





PERIOD ENDING: DECEMBER 31, 2023

Investment Performance Review for

Imperial County Employees' Retirement System

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Verus business update

Since our last Investment Landscape webinar:

- Verus hired Adam Babson, Director of Portfolio Management (Seattle)
- JC Faubion, CFA, Senior Consulting Associate, obtained the CAIA charter
- James Wadner, Performance Analyst, recently passed his CFA level I exam
- We celebrated our 38th anniversary. Wurts Johnson & Company (founding name) was established in January 1986.
- Recent research, found at <u>verusinvestments.com/research</u>:
 - Is now the time to de-risk?
 - Liquidity needs during market drawdowns
 - 2024 Annual Capital Market Assumptions

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Recent Verus research

Visit: <u>verusinvestments.com/research</u>

Topics of interest

LIQUIDITY NEEDS DURING MARKET DRAWDOWNS

What is the fundamental reason why investors should care about liquidity? In short, investors want to avoid being forced to sell high-returning assets that have fallen in value in order to pay for benefits, philanthropic spending, expenses, and cover capital calls for their private asset programs. We first touch on the different definitions of liquidity and illustrate how these relate to institutional portfolios. Second, we examine those liquidity characteristics in times of market stress, the way in which illiquid assets often behave, and how that impacts investors. Lastly, we outline a tool that we have created and discuss how this can be used to assist clients with gauging the appropriate level of liquidity in their own portfolios. Overall, we believe investors should put much thought and care into portfolio liquidity decisions.

IS NOW THE TIME TO DE-RISK?

Is now a good time to engage in derisking strategies? The combination of rising interest rates and relatively strong risk asset performance since 2020 seem to suggest so. We aim to give plan sponsors a better appreciation of the potential benefits of de-risking strategies and examine when it would be most prudent to adopt these strategies. ERISA plan sponsors that have frozen benefits or report actuarial obligations with a market-based interest rate will find this paper most applicable to them.

Annual research

2024 CAPITAL MARKET ASSUMPTIONS

Capital Market Assumptions guide our advice and recommendations. They reflect the best judgments of our research and investment teams regarding the expected long-term behavior of capital markets.

Investment Landscape

1st Quarter 2024

4th quarter summary

THE ECONOMIC CLIMATE

- Real GDP increased at a 2.9% pace from a year ago in Q3 (4.9% quarter-over-quarter annualized rate). The economy has remained relatively strong while inflation now appears likely to fall closer to the Fed's 2% target in 2024. These expectations contributed to a dovish pivot from the Fed, a sharp drop in interest rates, and a notable market rally as the possibility of a soft landing has risen.
- Unemployment fell slightly from 3.8% to 3.7%, though the labor participation rate dropped sharply towards the end of the year. The labor market remains surprisingly resilient after roughly a full year of higher interest rates.

PORTFOLIO IMPACTS

- Consumer sentiment has been incredibly poor, and one of the greatest concerns for Americans is inflation. Although inflation has fallen considerably, prices of goods and services remain high, placing strain on budgets. Because inflation measures the rate of change of prices, rather than the level of prices, lower inflation has failed to ease the financial pressure that many households face.
- The Cboe VIX implied volatility index moved even lower during Q4, from 17.5 to 12.5. At the same time, bond market volatility was very high, as indicated by the "MOVE" Index. Uncertainty around inflation, the Federal Reserve's possible interest rate path and the extent of rate cuts, potential recession, and fears around the U.S. fiscal situation are likely contributing to market shakiness.

THE INVESTMENT CLIMATE

- An abrupt change in Federal Reserve communication regarding interest rate cuts during the quarter coincided with sharply lower bond yields, higher equity valuations, and further tightening of credit spreads.
- U.S. headline inflation fell during the quarter, from 3.7% to 3.3% year-over-year. Core CPI (ex-food & energy) declined from 4.1% to 3.9%. Low inflation numbers in October and November (0.0% and 0.1% month-over-month) were counterbalanced by a surprisingly high inflation number in December (0.3% month-over-month).

ASSET ALLOCATION ISSUES

- U.S. equities (S&P 500 +11.7%) led international developed equities (MSCI EAFE +10.4%) and emerging market equities (MSCI EM +7.9%) during the quarter. Domestic equities also led non-U.S. equities over the full year while emerging markets lagged. Wide sector performance differences contributed to U.S. leadership given a much heavier tech focus of the domestic market.
- Style factor performance was mixed during Q4. Small cap outperformed large cap by +2.0%. Value underperformed Growth by -3.2%. Over the full year, small caps underperformed large caps by -9.6% while value stocks underperformed growth by a whopping -31.2%. Besides an extreme period of value underperformance during 2020, calendar year 2023 was the worst 1-year rolling period in more than two decades.

Risk assets
rallied in Q4
following a
dovish pivot
from the
Federal
Reserve and
recent
economic data
suggesting a
greater chance
of a soft
landing



What drove the market in Q4?

"A Soft Landing is in View as Inflation Drops"

HEADLINE CPI MONTH-OVER-MONTH CHANGES					
July	Aug	Sept	Oct	Nov	Dec
0.2%	0.6%	0.4%	0.0%	0.1%	0.3%

Article Source: WSJ, November 14th, 2023

"U.S. Labor Market Resilience Keeps Economy Afloat as Year Ends"

U-3 UNEMP	LOYMENT RA	ATE			
July	Aug	Sept	Oct	Nov	Dec
3.5%	3.8%	3.8%	3.8%	3.7%	3.7%

Article Source: Reuters, December 21st, 2023

"U.S. Consumer Spending, Inflation Slow in Sign of Cooling Economy"

U.S. NOMIN					
July	Aug	Sept	Oct	Nov	Dec
2.8%	2.8%	4.0%	2.2%	4.0%	5.6%

Article Source: Bloomberg, November 30th, 2023

"Fed Holds Rates Steady, Indicating Three Cuts Coming in 2024"

FOMC PROJECTED END OF 2023 FED FUNDS RATE					
Sep 22 SEP Dec 22 SEP Mar 23 SEP June 23 SEP Sept 23 SEP Dec 23 SEP					Dec 23 SEP
4.60%	5.10%	5.10%	5.60%	5.60%	5.40%

Article Source: CNBC, December 13th, 2023

HEADLINE & CORE CPI (YEAR-OVER-YEAR)



Source: BLS, as of 12/31/23

CHANGE IN NONFARM PAYROLLS



Source: BLS, as of 12/31/23

TREASURY YIELD MOVEMENTS (FOURTH QUARTER)



Source: Bloomberg, as of 12/31/23



Investment Landscape

1st Quarter 2024

Economic environment



U.S. economics summary

- Real GDP increased at a 2.9% pace year-over-year in Q3 (4.9% quarter-over-quarter annualized rate). The economy has remained relatively strong while inflation appears more likely to fall closer to the Fed's target in 2024. These expectations contributed to a dovish pivot from the Federal Reserve in December, a sharp drop in interest rates, and a notable market rally as the possibility of a soft landing has risen.
- U.S. headline inflation fell during the quarter, from 3.7% to 3.3% year-overyear. Core CPI (ex-food & energy) declined further from 4.1% to 3.9%. Low inflation numbers in October and November (0.0% and 0.1% month-overmonth) were counterbalanced by a surprisingly high inflation number in December (0.3% month-over-month).
- Consumer spending has been stable, with real personal consumption expenditures up +2.7% year-over-year in November, the strongest growth figure since early 2022. However, strong spending appears to be at the expense

- of a low household savings rate (4.1% in November) and may be partly driven by necessity (higher prices of goods & services) rather than by a positive financial or economic outlook.
- The job market has shown mixed signals, increasing in total size during 2023 but arguably with some weakness around the edges. Unemployment rose during the year but fell slightly in Q4 from 3.8% to 3.7%. This historic mismatch between jobs available and workers available has been slowly closing.
- Consumer sentiment improved slightly but remains incredibly poor. Inflation is a central concern for Americans.
 Although inflation has fallen considerably, prices of goods and services remain high, placing strain on budgets. Because inflation measures the rate of change of prices, rather than the level of prices, lower inflation has failed to ease the financial pressure that many households face.

	Most Recent	12 Months Prior
Real GDP (YoY)	2.9 % 9/30/23	1.7% 9/30/22
Inflation (CPI YoY, Core)	3.9% 12/31/23	6.4% 12/31/22
Expected Inflation (5yr-5yr forward)	2.2 % 12/31/23	2.3% 12/31/22
Fed Funds Target Range	5.25–5.50% 12/31/23	4.25–4.50% 12/31/22
10-Year Rate	3.88% 12/31/23	3.88% 12/31/22
U-3 Unemployment	3.7% 12/31/23	3.5% 12/31/22
U-6 Unemployment	7.1% 12/31/23	6.5% 12/31/22
(5yr-5yr forward) Fed Funds Target Range 10-Year Rate U-3 Unemployment	12/31/23 5.25–5.50% 12/31/23 3.88% 12/31/23 3.7% 12/31/23 7.1%	12/31/22 4.25–4.50% 12/31/22 3.88% 12/31/22 3.5% 12/31/22 6.5%

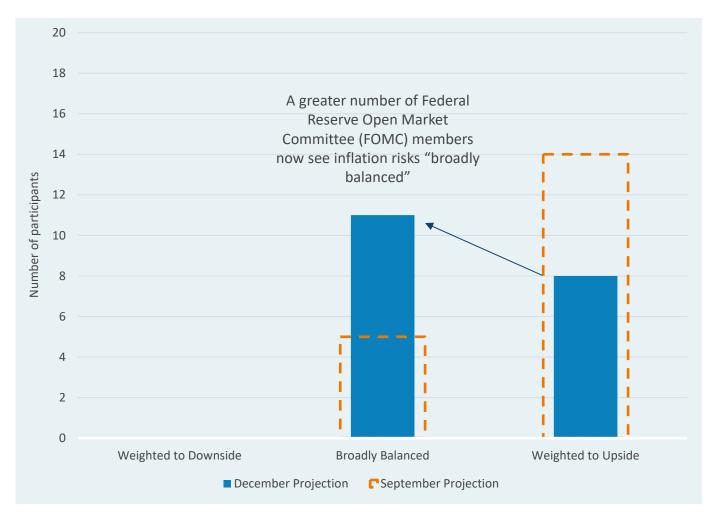


Shifting signaling from the Federal Reserve

December 2023 risks to core inflation: FOMC participants

On December 13th, the Fed's tone shifted. Powell spoke to a much rosier inflation picture and described a greater focus on both sides of its dual mandate—price stability and full employment.

Although optimistic, Powell's comments emphasized a cautious view of the restrictive policy's impact, "Our actions have moved our policy rate well into restrictive territory, meaning that tight policy is putting downward pressure on economic activity and inflation, and the full effects of our tightening likely have not yet been felt... Given how far we have come, along with the uncertainties and risks that we face, the Committee is proceeding carefully."



Source: Federal Reserve December 2023 Summary of Economic Projections



Inflation

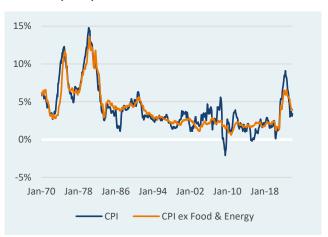
U.S. headline inflation fell during the quarter, from 3.7% to 3.3% year-over-year in December. Core CPI (ex-food & energy) declined further from 4.1% to 3.9%. It is not yet clear how long it will take for inflation to return to the Federal Reserve's 2% target, or how bumpy that ride might be. Low inflation numbers in October and November (0.0% and 0.1% month-over-month) were counterbalanced by a surprisingly high inflation release in December (0.3% month-over-month).

Most of the largest initial drivers of U.S. inflation, such as food, energy, and used autos, are now moderating in price and helping to bring inflation down towards the Fed's 2%

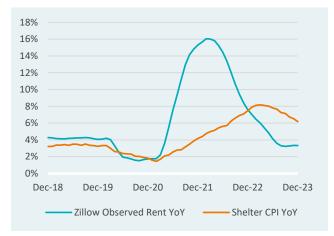
target. Additionally, the largest component of the inflation "basket" of goods and services is shelter prices (the cost of rents or renter's equivalent). The calculation of shelter for official government data purposes tends to reflect market rent movements with a lag. Market-based rent indexes reflect much lower rent inflation. For example, the series published by Zillow indicates 3.3% year-over-year inflation as of December. This suggests that as government shelter data catches up with true market rent prices, the greatest support to current inflation levels (shelter costs) will drop materially, potentially bringing inflation officially back to around a 2% level.

Inflation & other economic data released in Q4 suggests a path for inflation to fall towards 2% in 2024

U.S. CPI (YOY)



ZILLOW OBSERVED RENT VS. SHELTER CPI (YOY)



Source: Zillow Observed Rent Index, as of 12/31/23

MONTHLY PRICE MOVEMENT (CPI)



Source: BLS, as of 12/31/23



Source: BLS, as of 12/31/23

Investment Landscape

1st Quarter 2024

GDP growth

Real GDP increased at a 2.9% pace from a year ago in the third quarter (4.9% quarter-over-quarter annualized rate). The large uptick was driven by consumption, which continues to show resiliency. While many investors have expected high inflation and weaker wage growth to impact spending, a combination of pandemic related excess savings and a strong decade of household wealth expansion is likely providing a cushion against an economic slowdown. Outside of consumption, all major categories, besides net exports, positively contributed to GDP growth.

The economy has remained relatively strong while inflation

now appears likely to fall closer to the Fed target in 2024. These expectations contributed to a sharp drop in interest rates towards the end of 2023, and a notable market rally, as the possibility of a soft landing has risen.

A string of positive economic news occurred throughout the fourth quarter. The economic outlook has improved along with this new information, though we continue to believe economic bumpiness is on the horizon—perhaps in mid-2024. However, U.S. markets appear to be fully pricing in the softlanding narrative, which likely limits the upside if that were to come to fruition.

The U.S. economy continues to show resilience despite aggressive monetary tightening & low consumer confidence

U.S. REAL GROSS DOMESTIC PRODUCT



U.S. REAL GDP COMPONENTS (QOQ)

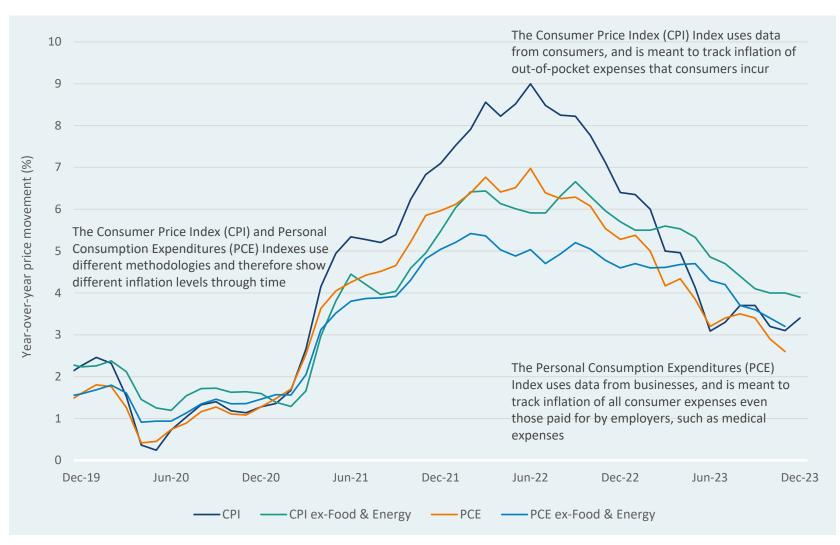


Source: FRED, as of 9/30/23

Source: FRED, as of 9/30/23



How are inflation conditions evolving?



Recent price trends suggest inflation may move closer to the Fed's 2% target in 2024

A moderation of shelter prices, which tend to be lagged in official statistics, could be the most notable driver of lower inflation in future quarters

Source: FRED, Verus, PCE data as of 11/30/23, CPI data as of 12/31/23



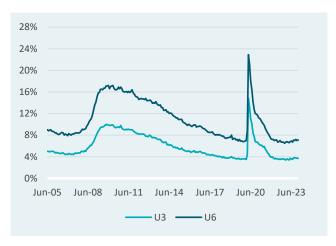
Labor market

Unemployment fell slightly in Q4 from 3.8% to 3.7%, though the labor participation rate dropped sharply towards the end of the year from 62.8% to 62.5%. According to most available metrics, the labor market remains surprisingly resilient. While throughout history higher interest rates, and yield curve inversion in particular, have typically been followed by recession, the economy has been strong in the face of higher interest rates for roughly a full year. These dynamics have fueled hope that the economy may achieve a soft landing.

Some mixed signals have appeared in recent months. The labor participation rate has fallen for both younger and older

workers, potentially a sign of stalling of strong postpandemic job growth. Rebalancing within the labor market continued, as the mismatch between the number of *workers available* and the number of *available jobs* closes. This gap was 5.5 million at the beginning of the year and fell to 2.5 million in November. This rebalancing appears to be due to positive factors (a growing workforce) rather than negative factors (fewer jobs available), as more Americans are seeking employment and finding jobs that had previously gone unfilled. The gap between available jobs and available workers was cut in half during 2023, as the labor market moves into balance

U.S. UNEMPLOYMENT



LABOR FORCE PARTICIPATION RATE BY AGE



Source: FRED, as of 12/31/23

WORKERS AVAILABLE VS. AVAILABLE JOBS



Source: BLS, Verus, as of 11/30/23



Source: FRED, as of 12/31/23

Investment Landscape

1st Quarter 2024

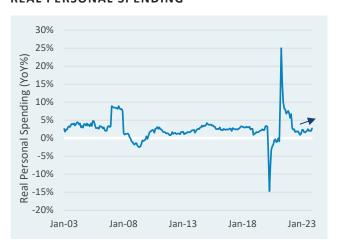
The consumer

We believe there are two important sides to the U.S. consumer picture. First, spending has been stable, as real (inflation-adjusted) personal consumption expenditures continued at a moderate pace, at 2.7% year-over-year in November—the strongest growth figure since early 2022. But second, strong spending appears to be coming at the expense of household savings (very low at 4.1% in November) and may be partly driven by necessity (higher prices of goods and services) rather than driven by a positive financial or economic outlook. This latter point is supported by incredibly poor consumer sentiment.

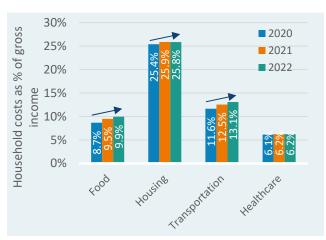
As discussed in last quarter's report, wealth for the majority of

Americans has greatly expanded over the past decade, fueled by higher home prices, a bull market for stocks, and broad economic strength. However, this stands in stark contrast to reports of widespread financial difficulties of Americans. For example, a Lending Club survey conducted in November 2023 indicated that 62% of consumers are living paycheck to paycheck. In this unique environment, it is difficult to gauge the extent to which greater wealth, though often illiquid, might help extend strong spending into future quarters, or whether spending is set to slow as households reset their spending to lower levels to try and return to more conservative budgets with an appropriate savings rate.

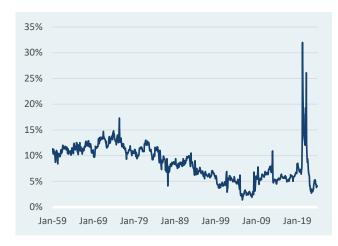
REAL PERSONAL SPENDING



HIGHER COSTS EATING INTO BUDGETS



PERSONAL SAVINGS RATE



Source: BLS, Verus, as of 9/8/23 – household costs as % of gross income Source: FRED, as of 11/30/23



Source: FRED, as of 11/30/23

Sentiment

Sentiment readings were up slightly during Q4 but remain pessimistic. The University of Michigan Consumer Sentiment survey improved from 67.9 to 69.7 on reports that households believe inflation is on a better trajectory.

A confusing aspect of the consumer picture is the large disconnect between economic data (good in many respects) and sentiment readings (very poor overall). For example, inflation has mostly normalized but many Americans continue to express deep concerns about high inflation and difficulties in making ends meet. A major driver of this disconnect is what we might call the "lower inflation conundrum". As displayed below, prices surged substantially in recent years, meaning inflation was high, but then prices plateaued, which led inflation to come down. Why hasn't

lower inflation led Americans to feel better about the economy? This is because inflation measures the *rate of change* in the price of goods and services, not the overall level. Prices are currently very high while the rate of inflation is fairly low.

The NFIB Small Business Optimism index improved slightly during Q4, with the gains occurring in December. The index has now been below the 50-year average level for two years. According to the report, 23% of business owners reported inflation as the most important issue for business operations—now a greater concern than the labor shortage. Small businesses remain very pessimistic about conditions and do not expect these conditions to improve in 2024.

Sentiment improved slightly during the quarter

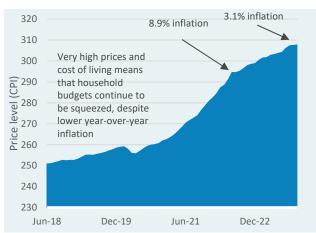
Inflation remains very poor

CONSUMER SENTIMENT



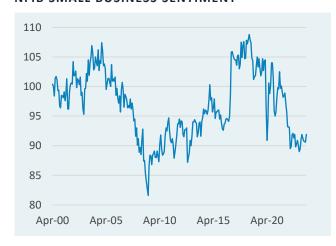
Source: University of Michigan, as of 12/31/23

THE "LOWER INFLATION" CONUNDRUM



Source: FRED, as of 11/30/23

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 12/31/23



Housing

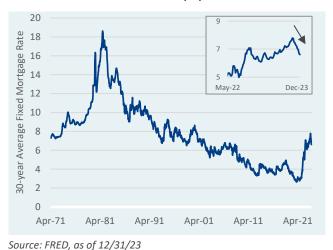
Home prices increased 3.0% in the third quarter, with ongoing support from very low housing inventory levels. It is possible that low inventories, high costs of new construction, a lack of forced sales (home sales due to financial stress), and an unwillingness of current homeowners to sell and sacrifice their existing low mortgage rate, could act as an ongoing support to high home prices despite extreme unaffordability.

On a brighter note, housing affordability on the margin may be moving in a better direction. Despite mild gains in home prices, the 30-year average fixed mortgage rate has fallen from a 23-year high of 7.3% to 6.6% at the

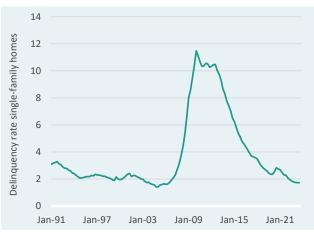
end of December. A moderation in mortgage rates, with expectations for a handful of Federal Reserve rate cuts in 2023, could help affordability and provide a support to home demand in the near-term.

Mortgage delinquency levels of single-family homeowners continue to be muted, at 1.7% as of Q3. Surprisingly, mortgage delinquency rates have consistently declined since the pandemic. This may be a reflection of significant home equity built up for the average homeowner, the ability of homeowners to draw on that equity to help make financial ends meet, and a hesitance to default on a loan if the loan is not underwater.

30-YEAR MORTGAGE RATE (%)



SINGLE-FAMILY HOME DELINQUENCY RATE (%)



Source: FRED, as of 9/30/23

HOUSING AFFORDABILITY



Source: FRED, as of 9/30/23 – Housing affordability is calculated as the cost of a median priced single-family home at the current mortgage rate, as a percentage of the median family income



International economics summary

- The ongoing threat of inflation, and central banks' tightrope act of working to battle that inflation without tipping economies into recession, was expected to be a key risk of 2024. However, in the fourth quarter inflation has fallen more quickly than expected, while economic growth has generally been more resilient. The global growth picture seems to have improved, all else equal, although growth is still expected to slow materially in the coming quarters.
- Conflicts within the Middle East have led to heightened geopolitical tensions, and broader escalation is a notable risk. While military action has been relatively confined, further conflict could have a material impact on global supply chains and energy markets. The war in Ukraine, which played a large part in initially driving inflation across developed economies, is still fresh in many investors' minds.
- Inflation fell significantly in the Eurozone and U.K., helping to take

- some pressure off the ECB and BOE (headline inflation receded to 3.4% and 4.0% across the Eurozone and U.K., respectively). Despite the easing of price pressures, interest rates sit at multi-decade highs at both central banks which does little to change expectations for stagnant and potentially even negative economic growth.
- China reported GDP growth of 5.2% in 2023, exceeding the 5% growth target set by the CCP. While the reported figure is slightly above the CCP's target, growth has disappointed investors and economists alike, especially following a nearly threeyear COVID-19 lockdown. The country continues to face a variety of challenges including incredibly dire demographic trends, geopolitical tension with the U.S., slowing growth, financial distress amongst the property sector and local government financing vehicles, a heavy national debt burden, and deflation.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.9% 9/30/23	3.4% 12/31/23	3.7% 12/31/23
Eurozone	0.0% 9/30/23	2.9% 12/31/23	6.4% 11/30/23
Japan	1.5% 9/30/23	2.4% 12/31/23	2.4% 11/30/23
BRICS Nations	5.0% 9/30/23	1.5% 12/31/23	4.8% 12/31/22
Brazil	2.0% 9/30/23	4.6% 12/31/23	7.5% 11/30/23
Russia	5.5% 9/30/23	7.4% 12/31/23	2.9% 11/30/23
India	7.6% 9/30/23	5.7% 12/31/23	8.7% 12/31/23
China	5.2% 12/31/23	-0.3% 12/31/23	5.1% 12/31/23

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.



International economics

The ongoing threat of inflation, and central banks' tightrope act of working to battle that inflation without tipping economies into recession, was expected to be a key risk of 2024. However, in the fourth quarter inflation has fallen more quickly than expected, while economic growth has generally been more resilient. The global growth picture seems to have improved, all else equal, although growth is still expected to slow materially in the coming quarters.

Although broad macroeconomic conditions improved, additional risks surfaced throughout the quarter, as conflicts within the Middle East escalated. Tensions remain high and concerns around global supply chains

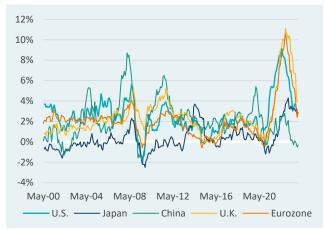
and energy markets have been at the forefront—though impacts across commodity markets have been muted so far.

The outlook remains uncertain. Geopolitical tension is still high, especially as the U.S. and China compete for dominance in the technology sector. Developed economies in the Eurozone and Japan are projected by the World Bank to grow less than 1% in 2024, far below historical long-term averages. On the flip side, emerging and developing economies still boast strong growth targets. India is a highlight, as growth expectations for both 2024 and 2025 sit above six-percent.

REAL GDP GROWTH (YEAR-OVER-YEAR)



INFLATION (CPI YEAR-OVER-YEAR)



Source: Bloomberg, as of 12/31/23- or most recent release

WORLD BANK REAL GDP FORECASTS



Source: World Bank Global Economic Prospects, as of 1/9/24



Source: Bloomberg, as of 9/30/23

Fixed income rates & credit



Fixed income environment

- The 10-year U.S. Treasury yield reversed its gains from the prior quarter, falling from 4.58% to 3.88% in Q4, as the market reassessed inflation conditions and the Federal Reserve's likely path. Further signs that inflation is moderating toward target, along with surprisingly upbeat economic news, likely contributed to the Federal Reserve's "dovish pivot" as it has been referred to. The 10year yield ended 2023 unchanged.
- During Q4, credit markets delivered strong results, led by lower-quality bonds such as high yield and bank loans. High yield gained +7.2% (Bbg U.S. Corporate High Yield), while bank loans rose +2.8% (S&P/LSTA Leveraged Loan). Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) rose 14.0% during the quarter as both falling interest rates and narrower credit spreads acted as a tailwind.
- The U.S. yield curve has remained inverted for 1.5 years, which is

- among the most extended periods in modern history. This is indicated by the 10-year minus 2-year Treasury yield—ending the year at -35bps, up from -44bps in Q3. Unique attributes of the current economic environment suggest that this curve inversion may not coincide with a near-term recession.
- US interest rates remained steady during the quarter as inflation continued to moderate towards the Federal Reserve Bank's 2.0% target. Importantly, expectations for future rate cuts increased following the statement made by Chairman Powell that future rate hikes may not be required.
- With inflation and economic growth continuing to moderate during the quarter, market expectations for future rate cuts by the Federal Reserve increased. As a result, interest rates across the US Treasury curve declined meaningfully, with shorter-term rates declining more than longer-term rates.

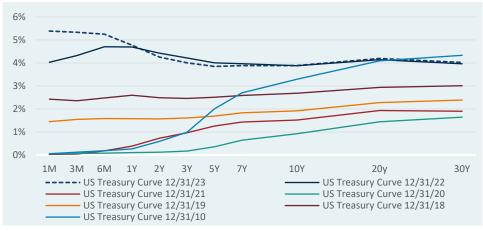
	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	6.8%	5.5%
Core Plus Fixed Income (Bloomberg U.S. Universal)	6.8%	6.2%
U.S. Treasuries (Bloomberg U.S. Treasury)	5.7%	4.1%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	13.4%	2.7%
U.S. High Yield (Bloomberg U.S. Corporate HY)	7.2%	13.4%
Bank Loans (S&P/LSTA Leveraged Loan)	2.8%	13.3%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	8.1%	12.7%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	9.2%	11.1%
Mortgage-Backed Securities (Bloomberg MBS)	7.5%	5.0%

Source: Bloomberg, as of 12/31/23

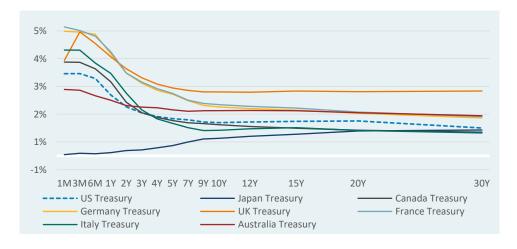


Yield environment

U.S. YIELD CURVE

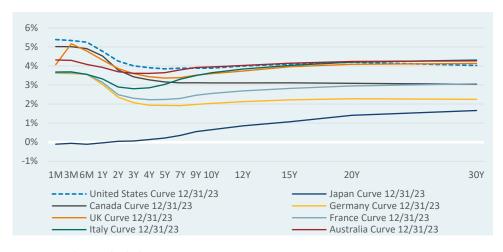


YIELD CURVE CHANGES OVER LAST FIVE YEARS

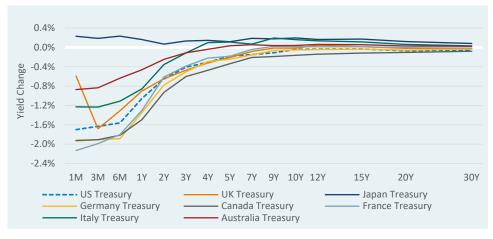


Source: Bloomberg, as of 12/31/23

GLOBAL GOVERNMENT YIELD CURVES



IMPLIED CHANGES OVER NEXT YEAR



Verus⁷⁷⁷

Investment Landscape

Credit environment

During the fourth quarter, credit markets delivered strong positive results, led by lower-quality credits such as high yield bonds and bank loans. High yield bonds delivered strong results gaining 7.2% (Bbg U.S. Corporate High Yield), while bank loans rose 2.8% (CS Leveraged Loans). Longer duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) rose 14.0% during the quarter as both falling interest rates and narrower credit spreads acted as a tailwind.

Higher-quality BB-rated bonds outperformed lower quality credits during the period returning 7.3% compared to 6.8% and 6.6% for B-rated and CCC-rated bonds, respectively. While absolute returns were positive, bank loans delivered a less-than-impressive 2.8%, primarily due to the

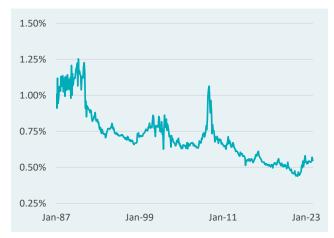
combination of falling interest rates and expectations that the Federal Reserve Bank would begin cutting rates in the future.

Credit spreads narrowed during the quarter despite concerns related to an economic slowdown, weakening corporate fundamentals, and rising geopolitical tensions. Lower-quality, high yield bond spreads fell by 0.6% to roughly 3.2%, while investment grade spreads decreased by roughly 0.2% to 1.0%. Broadly, spreads remain below their long-term historical averages, which suggests that investors remain confident about the ability of those companies to service their debt. That said, slower U.S. economic growth could lead to wider credit spreads as investors seek safety in higher quality assets.

SPREADS



HIGH YIELD BONDS MONTHLY INCOME RETURN



Source: Bloomberg, as of 12/31/23

CREDIT SPREAD (OAS)

Market	12/31/23	12/31/22
Long U.S. Corp	1.2%	1.6%
U.S. Inv Grade Corp	1.0%	1.3%
U.S. High Yield	3.2%	4.7%
U.S. Bank Loans*	5.0%	5.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 12/31/23 *Discount margin (4-year life)



Source: Barclays, Bloomberg, as of 12/31/23

Default & issuance

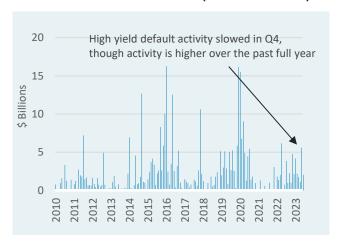
Default activity increased during Q4 as increased borrowing costs acted as a headwind. Eighteen companies defaulted, which were concentrated in the retail, telecommunications, and financial sectors. A total of \$15.8 billion of bank loan and high yield bonds were affected by default or distressed exchanges, up from \$11.5 billion in the prior quarter. Notable company defaults included Rite Aid (Retail), Ligado Networks (Telecommunications), and WeWork (Financial).

For 2023, both the number of defaults and volume increased meaningfully year-over-year. During the period, 88 companies defaulted on \$83.7 billion in high-yield bonds and bank loans compared to 35 companies and \$47.8 billion in 2022. High yield bond default rates have

increased to roughly 2.8%, up from 1.7% a year earlier, but are still below the long-term annual average of roughly 3.2%. High-yield default recovery rates ended the year at 32.8%, down sharply from 55.3% a year ago at the same time.

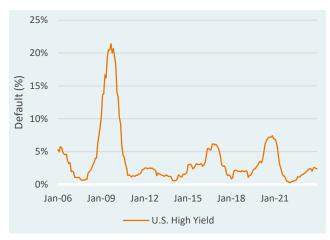
The issuance of investment grade credit slowed from the prior quarter, down to \$204 billion from \$275 billion. With borrowing costs falling as interest rates declined, high-yield bond issuance climbed slightly to \$42 billion, up from \$40 billion in Q3. On a year-over-year basis, the volume of both investment-grade and high yield issuance increased, up \$69.1 billion and \$5.3 billion, respectively.

U.S. HY MONTHLY DEFAULTS (PAR WEIGHTED)



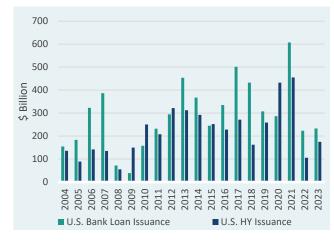
Source: BofA Merrill Lynch, as of 12/31/23

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



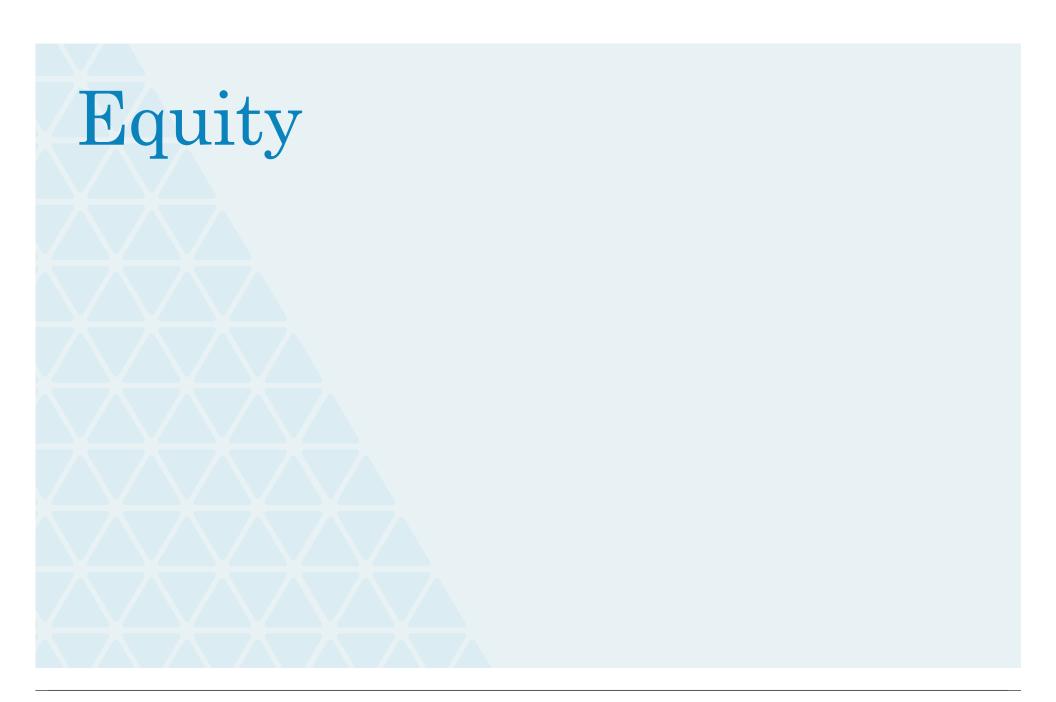
Source: BofA Merrill Lynch, as of 12/31/23 – par weighted

DEVELOPED MARKET ISSUANCE (\$ BILLIONS)



Source: BofA Merrill Lynch, all developed markets, as of 12/31/23







Equity environment

- Domestic equities delivered a strong rally to finish Q4, driven by a combination of better-thanexpected Q3 earnings and signals of easing from the Federal Reserve. The S&P 500 Index gained +26.3% during 2023.
- U.S. equities (S&P 500 +11.7%) led international developed equities (MSCI EAFE +10.4%) and emerging market equities (MSCI EM +7.9%) during the quarter. Domestic equities also led non-U.S. equities over the full year, while emerging markets were laggards. Wide sector performance differences contributed to U.S. leadership, given the much heavier tech focus of the domestic market.
- The U.S. dollar fell sharply, as investors reassessed Federal Reserve policy and interest rates retraced lower. This move created a tailwind for investors with unhedged exposure to foreign currencies. On a trade-weighted

- basis, the value of the U.S. dollar fell -4.3%. However, over the full calendar year investors with unhedged currency exposure saw moderate losses, due to wide fluctuations of the dollar.
- Style factor investing delivered mixed performance for investors in Q4. Over the full year, style investing suffered substantially.
 Small cap underperformed by -9.6% while value stocks underperformed growth by a whopping -31.2%. Besides an extreme period during 2020, calendar year 2023 was the worst 1-year rolling period in more than two decades.
- The Cboe VIX implied volatility index moved even lower during the fourth quarter, from 17.5 to 12.5 in December. Priced volatility is incredibly low—at a level that has historically tended to coincide with very strong economic and market conditions.

	QTD TOTA (unhedged)	L RETURN (hedged)	1 YEAR TOT	AL RETURN (hedged)
U.S. Large Cap (S&P 500)	11.	7%	26.	3%
U.S. Small Cap (Russell 2000)	14.	0%	16.	9%
U.S. Equity (Russell 3000)	12.	1%	26.	0%
U.S. Large Value (Russell 1000 Value)	9.5%		11.5%	
US Large Growth (Russell 1000 Growth)	14.2%		42.7%	
Global Equity (MSCI ACWI)	11.0%	9.7%	22.2%	22.7%
International Large (MSCI EAFE)	10.4%	6.0%	18.2%	19.9%
Eurozone (EURO STOXX 50)	13.3%	9.3%	26.5%	25.6%
U.K. (FTSE 100)	6.9%	2.5%	14.3%	8.8%
Japan (TOPIX)	8.2%	3.6%	19.3%	35.7%
Emerging Markets (MSCI Emerging Markets)	7.9%	5.7%	9.8%	10.1%

Source: Russell Investments, MSCI, STOXX, FTSE, JPX, as of 12/31/23



Domestic equity

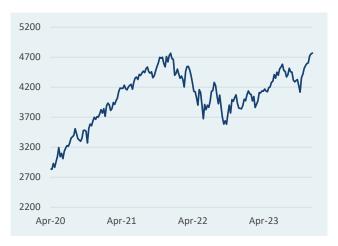
Domestic equities finished the fourth quarter with a strong rally, driven by a combination of better-than-expected Q3 earnings and signals of easing from the Federal Reserve. The S&P 500 Index delivered a gain of +26.3% over 2023, boosted by a +11.7% rise over the final quarter of the year. Shares in the U.S. outperformed international developed and emerging markets over the calendar year.

Third-quarter earnings surprised to the upside, driven by large earnings beats in the communication services and consumer discretionary sectors. Per FactSet, in Q3 earnings grew by 4.9% year-over-year, in contrast to initial expectations of a -0.3% decline at the beginning of the quarter.

From a sector perspective gains were broad, outside of energy. Real estate and information technology outperformed—driven by easing rates on the long-end of the curve and strong demand within the accelerated computing and artificial intelligence space.

Going forward, domestic equities likely face a challenging environment to build off of the large gains seen in 2023. Valuations remain elevated as the S&P 500 Index approaches a new all-time high. At the same time, earnings growth has been modest, with Q4 earnings expected to come in at +1.3% per FactSet. Although the outlook remains challenged, growth catalysts such as stable inflation, monetary easing, and greater chance of a soft-landing present investors with upside opportunity.

S&P 500 PRICE INDEX

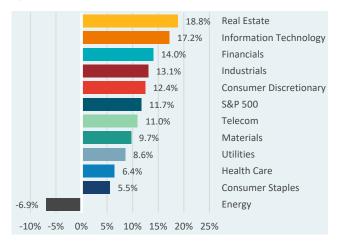


2023 PERFORMANCE (INDEX 100)



Source: Bloomberg, S&P, as of 12/31/23

Q4 2023 SECTOR PERFORMANCE



Source: Morningstar, as of 12/31/23



Source: Bloomberg, as of 12/31/23

Domestic equity size & style

Style factor investing delivered mixed performance for investors in the fourth quarter. Small cap outperformed large cap by +2.0% during Q4 (Russell 2000 vs. Russell 1000). Value underperformed Growth by -3.2% (Russell 1000 Value vs. Russell 1000 Growth). Over the full year, style investing suffered substantially. Small cap underperformed by -9.6% while value stocks underperformed growth by a whopping -31.2%. Besides an extreme period during 2020, calendar year 2023 was the worst 1-year rolling period in more than two decades.

The wide variability of style investing continues to be fueled by extreme sector volatility. For example, the information technology sector, which tends to be more concentrated in growth stocks, performed +57.8% in

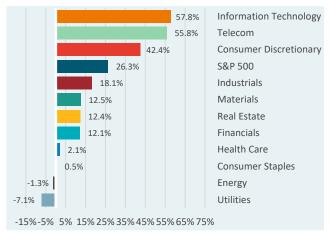
2023. Meanwhile, utilities and energy sectors, which tend to be more concentrated in value stocks, performed -7.1% and -1.3%, respectively. Mega cap growth stocks have propelled the U.S. market higher in 2023—a reversal from significant losses in 2022. Many market-leading stocks are concentrated in technology and telecom sectors, which have outperformed the overall index (+57.8% and +55.8%, respectively).

We believe sector variability and the way this has contributed to style factor volatility is further evidence that style investing should be a long-term decision. Short-term factor timing decisions should typically be pursued only in the rare occasion of obvious market mispricing and a foreseen catalyst for price correction.

VALUE VS. GROWTH 1-YR ROLLING



VALUE VS GROWTH (YOY)



Source: Morningstar, as of 12/31/23

1-YEAR SIZE & STYLE PERFORMANCE

	Value	Core	Growth
Large Cap	11.5%	26.5%	42.7%
Mid Cap	12.7%	17.2%	25.9%
Small Cap	14.6%	16.9%	18.7%

Source: FTSE, as of 12/31/23



Source: FTSE, as of 12/31/23

International developed equity

International developed equities also benefited from shifting expectations around Federal Reserve policy in the fourth quarter, with the MSCI EAFE Index delivering a +10.4% gain in unhedged currency terms. Fading dollar strength provided a large boost, as expectations for potential easing from the Federal Reserve contrasted against shifting policy from the ECB and BOE.

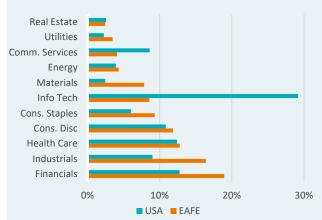
In terms of relative performance, international developed shares trailed the U.S., but outperformed emerging market equities. Sector weightings played the largest role, as gains from mega-cap technology names drove domestic performance, contrasting against the heavier financials and industrial sector composition of the MSCI EAFE index.

Despite macroeconomic challenges, international developed equities saw strong performance in 2023, up +18.2% in unhedged dollar terms. Japanese shares continued to benefit from zero-interest rate policy and shifting investment away from China and into Japan. European shares were lifted by better-than-expected global growth and the ability for companies to pass off higher prices – resulting in strong earnings.

INTERNATIONAL DEVELOPED EQUITY



MSCI EAFE VS. USA SECTOR WEIGHTING



Source: MSCI, as of 12/31/23

JAPAN TOPIX PRICE INDEX



Source: Tokyo Stock Exchange, as of 12/31/23



Source: MSCI, as of 12/31/23

Emerging market equity

Emerging markets saw a positive end to 2023, rising +7.9% in the fourth quarter – helping to notch a +9.8% gain for the index over the 2023 calendar year. While rebounding from losses seen last year (-20.1% decline in 2022), emerging market equities underperformed both domestic and international developed equities for the second straight year.

Most countries within the index saw positive returns in the last quarter of the year, fueled by the broader rally in risk assets as U.S. monetary policy expectations eased. China was the outlier, declining -4.2%.

Chinese shares remain the elephant in the room within emerging markets. The MSCI EM ex China Index outperformed the flagship index by more than 10% in 2023, which highlights the large drag that China has caused, given its nearly 30% country weight in the index. The country continues to face a variety of challenges including incredibly dire demographic trends, geopolitical tension with the U.S., slowing growth, financial distress amongst the property sector and local government financing vehicles, a heavy national debt burden, and deflation. Combined with further consolidation of power within the CCP, the cheap pricing of Chinese equities may be justified.

EMERGING MARKET EQUITY



Q4 2023 MSCI EM COUNTRY RETURNS (USD)



Source: Bloomberg, MSCI, as of 12/31/23

MSCI EM VS. EM EX CHINA (GROWTH \$100K)



Source: Bloomberg, MSCI, as of 12/31/23



Source: MSCI, as of 12/31/23

Equity valuations

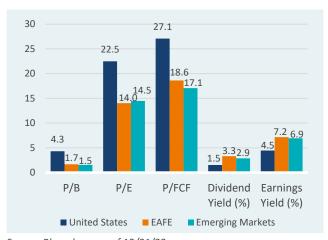
U.S. equity valuation drifted further above those of non-U.S. equities during the quarter. The domestic market is priced at a historic 71% premium over emerging market equities, up from a 59% premium in the third quarter. A portion of the U.S. pricing premium is due to a larger U.S. technology sector, which tends to demand higher valuations, though the valuation gap remains wide even after adjusting for sector composition.

The lower valuations of international developed equities may be at least partly justified due to weaker growth potential and unique challenges in those markets, though rising valuations create a high bar for future profit growth. In order for U.S. equities to justify high valuations over the

longer-term, business will need to generate supernormal earnings growth, and/or stock multiples will need to move upward even further.

U.S. equity market valuations seem to have defied rising interest rates. Theoretically (and historically) speaking, equities should be fairly sensitive to sharply higher interest rates—the present value of stocks is less when rates are high due to the discounting effect, higher interest rates damage profits as financing is more expensive, and the overall economy tends to slow as borrowing costs rise which bodes poorly for profits. At least for now, the U.S. market remains richly valued and median bank forecasts are for a healthy 2024 S&P 500 return.

MSCI VALUATION METRICS (3-MONTH AVG)



Source: Bloomberg, as of 12/31/23

FORWARD PRICE/EARNINGS RATIO



Source: MSCI, Bloomberg, as of 12/31/23

2024 S&P 500 MEDIAN FORECAST



Source: Bloomberg, as of 1/10/24. Banks included in forecast include J.P. Morgan, Goldman Sachs, Bank of America, Citibank, Morgan Stanley, Deutsche Bank, and UBS.



Market volatility

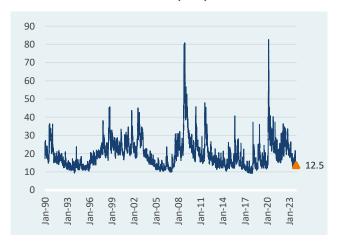
The Cboe VIX implied volatility index moved even lower during the fourth quarter, from 17.5 to 12.5 in December. Priced volatility is incredibly low—at a level that has historically tended to coincide with very strong economic and market conditions.

Realized volatility of global equity markets over the past year has also moderated. The relative volatility of markets has moved back in line with historical behavior—U.S. equities showing the lowest volatility, followed closely by international developed equities, and with emerging market

equities delivering greater risk. This behavior is a reversal of recent years when emerging market volatility was lower than that of developed markets—an uncommon occurrence historically speaking.

Bond markets remain shaky, as indicated by the "MOVE" Index—which calculates the implied volatility of U.S. Treasury securities. Uncertainty around inflation, the Federal Reserve's interest rate path and the extent of rate cuts, potential recession, and fears around the U.S. fiscal situation, are likely to act as an ongoing support to volatility.

U.S. IMPLIED VOLATILITY (VIX)



REALIZED VOLATILITY



U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Source: S&P, MSCI, as of 12/31/23

Source: Bloomberg, as of 12/31/23



Source: Choe, as of 12/31/23

Long-term equity performance



Source: MPI, as of 12/31/23



Other assets



Currency

The U.S. dollar fell sharply in the fourth quarter, as investors reassessed Federal Reserve policy and interest rates retraced lower. This move created a tailwind for investors with unhedged exposure to foreign currencies. On a trade-weighted basis, the value of the U.S. dollar fell - 4.3%. However, following wide fluctuations of the dollar during 2023, and the performance volatility that resulted, investors with unhedged foreign currency exposure saw moderate losses. For investors with unhedged international developed equity exposure, this delivered a loss of -1.7%. Unhedged exposure to emerging market currencies resulted in a loss of -0.2%.

As investors evaluate market movements and performance of 2023, it may be worth reflecting on the benefits which a more thoughtful

currency approach might deliver. A better approach may reduce the uncompensated risk of unhedged foreign currency exposure. Additionally, the MSCI Currency Factor Mix Index—a representation of a passive investment in the currency market, by investing in currencies with higher interest rates, currencies that are undervalued, and currencies that are showing positive price momentum—has shown a positive one-year rolling return over most periods with low volatility. This is what was delivered in 2023. During the year, an unhedged exposure to currency markets (assuming MSCI EAFE equity implementation) resulted in a loss of -1.7% and volatility of 7.5%. Meanwhile, an implementation to Currency Factor Mix delivered a gain of +1.4% and volatility of 2.5%.

EFFECT OF CURRENCY (1-YEAR ROLLING)

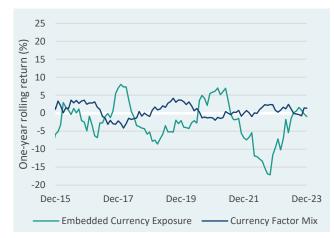


U.S. DOLLAR MAJOR CURRENCY INDEX



Source: Bloomberg, as of 12/31/23

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: Bloomberg, MSCI, as of 12/31/23



Source: MSCI, as of 12/31/23

Investment Landscape

1st Quarter 2024

Event strategies lead in equity, credit

Stock and credit markets rallied in the fourth quarter, and directionally biased strategies within those markets outperformed non-directional peers. Within the equity focused strategy group:

- Activist strategies, which benefited from their smaller cap exposure, continued their run of strong performance with favorable up capture relative to L/S peers.
- Interestingly, value managers outperformed growth counterparts despite growth indexes outperforming value, likely due to a smaller cap bias.

Within the fixed income / credit focused strategy group:

- Event Driven credit strategies such as Distressed and Credit Arbitrage outperformed Relative Value credit strategies such as Structured Credit and Long/Short Credit, as market directionality paid off and economic optimism benefited special situation, catalyst-oriented positioning.
- Event Driven strategies have outperformed both stocks and high yield over the last few years after struggling to keep up in the decade following the Global Financial Crisis.

4Q RETURNS (%) FOR EQUITY STRATEGIES



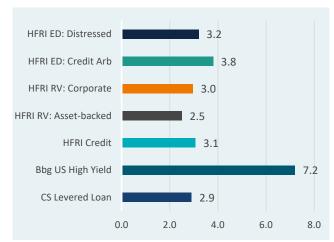
Source: HFR, MPI. Data as of 12/31/23 EH = Equity Hedge ED = Event Driven

HFRI EVENT DRIVEN RETURNS VS STOCKS/HY



Source: HFR, MPI.. Data as of 12/31/23 HFRI Event Driven (Total) vs Bloomberg US Corp HY & MSCI World Index

4Q RETURNS (%) FOR CREDIT STRATEGIES



Source: HFR, MPI. Data as of 12/31/23 ED = Event Driven RV = Relative Value



Investment Landscape
1st Quarter 2024





Periodic table of returns

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	5-Year	10-Year
Large Cap Growth	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	42.7	19.5	14.9
Large Cap Equity	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	26.5	15.5	11.8
Small Cap Growth	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	28.5	21.0	27.1	1.5	18.7	10.9	8.4
International Equity	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	26.5	20.0	26.5	-4.7	18.2	10.0	7.4
Small Cap Equity	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	25.5	18.3	25.2	-7.5	16.9	10.0	7.2
60/40 Global Portfolio	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	22.4	14.0	17.7	-13.0	15.4	9.2	7.2
Small Cap Value	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	22.0	10.3	14.8	-14.5	14.6	8.2	6.8
Large Cap Value	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	18.6	7.8	11.3	-14.5	11.5	7.2	5.1
Emerging Markets Equity	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	18.4	7.5	8.9	-17.3	9.8	7.0	4.3
Hedge Funds of Funds	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	8.7	4.6	6.5	-19.1	6.3	5.3	3.3
US Bonds	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	7.8	2.8	2.8	-20.1	5.5	5.1	2.7
Cash	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	7.7	0.5	0.0	-20.4	5.0	3.7	1.8
Real Estate	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	6.4	0.5	-1.5	-26.4	-5.1	1.8	1.2
Commodities	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	2.1	-3.1	-2.5	-29.1	-7.9	1.1	-1.1
	Lar	ge Cap	Equity	у				Small (Cap Gro	owth				Commodities									
	Lar	ge Cap	Value	:				Interna	ationa	l Equity	У			Rea	l Estat	е							
	Lar	ge Cap	Grow	th				Emergi	ng Ma	rkets E	quity			Hed	lge Fur	ds of F	unds						
	Sm	all Cap	Equity	У			US Bonds						60% MSCI ACWI/40% Bloomberg Global Bond										
	Sm	all Cap	Value					Cash															

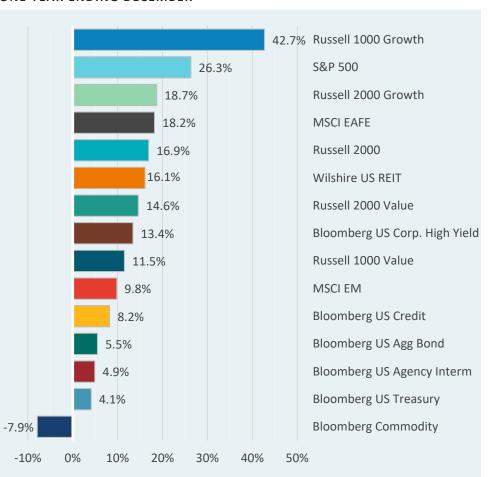
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 9/30/23.



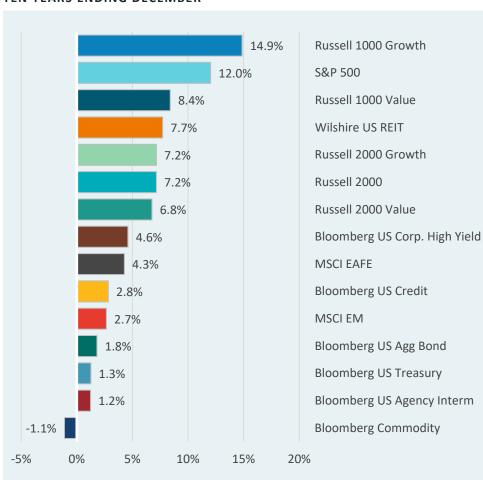
Investment Landscape 1st Quarter 2024

Major asset class returns

ONE YEAR ENDING DECEMBER



TEN YEARS ENDING DECEMBER



*Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.

Source: Morningstar, as of 12/31/23

Source: Morningstar, as of 12/31/23

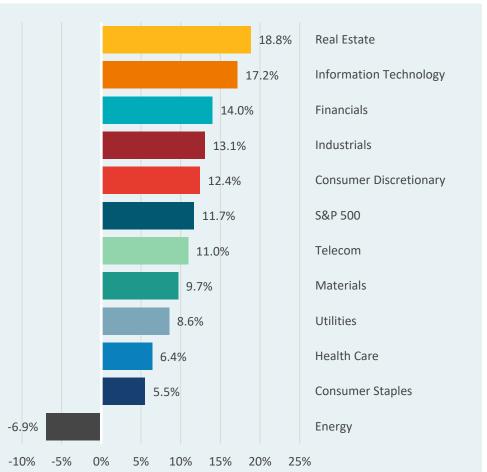


Investment Landscape

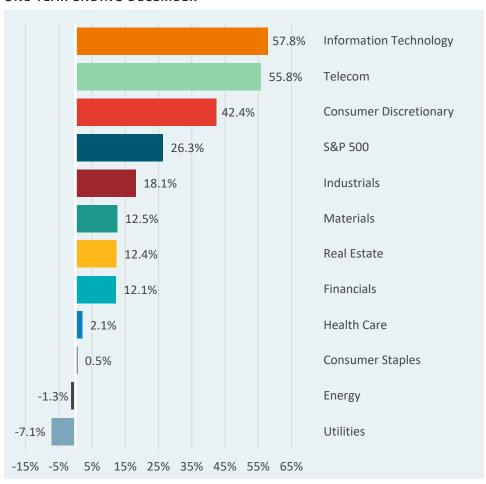
1st Quarter 2024

S&P 500 sector returns

QTD



ONE YEAR ENDING DECEMBER



Source: Morningstar, as of 12/31/23

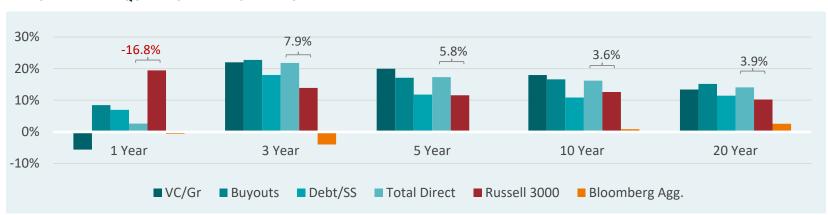
Source: Morningstar, as of 12/31/23



Investment Landscape
1st Quarter 2024

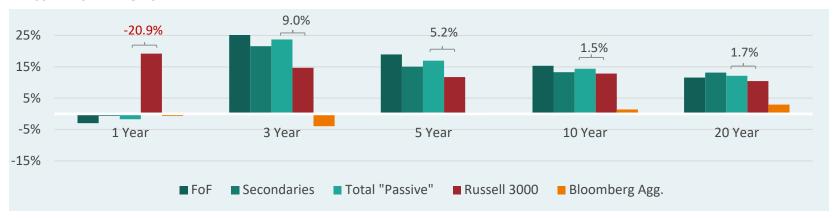
Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



Direct P.E Fund Investments outperformed comparable public equites across all time periods, aside from the 1-year.

"PASSIVE" STRATEGIES



"Passive" strategies outperformed comparable public equities across all time periods, aside from the 1-year.

Sources: Refinitiv PME: U.S. Private Equity Funds sub asset classes as of June 30, 2023. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.



Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across all periods.

GLOBAL INFRASTRUCTURE FUNDS



Infra. funds outperformed the S&P Infra. across all periods.

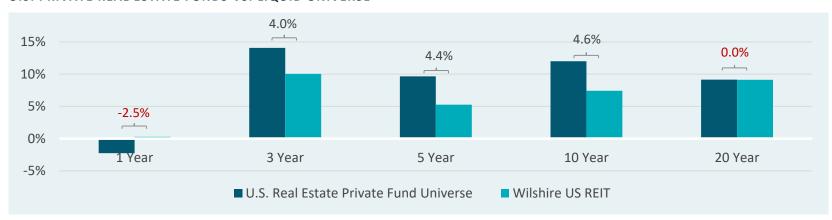
Sources: Refinitiv PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of June 30, 2023. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.



Investment Landscape
1st Quarter 2024

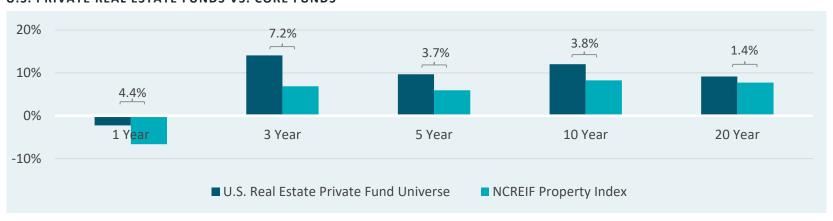
Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private
R.E. fund
performance
relative to the
Wilshire U.S.
REIT Index has
been mixed.

U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: Refinitiv PME: U.S. Real Estate universes as of June 30, 2023. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.



Detailed index returns

DOMESTIC EQUITY							
	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	4.5	11.7	26.3	26.3	10.0	15.7	12.0
S&P 500 Equal Weighted	6.9	11.9	13.9	13.9	9.3	13.8	10.4
DJ Industrial Average	4.9	13.1	16.2	16.2	9.4	12.5	11.1
Russell Top 200	4.1	11.7	29.9	29.9	10.0	16.5	12.7
Russell 1000	4.9	12.0	26.5	26.5	9.0	15.5	11.8
Russell 2000	12.2	14.0	16.9	16.9	2.2	10.0	7.2
Russell 3000	5.3	12.1	26.0	26.0	8.5	15.2	11.5
Russell Mid Cap	7.7	12.8	17.2	17.2	5.9	12.7	9.4
Style Index							
Russell 1000 Growth	4.4	14.2	42.7	42.7	8.9	19.5	14.9
Russell 1000 Value	5.5	9.5	11.5	11.5	8.9	10.9	8.4

Russell 2000 Value	12.4	15.3	14.6	14.6	7.9	10.0	6.8
INTERNATIONAL EQUITY							
Broad Index							
MSCI ACWI	4.8	11.0	22.2	22.2	5.7	11.7	7.9
MSCI ACWI ex US	5.0	9.8	15.6	15.6	1.5	7.1	3.8
MSCI EAFE	5.3	10.4	18.2	18.2	4.0	8.2	4.3
MSCI EM	3.9	7.9	9.8	9.8	(5.1)	3.7	2.7
MSCI EAFE Small Cap	7.3	11.1	13.2	13.2	(0.7)	6.6	4.8
Style Index							
MSCI EAFE Growth	5.7	12.7	17.6	17.6	0.3	8.8	5.1
MSCI EAFE Value	4.9	8.2	19.0	19.0	7.6	7.1	3.2
Regional Index							
MSCI UK	4.5	6.9	14.1	14.1	8.8	6.9	2.5
MSCI Japan	4.4	8.2	20.3	20.3	0.7	6.9	5.0
MSCI Euro	4.4	12.9	25.2	25.2	6.0	9.3	4.1
MSCI EM Asia	3.3	6.7	7.8	7.8	(6.9)	4.3	4.1
MSCI EM Latin American	8.3	17.6	32.7	32.7	9.9	6.1	2.1

FIXED INCOME

7.2

	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	2.7	4.7	3.9	3.9	(1.0)	3.2	2.4
Bloomberg US Treasury Bills	0.5	1.4	5.1	5.1	2.1	1.9	1.3
Bloomberg US Agg Bond	3.8	6.8	5.5	5.5	(3.3)	1.1	1.8
Bloomberg US Universal	3.8	6.8	6.2	6.2	(3.0)	1.4	2.1
Duration							
Bloomberg US Treasury 1-3 Yr	1.2	2.6	4.3	4.3	(0.1)	1.3	1.0
Bloomberg US Treasury Long	8.6	12.7	3.1	3.1	(11.4)	(1.2)	2.3
Bloomberg US Treasury	3.4	5.7	4.1	4.1	(3.8)	0.5	1.3
Issuer							
Bloomberg US MBS	4.3	7.5	5.0	5.0	(2.9)	0.3	1.4
Bloomberg US Corp. High Yield	3.7	7.2	13.4	13.4	2.0	5.4	4.6
Bloomberg US Agency Interm	1.6	3.2	4.9	4.9	(1.1)	1.1	1.2
Bloomberg US Credit	4.2	8.2	8.2	8.2	(3.2)	2.4	2.8

OTHER							
Index							
Bloomberg Commodity	(2.7)	(4.6)	(7.9)	(7.9)	10.8	7.2	(1.1)
Wilshire US REIT	10.2	16.3	16.1	16.1	7.5	7.6	7.7
CS Leveraged Loans	1.6	2.9	13.0	13.0	5.6	5.6	4.4
S&P Global Infrastructure	4.2	10.9	6.8	6.8	6.0	7.4	5.7
Alerian MLP	(3.4)	3.0	23.8	23.8	31.8	10.9	1.6
Regional Index							
JPM EMBI Global Div	4.7	9.2	11.1	11.1	(3.6)	1.7	3.2
JPM GBI-EM Global Div	3.2	8.1	12.7	12.7	(3.2)	1.1	0.1
Hedge Funds							
HFRI Composite	2.6	3.6	7.5	7.5	4.3	7.0	4.5
HFRI FOF Composite	2.3	3.4	6.3	6.3	2.3	5.1	3.3
Currency (Spot)							
Euro	1.2	4.3	3.5	3.5	(3.4)	(0.7)	(2.2)
Pound Sterling	0.7	4.4	6.0	6.0	(2.3)	0.0	(2.6)
Yen	4.9	5.9	(6.4)	(6.4)	(9.9)	(4.9)	(2.9)

Source: Morningstar, HFRI, as of 12/31/23



Russell 2000 Growth

Investment Landscape

1st Quarter 2024

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.langerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberg.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (https://www.nfib-sbet.org/about/)

NAHB Housing Market Index – the housing market index is a weighted average of separate diffusion induces for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula "(Good-Poor + 100)/2" to the present and future sales series and "(High/Very High-Low/Very Low + 100)/2" to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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Imperial County Employees' Retirement System

Investment Performance Review Period Ending: December 31, 2023



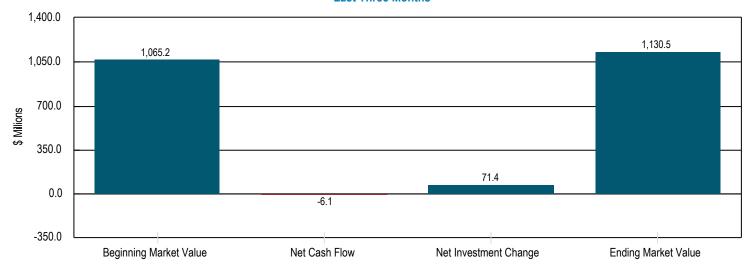
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	Last Three Months	Fiscal Year-To-Date	One Year
Beginning Market Value	\$1,065,159,987	\$1,095,987,714	\$1,026,119,958
Net Cash Flows	-\$6,063,296	-\$13,155,304	-\$17,351,167
Net Investment Change	\$71,360,737	\$47,625,018	\$121,688,638
Ending Market Value	\$1,130,457,428	\$1,130,457,428	\$1,130,457,428

Change in Market Value Last Three Months



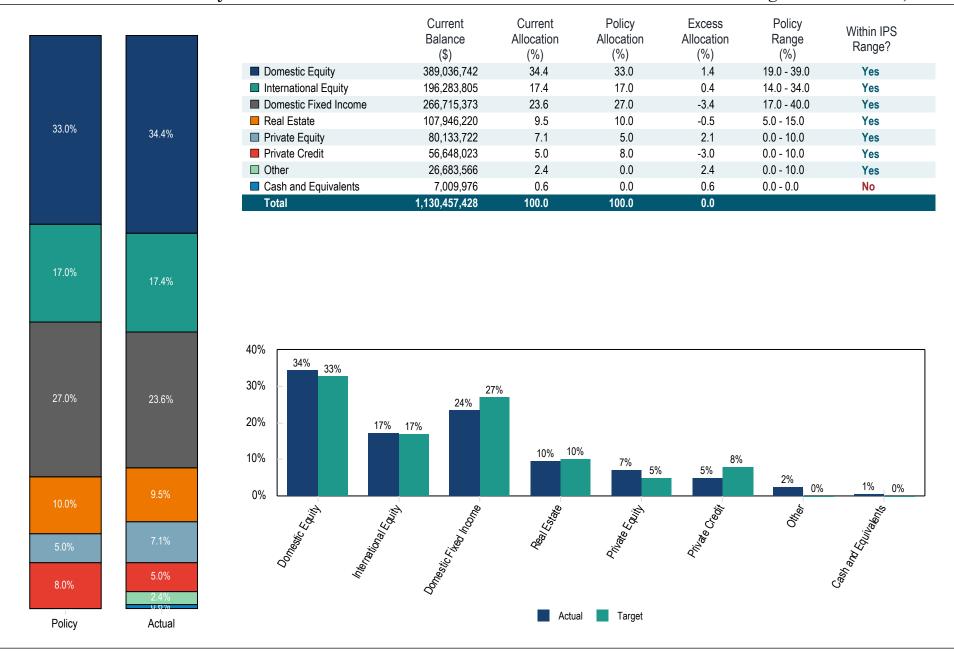
Contributions and withdrawals may include intra-account transfers between managers/funds. Fee transactions are excluded from Portfolio Reconciliation.



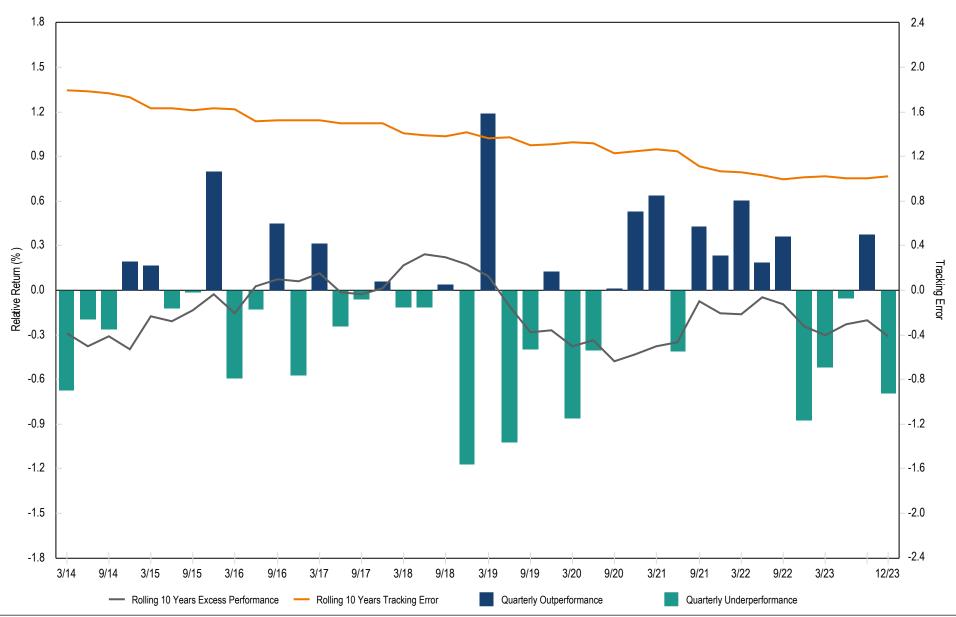
Total Fund Executive Summary (Net of Fees)

	Market Value	% of Portfolio	QTD	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	1,130,457,428	100.0	6.7	4.3	11.8	4.6	8.7	6.5
Policy Index			7.4	4.6	12.7	4.5	8.8	6.8
InvMetrics Public DB Rank			84	79	74	24	50	49
Total Domestic Equity	389,036,742	34.4	12.1	8.5	26.0	8.6	15.2	11.2
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	11.5
Total International Equity	196,283,805	17.4	9.5	5.4	16.9	2.9	7.3	4.0
MSCI AC World ex USA Index			9.8	5.8	16.2	2.0	7.6	4.3
Total Fixed Income	266,715,373	23.6	6.4	3.7	6.2	-2.8	2.0	2.3
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	1.8
Total Real Estate	107,946,220	9.5	-5.0	-7.0	-14.3	3.2	3.5	6.3
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8
Total Private Equity	80,133,722	7.1	-0.6	1.3	3.9	17.5	17.7	17.6
Private Equity Benchmark			-0.6	1.3	3.9	17.5	17.7	18.4
Total Private Credit	56,648,023	5.0	2.2	3.6	8.7	10.9	9.3	N/A
Private Credit Benchmark			2.2	3.6	8.7	12.0	10.0	N/A
Total Opportunistic	26,683,566	2.4	2.2	5.8	13.0	14.0	5.9	8.8
Assumption Rate + 1%			2.1	4.2	8.5	8.5	8.5	N/A



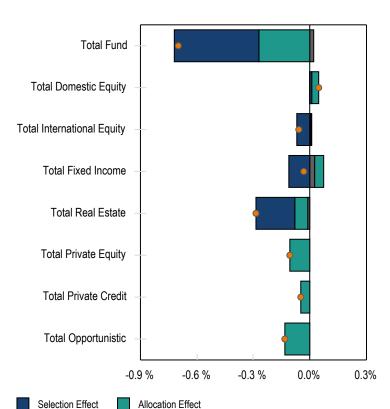


Rolling Annualized Excess Performance and Tracking Error





Attribution Effects Last Three Months



Performance Attribution

	Quarter	YTD
Wtd. Actual Return	6.7	11.8
Wtd. Index Return	7.4	12.7
Excess Return	-0.7	-0.9
Selection Effect	-0.5	-0.5
Allocation Effect	-0.3	-0.1
Interaction Effect	0.0	-0.2

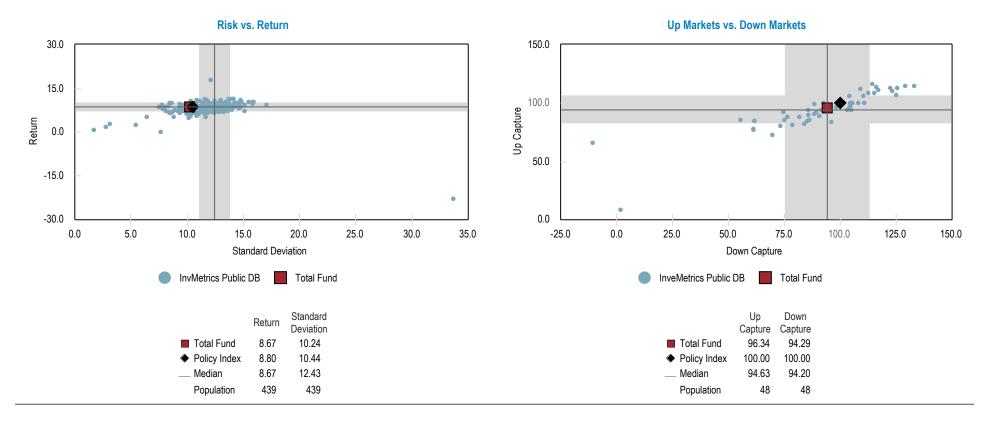
Attribution Summary Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total Domestic Equity	12.1	12.1	0.0	0.0	0.0	0.0	0.0
Total International Equity	9.5	9.8	-0.4	-0.1	0.0	0.0	-0.1
Total Fixed Income	6.4	6.8	-0.4	-0.1	0.0	0.0	0.0
Total Real Estate	-5.0	-3.0	-2.0	-0.2	-0.1	0.0	-0.3
Total Private Equity	-0.6	-0.6	0.0	0.0	-0.1	0.0	-0.1
Total Private Credit	2.2	2.2	0.0	0.0	0.0	0.0	0.0
Total Opportunistic	2.2	2.1	0.1	0.0	-0.1	0.0	-0.1
Total Fund	6.7	7.4	-0.7	-0.5	-0.3	0.0	-0.7

Interaction Effect

Total Effects

	Annualized Return	Annualized Excess Return	Annualized Standard Deviation	Annualized Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
Total Fund	8.67	7.01	10.24	0.09	0.98	1.08	0.99	0.68	-0.12	98.29	98.10





Imperial County Employees' Retirement System Period Ending: December 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total Fund	1,130,457,428	100.0	6.7	4.3	11.8	4.6	8.7	6.5	-11.6	15.8	12.3	17.9	-4.1		Apr-89
Policy Index			7.4	4.6	12.7	4.5	8.8	6.8	-11.9	14.8	13.3	18.0	-2.7		
InvMetrics Public DB Rank			84	79	74	24	50	49	22	20	63	75	40		
Total Domestic Equity	389,036,742	34.4	12.1	8.5	26.0	8.6	15.2	11.2	-19.2	25.7	21.0	31.1	-5.2		Mar-89
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	11.5	-19.2	25.7	20.9	31.0	-5.2		
BlackRock Russell 3000	389,036,742	34.4	12.1	8.5	26.0	8.5	15.2	-	-19.2	25.7	21.0	31.1	-5.2	12.5	Dec-15
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	-	-19.2	25.7	20.9	31.0	-5.2	12.4	
eV US All Cap Core Equity Rank			45	40	23	52	35	-	58	54	41	37	44		
Total International Equity	196,283,805	17.4	9.5	5.4	16.9	2.9	7.3	4.0	-15.4	10.1	8.1	20.7	-14.3		Dec-94
MSCI AC World ex USA Index			9.8	5.8	16.2	2.0	7.6	4.3	-15.6	8.3	11.1	22.1	-13.8		
BlackRock International Equity	153,848,987	13.6	10.3	5.8	18.6	4.4	8.5	4.6	-14.1	11.6	8.1	22.4	-13.5	6.9	Jul-03
MSCI EAFE (Net)			10.4	5.9	18.2	4.0	8.2	4.3	-14.5	11.3	7.8	22.0	-13.8	6.9	
eV All EAFE Equity Rank			46	45	31	34	40	45	36	52	52	50	29		
DFA Emerging Markets Value	22,654,433	2.0	7.2	7.3	16.5	5.3	5.7	3.7	-10.7	12.4	2.7	9.6	-11.9	4.0	Jan-07
MSCI Emerging Markets Value (Net)			8.1	7.2	14.2	0.0	3.4	1.9	-15.8	4.0	5.5	12.0	-10.7	3.3	
eV Emg Mkts All Cap Value Equity Rank			73	35	44	24	67	77	36	19	82	93	38		
Harding Loevner Emerging Markets	19,780,385	1.7	5.6	-0.1	4.8	-10.3	0.1	-	-28.1	-4.3	12.4	24.0	-19.5	8.0	Aug-16
MSCI Emerging Markets Growth Index			7.8	2.5	6.1	-9.5	4.1	-	-23.7	-8.2	31.6	25.4	-18.0	5.0	
eV Emg Mkts All Cap Growth Equity Rank			89	88	75	78	98	-	76	54	96	51	67		
Total Fixed Income	266,715,373	23.6	6.4	3.7	6.2	-2.8	2.0	2.3	-14.2	0.6	9.8	9.5	-0.8		Jun-94
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	1.8	-13.0	-1.5	7.5	8.7	0.0		
Income Research & Management	111,944,668	9.9	6.5	-	-	-	-	-	-	-	-	-	-	5.0	Sep-23
Blmbg. U.S. Aggregate Index			6.8	-	-	-	-	-	-	-	-	-	-	4.1	
eV US Core Plus Fixed Inc Rank			87	-	-	-	-	-	-	-	-	-	-		
MacKay Shields Core Plus Opportunities	112,387,312	9.9	7.1	4.2	6.7	-3.2	1.8	-	-14.5	-0.5	9.9	9.7	-1.0	1.6	Mar-15
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	-	-13.0	-1.5	7.5	8.7	0.0	1.3	
eV US Core Plus Fixed Inc Rank			40	23	42	70	56	-	86	52	21	53	76		
BlackRock US TIPS	42,383,393	3.7	4.5	1.8	3.9	-1.0	3.2	2.5	-11.9	5.9	11.2	8.5	-1.2	3.5	Apr-07
Blmbg. U.S. TIPS			4.7	2.0	3.9	-1.0	3.2	2.4	-11.8	6.0	11.0	8.4	-1.3	3.5	
eV US TIPS / Inflation Fixed Inc Rank			47	65	44	60	50	22	67	28	31	33	39		



Imperial County Employees' Retirement System Period Ending: December 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Total Real Estate	107,946,220	9.5	-5.0	-7.0	-14.3	3.2	3.5	6.3	8.5	18.4	2.1	5.7	7.5		Dec-06
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7		
NCREIF ODCE Net			-5.0	-7.0	-12.7	4.0	3.3	6.3	6.5	21.0	0.3	4.4	7.4		
ASB Real Estate	24,456,935	2.2	-7.8	-11.4	-21.5	-0.3	0.7	4.6	10.7	14.2	1.5	3.0	6.6	5.3	Jan-13
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7	7.2	
NCREIF ODCE Net			-5.0	-7.0	-12.7	4.0	3.3	6.3	6.5	21.0	0.3	4.4	7.4	6.9	
Clarion Lion	28,657,803	2.5	-4.4	-5.4	-15.5	4.6	4.6	7.3	9.6	23.6	2.3	6.8	8.6	4.7	Jan-07
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7	6.2	
NCREIF ODCE Net			-5.0	-7.0	-12.7	4.0	3.3	6.3	6.5	21.0	0.3	4.4	7.4	4.7	
ARA American Strategic Value Realty	52,811,082	4.7	-4.2	-6.0	-10.3	4.3	4.6	-	6.8	18.6	2.4	7.8	-	5.3	Jan-18
NCREIF Property Index +2%			-2.5	-3.4	-6.1	6.7	6.4	-	7.6	20.0	3.6	8.5	8.9	6.8	
NCREIF ODCE Net			-5.0	-7.0	-12.7	4.0	3.3	-	6.5	21.0	0.3	4.4	7.4	4.0	
1221 State St. Corp	2,020,401	0.2	0.0	0.0	0.0	0.0	1.5	2.4	0.0	0.0	0.0	7.9	0.0	1.3	Jun-08
Total Private Equity	80,133,722	7.1	-0.6	1.3	3.9	17.5	17.7	17.6	-0.8	57.3	23.0	13.3	21.3		Mar-10
Harbourvest Buyout IX	5,696,999	0.5	-1.4	1.2	5.9	14.2	16.3	17.2	-6.0	49.6	21.3	17.6	23.6		Jun-11
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	14.8	-16.8	29.4	24.5	34.9	-2.4		
Harbourvest Credit Ops IX	868,461	0.1	0.5	1.3	5.0	15.4	10.8	11.8	11.0	32.1	0.3	8.0	14.4		Jun-11
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	14.8	-16.8	29.4	24.5	34.9	-2.4		
Harbourvest International PE VI	1,494,946	0.1	-0.3	-0.3	3.9	6.9	8.7	12.1	-16.7	41.2	17.2	6.0	14.8		Mar-10
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	14.8	-16.8	29.4	24.5	34.9	-2.4		
Harbourvest Venture IX	4,545,690	0.4	-3.2	-2.1	-9.5	13.3	22.5	20.5	-15.9	91.1	52.4	24.6	25.9		Jun-11
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	14.8	-16.8	29.4	24.5	34.9	-2.4		
Harbourvest 2017 Global Fund	26,137,368	2.3	0.1	2.3	4.6	18.6	16.6	-	-1.3	61.6	18.8	8.8	20.9	17.9	Oct-17
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	-	-16.8	29.4	24.5	34.9	-2.4	15.5	
Harbourvest 2018 Global Fund	21,164,339	1.9	-0.9	0.1	4.0	16.1	15.7	-	9.7	37.0	16.0	14.3	-	15.7	Jan-19
Russell 3000 + 3%			12.9	10.0	29.7	11.8	18.6	-	-16.8	29.4	24.5	34.9	-	18.6	
Harbourvest 2019 Global Fund	19,272,379	1.7	-0.3	2.2	6.1	18.7	-	-	5.4	49.6	34.6	-	-	22.0	Dec-19
Russell 3000 + 3%	, ,		12.9	10.0	29.7	11.8	-	-	-16.8	29.4	24.5	-	-	15.4	
Harbourvest 2023 Global Fund	953,540	0.1	-	-	-	-	-	-	-	-	-	-	-		Dec-23
Russell 3000 + 3%			-	-	-	_	-	-	-	_	_	-	_		
Total Private Credit	56,648,023	5.0	2.2	3.6	8.7	10.9	9.3		8.1	16.1	4.8	9.4	6.7		Oct-17
Portfolio Advisors Credit Strategies Fund	11,744,181	1.0	0.0	1.5	3.6	12.2	9.7	-	7.7	26.8	3.9	8.2	6.6	8.9	Oct-17
Bloomberg High Yield +2% (Lagged)	, ,		1.0	3.2	12.5	3.8	5.0	-	-12.4	13.5	5.3	8.5	5.1	5.1	
Crescent Direct Lending Levered Fund II	2,873,825	0.3	0.0	3.8	6.2	9.5	9.4	-	10.9	11.5	6.0	12.4	-	9.1	Mar-18
Bloomberg High Yield +2% (Lagged)	_,,,,,,,,		1.0	3.2	12.5	3.8	5.0	-	-12.4	13.5	5.3	8.5	-	5.1	

TSSP Adjacent funded 4/16/2020. Portfolio Advisors, Ascribe Opportunities IV, and Crescent Direct Lending market value as of 9/30/2023. PIMCO BRAVO liquidated 12/30/2022. Income Research & Management replaced Duenta 9/2023. Harbourvest 2023 funded 12/28/2023.



Total Fund Manager Summary (Net of Fees)

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018	Inception	Inception Date
Audax Direct Lending Fund A	5,220,166	0.5	2.3	5.2	10.4	16.2	15.0	-	15.5	23.1	10.1	16.3	-	16.9	Oct-18
Bloomberg High Yield +2% (Lagged)			1.0	3.2	12.5	3.8	5.0	-	-12.4	13.5	5.3	8.5	-	5.3	
Ares Capital Europe IV	6,442,289	0.6	1.3	2.8	7.8	8.9	9.6	-	7.0	11.8	8.2	13.1	-	9.5	Aug-18
Bloomberg High Yield +2% (Lagged)			1.0	3.2	12.5	3.8	5.0	-	-12.4	13.5	5.3	8.5	-	5.3	
Lone Star XI	3,935,666	0.3	-0.6	4.1	11.3	100.6	-	-	13.7	538.0	-62.8	-	-	18.1	Jun-19
Bloomberg High Yield +2% (Lagged)			1.0	3.2	12.5	3.8	-	-	-12.4	13.5	5.3	-	-	5.0	
Sixth Street Diversified Credit	21,333,003	1.9	5.2	8.2	16.1	9.0	-	-	13.2	-1.4	-	-	-	6.9	May-20
Bloomberg High Yield +2% (Lagged)			1.0	3.2	12.5	3.8	-	-	-12.4	13.5	-	-	-	3.6	
Ascribe Opportunities Fund IV	5,098,893	0.5	0.0	7.8	13.5	-0.3	-	-	5.6	-17.3	-	-	-	-200.6	Jul-20
Bloomberg High Yield +2% (Lagged)			1.0	3.2	12.5	3.8	-	-	-12.4	13.5	-	-	-	6.6	
Total Opportunistic	26,683,566	2.4	2.2	5.8	13.0	14.0	5.9	8.8	10.4	18.6	0.9	-10.7	32.0		Dec-07
KKR Mezzanine Partners	1,644,233	0.1	-2.7	2.8	22.5	-2.2	-5.4	2.2	-31.0	10.5	-15.2	-4.2	25.3	5.1	Jun-11
TSSP Adjacent Opportunities Partners	25,039,333	2.2	2.5	6.0	12.4	18.1	-	-	16.2	26.1	-	-	-	17.2	Apr-20
Total Cash	7,009,976	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		Sep-07
Cash Account	7,009,976	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	Sep-07
90 Day U.S. Treasury Bill			1.4	2.7	5.0	2.2	1.9	1.2	1.5	0.0	0.7	2.3	1.9	1.0	

Investment Manager Risk Analysis by Manager - 3 Years (Net of Fees)

	Annualized Return	Annualized Excess Return	Annualized Standard Deviation	Annualized Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
BlackRock Russell 3000	8.55	7.63	17.47	0.01	1.00	0.02	1.00	0.44	0.33	100.03	100.00
BlackRock International Equity	4.36	3.52	16.63	0.33	1.00	0.34	1.00	0.21	0.99	101.32	100.09
DFA Emerging Markets Value	5.34	4.31	15.78	5.38	0.98	3.23	0.96	0.27	1.62	108.97	83.57
Harding Loevner Emerging Markets	-10.32	-11.34	18.07	-2.17	0.87	7.83	0.83	-0.63	-0.14	88.06	95.01
MacKay Shields Core Plus Opportunities	-3.17	-5.06	7.63	0.37	1.06	1.15	0.98	-0.67	0.16	104.30	101.44
BlackRock US TIPS	-1.05	-2.93	7.07	-0.05	1.00	0.18	1.00	-0.41	-0.28	99.96	100.49
ASB Real Estate	-0.26	-1.89	9.99	-5.63	1.28	4.94	0.79	-0.18	-0.90	109.19	235.04
Clarion Lion	4.61	2.94	10.66	-1.85	1.47	4.42	0.92	0.27	0.08	142.55	184.84
ARA American Strategic Value Realty	4.35	2.41	7.55	-2.57	1.07	1.46	0.97	0.30	-1.48	90.05	131.12
Portfolio Advisors Credit Strategies Fund	12.24	9.73	7.36	11.90	0.14	9.95	0.02	1.29	0.79	83.76	-20.14
Crescent Direct Lending Levered Fund II	9.50	7.10	5.05	9.96	-0.07	9.86	0.01	1.40	0.53	54.13	-32.24
Audax Direct Lending Fund A	16.23	13.30	7.91	15.81	0.16	10.23	0.03	1.64	1.11	95.33	-46.59
Ares Capital Europe IV	8.88	6.56	5.82	8.56	0.11	9.07	0.02	1.11	0.51	59.01	-18.37
Lone Star XI	100.61	95.24	93.35	148.34	0.71	93.20	0.00	1.02	1.00	762.67	-53.14



	Annualized Return	Annualized Excess Return	Annualized Standard Deviation	Annualized Alpha	Annualized Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Capture	Down Capture
BlackRock Russell 3000	8.55	7.63	17.47	0.01	1.00	0.02	1.00	0.44	0.33	100.03	100.00
BlackRock International Equity	4.36	3.52	16.63	0.33	1.00	0.34	1.00	0.21	0.99	101.32	100.09
DFA Emerging Markets Value	5.34	4.31	15.78	5.38	0.98	3.23	0.96	0.27	1.62	108.97	83.57
Harding Loevner Emerging Markets	-10.32	-11.34	18.07	-2.17	0.87	7.83	0.83	-0.63	-0.14	88.06	95.01
MacKay Shields Core Plus Opportunities	-3.17	-5.06	7.63	0.37	1.06	1.15	0.98	-0.67	0.16	104.30	101.44
BlackRock US TIPS	-1.05	-2.93	7.07	-0.05	1.00	0.18	1.00	-0.41	-0.28	99.96	100.49
ASB Real Estate	-0.26	-1.89	9.99	-5.63	1.28	4.94	0.79	-0.18	-0.90	109.19	235.04
Clarion Lion	4.61	2.94	10.66	-1.85	1.47	4.42	0.92	0.27	0.08	142.55	184.84
ARA American Strategic Value Realty	4.35	2.41	7.55	-2.57	1.07	1.46	0.97	0.30	-1.48	90.05	131.12
Portfolio Advisors Credit Strategies Fund	12.24	9.73	7.36	11.90	0.14	9.95	0.02	1.29	0.79	83.76	-20.14
Crescent Direct Lending Levered Fund II	9.50	7.10	5.05	9.96	-0.07	9.86	0.01	1.40	0.53	54.13	-32.24
Audax Direct Lending Fund A	16.23	13.30	7.91	15.81	0.16	10.23	0.03	1.64	1.11	95.33	-46.59
Ares Capital Europe IV	8.88	6.56	5.82	8.56	0.11	9.07	0.02	1.11	0.51	59.01	-18.37
Lone Star XI	100.61	95.24	93.35	148.34	0.71	93.20	0.00	1.02	1.00	762.67	-53.14



\$188,335

									Distrib./	Tot. Value/	Net IRR	
		Estimated 12/31/2023	Total	Capital	%	Remaining	Capital	Market Value	Paid-In	Paid-In	Since	IRR
Vintage	Manager & Fund Name	Market Value ³	Commitment	Called	Called	Commitment	Returned	for IRR	(DPI) ¹	(TVPI) ²	Inception ⁴	Date
2011	HarbourVest IX-Buyout	\$5,696,999	\$10,000,000	\$8,525,000	85%	\$1,475,000	\$13,294,382	\$5,953,294	155.9%	222.8%	18.0%	9/30/23
2011	HarbourVest IX-Credit	\$868,461	\$2,000,000	\$1,641,541	82%	\$358,459	\$1,914,863	\$963,189	116.7%	169.6%	12.8%	9/30/23
2008	HarbourVest Int'l VI ⁵	\$1,494,946	\$3,712,930	\$2,630,078	71%	\$1,082,852	\$4,286,703	\$1,792,538	163.0%	219.8%	14.2%	9/30/23
2011	HarbourVest IX-Venture	\$4,545,690	\$4,000,000	\$3,800,000	95%	\$200,000	\$693,340	\$5,553,519	18.2%	137.9%	21.3%	9/30/23
2017	HarbourVest 2017 Global	\$26,137,368	\$30,000,000	\$19,364,051	65%	\$10,635,949	\$12,040,483	\$24,826,789	62.2%	197.2%	19.9%	9/30/23
2018	HarbourVest 2018 Global	\$21,164,339	\$20,000,000	\$10,938,043	55%	\$9,061,957	\$4,142,916	\$21,172,519	37.9%	231.4%	21.6%	9/30/23
2019	HarbourVest 2019 Global	\$19,272,379	\$20,000,000	\$13,975,273	70%	\$6,024,727	\$2,809,888	\$16,756,917	20.1%	158.0%	23.7%	9/30/23
2023	HarbourVest 2023 Global	\$953,540	\$10,000,000	\$953,540	10%	\$9,046,460	\$0	NA	0.0%	100.0%	NA	NA
	Total Illiquid Private Equity	\$80,133,722	\$99,712,930	\$61,827,526	62%	\$37,885,404	\$39,182,575	\$77,018,765	63.4%	193.0%		
	% of Portfolio (Market Value)	7.09%						Management	Admin	Interest	Other	Total
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							Fee	Fee	Expense	Expense	Expense ⁶
					•	HarbourVest IX-Buyout		\$20,189	\$0	\$2,937	\$1,098	\$24,224
						HarbourVest IX-Credit		\$4,036	\$0	\$95	\$1,066	\$5,197
						HarbourVest Int'l VI		\$2,019	\$0	\$242	\$58	\$2,319
						HarbourVest IX-Venture	е	\$8,092	\$0	\$2,608	\$446	\$11,146
						HarbourVest 2017 Glob	oal	\$66,000	\$0	\$472	\$150,543	\$217,015
						HarbourVest 2018 Glob	oal	\$43,635	\$0	\$139	\$43,665	\$87,439
						HarbourVest 2019 Glob	oal	\$44,364	\$0	\$2,156	\$38,054	\$84,574
					_	HarbourVest 2023 Glob	oal	NA	NA	NA	NA	NA

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Last known market value + capital calls - distributions (preliminary MV's as of 12/31/2023)

⁴Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its HarbourVest.

Vintage	Manager & Fund Name	Estimated 12/31/2023 Market Value ³	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value for IRR	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ⁴	IRR Date
2013	Portfolio Advisors Credit Strategies Fund	\$11,744,181	\$11,250,000	\$11,250,000	100%	\$0	\$3,321,918	\$12,166,621	29.5%	133.9%	9.1%	9/30/23
2017	Crescent Direct Lending Levered Fund II	\$2,873,825	\$7,000,000	\$5,707,507	82%	\$1,292,493	\$4,512,352	\$2,770,407	79.1%	129.4%	9.4%	9/30/23
2017	Audax Direct Lending Fund A	\$5,220,166	\$7,000,000	\$5,791,026	83%	\$1,208,974	\$2,953,271	\$5,227,810	51.0%	141.1%	15.1%	9/30/23
2018	Ares Capital Europe IV	\$6,442,289	\$8,000,000	\$6,762,884	85%	\$1,237,116	\$2,812,971	\$6,896,335	41.6%	136.9%	11.4%	3/31/23
2019	Lone Star Fund XI	\$3,935,666	\$5,750,000	\$4,606,174	80%	\$1,143,826	\$3,075,207	\$3,611,793	66.8%	152.2%	33.9%	9/30/23
2019	Ascribe Opportunities IV	\$5,098,893	\$6,000,000	\$5,207,450	87%	\$792,550	\$970,342	\$5,351,462	18.6%	116.5%	9.7%	9/30/23
2020	Sixth Street Diversified Credit	\$21,333,003	\$50,000,000	\$20,919,617	42%	\$29,080,383	\$3,542,097	\$18,961,608	16.9%	118.9%	12.3%	9/30/23
	Total Illiquid Private Credit % of Portfolio (Market Value)	\$56,648,023 5.01%	\$95,000,000	\$60,244,658	63.4%	\$34,755,342	\$21,188,158 Management Fee	\$54,986,036 Accrued Carried Interest	35.2% Admin Fee	129.2% Interest Expense	Other Expense	Total Expense⁵
					Portfolio Adv		\$0	\$0	\$0	\$0	\$0	\$0
						rect Lending II	\$54,169	\$12,066	\$9,651	\$0	\$0	\$75,886
					Audax Direc	•	\$28,991	\$0	\$0	\$0	\$46,985	
					Ares Capital	•	\$24,676	\$16,364	\$0	\$60,777	\$6,325	
					Ascribe Opp	ortunities IV	\$35,036	\$0	\$0	\$0	\$0	\$35,036
					Lone Star Fu	und XI	\$0	\$0	\$0	\$0	\$0	\$0
					Sixth Street	Diversified Credit	\$0	\$0	\$0	\$0	\$0	\$0

\$142.872

\$28,430

\$9.651

\$60.777

\$53,310

\$295,040

¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Last known market value + capital calls - distributions (preliminary MV's as of 12/31/2023)

⁴Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

⁵All fees and expenses are for 3Q 2023

Vintage	Manager & Fund Name	Estimated 12/31/2023 Market Value ³	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value for IRR	Distrib./ Paid-In (DPI) ¹	Tot. Value/ Paid-In (TVPI) ²	Net IRR Since Inception ⁵	IRR Date
2010	KKR Mezzanine ⁶	\$1,644,233	\$10,000,000	\$10,000,000	100%	\$0	\$14,153,380	\$1,372,673	141.5%	158.0%	5.9%	9/30/23
2020	TSSP Adjacent Opportunities Partners	\$25,039,333	\$40,000,000	\$22,392,130	56%	\$17,607,870	\$6,027,427	NA	26.9%	138.7%	NA	NA
	Total Illiquid Opportunistic	\$26,683,566	\$50,000,000	\$32,392,130	65%	\$17,607,870	\$20,180,807	\$1,386,290	4.3%	66.6%		
	% of Portfolio (Market Value)	2.36%					Management	Accrued	Admin	Interest	Other	Total
	% of Portfolio (Market Value)	2.36%					Management Fee	Accrued Carried Interest	Admin Fee	Interest Expense	Other Expense	Total Expense ⁶
	% of Portfolio (Market Value)	2.36%					-					
	% of Portfolio (Market Value)	2.36%			KKR Mezzanir	ne	-					
	% of Portfolio (Market Value)	2.36%				ne nt Opportunities P	Fee	Carried Interest	Fee	Expense	Expense	Expense ⁶



¹(DPI) is equal to (capital returned / capital called)

²(TVPI) is equal to (market value + capital returned) / capital called

³Last known market value + capital calls - distributions (preliminary MV's as of 12/31/2023)

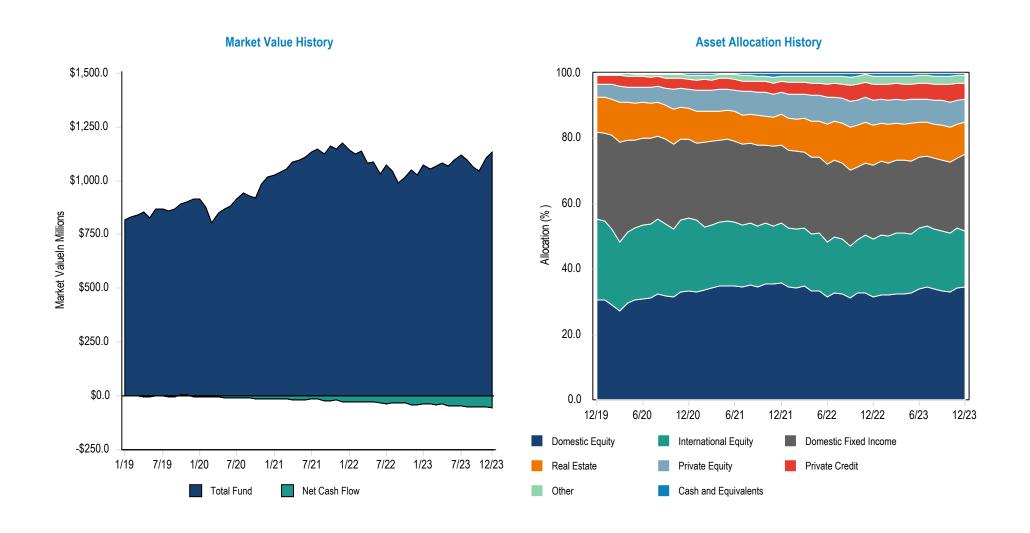
⁴Investment period ended, no further capital to be called.

⁵Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR figure is provided by its respective manager.

 $^{^{6}}$ All fees and expenses are for 3Q 2023

Total Fund Cash Flow by Manager (Last Three Months)

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flows	Capital Appreciation	Ending Market Value
BlackRock Russell 3000	\$354,500,530	\$0	-\$8,000,000	-\$8,000,000	\$42,536,213	\$389,036,742
BlackRock International Equity	\$150,846,141	\$0	-\$12,000,000	-\$12,000,000	\$15,002,847	\$153,848,987
DFA Emerging Markets Value	\$26,022,823	\$0	-\$5,000,000	-\$5,000,000	\$1,631,610	\$22,654,433
Harding Loevner Emerging Markets	\$18,685,400	\$0	\$0	\$0	\$1,094,986	\$19,780,385
Income Research & Management	\$95,052,643	\$10,335,696	\$0	\$10,335,696	\$6,556,329	\$111,944,668
MacKay Shields Core Plus Opportunities	\$95,259,660	\$10,000,000	\$0	\$10,000,000	\$7,127,652	\$112,387,312
BlackRock US TIPS	\$40,535,154	\$0	\$0	\$0	\$1,848,239	\$42,383,393
ASB Real Estate	\$26,520,637	\$0	\$0	\$0	-\$2,063,702	\$24,456,935
Clarion Lion	\$30,046,088	\$196,124	-\$259,853	-\$63,729	-\$1,324,556	\$28,657,803
ARA American Strategic Value Realty	\$55,137,076	\$0	\$0	\$0	-\$2,325,994	\$52,811,082
1221 State St. Corp	\$2,008,951	\$23,839	-\$12,639	\$11,199	\$251	\$2,020,401
Harbourvest Buyout IX	\$6,135,916	\$0	-\$352,200	-\$352,200	-\$86,717	\$5,696,999
Harbourvest Credit Ops IX	\$971,328	\$0	-\$108,142	-\$108,142	\$5,275	\$868,461
Harbourvest International PE VI	\$1,602,796	\$0	-\$102,365	-\$102,365	-\$5,485	\$1,494,946
Harbourvest Venture IX	\$4,913,158	\$0	-\$208,838	-\$208,838	-\$158,630	\$4,545,690
Harbourvest 2017 Global Fund	\$27,374,319	\$0	-\$1,272,700	-\$1,272,700	\$35,749	\$26,137,368
Harbourvest 2018 Global Fund	\$21,602,977	\$0	-\$236,865	-\$236,865	-\$201,773	\$21,164,339
Harbourvest 2019 Global Fund	\$18,432,997	\$900,000	\$0	\$900,000	-\$60,618	\$19,272,379
Harbourvest 2023 Global Fund	\$0	\$953,540	\$0	\$953,540	\$0	\$953,540
Portfolio Advisors Credit Strategies Fund	\$11,951,936	\$0	-\$207,755	-\$207,755	\$0	\$11,744,181
Crescent Direct Lending Levered Fund II	\$2,967,726	\$0	-\$93,901	-\$93,901	\$0	\$2,873,825
Audax Direct Lending Fund A	\$5,240,279	\$0	-\$139,032	-\$139,032	\$118,919	\$5,220,166
Ares Capital Europe IV	\$6,875,446	\$0	-\$525,957	-\$525,957	\$92,800	\$6,442,289
Lone Star XI	\$3,475,057	\$482,845	\$0	\$482,845	-\$22,235	\$3,935,666
Sixth Street Diversified Credit	\$18,961,608	\$1,620,153	-\$236,012	\$1,384,141	\$987,254	\$21,333,003
Ascribe Opportunities Fund IV	\$5,351,462	\$0	-\$252,569	-\$252,569	\$0	\$5,098,893
KKR Mezzanine Partners	\$1,690,253	\$0	\$0	\$0	-\$46,020	\$1,644,233
TSSP Adjacent Opportunities Partners	\$24,848,716	\$0	-\$427,727	-\$427,727	\$618,344	\$25,039,333
Cash Account	\$8,148,914	\$28,590,660	-\$29,729,598	-\$1,138,938	\$0	\$7,009,976
Total Fund	\$1,065,159,987	\$53,102,857	-\$59,166,153	-\$6,063,296	\$71,360,737	\$1,130,457,428





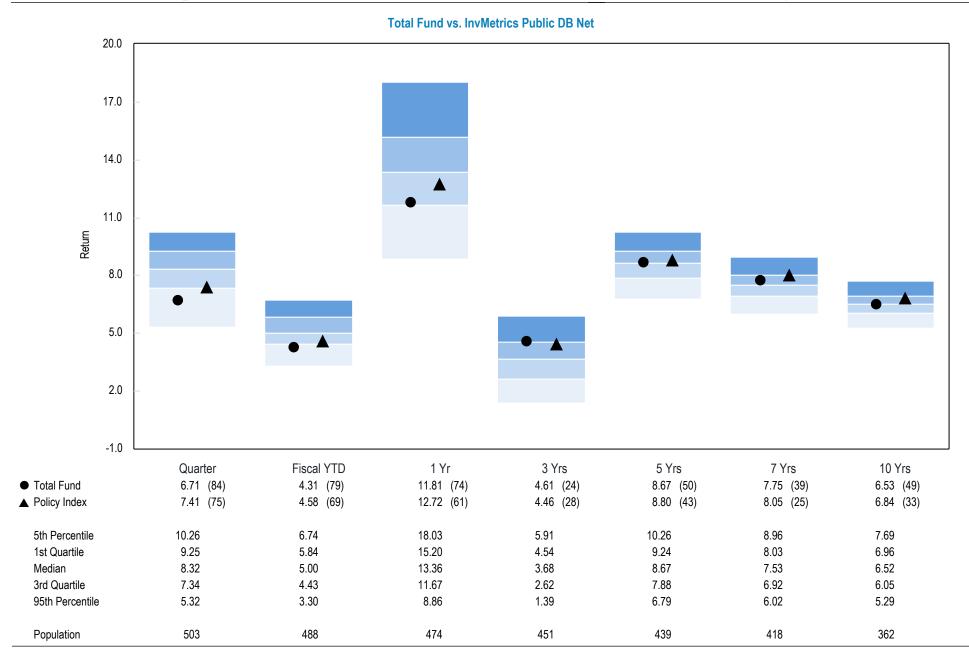
Account	Fee Schedule	Market Value	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
ARA American Strategic Value Realty	1.25 % of First \$10 M 1.20 % of Next \$15 M 1.10 % of Next \$25 M 1.00 % Thereafter	52,811,082	4.67	608,111	1.15
Ares Capital Europe IV	1.38 % of Assets	6,442,289	0.57	88,904	1.38
ASB Real Estate	1.25 % of First \$5 M 1.00 % of Next \$10 M 0.75 % Thereafter	24,456,935	2.16	233,427	0.95
Ascribe Opportunities Fund IV	1.50 % of Assets	5,098,893	0.45	76,483	1.50
Audax Direct Lending Fund A	0.85 % of Assets	5,220,166	0.46	44,371	0.85
BlackRock International Equity	0.15 % of First \$50 M 0.10 % of Next \$50 M 0.00 % Thereafter	153,848,987	13.61	125,000	0.08
BlackRock Russell 3000	0.03 % of Assets	389,036,742	34.41	116,711	0.03
BlackRock US TIPS	0.07 % of Assets	42,383,393	3.75	29,668	0.07
Cash Account		7,009,976	0.62	-	-
Clarion Lion	1.25 % of First \$10 M 1.00 % of Next \$15 M 0.85 % Thereafter	28,657,803	2.54	306,091	1.07
Crescent Direct Lending Levered Fund II	Minimum Fee: \$25,280	2,873,825	0.25	25,280	0.88
DFA Emerging Markets Value	0.44 % of Assets	22,654,433	2.00	99,680	0.44
Income Research & Management	0.20 % of First \$100 M 0.17 % Thereafter	111,944,668	9.90	220,306	0.20
Harbourvest 2017 Global Fund	Minimum Fee: \$262,500	26,137,368	2.31	262,500	1.00
Harbourvest 2018 Global Fund	Minimum Fee: \$138,000	21,164,339	1.87	138,000	0.65
Harbourvest 2019 Global Fund	0.45 % of Assets	19,272,379	1.70	86,726	0.45
Harbourvest 2023 Global Fund	0.50 % of Assets	953,540	0.08	4,768	0.50
Harbourvest Buyout IX	Minimum Fee: \$100,000	5,696,999	0.50	100,000	1.76
Harbourvest Credit Ops IX	Minimum Fee: \$20,000	868,461	0.08	20,000	2.30
Harbourvest International PE VI	Minimum Fee: \$35,000	1,494,946	0.13	35,000	2.34
Harbourvest Venture IX	Minimum Fee: \$40,000	4,545,690	0.40	40,000	0.88
Harding Loevner Emerging Markets	1.05 % of Assets	19,780,385	1.75	207,694	1.05
KKR Mezzanine Partners	Minimum Fee: \$150,000	1,644,233	0.15	150,000	9.12
Lone Star XI	0.71 % of Assets	3,935,666	0.35	27,904	0.71
MacKay Shields Core Plus Opportunities	0.35 % of Assets	112,387,312	9.94	393,356	0.35



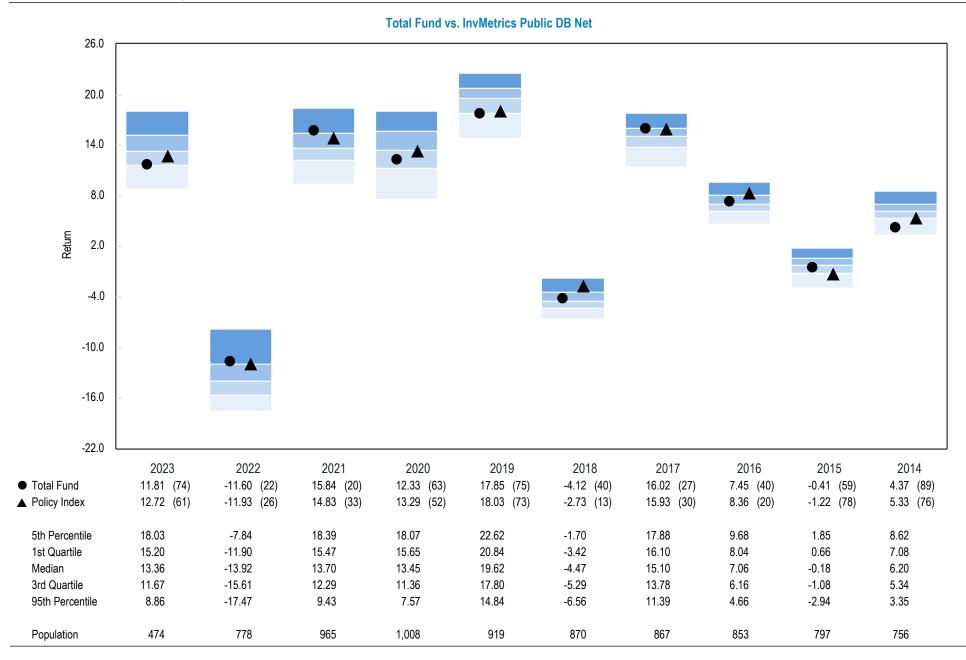
^{*}HarbourVest and KKR fees are estimated gross management fees only and do not include incentive allocations or offsetting cash flows received by the fund.
*HarbourVest International Private Equity VI fees are based on committed Euros, actual US Dollar amount will fluctuate based on exchange rates.
*Verus advisory fee shown for disclosure purposes only and is not included in total investment management fee calculations.
*Portfolio Advisors fee is 0.20% on committed capital and 1.00% on invested capital.

Total Fund Investment Fund Fee Analysis

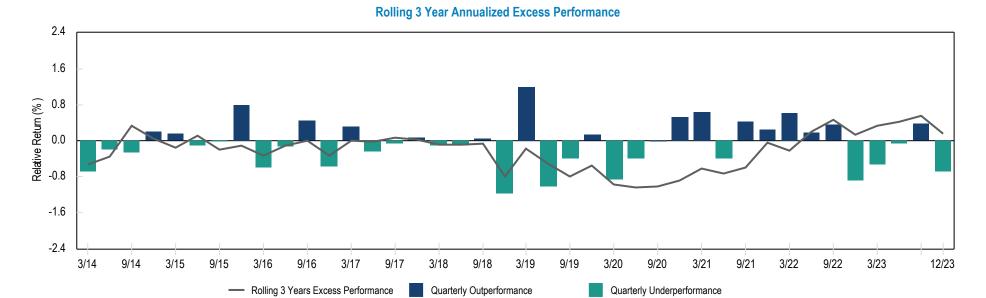
Account	Fee Schedule	Market Value	% of Portfolio	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Portfolio Advisors Credit Strategies Fund	Minimum Fee: \$180,000	11,744,181	1.04	180,000	1.53
Sixth Street Diversified Credit	1.35 % of Assets	21,333,003	1.89	287,996	1.35
TSSP Adjacent Opportunities Partners		25,039,333	2.21	-	-
Investment Management Fee		1,130,457,428	100.00	3,907,975	0.35



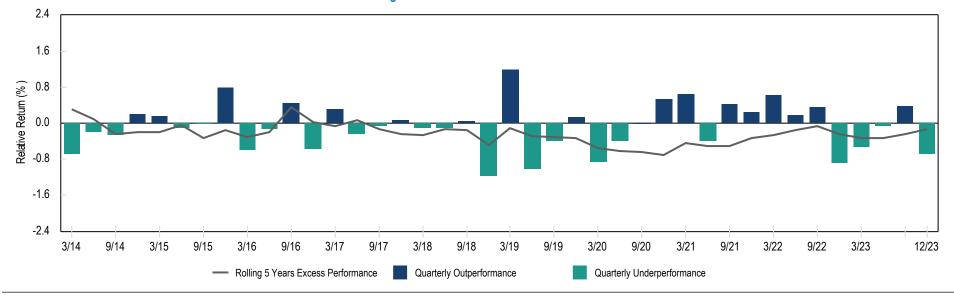












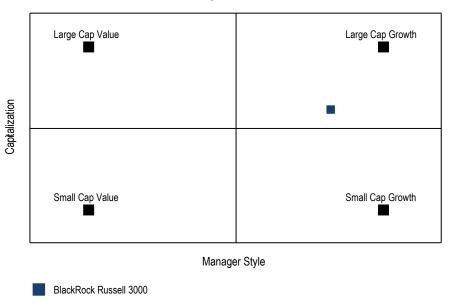


	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total Domestic Equity	389,036,742	100.0	12.1	8.5	26.0	8.6	15.2	11.2	-19.2	25.7	21.0	31.1	-5.2
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	11.5	-19.2	25.7	20.9	31.0	-5.2
BlackRock Russell 3000	389,036,742	100.0	12.1	8.5	26.0	8.5	15.2	-	-19.2	25.7	21.0	31.1	-5.2
Russell 3000 Index			12.1	8.4	26.0	8.5	15.2	-	-19.2	25.7	20.9	31.0	-5.2
eV US All Cap Core Equity Rank			45	40	23	52	35	-	58	54	41	37	44

U.S. Effective Style Map 3 Years Ending: December 31, 2023



U.S Effective Style Map 5 Years Ending: December 31, 2023



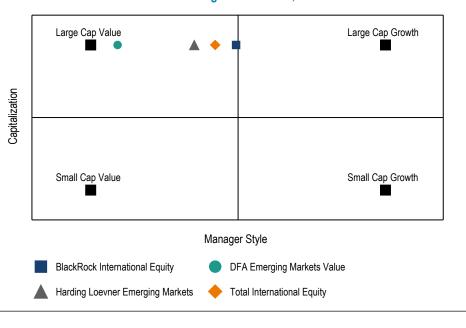


Total International Equity Asset Class Overview (Net of Fees)

Imperial County Employees' Retirement System Period Ending: December 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total International Equity	196,283,805	100.0	9.5	5.4	16.9	2.9	7.3	4.0	-15.4	10.1	8.1	20.7	-14.3
MSCI AC World ex USA Index			9.8	5.8	16.2	2.0	7.6	4.3	-15.6	8.3	11.1	22.1	-13.8
BlackRock International Equity	153,848,987	78.4	10.3	5.8	18.6	4.4	8.5	4.6	-14.1	11.6	8.1	22.4	-13.5
MSCI EAFE (Net)			10.4	5.9	18.2	4.0	8.2	4.3	-14.5	11.3	7.8	22.0	-13.8
eV All EAFE Equity Rank			46	45	31	34	40	45	36	52	52	50	29
DFA Emerging Markets Value	22,654,433	11.5	7.2	7.3	16.5	5.3	5.7	3.7	-10.7	12.4	2.7	9.6	-11.9
MSCI Emerging Markets Value (Net)			8.1	7.2	14.2	0.0	3.4	1.9	-15.8	4.0	5.5	12.0	-10.7
eV Emg Mkts All Cap Value Equity Rank			73	35	44	24	67	77	36	19	82	93	38
Harding Loevner Emerging Markets	19,780,385	10.1	5.6	-0.1	4.8	-10.3	0.1	-	-28.1	-4.3	12.4	24.0	-19.5
MSCI Emerging Markets Growth Index			7.8	2.5	6.1	-9.5	4.1	-	-23.7	-8.2	31.6	25.4	-18.0
eV Emg Mkts All Cap Growth Equity Rank			89	88	75	78	98	-	76	54	96	51	67

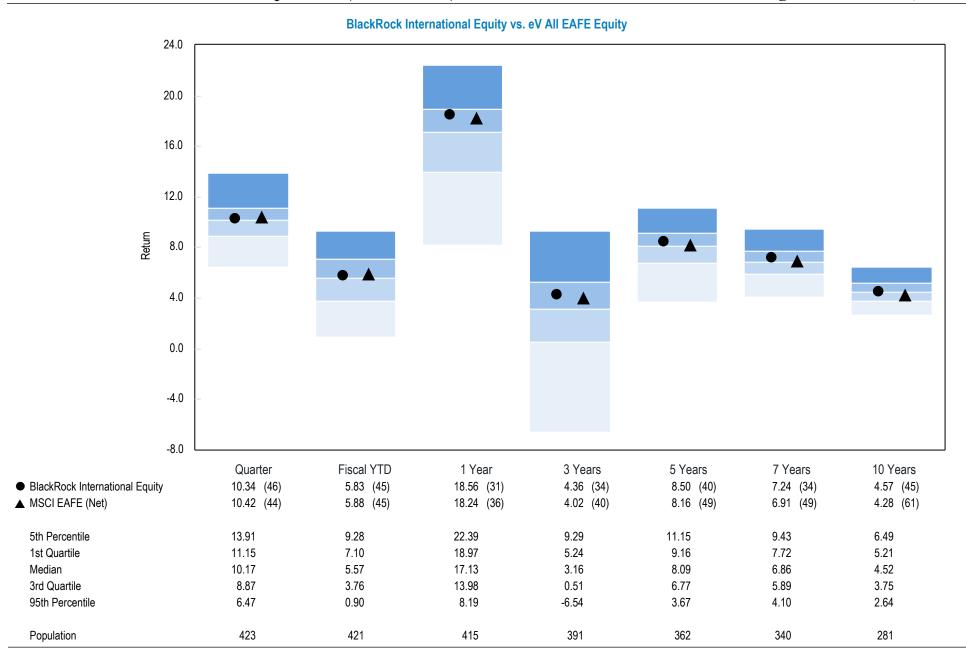
MSCI Effective Style Map 3 Years Ending: December 31, 2023



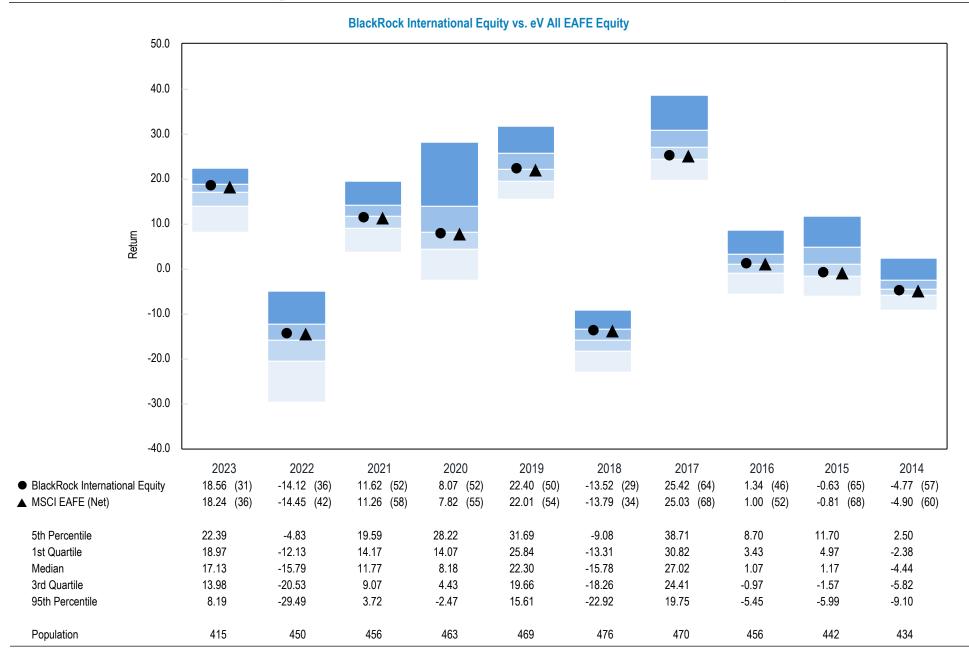
MSCI Effective Style Map 5 Years Ending: December 31, 2023



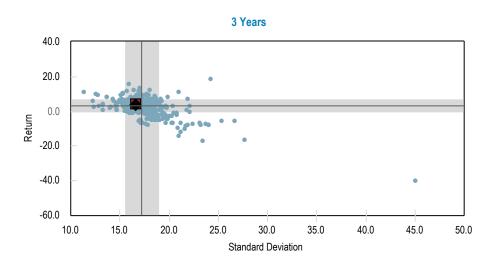


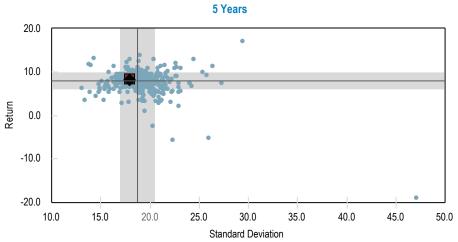












eV All EAFE Equity

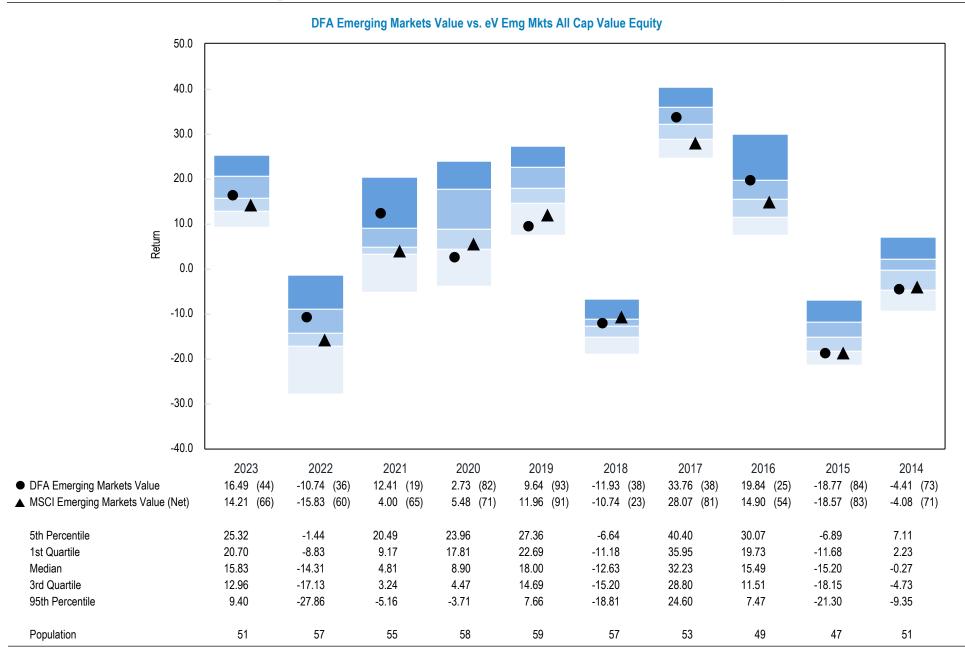
	Return	Standard Deviation
■ BlackRock International Equity	4.36	16.63
◆ MSCI EAFE (Net)	4.02	16.61
Median	3.16	17.25
Population	301	301

eV All EAFE Equity

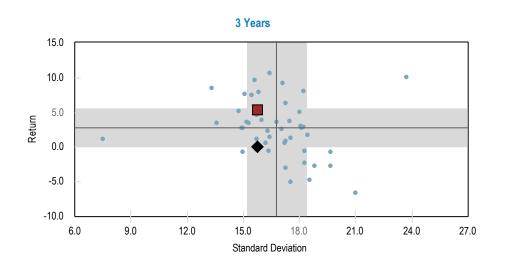
	Return	Standard Deviation
■ BlackRock International Equity	8.50	17.96
◆ MSCI EAFE (Net)	8.16	17.93
Median	8.09	18.76
Population	362	362

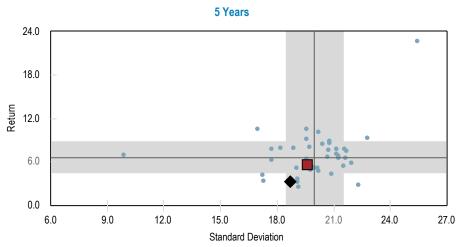
DFA Emerging Markets Value vs. eV Emg Mkts All Cap Value Equity 30.0 25.0 20.0 15.0 Return 10.0 5.0 0.0 -5.0 -10.0 Fiscal YTD 1 Year 3 Years 7 Years 10 Years Quarter 5 Years DFA Emerging Markets Value 7.17 (73) 7.34 (35) 16.49 (44) 5.34 (24) 5.66 (67) 6.47 (57) 3.74 (77) 8.05 (60) 7.21 (36) 14.21 (66) -0.01 (76) 3.38 (95) 4.38 (97) 1.94 (100) ▲ MSCI Emerging Markets Value (Net) 5th Percentile 13.23 13.59 25.32 9.53 10.53 10.08 7.47 1st Quartile 9.76 8.39 20.70 5.15 8.02 8.16 5.74 Median 8.59 5.77 15.83 2.80 6.69 6.95 4.57 3rd Quartile 7.03 4.57 12.96 0.10 5.25 5.66 3.82 95th Percentile 4.68 2.26 9.40 -4.11 3.35 4.62 2.60 47 Population 51 51 51 43 37 30











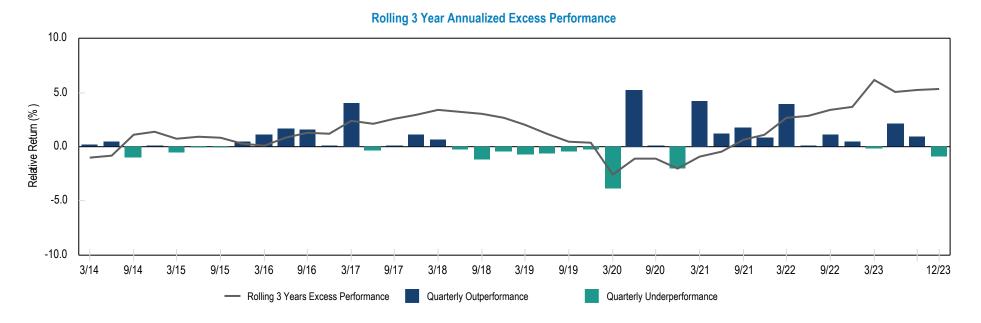
eV Emg Mkts All Cap Value Equity

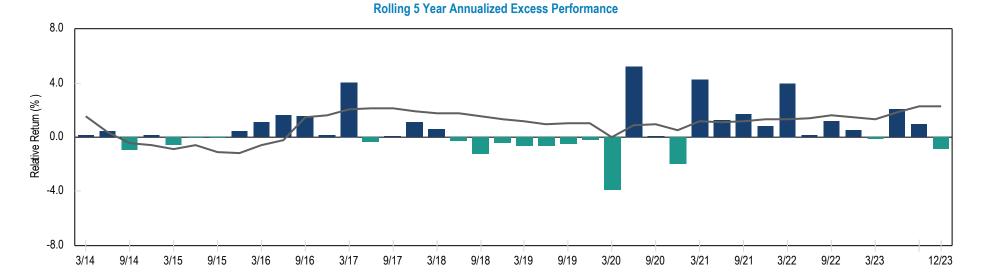
	Return	Standard Deviation
■ DFA Emerging Markets Value	5.34	15.78
 MSCI Emerging Markets Value (Net) 	-0.01	15.73
Median	2.80	16.79
Population	47	47

eV Emg Mkts All Cap Value Equity

	Return	Standard Deviation
■ DFA Emerging Markets Value	5.66	19.57
 MSCI Emerging Markets Value (Net) 	3.38	18.67
Median	6.69	19.97
Population	43	43



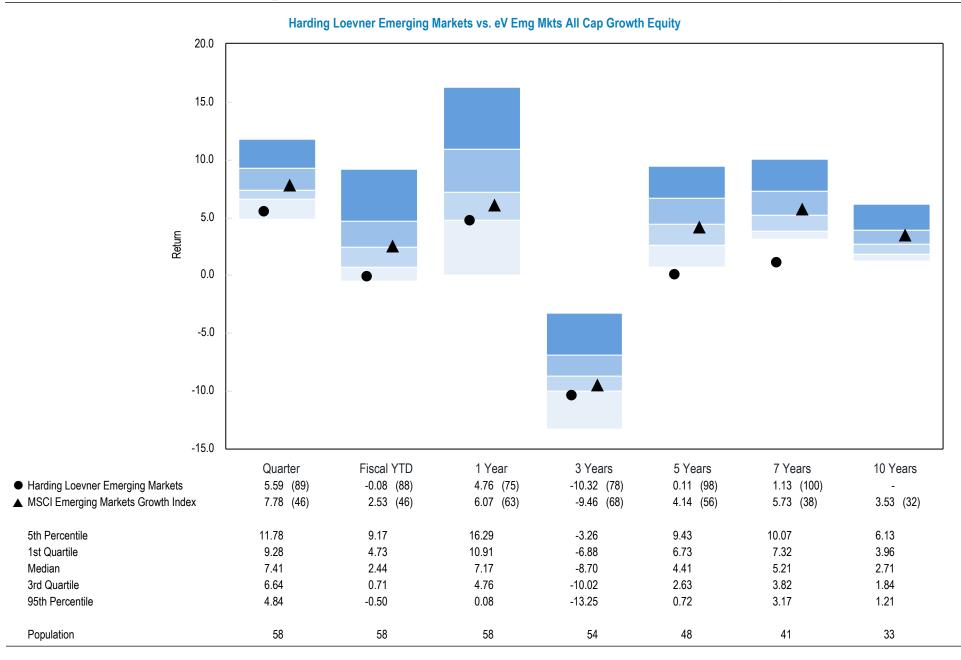




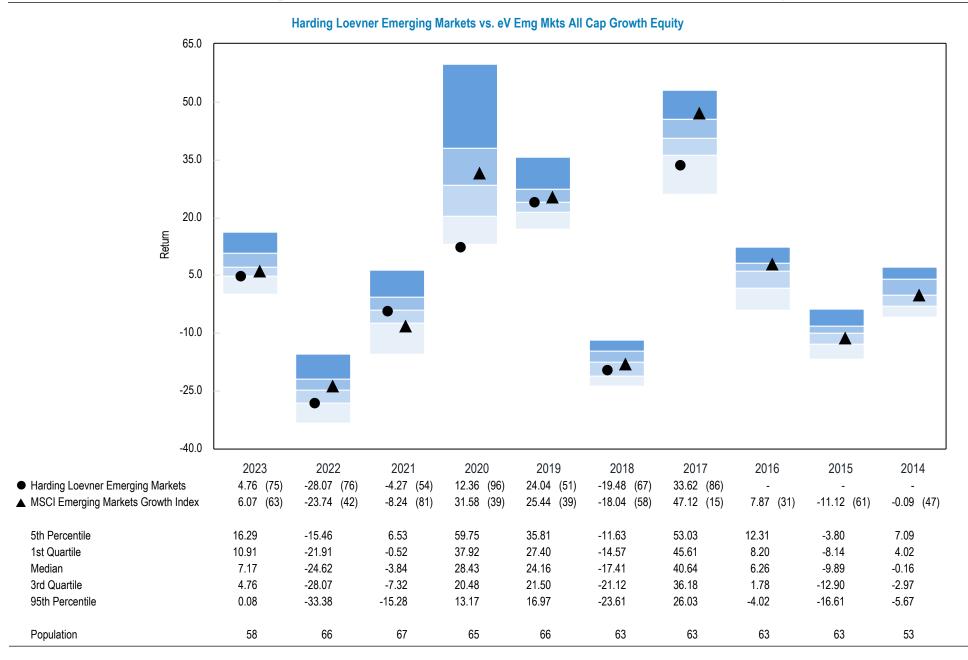
Quarterly Outperformance

Quarterly Underperformance

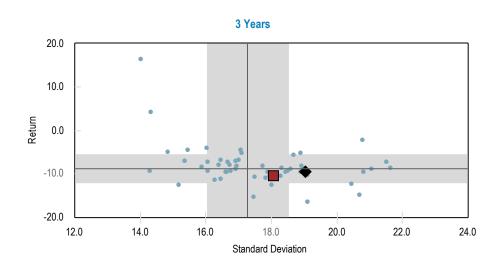
— Rolling 5 Years Excess Performance

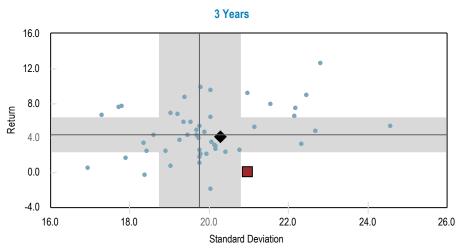












eV Emg Mkts All Cap Growth Equity

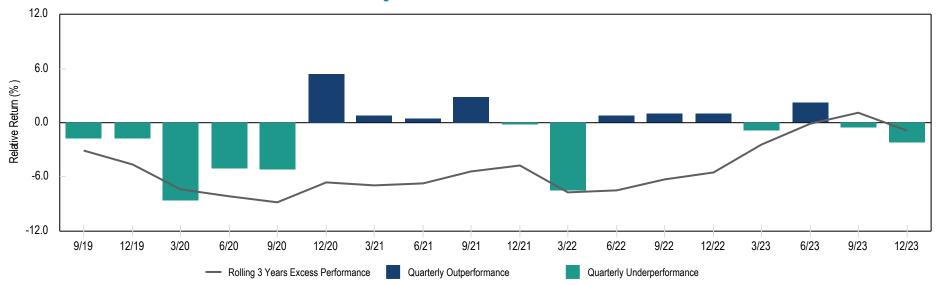
	Return	Standard Deviation
Harding Loevner Emerging Markets	-10.32	18.07
 MSCI Emerging Markets Growth Index 	-9.46	19.04
Median	-8.70	17.28
Population	54	54

eV Emg Mkts All Cap Growth Equity

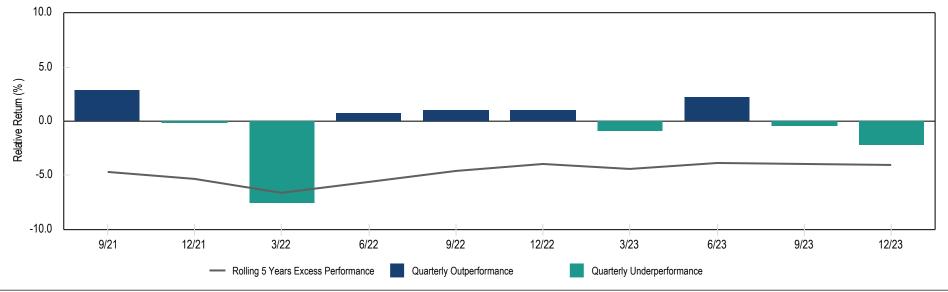
	Return	Standard Deviation
Harding Loevner Emerging Markets	0.11	20.97
 MSCI Emerging Markets Growth Index 	4.14	20.29
Median	4.41	19.76
Population	48	48







Rolling 5 Year Annualized Excess Performance





	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total Fixed Income	266,715,373	100.0	6.4	3.7	6.2	-2.8	2.0	2.3	-14.2	0.6	9.8	9.5	-0.8
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	1.8	-13.0	-1.5	7.5	8.7	0.0
Income Research & Management	111,944,668	42.0	6.5	-	-	-	-	-	-	-	-	-	-
Blmbg. U.S. Aggregate Index			6.8	-	-	-	-	-	-	-	-	-	-
eV US Core Plus Fixed Inc Rank			87	-	-	-	-	-	-	-	-	-	-
MacKay Shields Core Plus Opportunities	112,387,312	42.1	7.1	4.2	6.7	-3.2	1.8	-	-14.5	-0.5	9.9	9.7	-1.0
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	-	-13.0	-1.5	7.5	8.7	0.0
eV US Core Plus Fixed Inc Rank			40	23	42	70	56	-	86	52	21	53	76
BlackRock US TIPS	42,383,393	15.9	4.5	1.8	3.9	-1.0	3.2	2.5	-11.9	5.9	11.2	8.5	-1.2
Blmbg. U.S. TIPS			4.7	2.0	3.9	-1.0	3.2	2.4	-11.8	6.0	11.0	8.4	-1.3
eV US TIPS / Inflation Fixed Inc Rank			47	65	44	60	50	22	67	28	31	33	39

Fixed Income Style Map
3 Years Ending December 31, 2023

Corp Bonds

| Corp Bonds | Govt Bonds | Muni Bonds | Muni Bonds | Manager Style | Total Fixed Income | MacKay Shields Core Plus Opportunities | BlackRock US TIPS

Fixed Income Style Map 5 Years Ending December 31, 2023



Income Research & Management replaced Duenta 9/2023.



Total Fixed Income Asset Class Overview (Net of Fees)

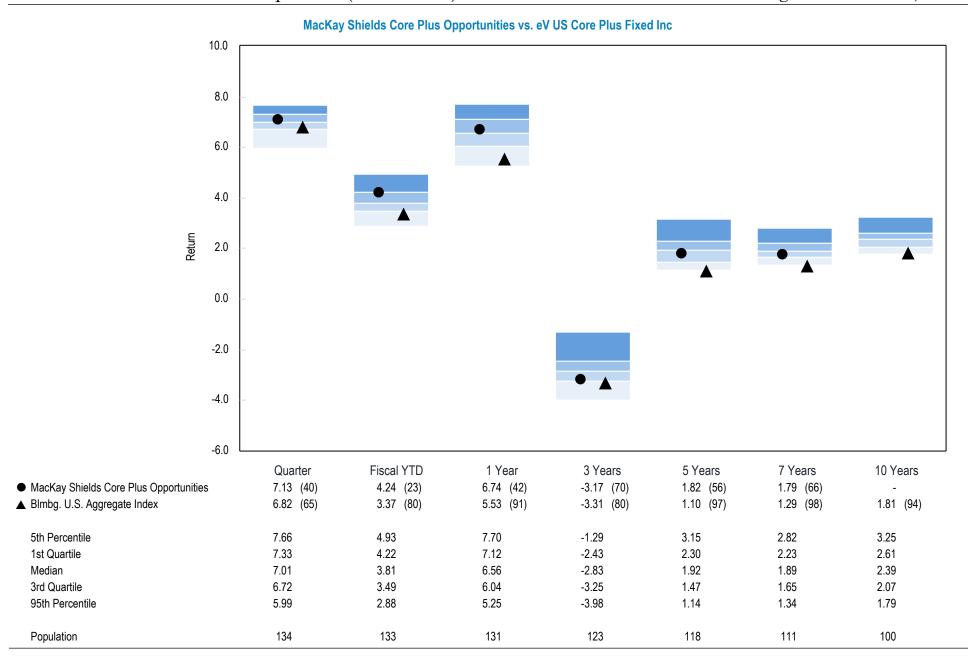
Imperial County Employees' Retirement System Period Ending: December 31, 2023

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total Fixed Income	266,715,373	100.0	6.4	3.7	6.2	-2.8	2.0	2.3	-14.2	0.6	9.8	9.5	-0.8
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	1.8	-13.0	-1.5	7.5	8.7	0.0
Income Research & Management	111,944,668	42.0	6.5	-	-	-	-	-	-	-	-	-	-
Blmbg. U.S. Aggregate Index			6.8	-	-	-	-	-	-	-	-	-	-
MacKay Shields Core Plus Opportunities	112,387,312	42.1	7.1	4.2	6.7	-3.2	1.8	-	-14.5	-0.5	9.9	9.7	-1.0
Blmbg. U.S. Aggregate Index			6.8	3.4	5.5	-3.3	1.1	-	-13.0	-1.5	7.5	8.7	0.0
BlackRock US TIPS	42,383,393	15.9	4.5	1.8	3.9	-1.0	3.2	2.5	-11.9	5.9	11.2	8.5	-1.2
Blmbg. U.S. TIPS			4.7	2.0	3.9	-1.0	3.2	2.4	-11.8	6.0	11.0	8.4	-1.3

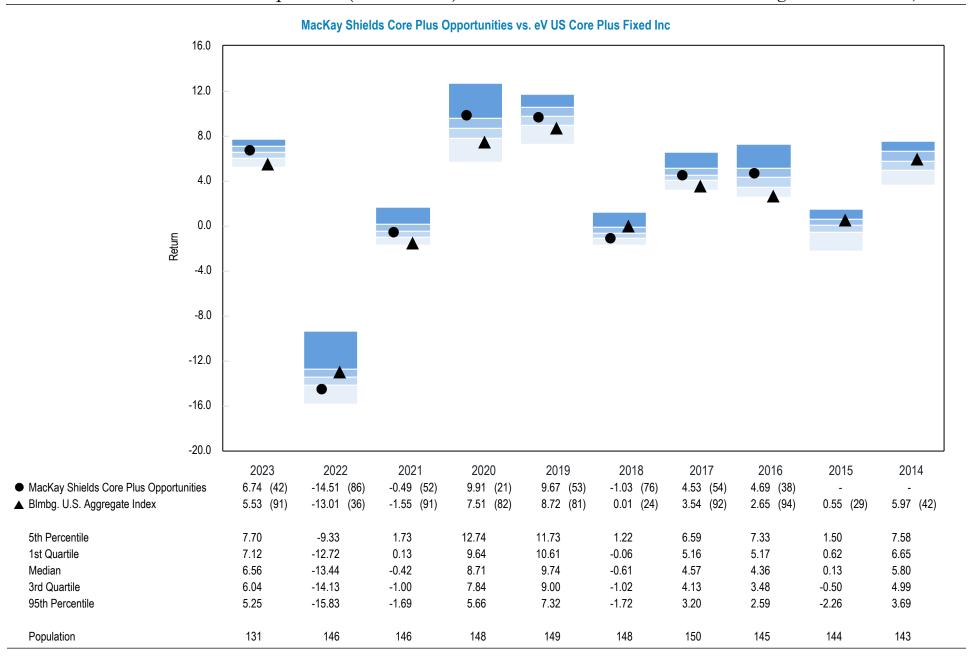
	Total Fixed Income	MacKay Shields Core Plus Opportunities	BlackRock US TIPS	Blmbg. U.S. Aggregate Index
Total Fixed Income	1.00			
MacKay Shields Core Plus Opportunities	0.99	1.00		
BlackRock US TIPS	0.91	0.87	1.00	
Blmbg. U.S. Aggregate Index	0.97	0.97	0.85	1.00

Income Research & Management replaced Duenta 9/2023. Managers need 5 years of history to appear on the Correlation Matrix.

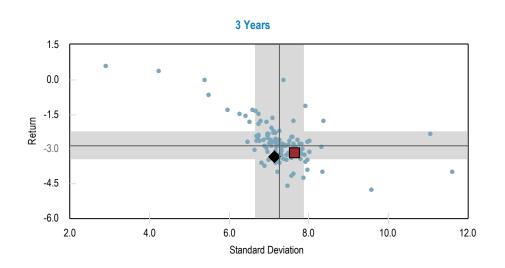


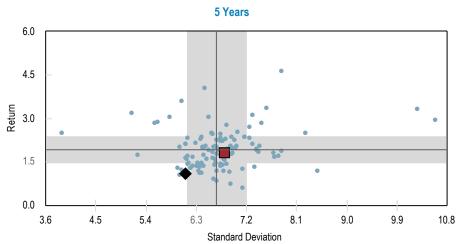












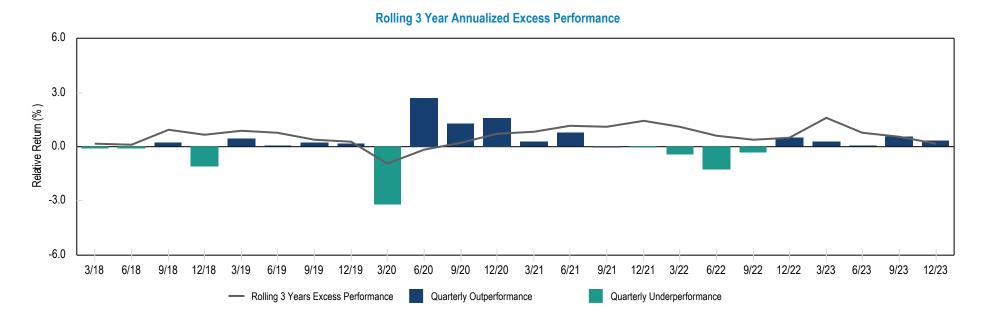
eV US Core Plus Fixed Inc

	Return	Standard Deviation
■ MacKay Shields Core Plus Opportunities	-3.17	7.63
 Blmbg. U.S. Aggregate Index 	-3.31	7.14
Median	-2.83	7.27
Population	123	123

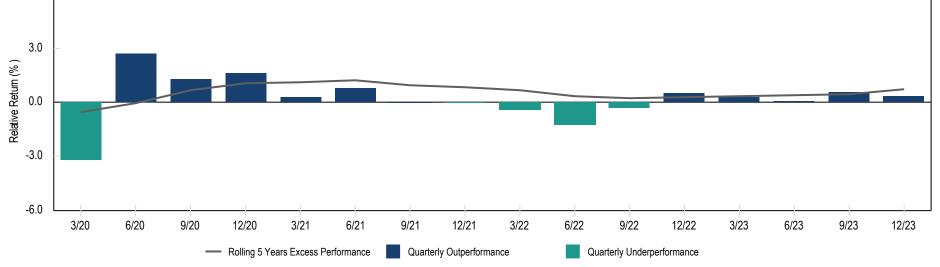
eV US Core Plus Fixed Inc

	Return	Standard Deviation
■ MacKay Shields Core Plus Opportunities	1.82	6.81
Blmbg. U.S. Aggregate Index	1.10	6.11
Median	1.92	6.67
Population	118	118



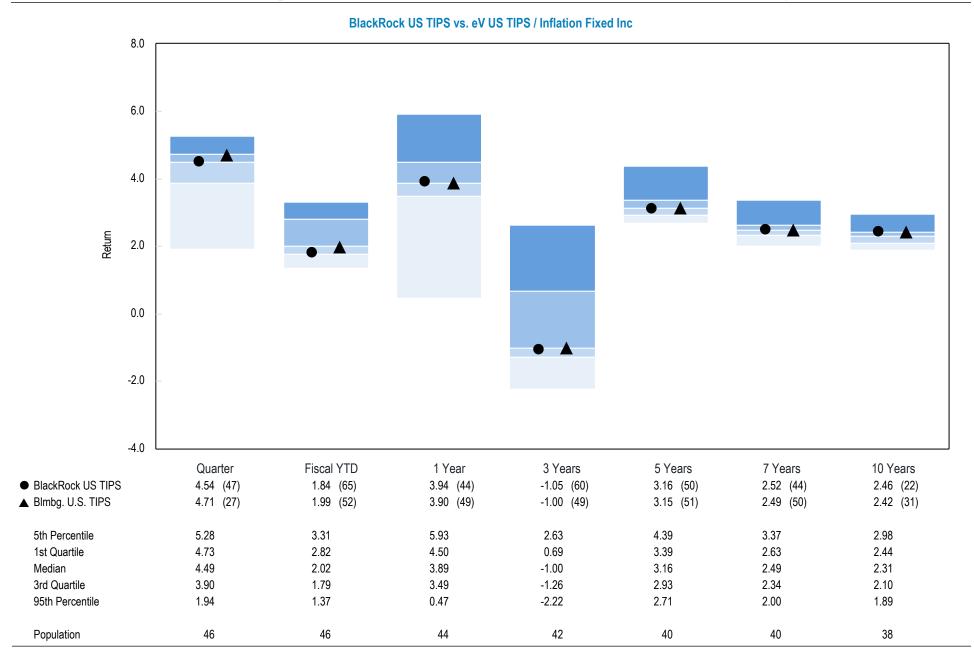








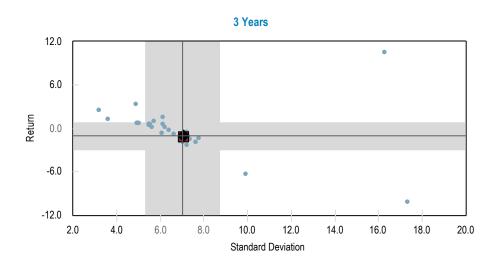
Imperial County Employees' Retirement System Period Ending: December 31, 2023

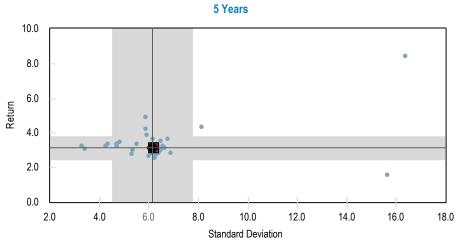




BlackRock US TIPS vs. eV US TIPS / Inflation Fixed Inc 16.0 12.0 8.0 4.0 Return 0.0 -4.0 -8.0 -12.0 -16.0 2023 2022 2020 2019 2018 2017 2016 2015 2014 2021 3.94 (44) -11.94 (67) 5.86 (28) 11.15 (31) 8.46 (33) -1.19 (39) 3.17 (39) 4.77 (32) -1.31 (33) 3.56 (36) BlackRock US TIPS ▲ Blmbg. U.S. TIPS 5.96 (20) 10.99 (36) 8.43 (34) 4.68 (37) -1.44 (36) 3.90 (49) -11.85 (60) -1.26 (42) 3.01 (49) 3.64 (32) 5th Percentile 5.93 -4.58 7.16 14.52 9.59 -0.23 4.22 7.72 -0.10 5.00 1st Quartile 4.50 -7.81 5.86 11.53 8.57 -0.91 3.42 4.88 -1.17 3.80 4.43 Median 3.89 -11.67 5.59 10.58 8.30 -1.36 2.98 -1.62 3.23 3rd Quartile 3.49 -12.08 5.25 8.43 6.91 -1.70 2.32 3.95 -2.16 1.05 95th Percentile 0.47 -12.95 4.53 5.92 -4.42 1.65 3.40 -0.95 5.78 -5.03 53 Population 44 45 46 46 48 55 58 60 63





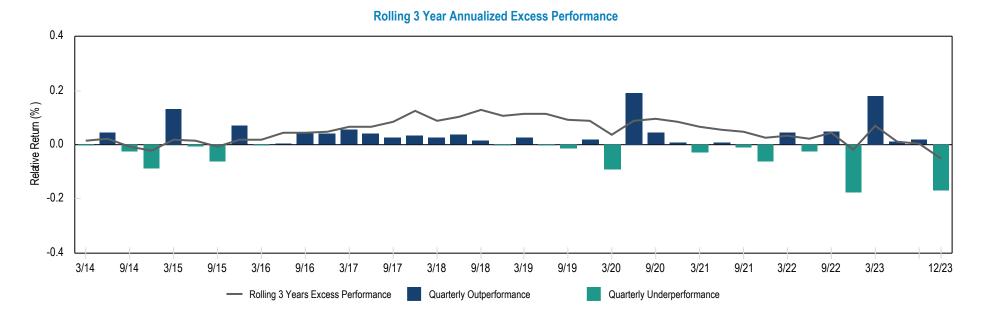


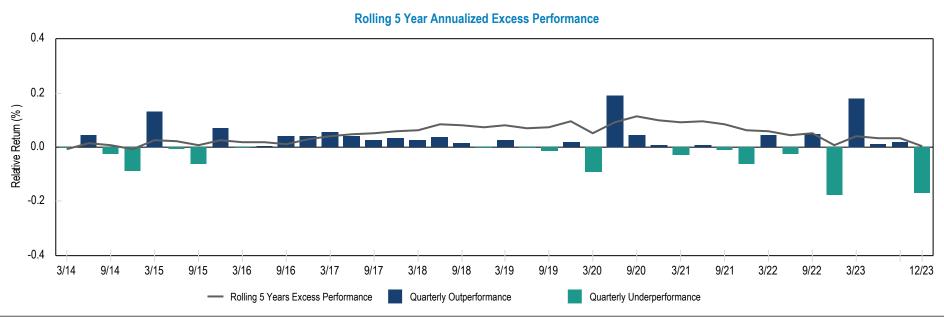
eV US TIPS / Inflation Fixed Inc

	Return	Standard Deviation
■ BlackRock US TIPS	-1.05	7.07
Blmbg. U.S. TIPS	-1.00	7.07
Median	-1.00	7.01
Population	42	42

eV US TIPS / Inflation Fixed Inc

	Return	Standard Deviation
■ BlackRock US TIPS	3.16	6.18
Blmbg. U.S. TIPS	3.15	6.17
Median	3.16	6.16
Population	40	40





	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2022	2021	2020	2019	2018
Total Real Estate	107,946,220	100.0	-5.0	-7.0	-14.3	3.2	3.5	6.3	8.5	18.4	2.1	5.7	7.5
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7
NCREIF ODCE			-4.8	-6.6	-12.0	4.9	4.2	6.8	7.5	22.2	1.2	5.3	7.1
ASB Real Estate	24,456,935	22.7	-7.8	-11.4	-21.5	-0.3	0.7	4.6	10.7	14.2	1.5	3.0	6.6
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7
NCREIF ODCE			-4.8	-6.6	-12.0	4.9	4.2	6.8	7.5	22.2	1.2	5.3	7.1
Clarion Lion	28,657,803	26.5	-4.4	-5.4	-15.5	4.6	4.6	7.3	9.6	23.6	2.3	6.8	8.6
NCREIF Property Index			-3.0	-4.3	-7.9	4.6	4.3	6.8	5.5	17.7	1.6	6.4	6.7
NCREIF ODCE			-4.8	-6.6	-12.0	4.9	4.2	6.8	7.5	22.2	1.2	5.3	7.1
ARA American Strategic Value Realty	52,811,082	48.9	-4.2	-6.0	-10.3	4.3	4.6	-	6.8	18.6	2.4	7.8	-
NCREIF Property Index +2%			-2.5	-3.4	-6.1	6.7	6.4	-	7.6	20.0	3.6	8.5	8.9
NCREIF ODCE +2%			-4.4	-5.7	-10.3	7.0	6.3	-	9.6	24.6	3.2	7.4	8.9
1221 State St. Corp	2,020,401	1.9	0.0	0.0	0.0	0.0	1.5	2.4	0.0	0.0	0.0	7.9	0.0



Performance Return Calculations

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up					
Manager	Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 3000	12/10/2015	J.P. Morgan	Cash	-	J.P. Morgan
BlackRock International Equity	7/3/2003	J.P. Morgan	HarbourVest IX-Buyout	2011 ¹	HarbourVest
DFA Emerging Markets Value	1/11/2007	J.P. Morgan	HarbourVest IX-Credit	2011 ¹	HarbourVest
Harding Loevner	7/5/2016	Harding Loevner	HarbourVest International VI	2008 ¹	HarbourVest
Bradford & Marzec Fixed (Tortoise Capital)	12/1/1992	J.P. Morgan	Harbourvest IX-Venture	2011 ¹	HarbourVest
MacKay Shields Core Plus Ops	3/2/2015	CITCO	Harbourvest 2017 Global	2017 ¹	HarbourVest
BlackRock US TIPS	4/11/2007	J.P. Morgan	Harbourvest 2018 Global	2018 ¹	HarbourVest
ASB Real Estate	12/31/2012	ASB Real Estate	Harbourvest 2019 Global	2019 ¹	HarbourVest
Clarion Lion	12/31/2006	Clarion Lion	Harbourvest 2023 Global	2023 ¹	HarbourVest
Portfolio Advisors	10/31/2017	Portfolio Advisors	KKR Mezzanine	2010 ¹	KKR
TSSP Adjacent Opportunities Partners	4/16/2020	Sixth Street	ARA American Strategic Value Realty	01/04/2018	ARA
Sixth Street Diversified Credit	5/29/2020	Sixth Street	Income Research & Management	9/1/2023	IR&M
1221 State Street Corp	9/30/2008	ICERS/Union Bank	· ·		

¹Represents fund vintage year.

Policy & Custom Index Composition

Policy Index (12/1/2023-Present)	33% Russell 3000, 17% MSCI ACWI ex USA Gross, 27% Bloomberg Aggregate, 10% NCREIF Property, 5% Private Equity Benchmark, 8% Private Credit Benchmark.
Policy Index (8/1/2020- 11/30/2023)	33% Russell 3000, 20% MSCI ACWI ex USA Gross, 29% Bloomberg Aggregate, 10% NCREIF Property, 5% Private Equity Benchmark, 3% Private Credit Benchmark.
Policy Index (1/1/2020-7/31/2020)	29% Russell 3000, 24% MSCI ACWI ex USA Gross, 27% Bloomberg Aggregate, 10% NCREIF Property,1% Russell 3000, 2% Bloomberg Aggregate, 4% Private Equity Benchmark, 3% Private Credit Benchmark.
Policy Index (10/1/2018-12/31/2019)	29% Russell 3000, 24% MSCI ACWI ex USA Gross, 27% Bloomberg Aggregate, 10% NCREIF Property, 5% Russell 3000 +3% (Lagged), 5% Bloomberg High Yield +2% (Lagged).
Policy Index (10/1/2016-9/30/2018)	29% Russell 3000, 24% MSCI ACWI ex USA Gross, 27% Bloomberg Aggregate, 5% NCREIF Property, 5% NCREIF Property +2%, 5% Russell 3000 +3% (Lagged), 5% Bloomberg High Yield +2% (Lagged).

Private Equity Benchmark and Private Credit Benchmarks are equal to the actual private equity and private credit returns, respectively.



Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return [Risk free Rate + Portfolio Beta x (Market Return Risk free Rate)].

Benchmark R squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book to Market: The ratio of book value per share to market price per share. Growth managers typically have low book to market ratios while value managers typically have high book to market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of 1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price to Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price to earnings ratios whereas value managers hold stocks with low price to earnings ratios.

R Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from 1 to 1 on each axis and are dependent on the Style Indices comprising the Map.



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Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is no static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.









FEBRUARY 2024

Investment Manager Fee Analysis

Imperial County Employees' Retirement System

Introduction

The scope of responsibilities for plan sponsors and other plan fiduciaries under ERISA includes ensuring services provided to their plans are necessary and the associated costs are reasonable.

- The purpose of this presentation is to evaluate the investment manager fees and provide a benchmark comparison.
- Benchmark data was gathered from eVestment, a comprehensive manager research database where fee schedules are self-reported.

Why go beyond the quarterly fee analysis?

- The quarterly fee analysis only reveals what the Plan is paying on an individual fund and total weighted average basis.
- Providing a benchmark comparison for each fund in a similar asset class and vehicle type allows for a more thorough assessment of reasonableness and efficiency.



Public investment manager fee analysis

Fund	Vehicle	eVestment Universe	Fee	eVestment Universe Median	Fee Percentile in eVestment Universe	Dollar Allocation	Fee Amount
Domestic Equity							
Blackrock Russell 3000	CIT	US Passive All Cap Equity	3	4	24	\$389,036,742	\$116,711
International Equity							
Blackrock International Equity	CIT	EAFE Passive Equity	8	8	46	\$153,848,987	\$123,079
DFA Emerging Markets Value	MF	Glbl EM All-Cap Value Equity	44	99	1	\$22,654,433	\$99,680
Harding Loevner Emerging Markets	CIT	Glbl EM All-Cap Growth Equity	105	100	82	\$19,780,385	\$207,694
Fixed Income							
Income Research & Management	SA	US Core Plus Fixed Income	20	28	5	\$111,944,668	\$223,889
MacKay Shields Core Plus Opportunities	CIT	US Core Plus Fixed Income	35	29	76	\$112,387,312	\$393,356
Blackrock US TIPS*	CIT	US Passive TIPS	7	18	31	\$42,383,393	\$29,668
Real Estate							
ASB Real Estate	CIT	US Private Real Estate	94	100	43	\$24,456,935	\$229,895
Clarion Lion	CIT	US Private Real Estate	106	100	83	\$28,657,803	\$303,773
ARA American Strategic Value Realty	CIT	US Private Real Estate	115	100	91	\$52,811,082	\$607,327
Totals:			24	25		\$957,961,740	\$ 2,335,072

1st Percentile 99th percentile

Source: Verus, eVestment

Note: Manager fee and eVestment universe median fee listed in basis points; closed-end funds are excluded from this analysis due to lack of universe data; data as of 12/31/2023

*Mutual fund vehicle universe is used due to low number of observations for the CIT vehicle universe



ICERS
February 2024

Observations

- Based on this analysis, the public investment manager fees paid by the plan are reasonable.
 - The weighted average fee of 24 bps is slightly lower than the weighted average median eVestment fee of 25 bps.
- Of the 10 funds with comparable universe data:
 - 3 rank in the top quartile
 - 6 rank at or above the median
 - 4 rank below the median
- While many other factors (such as firm stability, strategy diversification, risk management, performance tendencies, etc.) are considered when selecting an investment strategy, fees are an important consideration when constructing a portfolio and always need to be justified.



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