MEKETA
INVESTMENT GROUP

City of Quincy Retirement System

March 31, 2024

Performance Update

Agenda

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   - Manager Highlights
2. Performance Update as of March 31, 2024
3. High Yield Manager Search – Finalist Review
4. Private Equity Manager Search - Respondent Review
5. Disclaimer, Glossary & Notes

Executive Summary

Economic and Market Update

Data as of March 31, 2024

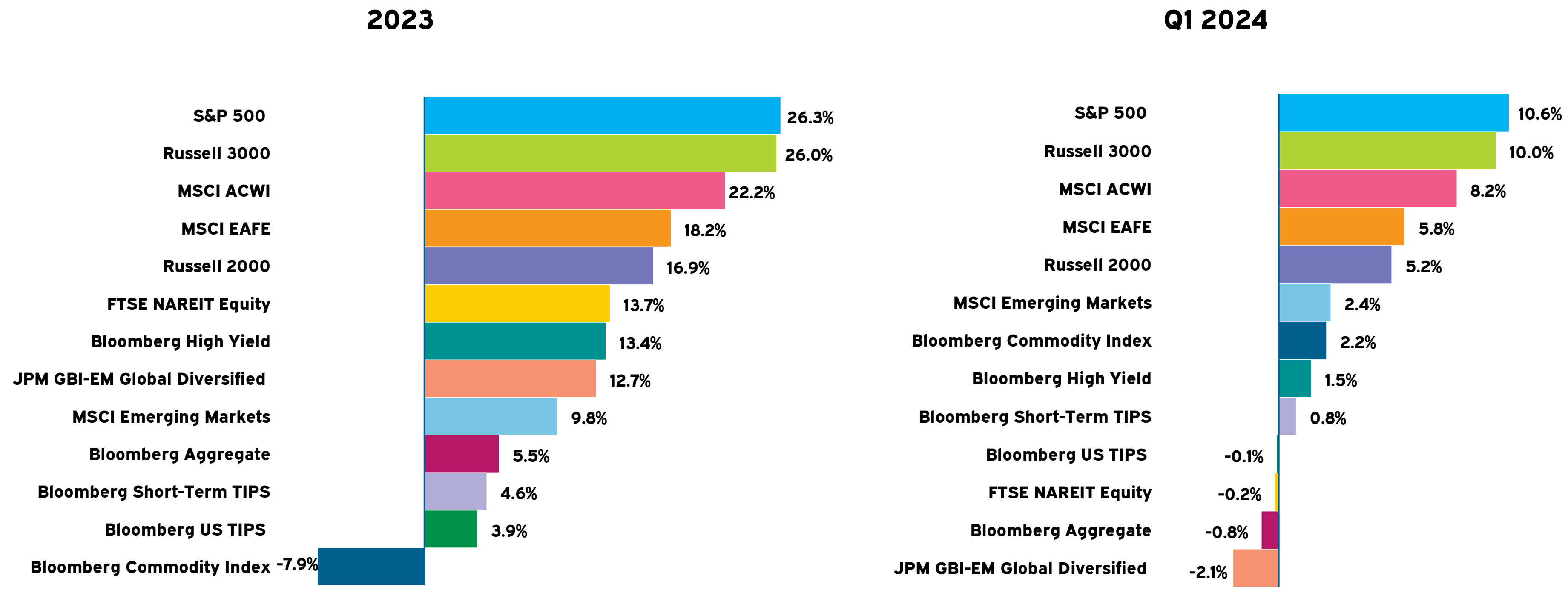
Commentary

→ Resilient economic data drove global equities higher and pushed out the timing of the expected first Fed rate cut, weighing on bonds.

- Major central banks have largely paused interest rate hikes with expectations that many will still cut rates, but the uneven pace of falling inflation and economic growth could desynchronize the pace of rate cuts.
- In general, inflation pressures have eased in most countries from their pandemic peaks, but some uncertainty remains and levels are still above most central bank targets. Headline inflation in the US rose in March (3.2% to 3.5%) by more than expected, while core inflation was unchanged (3.8%) when it was predicted to decline to 3.7%. Notably, prices in China were up only slightly in March, as the impacts of the recent holiday faded.
- US equity markets (Russell 3000 index) rose 10.0% in the first quarter after a very strong 2023 (+26.0%). The technology sector continued to perform well, with energy gaining on geopolitical tensions.
- Non-US developed equity markets increased 5.8% in the quarter, helped by Japanese equities which hit multi-decade highs. A strengthening US dollar drove the weaker relative results for US investors with returns in local currency terms 4.2% higher (10.0% versus 5.8%).
- Emerging market equities (+2.4%) had the weakest equity returns, depressed by China (-2.2%). While policy efforts to support mainland stock prices helped to stabilize Chinese equities, recent efforts by the US to discourage investments in China weighed on results. The stronger dollar also hurt performance in emerging markets for US investors with returns in local currency terms 2.1% higher.
- Rising interest rates weighed on bonds with the broad US bond market declining 0.8% for the quarter.

→ Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, the many looming elections, and the wars in Ukraine and Israel will be key.

Index Returns[1]



→ In the first quarter, global equity markets continued their strong performance from 2023 with the US leading the way.

→ Resilient economic data weighed on bond markets domestically and dashed hopes of a near-term cut in interest rates.

[1] Source: Bloomberg. Data is as of March 31, 2024.

Domestic Equity Returns[1]

Domestic Equity	March (%)	Q1 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	3.2	10.6	29.9	11.5	15.1	13.0
Russell 3000	3.2	10.0	29.3	9.8	14.3	12.3
Russell 1000	3.2	10.3	29.9	10.5	14.8	12.7
Russell 1000 Growth	1.8	11.4	39.0	12.5	18.5	16.0
Russell 1000 Value	5.0	9.0	20.3	8.1	10.3	9.0
Russell MidCap	4.3	8.6	22.3	6.1	11.1	9.9
Russell MidCap Growth	2.4	9.5	26.3	4.6	11.8	11.4
Russell MidCap Value	5.2	8.2	20.4	6.8	9.9	8.6
Russell 2000	3.6	5.2	19.7	-0.1	8.1	7.6
Russell 2000 Growth	2.8	7.6	20.3	-2.7	7.4	7.9
Russell 2000 Value	4.4	2.9	18.8	2.2	8.2	6.9

US Equities: The Russell 3000 increased an impressive 10.0% in the first quarter of the year.

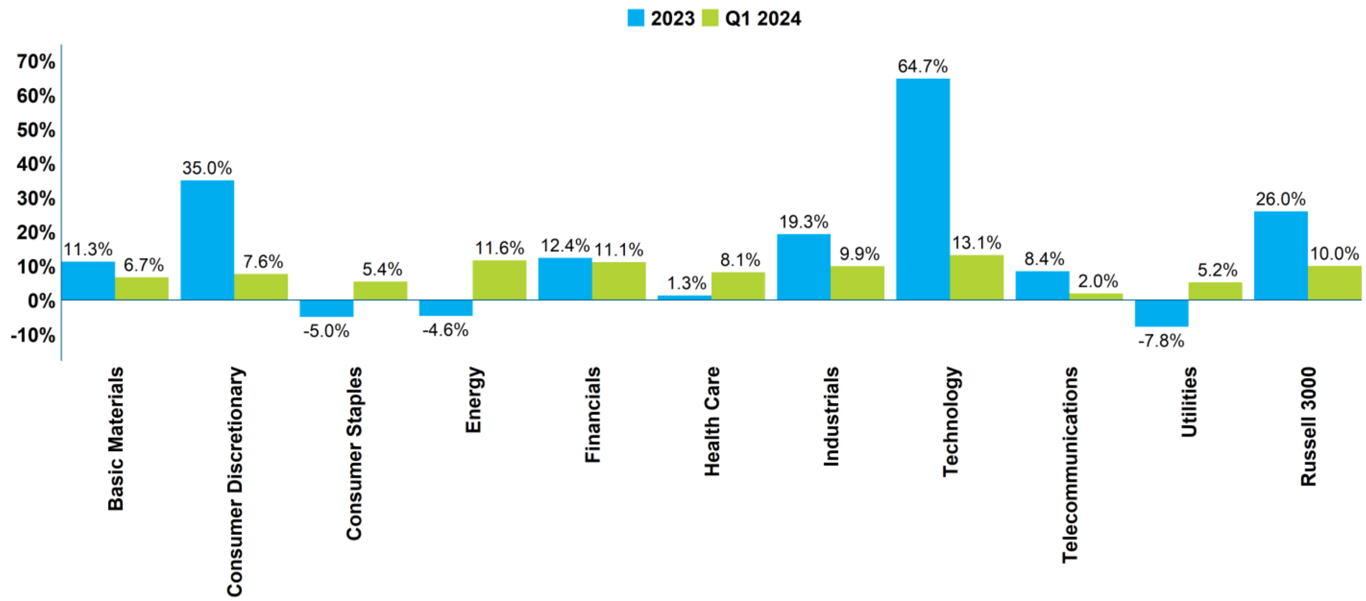
→ US equities continued their ascent after a strong finish to 2023. The gains were driven by strong economic data and corporate earnings, despite signs of interest rates remaining higher for longer.

→ Growth stocks outperformed value stocks across the market cap spectrum. Technology stocks continued to be a key driver of results, with NVIDIA and Microsoft alone contributing nearly 30% of the quarter's gains.

→ Large cap stocks produced almost double the return of their small cap peers during the first quarter. The underperformance of small cap financials contributed to this dynamic as fear of further turmoil for regional banks resurfaced.

[1] Source: Bloomberg. Data is as of March 31, 2024.

Russell 3000 Sector Returns[1]



→ All sectors posted positive returns in the first quarter. The technology sector (13.1%) continued to lead the way due to the influence of the so-called "Magnificent Seven".

→ Technology was followed by energy (11.6%) and financials (11.1%), driven respectively by increased geopolitical tensions and the strong economic environment. Traditionally defensive sectors like consumer staples (5.4%) and utilities (5.2%) joined the rally but trailed other sectors.

[1] Source: Bloomberg. Data is as of March 31, 2024.

Foreign Equity Returns[1]

Foreign Equity	March (%)	Q1 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.1	4.7	13.3	1.9	6.0	4.3
MSCI EAFE	3.3	5.8	15.3	4.8	7.3	4.8
MSCI EAFE (Local Currency)	4.0	10.0	18.8	9.4	9.4	7.7
MSCI EAFE Small Cap	3.7	2.4	10.4	-1.4	4.9	4.7
MSCI Emerging Markets	2.5	2.4	8.2	-5.1	2.2	2.9
MSCI Emerging Markets (Local Currency)	3.0	4.5	10.6	-2.4	4.4	5.7
MSCI EM ex. China	3.0	4.0	20.5	2.2	6.4	4.2
MSCI China	0.9	-2.2	-17.1	-18.9	-6.3	1.2

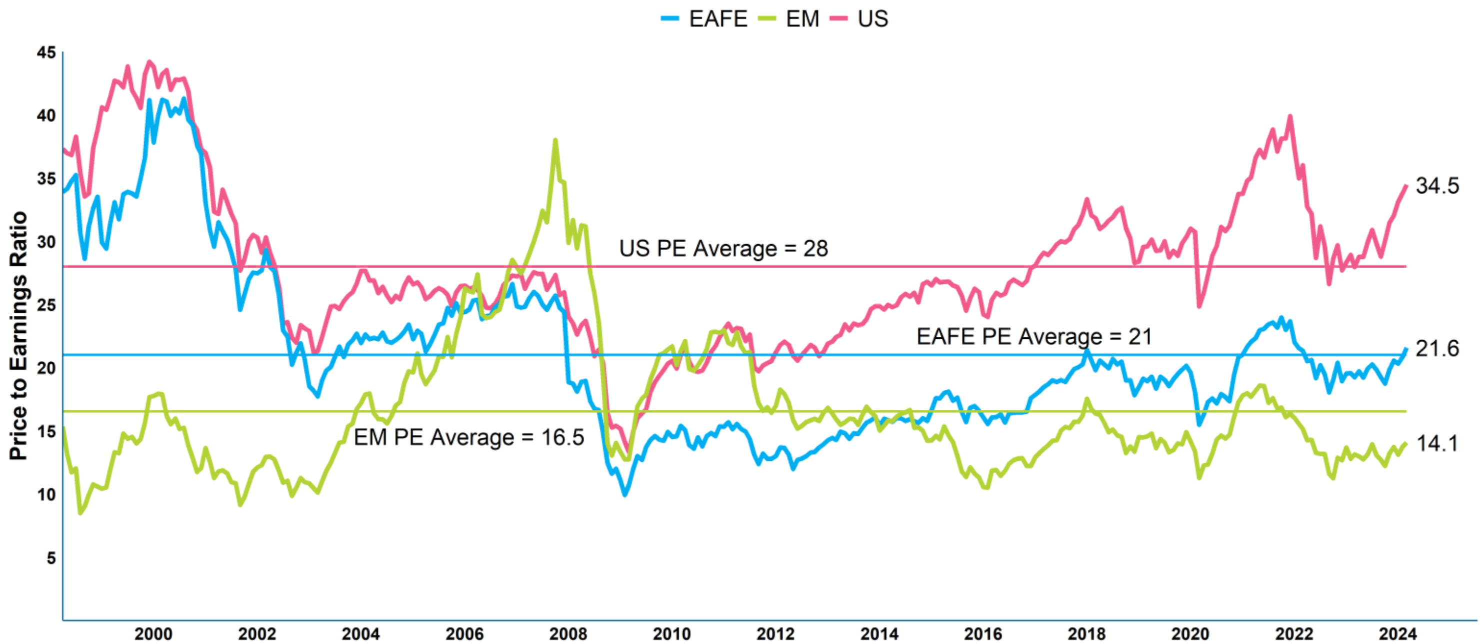
Foreign Equity: Developed international equities (MSCI EAFE) gained 5.8% during the quarter and emerging market equities (MSCI EM) rose 2.4%.

→ Developed international equity markets matched the US for the quarter in local terms but the appreciation of the dollar decreased returns for US investors by over 4.0% (5.8% versus 10.0%). Eurozone and UK equities had gains for the quarter, but Japan was the real standout performer, with the TOPIX returning 18.1% in local terms and the Nikkei breaking the 40,000 level for the first time.

→ Emerging market equities again trailed developed markets largely due to China falling 2.2%. Slowing growth, issues in the property sector, and recent efforts by the US to discourage investments into China all weighed on results. Outside of China, interest rate sensitive markets like Brazil were particularly impacted by expectations of delayed interest rate cuts by the Fed. Stripping out China, emerging markets returned 4.0% in the quarter.

[1] Source: Bloomberg. Data is as of March 31, 2024.

Equity Cyclically Adjusted P/E Ratios[1]



→ At the end of the first quarter, the US equity price-to-earnings ratio increased further above its 21st century average, as price appreciation exceeded earnings growth.

→ International market valuations also rose in the quarter and remain well below the US. In the case of developed markets, valuations are now slightly above the long-term average, while emerging market valuations remain well below its long-term average.

[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of March 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month-end respectively.

Fixed Income Returns[1]

Fixed Income	March (%)	Q1 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	1.0	-0.5	2.7	-2.1	0.7	1.8	5.1	6.0
Bloomberg Aggregate	0.9	-0.8	1.7	-2.5	0.4	1.5	4.8	6.2
Bloomberg US TIPS	0.8	-0.1	0.5	-0.5	2.5	2.2	4.6	6.8
Bloomberg Short-term TIPS	0.6	0.8	3.2	2.3	3.2	2.1	4.8	2.4
Bloomberg High Yield	1.2	1.5	11.2	2.2	4.2	4.4	7.7	3.7
JPM GBI-EM Global Diversified (USD)	0.0	-2.1	4.9	-1.6	0.1	-0.3	6.4	5.0

Fixed Income: The Bloomberg Universal index fell 0.5% in the first quarter.

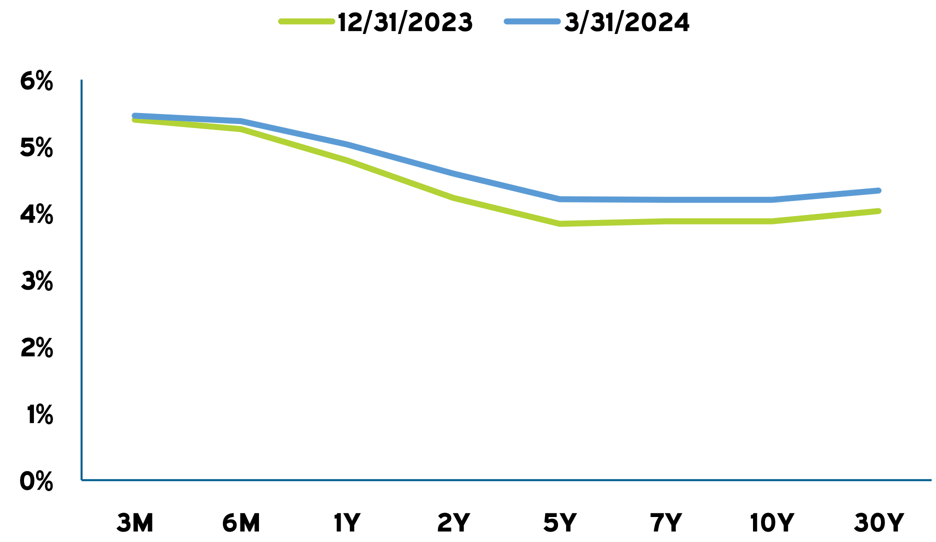
→ Strong economic growth and inflation readings above forecasts shifted interest rate expectations pushing back the anticipated start date of rate cuts as well as the number of cuts for 2024.

→ In this environment the broad US bond market (Bloomberg Aggregate) fell 0.8% with TIPS declining only slightly (0.1%).

→ High yield bonds (1.5%) led the way for the quarter as risk appetite continues to be robust and overall yields remain attractive despite the recent tightening of spreads to Treasury equivalents.

[1] Source: Bloomberg. JPM GBI-EM data is from InvestorForce. Data is as of March 31, 2024. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.

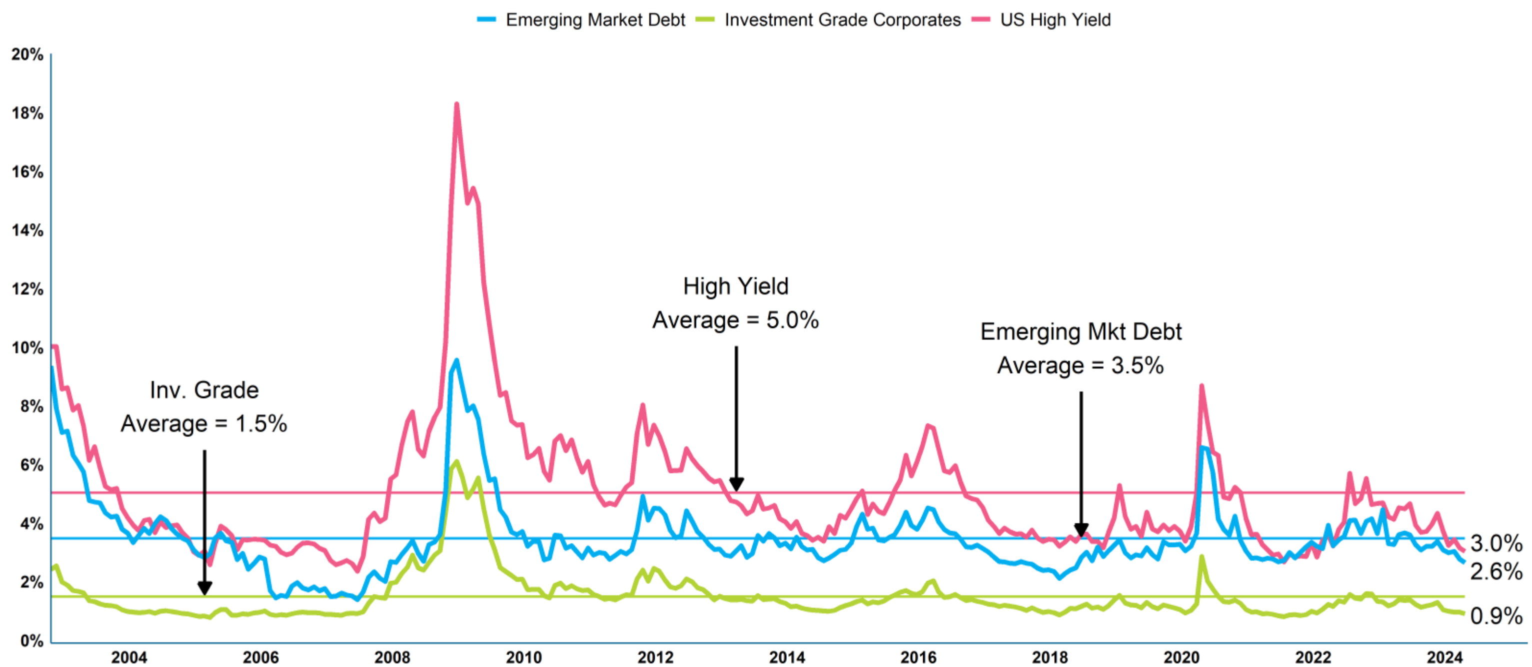
US Yield Curve[1]



- → Overall interest rates moved higher over the quarter due to the strong economic data and the related shifts in monetary policy expectations.
- → The more policy sensitive two-year Treasury yield rose from 4.3% to 4.6% in the first quarter while the ten-year Treasury yield increased from 3.9% to 4.2%.
- → The yield curve remained inverted at quarter-end despite a recent flattening trend. The yield spread between the two-year and ten-year Treasury was -0.4% at the end of the quarter.

[1] Source: Bloomberg. Data is as of March 31, 2024.

Credit Spreads vs. US Treasury Bonds[1]



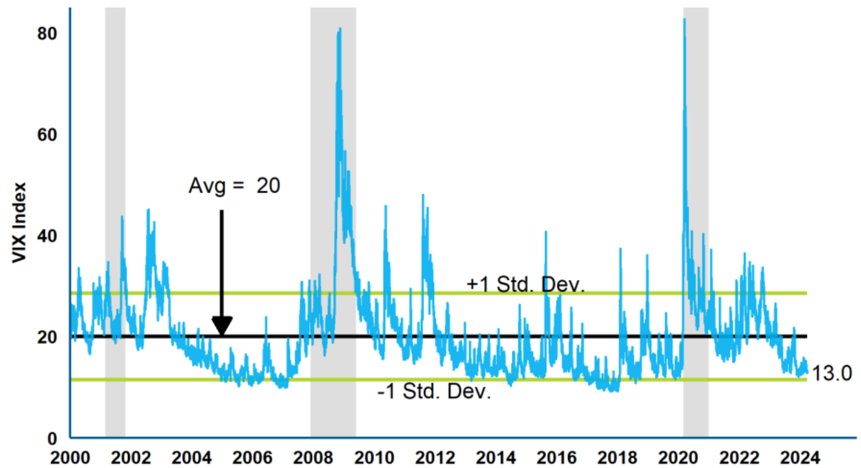
→ A positive economic outlook along with expectations of lower interest rates has led to an increased risk appetite. This has benefited credit, with spreads (the added yield above a comparable maturity Treasury) narrowing.

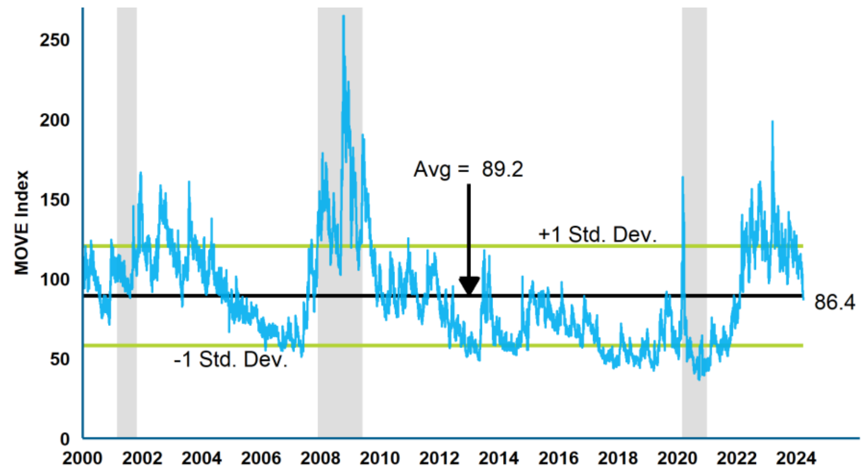
→ This trend continued in the first quarter particularly for riskier bonds. High yield spreads fell from 3.2% to 3.0% and emerging market spreads dropped from 3.0% to 2.6%. Spreads for investment grade corporate bonds fell only slightly over the quarter (1.0% to 0.9%).

→ All spreads remain below their respective long-run averages, particularly within high yield.

[1] Source: Bloomberg. Data is as of March 31, 2024. Average lines denote the average of the investment grade, high yield, and emerging market spread values from September 2002 to the recent month-end, respectively.

Equity and Fixed Income Volatility[1]



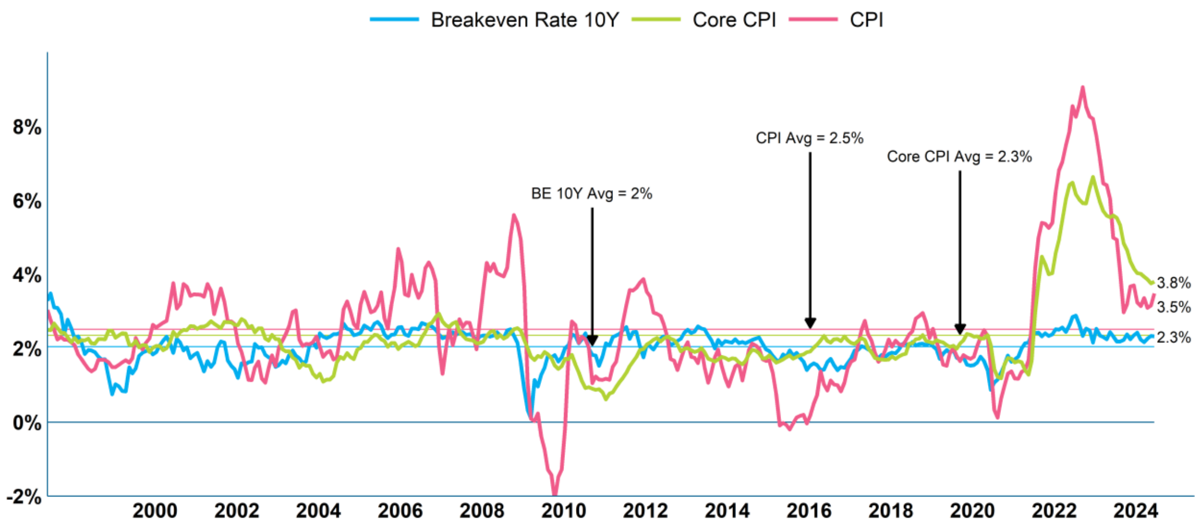


→ Volatility in equities (VIX) finished the quarter close to one standard deviation below the long-term average as the focus shifted late last year to peaking policy rates and the potential for a soft landing.

→ Volatility in the bond market (MOVE) fell significantly over the quarter to a level below the long run average (86.4 versus 89.2). Declining volatility surrounding policy expectations and the more positive growth outlook both contributed to lower volatility in the bond market.

[1] Equity Volatility – Source: FRED. Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of March 2024. The average line indicated is the average of the VIX and MOVE values between January 2000 and March 2024.

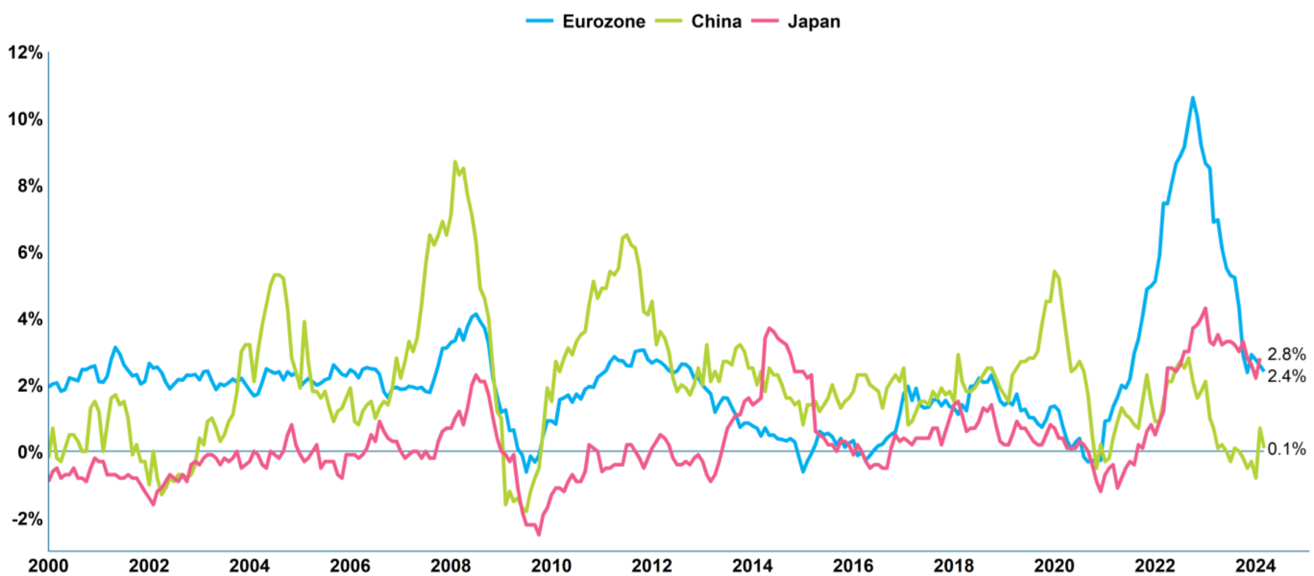
US Ten-Year Breakeven Inflation and CPI[1]



- → Year-over-year headline inflation rose in March (3.2% to 3.5%) and came in slightly above expectations. Prices in service sectors, particularly shelter, remain a key driver of inflation staying above the Fed's 2% average target, with a recent rise in energy prices contributing too.
- → Month-over-month inflation rose 0.4% which was the same as February, but above expectations of a 0.3% reading.
- → Core inflation (excluding food and energy) remained at 3.8% but also came in above expectations. Core goods prices dropped, while core services including shelter and transportation prices continued to show persistence.
- → Inflation expectations (breakevens) have remained relatively stable despite the significant volatility in inflation.

[1] Source: FRED. Data is as March 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

Global Inflation (CPI Trailing Twelve Months)[1]



→ Outside the US, inflation is also easing across major economies from the recent peaks.

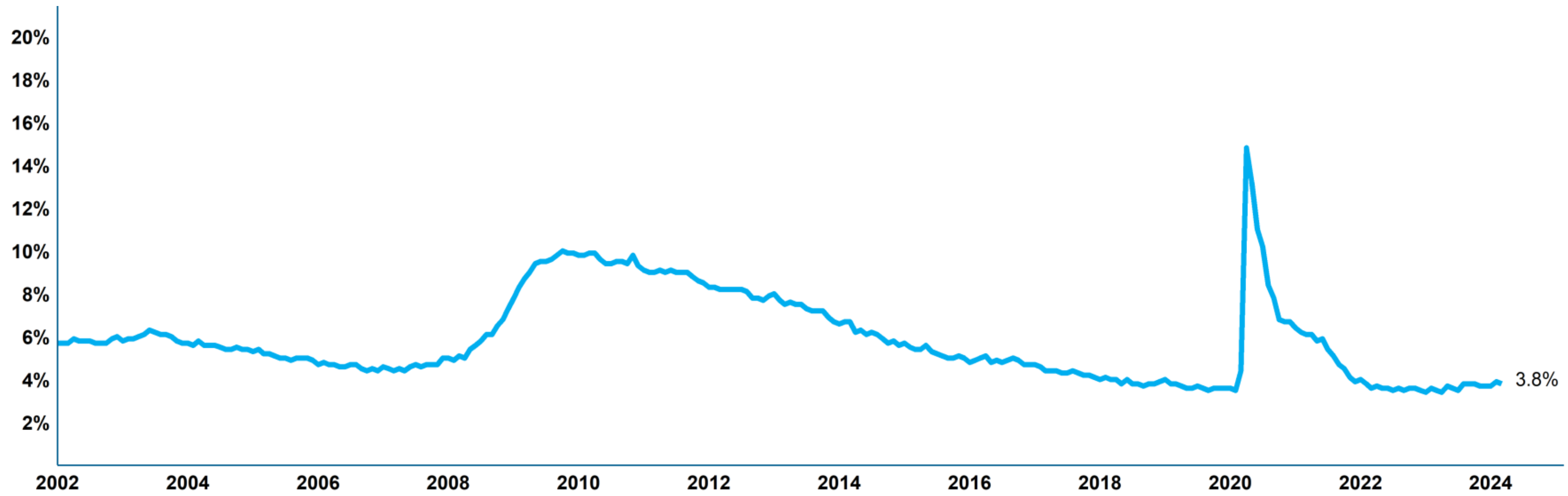
→ In the eurozone, prices experienced a dramatic decline last year but remain above the central bank's 2% target. In March, inflation fell further (2.6% to 2.4%), a level below the 3.5% year-over-year reading in the US.

→ Inflation in Japan has slowly declined from the early 2023 peak of 4.3%, but it remains near levels not seen in a decade. In the most recent reading, inflation rose from 2.4% to 2.8% largely due to the falling impact of government energy subsidies introduced at the same time last year.

→ The impacts from spending during the Lunar New Year holiday in China waned in March with inflation falling to just about 0%.

[1] Source: Bloomberg. Data is March 31, 2024, except Japan which is as of February 28, 2024.

US Unemployment[1]

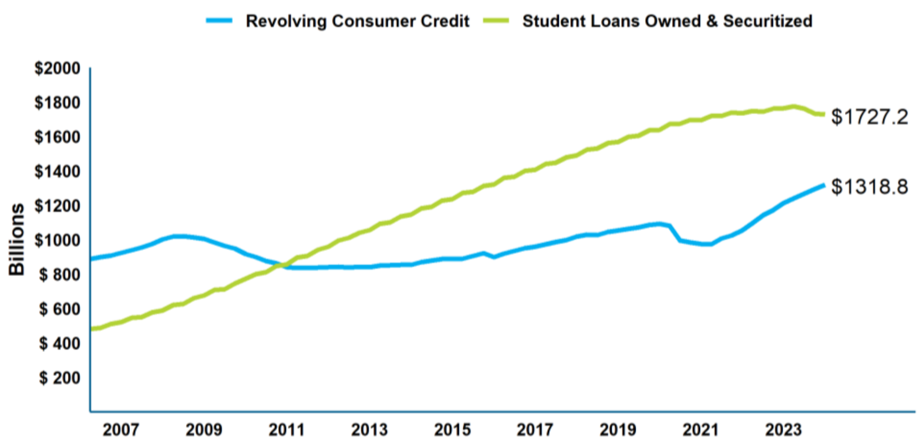


- → Overall, the US labor market remains healthy, with the unemployment rate low, wage growth now positive in real terms, and initial claims for unemployment staying subdued.
- → Each of the payroll readings over the quarter exceeded expectations. In March, the number of jobs added in the US was 303,000 compared to a 214,000 forecast. The healthcare (72,000), government (71,000), and construction (39,000) sectors added the most jobs.
- → The unemployment rate fell from 3.9% to 3.8%, while wage growth dropped slightly from 4.3% to 4.1% compared to a year prior, a level well off the 6.0% peak but above inflation levels.
- → Quit rates have declined, and layoffs are stable, with 1.4 job openings per unemployed worker.

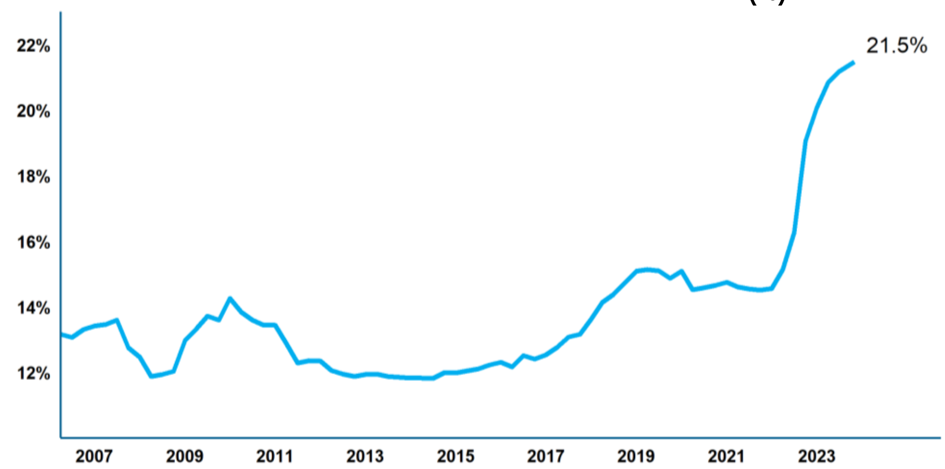
[1] Source: FRED. Data is as March 31, 2024.

US Consumer Under Stress?[1]

Revolving Consumer Credit & Student Loans ($B)



Consumer Credit Card Interest Rates (%)



→ Despite the strong labor market and higher wages, pressures have started to build on the US consumer. This is an important consideration as consumer spending has been a key driver of economic growth.

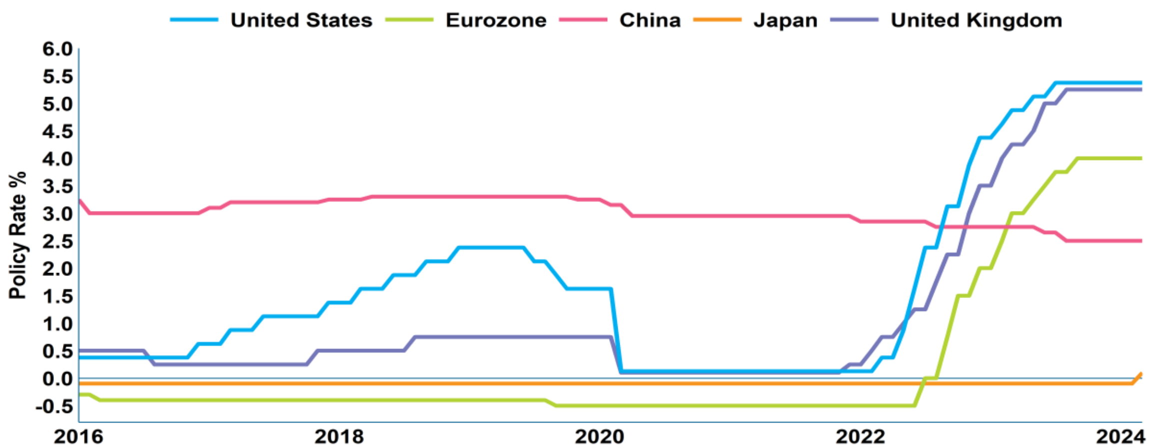
→ Revolving consumer credit surged to new highs in 2023 even as credit card interest rates hit levels not seen before (the prior peak was around 19% in the 1980s). Recently, we have also seen payment delinquencies on credit cards and auto loans start to increase, particularly for younger people.

→ The return of student loan repayments after a three-year pandemic-related reprieve could add to pressures on consumers' budgets. This might be partially mitigated by recently initiated repayment and forgiveness programs.

→ As we look ahead, the strength of the US consumer will remain key as this sector makes up most of the domestic economy (GDP).

[1] Source: FRED. Data is as of December 31, 2023. Revolving Consumer Credit data is seasonally adjusted to remove distortions during the holiday season.

Policy Rates[1]



→ The Fed has been on hold since July 2023 when it raised rates to a range of 5.25%-5.50%. Markets are now pricing in fewer than two rate cuts this year down from close to seven late last year, as economic data has come in better than expectations and inflation persists. Market pricing for the first rate cut has also dramatically changed from an original expectation of a March cut to the probability priced below 50% for a rate cut at all remaining Fed meetings in 2024.

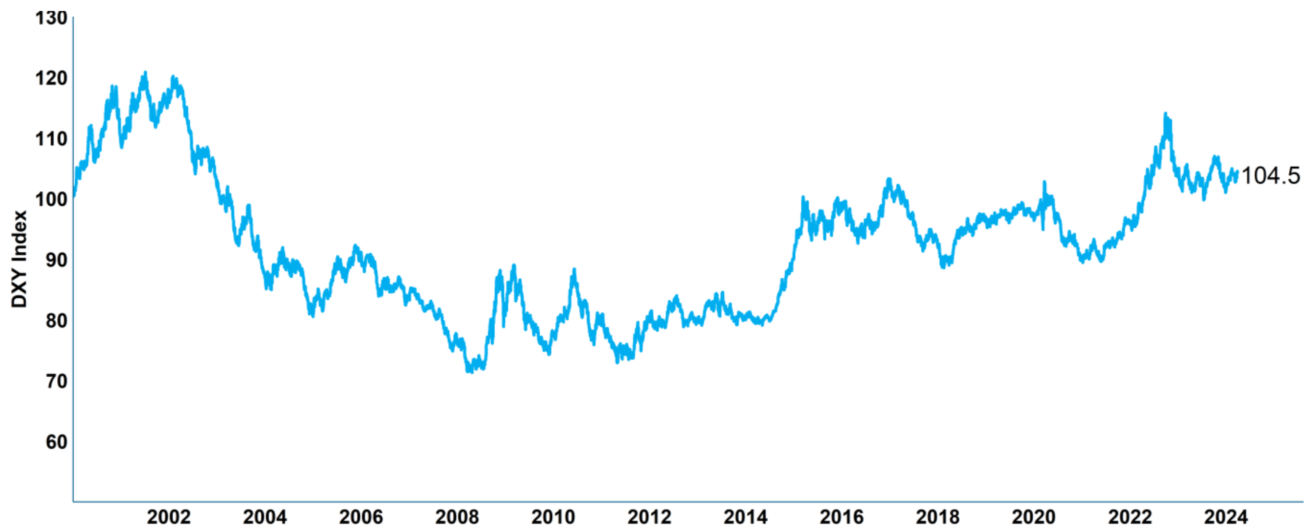
→ The European and UK central banks also recently paused their rate increases on slowing inflation. It appears that the ECB could be one of the first central banks to cut rates with expectations close to 90% for a June cut.

→ Given the return of inflation driven by wage growth the Bank of Japan (BOJ) recently ended the final negative interest rate policy, stopped purchasing ETFs, and moved away from its yield curve control.

→ The central bank in China has maintained interest rates at record low levels and continues to inject liquidity into the banking system, as weaker-than-expected economic data appears to indicate a widespread slowdown.

[1] Source: Bloomberg. Data is as of March 31, 2024.

US Dollar vs. Broad Currencies[1]



→ The dollar increased by close to 3% over the quarter versus a basket of major trading partners.

→ Strong economic data in the US may delay policy rate cuts this year, which could contribute to continued upward pressure on the dollar as other countries pivot to rate cuts.

[1] Source: Bloomberg. Data as of March 31, 2024.

Summary

Key Trends:

→ According to the IMF, global growth this year is expected to match the 2023 estimate at around 3.1% with most major economies predicted to avoid a recession. Continued strong economic growth does run the risk of inflation and interest rates staying higher for longer.

→ Key economic data in the US is still coming in above forecasts with expectations dramatically evolving for the timing and pace of interest rate cuts. If data remains strong the Federal Reserve may keep rates elevated increasing the risk of an economic slowdown.

→ Outside the US we could see other central banks start cutting rates ahead of the Fed, with the ECB particularly in focus. The risk of policy errors remains elevated as central banks try to further reduce inflation toward targets while not tipping their economies into recession.

→ US consumers could feel pressure as certain components of inflation (e.g., shelter) remain high, borrowing costs are elevated, and the job market may weaken.

→ A focus for US equities going forward will be whether earnings can remain resilient if growth slows. Also, the future paths of the large technology companies that have driven market gains will be important.

→ Equity valuations remain lower in emerging and developed markets, but risks remain, including China's economic uncertainty and on-going weakness in the real estate sector which could spill over into key trading partners' economies. Japan's recent tightening of monetary policy along with changes in corporate governance in the country could influence relative results.

Manager Highlights

Cedar Street Emerging Markets Small Cap Value

→ Cedar Street beat the benchmark by 4.1% in the month, posting a return of 4.0% vs the benchmark's -0.1% return.

- From a sector perspective, security selection in the communications, utilities, and financial sectors contributed positively to performance.

→ Since inception, Cedar Street has returned 2.1%, trailing the benchmark's return by 2.2%, net of fees, over that period. However, we note the inception period is very brief, as the manager was hired in January 2024.

Beach Point Loan Fund

→ Beach Point outperformed its benchmark by 0.3% in the month of March, posting a return of 1.1% vs the benchmark's 0.8%.

- Leveraged loans benefit from steady retail flows, elevated CLO origination, and limited net new supply, yields and spreads decreased 10bp and 9bp in March to 8.81% and 4.76%, respectively. By industry, Transportation (+1.26%) and Healthcare (+1.24%) were leaders, while Telecom (-0.95%) and Cable/Satellite (+0.54%) were laggards.

→ Since inception, Beach Point has returned 4.4%, trailing the benchmark's return of 4.6%, net of fees, over that period.

Axiom International Small Cap Equity

→ Axiom trailed its benchmark by 2.6% in the month, posting a return of 1.7% vs the benchmark's 4.3%.

- The largest relative detracting sectors for the quarter were energy, on Aker Solutions, an oil service equipment maker from Norway that saw delayed capital return and health care, due to weakness in Japanese dental and surgical parts maker Mani.
- The largest detracting countries were UK, mainly on weakness in JD Sports, Brazil, after an unexpected change in management and weak results from jewelry retailer Vivara, and Japan, mainly on weakness in Baycurrent Consulting, a leading IT and consulting company on weaker than expected third quarter results after an aggressive hiring of new engineers.

→ Since inception, Axiom has returned 4.6%, trailing the benchmark's return of 8.0%, net of fees, over that period.

Brown Small Cap Fundamental Value

→ Brown trailed its benchmark by 1.0% in March, posting a return of 3.4% vs. the benchmark's 4.4%.

- Health care was the biggest detractor due to the underweight positioning. Communication services was also a headwind given the performance of Cable One.

→ Since inception, Brown has returned 9.0%, slightly outpacing the benchmark's return of 8.9%, net of fees, over that period.

Performance Update
As of March 31, 2024

Allocation vs. Targets and Policy

	Current Balance	Current Allocation (%)	Policy (%)	Policy Range (%)
US Equity	$213,106,610	25	24	19 - 29
Developed Market Equity	$98,952,311	12	11	6 - 16
Emerging Market Equity	$69,209,867	8	6	1 - 11
Investment Grade Bonds	$71,186,007	8	9	6 - 12
Long-Term Government Bonds	$25,559,139	3	7	2 - 12
TIPS	$28,751,438	3	4	1 - 7
Emerging Market Bonds		0	0	0 - 4
High Yield Bonds	$42,574,967	5	5	2 - 8
Bank Loans	$9,424,578	1	2	0 - 4
Private Equity	$129,718,460	15	14	9 - 19
Private Debt		0	3	0 - 5
Real Estate	$74,303,142	9	10	5 - 15
Natural Resources	$13,396,481	2	0	0 - 6
Infrastructure	$13,371,379	2	3	0 - 6
Opportunistic	$38,487,319	5	0	0 - 5
Balanced Assets	$15,794,036	2	0	0 - 0
Cash	$9,275,754	1	2	0 - 5
Total	**$853,111,489**	**100**	**100**	

	Current Balance	Current Allocation (%)	Policy (%)
Total Equity Including PE	$510,987,249	60	59
Total Fixed Income	$177,496,128	21	26
Total Real Assets	$101,071,003	12	15
Other	$63,557,109	7	0
Total	**$853,111,489**	**100**	**100**

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System (Gross of Fees)	853,111,489	100.0	1.7	3.4	10.2	5.1	8.4	7.1	8.2	Jan-89
Total Retirement System	853,111,489	100.0	1.7	3.3	10.2	5.1	8.3	6.9	7.9	Jan-89
Domestic Equity Assets	213,106,610	25.0	3.2	8.8	26.4	9.4	13.2	11.6	10.3	Jul-93
Russell 3000 Index			*3.2*	*10.0*	*29.3*	*9.8*	*14.3*	*12.3*	*10.3*	
International Developed Market Equity Assets	98,952,311	11.6	3.3	5.5	13.9	3.2	6.2	4.2	5.1	Feb-98
MSCI EAFE			*3.3*	*5.8*	*15.3*	*4.8*	*7.3*	*4.8*	*5.0*	
International Emerging Market Equity Assets	69,209,867	8.1	2.8	5.6	17.4	0.1	7.7	5.5	6.5	Sep-08
MSCI Emerging Markets			*2.5*	*2.4*	*8.2*	*-5.1*	*2.2*	*2.9*	*3.0*	
Investment Grade Bond Assets	71,186,007	8.3	1.0	-1.2	-0.2	-4.2	-0.7	1.0	4.0	Jul-93
Blmbg. U.S. Aggregate Index			*0.9*	*-0.8*	*1.7*	*-2.5*	*0.4*	*1.5*	*4.4*	
Long-Term Government Bond Assets	25,559,139	3.0	1.0	-1.4	-1.0	-3.7	0.3	--	1.6	Dec-15
PRIT Core Fixed Income			*1.0*	*-1.4*	*-1.0*	*-3.7*	*0.3*	*--*	*1.6*	
TIPS Assets	28,751,438	3.4	0.7	0.0	0.4	-0.6	2.5	2.2	3.4	Mar-07
Blmbg. U.S. TIPS Index			*0.8*	*-0.1*	*0.5*	*-0.5*	*2.5*	*2.2*	*3.4*	
High Yield Bond Assets	42,574,967	5.0	1.2	1.6	10.5	2.5	4.5	4.0	5.6	Apr-07
Blmbg. U.S. Corp: High Yield Index			*1.2*	*1.5*	*11.2*	*2.2*	*4.2*	*4.4*	*6.2*	
Bank Loan Assets	9,424,578	1.1	1.1	3.2	14.6	6.4	5.4	--	4.4	Aug-14
Credit Suisse Leveraged Loan Index			*0.8*	*2.5*	*12.4*	*5.8*	*5.3*	*4.6*	*4.6*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Real Estate	**74,303,142**	**8.7**	**-4.0**	**-4.2**	**-11.9**	**1.6**	**2.1**	**5.8**	**5.7**	**Mar-89**
NCREIF ODCE			*-2.4*	*-2.4*	*-11.3*	*3.4*	*3.5*	*6.8*	*6.8*	
Private Equity Assets	**129,718,460**	**15.2**								
Natural Resources Assets	**13,396,481**	**1.6**								
Infrastructure Assets	**13,371,379**	**1.6**								
Opportunistic Assets	**38,487,319**	**4.5**								
Balanced Assets (PRIT General Allocation Fund)	**15,794,036**	**1.9**	**1.7**	**3.7**	**11.3**	**5.8**	**8.7**	**7.7**	**8.3**	**Apr-90**
60% Wilshire 5000 & 40% Barclays Aggregate			*2.3*	*5.6*	*17.6*	*5.2*	*9.0*	*8.3*	*8.7*	
Cash	**9,275,754**	**1.1**								

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement System (Gross of Fees)	**853,111,489**	**100.0**	**1.7**	**3.4**	**10.2**	**5.1**	**8.4**	**7.1**	**8.2**	**Jan-89**
Total Retirement System	**853,111,489**	**100.0**	**1.7**	**3.3**	**10.2**	**5.1**	**8.3**	**6.9**	**7.9**	**Jan-89**
Domestic Equity Assets	**213,106,610**	**25.0**	**3.2**	**8.8**	**26.4**	**9.4**	**13.2**	**11.6**	**10.3**	**Jul-93**
Russell 3000 Index			*3.2*	*10.0*	*29.3*	*9.8*	*14.3*	*12.3*	*10.3*	
RhumbLine Russell 1000 Growth Index	32,089,334	3.8	1.8	11.4	39.0	12.5	18.5	15.9	12.3	Jun-05
Russell 1000 Growth Index			*1.8*	*11.4*	*39.0*	*12.5*	*18.5*	*16.0*	*12.4*	
RhumbLine Russell 1000 Value Index	31,930,000	3.7	5.0	9.0	20.2	8.1	10.3	9.0	8.0	Jun-05
Russell 1000 Value Index			*5.0*	*9.0*	*20.3*	*8.1*	*10.3*	*9.0*	*8.1*	
Rhumbline QSI Index	36,302,973	4.3	2.8	5.2	18.7	8.1	11.6	11.4	11.7	Aug-13
QSI Index			*2.8*	*5.2*	*18.7*	*8.1*	*11.6*	*11.5*	*11.8*	
Brown Small Cap Fundamental Value	20,223,907	2.4	3.4	4.8	22.9	7.2	9.2	--	9.0	Jul-16
Russell 2000 Value Index			*4.4*	*2.9*	*18.8*	*2.2*	*8.2*	*6.9*	*8.9*	
PRIT General Allocation Domestic Equity	92,560,396	10.8	3.2	10.1	28.5	--	--	--	5.3	Jan-22
PRIT Domestic Equity Benchmark			*3.2*	*10.0*	*29.2*	*--*	*--*	*--*	*5.3*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
International Developed Market Equity Assets	**98,952,311**	**11.6**	**3.3**	**5.5**	**13.9**	**3.2**	**6.2**	**4.2**	**5.1**	**Feb-98**
MSCI EAFE			*3.3*	*5.8*	*15.3*	*4.8*	*7.3*	*4.8*	*5.0*	
SSgA MSCI EAFE Index	46,976,640	5.5	3.4	5.9	15.7	5.1	7.7	5.1	6.0	Oct-09
MSCI EAFE			*3.3*	*5.8*	*15.3*	*4.8*	*7.3*	*4.8*	*5.7*	
Axiom International Small Cap Equity	11,939,627	1.4	1.7	6.1	7.7	-4.6	--	--	4.6	Jun-20
S&P Developed Ex-U.S. SmallCap			*4.3*	*2.2*	*9.4*	*-1.2*	*5.3*	*4.7*	*8.0*	
MSCI EAFE Small Cap			*3.7*	*2.4*	*10.4*	*-1.4*	*4.9*	*4.7*	*7.4*	
PRIT General Allocation Int. Equity	40,036,044	4.7	3.6	4.8	13.7	--	--	--	1.1	Jan-22
Custom MSCI World Ex-US IMI Net Divs			*3.5*	*5.1*	*14.5*	*--*	*--*	*--*	*1.9*	
International Emerging Market Equity Assets	**69,209,867**	**8.1**	**2.8**	**5.6**	**17.4**	**0.1**	**7.7**	**5.5**	**6.5**	**Sep-08**
MSCI Emerging Markets			*2.5*	*2.4*	*8.2*	*-5.1*	*2.2*	*2.9*	*3.0*	
Driehaus Emerging Markets Growth	41,655,818	4.9	2.7	7.1	15.2	-2.1	6.5	--	6.7	Mar-19
MSCI Emerging Markets			*2.5*	*2.4*	*8.2*	*-5.1*	*2.2*	*2.9*	*2.3*	
Cedar Street Emerging Markets Small Cap Value Fund	11,760,013	1.4	4.0	--	--	--	--	--	2.1	Jan-24
MSCI Emerging Markets Small Cap Value Index			*-0.1*	*1.3*	*23.6*	*6.1*	*8.3*	*5.9*	*4.3*	
PRIT General Allocation EME	15,794,036	1.9	2.4	4.6	17.0	--	--	--	0.0	Jan-22
Custom MSCI Emerging Market IMI Net Divs			*2.1*	*2.1*	*9.7*	*--*	*--*	*--*	*-4.1*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Investment Grade Bond Assets	**71,186,007**	**8.3**	**1.0**	**-1.2**	**-0.2**	**-4.2**	**-0.7**	**1.0**	**4.0**	**Jul-93**
Blmbg. U.S. Aggregate Index			*0.9*	*-0.8*	*1.7*	*-2.5*	*0.4*	*1.5*	*4.4*	
SSgA U.S. Aggregate Bond Index-NL	21,232,777	2.5	0.9	-0.7	1.7	-2.4	0.4	1.5	3.0	Apr-04
Blmbg. U.S. Aggregate Index			*0.9*	*-0.8*	*1.7*	*-2.5*	*0.4*	*1.5*	*3.0*	
PRIT General Allocation Core FI	49,953,230	5.9	1.0	-1.4	-1.0	-3.7	0.3	--	-7.3	Jan-22
PRIT Core Fixed Income			*1.0*	*-1.4*	*-1.0*	*-3.7*	*0.3*	*--*	*-7.3*	
Long-Term Government Bond Assets	**25,559,139**	**3.0**	**1.0**	**-1.4**	**-1.0**	**-3.7**	**0.3**	**--**	**1.6**	**Dec-15**
PRIT Core Fixed Income			*1.0*	*-1.4*	*-1.0*	*-3.7*	*0.3*	*--*	*1.6*	
PRIT Core Fixed Income	25,559,139	3.0	1.0	-1.4	-1.0	-3.7	0.3	--	1.6	Dec-15
PRIT Core Fixed Income			*1.0*	*-1.4*	*-1.0*	*-3.7*	*0.3*	*--*	*1.6*	
TIPS Assets	**28,751,438**	**3.4**	**0.7**	**0.0**	**0.4**	**-0.6**	**2.5**	**2.2**	**3.4**	**Mar-07**
Blmbg. U.S. TIPS Index			*0.8*	*-0.1*	*0.5*	*-0.5*	*2.5*	*2.2*	*3.4*	
SSgA TIPS Index	28,751,438	3.4	0.7	0.0	0.4	-0.6	2.5	2.2	3.4	Mar-07
Blmbg. U.S. TIPS Index			*0.8*	*-0.1*	*0.5*	*-0.5*	*2.5*	*2.2*	*3.4*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
High Yield Bond Assets	**42,574,967**	**5.0**	**1.2**	**1.6**	**10.5**	**2.5**	**4.5**	**4.0**	**5.6**	**Apr-07**
Blmbg. U.S. Corp: High Yield Index			*1.2*	*1.5*	*11.2*	*2.2*	*4.2*	*4.4*	*6.2*	
Loomis Sayles High Yield Conservative	12,771,648	1.5	1.0	1.4	9.0	0.1	3.0	3.6	4.8	Feb-12
Blmbg. U.S. Corp: High Yield Index			*1.2*	*1.5*	*11.2*	*2.2*	*4.2*	*4.4*	*5.5*	
Columbia High Yield	12,907,373	1.5	1.1	1.1	10.2	2.5	4.4	--	4.7	Dec-16
Blmbg. U.S. Corp: High Yield Index			*1.2*	*1.5*	*11.2*	*2.2*	*4.2*	*4.4*	*4.8*	
PRIT General Allocation Value Added FI	16,895,945	2.0	1.4	2.2	11.8	--	--	--	3.8	Jan-22
PRIT Public Value-Added Fixed Income			*1.2*	*1.9*	*11.1*	*--*	*--*	*--*	*2.5*	
Bank Loan Assets	**9,424,578**	**1.1**	**1.1**	**3.2**	**14.6**	**6.4**	**5.4**	**--**	**4.4**	**Aug-14**
Credit Suisse Leveraged Loan Index			*0.8*	*2.5*	*12.4*	*5.8*	*5.3*	*4.6*	*4.6*	
Beach Point Loan Fund	9,424,578	1.1	1.1	3.2	14.6	6.4	5.4	--	4.4	Aug-14
Credit Suisse Leveraged Loan Index			*0.8*	*2.5*	*12.4*	*5.8*	*5.3*	*4.6*	*4.6*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Real Estate	**74,303,142**	**8.7**	**-4.0**	**-4.2**	**-11.9**	**1.6**	**2.1**	**5.8**	**5.7**	**Mar-89**
NCREIF ODCE			*-2.4*	*-2.4*	*-11.3*	*3.4*	*3.5*	*6.8*	*6.8*	
UBS Trumbull Property Income Fund	10,134,748	1.2	-1.1	-1.1	-7.1	2.2	2.4	4.9	6.8	Jan-89
UBS Trumbull Property Fund	2,246,992	0.3	-1.9	-1.9	-10.8	-2.8	-3.1	2.0	5.6	Jan-89
JPMCB Strategic Property Fund	9,114,565	1.1	-3.0	-5.5	-16.5	0.4	1.6	--	1.7	Jan-19
AEW Partners VII	326,084	0.0								
Rockwood X	4,338,824	0.5								
Torchlight Debt Opportunity Fund VI	3,759,060	0.4								
TerraCap Partners IV (Institutional), L.P.	3,443,098	0.4								
Rockwood Capital Real Estate Partners Fund XI, L.P.	6,045,971	0.7								
PRIT General Allocation Real Estate	34,893,800	4.1	-2.6	-2.3	-6.7	--	--	--	0.0	Jan-22
PRIT Real Estate Benchmark			*-4.4*	*-4.8*	*-11.2*	*--*	*--*	*--*	*0.2*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Equity Assets	**129,718,460**	**15.2**								
Adams Street Partners 2010	4,903,177	0.6								
Goldman Sachs Private Equity Partners 2005	370,229	0.0								
North American Strategic Partners 2006	28,181	0.0								
Brookfield Capital Partners IV	2,032,445	0.2								
PRIT Vintage Year 2001	55,907	0.0								
PRIT Vintage Year 2002	1,657	0.0								
Ridgemont Equity Partners II	2,840,802	0.3								
TA XII	3,064,204	0.4								
LLR Equity Partners V	6,788,298	0.8								
Wellspring Capital Partners VI	5,098,998	0.6								
Trilantic Capital Partners VI	5,437,874	0.6								
Brookfield Capital Partners V, L.P.	5,256,257	0.6								
FS Equity Partners VIII L.P.	6,422,378	0.8								
Ridgemont Equity Partners III	7,557,343	0.9								
Searchlight Capital III	5,460,771	0.6								
Charlesbank Technology Opportunities Fund	9,133,923	1.1								

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LLR Equity Partners VI, L.P	3,559,085	0.4								
PRIT General Allocation Private Equity	61,706,931	7.2	1.4	2.7	10.4	--	--	--	3.2	Jan-22
State Street PE Index (SSPEI) All PE Excluding PD			*3.5*	*3.5*	*7.4*	*--*	*--*	*--*	*2.8*	
Natural Resources Assets	**13,396,481**	**1.6**	**4.4**	**4.5**	**11.9**	**7.2**	**4.9**	**1.4**	**0.5**	**Jul-10**
Hancock Timberland IX	503,986	0.1								
PRIT General Allocation Timberland	11,386,398	1.3	0.9	1.2	12.2	--	--	--	4.9	Jan-22
NCREIF Timberland			*--*	*2.1*	*9.8*	*11.0*	*7.0*	*5.8*	*10.9*	
Oppenheimer Natural Resources	1,506,097	0.2								
Infrastructure Assets	**13,371,379**	**1.6**	**1.6**	**0.1**	**5.0**	**9.7**	**8.6**	**--**	**8.8**	**Oct-18**
IFM Global Infrastructure (U.S.), L.P.	8,780,722	1.0	1.2	-1.1	4.5	10.1	9.4	--	9.6	Oct-18
CPI+5%			*1.1*	*3.1*	*8.7*	*10.9*	*9.4*	*8.0*	*9.1*	
Global Infrastructure Partners IV	4,590,657	0.5								
Opportunistic Assets	**38,487,319**	**4.5**	**3.8**	**5.0**	**9.1**	**8.1**	**7.8**	**--**	**8.1**	**Oct-18**
HarbourVest Co-Investment Fund V, L.P.	5,018,114	0.6								
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	5,186,862	0.6								
PRIT General Allocation Hedge Funds	28,282,343	3.3	1.8	3.3	12.3	--	--	--	5.2	Jan-22
HFRI FOF Composite Index			*1.7*	*4.2*	*9.7*	*2.9*	*5.0*	*3.6*	*2.1*	

	Market Value $	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Balanced Assets (PRIT General Allocation Fund)	**15,794,036**	**1.9**	**1.7**	**3.7**	**11.3**	**5.8**	**8.7**	**7.7**	**8.3**	**Apr-90**
60% Wilshire 5000 & 40% Barclays Aggregate			*2.3*	*5.6*	*17.6*	*5.2*	*9.0*	*8.3*	*8.7*	
PRIT General Allocation	15,794,036	1.9	1.7	3.7	11.3	5.8	8.7	7.7	8.3	Apr-90
60% Wilshire 5000 & 40% Barclays Aggregate			*2.3*	*5.6*	*17.6*	*5.2*	*9.0*	*8.3*	*8.7*	
Cash	**9,275,754**	**1.1**								
Cash Account	7,754,724	0.9								
ICE BofA 3 Month U.S. T-Bill			*0.4*	*1.3*	*5.2*	*2.6*	*2.0*	*1.4*	*3.0*	
PRIM Cash Account	1,521,030	0.2								

Total Retirement System | 1 Month Ending March 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Investment Change	Ending Market Value
Adams Street Partners 2010	4,946,112	-	-61,096	18,161	4,903,177
AEW Partners VII	327,197	-	-	-1,113	326,084
Axiom International Small Cap Equity	11,743,180	-	-	196,447	11,939,627
Beach Point Loan Fund	9,320,052	-	-	104,525	9,424,578
Brookfield Capital Partners IV	2,457,994	-	-179,994	-245,555	2,032,445
Brookfield Capital Partners V, L.P.	5,246,399	141	-	9,717	5,256,257
Brown Small Cap Fundamental Value	19,556,769	-	-	667,138	20,223,907
Cash Account	2,398,878	5,355,846	-	-	7,754,724
Charlesbank Technology Opportunities Fund	9,133,923	-	-	-	9,133,923
Cedar Street Emerging Markets Small Cap Value Fund	11,310,955	-	-	449,059	11,760,013
Columbia High Yield	12,770,425	-	-	136,948	12,907,373
Driehaus Emerging Markets Growth	40,555,975	-	-	1,119,096	41,655,818
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	4,579,861	-	-	607,001	5,186,862
FS Equity Partners VIII L.P.	6,482,242	-	-	-59,864	6,422,378
Global Infrastructure Partners IV	4,483,829	-	-	106,829	4,590,657
Goldman Sachs Private Equity Partners 2005	370,229	-	-	-	370,229
Hancock Timberland IX	3,887,008	-	-3,998,400	615,378	503,986
HarbourVest Co-Investment Fund V, L.P.	4,691,918	-	-	326,196	5,018,114
IFM Global Infrastructure (U.S.), L.P.	8,678,835	-	-	101,887	8,780,722
JPMCB Strategic Property Fund	9,398,503	-	-	-283,938	9,114,565
LLR Equity Partners V	6,900,678	-	-469,493	357,113	6,788,298
LLR Equity Partners VI, L.P	3,264,686	280,000	-	14,399	3,559,085
Loomis Sayles High Yield Conservative	12,644,838	-	-	126,811	12,771,648
North American Strategic Partners 2006	28,181	-	-	-	28,181
Oppenheimer Natural Resources	1,506,097	-	-	-	1,506,097
PRIM Cash Account	1,819,574	3,180,423	-3,500,000	21,033	1,521,030
PRIT Core Fixed Income	25,308,736	-	-	250,403	25,559,139

	Beginning Market Value	Contributions	Distributions	Net Investment Change	Ending Market Value
PRIT General Allocation	15,673,651	-	-3,179,652	3,300,037	15,794,036
PRIT General Allocation Core FI	49,207,973	-	-	745,257	49,953,230
PRIT General Allocation Domestic Equity	90,396,869	-	-	2,163,527	92,560,396
PRIT General Allocation EME	15,673,651	-	-	120,385	15,794,036
PRIT General Allocation Hedge Funds	28,066,770	-	-	215,573	28,282,343
PRIT General Allocation Int. Equity	39,001,875	-	-	1,034,169	40,036,044
PRIT General Allocation Private Equity	61,965,596	-	-	-258,665	61,706,931
PRIT General Allocation Real Estate	36,450,350	-	-	-1,556,550	34,893,800
PRIT General Allocation Timberland	11,299,609	-	-	86,789	11,386,398
PRIT General Allocation Value Added FI	16,767,161	-	-	128,784	16,895,945
PRIT Vintage Year 2001	56,127	-	-771	552	55,907
PRIT Vintage Year 2002	1,743	-	-	-85	1,657
RhumbLine Russell 1000 Growth Index	31,535,333	-	-	554,001	32,089,334
RhumbLine Russell 1000 Value Index	30,412,760	-	-	1,517,240	31,930,000
Rhumbline QSI Index	35,318,416	-	-	984,557	36,302,973
Ridgemont Equity Partners II	3,003,795	-	-	-162,993	2,840,802
Ridgemont Equity Partners III	7,936,920	-	-	-379,577	7,557,343
Rockwood Capital Real Estate Partners Fund XI, L.P.	6,148,335	283,814	-	-386,178	6,045,971
Rockwood X	4,718,800	63,636	-	-443,612	4,338,824
Searchlight Capital III	4,772,159	-	-	688,612	5,460,771
SSgA MSCI EAFE Index	45,438,428	-	-	1,538,212	46,976,640
SSgA TIPS Index	28,543,215	-	-	208,223	28,751,438
SSgA U.S. Aggregate Bond Index-NL	21,049,418	-	-	183,359	21,232,777
TA XII	2,984,698	-	-	79,506	3,064,204
TerraCap Partners IV (Institutional), L.P.	4,387,099	-	-	-944,001	3,443,098
Torchlight Debt Opportunity Fund VI	3,735,149	-	-	23,911	3,759,060
Trilantic Capital Partners VI	5,424,963	90,796	-	-77,886	5,437,874

Total Retirement System | 1 Month Ending March 31, 2024

	Beginning Market Value	Contributions	Distributions	Net Investment Change	Ending Market Value
UBS Trumbull Property Fund	2,307,561	-	-17,148	-38,188	2,246,992
UBS Trumbull Property Income Fund	10,250,769	-	-	-92,103	10,134,748
Wellspring Capital Partners VI	6,674,407	-	-1,641,010	65,601	5,098,998
Total	**843,016,674**	**9,254,656**	**-13,047,565**	**13,936,127**	**853,111,489**

Private Market Managers' Performance Overview[1]

Managers	Strategy	Vintage Year	Commitment Amount ($mm)	% Called	Median Peer IRR	Quartile Rank	Net IRR	Net Multiple
Real Estate Managers								
AEW Partners VII	Opportunistic	2013	5.0	93%	11.1	3	10.3%	NA
Rockwood X	Value-Added	2016	10.0	95%	12.5	3	5.9%	1.2x
Torchlight Debt Opportunity Fund VI	Opportunistic	2017	5.0	100%	9.8	3	7.5%	1.3x
TerraCap Partners IV	Value-Added	2017	5.0	100%	12.8	3	9.3%	NA
Rockwood XI	Value-Added	2019	8.0	68%	8.0	3	5.8%	1.1x
Private Equity Managers								
Adams Street Partners	Fund of Funds	2010	10.0	90%	14.8	3	14.4	2.2x
Goldman Sachs PE Partners	Fund of Funds	2005	10.0	100%	7.2	NA	NA	NA
North American Strategic Partners	Fund of Funds	2006	9.1	96%	8.3	NA	NA	NA
PRIT Vintage Year 2001	Fund of Funds	2001	2.5	NA	10.4	NA	NA	NA
PRIT Vintage Year 2002	Fund of Funds	2002	0.5	NA	8.6	NA	NA	NA
Brookfield Capital Partners IV	Buyout	2015	4.0	98%	18.7	1	40.2%	2.5x
LLR Equity Partners V	Buyout	2017	5.0	84%	20.3	3	19.8%	1.9x
Ridgemont Equity Partners II	Buyout	2015	6.0	76%	18.7	3	18.3%	2.0x

[1] As of 9/30/2023.
[2] NM indicates that a fund is early in its investment period; therefore, the return is not yet meaningful. NA indicates that the relevant data is not available at the time of report generation.

Private Market Managers' Performance Overview (con't)[1]

Managers	Strategy	Vintage Year	Commitment Amount ($mm)	% Called	Median Peer IRR	Quartile Rank	Net IRR	Net Multiple
TA XII	Growth Equity	2016	4.0	99%	15.4	1	36.0%	3.1x
Wellspring VI	Buyout	2017	5.0	89%	20.3	3	17.7%	1.6x
Trilantic Capital Partners VI	Buyout	2018	5.0	92%	19.5	4	13.0%	1.4x
Brookfield Capital Partners V	Buyout	2019	4.0	88%	20.0	3	16.2%	1.4x
FS Equity Partners VIII	Buyout	2019	5.0	82%	20.0	2	20.4%	1.6x
Ridgemont Equity Partners III	Buyout	2019	6.0	82%	20.0	1	31.5%	1.8x
Searchlight Capital III	Special Situations	2019	5.0	69%	12.4	4	4.0%	1.1x
Charlesbank Technology Opportunities	Buyout	2019	5.0	79%	20.0	1	55.2%	2.1x
LLR Equity Partners VI	Buyout	2020	4.0	78%	15.2	4	3.1%	1.1x
Opportunistic Managers								
HarbourVest Co-Investment Fund V	Opportunistic	2019	4.0	78%	14.1	1	20.6%	1.8x
EnTrustPermal Spec. Opps. Evergreen Fund	Opportunistic	2020	6.0	87%	NM	NM	NM	NM
Infrastructure Managers								
Global Infrastructure Partners IV	Value-Added	2019	5.0	78%	--	--	--	--
Natural Resources Managers								
Hancock Timberland	Timber	2008	8.0	100%	--	--	0.7%	1.1x
Oppenheimer Natural Resources	Natural Resources	2010	7.0	100%	--	--	-3.9%	NA

[1] As of 9/30/2023.
[2] NM indicates that a fund is early in its investment period; therefore, the return is not yet meaningful. NA indicates that the relevant data is not available at the time of report generation.

High Yield Manager Search
Finalist Review

Background

→ The City of Quincy Retirement System has a 5% target allocation to High Yield bonds. Currently both Columbia and Loomis Sayles manage High Yield bond strategies on behalf of the System.

→ As of March 31, 2024, each firm managed approximately 1.5% of the total Retirement System assets respectively, equating to approximately $25.7 million.

→ At the April meeting, the Board voted to interview five managers for this mandate. Those five finalists are:

Manager	Strategy	Approach
PineBridge	High Yield	Traditional
Brigade	Traditional High Yield	Opportunistic
KKR	Multi-Asset Credit ('KMAC')	Opportunistic
Columbia	Institutional High Yield	Traditional
Loomis	High Yield Conservative	Traditional

Manager Candidates

Manager Overviews
As of December 31, 2023

	PineBridge	Brigade	KKR	Columbia	Loomis
Firm Location	New York, NY	New York, NY	New York, NY	Boston, MA	Boston, MA
Firm Inception	1996	2006	1976	1993	1926
Ownership Structure	Majority owned by Pacific Century Group[1]	Employee Owned [2]	Publicly Traded	Publicly Traded	Wholly owned Subsidiary of Natixis
Strategy Name	High Yield	Traditional High Yield	Multi-Asset Credit (KMAC)	Institutional High Yield	High Yield Conservative
Benchmark	Bloomberg US Corporate High Yield	ICE BofA US High Yield Constrained Index	50% ICE BofA US High Yield 50% LSTA Leveraged Loan	ICE BofA US Cash Pay High Yield Constrained Index	BBG US Corporate High Yield
Strategy Inception	Aug 2000	Mar 2009	Jul 2008	Jun 1999	Jan 1989
Assets Under Management (Firm)	$157.1 billion	$26.4 billion	$552.8 billion	$639.1 billion	$335.2 Billion
Assets Under Management (Strategy)	$11.4 billion	$6.9 billion	$1.6 billion	$19.1 billion	$2.4 billion

[1] Pacific Century group is an Asia based private equity firm. 28% of issues and outstanding equity interest in PineBridge are owned by employees and directors.
[2] The firm sold a minority stake (~10%) to Asset Management Finance (AMF) in early 2011. Brigade is owned by its 28 senior professionals making it majority employee owned.

PineBridge

Firm Overview

→ PineBridge is independently owned and was formed in 2010 when AIG divested itself of its third-party asset management business. The assets were purchased by Pacific Century Group, an Asia-based private equity firm that is now the majority owner. PineBridge employees and directors have an approximate 28% interest, which has not changed significantly since purchase. The original team has stayed together, and their track records remained intact.

→ PineBridge has a total of $157.1 billion in assets under management as of December 31, 2023. The Leverage Finance Group manages $26.2 billion of US and European leverage loans, high yield bonds and CLO tranches. The High Yield strategy that incepted in August 2000 had $11.4 billion.

Investment Team Overview

→ Steven Oh and John Lapham co-lead the Leveraged Finance group (LFG) and run the loan strategies. They are supported by seven portfolio managers across high yield, bank loans, and CLOs. The LFG senior leadership averages 27 years of industry experience and have worked together for over 17 years.

→ Located in in Houston, the high yield team is led by John Yovanovic who is Head of High Yield and the Lead PM on all high yield strategies including High Yield, High Yield BB-Rated, Global High Yield, and Co-PM on Opportunistic Credit with Steven Oh. Mr. Yovanovic has been with the team for 24 years and has 30+ years of investment management experience. He is co-lead portfolio manager for the strategy alongside Jeremy Burton.

→ The team has 15 industry credit analysts who cover below investment grade credit across the capital structure (both high yield and loans) and they work collaboratively across all various high yield and loan strategies.

PineBridge (continued)

Investment Philosophy & Process

→ PineBridge is a value-oriented investor believing that credit markets have areas of inefficiency. They follow a consistent investment process to independently price credit risk relative to the market. The team uses an in-depth research process focused on both upside and downside fundamental risks. It identifies and monitors issuer-specific metrics for early warning of changes in fundamental trends. The team invests in a counter-cyclical manner and looks to capitalize on periods of volatility.

→ Considered a more traditional strategy that maintains the flexibility to invest in loans and investment grade/crossover names that are trading at high-yield like levels. Allocations are typically less than 5% of the portfolio.

→ The core of PineBridge's investment process is its' bottom-up credit analysis and security selection, driven by their proprietary credit rating process which specifically focuses on three steps: (1) evaluation of credit risk, (2) appropriately pricing credit risk, (3) and identifying and monitoring issuer specific metrics for early warning of changes in credit risk.

→ Bond issues are selected on an individual basis with the goal of being compensated for their view of the assumed credit risk. They believe that their differentiated process produces superior results over a credit cycle and mitigates default losses.

Brigade

Firm Overview

→ Brigade Capital Management ("Brigade") was established in 2006 and is headquartered in New York with additional offices in London and Tokyo.

→ The firm is majority employee-owned but sold a minority stake (~10%) to Asset Management Finance ("AMF") in early 2011. There are currently 29 Brigade employee partners. Founder Donald Morgan is the firm's largest shareholder (we believe in the mid-30% range).

→ Brigade has $26.4 billion in assets under management as of 12/31/2023 and manages multiple below-IG strategies. The traditional high yield strategy had $6.9bn as of 12/31/23.

Investment Team Overview

→ Brigade's investment team is led by CIO & Managing Partner, Donald Morgan, who has 30 years of leveraged finance experience and Doug Pardon, Head of Corporate Credit, who has 22 years' experience. They lead a global team of 125 employees, including 45 investment professionals who average 20 years of experience.

→ A six-person Investment Committee consisting of the most senior members of the team and Heads of teams that support Mr. Morgan and Mr. Pardon. The global credit research team consists of 17 industry specialist analysts who are responsible for the entire capital structure (bonds and loans). There are also 7 structured credit analysts, 8 risk & trading, and 3 private credit investment team professionals.

Brigade (continued)

Investment Philosophy and Process

→ They seeks to achieve long term capital growth by investing primarily in high yield corporate bonds and opportunistically in bank loans and other credit instruments. The strategy is focused predominantly on liquid securities. Brigade believes it is vitally important to maintain a liquid portfolio in order to effectively execute its credit rotation process, whereby the portfolio risk positioning changes depending on the market environment. Brigade's high yield strategy can typically be unconstrained and may take exposure to non-high yield allocations or credit ratings segments except when adhering to client guidelines. The portfolio tends to out-yield the index and seeks to outperform during all phases of the credit cycle.

→ The Strategy employs a bottom-up, fundamental research-based process focused on free cash flow generation, asset coverage, and relative value analysis. The investment process is implemented to optimize risk vs. reward, utilizing portfolio rotation as the credit cycle evolves. High yield bonds constitute a majority of the portfolio exposure, with opportunistic allocations to off-benchmark credit assets such as bank loans, investment grade debt, CLOs, EM debt, preferreds, and municipal debt.

→ Brigade follows a six-step process that involves idea generation, research, screening, relative value analysis, strategy selection, execution, and monitoring. Brigade's Investment Committee ("IC") process is very fluid and less formal than other firms. Performing credit ideas that will be core positions do not need to pass through a full vote to be added to the portfolios but will be discussed by all IC members present. Any position that is likely to grow will be fully vetted by the IC. Within the Traditional High Yield, loan exposure will range between 10-25% with a max sector concentration of 30%.

KKR

Firm Overview

- → KKR is a publicly traded New York based global investment firm founded in 1976 by Jerome Kohlberg, Henry Kravis, and George Roberts. The business initially focused on US Private Equity ("PE") but expanded globally in the 1990s and into credit in 2004. KKR operates through three primary business segments: Private Markets, Public Markets and Capital Markets. KKR's primary business lines are augmented by operational consultants, experienced advisors, public affairs executives, capital raising executives and macro research professionals.
- → As of September 2023, KKR managed a total of $528 billion with $202 bn in credit. The KMAC strategy, launched in July 2008, is managed within the leveraged credit platform, and had $1.6 bn AUM.

Investment Team Overview

- → The KMAC team is led by Jeremiah Lane, Partner & PM. The strategy has a dedicated Investment Committee, the KKR Credit US Leveraged Credit IC, comprised of Chris Sheldon, John Reed (Partner and Head Trader), Mr. Lane and Terry Ing. Chris, John, and Jeremiah have been together at KKR for over 15 years and average 23 years of industry experience. Terry comes with 24 years of experience and joined KKR in 2019 and is Co-head of KKR's Leveraged Credit Research team.
- → Although not on the portfolio management team, Henry McVey also contributes to the process from the top down as the Global Head of Macro, he will join the portfolio managers on a weekly basis to discuss his views.

KKR (continued)

Investment Philosophy & Process

→ The inefficiency that the team is trying to exploit relates to the broad market's inability to appropriately assess credit risk. Their fundamentally driven approach allows them to capitalize upon market mis-pricings, thereby adding value for their investors. KMAC's investment strategy is a diversified credit strategy that can invest primarily across bank loans, high yield bonds, structured credit, asset backed securities and convertible bonds in the US and Europe. The investment objective of KMAC is to generate consistent income across a diversified pool of assets with additional upside via capital appreciation.

→ The team works closely with the Global Macro and Asset Allocation ("GMAA") team to determine top-down asset allocation for the KMAC Strategy. There are no explicit sector, industry or geographical weightings. The GMAA team helps to consolidate in-house macro views and facilitates improved investment decision-making as its input flows into the diligence work of their deal teams as well as Investment Committee ("IC") and Portfolio Management Committee discussions.

→ KKR Credit will only invest in a credit once it has undergone a deep due diligence analysis and the respective IC has determined that they have a competitive advantage via their sourcing, analysis, or diligence findings. KMAC is governed by the US Leveraged Credit IC. The US Leveraged Credit IC approves or removes credits for their approved credit list. The Portfolio Management Committee ("PMC") has direct oversight and monitoring of process and approval of key limits and allocations. However, to provide eligible client accounts with the ability to participate in deal flow and trading ideas that are subject to a constrained timeline, discretionary trading is allowed within IC approval limits.

KKR (continued)

Investment Philosophy & Process (continued)

→ Sponsor due diligence is also an important part of their investment process. Among other things, they evaluate a sponsor's track record and experience in the industry as well as their motivations and investment thesis behind an investment. They think that having access to a sponsor is important and can be a key advantage when doing diligence. When doing diligence on a KKR sponsored company, their analysts spend a lot of time with their private equity teams to ensure they understand their investment thesis and industry views.

Columbia

Firm Overview

→ Columbia Threadneedle Investments is a large, publicly traded global asset management firm headquartered in Boston, MA, with several other offices globally. In November 2021, Columbia Threadneedle completed its acquisition of BMO's EMEA (BMO GAM (EMEA)) asset management business. In March of 2022, BMO GAM (EMEA) was rebranded as Columbia Threadneedle Investments with the purpose of integrating the two entities. The firm manages a broad range of strategies, ranging from equity and fixed income to alternatives.

→ As of December 31, 2023, the firm had $639.9 billion in AUM of which $19.1 billion are managed in the Institutional High Yield strategy. The firm manages both institutional and retail assets with a 46%/54% split, respectively.

Investment Team Overview

→ The high yield team is based in Minneapolis, MN. The investment team consists of five portfolio managers, 1 client portfolio manager, 2 traders and 12 research analysts. The team is seasoned as the portfolio managers and senior analysts have been working together for over 12 years.

→ The Institutional High Yield strategy is led on a day-to-day basis by Brett Kaufman, Kris Keller and Daniel DeYoung, following the retirement of Mark Van Holland (Q1 2023). Brian Lavin, former Senior Portfolio Manager and Head of US High Yield will continue in his leadership role for US High Yield team, although no longer serves as a portfolio manager since June of 2022. The Investment Committee makes portfolio allocation decisions on a weekly basis. While final decision-making authority lies with the head strategy portfolio manager, the entire team contributes to the investment analysis and research process.

Columbia (continued)

Investment Philosophy and Process

→ The team follows three tenets of investment philosophy: strong fundamental credit selection, tactical portfolio management, and disciplined downside risk management. Columbia believes that high yield strategies cannot rely solely on credit selection, if the team intends to outperform over various market environments, so it will tactically allocate portfolio-level risk based on its assessment of the credit and economic cycles. This will result in rotating portfolio-level beta, typically between 0.8x and 1.0x.

→ The credit analysts' bottom-up fundamental research follows a proactive approach that includes rigorous due diligence, proprietary modeling and forecasting, field research, and covenant analysis. The analysts assess quality using forward-looking analysis throughout a full business cycle without relying on rating agencies. The portfolio managers incorporate analysts' recommendations into their tactical outlooks in an effort to optimize portfolio construction. As a starting point, analysts filter out (1) issues of less than $100 million, (2) non-US issuers for which they cannot get an information advantage.

→ The portfolio tends to be well-diversified, averaging 350-400 bond issues. This allows portfolio managers to more efficiently adjust portfolio positioning as their outlook or the market environment changes. Through their process, over a full market cycle, they expect to generate two thirds of their alpha through credit selection and one-third through tactical management.

Loomis

Firm Overview

→ Loomis Sayles is structured as a limited partnership. It is a wholly owned subsidiary of Natixis Investment Managers, the US-based subsidiary of Natixis which is based in Paris, France. Natixis Investment Managers is headquartered in Boston, Massachusetts.

→ As of December 31, 2023, the firm had a total of $335.2 billion in AUM, of which $2.7 billion were in the high yield strategy.

Investment Team Overview

→ The High Yield Conservative strategy is run by the Loomis Full Discretion team, which is led by Matt Eagan and supported by portfolio managers Brian Kennedy, Todd Vandam, and Peter Sheehan. The Full Discretion Team is a Product Team at Loomis where Loomis' Multisector, High Yield and Bank Loan teams sit.

→ The portfolio management team is very experienced with an average of over 30 years' experience in the industry and close to 30 years average at the firm. The team is responsible for strategies across Core Plus, Multisector, and leveraged finance. The team is further supported by the broader Loomis platform that includes over 175 investment professionals, including over 65 credit research analysts and 45 fixed income traders. The group also has access to vast resources of the firm's credit research team equity research, strategists, traders, portfolio specialists, quant and risk analysts, and operations.

Loomis (continued)

Investment Philosophy and Process

→ Loomis' high yield investment philosophy is based on the theory that the market for high yield assets is inefficient and can be exploited through fundamental and quantitative research. Bond markets often misprice risk and overreact to the news, allowing the team to identify attractive investment opportunities.

→ PM's set top-down positioning establishing the overall risk posture and sectors that appear attractive. They determine where they are in the credit cycle in order to provide the basis for identifying value and what sectors. Credit risk premiums are calculated as spread less expected downgrade and default losses and translated into a probability of positive excess returns over the next twelve months. Using these guidelines, they determine the most attractive sectors.

→ The bottom-up part of the process follows an equity-like approach to valuation by focusing on long-term enterprise value and identifying risks to that value. This gives them the conviction to buy in dislocated markets and take contrarian positions. They consider themselves deep value investors, targeting discount bonds backed by call protection and strong fundamentals. They look to build positive convexity into the portfolio.

→ The High Yield Conservative strategy guidelines includes 65-80% in High Yield Corps, 5-15% in IG corps, up to 10% in Bank Loans, up to 15% in Converts, up to 10% in securitized, up to 10% in US Treasury & Agency, up to 5% in Preferreds and up to 5% in Equity. By region the strategy is predominantly in US (80-100%) but allows up to 15% in Non-US Developed and 5-15% in Emerging Markets.

Loomis (continued)

→ While the High Yield Conservative has similar guideline constraints as other Loomis HY strategies, notably its High Yield Full Discretion and its High-Income strategies, quality allocation constraints across the capital structure can vary. The High Yield Conservative allows for a maximum B allocation of 55%, and a 10% maximum to CCC & below.

Historical Performance, Portfolio Characteristics, and Management Fees

Portfolio Characteristics

As of December 31, 2023

	PineBridge	Brigade	KKR	Columbia	*Loomis*	*ICE BofAML US High Yield Constrained*
Portfolio Profile:						
Average Duration	3.0	2.8	1.3	3.1	3.4	*3.6*
Average Coupon	5.8	7.4	7.7	5.7	5.2	*6.1*
Yield to Worst	7.5	10.5	8.0	7.0	8.3	*7.7*
Average Price	91.2	88.12	96.9	94.2	84.9	*92.8*
Average Quality	B+	B	B	B+	B+	*B+*
Credit Quality Breakdown: (%)						
AAA, AA, and A	3	-	-	3	4	-
BBB	5	2	4	3	10	-
BB	37	30	24	39	51	*49*
B	46	35	49	42	23	*40*
CCC or Lower	9	24	11	13	8	*11*
Not Rated	0	9	12	0	3	-
Sector Allocation: (%)						
US Treasury and Agency	-	-	-	-	-	-
U.S. IG Corporate Bonds	4	1	1	3	3	-
US High Yield Corporate Bonds	76	63	25	92	66	*87*
Developed Corp. Bonds	14	7	14	-	11	*13*
EM Corporate	3	1	-	-	6	-
CLO	-	-	15	-		-
Bank Debt (Leveraged Loans)	-	20	41	2	4	-
Convertible Bonds	-	1	4	-	4	-
Preferred Stock	-	1	-	-	-	-
Equity	-	2	0	-	1	-
Cash Equivalents	3	4	0	3	3	-
Other	-	-	-	-	3	-
Portfolio Concentration:						
Number of Issues	268	281	1085	439	570	*1827*
Number of Issuers	187	166	711	219	301	*963*
% of portfolio in top 10 issuers	12	17	7	15	22	*10*
% of portfolio in top 25 issuers	25	36	15	28	36	*19*

Trailing and Calendar Year Performance (Gross of fees)
As of December 31, 2023

	PineBridge	Brigade	KKR	Columbia	*Loomis*	*ICE BofAML US High Yield Constrained*
Trailing Period Returns (%):						
MRQ	7.2	5.1	4.1	7.1	6.3	7.1
1 Year	14.8	12.8	14.6	13.3	10.9	13.5
3 Years	2.8	2.7	4.6	2.5	0.4	2.0
5 Years	6.4	5.7	6.0	6.1	4.5	5.2
7 Years	5.5	4.9	5.4	4.9	4.1	4.4
10 Years	5.4	5.1	5.1	5.1	4.0	4.5
Calendar Year Returns (%):						
2023	14.8	12.8	14.6	13.3	10.9	13.5
2022	-10.7	-13.5	-4.9	-9.6	-12.7	-11.2
2021	5.9	11.0	5.1	5.2	4.4	5.3
2020	8.6	6.5	6.0	6.3	9.5	6.1
2019	15.8	14.2	10.3	17.2	12.4	14.4
2018	-3.3	-2.0	0.9	-3.1	-2.6	-2.3
2017	10.3	8.2	6.7	7.2	9.4	7.5
2016	19.0	23.8	10.4	12.0	13.8	17.5
2015	-3.9	-7.2	0.2	0.2	-6.4	-4.6
2014	1.4	2.7	2.9	4.6	4.9	2.5

10-year Historical Risk-Adjusted Returns (Gross of fees) [1]

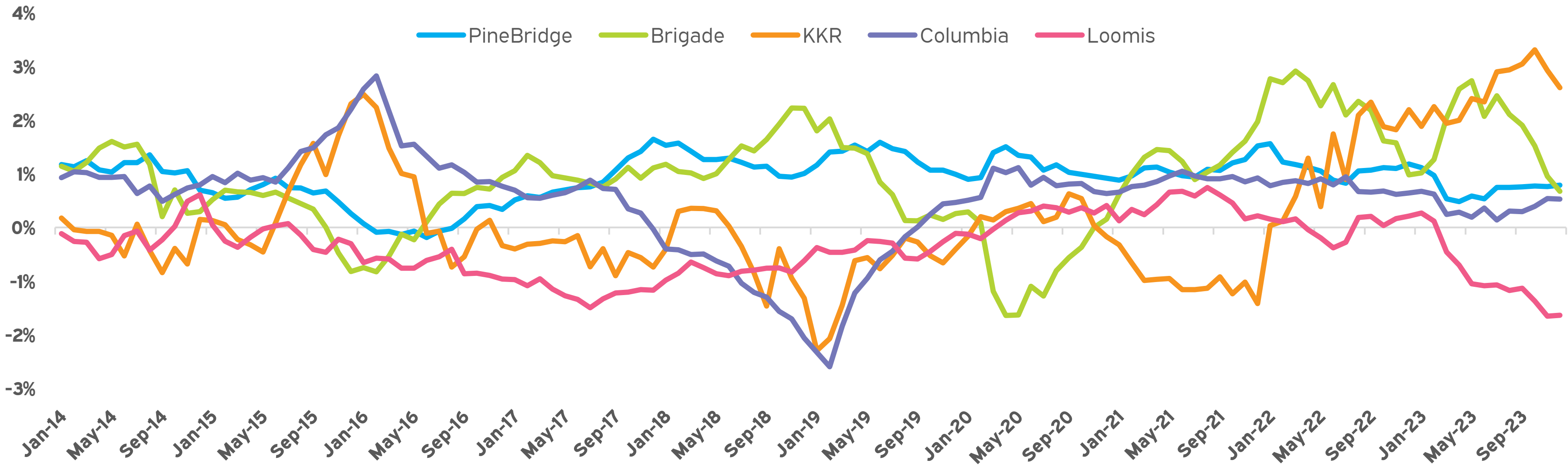
As of December 31, 2023

	PineBridge	Brigade	KKR	Columbia	*Loomis*	*ICE BofAML US High Yield Constrained*
Performance:						
Common Period Performance (%)	5.4	5.1	5.1	5.1	4.0	*4.5*
Up Period Percent (%)	64	65	38	44	54	*NA*
Down Period Percent (%)	55	55	100	63	40	*NA*
Risk Measures:						
Standard Deviation (%)	7.6	8.4	5.6	7.3	7.9	*7.7*
Tracking Error (%)	0.9	2.5	3.4	1.5	1.2	*NA*
Beta	0.98	1.04	0.67	0.93	1.01	*NA*
Correlation to Benchmark	0.99	0.95	0.92	0.98	0.99	*NA*
Downside Deviation (%)	8.7	10.4	6.7	7.9	8.6	*8.4*
Upside Capture (%)	106	109	69	98	99	*NA*
Downside Capture (%)	97	105	48	91	104	*NA*
Risk-Adjusted Performance:						
Jensen's Alpha (%)	0.91	0.49	1.56	0.73	-0.50	*NA*
Sharpe Ratio	0.54	0.46	0.68	0.52	0.35	*0.42*
Information Ratio	0.94	0.24	0.17	0.37	-0.40	*NA*

[1] Risk-Adjusted returns calculated relative to the ICE BofAML US High Yield Constrained Index.

Trailing Three-Year Rolling Excess Returns (Gross of fees)[1]

January 2014 to December 2023



As of 12/31/2023	Total Periods	Periods Outperformed	Percentage (%)	Average Excess Return (%)	Median Excess Return (%)	Max (%)	Min (%)	Range (%)
PineBridge	120	113	94	0.9	1.0	1.6	-0.2	1.8
Brigade	120	104	87	0.9	1.0	2.9	-1.6	4.6
KKR	120	57	48	0.2	-0.1	3.3	-2.3	5.6
Columbia	120	99	83	0.5	0.7	2.8	-2.6	5.4
Loomis	120	37	31	-0.4	-0.3	0.7	-1.7	2.4

[1] Excess returns calculated relative to the ICE BofAML US High Yield Constrained Index.

Correlation Matrix – Excess Returns (Gross of Fees)[1]

As of 12/31/2023	PineBridge	Brigade	KKR	Columbia	Loomis
PineBridge	1.00	-0.12	0.26	0.41	0.29
Brigade	-0.12	1.00	0.25	-0.45	-0.05
KKR	0.26	0.25	1.00	0.18	0.02
Columbia	0.41	-0.45	0.18	1.00	0.14
Loomis	0.29	-0.05	0.02	0.14	1.00

→ Based on the low to negative excess return correlations across all managers, we believe there are diversification benefits when pairing either incumbent managers and/or new managers together.

[1] Common period is April 2009 to December 2023. Risk statistics calculated relative to the blended index of ICE BofA US High Yield Constrained Index.

Performance and Positioning Commentary

PineBridge

→ Relative to this peer group, the PineBridge strategy is one of the more benchmark aware strategies in terms of sector exposures in addition to their low tracking error of 0.9. The strategy has consistently outperformed the index over 3-year rolling periods 94% of the time with an average excess return of 0.9%.

Brigade

→ The strategy has performed well relative to peers and the index but has experienced the most volatility with a standard deviation of 8.4%. 3-year rolling excess returns have been consistent, outperforming 87% of the time but the strategy has also had the highest downside capture relative to this peer group (105%). Given the higher allocation to leverage loans, the strategy's duration is meaningfully less than the index (2.8yrs vs 3.6yrs).

KKR

→ Primarily due to this multi-asset credit strategy's larger allocation to leverage loans relative to this peer group, it has had the highest tracking error (3.4%), the lowest beta (0.67) and the lowest duration (1.3yrs). Despite the lower beta, the strategy has produced the highest amount of alpha as measured by Jensen Alpha of 1.56% over the 10-year period. Given the floating rate exposure and the recent rising rate environment, the strategy has protected the most on the downside relative to peers, only capturing 48%.

Performance and Positioning Commentary (continued)

Columbia

→ The strategy has performed well on both an absolute and risk adjusted basis. Aside from KKR's multi-asset credit strategy, the Columbia strategy has protected the best on the downside relative to this peer group, only capturing 91% over the trailing 10-years. As of December 2023, high level risk positioning was roughly in line with the index, however given the style of the strategy this risk position will change through market cycles.

Loomis

→ The Loomis strategy has primarily struggled to protect on the downside with a 104% downside capture ratio. Although the strategy has one of the lower tracking errors compared to peers, it continues to take off-benchmark exposure in EM corporates which has consistently challenged performance. On a risk adjusted basis their track record has struggled with a negative information ratio of -0.40 over the trailing 10-years

Management Fees

Manager	Proposed Vehicle	Fee Schedule	Operating Expenses	Minimum Investment	Liquidity
PineBridge	CIT	0.45% on all assets	NA	$5M	Daily
Brigade	Commingled	0.30% on all assets	0.05%	NA	Monthly +30
KKR	ICAV	0.30% on all assets	0.11%	NA	Monthly +20
Columbia	CIT	0.40% on all assets	NA	$5M	Daily
Loomis	CIT	0.45% on all assets	NA	$5M	Daily

→ The median management fee for a $25 million commingled fund mandate in the eVestment US High Yield Fixed Income Universe is 50 basis points (0.50%).

- PineBridge's CIT management fee of 0.45% ranks in the 23rd percentile
- Brigade's commingled fund management fee of 0.30% ranks in the 2nd percentile.
- KKR's ICAV management fee of 0.30% ranks in the 2nd percentile.
- Columbia's CIT management fee of 0.40% ranks in the 12th percentile.
- Loomis' CIT management fee of 0.45% ranks in the 23rd percentile.

Glossary

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return) and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Tracking Error: This statistic measures the standard deviation of excess returns relative to a benchmark. Tracking error is calculated by multiplying the standard deviation of the monthly excess returns of a portfolio relative to a benchmark by the square root of twelve in order to annualize. The higher the tracking error, the greater the volatility of excess returns relative to a benchmark.

Upside/Downside Market Capture: A measure of the manager's performance in up(down) markets relative to the market itself. For UMC, a value of 110 suggests the manager performs ten percent better than the market when the market is up during the selected time period. For DMC, A value of 90 suggests the manager's loss is only nine tenths of the market's loss during the selected time period. The Upside/Downside Capture Ratio is calculated by dividing the return of the manager during the up market periods by the return of the market for the same period. Generally, the higher the UMC Ratio and lower the DMC, the better (If the manager's UMC Ratio is negative, it means that during that specific time period, the manager's return for that period was actually negative and if the DMC is negative, the manager's return for that period was actually positive)

Up/Down Period Percent: Measures the number of periods that a fund outperformed the benchmark when the benchmark return was greater(less) or equal to than 0%, divided by the number of periods that the benchmark return was greater(less) than or equal to 0%. The larger the ratio, the better, indicating the percentage of periods that the product outperformed the benchmark in an up(down) market.

Sources:

www.evestment.com

Private Equity Search
Respondent Review

Background

→ The Quincy Retirement System ("Quincy") currently has a 14% target allocation to private equity.

- As of March 31, 2024, the Quincy Retirement System had roughly 15% of total assets invested in private equity.

→ To maintain the target asset allocation, we recommend the Board consider making multiple commitments this year.

→ Meketa Investment Group issued an RFP for private equity managers on March 26, 2024, with responses due on April 12, 2024.

→ Meketa received 17 completed responses for this search.

- Note: of the 17 completed responses, four offerings have been omitted from this analysis as they did not meet the minimum requirements.

Manager Search Respondent Reviews

Manager Respondents
Composite Rating Overview 2024

Fund	Strategy	Score	Rationale
FS Equity Partners IX, L.P.	Direct Investment	Highly Advantageous	→ FS Equity Partners IX will continue the Firm's consistent and longstanding focus on investing in middle-market companies across the consumer and distribution sectors
Kohlberg Investors X, L.P.	Direct Investment	Highly Advantageous	→ Kohlberg & Company pursues a thesis-driven approach to investing, with a comprehensive approach to value-creation, and provides investors access to a portfolio of control investments, diversified by industry.
One Rock Capital Partners IV, L.P.	Direct Investment	Highly Advantageous	→ One Rock Capital provides capital for a range of complex situations including corporate carve-outs, management transitions, and underperforming companies. One Rock targets opportunities to create value through the implementation of operational, financial, and strategic improvements.
Searchlight Capital Fund IV, L.P.	Direct Investment	Highly Advantageous	→ Searchlight Capital Partners has implemented the same value-oriented strategy since inception, which has delivered consistent returns through different economic environments.
500 Global Flagship VI, LP.	Direct Investment	Advantageous	→ 500 Global, formerly known as 500 Startups is a venture capital firm with a deep knowledge of investing in founders in fast-growing technology companies.
Adams Street Partners Growth Equity Fund VIII, L.P.	Direct Investment	Advantageous	→ Adams Street Partners is an established, 100% employee-owned global asset manager with primary fund and direct investment strategies. The Firm has a 50+ year track record committing over $2.7 billion in long-term capital to growth stage companies.
Centerbridge Capital Partners Fund V, L.P.	Direct Investments	Advantageous	→ Centerbridge Capital Partners V will continue the Firm's focus on traditional buyout and structured equity investments in the U.S. and Europe.
GenNx360 Capital Partners IV, L.P.	Direct Investment	Advantageous	→ GenNx360 has pursued a consistent middle market buyout strategy since its inception and has continuously improved its performance across each successive fund cycle.
L Catterton X, L.P.	Direct Investment	Advantageous	→ L Catterton X is a buyout fund managed by L Catterton. The fund focuses on middle-market transactions in which the firm takes a controlling business stake and invests globally, primarily in North America.
L Catterton Growth V, L.P.	Direct Investment	Advantageous	→ L Catterton Growth Partners V, the fifth fund in the series managed by L Catterton, will continue to invest in North America-based companies operating in the consumer sector.

Manager Respondents
Composite Rating Overview 2024 (continued)

Fund	Strategy	Score	Rationale
ONCAP V, L.P.	Direct Investment	Advantageous	→ ONCAP has pursued a consistent lower middle market buyout strategy since its inception and continued to generate strong performance across each fund cycle.
Stellex Capital Partners III, L.P.	Direct Investment	Advantageous	→ Stellex Capital Management has been executing the same strategy of investing in complex companies in out-of-favor, often overlooked industries within broader industrials.
Winslow Growth Capital Fund III, L.P.	Direct Investment	Advantageous	→ Winslow Growth offers access to mid-to-late-stage venture companies with a Firm that has experience in growth investing.
Capital Dynamics Mid-Market Direct VI	Co-investment	Disqualified	
Ironsides Co-Investment Fund VII, L.P.	Co-Investment	Disqualified	
HarbourVest Partners Co-Investment Fund VII	Co-Investment	Disqualified	
One Rock Emerald Fund, L.P.	Direct Investment	Disqualified	

FS Equity Partners IX, L.P.[1]

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	→ FS Equity Partners IX (the "Fund") will continue the Freeman Spogli & Co.'s consistent and longstanding focus on investing in middle-market companies across the consumer and distribution sectors.
Organization	Highly Advantageous	→ Founded in 1983, Freeman Spogli & Co. (the "Firm") is a private equity manager focused on investing in middle-market companies in the consumer and distribution sectors. → The Firm maintains offices in Los Angeles and New York and employs 25 investment professionals including nine partners.
Team	Highly Advantageous	→ The team is led by Founding Partner, Ronald P. Spogli. The two are supported by a Partner/CEO, a Partner/President/COO, five Partners, three Principals, a Principal/Head of Business Development, and 16 more junior investment professionals. The Partners have an average tenure of 27 years at Freeman Spogli.
Investment Philosophy & Process	Advantageous	→ The Fund will make control investments in U.S. middle-market companies within consumer and distribution sectors. Target companies are expected to have differentiated business models, defensible market positions, strong free cash flow characteristics, experienced operators, opportunities for investment in strategic value creation initiatives, and operating enhancements. → Post-closing, the team holds a long-term planning session to develop specific value enhancement programs and looks to be actively pursuing add-on acquisitions for portfolio companies. Freeman Spogli also utilizes a group of industry executives to provide significant value in sourcing and evaluating investment opportunities in addition to implementing strategic growth initiatives.
Performance[2]	Advantageous	→ Since 1983, the Firm has invested $5.7 billion in equity across 70 portfolio companies. → In aggregate, the Firm has generated a 2.4x gross MOIC and a 24% gross IRR across all investments, as of September 30, 2023.
Fees	Highly Advantageous	→ Management Fee: 1.75% of commitments during the commitment period; 1.00% of invested capital thereafter. → 8% Preferred Return / 20% Carried Interest

[1] $2 billion target fund size. The Firm anticipates holding a final close in 2025. The Fund has closed on over $1 billion to date.
[2] Net returns as of September 30, 2023: Partners' Fund (1983 vintage): 100% nIRR, 7.2x nMOIC; Fund I (1986): 19%, 1.5x; Fund II (1988): 10%, 1.5x; Fund III (1993): 16%, 2.2x; Fund IV (1998): 13%, 1.7x; Fund V (2004): 15%, 2.1x; Fund VI (2010): 24%, 3.3x; Fund VII (2014): 10%, 1.7x; Fund VIII (2019): 20%, 1.6x.

FS Equity Partnership
Track Record
(As of September 30, 2023)

Fund	Vintage Year	Committed Capital ($ M)	No. Investments	Gross MOIC[3] (x)	Gross IRR (%)	Net MOIC (x)	Net IRR (%)
Partners' Fund	1983	8	3	8.8	120	7.2	100
Fund I	1986	125	5	1.9	33	1.5	19
Fund II	1988	425	9	1.9	17	1.5	10
Fund III	1993	580	10	2.7	22	2.2	16
Fund IV	1998	915	14	2.0	17	1.7	13
Fund V	2004	1,000	8	2.7	21	2.1	15
Fund VI	2010	735	8	4.3	29	3.3	24
Fund VII	2014	1,300	12	2.1	14	1.7	10
Fund VIII	2019	1,850	11	1.9	29	1.6	20

[3] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Kohlberg Investors X, L.P.[4]

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	→ Kohlberg Investors X (the "Fund") will continue Kohlberg & Company's thesis-driven approach to investing, with a comprehensive approach to value-creation, and provides investors access to a portfolio of control investments, diversified by industry.
Organization	Advantageous	→ Kohlberg & Company (the "Firm") was founded in 1987 by Jerome Kohlberg Jr., the senior founding partner of KKR as the family office for the Kohlberg family. → The Firm began investing third-party institutional capital in 2001 and completed its management transition in 2007 to its current leadership team of Sam Frieder and Gordon Woodward.
Team	Advantageous	→ The investment team is led by Managing Partner Sam Frieder, CIO Gordon Woodward, and six Investment Partners → Each Investment Partner is responsible for leading one of the Firm's core sectors of focus. → In 2022, the Firm created Managing Director positions to provide a path to Partnership for its next generation and promoted three individuals.
Investment Philosophy & Process	Highly Advantageous	→ The Firm will invest across its six core sectors of focus: pharmaceutical/medical products & services, infrastructure services, financial & information services, business services, healthcare services, and food & consumer. → The Fund anticipates making 13 platform investments, with equity checks between $200 million and $600 million. → The Firm takes a thesis-driven approach to investing, and through its white paper process, identifies attractive sub-sectors and investment themes within each core sector of focus. → Post-investment, the Firm focuses on value-creation through enhancement of management capabilities, organic growth initiatives, M&A, and business repositioning.
Performance[5]	Advantageous	→ The Firm has completed 90 platform investments and more than 240 add-on acquisitions, with a total transaction value of approximately $35 billion. → Since 2007, the Firm has generated a 20% net IRR and 2.1x net MOIC in aggregate on its realized investments, with a 0% loss ratio (as of December 31, 2023).
Fees	Highly Advantageous	→ Management Fee: 2.0% of committed capital during the investment period; thereafter, 1.0% of invested capital. → 8.0% preferred return / 20.0% carried interest.

[4] $5.0 billion target. The Firm anticipates holding a final close in the second half of 2024.
[5] Net returns as of December 31, 2023: Fund VI (2007 vintage): 16% nIRR, 1.7x nMOIC; Fund VII (2012): 16%, 1.7x; Fund VIII (2017): 22%, 1.9x; Fund IX (2020): 25%, 1.5x.

Kohlberg & Company
Track Record
(As of December 31, 2023)

Fund	Vintage Year	Invested ($ M)	Realized ($ M)	Total Value ($ M)	Gross MOIC[6] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
Fund VI	2007	1,291	2,712	2,712	2.1	1.7	23	16
Fund VII	2012	1,640	3,150	3,150	1.9	1.7	21	16
Fund VIII	2017	2,485	2,372	5,531	2.2	1.9	24	22
Fund IX	2020	3,198	487	5,076	1.6	1.5	25	25
Fund X	2023	832	57	913	1.1	NM	33	NM

[6] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

One Rock Capital Partners IV, L.P.[7]

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	→ One Rock Capital Partners IV, L.P. ("Fund IV") will continue One Rock Capital Partners' value-oriented operationally focused strategy since inception, which has delivered consistent returns through different economic environments.
Organization	Highly Advantageous	→ One Rock Capital Partners (the "Firm") is a global private investment firm with offices in New York, Los Angeles and London. → The Firm was founded in 2010 by Tony Lee and Scott Spielvogel after they left Ripplewood Holdings. Messrs. Lee and Spielvogel have known each other for over 30 years having attended college together. → Since inception, One Rock has had a strategic partnership with Mitsubishi Corporation.
Team	Advantageous	→ The Firm has two Managing Partners and seven Partners, who are supported by four Principals, five Vice Presidents, a Head of Business Development, a Head of Debt Strategies, and a Head of ESG. → The Firm has independent contracting agreements with 24 Operating Partners who have experience in the sectors in which One Rock invests, and who work exclusively for One Rock.
Investment Philosophy & Process	Highly Advantageous	→ Fund IV will employ the Firm's value-oriented, operationally focused strategy, targeting investments across the chemicals & process industries, food & beverage manufacturing & distribution, specialty manufacturing and business & environmental services sectors. → Fund IV expects to make eight to twelve investments, primarily in North America and Europe. → Fund IV will seek to create value by utilizing the Firm's operating expertise.
Performance[8]	Advantageous	→ Since 2010, the Firm has invested $2.8 billion of commitments across 24 portfolio companies. → In aggregate, the Firm has generated a 2.x gross MOIC and a 39% gross IRR across all investments.
Fees	Advantageous	→ Management Fee: 2% of commitments during the investment period; 1.85% of adjusted cost of unrealized investments during the follow-on period and extension period. → 8.0% preferred return / 20.0% carried interest

[7] $3.25 billion target. The Firm anticipates holding a final close in late 2024.
[8] Net returns as of December 31, 2023: Pre-Fund: 106% nIRR, 4.3x nMOIC; Fund I (2015): 21%, 1.8x; Fund II (2014 vintage): 28%, 2.9x, Fund III (2021 vintage): 32%, 1.7x.

One Rock Capital Partners
Private Equity Track Record
(As of December 31, 2023)

Fund	Vintage Year	No. of Platforms	Invested ($ M)	Total Value ($ M)	Gross MOIC[9] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
Pre-Fund	-	1	35.8	168.6	4.7	4.3	115	106
One Rock Capital I	2014	9	294.8	1,175.6	4.0	2.9	37	28
One Rock Capital II	2017	6	795.0	1,581.6	2.0	1.6	16	12
One Rock Capital III	2021	8	1,714.0	3,022.2	1.8	1.5	40	32

[9] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Searchlight Capital Fund IV, L.P.[10]

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	→ Searchlight Capital Fund IV (the "Fund") will continue Search Capital Partners same value-oriented strategy, which has delivered consistent returns through different economic environments.
Organization	Advantageous	→ Searchlight Capital Partners is a global private investment firm with offices in New York, London, and Toronto. → The Firm was founded in 2010 by Oliver Haarmann, Erol Uzumeri, and Eric Zinterhofer (the "Founding Partners") who at founding established the Firm's global offices. → The Firm launched its first private equity fund in March 2012, with $864 million of committed capital, and as of the end of 2023, managed approximately $14.1 billion of assets across four private equity funds and two credit opportunities funds.
Team	Advantageous	→ The Firm has 16 Partners, including the Founding Partners, dedicated to the private equity platform. → The Partners are supported by five Managing Directors, 13 Principals, and 18 Associates.
Investment Philosophy & Process	Highly Advantageous	→ Fund IV will employ the Firm's value-oriented strategy, targeting investments across the communications, media, business services, and financial services sectors. → Fund IV will make 15-17 investments with equity checks between $100 million and $350 million. → The Firm will execute various transaction types, including traditional buyouts, structured and preferred equity investments, and stressed or distressed investments that require restructuring or capital solutions. → The value-oriented strategy results in the Firm investing in both benign markets as well as volatile economic environments marked by rising inflation, rising interest rates, and supply chain challenges.
Performance[11]	Advantageous	→ Performance has increasingly improved on a net IRR basis as fund sizes have scaled. → The Firm's two most recent private equity funds, though still relatively immature, have generated realized gross MOICs of 2.2x (Fund II) and 1.9x (Fund III), as of December 31, 2023.
Fees	Highly Advantageous	→ Management Fee: 1.85% of commitments during the investment period; 1.5% of adjusted cost of unrealized investments during the follow-on period and extension period. → 8.0% preferred return / 20.0% carried interest

[10] $4.0 billion target. The Firm anticipates holding a final close in H2 2024.
[11] Net returns as of December 31, 2023: Fund I (2012 vintage year): 6% nIRR, 1.3x nMOIC; Fund II (2015): 21%, 1.8x; Fund III (2019): 28%, 1.6x

Searchlight Capital Partners
Private Equity Track Record
(As of December 31, 2023)

Fund	Vintage Year	Committed ($ M)	Invested ($ M)	Total Value ($ M)	Gross MOIC[12] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
Searchlight Capital I	2012	864	826	1,336	1.6	1.3	11	6
Searchlight Capital II	2015	1,900	1,949	4,258	2.2	1.8	30	21
Searchlight Capital III	2019	3,400	2,898	5,538	1.9	1.6	41	28

[12] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

500 Global Flagship VI, L.P.[13]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ 500 Global (the "Firm"), formerly known as 500 Startupsis a venture capital firm with a deep knowledge of investing in founders in fast-growing technology companies.
Organization	Advantageous	→ 500 Global was founded in 2010 and, as of December 31, 2023, has $2.4 billion in AUM. → The Firm offers several fund series, including the Flagship Funds and other Regional Funds in global markets.
Team	Advantageous	→ The investment team includes 9 professionals, including the Founding Partner, two Managing Partners, one Partner, one Principal, two Associates, and one Analyst. → The investment team is led by Chrtistine Tsai, who previously held marketing and operations roles at Google and YouTube. The Firm has a presence in over 20 countries with over 180 employees.
Investment Philosophy & Process	Advantageous	→ 500 Global Flagship VI, L.P. (the "Fund") will invest in a portfolio of global, diversified, early-stage technology investments. → The Fund intends to concentrate ownership at or around the Series A stage, but can invest from pre-seed to Series A. → The Fund plans to concentrate 85% of investable capital in ~50 core companies (companies that exhibit the highest probability of success and where a target ownership of 10% can be achieved at the Series B). → The Fund will reserve capital to invest in follow-on rounds at or around Series B.
Performance[14]	Highly Advantageous	→ As of December 31, 2023, the Firm has raised $364 million across five funds in the Flagship fund series since 2010. → The Firm has strong multiples in early vintages, 8.2x net in Fund I, 5.2x net in Fund II, 3.0x net in Fund III, and 2.7x net in Fund IV.
Fees[15]	Advantageous	→ Management fee: 2%. → No preferred return / 20.0% carried interest up to 3x, 25% on 3-5x, and 30% over 5x.

[13] $250 million target fund size. The Firm anticipates holding a final closing on December 31, 2024.
[14] Net returns as of December 31, 2023: Fund I (2010 vintage year): 22.1% nIRR, 8.2x nMOIC; Fund II (2012): 18.0%, 5.2x; Fund III (2013): 13.7%, 3.0x; Fund IV (2016): 14.8%, 2.7x; Fund V (2019): 5.6%, 1.2x.
[15] Management fee basis not provided in RFP response.

500 Global
Track Record
(As of December 31, 2023)

Fund	Vintage Year	Fund Size ($ M)	Net TVPI (x)	Net IRR (%)
Fund I	2010	29	8.2	22.1
Fund II	2012	44	5.2	18.0
Fund III	2013	86	3.0	13.7
Fund IV	2016	65	2.7	14.8
Fund V	2019	140	1.2	5.6

Adams Street Partners Growth Equity Fund VIII, L.P.[16]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ Adams Street Partners ("Adams Street" or "ASP") is an established, 100% employee-owned global asset manager with primary fund and direct investment strategies. The Firm has a 50+ year track record committing over $2.7 billion of long-term capital to growth stage companies.
Organization	Highly Advantageous	→ Adams Street was founded in 1972 as the growth equity investment team of the First National Bank of Chicago. → Adams Street employs approximately 310 professionals across its offices in Chicago, London, Singapore, Beijing, Tokyo, Munich, Seoul, Sydney, Menlo Park, New York, Boston, and Austin. → The Firm managed $58 billion as of September 30, 2023, across its private equity fund of funds platform, secondary vehicle, co-investments, and private credit strategies.
Team	Advantageous	→ The Growth Equity team is led by four Partners based out of the Menlo Park, Chicago, and Austin offices. → Adams Street has allocated ten Investment Professionals to be fully dedicated to the Growth Equity team, with an average tenure of six years at Adams Street Partners.
Investment Philosophy & Process	Advantageous	→ Adams Street Partners Growth Equity Fund VIII (the "Fund") will invest in opportunities at the Series B, C, and D+ looking for go-to-market and product enhancement capital. → Adams Street will construct a portfolio of 25 to 35 investments, over a three- to four-year period, of US denominated assets within the technology and digital healthcare sectors. → The Fund will target companies generating at least $10 million in revenue, with at least a 50% growth rate.
Performance	Advantageous	→ On a realized basis, the Firm's growth equity team had generated a 2.5x gross MOIC and 17% gross IRR, as of September 30, 2023.
Fees[17]	Advantageous	→ Management Fee: 2.0%, declining by 10% each year after the sixth anniversary of the fee being charged. → No preferred return / 20.0% Carried Interest

[16] $325 million target. The Firm anticipates holding its final closing on 9/30/2024.
[17] Management fee basis not provided in the RFP response.

Adams Street Partners
Growth Equity Track Record
(As of September 30, 2023)

Fund[18]	Vintage Year	Fund Size ($ M)	Gross MOIC[19] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
ASP GE Fund II	1989	22	3.2	2.6	31	29
ASP GE Fund III	1993	60	3.4	3.0	56	40
ASP GE Fund IV	1999	180	2.0	1.8	11	7
ASP GE Fund V	2003	164	1.8	1.4	8	4
ASP GE Fund VI	2015	233	1.5	1.3	9	5
ASP GE Fund VII	2019	321	1.4	1.3	21	14
ASP Growth Equity	NA	2,200	2.0	1.7	16	12

[18] ASP Growth Equity represents all growth equity investments within ASP's funds. ASP has deployed $2.2 billion in growth equity investments.
[19] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Centerbridge Capital Partners Fund V, L.P.[20]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ Centerbridge Capital Partners V (the "Fund") will target traditional buyouts, structured equity, and stressed solutions (i.e., flexible financing) in upper middle market companies across the U.S. and Europe, providing flexible exposure between investment types across five industries of focus based on the current opportunity set and market environment.
Organization	Advantageous	→ Centerbridge Capital Partners (the "Manager" or "Centerbridge") was founded in 2005 and has ~$38 billion in AUM, as of December 31. 2023. → Centerbridge is an established firm that has a deep bench of investment professionals and portfolio operations capabilities all structured within a one-team approach and sector-specific teams.
Team	Advantageous	→ Centerbridge is led by Co-Founder and Managing Principal Jeff Aronson. → As of April 1, 2024, the Centerbridge team comprises 288 individuals, including 116 investment professionals.
Investment Philosophy & Process	Advantageous	→ The Fund will continue the Firm's focus on traditional buyout and structured equity investments in the U.S. and Europe. The Manager executes a control-focused investment approach to effect operational improvements and other value-creating strategies at portfolio companies. This approach targets three types of investments: buyouts, structured equity, and stressed solutions. → CCP V is expected to target equity checks in a range from $200 million to $500 million per investment in companies typically generating between $70 million and $150 million of EBITDA. → The Firm has developed intermediate to long-term themes in five industries that are expected to be targeted for Fund V. These themes exist in the following industries: financial services, healthcare, industrials, technology, and to a lesser extent, real estate. → Overall, the Fund is targeting a 25% gross IRR and 2.5x gross MOIC across a portfolio of 12 to 15 companies.
Performance[21]	Advantageous	→ The Manager's two most recent vintages are performing well. CCP III is marked at 2.6x gross and CCP IV is marked at 1.7x gross as of December 31, 2023.
Fees	Highly Advantageous	→ Management fee: 1.50% of commitments during the investment period, 1.25% of capital under management thereafter. → 8% preferred return / 20.0% carried interest.

[20] $3.5 billion target fund size. The Firm anticipates holding a final closing in Q3 2024. The Fund has closed on $2.8 billion in commitments as of March 29, 2024.
[21] Net returns as of December 31, 2023: Fund I (2006 vintage year): 19.2% nIRR, 2.3x nMOIC; Fund II (2011): -7.6%, 0.7x; Fund III (2015): 17.1%, 2.0x; Fund IV (2020): 34.5%, 1.4x.

Centerbridge Capital Partners
Track Record
(As of December 31, 2023)

Fund	Vintage Year	Invested ($ M)	Realized ($ M)	Total Value ($ M)	Gross MOIC[22] (x)	Gross IRR (%)	Net MOIC (x)	Net IRR (%)
Fund I	2006	4,321	9,449	9,453	3.0	29.1	2.3	19.2
Fund II	2011	6,088	5,141	5,404	0.8	-4.7	0.7	-7.6
Fund III	2015	7,188	8,820	14,927	2.6	24.5	2.0	17.1
Fund IV	2020	2,842	544	4,439	1.7	32.7	1.4	34.5

[22] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

GenNx360 Capital Partners IV, L.P.[23]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ GenNx360 (the "Firm") has pursued a consistent middle market buyout strategy since its inception and has continuously improved its performance across each successive fund cycle.
Organization	Advantageous	→ GenNx360 was founded in 2006 and has pursued a consistent North American middle market investment strategy. → The Firm launched its first fund in 2006 and held its final closing in 2008 with $600 million in commitments. Since then, the Firm has raised more than $1.0 billion across two subsequent investment vehicles. Firm AUM was $2.1 billion as of December 31, 2023. → The Firm currently receives the support of 35 full-time professionals, organized as investment, operations, and administrative teams.
Team	Advantageous	→ The investment team is led by five Managing Partners and supported by six additional investment professionals. → The Firm experienced six departures in 2021, including one Founding Partner (retirement), one Managing Partner, and one Operating Partner (both due to reduction in headcount).
Investment Philosophy & Process	Advantageous	→ GenNX Capital Partners IV (the "Fund") will make equity and equity-related buyout investments in North American middle market businesses, with a focus on industrial and business services companies. → The Firm will target companies with strong market positions, sustainable competitive advantages, and which operate in industries well-positioned to grow organically and inorganically. → Target portfolio companies will be generating annual revenues between $50 million and $500 million, and EBITDA between $5 million and $50 million. → The Fund will target 8-10 investments with average equity checks between $50 million and $75 million.
Performance[24]	Advantageous	→ Performance has meaningfully improved across each successive fund cycle, with the Firm's most recent fund (Fund III) having generated a 29.5% net IRR as of December 31, 2023.
Fees	Highly Advantageous	→ Management Fee: 2.0% of commitments during the investment period; thereafter, 1.5% of invested capital. → 8.0% preferred return / 20.0% carried interest

[23] $800 million target fund size. The Firm anticipates a final closing to occur 18 months from November 30, 2023.
[24] Net returns as of March 31, 2023: Fund I (2007 vintage year): -2.3% nIRR, 0.9x nMOIC; Fund II (2013): 13.6%, 1.8x; Fund III (2019): 29.5%, 1.8x., Fund IV (2023): NM, 1.2x.

GenNx360
Track Record
(As of December 31, 2023)

Fund	Vintage Year	Total Commitments ($ M)	Invested[25] ($ M)	Net MOIC[26] (x)	Net IRR (%)
Fund I	2007	600.0	622.1	0.9	-2.3
Fund II	2012	535.6	591.1	1.8	13.6
Fund III	2018	465.9	432.6	1.8	29.5
Fund IV	2023	250.0	39.2	1.2	NM

[25] All invested capital figures in Fund I, Fund II and Fund III include reinvested capital.
[26] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

L Catterton Fund X, L.P.[27]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ L Catterton X (the "Fund") will continue the consistent and longstanding focus on investing in leading consumer brands across numerous segments of the consumer industry employed by Catterton Management Company (the "Firm").
Organization	Advantageous	→ L Catterton, as it is known today, was formed through the January 2016 merger of the Americas-focused private equity operations that had been managed by Catterton since 1989 with the European and Asian private equity and real estate private equity operations that had been managed by LVMH and Financière Agache (formerly Groupe Arnault), the family holding company of LVMH Chairman and Chief Executive Officer, Bernard Arnault, since 2001. → Since 1989, L Catterton has made over 275 investments in leading consumer brands across numerous segments of the consumer industry and has approximately $35 billion in AUM.
Team	Advantageous	→ L Catterton is led by two Co-CEOs. → The Fund is led by seven Managing Partners and Partners, who are supported by a team of 25 investment professionals. The investment team is supported by over 355 professionals in L Catteron's Global Platform. → The team has dedicated Operating Partners to assist with value creation.
Investment Philosophy & Process	Advantageous	→ The Fund will target control-oriented growth investments in approximately 13-15 well-positioned, middle-market consumer companies primarily in North America. → The Fund will seek to make investments of approximately $250 million to over $500 million per transaction but may selectively invest below or above this range.
Performance[28]	Advantageous	→ Since 1989 the Firm has invested $11.8 billion across 96 portfolio companies in its flagship series. → In aggregate, the Firm has generated a 2.9x gross MOIC and a 27% gross IRR across all realized investments, as of December 31, 2023.
Fees	Highly Advantageous	→ Management Fee: 1.8% of commitments during commitment period; 1.8% of acquisition cost of portfolio companies not yet disposed of thereafter. → 8% Preferred Return / 20% Carried Interest

[27] $6.5 billion target fund size. The Firm anticipates holding a final close at the end of 2024.

[28] Net returns as of December 2023: Fund I (1989 vintage): 48% nIRR, 3.0x nMOIC; Fund II (1992): 13%, 1.5x; Fund III (1996): 0%, 1.0x; Fund IV (1999): 12%, 1.8x; Fund V (2003): 6%, 1.4x; Fund VI (2005): 12%, 1.9x; Fund VII (2012): 13%, 1.7x; Fund VIII (2017): 15%, 1.5x, Fund IX (2020): 19%, 1.3x; Fund X (2022): NM, 0.9x.

Catterton Management Company
Flagship Track Record
(As of December 31, 2023)

Fund	Vintage Year	Invested ($ M)	Total Value ($ M)	Gross MOIC[29] (x)	Gross IRR (%)	Net MOIC (x)	Net IRR (%)
Fund I	1989	11	42	3.8	59	3.0	48
Fund II	1992	35	61	1.8	18	1.5	13
Fund III	1996	75	93	1.2	6	1.0	0
Fund IV	1999	407	908	2.2	18	1.8	12
Fund V	2003	669	1,039	1.6	9	1.4	6
Fund VI	2005	973	2,458	2.5	17	1.9	12
Fund VII	2012	1,763	3,826	2.2	18	1.7	13
Fund VIII	2017	2,516	4,731	1.9	21	1.5	15
Fund IX	2020	4,057	6,159	1.5	24	1.3	19
Fund X	2022	1,018	1,134	1.1	21	0.9	NM

[29] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

L Catterton Growth V, L.P.[30]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ L Catterton Growth V (the "Fund") will continue the Firm's growth and minority position investment strategy in consumer brands across numerous segments of the consumer industry.
Organization	Advantageous	→ L Catterton (the "Firm"), as it is known today, was formed through the January 2016 merger of the Americas-focused private equity operations that had been managed by Catterton since 1989 with the European and Asian private equity and real estate private equity operations that had been managed by LVMH and Financière Agache (formerly Groupe Arnault), the family holding company of LVMH Chairman and Chief Executive Officer, Bernard Arnault, since 2001. → Since 1989, L Catterton has made over 275 investments in leading consumer brands across numerous segments of the consumer industry and has approximately $35 billion in AUM.
Team	Advantageous	→ L Catterton is led by two Co-CEOs. L Catterton Growth covers North American and European opportunities through Greenwich, Connecticut, and London, UK but has access to the Firm's more than 355 professionals in its other 17 offices. → The Fund is led by seven Managing Partners and Partners, who are supported by a team of 25 investment professionals. → The team has dedicated Operating Partners to assist with value creation.
Investment Philosophy & Process	Advantageous	→ The Fund is seeking limited partner commitments of up to $1.25 billion to pursue an investment strategy namely in 20 – 24 minority investments where it will seek to provide $10 – $125 million of equity capital to well-positioned early to late-stage growth companies located primarily in North America and Europe. → The Fund will target investments in food and beverage, retail and restaurants, branded consumer products, consumer services, consumer technology, and consumer health.
Performance[31]	Advantageous	→ Since 2008 the Firm has invested in ~$2.5 billion in 75 growth investments. → In aggregate, the Firm has generated a 2.8x gross MOIC and a 19% gross IRR across all realized growth investments, as of December 31, 2023.
Fees	Highly Advantageous	→ Management Fee: 1.8% of commitments during commitment period; 1.8% of acquisition cost of portfolio companies not yet disposed of thereafter. → 8% Preferred Return / 20% Carried Interest

[30] $1.25 billion target fund size. The Firm anticipates holding a final close on Q3 2024.
[31] Net returns as of December 31, 2023: Fund I (2008 vintage): 8% nIRR, 1.6x nMOIC; Fund II (2013): NM%, 1.0x; Fund III (2016): 29%, 3.1x; Fund IV (2019): 10%, 1.2x.

Catterton Management Company
Growth Track Record
(As of December 31, 2023)

Fund	Vintage Year	Invested ($ M)	Total Value ($ M)	Gross MOIC[32] (x)	Gross IRR (%)	Net MOIC (x)	Net IRR (%)
Catterton Growth I	2008	335	619	1.8	13	1.6	8
Catterton Growth II	2013	816	490	1.2	3	1.0	NM
Catterton Growth III	2016	578	2,435	4.2	34	3.1	29
Catterton Growth IV	2019	816	1,175	1.4	15	1.2	10
Catterton Growth V	2022	358	406	1.1	14	NM	NM

[32] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

ONCAP V, L.P.[33]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ ONCAP Management Partners (the "Firm") has pursued a consistent lower middle market buyout strategy since its inception and continued to generate strong performance across each fund cycle.
Organization	Advantageous	→ ONCAP Management Partners was established in 1999 as the exclusive lower middle market private equity platform of Onex Corporation, an asset manager founded in 1984 with $51 billion of AUM as of March 31, 2023. → Since 1999, the Firm has raised four institutional vehicles, with its first three funds CAD denominated and its most recent offering USD denominated. → The Firm maintains offices in Toronto and New York.
Team	Advantageous	→ The investment team is led by Managing Partner Michael Lay and six Managing Directors. → The senior investment team is supported by an additional 19 investment professionals. → The Firm's Managing Directors and Managing Partner average 14 years of experience with the Firm, and 21 years of relevant industry experience.
Investment Philosophy & Process	Advantageous	→ ONCAP V, L.P. (the "Fund") will target significant minority and control equity investments in North American businesses generating EBITDA between $5 million and $50 million. → The Firm targets investments across three industry verticals: consumer, industrials, and services. → Target businesses should demonstrate strong, sustainable free cash flow characteristics, and market leadership in fragmented industries. → The Fund expects to invest between $20 million and $250 million in each transaction.
Performance[34]	Highly Advantageous	→ Since its inception, the Firm had completed 34 investments, and generated a 4.4x gross MOIC and 48% gross IRR on 16 realized investments, including a 0.0% loss ratio, as of December 31, 2023.
Fees	Advantageous	→ Management Fee: 2.0% of committed capital during the investment period; thereafter, 1.5% of net invested capital. → 8.0% preferred return / 20.0% carried interest

[33] $1.5 billion target size. The Firm expects to hold a final close on September 30, 2024.
[34] Net returns as of December 31, 2023: ONCAP I (1999 vintage year): 33% nIRR, 3.1x nMOIC; ONCAP II (2006): 21%, 3.0x; ONCAP III (2011): 19%, 2.9x; ONCAP IV (2016): 15%, 1.6x.

ONCAP Management Partners
Track Record
(As of December 31, 2023)

Fund[35]	Vintage Year	No. Investments	Invested ($ M)	Realized ($ M)	Total Value ($ M)	Gross MOIC[36] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
ONCAP I (CAD)	1999	6	208	851	851	4.1	3.1	43	22
ONCAP II (CAD)	2006	8	483	1,862	2,160	4.5	3.0	29	21
ONCAP III (CAD)	2011	8	637	2,364	2,548	4.0	2.9	25	19
ONCAP IV (USD)	2016	13	1,105	464	2,207	2.0	1.6	21	14
ONCAP V (USD)	2024	2	321	-	-	-	-	-	-

[35] ONCAP I USD returns: 50% gIRR/40% nIRR, 5.0x gMOIC/3.8x nMOIC; ONCAP II USD returns: 30% gIRR/21% nIRR, 4.2x gMOIC/2.9x nMOIC; ONCAP III USD returns: 21% gIRR/16% nIRR, 3.5x gMOIC/2.5x nMOIC.
[36] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Stellex Capital Partners III, L.P.[37]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ Stellex Capital Management ("Stellex") has been executing the same strategy of investing in complex companies in out-of-favor, often overlooked industries within broader industrials.
Organization	Advantageous	→ Stellex is a global private investment firm with offices in New York, London, Detroit and Pittsburgh and has 2.8 billion in AUM, as of December 31, 2023. → Stellex was founded in January 2014 by Raymond Whiteman and Michael Stewart (collectively the "Founding Managing Partners") → Prior to forming Stellex, the Managing Partners were Co-Heads and Managing Directors of the Carlyle Group's Strategic Partners platform from 2003 to 2013
Team	Advantageous	→ The Founding Managing Partners have worked together since October 2003 and have personally known and/or worked with each of the other current senior Stellex professionals for a period of time ranging from three to twenty years. → The Firm is led by three Managing Partners, one Partner, three Managing Directors and three Principals.
Investment Philosophy & Process	Advantageous	→ Stellex Capital Partners III, L.P. ("Fund III") will seek to make control investments in underperforming, undervalued or special-situation middle-market industrial businesses in North America and Europe → Fund III will continue to target middle-market companies in the $100 million to $500 million revenue range. → The Fund will seek to target debt and/or equity investments generally sized between $75 million and $150 million towards 15 to 20 middle-market platforms.
Performance[38]	Advantageous	→ The Firm's two most recent private equity funds, though still relatively immature, have generated realized gross MOICs of 2.2x (Fund II) and 1.9x (Fund III), as of December 31, 2023.
Fees	Advantageous	→ Management Fee: 2.0% of commitments during the investment period; 2.0% on aggregate investment contributions during follow-on period. → 8.0% preferred return / 20.0% carried interest

[37] $2.5 billion target. Final closing was not disclosed in the RFP.
[38] Net returns as of December 31, 2023: Fund I (2015 vintage year): 24% nIRR, 2.0x nMOIC; Fund II (2021): 9%, 1.1x.

Stellex Capital Management
Private Equity Track Record
(As of December 31, 2023)

Fund	Vintage Year	Committed ($ M)	Invested ($ M)	Net MOIC[39] (x)	Net IRR (%)
Fund I	2015	870	731	2.0	24
Fund II	2021	1,780	1,118	1.1	9

[39] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Winslow Growth Capital Fund III, L.P.[40]

Rating Criteria	Score	Rationale
Overall	Advantageous	→ Winslow Capital (the "Firm") has implemented the same mid-to-late-stage venture strategy since inception.
Organization	Advantageous	→ Winslow Capital was formed in 1992 and was 100% employee owned until December 2008. At that time, Winslow Capital was acquired by Nuveen, which was subsequently acquired by TIAA. Winslow Capital is a wholly owned subsidiary of Nuveen and TIAA. → Winslow Capital manages more than $30 billion (as of 3/31/2024) across U.S. Large Cap Growth and Growth Capital. → Winslow Capital remains largely independent but benefits from the deep resources of a $1 trillion global firm. → The Firm provides equity solutions across two platforms including U.S. Large Cap Growth and Growth Capital.
Team	Advantageous	→ The investment team's top 15 investment professionals include: the Portfolio Manager, Head of Fund Development, the CEO/CIO, nine sector Analysts, one Portfolio Analyst, one Quantitative Analyst, and one Growth Capital Analyst. → The investment team averages 25 years of experience in the industry.
Investment Philosophy & Process	Advantageous	→ Winslow Growth Capital III (the "Fund') will seek to invest in mid-to-late venture investments. → The Fund has invested $25 million of the $205 million that has been committed. → The Firm has more than $30 billion in growth equity AUM and its value proposition is to help the underlying companies optimize growth and prepare for the public markets or strategic sale.
Performance[41]	Advantageous	→ The Firm's two most recent funds, though still relatively immature, have generated realized gross MOICs of 1.5x (Fund I) and 1.3x (Fund II), as of December 31, 2023.
Fees	Highly Advantageous	→ Management Fee: Tiered fees that are on committed capital during the investment period and on invested capital thereafter. Feel levels are tiered by commitment level: 1.25% if < $10mm, 1.00% if between $10-$25mm, 0.85% if between $25-$50mm and 0.75% if greater than $50mm. → 8.0% preferred return / 20.0% carried interest

[40] $500 million target. The Firm anticipates holding a final close in fall 2024.
[41] Net returns as of March 31, 2023: Fund I (2016 vintage year): 17.4% nIRR, 1.5x nMOIC; Fund II (2019): 7.6%, 1.2x.

Winslow Capital Management
Private Equity Track Record
(As of December 31, 2023)

Fund	Vintage Year	Committed ($ M)	Invested ($ M)	Distributed ($ M)	Gross MOIC[42] (x)	Net MOIC (x)	Gross IRR (%)	Net IRR (%)
Growth Capital Fund I	2016	200	196	220	1.5	1.5	19	17
Growth Capital Fund II	2019	221	178	51	1.3	1.2	10	8

[42] MOIC: multiple of invested capital ratio (a realization ratio). The MOIC is the sum of the realized and unrealized value of a fund, divided by the total amount invested by a fund.

Summary and Recommendation

→ To maintain Quincy Retirement System's 14% target allocation to private equity and maintain appropriate strategy and vintage year diversification, Meketa Investment Group recommends that Quincy Retirement System commit to multiple private equity partnerships in 2024.

→ Consider interviewing a couple of the highly advantageous managers at the next meeting.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta*(market return-Risk Free Rate)].

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays $5 a year interest on each $100 par value. To figure its current yield, divide $5 by $95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay $100 for the bond that can be bought now for $95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{\text{5\% (discount)}}{\text{5 (yrs. to maturity)}} = \begin{array}{l}\text{1\% pro rata, plus}\\ \text{5.26\% (current yield)}\end{array} = \text{6.26\% (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.