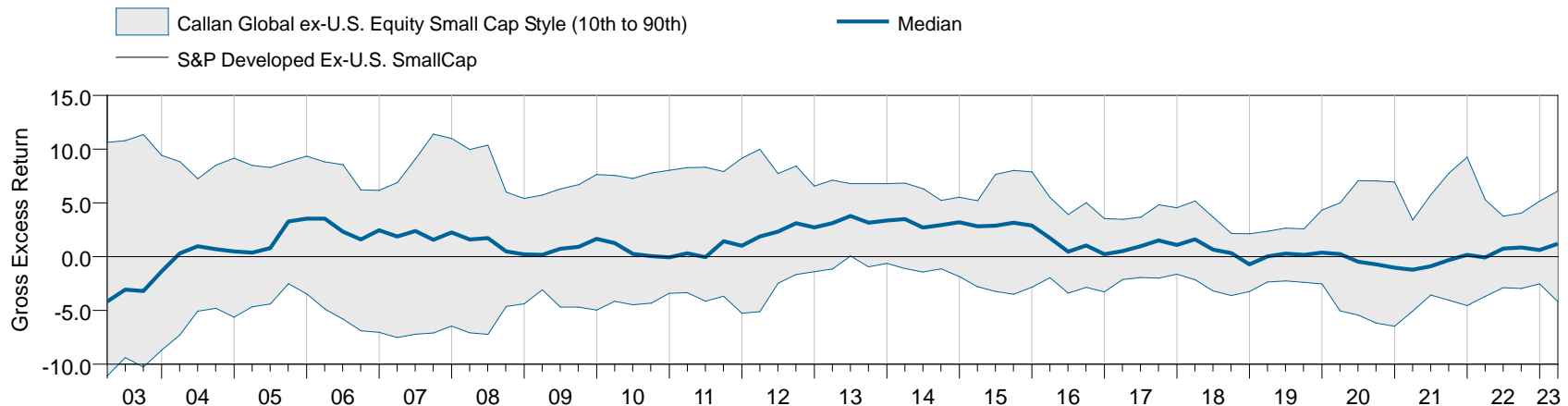
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods over last 20 Years

Fee Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	54%	53%	53%	51%	50%	48%	45%	44%	44%	43%
45th Percentile	73%	70%	68%	68%	64%	60%	58%	56%	55%	54%
40th Percentile	84%	84%	81%	79%	79%	79%	75%	71%	71%	69%
35th Percentile	95%	94%	89%	89%	88%	88%	88%	88%	86%	86%
30th Percentile	99%	99%	99%	99%	99%	99%	98%	98%	98%	96%
25th Percentile	99%	99%	99%	99%	99%	99%	99%	99%	99%	98%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

1.12%

Rolling 3-Year Gross Excess Return relative to S&P Developed Ex-U.S. SmallCap
for 20 Years ended March 31, 2023



Emerging Market Broad Equity Style vs. MSCI Emerging Markets

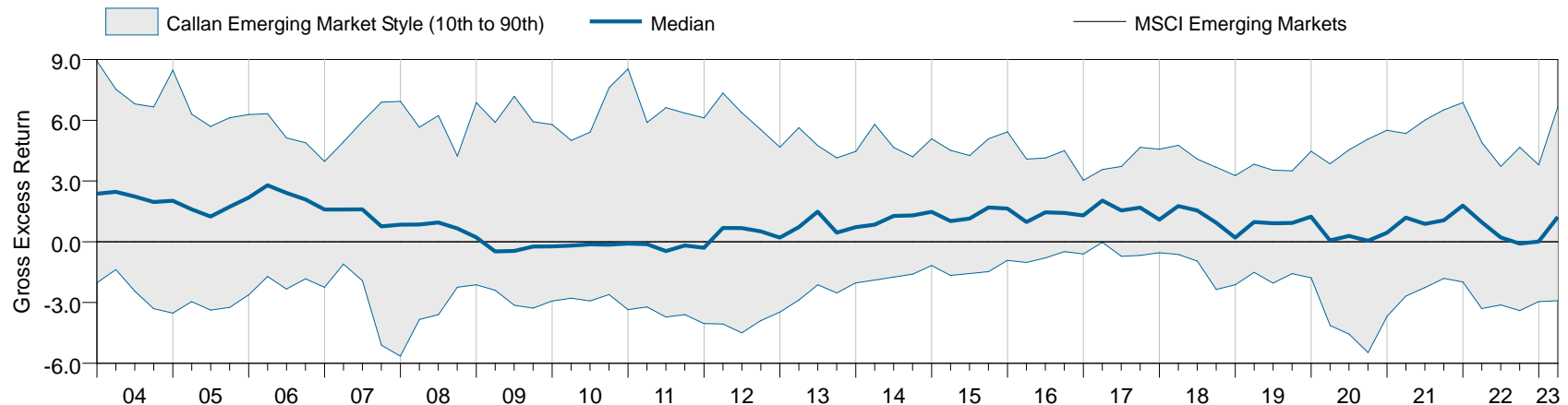
How often Manager Beat Benchmark by more than Fee Hurdle in Rolling 3-Year Periods

Fee Hurdle	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%
Median	67%	64%	63%	60%	58%	52%	48%	47%	44%	42%
45th Percentile	77%	75%	75%	73%	71%	71%	70%	64%	63%	62%
40th Percentile	86%	84%	81%	81%	79%	79%	79%	78%	75%	73%
35th Percentile	93%	93%	93%	93%	93%	92%	90%	90%	89%	88%
30th Percentile	100%	100%	100%	99%	99%	99%	97%	97%	95%	95%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized 3-Year Excess Return (gross) – Median Manager:

0.98%

Rolling 3-Year Gross Excess Return relative to MSCI Emerging Markets for 19 1/4 Years ended March 31, 2023



C.4 Future Meetings

This is a discussion with no backup.

Callan

June 21, 2023



**First Quarter 2023
Summary Investment
Presentation**

Jim Callahan, CFA
President

Anne Heaphy
Senior Vice President

Important Disclosures regarding the use of this document are included at the end of this document. These disclosures are an integral part of this document and should be considered by the user.

Callan

Economic and Capital Markets Review

Equity and Fixed Income Markets Up Together in 4Q22 and 1Q23

Declines for stocks and bonds in first three quarters of 2022 eased by market rebound

S&P 500 up 7.5% in both 1Q23 and 4Q22.

- Loss through first three quarters of 2022 was 23.8%; rebound in last two quarters reduced the loss to -9.7%. Similar loss reduction across all equity market segments: developed, emerging, small cap

Fixed income recovered as high inflation began to ease, leading to speculation about interest rates

- Bloomberg Aggregate: up 3% in 1Q, after a 1.9% rise in 4Q22, lowering the loss since the start of 2022 to 8.4%
- CPI-U: +5% year-over year for 1Q, down from 6.5% for the year ended Dec. 2022
- Inflation hit the highest rate (9%) in decades in June.
- Economic data show growth slowed in 2022; GDP gained only 1.1% in 1Q
 - Job market remains solid, providing support to Fed efforts to fight inflation

Returns for Periods ended 3/31/23

	Quarter	Year to Date	1 Year	5 Years	10 Years	25 Years
U.S. Equity						
Russell 3000	7.18	7.18	-8.58	10.45	11.73	7.45
S&P 500	7.50	7.50	-7.73	11.19	12.24	7.39
Russell 2000	2.74	2.74	-11.61	4.71	8.04	6.84
Global ex-U.S. Equity						
MSCI World ex USA	8.02	8.02	-2.74	3.80	4.91	4.39
MSCI Emerging Markets	3.96	3.96	-10.70	-0.91	2.00	--
MSCI ACWI ex USA Small Cap	4.70	4.70	-10.37	1.67	5.06	6.45
Fixed Income						
Bloomberg Aggregate	2.96	2.96	-4.78	0.91	1.36	4.03
90-day T-Bill	1.07	1.07	2.50	1.41	0.87	1.90
Bloomberg Long Gov/Credit	5.76	5.76	-13.40	0.63	2.35	5.56
Bloomberg Global Agg ex-US	3.06	3.06	-10.72	-3.17	-0.99	2.80
Real Estate						
NCREIF Property	-1.81	-1.81	-1.63	6.71	8.34	8.79
FTSE Nareit Equity	2.68	2.68	-19.22	6.02	5.97	8.01
Alternatives						
CS Hedge Fund Index	0.16	0.16	-0.89	4.18	3.89	5.54
Cambridge Private Equity*	0.80	0.80	-8.16	16.14	15.12	14.10
Bloomberg Commodity	-5.36	-5.36	-12.49	5.36	-1.72	1.80
Gold Spot Price	8.76	8.76	1.65	8.40	2.21	7.81
Inflation - CPI-U	1.70	1.70	4.98	3.88	2.63	2.51

*Cambridge PE data as of 4Q22.

Sources: Bloomberg, Callan, Cambridge, Credit Suisse, FTSE Russell, MSCI, NCREIF, S&P Dow Jones Indices

Current Equity Drawdown: A More 'Typical' Correction?

S&P 500 Cumulative Returns

Market Peak-to-Trough for Recent Corrections vs. 1/4/22 Through 3/31/23



- ▶ While the COVID correction was swift and intense, the 2022 correction resembles the GFC and Dot-Com Bubble.
- ▶ The current drawdown has been 312 trading days through March.
- ▶ It would take another 43 trading days to get to the bottom of the GFC and 213 trading days to get to the bottom of the Dot-Com Bubble.

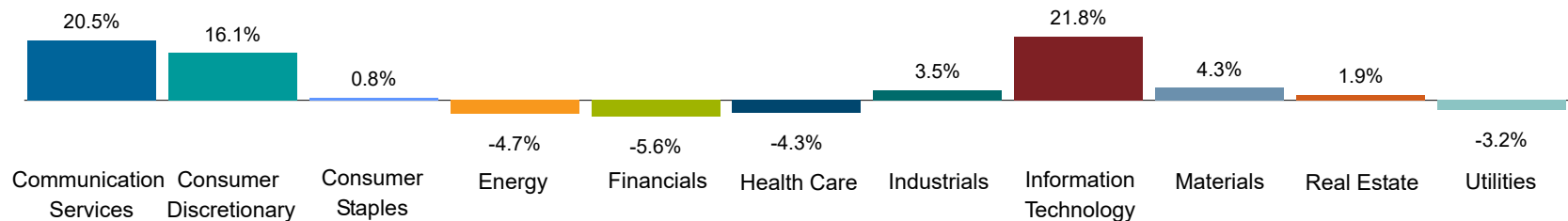
Sources: Callan, S&P Dow Jones Indices

U.S. Equity Performance: 1Q23

Large cap growth stocks lead broad indices higher; small cap indices hurt by regional bank sell-off

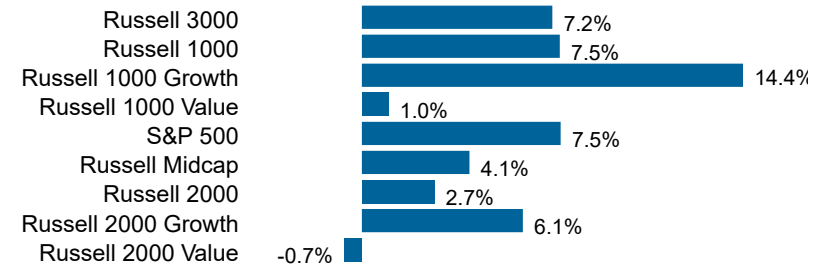
- ▶ The S&P 500 posted a second straight quarter of positive performance, gaining 7.5%; large cap growth led all styles, advancing 14.4%; Russell 2000 Value was an exception with a slight decline (0.7%) due to greater exposure to Financials, specifically small banks.
- ▶ Three sectors comprising 44% of S&P 500 (63% of Russell 1000 Growth) drove performance: Technology (+21.8%), Communication Services (+20.5%), and Consumer Discretionary (+16.1%). Financials, Energy, and Health Care were negative but had only a modest impact given smaller weights in these benchmarks.
- ▶ Small caps (Russell 2000) underperformed large caps (Russell 1000) and growth outperformed value during the quarter, a reversal of trend from 2022. Greater exposure to small banks in Russell 2000 (8.3%) versus Russell 1000 (3.3%) was one differentiator; strong returns for mega-cap Technology also increased divergence.

Industry Sector Quarterly Performance (S&P 500) as of 3/31/23

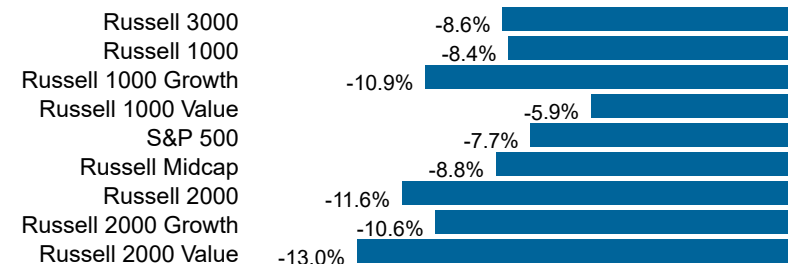


Sources: FTSE Russell, S&P Dow Jones Indices

U.S. Equity: Quarter Ended 3/31/23



U.S. Equity: One-Year Returns Ended 3/31/23



Global/Global ex-U.S. Equity Performance: 1Q23

1Q23 brought global and global ex-U.S. equity markets back to black. Positive results despite hiccups

- ▶ The first quarter of the year was marked by the collapse of Silicon Valley Bank and Credit Suisse, which sent fears of a banking crisis across global markets.
- ▶ Despite Fed hikes during the period, investors began to price in lower rate expectations.
- ▶ Europe outperformed other regions, making up ground lost in 2022 as inflation eased and recession fears lessened.

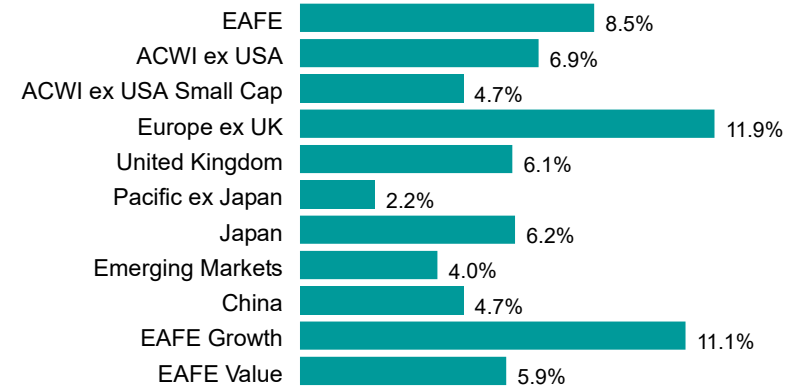
Growth vs. value

- ▶ Growth outpaced value across developed and emerging markets.
 - In a reversal from 2022, investors preferred growth alongside a drawdown in banks; Information Technology was the largest outperformer.

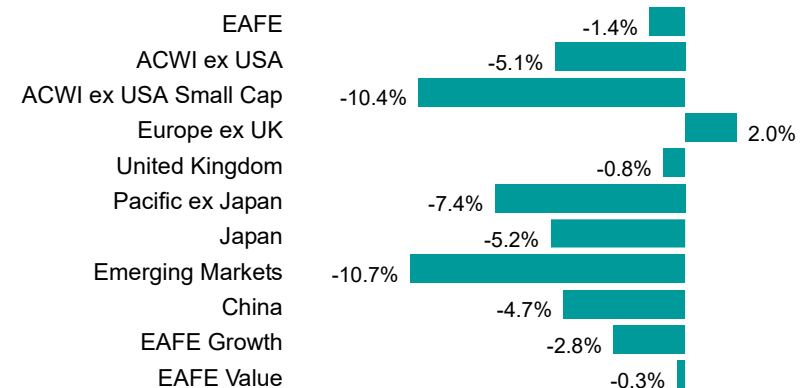
U.S. dollar vs. other currencies

- ▶ After some strength early in the quarter, the U.S. dollar declined 1% as interest rate differentials narrowed globally.

Global Equity Returns: Quarter Ended 3/31/23



Global Equity Returns: One Year Ended 3/31/23



Source: MSCI

U.S. Fixed Income Performance: 1Q23

Fixed income was positive in 1Q following its worst year ever.

- It was a bumpy ride with solid returns in January and March sandwiching a negative February:
 - January: +3.1%
 - February: -2.6%
 - March: +2.5%

U.S. Treasury volatility was pronounced

- 2-year US Treasury yield high was 5.08% on March 8th and low was 3.77% on March 24th

Yield curve remained inverted as of quarter end

- Difference between 2yr/10yr: -58 bps
- Difference between 1yr/10yr: -116 bps

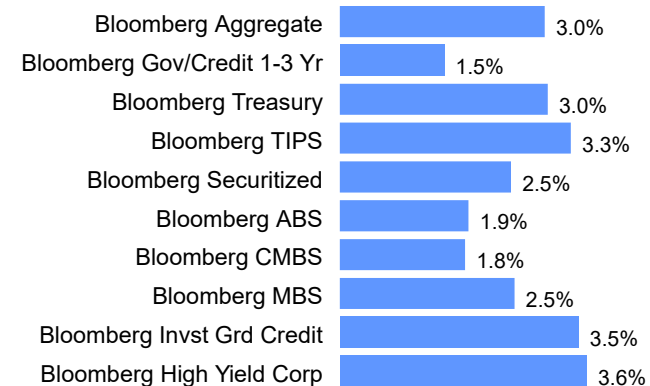
Fed raised rates 50bps during the quarter bringing target to 4.75%–5.00%

- Median expectation from Fed is 5.1% for year-end 2023; market pricing in Fed cuts by year-end
- Inflation moderated but still high and job market tight

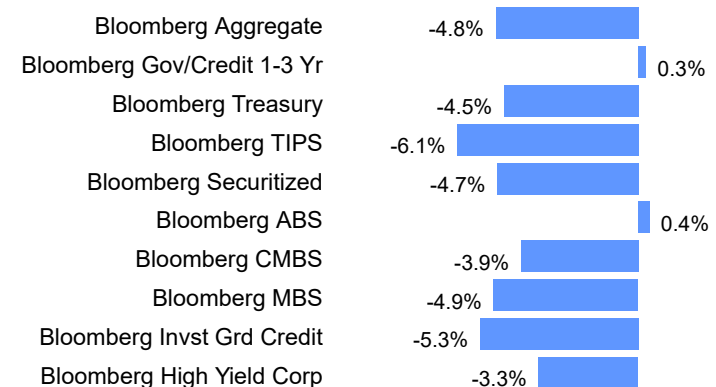
Sector performance was positive

- High yield (+3.6%) performed well as defaults remained low, supply subdued, and equity markets climbed.
- Investment grade credit (+3.5%) and TIPS (+3.3%) were also top performers.

U.S. Fixed Income Returns: Quarter Ended 3/31/23



U.S. Fixed Income Returns: One Year Ended 3/31/23



Sources: Bloomberg, S&P Dow Jones Indices

U.S. Private Real Estate Performance: 1Q23

Appreciation returns negative once again

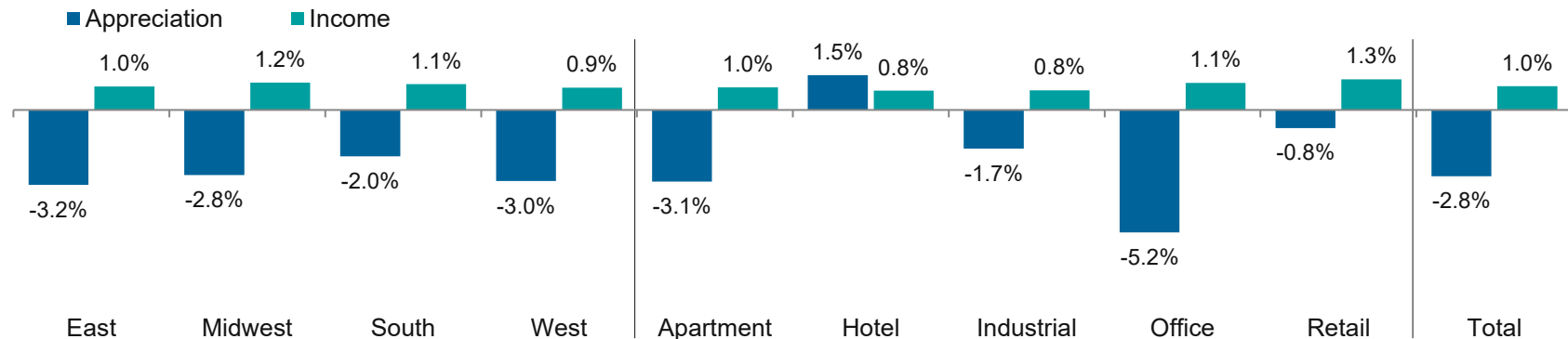
Negative appreciation in four major sectors

- Income returns were positive across sectors and regions.
- All property sectors and regions, except for Hotel, experienced negative appreciation.
- Valuations are reflective of higher interest rates, which have put upward pressure on capitalization rate and discount rate assumptions.
- Return dispersion by manager within the ODCE Index was due to the composition of underlying portfolios.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
NCREIF ODCE	-3.4%	-3.9%	7.5%	6.6%	8.5%
Income	0.6%	2.5%	2.8%	3.0%	3.4%
Appreciation	-4.0%	-6.3%	4.6%	3.5%	5.0%
NCREIF Property Index	-1.8%	-1.6%	7.2%	6.7%	8.3%
Income	1.0%	3.9%	4.1%	4.3%	4.6%
Appreciation	-2.8%	-5.4%	3.0%	2.4%	3.6%

Returns are geometrically linked

NCREIF Property Index Quarterly Returns by Region and Property Type



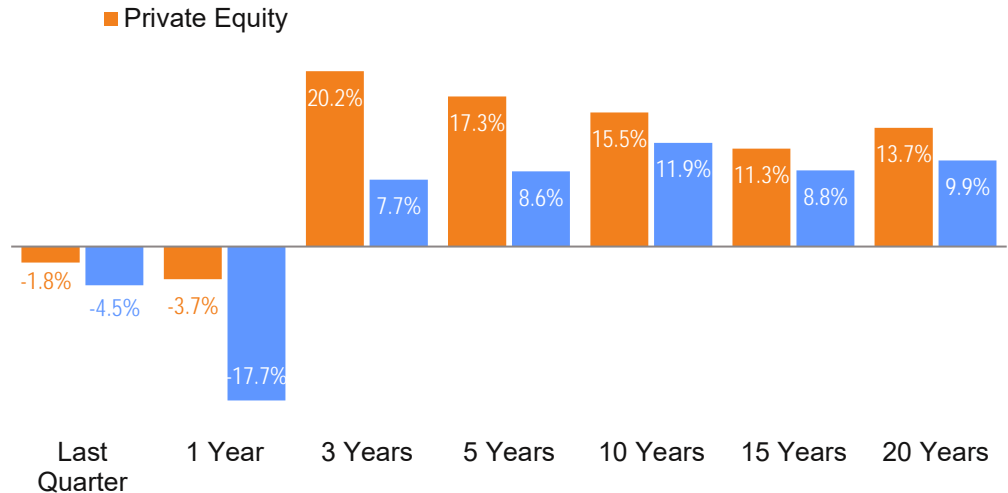
Source: NCREIF, ODCE return is net

Private Equity Performance

Smoothing effect in 3Q22 private equity returns

- ▶ As is typical for the asset class, private equity returns have experienced a smoothing effect in 2022 compared to the sharp declines seen in the public markets.
- ▶ Private equity was only down about a third as much as the public markets during 2022, on a PME basis.
- ▶ Portfolio companies are typically valued internally by the manager on a quarterly basis. Valuations are based on the operating metrics of the company, recent comparable transactions, and public market comps.
- ▶ Venture capital and growth equity experienced the sharpest declines so far this year, given their technology focus as well as post-IPO public equity holdings.

Net IRRs as of 09/30/22



Net IRRs by Strategy as of 09/30/22

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	-2.7%	-9.1%	28.4%	23.8%	19.4%	12.4%
Growth Equity	-1.8%	-9.4%	20.8%	18.4%	15.7%	14.3%
Buyouts	-1.9%	-1.4%	18.5%	16.1%	15.2%	14.7%
Mezzanine	0.2%	5.0%	11.8%	11.1%	11.3%	11.1%
Credit Opportunities	0.7%	3.9%	8.4%	7.2%	8.3%	9.9%
Control-Oriented Distressed	-0.2%	11.3%	19.4%	13.8%	12.7%	11.9%
Total Private Equity	-1.8%	-3.7%	20.2%	17.3%	15.5%	13.7%

Source: Refinitiv/Cambridge

Private Equity Overview

Fundraising slows and timelines become extended

Fundraising continues to slow in 1Q23

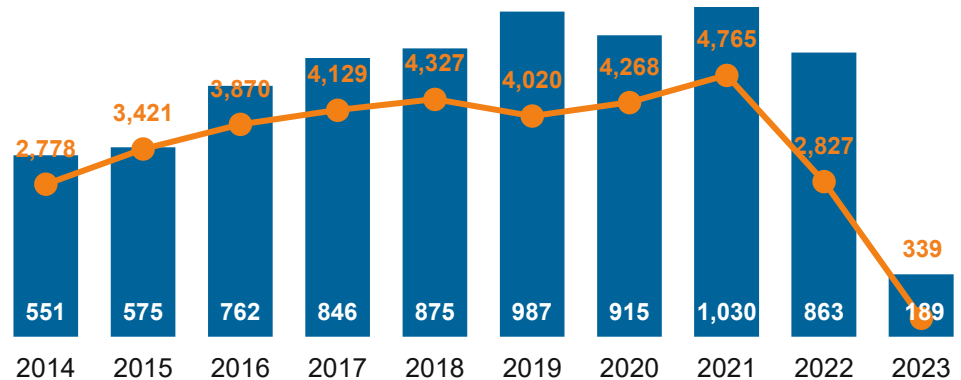
- ▶ Total capital raised during the quarter was in line with 4Q22 but was significantly down relative to a year ago.
- ▶ LPs have slimmer commitment budgets this year and have been consolidating with high-conviction GPs.
- ▶ Fundraising timelines extending due to so many funds in the market, slowing distributions, and constrained LP commitment budgets because of the “denominator effect,” delaying many final closes

Dry powder levels off

- ▶ Level of dry powder influenced by two factors: fundraising and capital deployment.
- ▶ Dry powder peaked in 2021 at \$1.7 trillion due to strong annual fundraising levels.
- ▶ Dry powder dropped slightly in 2022 due to a slower fundraising environment.

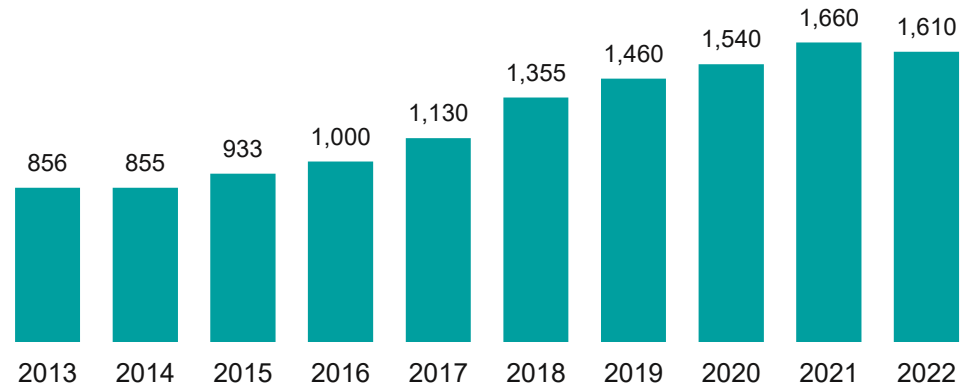
Annual Fundraising

● Amount Raised (\$bn) ● Number of Funds



Dry Powder (\$bn)

Cumulative as of yearend

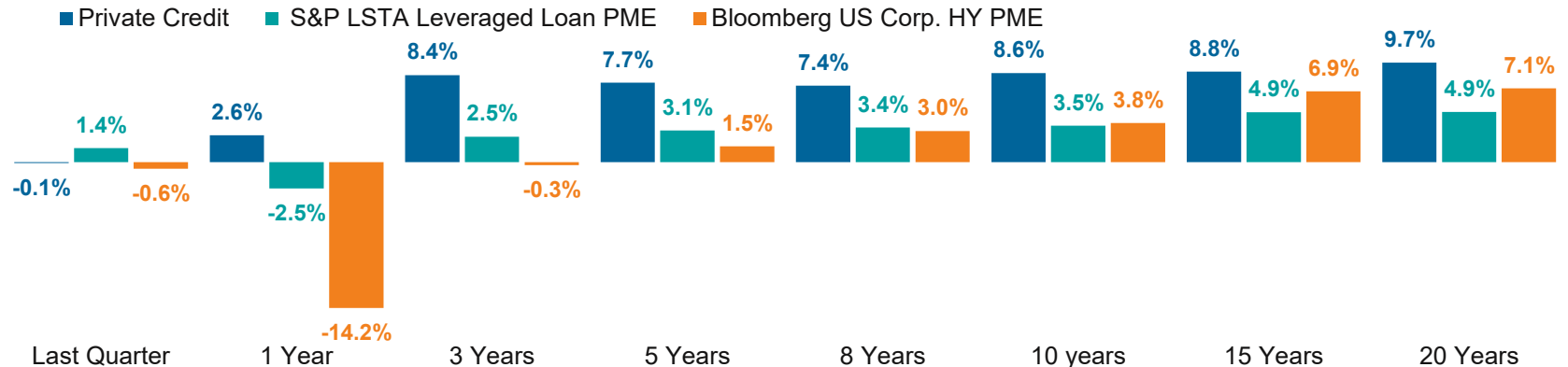


Source: PitchBook

Private Credit Market Overview

Performance over time and compared to relevant indices

Pooled Horizon Net IRRs as of 9/30/22



Pooled Horizon Net IRRs by Strategy as of 9/30/22

Strategy	Last Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	-2.4%	-3.5%	4.6%	5.1%	5.7%	5.9%	6.3%	6.1%
Mezzanine	0.2%	5.0%	11.8%	11.1%	10.8%	11.3%	10.5%	11.3%
Credit Opportunities	0.7%	3.9%	8.4%	7.2%	6.6%	8.3%	8.6%	9.7%
Total Private Credit	-0.1%	2.6%	8.4%	7.7%	7.4%	8.6%	8.8%	9.7%

- ▶ Private credit performance varies across sub-asset class and underlying return drivers. On average, the asset class has generated net IRRs of 8% to 10% for trailing periods ended Sept. 30, 2022. Higher-risk strategies performed better than lower-risk strategies.

*PME: Public market equivalent, a benchmark that applies the cash flows of the private credit funds to a public market index and then calculates an IRR.

Source: Refinitiv/Cambridge

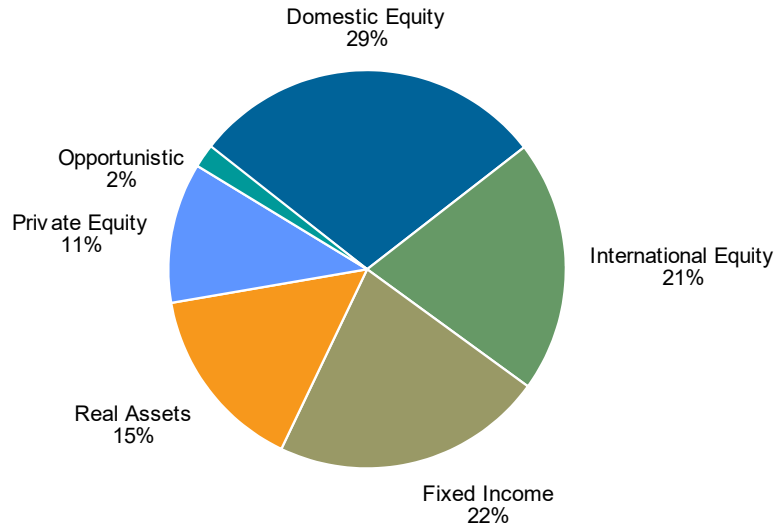
Callan

MCERA Total Fund Review

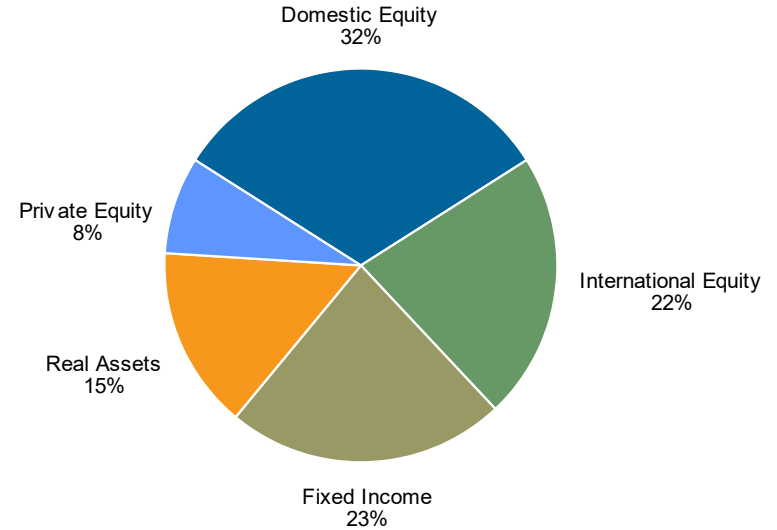
Total Fund Asset Allocation

As of March 31, 2023

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	\$000s Difference
Domestic Equity	890,612	29.0%	28.0%	32.0%	36.0%	(3.0%)	(93,161)
International Equity	630,358	20.5%	19.0%	22.0%	25.0%	(1.5%)	(45,986)
Fixed Income	678,175	22.1%	20.0%	23.0%	26.0%	(0.9%)	(28,913)
Real Assets	466,030	15.2%	12.0%	15.0%	18.0%	0.2%	4,886
Private Equity	350,960	11.4%	0.0%	8.0%	12.0%	3.4%	105,016
Opportunistic	58,158	1.9%	0.0%	0.0%	5.0%	1.9%	58,158
Total	3,074,293	100.0%		100.0%			

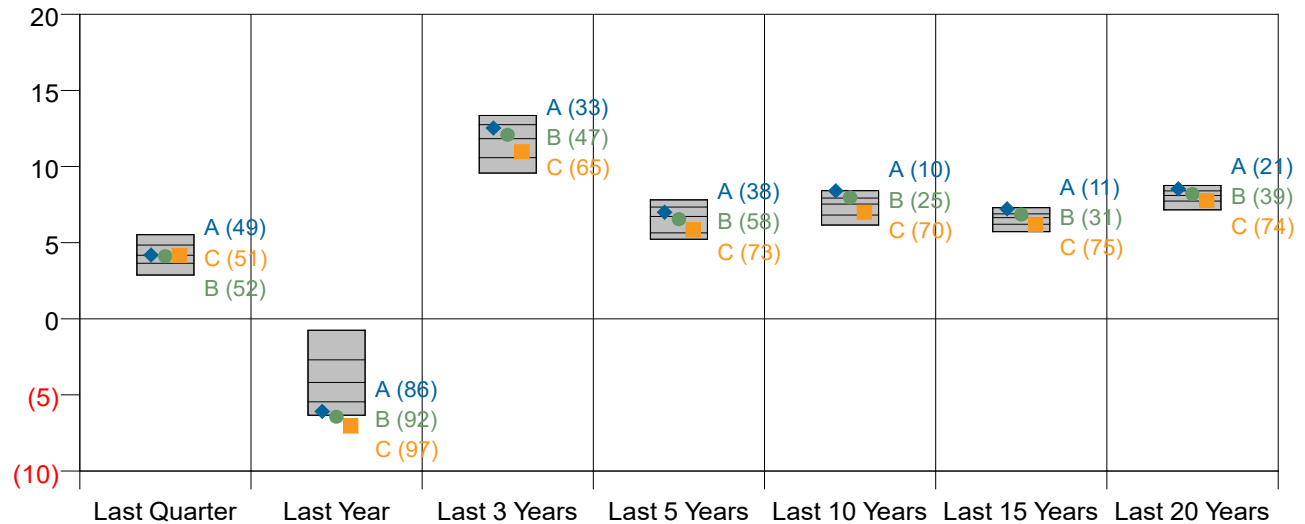
Total Fund Asset Distribution

	March 31, 2023				December 31, 2022	
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
Domestic Equity	\$890,612,416	28.97%	\$9,183,331	\$54,324,093	\$827,104,991	27.86%
Parametric Domestic Equity Futures (1)	-29,528,288	(0.96%)	12,820,878	(1,110,301)	-41,238,865	(1.39%)
SSGA Russell 1000 Index (2)	690,402,965	22.46%	(2,802,863)	47,870,083	645,335,745	21.74%
DFA Small Cap Core	229,737,739	7.47%	(834,683)	7,564,311	223,008,111	7.51%
International Equity	\$630,358,332	20.50%	\$(23,228,207)	\$52,213,147	\$601,373,392	20.26%
Morgan Stanley Value	202,589,135	6.59%	0	20,310,673	182,278,462	6.14%
Artisan Partners Growth	192,836,964	6.27%	0	15,197,309	177,639,655	5.98%
TimesSquare Intl Small Cap	103,940,439	3.38%	(207,696)	8,751,857	95,396,278	3.21%
FIAM Select Emerging Equity	100,491,675	3.27%	0	5,000,074	95,491,601	3.22%
Parametric International Equity Futures	30,500,120	0.99%	(23,020,511)	2,953,235	50,567,396	1.70%
Fixed Income	\$678,174,679	22.06%	\$8,503,236	\$21,857,484	\$647,813,959	21.82%
Wellington Core Plus	286,610,320	9.32%	(3,075,802)	9,592,036	280,094,086	9.43%
Western Core Plus	304,094,857	9.89%	(2,364,385)	10,629,614	295,829,628	9.96%
Parametric Fixed Income Futures	87,469,502	2.85%	13,943,423	1,635,834	71,890,245	2.42%
Real Assets	\$466,029,724	15.16%	\$(3,668,325)	\$(5,711,466)	\$475,409,515	16.01%
Real Estate	\$241,440,562	7.85%	\$(3,574,772)	\$(11,955,288)	\$256,970,623	8.66%
Woodmont	17,099,992	0.56%	0	(999,998)	18,099,990	0.61%
UBS Trumbull Property Fund	101,360,702	3.30%	(885,277)	(7,686,450)	109,932,429	3.70%
AEW Core Property Trust	122,979,869	4.00%	(1,344,707)	(4,613,628)	128,938,204	4.34%
Public Real Assets	\$224,589,162	7.31%	\$(93,552)	\$6,243,822	\$218,438,892	7.36%
INVESCO Commodities Fund	54,047,565	1.76%	(93,552)	(827,686)	54,968,803	1.85%
BlackRock TIPS Index Fund	57,722,544	1.88%	0	1,972,478	55,750,067	1.88%
KBI Global Resources Fund	60,073,774	1.95%	0	3,672,875	56,400,899	1.90%
Blackrock REIT Index Fund	52,745,279	1.72%	0	1,426,154	51,319,124	1.73%
Opportunistic (3)	\$58,158,129	1.89%	\$(6,521,275)	\$2,227,441	\$62,451,963	2.10%
CarVal Credit Value V	22,865,882	0.74%	(81,620)	558,471	22,389,031	0.75%
Fortress Credit Opps Fund V	11,744,597	0.38%	(39,121)	274,777	11,508,941	0.39%
Varde Dislocation Fund	23,547,650	0.77%	(6,400,534)	1,394,193	28,553,991	0.96%
Private Equity (4)	\$350,959,816	11.42%	\$(3,795,876)	\$0	\$354,755,692	11.95%
Abbott ACE VI	35,571,436	1.16%	(2,000,000)	0	37,571,436	1.27%
Abbott ACE VII	40,952,045	1.33%	(875,000)	0	41,827,045	1.41%
Abbott 2016	70,284,000	2.29%	0	0	70,284,000	2.37%
Abbott 2017	19,617,358	0.64%	0	0	19,617,358	0.66%
Abbott 2021	8,417,012	0.27%	0	0	8,417,012	0.28%
Pathway PPEF 2008	43,690,165	1.42%	(979,685)	(0)	44,669,850	1.50%
Pathway PE I-7	33,931,271	1.10%	(256,715)	(0)	34,187,986	1.15%
Pathway PE I-8	63,403,608	2.06%	(751,699)	(0)	64,155,307	2.16%
Pathway PE I-9	17,392,144	0.57%	0	0	17,392,144	0.59%
Pathway PE I-10	17,700,778	0.58%	1,067,224	0	16,633,554	0.56%
Total Fund	\$3,074,293,096	100.0%	\$(19,527,114)	\$124,910,700	\$2,968,909,511	100.0%

Total Fund Performance – Annualized

Returns for Periods Ended March 31, 2023

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



10th Percentile	5.53	(0.75)	13.36	7.81	8.43	7.31	8.77
25th Percentile	4.85	(2.69)	12.75	7.35	7.94	6.90	8.41
Median	4.18	(4.17)	11.83	6.72	7.54	6.65	8.11
75th Percentile	3.66	(5.45)	10.59	5.65	6.82	6.21	7.74
90th Percentile	2.87	(6.32)	9.57	5.23	6.16	5.73	7.17

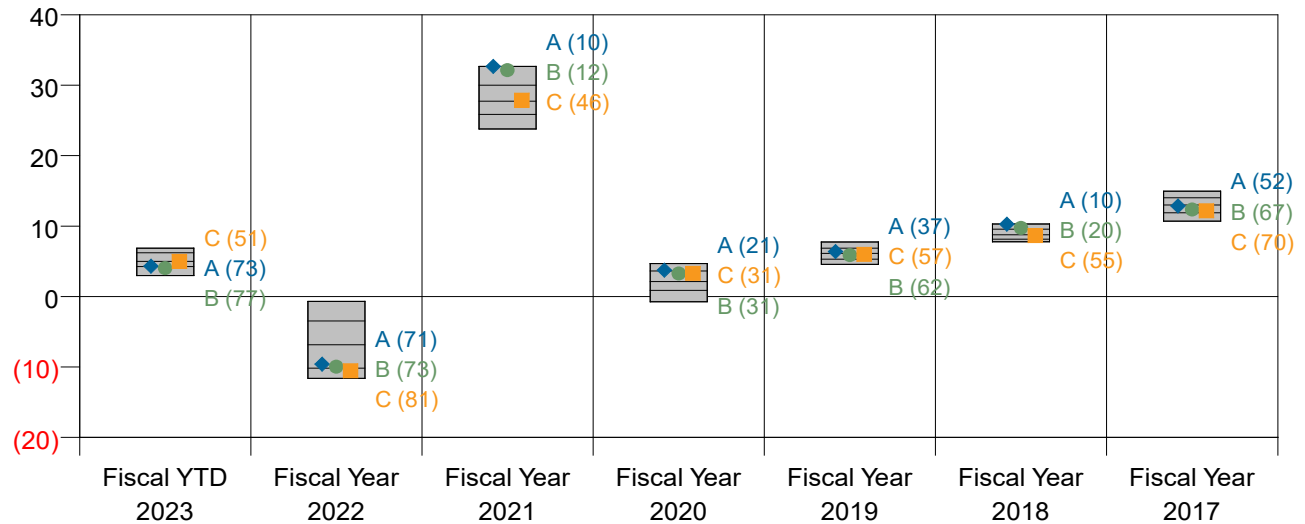
MCERA Total Fund - Gross	◆ A	4.19	(6.07)	12.53	7.00	8.41	7.23	8.54
MCERA Total Fund - Net	● B	4.11	(6.43)	12.09	6.54	7.97	6.84	8.20
MCERA Total Fund Target	■ C	4.16	(7.04)	10.98	5.84	7.01	6.20	7.77

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)



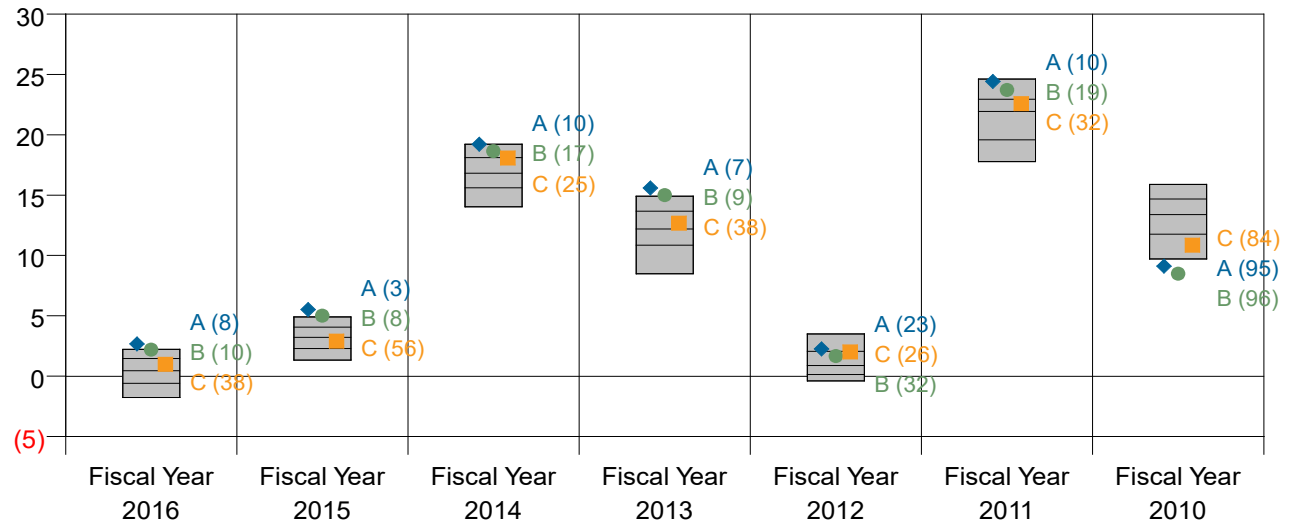
10th Percentile	6.87	(0.68)	32.69	4.70	7.76	10.32	14.96
25th Percentile	6.22	(3.45)	30.01	3.63	6.87	9.56	14.03
Median	5.00	(6.83)	27.74	2.13	6.13	8.78	13.00
75th Percentile	4.27	(10.16)	25.87	0.88	5.31	8.14	11.90
90th Percentile	2.97	(11.60)	23.80	(0.72)	4.58	7.79	10.72

MCERA Total Fund - Gross	◆ A	4.33	(9.60)	32.69	3.74	6.39	10.29	12.88
MCERA Total Fund - Net	● B	4.04	(9.95)	32.15	3.26	5.88	9.74	12.37
MCERA Total Fund Target	■ C	4.99	(10.52)	27.89	3.29	5.99	8.67	12.20

Total Fund Performance – Fiscal Year

Fiscal Year Returns

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



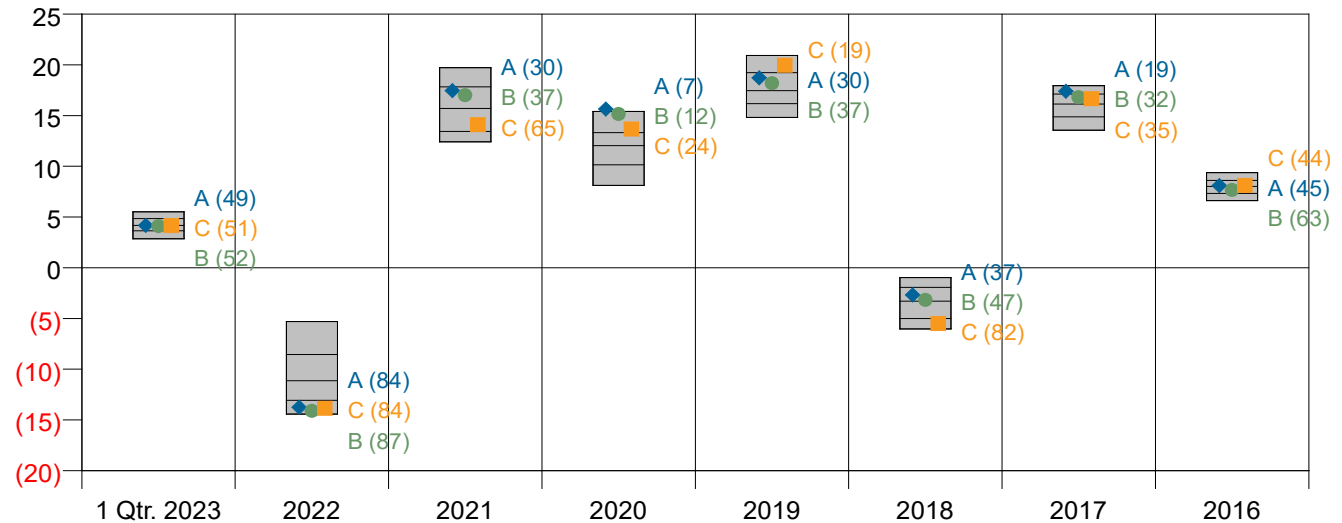
10th Percentile	2.24	4.92	19.23	14.91	3.51	24.62	15.90
25th Percentile	1.47	4.07	18.11	13.67	2.07	22.95	14.69
Median	0.46	3.23	16.83	12.20	0.88	21.94	13.40
75th Percentile	(0.58)	2.29	15.61	10.86	0.15	19.59	11.76
90th Percentile	(1.75)	1.34	14.04	8.49	(0.39)	17.79	9.71

MCERA Total Fund - Gross	◆ A	2.68	5.52	19.22	15.60	2.26	24.42	9.11
MCERA Total Fund - Net	● B	2.19	5.02	18.65	15.01	1.67	23.71	8.49
MCERA Total Fund Target	■ C	0.98	2.91	18.09	12.68	2.02	22.58	10.87

Total Fund Performance – Calendar Years

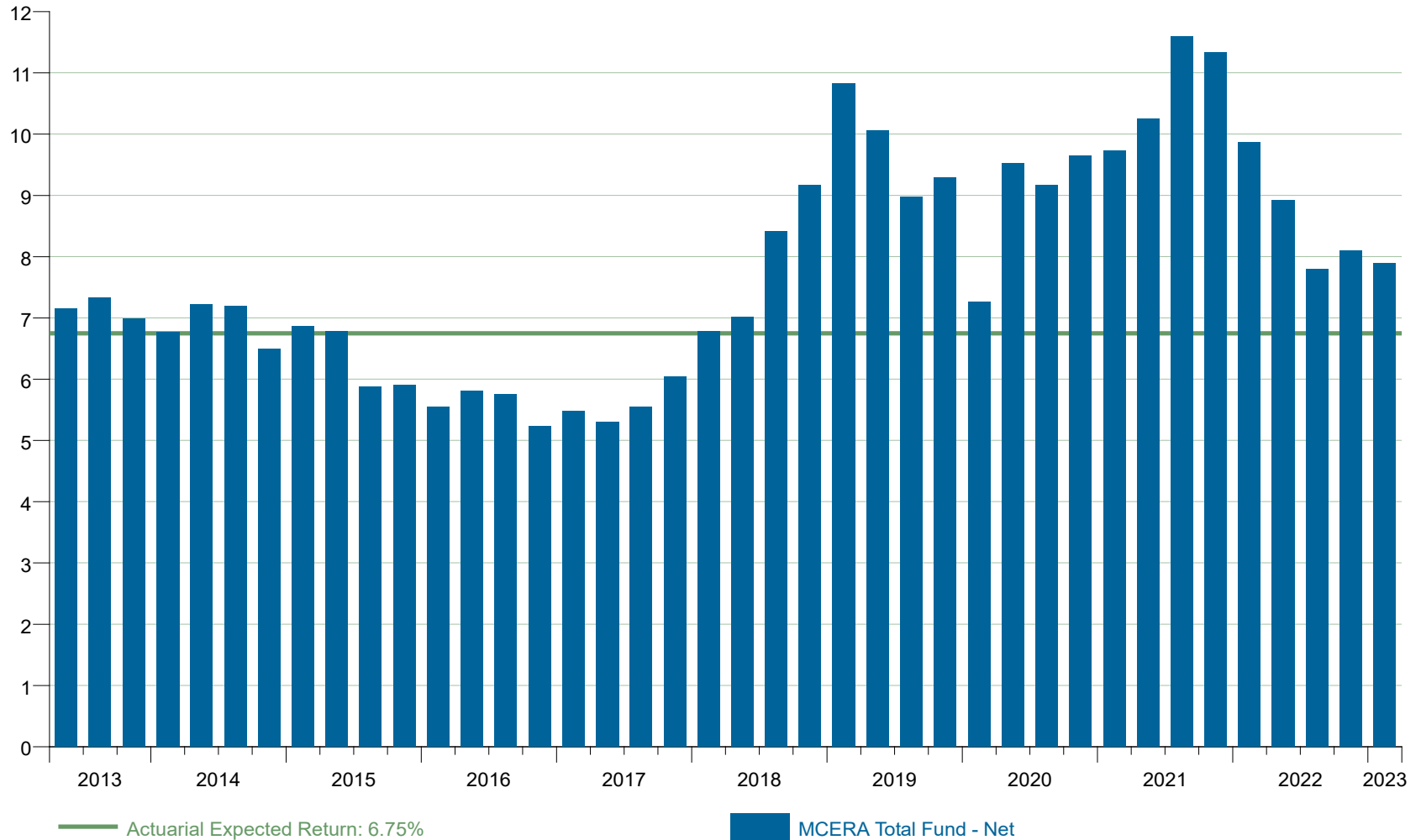
Returns for Periods Ended March 31, 2023

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



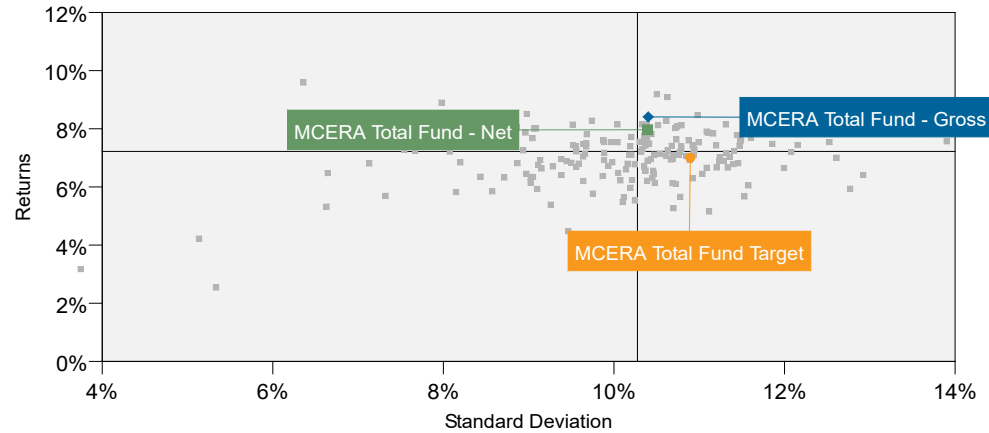
10th Percentile	5.53	(5.29)	19.72	15.41	20.92	(0.95)	17.97	9.39	
25th Percentile	4.85	(8.54)	17.84	13.33	19.24	(1.92)	17.13	8.63	
Median	4.18	(11.12)	15.71	12.04	17.45	(3.28)	16.14	8.02	
75th Percentile	3.66	(13.06)	13.44	10.16	16.18	(4.99)	14.89	7.33	
90th Percentile	2.87	(14.41)	12.43	8.13	14.83	(6.02)	13.57	6.63	
<hr/>									
Total Fund - Gross	◆ A	4.19	(13.75)	17.47	15.66	18.73	(2.68)	17.41	8.10
MCERA Total Fund - Net	● B	4.11	(14.09)	17.01	15.16	18.19	(3.16)	16.81	7.68
Total Fund Target	■ C	4.16	(13.84)	14.12	13.68	19.97	(5.49)	16.68	8.13

Annualized 10 Year Total Fund Net Returns (Quarterly Roll)

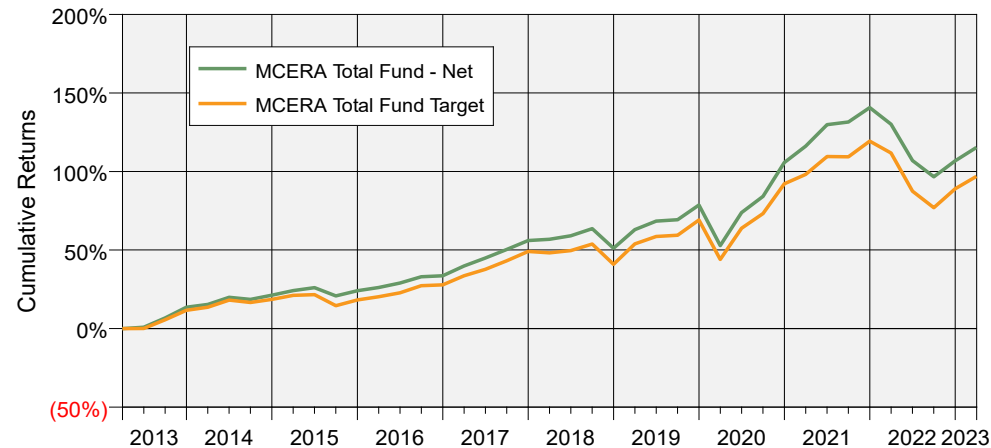


Total Fund – Cumulative Returns Relative to Target

Ten Year Annualized Risk vs. Return
As of March 31, 2023



Total Fund Cumulative Returns vs. Target
10 Years Ended March 31, 2023



Watchlist

Investment Manager Monitoring Summary Report Active Managers as of March 31, 2023

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 <i>Russell 2000 Index</i>				N/A	N/A		
Morgan Stanley International Value Equity <i>MSCI EAFE Index</i>						No	4Q17
Artisan International Growth Equity <i>MSCI EAFE Index</i>						Yes	4Q17
TimesSquare International Small Cap Equity <i>MSCI EAFE Small Cap Index</i>				N/A	N/A		
Fidelity Emerging Markets Equity <i>MSCI Emerging Markets Index</i>		N/A	N/A	N/A	N/A		
Wellington Core Plus Fixed Income <i>Bloomberg U.S Aggregate Index</i>						No	
Western Asset Core Plus Fixed Income <i>Bloomberg U.S Aggregate Index</i>		N/A	N/A	N/A	N/A		
Invesco Balanced Risk Commodity Fund <i>Bloomberg Commodity Index</i>						Yes	4Q20
KBI Global Natural Resources Fund <i>S&P Global Natural Resource Index</i>			N/A		N/A	No	
UBS Trumbull Property Fund* <i>NFI-ODCE Index</i>		N/A	N/A	N/A	N/A		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) and ranks in the bottom quartile of its peer universe (gross of fees ranking) for the trailing three years, or if a manager trails its relevant benchmark (net of fees) or 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

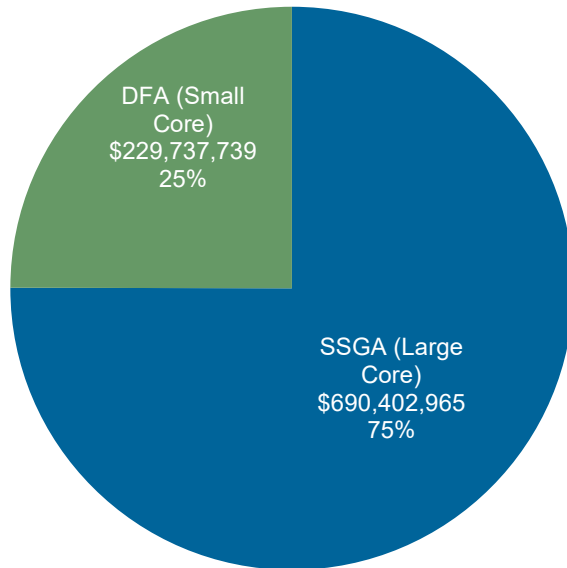
Watchlist

Investment Manager	3 Year Net Return Trails Benchmark by more than 100 bps (relative return shown in bps)	<u>AND</u>	3 Year Gross Return Ranks 75th - 100th%	<u>OR</u>	5 Year Net Return Trails Benchmark (relative return shown in bps)	<u>OR</u>	5 Year Gross Return Ranks 50th - 100th%	Qualify for Watchlist (Quantitative)
DFA Small Cap Core Equity <i>Russell 2000 Index</i>	698		14th		N/A		N/A	No
Morgan Stanley International Value Equity <i>MSCI EAFE Index</i>	-94		95th		6		18th	No
Artisan International Growth Equity <i>MSCI EAFE Index</i>	-351		83rd		9		58th	Yes
TimesSquare International Small Cap Equity <i>MSCI EAFE Small Cap Index</i>	-295		86th		N/A		N/A	Yes
Fidelity Emerging Markets Equity <i>MSCI Emerging Markets Index</i>	N/A		N/A		N/A		N/A	No
Wellington Core Plus Fixed Income <i>Bloomberg U.S Aggregate Index</i>	158		69th		68		32nd	No
Western Asset Core Plus Fixed Income <i>Bloomberg U.S Aggregate Index</i>	N/A		N/A		N/A		N/A	No
Invesco Balanced Risk Commodity Fund <i>Bloomberg Commodity Index</i>	201		40th		-8		63rd	Yes
KBI Global Natural Resources Fund <i>S&P Global Natural Resource Index</i>	234		N/A		556		N/A	No
UBS Trumbull Property Fund <i>NCREIF NFI-ODCE Index</i>	Quantitative criteria for private markets portfolios under review by Governance Committee. On watch due to organizational changes.							Under Review

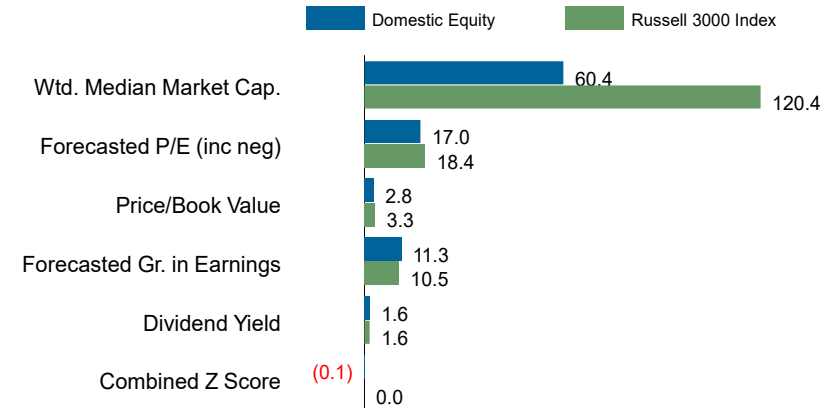
Callan

MCERA Asset Class Review

Domestic Equity Composite



Portfolio Characteristics as of March 31, 2023

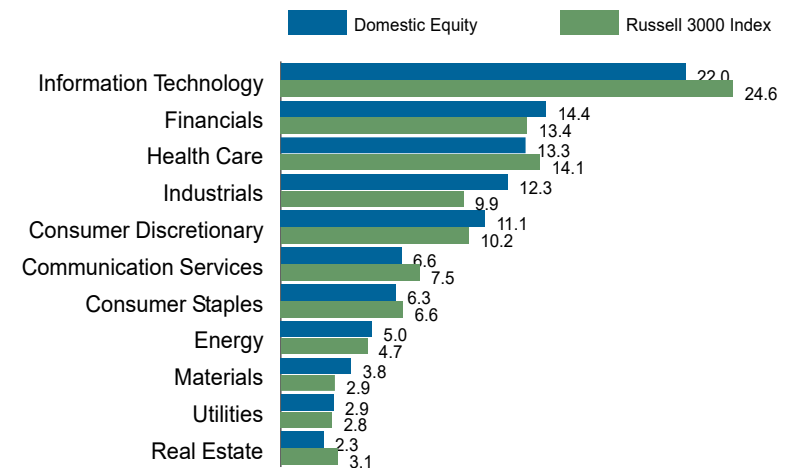


Style Exposure Matrix

Holdings as of March 31, 2023

	-- Domestic Equity				-- Russell 3000 Index			
	Value	Core	Growth	Total	Value	Core	Growth	Total
Large	14.9% (91)	18.1% (95)	28.9% (106)	61.9% (292)	18.8% (91)	22.9% (95)	36.4% (106)	78.1% (292)
Mid	4.9% (173)	5.8% (209)	6.1% (197)	16.9% (579)	5.1% (173)	5.1% (213)	5.2% (198)	15.4% (584)
Small	4.8% (243)	7.1% (363)	6.2% (303)	18.2% (909)	1.6% (313)	2.3% (490)	2.0% (366)	5.8% (1169)
Micro	1.4% (362)	1.1% (249)	0.5% (136)	3.1% (747)	0.2% (257)	0.3% (457)	0.1% (162)	0.7% (876)
Total	26.0% (869)	32.2% (916)	41.8% (742)	100.0% (2527)	25.7% (834)	30.6% (1255)	43.8% (832)	100.0% (2921)

Sector Allocation as of March 31, 2023



Domestic Equity Composite

Returns and Rankings for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equity - Net	6.51	(7.14)	20.57	10.33	11.56
Domestic Equity Target	7.18	(8.58)	18.48	10.45	11.73
SSGA - Net	7.42	(8.36)	17.64	10.63	11.97
Large Cap Blended Benchmark	7.46	(8.39)	17.62	10.63	11.96
Ranking vs. Large Cap Equity	45	58	58	44	52
DFA Small Core - Net	3.30	(5.26)	24.49	--	--
Russell 2000 Index	2.74	(11.61)	17.51	4.71	8.04
Ranking vs. Small Cap Equity	50	30	14	--	--

Returns and Rankings for Calendar Years

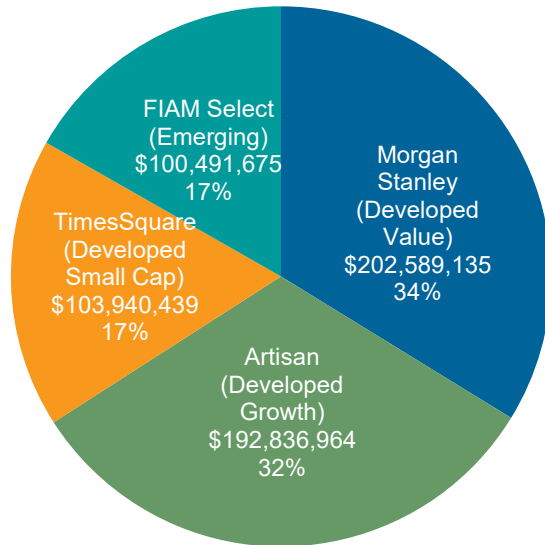
	1 Qtr. 2023	2022	2021	2020	2019	2018
Domestic Equity - Net	6.51	(17.43)	29.74	17.85	28.77	(5.34)
Domestic Equity Target	7.18	(19.21)	25.66	20.89	31.02	(5.24)
SSGA - Net	7.42	(19.06)	27.16	18.33	31.43	(4.38)
Large Cap Blended Benchmark	7.46	(19.13)	27.15	18.40	31.49	(4.38)
Ranking vs. Large Cap Equity	45	55	49	53	43	46
DFA Small Core - Net	3.30	(12.97)	29.22	11.74	21.77	--
Russell 2000 Index	2.74	(20.44)	14.82	19.96	25.52	(11.01)
Ranking vs. Small Cap Equity	50	21	21	54	71	--

- The domestic equity composite underperformed the benchmark over the quarter but outperformed over the last year.
- Although small cap has underperformed large cap recently, DFA's relative outperformance (due to its exclusion of stocks with the lowest profitability and highest relative prices) has been very beneficial, especially over the last year.

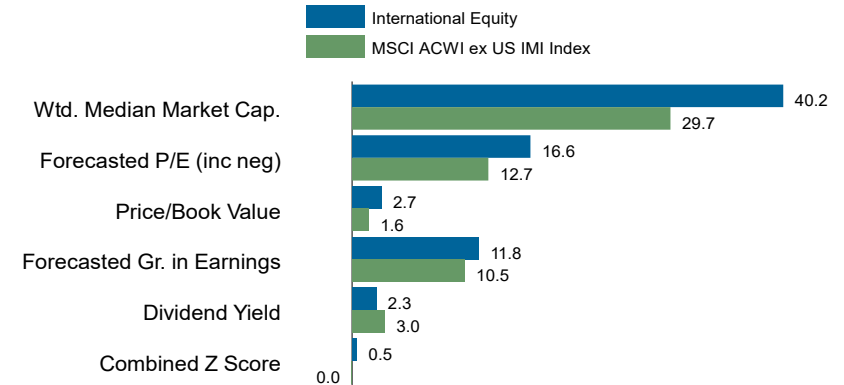
The Domestic Equity Target is comprised of 51.1% S&P/BARRA Value, 22.2% S&P 500, 15.6% Russell 2000 and 11.1% S&P/BARRA Growth through 12/31/1999, 80% S&P 500 and 20% Russell 2000 from 12/31/1999 to 06/30/2010, and 100% Russell 3000 from 06/30/2010 to present.

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 March 31, 2023

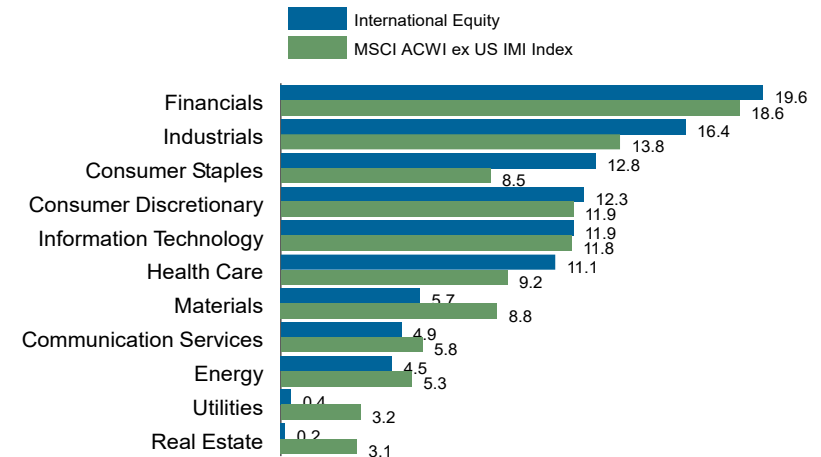


Region & Style Exposure Matrix

Holdings as of March 31, 2023

	-- International Equity				-- MSCI ACWI ex US IMI Index			
	Value	Core	Growth	Total	Value	Core	Growth	Total
Europe	12.9% (22)	16.9% (38)	30.1% (59)	59.9% (119)	12.8%	12.2%	16.1%	41.1%
N. America	0.8% (1)	0.5% (3)	5.8% (7)	7.0% (11)	1.4%	1.8%	1.3%	4.6%
Pacific	0.5% (3)	2.9% (8)	8.3% (26)	11.6% (37)	9.0%	7.5%	8.2%	24.7%
Emerging	3.1% (30)	9.2% (42)	9.1% (42)	21.4% (114)	7.8%	10.1%	11.7%	29.6%
Total	17.3% (56)	29.4% (91)	53.3% (134)	100.0% (281)	31.0%	31.7%	37.3%	100.0%

Sector Allocation as of March 31, 2023



International Equity Composite

Returns and Rankings for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
International Equity - Net	8.71	(2.85)	10.01	1.74	4.38
International Equity - Target	6.56	(5.84)	12.20	2.35	4.28
MSIM - Net	10.99	2.45	12.05	3.58	4.65
MSCI EAFE Index	8.47	(1.38)	12.99	3.52	5.00
Ranking vs. Non-US Developed Value Equity	4	27	95	18	59
Artisan - Net	8.56	(0.10)	9.48	3.61	4.86
MSCI EAFE Index	8.47	(1.38)	12.99	3.52	5.00
Ranking vs. Non-US Developed Growth Equity	68	14	83	58	76
TimesSquare - Net	9.18	(6.73)	9.12	--	--
MSCI EAFE Small Cap	4.92	(9.83)	12.07	0.87	5.86
Ranking vs. International Small Cap Equity	5	40	86	--	--
FIAM Select EM - Net	5.24	(9.74)	--	--	--
MSCI Emerging Markets Index	3.96	(10.70)	7.83	(0.91)	2.00
Ranking vs. Emerging Markets Equity	38	57	--	--	--

Returns and Rankings for Periods Ended March 31, 2023

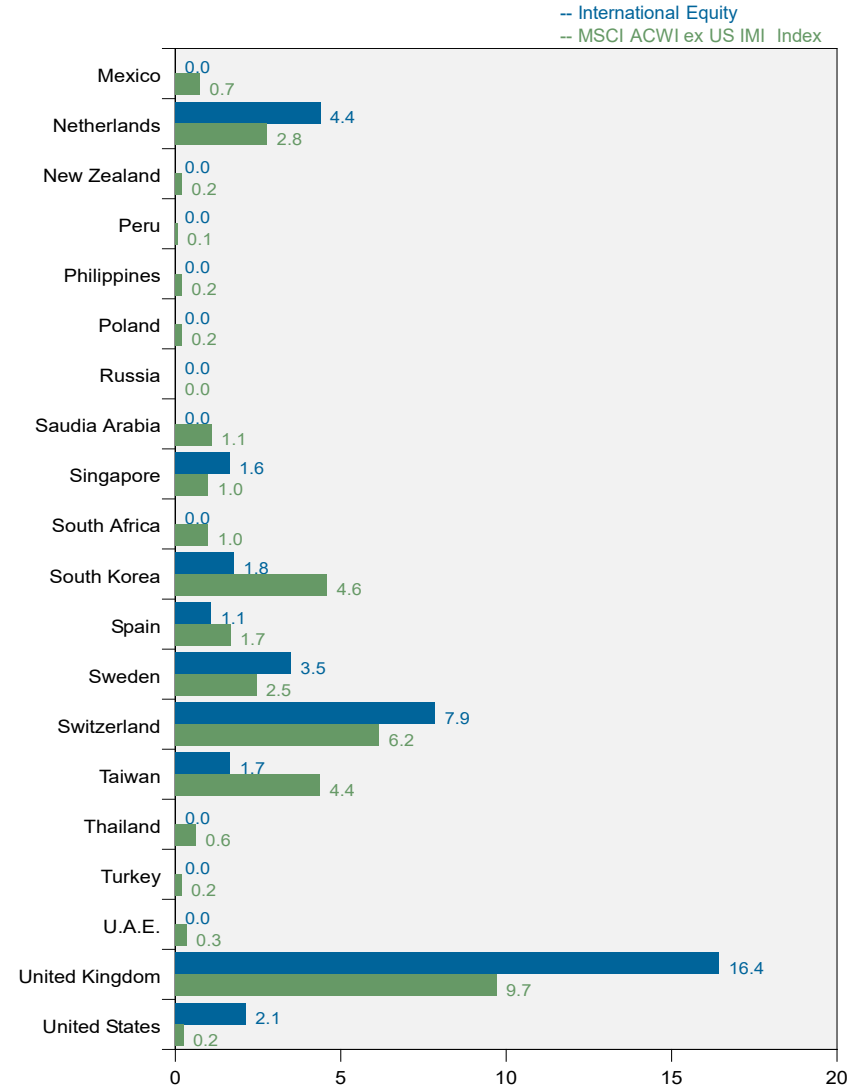
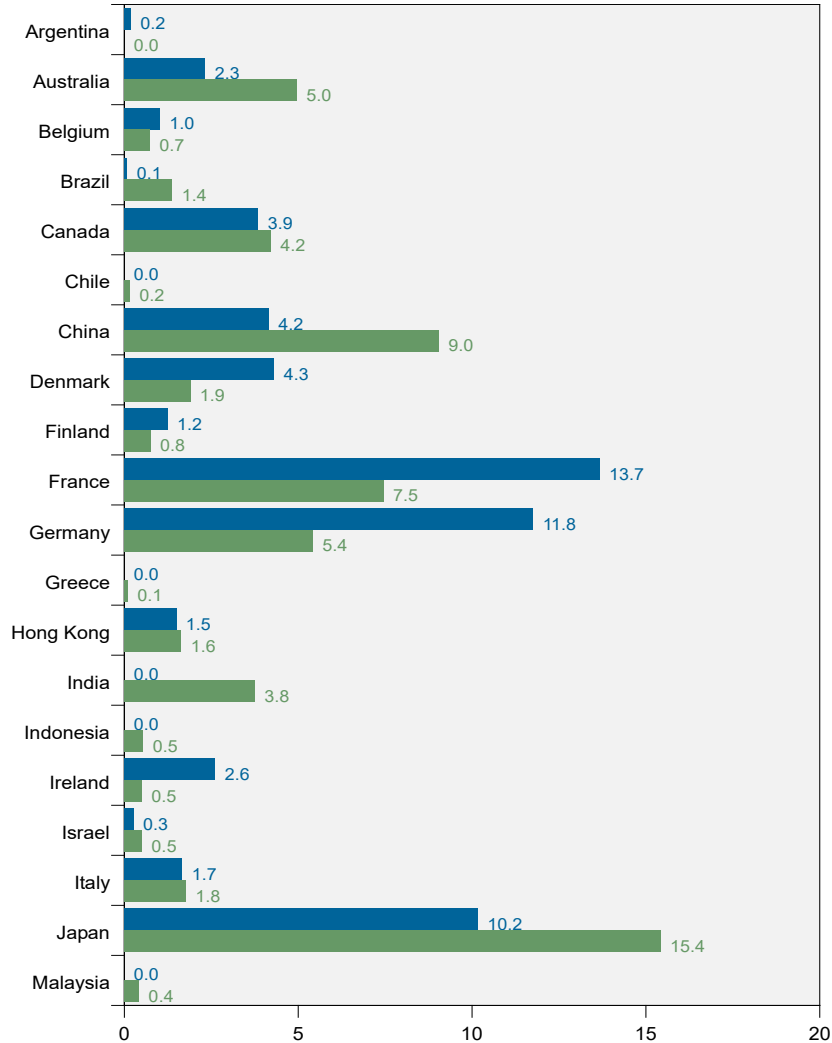
	1 Qtr. 2023	2022	2021	2020	2019
International Equity - Net	8.71	(19.28)	5.28	10.79	23.52
International Equity - Target	6.56	(16.58)	8.53	11.12	21.63
MSIM - Net	10.99	(13.62)	4.70	12.00	20.93
MSCI EAFE Index	8.47	(14.45)	11.26	7.82	22.01
Ranking vs. Non-US Developed Value Equity	4	92	98	1	34
Artisan - Net	8.56	(19.08)	8.59	8.09	29.62
MSCI EAFE Index	8.47	(14.45)	11.26	7.82	22.01
Ranking vs. Non-US Developed Growth Equity	68	30	60	96	26
TimesSquare - Net	9.18	(26.82)	2.18	13.87	--
MSCI EAFE Small Cap	4.92	(21.39)	10.10	12.34	24.96
Ranking vs. International Small Cap Equity	5	74	93	39	--
FIAM Select EM - Net	5.24	(23.89)	--	--	--
MSCI Emerging Markets Index	3.96	(20.09)	(2.54)	18.31	18.44
Ranking vs. Emerging Markets Equity	38	70	--	--	--

- The International Equity composite and all of the underlying managers outperformed on a relative basis during the last quarter and last year.
 - Morgan Stanley: an overweight to IT and selection within IT, consumer discretionary, and financials contributed to performance.
 - Artisan: positive selection within consumer discretionary and communication services outweighed an underweight to the strong performing IT sector.
 - TimesSquare: the portfolio's quality growth style was in favor, benefitting performance. Stock selection in industrials and energy was positive.
 - FIAM: selection within consumer staples and IT plus an underweight to utilities contributed to returns.

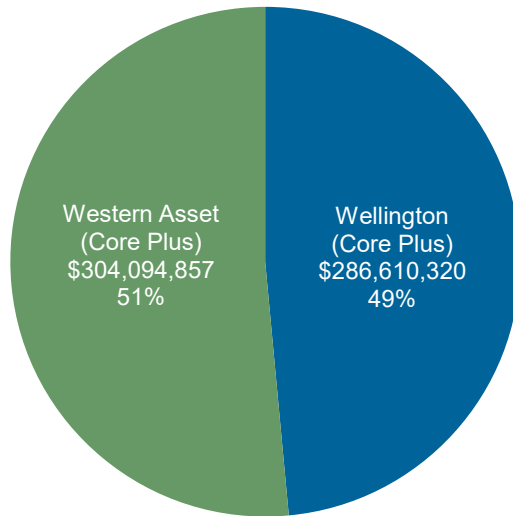
The International Equity Target is comprised of 100% MSCI EAFE Index through 06/30/2010, and 100% MSCI ACWI ex-US IMI Index thereafter.

International Equity Composite

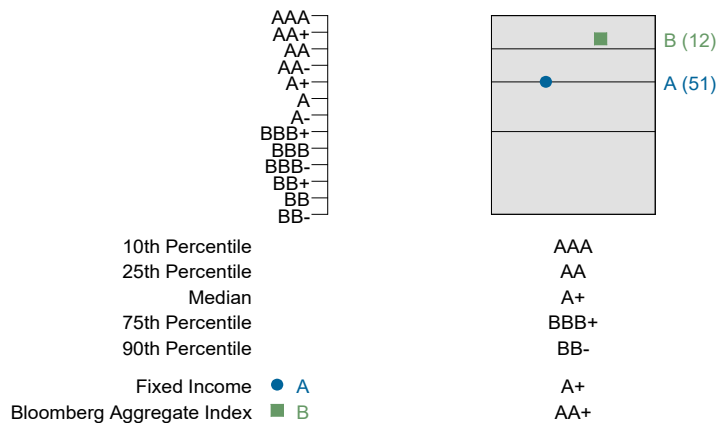
Country Allocations as of March 31, 2023



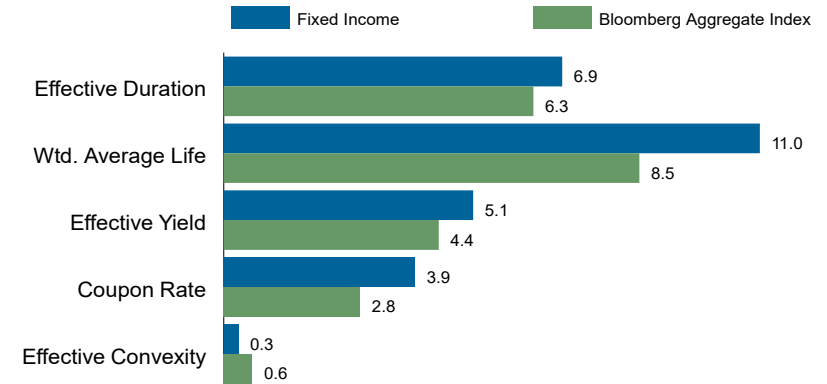
Fixed Income Composite



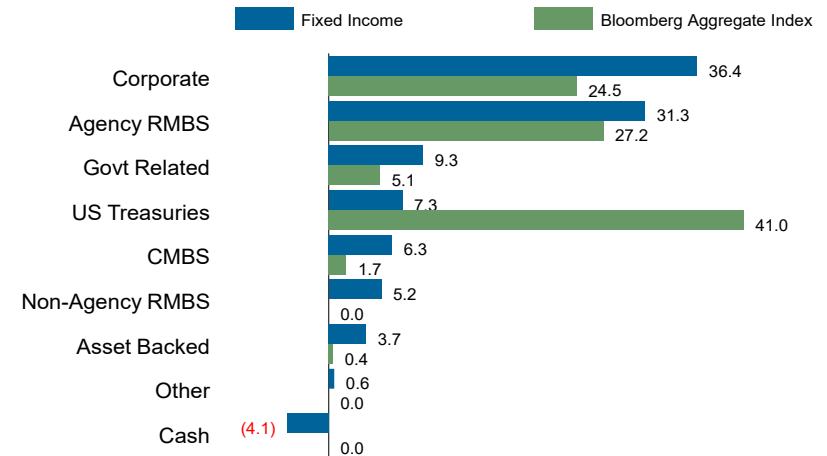
Quality Rating as of March 31, 2023 Total Domestic Fixed Income Database



Portfolio Characteristics as of March 31, 2023



Sector Allocation as of March 31, 2023



Fixed Income Composite

Returns and Rankings for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Fixed Income - Net	3.32	(7.53)	(1.63)	0.58	1.41
Fixed Income Target	2.96	(5.49)	(2.70)	0.29	0.94
Wellington - Net	3.39	(4.76)	(1.19)	1.59	2.14
Bloomberg Aggregate Index	2.96	(4.78)	(2.77)	0.91	1.36
Ranking vs. Core Plus Fixed Income	30	36	69	32	44
Western Asset - Net	3.55	(3.51)	1.38	2.14	2.27
Western Asset Blended Benchmark	2.96	(3.48)	(0.18)	1.52	1.69

Returns and Rankings for Calendar Years

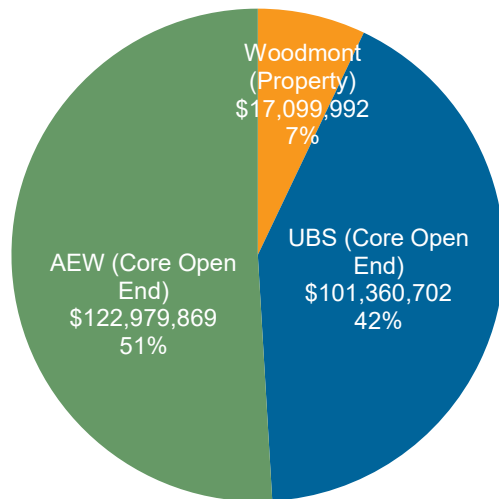
	1 Qtr. 2023	2022	2021	2020	2019	2018
Fixed Income - Net	3.32	(15.56)	(2.50)	11.47	8.60	(0.34)
Fixed Income Target	2.96	(13.58)	(2.79)	8.08	8.21	(0.19)
Wellington - Net	3.39	(13.68)	(0.71)	9.93	9.95	(0.39)
Bloomberg Aggregate Index	2.96	(13.01)	(1.54)	7.51	8.72	0.01
Ranking vs. Core Plus Fixed Income	30	63	64	26	43	43
Western Asset - Net	3.55	(11.71)	(0.43)	10.03	9.82	(0.35)
Western Asset Blended Benchmark	2.96	(11.01)	(1.03)	7.08	9.52	0.01

- The Fixed Income composite outperformed the benchmark during the quarter but trailed over the last year. Performance over the last year still includes the Colchester Global and Western Asset Intermediate Credit portfolios (transitioned in 4Q22).
 - Wellington: investment grade credit and high yield allocations contributed to relative returns.
 - Western Asset: emerging markets and high yield allocations contributed to performance.

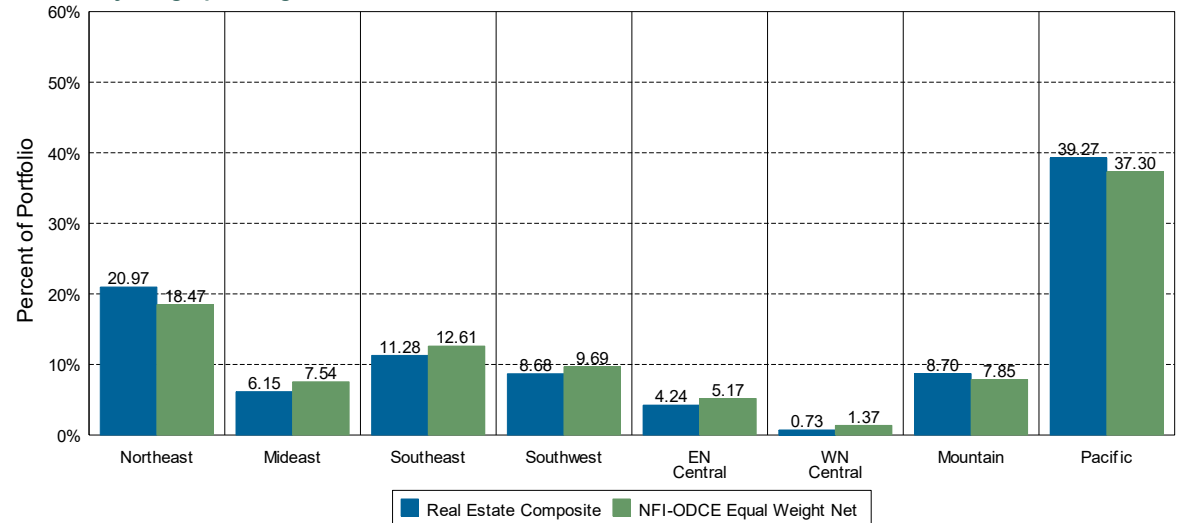
Fixed Income Target is comprised of 100% Bloomberg Aggregate Index until March 2014, 50% Bloomberg Aggregate Index, 25% Bloomberg Intermediate Credit Index, and 25% FTSE World Government Bond Index until November 2022, and 100% Bloomberg Index thereafter.

Western Asset Blended Benchmark is comprised of the Bloomberg US Aggregate Index until March 2014, the Bloomberg US Intermediate Credit Index to 11/6/2022, and the Bloomberg US Aggregate Index thereafter.

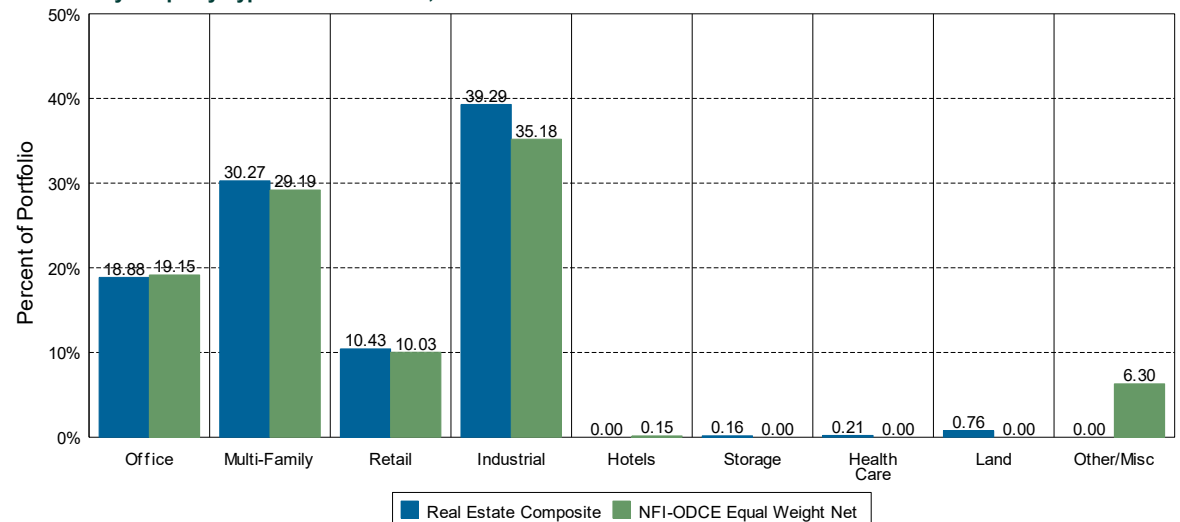
Real Estate Composite



Diversification by Geographic Region as of March 31, 2023



Diversification by Property Type as of March 31, 2023



Real Estate Composite

Returns and Rankings for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Real Estate - Net	(5.37)	(6.24)	4.46	3.75	8.38
Real Estate Target	(3.50)	(3.69)	8.17	7.13	8.76
AEW Core Property Trust - Net	(3.79)	(4.04)	8.49	6.97	8.31
NFI-ODCE Equal Wt Net Index	(3.50)	(3.69)	8.17	7.13	8.82
Ranking vs. Core Open End Funds	84	78	49	71	72
UBS Trumbull Property Fund - Net	(7.20)	(8.92)	2.33	1.72	5.15
NFI-ODCE Equal Wt Net Index	(3.50)	(3.69)	8.17	7.13	8.82
Ranking vs. Core Open End Funds	96	95	92	96	95

Returns and Rankings for Calendar Years

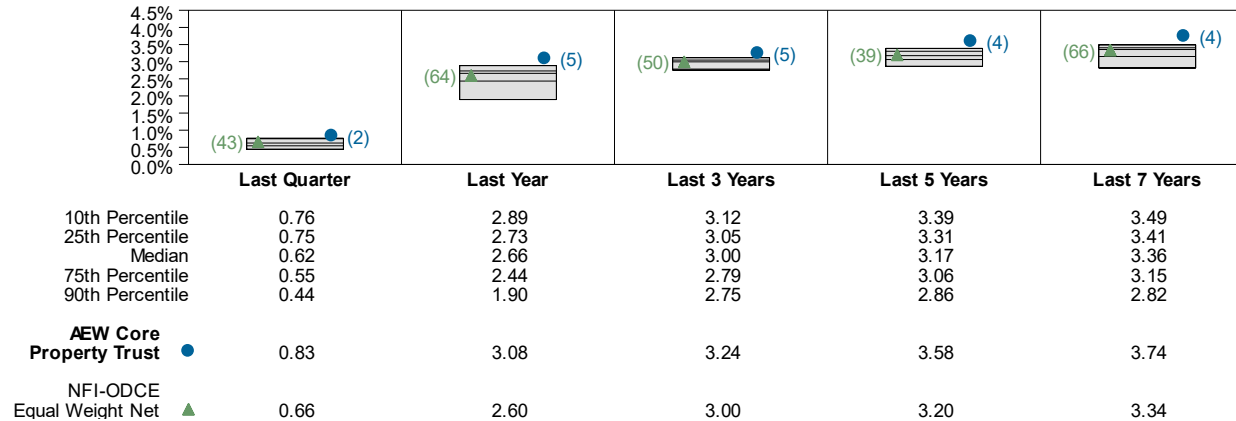
	1 Qtr. 2023	2022	2021	2020	2019	2018
Real Estate - Net	(5.37)	6.20	16.16	(2.29)	0.64	6.46
Real Estate Target	(3.50)	7.56	21.88	0.75	5.18	7.30
AEW Core Property Trust - Net	(3.79)	7.95	21.00	0.57	5.29	6.77
NFI-ODCE Equal Wt Net Index	(3.50)	7.56	21.88	0.75	5.18	7.30
Ranking vs. Core Open End Funds	84	54	59	66	71	76
UBS Trumbull Property Fund - Net	(7.20)	5.21	15.41	(4.68)	(2.88)	6.12
NFI-ODCE Equal Wt Net Index	(3.50)	7.56	21.88	0.75	5.18	7.30
Ranking vs. Core Open End Funds	96	82	89	96	96	89

- The AEW Core Property Trust's current leverage is 26% (NFI-ODCE leverage: 22.7%).
 - All sectors produced negative returns for AEW during the quarter.
- The UBS Trumbull Property Fund's current leverage is 20%.
 - During the quarter, retail produced positive returns, but all other sectors were negative.

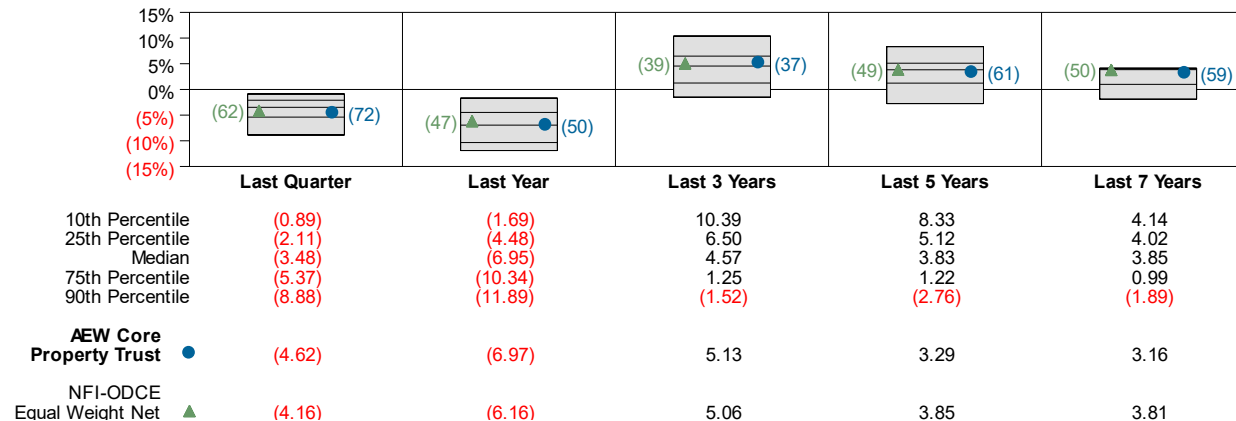
The Real Estate Target is comprised of the NCREIF Classic Index through 12/31/2004, NCREIF Total Property Index through 12/31/2014, and the NFI-ODCE Equal Weight Net thereafter.

AEW Income and Appreciation Returns

Income Rankings vs Callan Real Estate ODCE Periods ended March 31, 2023

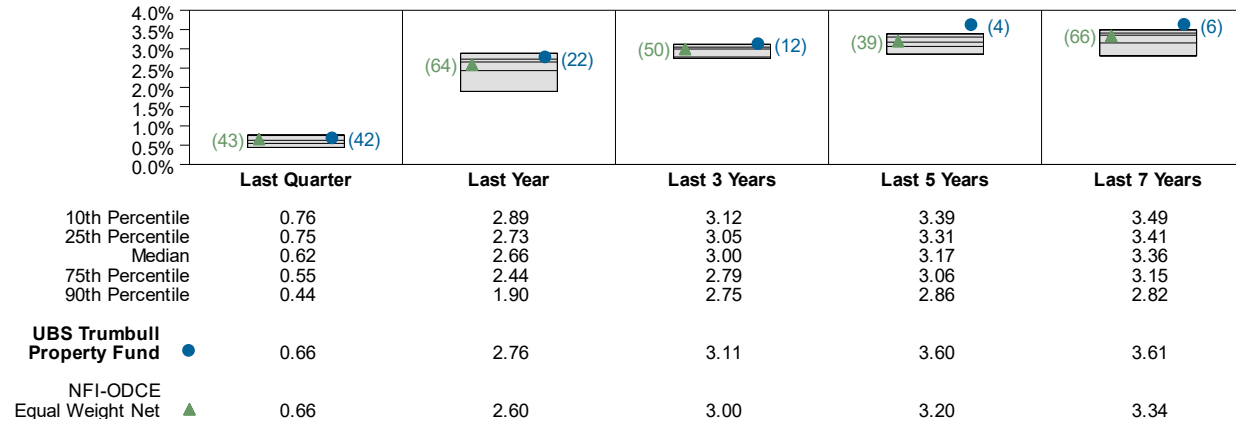


Appreciation Rankings vs Callan Real Estate ODCE Periods ended March 31, 2023

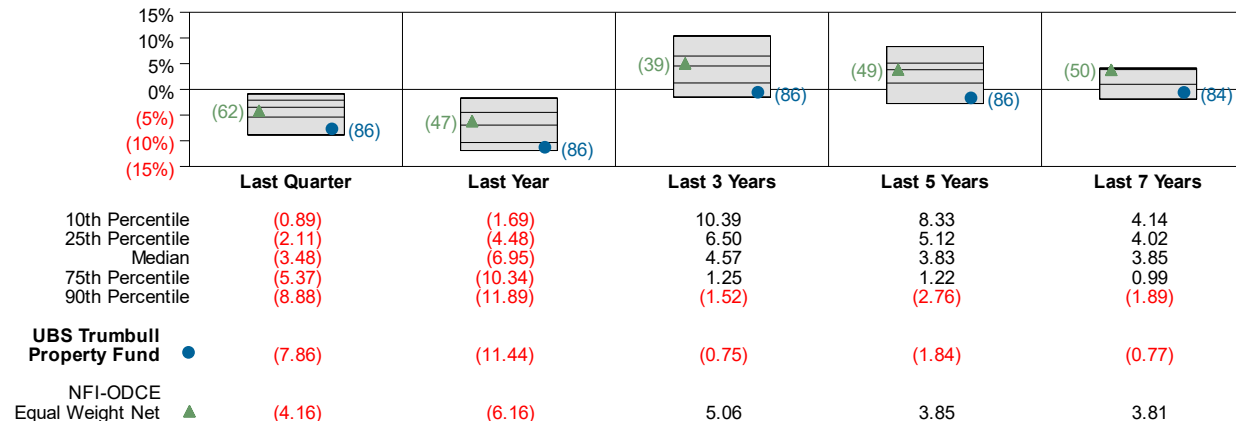


UBS Income and Appreciation Returns

Income Rankings vs Callan Real Estate ODCE Periods ended March 31, 2023



Appreciation Rankings vs Callan Real Estate ODCE Periods ended March 31, 2023



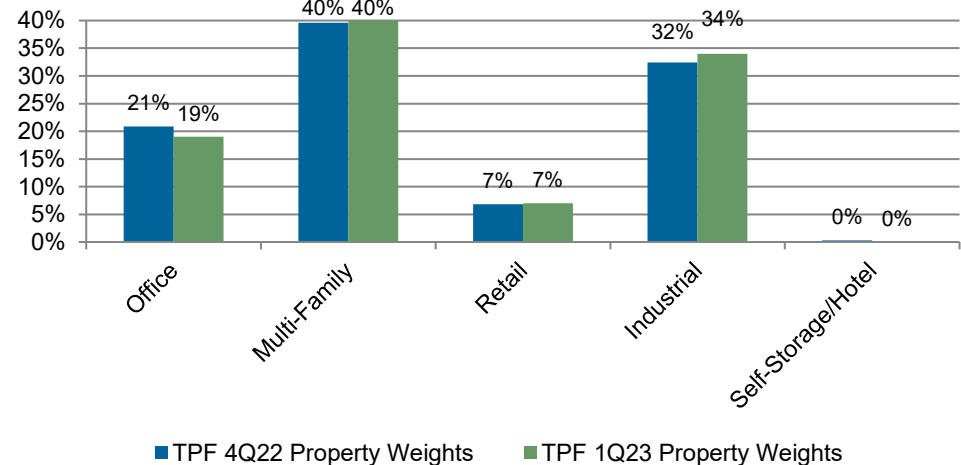
UBS Trumbull Property Fund Snapshot

As of March 31, 2023

As of 1Q 2023

Gross Asset Value	\$15.7B
Net Asset Value	\$12.4B
Leverage	20.0%
Number of Investments	141
Number of Investors	439
Redemption Queue	\$6.5 billion
1Q23 Redemption Queue Payout	\$0 million
Contribution Queue	\$0 million

Property Type Weights (Change from Prior Quarter)



- The Fund has a current redemption pool of \$6.5 billion. The Fund did not make a 1Q 2023 redemption payment in April 2023. In 2022, the Fund paid out a total of \$1.85 billion, compared to the initial target for 2022 redemption payments of \$2.5 billion. The Non-Strategic Asset portfolio began with 44 properties and now has five assets representing 2% of the total fund remaining. Subsequent to quarter end, one apartment and one retail asset were sold out of the non-strategic portfolio.
- 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). In January 2023, UBS announced they are extending these programs.
 - In 2019, MCERA elected for the 4 year/25% discount loyalty incentive on approximately \$100 million NAV (effective January 1, 2020). In 2023, MCERA again elected for the 4 year/25% discount loyalty incentive on the total NAV effective January 1, 2024.

NFI-ODCE Funds - Net of Fee Returns

As of March 31, 2023

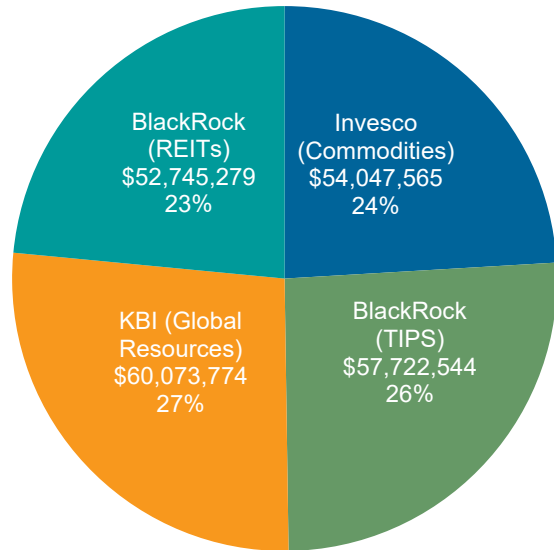
Fund Name	Last Quarter	Last Year	Last 3 Years	Last 5 Years
AEW Core Property Trust	-3.77%	-3.98%	8.58%	7.05%
AFL-CIO Building Investment Trust	-8.03%	-14.47%	-0.39%	1.45%
ARA Core Property Fund	-3.51%	-3.44%	7.75%	7.08%
ASB Allegiance Real Estate Fund	-5.72%	-3.88%	5.65%	5.30%
Bailard Real Estate Fund	-1.99%	3.84%	11.18%	11.04%
Barings Core Property Fund	-3.77%	-7.52%	5.05%	5.52%
BentallGreenOak BGO Diversified	-2.55%	-0.48%	8.45%	7.37%
BlackRock U.S. Core Property Fund	-4.00%	-2.79%	7.87%	7.18%
CBRE U.S. Core Partners LP	-1.21%	-4.65%	12.74%	10.77%
CIM Urban Income Investments	-3.39%	-3.71%	7.26%	7.84%
Clarion Lion Property Fund	-5.27%	-3.53%	8.17%	7.69%
DWS RREEF America REIT II	-5.66%	-4.33%	8.01%	7.29%
GWL U.S. Property Fund L.P.	-1.93%	-3.49%	9.49%	7.75%
Heitman America Real Estate Trust	-3.71%	-3.14%	9.73%	6.56%
Intercontinental U.S. Real Estate Investment Fund	-3.76%	-2.05%	7.86%	7.69%
Invesco Core Real Estate USA	-4.16%	-3.68%	5.84%	6.19%
J.P. Morgan Strategic Property Fund	-3.24%	-5.66%	5.97%	5.50%
LaSalle US Property Fund	-3.28%	-4.27%	8.90%	7.49%
MetLife Core Property Fund	-3.02%	-2.03%	10.11%	8.83%
Morgan Stanley Prime Property Fund	-1.24%	-2.06%	8.61%	7.70%
NYL Madison Core Property Fund	-3.01%	0.09%	11.59%	9.58%
PGIM PRISA	-1.81%	-2.55%	7.93%	7.24%
Principal U.S. Core Property	-3.18%	-6.03%	7.46%	7.00%
Stockbridge Smart Markets Fund	-2.01%	-3.10%	10.81%	9.18%
TA Realty	-0.67%	-0.02%	13.33%	11.32%
UBS Trumbull Property Fund	-7.22%	-9.00%	2.28%	1.70%

NFI-ODCE Funds - Gross of Fee All Sector Returns

As of March 31, 2023

Fund	Retail 1Q 2023	Apartment 1Q 2023	Industrial 1Q 2023	Office 1Q 2023
AEW	-0.33%	-3.24%	-0.35%	-6.46%
AFL-CIO	-4.36%	-9.41%	-1.78%	-13.14%
ARA	-0.62%	-2.75%	-0.35%	-7.32%
ASB	-2.36%	-4.28%	-1.58%	-6.75%
Bailard	-0.57%	-2.41%	1.63%	-8.08%
Barings	0.41%	-2.90%	-6.03%	-3.58%
BGO	-6.60%	-2.44%	0.25%	-3.36%
BlackRock	-0.33%	-2.42%	-1.10%	-5.80%
CBRE	0.97%	-0.48%	-0.70%	-0.79%
CIM Group	-0.37%	-0.60%	2.84%	-7.16%
Clarion	-2.08%	-3.46%	-2.74%	-7.10%
DWS	-0.88%	-3.32%	-2.72%	-12.92%
Everwest	3.37%	-0.69%	-0.65%	-6.85%
Heitman	-1.04%	-3.69%	-1.77%	-4.97%
Intercontinental	1.05%	-3.06%	-3.06%	-3.14%
Invesco	0.52%	-2.87%	-7.28%	-5.14%
JP Morgan	1.38%	-1.28%	-2.52%	-3.91%
MetLife	0.17%	-2.09%	-0.50%	-3.94%
MSIM	-1.21%	0.33%	0.48%	-3.10%
NYLIM	1.92%	-2.78%	-0.23%	-3.15%
PGIM	1.36%	-1.98%	0.15%	-3.26%
Principal	-0.21%	-1.89%	0.78%	-3.47%
Stockbridge	-0.54%	-1.44%	-1.80%	-1.37%
TA Realty	0.18%	-0.13%	0.73%	-5.34%
UBS	1.30%	-4.76%	-3.46%	-19.63%

Real Assets Composite



- The BlackRock TIPS and REITs Funds are passive.
- The Invesco Balanced Risk Commodities Fund has been underweight to natural gas. This underweight has helped the last few quarters as natural gas has declined 51%.
- KBI handily outperformed the index with the energy efficiency and water infrastructure segments driving returns.

Returns and Rankings for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Real Assets - Net	2.75	(8.82)	16.59	7.06
Real Assets Target	0.29	(11.10)	15.55	5.83
BlackRock TIPS Index Fund - Net	3.53	(6.06)	1.84	3.01
Bloomberg US TIPS Index	3.34	(6.06)	1.75	2.94
Ranking vs. Real Returns Database	12	35	47	29
BlackRock REIT Index Fund - Net	2.76	(21.08)	11.21	4.60
S&P Dow Jones US Select REIT	2.77	(20.98)	11.32	4.66
Ranking vs. Real Estate Mutual Funds	43	68	25	74
Invesco Commodity Fund - Net	(1.68)	(6.56)	22.83	5.28
Bloomberg Commodity Index	(5.36)	(12.49)	20.82	5.36
Ranking vs. Commodities Funds	10	6	40	63
KBI Global Resources Fund - Net	6.29	(2.78)	28.12	11.72
S&P Global Natural Resources Index	0.41	(5.62)	26.86	7.11

Returns and Rankings Calendar Years

	1 Qtr. 2023	2022	2021	2020
Real Assets - Net	2.75	(9.41)	23.96	11.08
Real Assets Target	0.29	(3.52)	25.60	0.57
BlackRock TIPS Index Fund - Net	3.53	(11.96)	5.92	11.17
Bloomberg US TIPS Index	3.34	(11.85)	5.96	10.99
Ranking vs. Real Returns Database	12	76	41	18
BlackRock REIT Index Fund - Net	2.76	(26.08)	45.80	(11.21)
S&P Dow Jones US Select REIT Index	2.77	(25.96)	45.91	(11.20)
Ranking vs. Real Estate Mutual Funds	43	50	17	96
Invesco Commodity Fund - Net	(1.68)	9.00	19.68	7.58
Bloomberg Commodity Index	(5.36)	16.09	27.11	(3.12)
Ranking vs. Commodities Funds	10	83	87	1
KBI Global Resources Fund - Net	6.29	(7.85)	24.08	29.17
S&P Global Natural Resources Index	0.41	9.59	24.40	(0.05)

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 (as of 12/31/22)

- 91% Paid-In through 12/31/22.
- 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.

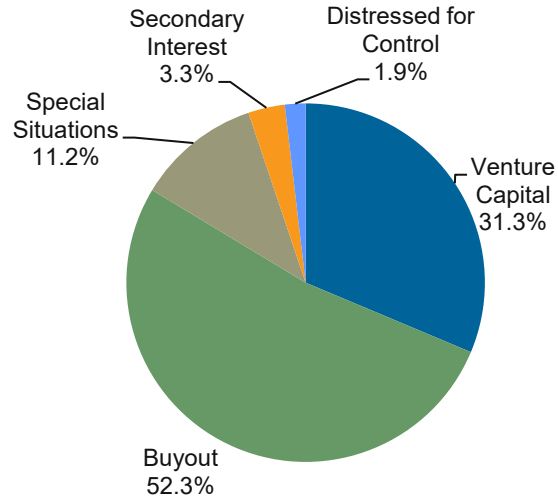
	December 31, 2022	Quarter Change	September 30, 2022
Summary			
Vintage Years	16 in 2008-2023		16 in 2008-2023
# Total Partnerships	533	3	530
# Active Partnerships	510	9	501
# Liquidated Partnerships	23	2	21
Changes in Value			
Capital Commitments	\$450,000,000	-	\$450,000,000
Paid-In Capital	\$409,665,531	\$3,582,686	\$406,082,845
Uncalled Capital	\$55,646,927	\$(3,238,623)	\$58,885,550
% Paid-In	91.04%	0.80%	90.24%
Distributed Capital	\$460,209,877	\$10,662,556	\$449,547,321
Net Asset Value	\$354,755,692	\$(10,104,916)	\$364,860,608
Total Realized and Unrealized Value	\$814,965,569	\$557,640	\$814,407,929
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	1.12x	0.02x	1.11x
Residual Value to Paid-In Capital (RVPI)	0.87x	(0.03)x	0.90x
Total Value to Paid-In Capital (TVPI)	1.99x	(0.02)x	2.01x
Quartile Ranking	2nd		2nd
Net IRR	15.49%	(0.33%)	15.82%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		2.92%	
Unrealized Gain/(Loss), Dollars		\$(3,025,046)	
Unrealized Gain/(Loss), %		(0.83%)	

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

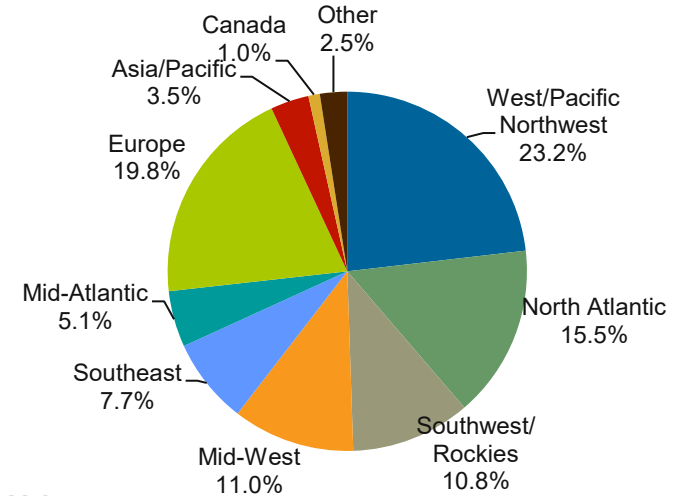
Uncalled capital above does not reflect currency fluctuations for Pathway's investments in foreign partnerships.

Private Equity Portfolio Exposure

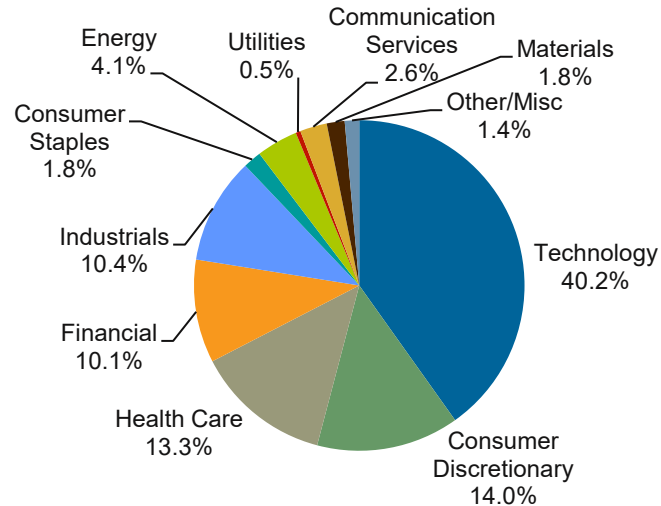
Strategy Mix by Net Asset Value



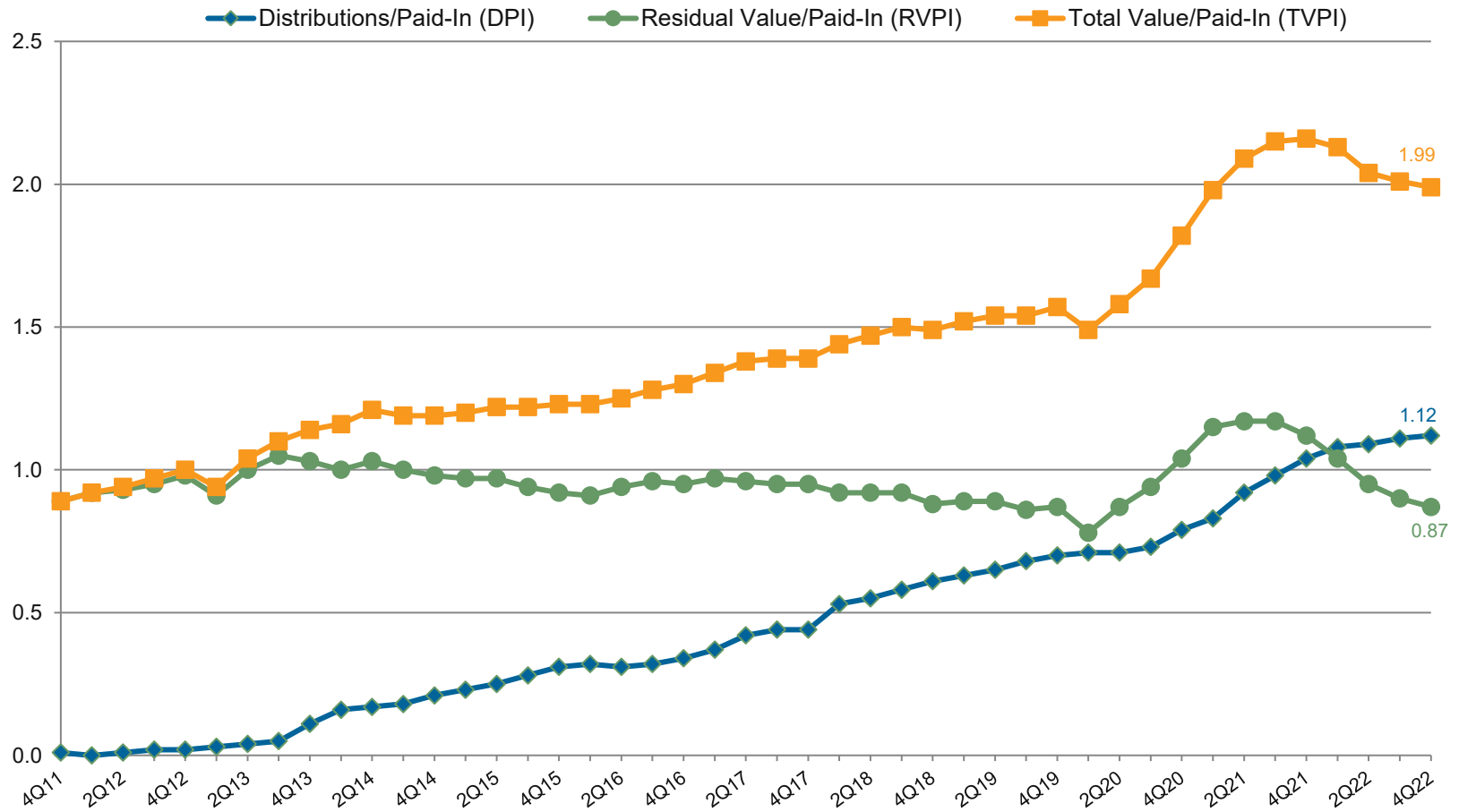
Geographic Mix by Net Asset Value



Industry Mix by Net Asset Value



Private Equity Ratios – Changes Over Time



Opportunistic Portfolio

- 62% Paid-In through 3/31/23.
- The total portfolio is diversified by industry type and geographic location.

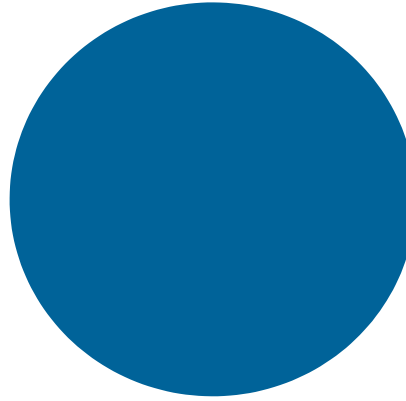
	March 31, 2023	Quarter Change	December 31, 2022
Summary			
Vintage Year	2020		2020
# Total Partnerships	193	-	193
# Active Partnerships	193	-	193
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$100,000,000	-	\$100,000,000
Paid-In Capital	\$62,071,145	-	\$62,071,145
Uncalled Capital	\$39,757,764	-	\$39,757,764
% Paid-In	62.07%	-	62.07%
Distributed Capital	\$9,788,256	\$6,303,946	\$3,484,310
Net Asset Value	\$58,158,129	\$(4,293,833)	\$62,451,963
Total Realized and Unrealized Value	\$67,946,385	\$2,010,113	\$65,936,273
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.16x	0.10x	0.06x
Residual Value to Paid-In Capital (RVPI)	0.94x	(0.07)x	1.01x
Total Value to Paid-In Capital (TVPI)	1.09x	0.03x	1.06x
Quartile Ranking	3rd		3rd
Net IRR	6.52%	1.39%	5.14%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		10.09%	
Unrealized Gain/(Loss), Dollars		\$2,010,113	
Unrealized Gain/(Loss), %		3.22%	

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

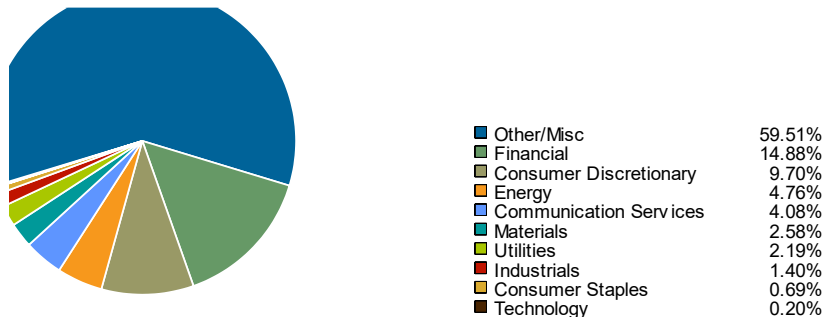
Opportunistic Portfolio Exposure

Strategy Mix by Net Asset Value

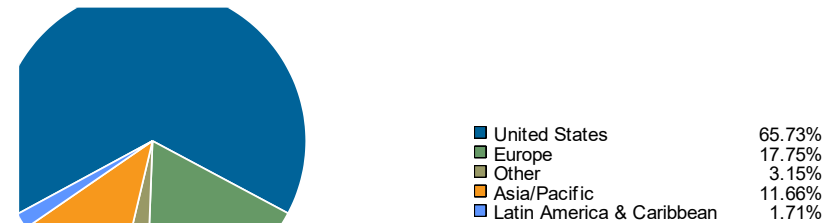
Special Situations
100.0%



Industry Mix by Net Asset Value



Geographic Mix by Net Asset Value



Callan

Appendix

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equity	6.54%	(7.04%)	20.70%	10.48%	11.66%
Equity Benchmark	7.18%	(8.58%)	18.48%	10.45%	11.73%
SSGA Russell 1000 Index (1)	7.43%	(8.34%)	17.66%	10.65%	11.99%
Blended Benchmark*	7.46%	(8.39%)	17.62%	10.63%	11.96%
DFA Small Cap Core	3.38%	(4.94%)	24.90%	-	-
Russell 2000 Index	2.74%	(11.61%)	17.51%	4.71%	8.04%
International Equity	8.88%	(2.23%)	10.75%	2.46%	5.11%
International Benchmark	6.56%	(5.84%)	12.20%	2.35%	4.28%
Morgan Stanley Value	11.14%	3.03%	12.69%	4.19%	5.30%
Artisan Partners Growth	8.77%	0.70%	10.35%	4.44%	5.80%
MSCI EAFE Index	8.47%	(1.38%)	12.99%	3.52%	5.00%
TimesSquare Intl Small Cap	9.40%	(5.93%)	10.05%	-	-
MSCI EAFE Small Cap Index	4.92%	(9.83%)	12.07%	0.87%	5.86%
FIAM Select Emerging Equity	5.38%	(9.22%)	-	-	-
MSCI Emerging Markets Index	3.96%	(10.70%)	7.83%	(0.91%)	2.00%
Fixed Income	3.36%	(7.36%)	(1.42%)	0.84%	1.61%
Fixed Income Benchmark	2.96%	(5.47%)	(2.69%)	0.29%	0.95%
Wellington Core Plus	3.44%	(4.59%)	(1.00%)	1.79%	2.27%
Bloomberg Aggregate Index	2.96%	(4.78%)	(2.77%)	0.91%	1.36%
Western Asset Core Plus	3.60%	(3.29%)	1.61%	2.40%	2.44%
Blended Benchmark**	2.96%	(3.48%)	(0.18%)	1.52%	1.69%
Real Assets	(1.48%)	(6.86%)	9.79%	5.72%	8.90%
Real Asset Benchmark	(1.73%)	(6.69%)	11.90%	6.92%	7.83%
Private Real Estate	(5.18%)	(5.56%)	5.20%	4.56%	9.18%
NFI-ODCE Equal Weight Net	(3.50%)	(3.69%)	8.17%	7.13%	8.82%
UBS Trumbull Property Fund	(7.04%)	(8.34%)	2.98%	2.47%	6.02%
AEW Core Property Trust	(3.58%)	(3.20%)	9.46%	7.97%	9.31%
Public Real Assets	2.86%	(8.45%)	17.07%	7.50%	-
Public Real Assets Benchmark	0.29%	(11.10%)	15.55%	5.83%	-
BlackRock TIPS Index Fund	3.54%	(6.03%)	1.87%	3.04%	-
Bloomberg US TIPS Index	3.34%	(6.06%)	1.75%	2.94%	1.49%
BlackRock REIT Index Fund	2.78%	(21.03%)	11.28%	4.66%	-
DJ US Select REIT Index	2.77%	(20.98%)	11.32%	4.66%	5.31%
Invesco Commodity Fund	(1.51%)	(5.95%)	23.67%	6.01%	-
Bloomberg Commodity Index	(5.36%)	(12.49%)	20.82%	5.36%	(1.72%)
KBI Global Resources Fund	6.51%	(1.95%)	29.20%	12.67%	-
S&P Global Natural Resources Index	0.41%	(5.62%)	26.86%	7.11%	4.44%
Opportunistic****	3.76%	3.87%	-	-	-
S&P/LSTA Leveraged Loans Index + 250	3.79%	5.23%	11.10%	6.21%	6.31%
Private Equity****	0.00%	(10.07%)	24.86%	18.63%	17.64%
Total Fund	4.19%	(6.07%)	12.53%	7.00%	8.41%
Total Fund - NOF	4.11%	(6.43%)	12.09%	6.54%	7.92%
Total Fund - IRR	4.23%	(6.14%)	12.87%	6.89%	8.41%
Total Fund Target	4.16%	(7.04%)	10.98%	5.84%	7.01%
Public Fund Sponsor Database	4.55%	(4.78%)	11.15%	6.22%	7.22%

The Total Fund/Plan IRR Calculation is based upon best available data.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

*Blended Benchmark = S&P 500 Index through 7/31/21 and Russell 1000 Index thereafter.

**Blended Benchmark = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit until 11/06/2022.

Currently the Bloomberg Aggregate.

****Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	6/2022- 3/2023	FY 2022	FY 2021	FY 2020	FY 2019
Domestic Equity	10.60%	(13.33%)	50.89%	2.37%	6.41%
Equity Benchmark	9.75%	(13.87%)	44.16%	6.53%	8.98%
SSGA Russell 1000 Index (1)	9.95%	(12.71%)	40.82%	7.46%	10.44%
Blended Benchmark*	9.93%	(12.78%)	40.79%	7.51%	10.42%
DFA Small Cap Core	10.38%	(14.63%)	67.48%	(11.40%)	-
Russell 2000 Index	6.75%	(25.20%)	62.03%	(6.63%)	(3.31%)
International Equity	12.77%	(22.45%)	30.86%	(1.79%)	3.12%
International Benchmark	9.85%	(19.86%)	37.18%	(4.74%)	0.26%
Morgan Stanley Value	16.14%	(18.82%)	28.11%	0.59%	0.95%
Artisan Partners Growth	16.85%	(21.86%)	25.10%	0.73%	9.99%
MSCI EAFE Index	15.36%	(17.77%)	32.35%	(5.13%)	1.08%
TimesSquare Intl Small Cap	14.26%	(30.98%)	37.57%	(2.24%)	-
MSCI EAFE Small Cap Index	9.54%	(23.98%)	40.98%	(3.52%)	(6.35%)
FIAM Select Emerging Equity	2.16%	-	-	-	-
MSCI Emerging Markets Index	0.84%	(25.28%)	40.90%	(3.39%)	1.22%
Fixed Income	(1.47%)	(11.73%)	2.95%	9.35%	7.68%
Fixed Income Benchmark	0.01%	(11.61%)	0.60%	7.29%	7.36%
Wellington Core Plus	1.52%	(11.52%)	1.97%	10.09%	8.35%
Bloomberg Aggregate Index	(0.09%)	(10.29%)	(0.33%)	8.74%	7.87%
Western Asset Core Plus	1.12%	(9.79%)	4.87%	8.18%	8.94%
Blended Benchmark**	0.16%	(8.96%)	2.25%	6.97%	8.23%
Colchester Global	-	(16.40%)	4.53%	4.09%	5.88%
FTSE World Govt Bond Index	(0.71%)	(16.77%)	0.76%	4.60%	5.48%
Real Assets	(3.96%)	11.77%	18.88%	(1.63%)	3.10%
Real Asset Benchmark	(3.80%)	17.17%	19.87%	(3.21%)	3.80%
Private Real Estate	(8.65%)	23.78%	4.20%	0.99%	3.08%
NFI-ODCE Equal Weight Net	(7.70%)	28.90%	7.97%	1.70%	5.99%
UBS Trumbull Property Fund	(11.86%)	24.51%	1.99%	(0.86%)	0.04%
AEW Core Property Trust	(6.32%)	28.42%	8.95%	2.35%	6.92%
Public Real Assets	1.63%	(0.30%)	41.18%	(4.91%)	3.14%
Public Real Assets Benchmark	0.32%	4.24%	34.55%	(10.20%)	0.91%
BlackRock TIPS Index Fund	0.07%	(5.12%)	6.64%	8.43%	4.95%
Bloomberg US TIPS Index	0.02%	(5.14%)	6.51%	8.28%	4.84%
BlackRock REIT Index Fund	(3.60%)	(6.41%)	39.95%	(17.64%)	9.81%
DJ US Select REIT Index	(3.51%)	(6.41%)	39.98%	(17.71%)	9.75%
Invesco Commodity Fund	(3.71%)	16.15%	49.69%	(13.42%)	(7.44%)
Bloomberg Commodity Index	(7.23%)	24.27%	45.61%	(17.38%)	(6.75%)
KBI Global Resources Fund	14.54%	(7.55%)	66.04%	(0.81%)	4.65%
S&P Global Natural Resources Index	11.98%	2.27%	48.36%	(17.36%)	(4.63%)
Opportunistic****	9.27%	(1.84%)	-	-	-
S&P/LSTA Leveraged Loans Index + 250	9.33%	(0.27%)	14.15%	0.66%	6.48%
Private Equity****	(3.04%)	0.56%	75.28%	11.53%	16.55%
Total Fund	4.33%	(9.60%)	32.69%	3.74%	6.39%
Total Fund - NOF	4.04%	(9.95%)	32.15%	3.26%	5.88%
Total Fund - IRR	4.36%	(9.41%)	32.67%	3.25%	6.05%
Total Fund Target	4.99%	(10.52%)	27.89%	3.29%	5.99%
Public Fund Sponsor Database	5.83%	(9.51%)	27.01%	3.02%	6.19%

The Total Fund/Plan IRR Calculation is based upon best available data.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

*Blended Benchmark = S&P 500 Index through 7/31/21 and Russell 1000 Index thereafter.

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Currently the Bloomberg Aggregate.

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Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	FY 2018	FY 2017	FY 2016	FY 2015	FY 2014
Domestic Equity	16.87%	19.56%	(0.59%)	7.52%	24.38%
Equity Benchmark	14.78%	18.51%	2.14%	7.29%	25.22%
SSGA Russell 1000 Index (1)	14.40%	17.97%	4.08%	7.42%	24.60%
Blended Benchmark*	14.37%	17.90%	3.99%	7.42%	24.61%
Russell 2000 Index	17.57%	24.60%	(6.73%)	6.49%	23.64%
DFA Value	15.64%	22.72%	(5.31%)	3.50%	25.92%
Russell 2000 Value Index	13.10%	24.86%	(2.58%)	0.78%	22.54%
Russell 2000 Growth Index	21.86%	24.40%	(10.75%)	12.34%	24.73%
International Equity	8.05%	18.41%	(6.92%)	(1.97%)	22.56%
International Benchmark	7.75%	20.43%	(9.61%)	(4.97%)	22.28%
Morgan Stanley Value	6.61%	17.87%	(7.41%)	(2.55%)	20.84%
Artisan Partners Growth	8.77%	14.74%	(10.76%)	0.60%	23.64%
MSCI EAFE Index	6.84%	20.27%	(10.16%)	(4.22%)	23.57%
MSCI EAFE Small Cap Index	12.45%	23.18%	(3.67%)	(0.77%)	29.08%
Parametric Emerging	4.27%	18.89%	(7.65%)	(9.22%)	17.38%
MSCI Emerging Markets Index	8.20%	23.75%	(12.05%)	(5.12%)	14.31%
FIAM International Small Cap	12.26%	23.14%	(2.74%)	1.65%	27.34%
S&P EPAC Sm Cp (Net)	11.27%	22.97%	(4.77%)	0.33%	29.15%
Fixed Income	0.31%	1.28%	6.68%	(0.57%)	6.02%
Fixed Income Benchmark	0.21%	(0.83%)	7.05%	(1.02%)	4.36%
Wellington Core Plus	0.34%	2.40%	6.05%	1.79%	6.31%
Bloomberg Aggregate Index	(0.40%)	(0.31%)	6.00%	1.86%	4.37%
Western Asset Core Plus	(0.02%)	3.11%	5.09%	1.44%	5.22%
Blended Benchmark**	(0.36%)	1.36%	4.97%	1.51%	4.18%
Colchester Global	1.47%	(0.81%)	8.29%	(7.61%)	-
FTSE World Govt Bond Index	1.90%	(4.14%)	11.26%	(9.02%)	6.85%
Real Assets	7.29%	4.10%	13.68%	22.79%	13.73%
Real Asset Benchmark	8.58%	4.30%	6.79%	13.15%	11.21%
Private Real Estate	7.60%	6.55%	19.84%	22.84%	13.73%
NFI-ODCE Equal Weight Net	7.68%	7.23%	11.24%	13.64%	11.37%
NCREIF Total Index	7.19%	6.97%	10.64%	12.98%	11.21%
UBS Trumbull Property Fund	7.70%	5.60%	10.71%	12.57%	10.39%
AEW Core Property Trust	8.16%	7.77%	11.61%	13.22%	11.85%
AEW Partners V Fund	163.23%	27.65%	35.97%	44.36%	27.76%
RREEF America REIT III	-	(15.40%)	(9.18%)	24.69%	27.46%
Public Real Assets	6.80%	0.39%	1.14%	-	-
Public Real Assets Benchmark	9.51%	1.01%	1.32%	-	-
BlackRock TIPS Index Fund	2.30%	(0.38%)	4.35%	-	-
Bloomberg US TIPS Index	2.11%	(0.63%)	4.35%	(1.73%)	4.44%
BlackRock REIT Index Fund	5.26%	(1.79%)	24.06%	-	-
DJ US Select REIT Index	4.23%	(2.43%)	22.85%	5.21%	13.27%
Invesco Commodity Fund	12.37%	(8.47%)	(12.99%)	-	-
Bloomberg Commodity Index	7.35%	(6.50%)	(13.32%)	(23.71%)	8.21%
KBI Global Resources Fund	7.54%	13.43%	(9.16%)	-	-
S&P Global Natural Resources Index	24.07%	14.70%	(9.47%)	(18.09%)	21.06%
Private Equity****	20.80%	20.43%	9.29%	10.45%	25.66%
Total Fund	10.29%	12.88%	2.68%	5.52%	19.22%
Total Fund - NOF	9.74%	12.34%	2.19%	5.02%	18.65%
Total Fund - IRR	10.18%	12.81%	2.56%	5.54%	19.19%
Total Fund Target	8.67%	12.20%	0.98%	2.91%	18.09%
Public Fund Sponsor Database	8.35%	12.41%	0.79%	3.28%	16.49%
6.75% Actuarial Assumption	6.75%	6.75%	6.75%	6.75%	6.75%

The Total Fund/Plan IRR Calculation is based upon best available data.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

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Investment Manager Returns

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	12/2022- 3/2023	2022	2021	2020	2019
Domestic Equity	6.54%	(17.34%)	29.89%	17.98%	28.93%
Equity Benchmark	7.18%	(19.21%)	25.66%	20.89%	31.02%
SSGA Russell 1000 Index (1)	7.43%	(19.04%)	27.19%	18.36%	31.46%
Blended Benchmark*	7.46%	(19.13%)	27.15%	18.40%	31.49%
DFA Small Cap Core	3.38%	(12.68%)	29.64%	12.12%	22.19%
Russell 2000 Index	2.74%	(20.44%)	14.82%	19.96%	25.52%
International Equity	8.88%	(18.76%)	6.03%	11.57%	24.44%
International Benchmark	6.56%	(16.58%)	8.53%	11.12%	21.63%
Morgan Stanley Value	11.14%	(13.12%)	5.28%	12.65%	21.63%
Artisan Partners Growth	8.77%	(18.42%)	9.46%	8.96%	30.65%
MSCI EAFE Index	8.47%	(14.45%)	11.26%	7.82%	22.01%
TimesSquare Intl Small Cap	9.40%	(26.19%)	3.05%	14.84%	-
MSCI EAFE Small Cap Index	4.92%	(21.39%)	10.10%	12.34%	24.96%
FIAM Select Emerging Equity	5.38%	(23.44%)	-	-	-
MSCI Emerging Markets Index	3.96%	(20.09%)	(2.54%)	18.31%	18.44%
Parametric Emerging	-	-	-	4.84%	13.48%
MSCI Emerging Markets Index	3.96%	(20.09%)	(2.54%)	18.31%	18.44%
Fixed Income	3.36%	(15.39%)	(2.30%)	11.95%	8.87%
Fixed Income Benchmark	2.96%	(13.56%)	(2.79%)	8.10%	8.21%
Wellington Core Plus	3.44%	(13.52%)	(0.53%)	10.14%	10.16%
Bloomberg Aggregate Index	2.96%	(13.01%)	(1.54%)	7.51%	8.72%
Western Asset Core Plus	3.60%	(11.50%)	(0.19%)	10.28%	10.11%
Blended Benchmark**	2.96%	(11.01%)	(1.03%)	7.08%	9.52%
Colchester Global	-	-	(7.62%)	11.58%	8.02%
FTSE World Govt Bond Index	3.51%	(18.26%)	(6.97%)	10.11%	5.90%
Real Assets	(1.48%)	(0.91%)	20.34%	3.70%	7.26%
Real Asset Benchmark	(1.73%)	2.81%	23.70%	1.67%	9.32%
Private Real Estate	(5.18%)	6.93%	16.98%	(1.50%)	1.54%
NFI-ODCE Equal Weight Net	(3.50%)	7.56%	21.88%	0.75%	5.18%
UBS Trumbull Property Fund	(7.04%)	5.86%	16.14%	(4.03%)	(1.91%)
AEW Core Property Trust	(3.58%)	8.90%	22.10%	1.68%	6.24%
Public Real Assets	2.86%	(9.04%)	24.48%	11.56%	15.95%
Public Real Assets Benchmark	0.29%	(3.52%)	25.60%	0.57%	14.08%
BlackRock TIPS Index Fund	3.54%	(11.93%)	5.95%	11.20%	8.53%
Bloomberg US TIPS Index	3.34%	(11.85%)	5.96%	10.99%	8.43%
BlackRock REIT Index Fund	2.78%	(26.03%)	45.89%	(11.16%)	23.15%
DJ US Select REIT Index	2.77%	(25.96%)	45.91%	(11.20%)	23.10%
Invesco Commodity Fund	(1.51%)	9.71%	20.51%	8.33%	6.23%
Bloomberg Commodity Index	(5.36%)	16.09%	27.11%	(3.12%)	7.69%
KBI Global Resources Fund	6.51%	(7.06%)	25.13%	30.27%	25.87%
S&P Global Natural Resources Index	0.41%	9.59%	24.40%	(0.05%)	16.41%
Opportunistic****	3.76%	(0.04%)	14.20%	-	-
S&P/LSTA Leveraged Loans Index + 250	3.79%	1.91%	7.70%	5.79%	11.14%
Private Equity****	0.00%	(12.00%)	46.43%	38.01%	18.53%
Total Fund	4.19%	(13.75%)	17.47%	15.66%	18.73%
Total Fund - NOF	4.11%	(14.09%)	17.01%	15.16%	18.19%
Total Fund - IRR	4.23%	(13.79%)	17.28%	14.94%	18.66%
Total Fund Target	4.16%	(13.84%)	14.12%	13.68%	19.97%
Public Fund Sponsor Database	4.55%	(12.68%)	13.92%	12.13%	18.27%

The Total Fund/Plan IRR Calculation is based upon best available data.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

*Blended Benchmark = S&P 500 Index through 7/31/21 and Russell 1000 Index thereafter.

**Blended Benchmark = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit until 11/06/2022.

Currently the Bloomberg Aggregate.

****Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	2018	2017	2016	2015	2014
Domestic Equity	(5.14%)	20.85%	13.35%	(0.72%)	11.02%
Equity Benchmark	(5.24%)	21.13%	12.74%	0.48%	12.56%
SSGA Russell 1000 Index (1)	(4.36%)	21.86%	12.03%	1.44%	13.69%
Blended Benchmark*	(4.38%)	21.83%	11.96%	1.38%	13.69%
Russell 2000 Index	(11.01%)	14.65%	21.31%	(4.41%)	4.89%
Columbus Circle Growth	-	29.80%	3.13%	(6.66%)	4.51%
Russell 2000 Growth Index	(9.31%)	22.17%	11.32%	(1.38%)	5.60%
DFA Value	-	7.68%	29.11%	(6.06%)	5.04%
Russell 2000 Value Index	(12.86%)	7.84%	31.74%	(7.47%)	4.22%
International Equity	(12.81%)	29.99%	0.23%	(0.66%)	(3.27%)
International Benchmark	(14.76%)	27.81%	4.41%	(4.60%)	(3.89%)
Morgan Stanley Value	(12.86%)	26.28%	(0.82%)	1.17%	(5.10%)
Artisan Partners Growth	(9.79%)	32.52%	(8.53%)	(2.61%)	0.24%
MSCI EAFE Index	(13.79%)	25.03%	1.00%	(0.81%)	(4.90%)
MSCI EAFE Small Cap	(17.89%)	33.01%	2.18%	9.59%	(4.95%)
Parametric Emerging	(12.89%)	28.61%	13.85%	(15.12%)	(3.00%)
MSCI Emerging Markets Index	(14.57%)	37.28%	11.19%	(14.92%)	(2.19%)
FIAM International Small Cap	(17.56%)	32.96%	1.13%	12.54%	(5.75%)
S&P EPAC Sm Cp (Nt)	(18.58%)	33.47%	1.34%	8.58%	(3.43%)
Fixed Income	(0.09%)	5.43%	4.55%	(0.61%)	4.46%
Fixed Income Benchmark	(0.17%)	4.55%	2.70%	(0.39%)	3.74%
Wellington Core Plus	(0.17%)	5.11%	4.93%	0.30%	6.40%
Bloomberg Aggregate Index	0.01%	3.54%	2.65%	0.55%	5.97%
Western Asset Core Plus	(0.07%)	4.43%	5.21%	1.25%	4.56%
Blended Benchmark**	0.01%	3.67%	3.68%	0.90%	4.45%
Colchester Global	(0.47%)	8.68%	4.33%	(5.52%)	-
FTSE World Govt Bond Index	(0.84%)	7.49%	1.60%	(3.57%)	(0.48%)
Real Assets	1.01%	7.91%	9.37%	18.37%	15.55%
Real Asset Benchmark	0.40%	7.42%	11.18%	5.44%	11.82%
Private Real Estate	7.30%	6.57%	8.11%	29.00%	15.55%
NFI-ODCE Equal Weight Net	7.30%	6.92%	8.36%	14.18%	11.42%
NCREIF Total Index	6.72%	6.96%	7.97%	13.33%	11.82%
UBS Trumbull Property Fund	6.97%	6.29%	7.21%	12.93%	11.56%
AEW Core Property Trust	7.73%	7.96%	8.49%	13.76%	11.31%
AEW Partners V Fund	9.77%	165.19%	31.70%	45.46%	46.59%
RREEF America REIT III	-	(5.95%)	(15.70%)	8.52%	27.93%
Public Real Assets	(7.59%)	10.03%	11.14%	-	-
Public Real Assets Benchmark	(7.27%)	7.95%	14.37%	-	-
BlackRock TIPS Index Fund	(1.12%)	3.24%	4.84%	-	-
Bloomberg US TIPS Index	(1.26%)	3.01%	4.68%	(1.44%)	3.64%
BlackRock REIT Index Fund	(4.16%)	6.10%	8.62%	-	-
DJ US Select REIT Index	(4.22%)	3.76%	6.68%	4.48%	32.00%
MSCI REIT Index	(4.57%)	5.07%	8.60%	2.52%	30.38%
Invesco Commodity Fund	(10.99%)	5.91%	11.05%	-	-
Bloomberg Commodity Index	(11.25%)	1.70%	11.77%	(24.66%)	(17.01%)
KBI Global Resources Fund	(13.86%)	25.66%	21.17%	-	-
S&P Global Natural Resources Index	(13.08%)	21.98%	31.45%	(24.50%)	(10.18%)
Private Equity****	16.44%	22.16%	13.53%	11.24%	14.19%
Total Fund	(2.68%)	17.41%	8.10%	2.73%	7.10%
Total Fund - NOF	(3.16%)	16.81%	7.61%	2.24%	6.59%
Total Fund -IRR	(2.90%)	17.29%	8.11%	2.70%	7.02%
Total Fund Target	(5.49%)	16.68%	8.13%	(0.34%)	6.28%
Public Fund Sponsor Database	(3.99%)	15.66%	7.62%	0.02%	6.19%

The Total Fund/Plan IRR Calculation is based upon best available data.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

*Blended Benchmark = S&P 500 Index through 7/31/21 and Russell 1000 Index thereafter.

**Blended Benchmark = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit until 11/06/2022.

Currently the Bloomberg Aggregate.

****Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Net-of-Fees					
Domestic Equity	6.51%	(7.14%)	20.57%	10.33%	11.47%
Equity Benchmark	7.18%	(8.58%)	18.48%	10.45%	11.73%
SSGA Russell 1000 Index (1)	7.42%	(8.36%)	17.64%	10.63%	11.96%
Blended Benchmark*	7.46%	(8.39%)	17.62%	10.63%	11.96%
DFA Small Cap Core	3.30%	(5.26%)	24.49%	-	-
Russell 2000 Index	2.74%	(11.61%)	17.51%	4.71%	8.04%
International Equity	8.71%	(2.85%)	10.01%	1.74%	4.32%
International Benchmark	6.56%	(5.84%)	12.20%	2.35%	4.28%
Morgan Stanley Value	10.99%	2.45%	12.05%	3.58%	4.65%
Artisan Partners Growth	8.56%	(0.10%)	9.48%	3.61%	4.86%
MSCI EAFE Index	8.47%	(1.38%)	12.99%	3.52%	5.00%
TimesSquare Intl Small Cap	9.18%	(6.73%)	9.12%	-	-
MSCI EAFE Small Cap Index	4.92%	(9.83%)	12.07%	0.87%	5.86%
FIAM Select Emerging Equity	5.24%	(9.74%)	-	-	-
MSCI Emerging Markets Index	3.96%	(10.70%)	7.83%	(0.91%)	2.00%
Fixed Income	3.32%	(7.54%)	(1.63%)	0.58%	1.34%
Fixed Income Benchmark	2.96%	(5.47%)	(2.69%)	0.29%	0.95%
Wellington Core Plus	3.39%	(4.76%)	(1.19%)	1.59%	2.06%
Bloomberg Aggregate Index	2.96%	(4.78%)	(2.77%)	0.91%	1.36%
Western Asset Core Plus	3.55%	(3.51%)	1.38%	2.14%	2.16%
Blended Benchmark**	2.96%	(3.48%)	(0.18%)	1.52%	1.69%
Real Assets	(1.63%)	(7.41%)	9.16%	5.07%	8.25%
Real Assets Benchmark	(1.73%)	(6.69%)	11.90%	6.92%	7.83%
Private Real Estate	(5.37%)	(6.24%)	4.46%	3.75%	8.38%
NFI-ODCE Equal Weight Net	(3.50%)	(3.69%)	8.17%	7.13%	8.82%
UBS Trumbull Property Fund	(7.20%)	(8.92%)	2.33%	1.72%	5.15%
AEW Core Property Trust	(3.79%)	(4.04%)	8.49%	6.97%	8.31%
Public Real Assets	2.75%	(8.82%)	16.59%	7.06%	-
Public Real Assets Benchmark	0.29%	(11.10%)	15.55%	5.83%	-
BlackRock TIPS Index Fund	3.53%	(6.06%)	1.84%	3.01%	-
Bloomberg US TIPS Index	3.34%	(6.06%)	1.75%	2.94%	1.49%
BlackRock REIT Index Fund	2.76%	(21.08%)	11.21%	4.60%	-
DJ US Select REIT Index	2.77%	(20.98%)	11.32%	4.66%	5.31%
Invesco Commodity Fund	(1.68%)	(6.56%)	22.83%	5.28%	-
Bloomberg Commodity Index	(5.36%)	(12.49%)	20.82%	5.36%	(1.72%)
KBI Global Resources Fund	6.29%	(2.78%)	28.12%	11.72%	-
S&P Global Natural Resources Index	0.41%	(5.62%)	26.86%	7.11%	4.44%
Private Equity****	0.00%	(10.49%)	24.13%	17.77%	16.37%
Opportunistic****	3.39%	2.38%	-	-	-
S&P/LSTA Leveraged Loans Index + 250	3.79%	5.23%	11.10%	6.21%	6.31%
Total Fund	4.11%	(6.43%)	12.09%	6.54%	7.92%
Total Fund Target	4.16%	(7.04%)	10.98%	5.84%	7.01%
Public Fund Sponsor Database	4.55%	(4.78%)	11.15%	6.22%	7.22%

* Current Quarter Target = 32.0% Russell 3000 Index, 23.0% Blmbg Aggregate, 22.0% MSCI ACWI xUS IMI, 8.0% NCREIF NFI-ODCE Eq Wt Net, 4.8% Russell 3000 Index (Lagged), 3.2% MSCI ACWI ex US IMI (Lagged), 1.8% Blmbg Commodity TR Idx, 1.8% S&P DJ US Select REIT, 1.8% Blmbg TIPS, 1.8% S&P Global Nat Res and 0.0%.

(1) MCERA changed mandates from the S&P 500 Index to Russell 1000 Index on 7/31/2021.

**Blended Benchmark = S&P 500 Index through 7/31/21 and Russell 1000 Index thereafter.

***Blended Benchmark = Bloomberg Aggregate through 2/10/14 and Bloomberg U.S. Intermediate Credit until 11/06/2022.

Currently the Bloomberg Aggregate.

****Current market values are those of the prior quarter, adjusted for capital calls and distributions of current quarter.

Total Private Equity Period Ended December 31, 2022

Private Equity Allocation Overview

The MCERA private equity portfolio was initiated in 2008 and currently utilizes two gatekeepers, Abbott Capital ("Abbott") and Pathway Capital Management ("Pathway"), to help the plan reach its desired private equity allocation of 8%. MCERA is invested in fund-of-funds vehicles.

	December 31, 2022	Quarter Change	September 30, 2022
Summary			
Vintage Years	16 in 2008-2023		16 in 2008-2023
# Total Partnerships	533	3	530
# Active Partnerships	510	9	501
# Liquidated Partnerships	23	2	21
Changes in Value			
Capital Commitments	\$450,000,000	-	\$450,000,000
Paid-In Capital	\$409,665,531	\$3,582,686	\$406,082,845
Uncalled Capital	\$55,646,927	\$(3,238,623)	\$58,885,550
% Paid-In	91.04%	0.80%	90.24%
Distributed Capital	\$460,209,877	\$10,662,556	\$449,547,321
Net Asset Value	\$354,755,692	\$(10,104,916)	\$364,860,608
Total Realized and Unrealized Value	\$814,965,569	\$557,640	\$814,407,929
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	1.12x	0.02x	1.11x
Residual Value to Paid-In Capital (RVPI)	0.87x	(0.03)x	0.90x
Total Value to Paid-In Capital (TVPI)	1.99x	(0.02)x	2.01x
Quartile Ranking	2 nd		2 nd
Net IRR	15.49%	(0.33%)	15.82%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		2.92%	
Unrealized Gain/(Loss), Dollars		\$(3,025,046)	
Unrealized Gain/(Loss), %		(0.83%)	

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.

**Total Private Equity
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	+ Capital Contri- butions	+ Accounting Income	- Mgmt. Fees	+ Appre- ciation	- Dist. of Income & Real. Gains	- Return of Capital	- Dist. of Recallable Capital	= End of Period Market
03/2009	0	5,576,029	(301,039)	558,424	(601,309)	0	0	0	4,115,257
06/2009	4,115,257	225,000	10,022	331,250	(68,925)	0	0	0	3,950,104
09/2009	3,950,104	1,378,170	(15,473)	384,375	(17,463)	0	0	0	4,910,963
12/2009	4,910,963	2,035,317	(45,633)	384,375	310,671	0	0	0	6,826,943
03/2010	6,826,943	1,405,159	(55,406)	384,375	(106,094)	0	0	0	7,686,227
06/2010	7,686,227	1,225,000	(19,095)	384,375	(194,748)	0	0	0	8,313,009
09/2010	8,313,009	2,838,797	(50,285)	437,500	411,669	0	0	0	11,075,690
12/2010	11,075,690	3,963,461	(110,914)	437,500	702,011	0	0	0	15,192,748
03/2011	15,192,748	2,841,483	(127,842)	437,500	678,042	0	0	0	18,146,931
06/2011	18,146,931	3,960,774	(184,803)	437,500	996,942	133,755	69,654	0	22,278,935
09/2011	22,278,935	8,609,888	(265,645)	437,500	(195,435)	0	0	0	29,990,243
12/2011	29,990,243	5,617,948	(175,287)	437,500	529,487	0	0	0	35,524,891
03/2012	35,524,891	6,281,785	(173,125)	437,500	2,079,434	0	0	0	43,275,485
06/2012	43,275,485	7,874,800	(113,404)	437,500	692,927	331,545	120,080	0	50,840,683
09/2012	50,840,683	4,558,302	(303,027)	437,500	1,105,721	260,954	215,388	0	55,287,837
12/2012	55,287,837	11,334,284	(41,281)	437,500	2,708,758	288,586	275,607	0	68,287,905
03/2013	68,287,905	5,239,926	(120,123)	437,500	1,886,426	78,940	352,195	0	74,425,498
06/2013	74,425,498	5,359,974	(147,222)	562,625	2,651,531	514,376	515,820	0	80,696,960
09/2013	80,696,960	7,768,201	(226,298)	516,250	5,890,689	1,165,176	355,990	0	92,092,136
12/2013	92,092,136	12,666,640	(54,150)	516,250	6,253,270	2,563,309	3,688,605	0	104,189,733
03/2014	104,189,733	10,332,824	(204,331)	516,250	4,125,365	6,302,488	654,422	0	110,970,431
06/2014	110,970,431	10,513,534	75,076	516,250	7,884,217	746,471	2,533,431	0	125,647,106
09/2014	125,647,106	17,570,746	10,500	516,250	1,245,992	1,615,602	2,925,053	0	139,417,439
12/2014	139,417,439	10,833,803	(61,667)	558,750	3,052,494	1,112,031	4,049,723	0	147,521,565
03/2015	147,521,565	8,258,958	22,076	558,750	3,915,369	1,080,998	4,004,433	0	154,073,787
06/2015	154,073,787	12,520,450	(252,087)	558,750	7,392,432	2,171,067	5,209,351	0	165,795,414
09/2015	165,795,414	12,661,165	8,918	537,500	2,632,199	1,814,825	5,406,163	0	173,339,208
12/2015	173,339,208	10,950,390	(73,852)	636,937	3,903,312	5,200,032	3,213,356	0	179,068,733
03/2016	179,068,733	4,401,061	(299,677)	558,750	2,098,534	2,134,279	907,141	0	181,668,481
06/2016	181,668,481	10,147,317	56,802	609,194	7,769,013	384,668	1,481,019	0	197,166,732
09/2016	197,166,732	5,546,669	152,647	590,069	7,907,843	2,838,197	1,439,821	0	206,405,805
12/2016	206,405,805	9,423,568	(337,203)	609,852	7,772,643	2,210,046	6,703,806	0	213,741,108
03/2017	213,741,108	6,022,843	(48,597)	624,466	11,538,200	2,611,810	5,480,599	0	222,536,678
06/2017	222,536,678	5,942,110	39,415	654,116	13,245,307	4,835,151	9,091,365	59,349	227,123,528
09/2017	227,123,528	16,537,410	(30,778)	637,141	9,591,347	5,248,683	7,736,243	0	239,599,440
12/2017	239,599,440	13,884,994	21,740	635,673	11,666,611	4,382,265	16,309,746	0	243,845,101
03/2018	243,845,101	7,150,727	(163,332)	643,100	10,972,723	7,403,967	3,491,705	0	250,266,447
06/2018	250,266,447	11,444,547	(144,165)	672,751	14,602,061	4,351,051	7,785,725	0	263,359,363
09/2018	263,359,363	7,431,280	(238,296)	657,497	12,294,502	4,011,337	8,778,135	0	269,399,880
12/2018	269,399,880	14,191,664	3,385,950	656,029	(1,352,804)	9,915,706	9,598,228	0	265,454,727
03/2019	265,454,727	5,829,912	(283,332)	656,246	12,966,290	5,633,889	3,667,549	0	274,009,912
06/2019	274,009,912	7,676,263	82,950	663,197	15,115,571	5,061,949	6,031,822	0	285,127,728
09/2019	285,127,728	5,716,776	(98,346)	649,492	4,630,383	3,987,114	9,749,615	0	280,990,321
12/2019	280,990,321	9,453,814	(64,183)	648,025	15,541,711	4,095,571	8,559,460	0	292,618,608
03/2020	292,618,608	5,768,820	(253,673)	631,679	(25,000,599)	1,860,850	4,697,321	0	265,943,305
06/2020	265,943,305	6,096,856	(398,568)	638,630	37,419,176	4,788,106	2,210,521	0	301,423,511
09/2020	301,423,511	8,476,454	(283,955)	626,319	36,764,232	9,123,639	3,268,060	0	333,362,224

**Total Private Equity
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	+ Capital Contri- butions	+ Accounting Income	- Mgmt. Fees	+ Appre- ciation	- Dist. of Income & Real. Gains	- Return of Capital	- Dist. of Recallable Capital	= End of Period Market
12/2020	333,362,224	6,410,411	440,671	624,852	59,923,839	22,255,279	1,735,582	0	375,521,433
03/2021	375,888,469	6,293,006	(8,377)	618,149	62,111,231	15,524,819	5,639,753	0	422,501,608
06/2021	422,501,608	12,581,962	302,035	618,705	53,954,874	37,342,702	7,370,019	0	444,009,053
09/2021	444,009,053	5,860,537	527,097	678,287	32,248,941	23,721,423	5,612,936	0	452,632,983
12/2021	452,632,983	8,450,393	778,528	597,445	13,192,956	25,592,278	6,012,866	0	442,852,270
03/2022	442,852,270	3,859,756	253,740	598,111	(10,474,273)	17,366,511	3,033,784	0	415,493,087
06/2022	415,493,087	3,185,692	223,305	598,667	(30,261,655)	4,544,512	2,307,378	0	381,189,872
09/2022	381,189,872	3,895,196	262,663	588,503	(9,306,076)	8,185,975	2,406,569	0	364,860,608
12/2022	364,860,608	3,582,686	308,071	579,388	(2,753,729)	3,402,515	7,260,041	0	354,755,692
	0	409,665,531	1,187,736	30,798,568	434,410,870	268,194,448	191,956,080	59,349	354,755,692

Returns

Net Since Inception IRR = 15.49%

Ratios

Capital Account = \$354,755,692

Total Value = \$814,965,569

Committed Capital = \$450,000,000

Paid In Capital = \$409,665,531

Remaining Commitment = \$55,646,927

PIC Multiple (Paid In Capital/Committed Capital) = 91.04%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$410,402,619

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.99x

DPI Realization Multiple (Distributions/Paid In Capital) = 1.12x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.87x

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

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended March 31, 2023. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended March 31, 2023

	Last Quarter	Last Year	Last 2-1/4 Years
Opportunistic**	3.39%	2.38%	6.19%
S&P/LSTA Leveraged Loans Index + 250	3.79%	5.23%	5.96%
CarVal Credit Value V	2.13%	2.18%	6.20%
Fortress Credit Opps Fund V	2.05%	1.34%	15.08%
Varde Dislocation Fund	5.11%	3.37%	4.13%

** Estimate

Performance shown is Net-of-Fee

Opportunistic Period Ended March 31, 2023

Private Equity Allocation Overview

Marin County's Private Credit portfolio started in 4Q20.

	March 31, 2023	Quarter Change	December 31, 2022
Summary			
Vintage Year	2020		2020
# Total Partnerships	193	-	193
# Active Partnerships	193	-	193
# Liquidated Partnerships	0	-	0
Changes in Value			
Capital Commitments	\$100,000,000	-	\$100,000,000
Paid-In Capital	\$62,071,145	-	\$62,071,145
Uncalled Capital	\$39,757,764	-	\$39,757,764
% Paid-In	62.07%	-	62.07%
Distributed Capital	\$9,788,256	\$6,303,946	\$3,484,310
Net Asset Value	\$58,158,129	\$(4,293,833)	\$62,451,963
Total Realized and Unrealized Value	\$67,946,385	\$2,010,113	\$65,936,273
Ratios and Performance			
Distributions to Paid-In Capital (DPI)	0.16x	0.10x	0.06x
Residual Value to Paid-In Capital (RVPI)	0.94x	(0.07)x	1.01x
Total Value to Paid-In Capital (TVPI)	1.09x	0.03x	1.06x
Quartile Ranking	3 rd		3 rd
Net IRR	6.52%	1.39%	5.14%
Additional Performance Metrics			
Distribution Rate, as % of Beginning NAV		10.09%	
Unrealized Gain/(Loss), Dollars		\$2,010,113	
Unrealized Gain/(Loss), %		3.22%	

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

**Opportunistic
Private Equity Investment Portfolio
Quarterly Changes in Market Value**

	Beg. of Period Market	+ Capital Contri- butions	+ Accounting Income	- Mgmt. Fees	+ Appre- ciation	- Dist. of Income & Real. Gains	- Return of Capital	- Dist. of Recallable Capital	= End of Period Market
12/2020	0	10,097,955	1,856,820	53,206	(432,759)	0	0	0	11,468,811
03/2021	11,468,811	10,050,000	646,023	63,920	(25,696)	0	0	0	22,075,219
06/2021	22,075,219	6,650,000	1,596,358	169,489	96,848	0	0	0	30,248,936
09/2021	30,248,936	1,675,000	158,997	123,700	301,176	0	0	0	32,260,409
12/2021	32,260,409	6,520,495	127,546	125,634	564,673	0	386,587	0	38,960,902
03/2022	38,960,902	8,375,000	(511,420)	96,137	453,329	0	0	0	47,181,674
06/2022	47,181,674	9,790,677	(3,302,882)	186,982	696,775	0	0	1,755,954	52,423,308
09/2022	52,423,308	0	1,453,517	186,965	32,377	0	0	0	53,722,238
12/2022	53,722,238	8,912,018	1,390,869	212,303	(19,091)	0	1,341,769	0	62,451,963
03/2023	62,451,963	0	1,940,359	217,329	287,082	0	6,303,946	0	58,158,129
	0	62,071,145	5,356,189	1,435,663	1,954,714	0	8,032,302	1,755,954	58,158,129

Returns

Net Since Inception IRR = 6.52%

Ratios

Capital Account = \$58,158,129

Total Value = \$67,946,385

Committed Capital = \$100,000,000

Paid In Capital = \$62,071,145

Remaining Commitment = \$39,757,764

PIC Multiple (Paid In Capital/Committed Capital) = 62.07%

Total Economic Exposure (Capital Account + Remaining Commitment) = \$97,915,893

TVPI Investment Multiple (Total Value/Paid In Capital) = 1.09x

DPI Realization Multiple (Distributions/Paid In Capital) = 0.16x

RVPI Residual Multiple (Capital Account/Paid In Capital) = 0.94x

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**Marin County Employees' Retirement Association
Defined Benefit Plan**

Managers	May 2023 Market Value	Fiscal Year To Date 7/1/22 - 5/31/23	Calendar Year To Date 1/1/23 - 5/31/23
Domestic Equity	\$971,537,683	10.1%	6.5%
<i>Russell 3000 Index</i>		11.4%	8.7%
SSGA Russell 1000 Index	\$700,492,484	11.8%	9.3%
<i>Russell 1000 Index</i>		11.8%	9.3%
Dimensional Fund Advisors	\$219,176,208	5.2%	-1.3%
<i>Russell 2000 Index</i>		3.9%	-0.0%
Parametric Domestic Equity Overlay	\$51,868,991		
International Equity	\$653,225,253	9.8%	6.0%
<i>MSCI ACWI ex-US IMI Index</i>		7.8%	4.6%
Morgan Stanley	\$201,072,893	14.6%	10.3%
Artisan Partners	\$185,542,256	11.8%	4.5%
<i>MSCI EAFE Index</i>		13.6%	6.8%
TimesSquare	\$99,476,094	8.8%	4.6%
<i>MSCI EAFE Small Cap Index</i>		7.1%	2.6%
FIAM Emerging Markets	\$99,184,466	-1.2%	2.2%
<i>MSCI Emerging Markets Index</i>		-2.0%	1.1%
Parametric International Equity Overlay	\$67,949,544		
Fixed Income	\$693,300,344	-1.9%	3.0%
<i>Fixed Income Benchmark*</i>		-0.4%	2.5%
Wellington	\$283,576,907	1.0%	3.0%
<i>Bloomberg US Aggregate Index</i>		0.6%	2.5%
Western Asset	\$300,320,300	0.5%	3.0%
<i>Blended Benchmark**</i>		-0.3%	2.5%
Parametric Fixed Income Overlay	\$109,403,137		

All market values and returns shown are preliminary and subject to revision.

*Fixed Income Benchmark = 100% Bloomberg US Aggregate until 03/2014, 50% Bloomberg US Aggregate, 25% Bloomberg Intermediate Credit, and 25% FTSE WGBI until 11/2022, and 100% Bloomberg US Aggregate thereafter. Colchester was removed in October 2022.

**Blended Benchmark = Bloomberg US Intermediate Credit Index to 11/6/2022, Bloomberg US Aggregate Index thereafter.

**Marin County Employees' Retirement Association
Defined Benefit Plan**

Managers	May 2023 Market Value	Fiscal Year To Date 7/1/22 - 5/31/23	Calendar Year To Date 1/1/23 - 5/31/23
Public Real Assets	\$208,738,709	-2.2%	-0.8%
<i>Blended Benchmark</i>		-4.6%	-4.5%
BlackRock TIPS Index Fund	\$57,794,510	-1.0%	2.4%
<i>Bloomberg US TIPS Index</i>		-1.0%	2.2%
BlackRock REIT Index Fund	\$53,113,990	-5.6%	0.7%
<i>DJ S&P US Select REIT Index</i>		-5.5%	0.6%
Invesco Balanced Risk Commodities Fund	\$51,071,357	-9.4%	-7.1%
<i>Bloomberg Commodities Index</i>		-13.1%	-11.4%
KBI Global Resources Fund	\$56,929,570	7.9%	0.9%
<i>S&P Global Natural Resources Index</i>		1.1%	-9.4%
Parametric Real Assets Overlay	-\$10,170,718		
Real Estate(1)	\$232,365,872	-12.4%	-8.7%
<i>NFI-ODCE Equal Weight Net(1)</i>		-9.9%	-5.7%
Woodmont	\$17,099,992	-	-
UBS Trumbull Property Fund	\$101,360,702	-	-
AEW Core Property Trust	\$122,979,869	-	-
Parametric Real Estate Overlay	-\$9,074,691		
Private Equity(2)	\$225,838,860	-3.4%	0.0%
Abbott ACE VI	\$35,571,436	-	-
Abbott ACE VII	\$40,952,045	-	-
Abbott AP 2016	\$70,284,000	-	-
Abbott AP 2017	\$19,617,358	-	-
Abbott AP 2021	\$8,417,012	-	-
Pathway PPEF 2008	\$43,690,165	-	-
Pathway PPEF I-7	\$33,931,271	-	-
Pathway PPEF I-8	\$63,403,608	-	-
Pathway PPEF I-9	\$17,392,144	-	-
Pathway PPEF I-10	\$17,700,778	-	-
Parametric Private Equity Overlay	-\$125,120,957		
Opportunistic(3)	\$58,158,129	10.6%	5.7%
CarVal Credit Value Fund V	\$22,865,882	-	-
Fortress Credit Opportunities Fund V Expansion	\$11,744,597	-	-
Varde Dislocation Fund	\$23,547,650	-	-
Total Fund	\$3,043,164,850	2.7%	2.9%

(1)Market values as of March 31, 2023. FYTD and YTD returns use MCERA's and ODCE's pro-rata performance of prior quarter.

(2)Market values as of December 31, 2022. FYTD and YTD returns use MCERA's pro-rata performance of prior quarter.

(3)Market values as of March 31, 2023. 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.