

As of December 31, 2022

Quarterly Review



Agenda

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#### 2. Executive Summary

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- Manager Highlights
- Fourth Quarter Manager Summary
- Watch List
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# **Economic and Market Update**

Data as of December 31, 2022

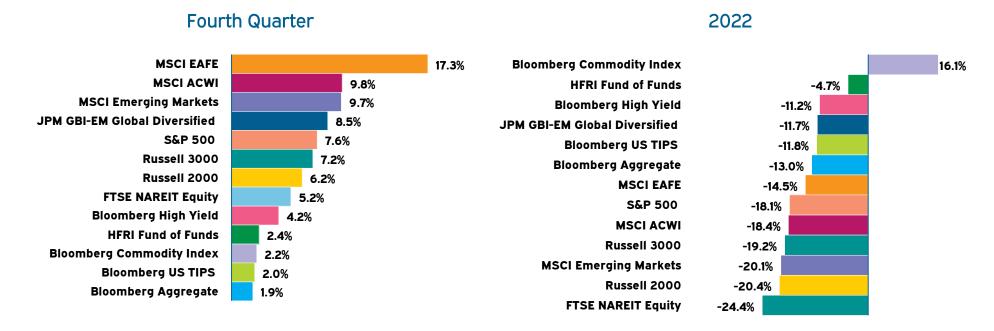


#### Commentary

- → Ending a very tough year, most asset classes posted gains in the fourth quarter on signs that policy tightening would slow given cooling inflation.
  - Chairman Powell's testimony in November reiterated previous messaging on persistent and high inflation and the need for an extended period of monetary tightening weighing on assets in December. Markets remained focused though on signs that inflation is falling and that the size of future Fed rate hikes could be lower.
  - US equity markets sold off (-5.9%) in December but returned 7.2% in the fourth quarter as investors balanced the Fed's caution with improving inflation data.
  - In developed equity markets outside the US, sentiment deteriorated somewhat in December, but they posted
    a strong fourth quarter return of 17.3% driven by a falling US dollar and results in Europe where inflation started
    to slow.
  - Emerging market equities declined in December too (-1.4%) but less than the US and also had a strong fourth quarter (+9.7%). A weaker US dollar, declining inflation globally, and signs of China reopening its economy all contributed to the results.
  - Bonds experienced one of the worst years on record given inflation levels and the rapid rise in interest rates.
     Optimism over declining inflation and a slower pace of policy tightening benefited bonds overall in the fourth quarter though.
- → Looking to 2023, the path of inflation and monetary policy, slowing growth globally, China reopening its economy, and the war in Ukraine will all be key.



#### Index Returns<sup>1</sup>



- → After broad declines in Q3 driven by expectations for further policy tightening, most major asset classes were up in the fourth quarter on hopes of inflation and policy tightening peaking.
- → Outside of commodities, all other public market asset classes declined in 2022. It was the first time since the 1960s that both stocks and bonds declined together in a calendar year.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg and FactSet. Data is as of December 31, 2022.



#### Domestic Equity Returns<sup>1</sup>

Damaskia Emilia	December	Q4	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)
S&P 500	-5.8	7.6	-18.1	7.7	9.4	12.6
Russell 3000	-5.9	7.2	-19.2	7.1	8.8	12.1
Russell 1000	-5.8	7.2	-19.1	7.3	9.1	12.4
Russell 1000 Growth	-7.7	2.2	-29.1	7.8	11.0	14.1
Russell 1000 Value	-4.0	12.4	-7.5	6.0	6.7	10.3
Russell MidCap	-5.4	9.2	-17.3	5.9	7.1	11.0
Russell MidCap Growth	-6.0	6.9	-26.7	3.9	7.6	11.4
Russell MidCap Value	-5.1	10.5	-12.0	5.8	5.7	10.1
Russell 2000	-6.5	6.2	-20.4	3.1	4.1	9.0
Russell 2000 Growth	-6.4	4.1	-26.4	0.6	3.5	9.2
Russell 2000 Value	-6.6	8.4	-14.5	4.7	4.1	8.5

US Equities: Russell 3000 Index declined 5.9% for December but gained 7.2% for the quarter. Historic inflation and rapidly rising interest rates led to significant declines (-19.2%) for the full year.

- → US stocks fell broadly in December on the Federal Reserve signaling its continued resolve to raise rates but gained overall for the quarter on hopes that interest rates could be peaking soon given slowing inflation.
- → All sectors declined during December, led by consumer discretionary and technology with defensive sectors declining less. For the quarter though, most sectors were up led by energy and industrials.
- → In a continuation on the overall trend in 2022 value stocks outperformed growth stocks in the fourth quarter given higher interest rates and slowing growth.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2022.



#### Foreign Equity Returns<sup>1</sup>

Foreign Equity	December (%)	<b>Q4</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	-0.7	14.3	-16.0	0.1	0.9	3.8
MSCI EAFE	0.1	17.3	-14.5	0.9	1.5	4.7
MSCI EAFE (Local Currency)	-3.0	8.7	-7.0	3.6	3.8	7.6
MSCI EAFE Small Cap	1.1	15.8	-21.4	-0.9	0.0	6.2
MSCI Emerging Markets	-1.4	9.7	-20.1	-2.7	-1.4	1.4
MSCI Emerging Markets (Local Currency)	-2.0	6.6	-15.5	0.1	1.3	4.6
MSCI China	5.2	13.5	-21.9	-7.5	-4.5	2.4

Developed international equities (MSCI EAFE) rose 0.1% in December and an impressive 17.3% in the fourth quarter. Emerging markets (MSCI EM) fell -1.4% in December but gained 9.7% for the quarter. Inflation and rising rates also weighed on international equities last year, as well as a strong US dollar for most of the year.

- → International developed market equities, specifically Europe, held up better relative to the rest of the world in December with the MSCI EAFE up 0.1%. In the fourth quarter, they returned a significant 17.3% due in part to the recent weakness in the US dollar (they returned only 8.7% in local terms) leading to lower declines for the year.
- → In December emerging markets outperformed the US but trailed developed market equities as China's rally was not enough to offset weakness elsewhere (e.g., India -5.5%). For the quarter, a weakening US dollar and China reopening led to strong results (+9.7%), but emerging markets remained the weakest for 2022 due to China.
- → Like the US, value outpaced growth globally in 2022.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2022.



#### Fixed Income Returns<sup>1</sup>

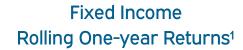
Fixed Income	December (%)	<b>Q4</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	-0.3	2.2	-13.0	-2.5	0.2	1.3	5.1	6.2
Bloomberg Aggregate	-0.5	1.9	-13.0	-2.7	0.0	1.1	4.7	6.4
Bloomberg US TIPS	-1.0	2.0	-11.8	1.2	2.1	1.1	4.4	6.7
Bloomberg High Yield	-0.6	4.2	-11.2	0.0	2.3	4.0	9.0	4.4
JPM GBI-EM Global Diversified (USD)	2.2	8.5	-11.7	-6.1	-2.5	-2.0	5.8	4.9

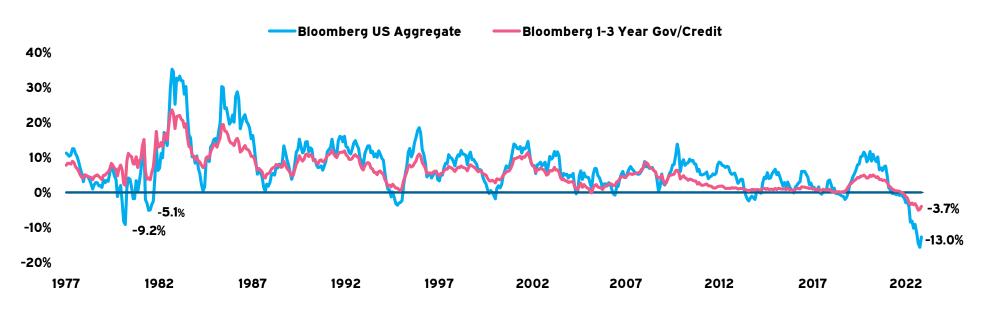
Fixed Income: The Bloomberg Universal fell -0.3% in December but rose 2.2% for the fourth quarter. Last year was one of the worst on record, with the broad bond market declining 13%.

- → The Federal Reserve reconfirming its commitment to tighten policy in the face of high inflation weighed on US fixed income in December. For the quarter though the broad US bond market (Bloomberg Aggregate) was up 1.9% on hopes that inflation would continue to decline and corresponding expectations for the slowing of policy rate hikes.
- → TIPS produced similar results to the broad US bond market for the quarter but outperformed for the year given their inflation adjustment.
- → Riskier bonds outperformed for the quarter due to improving risk sentiment with emerging market bonds performing particularly well.

<sup>1</sup> Source: Bloomberg, JPM GBI-EM data is from InvestorForce. Data is as of December 31, 2022. The yield and duration data from Bloomberg is defined as the index's yield to worst and modified duration respectively.





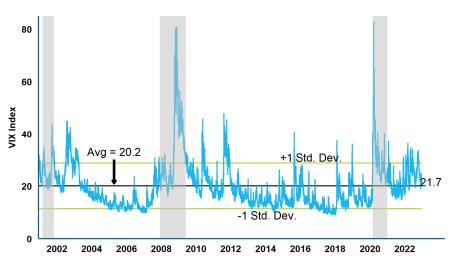


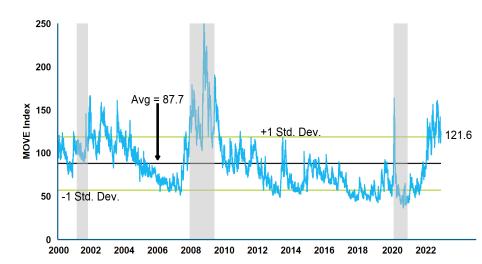
- → Last year was one of the worst return periods for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- → The broad bond market (Bloomberg US Aggregate) declined 13% in 2022 making it one of the worst periods on record.
- → Short-term bond declines were far smaller (-3.7%) last year, but also were one of the worst on record.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2022.



#### Equity and Fixed Income Volatility<sup>1</sup>



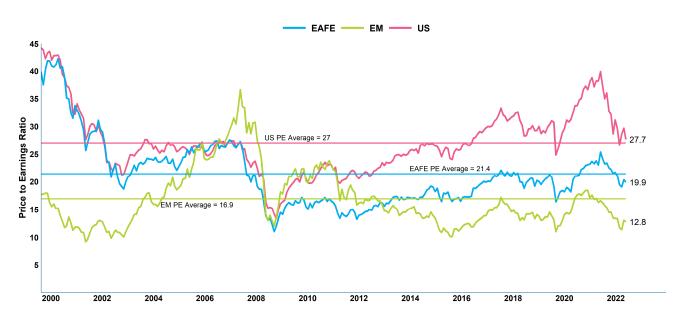


- → Volatility in equities (VIX) finished the year down from its highs and near its long run average as investors anticipated the potential end of Fed rate hikes this year.
- → Fixed income (MOVE) remained elevated and well above its long-run average at year-end due to the uncertain path of US interest rates as the Federal Reserve continues its hawkish stance on inflation.

<sup>&</sup>lt;sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of December 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.



#### Equity Cyclically Adjusted P/E Ratios¹

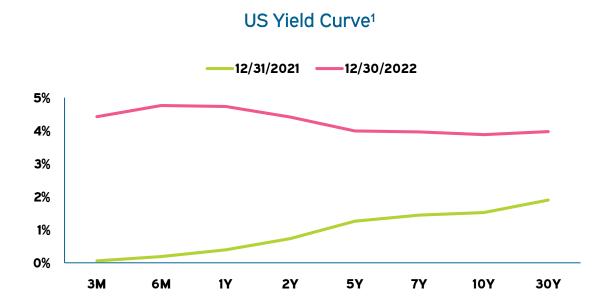


- → After December's sell-off, US equity price-to-earnings ratio finished the year near its long-term (21st century) average.
- → International developed market valuations rose but remain below their own long-term average, with those for emerging markets the lowest and well under the long-term average.
- → Price declines have been the main driver of recent multiple compression as earnings have remained resilient.

  Concerns remain over whether earnings strength will continue in the face of slowing growth.

<sup>&</sup>lt;sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of December 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



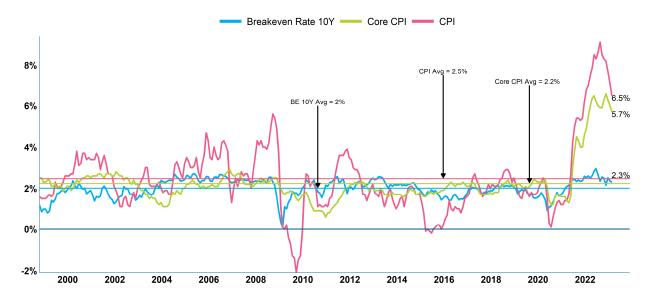


- → In December, policy-sensitive interest rates at the front-end of the curve continued to rise with the two-year Treasury yield increasing from 4.3% to 4.4%. Longer dated ten-year Treasury yields also increased (3.6% to 3.9%). For the year, the yield curve rose dramatically across maturities and moved from steep to inverted.
- → The Fed remains strongly committed to fighting inflation, as it increased rates another 50 basis points to a range of 4.0% to 4.5% at its December meeting. This brought the total number of increases for 2022 to seven.
- → The yield spread between two-year and ten-year Treasuries narrowed somewhat to -0.54% after finishing November at -0.70%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also remained inverted. Historically, inversions in the yield curve have often preceded recessions.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 31, 2022.



#### Ten-Year Breakeven Inflation and CPI<sup>1</sup>

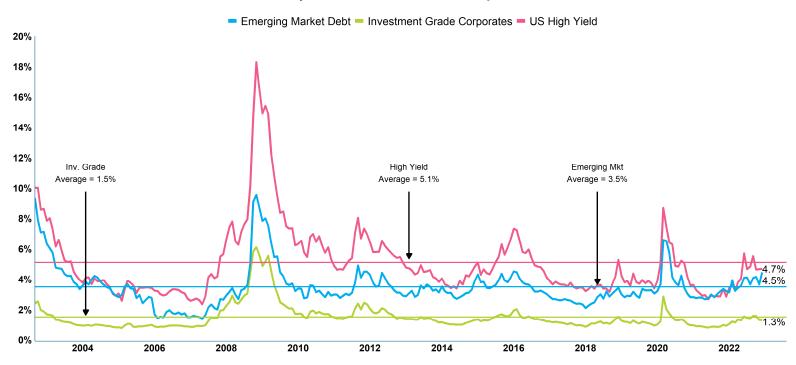


- → In December inflation continued to decline (6.5% versus 7.1%) matching expectations and providing support for the Fed to slow the pace of policy tightening. Energy prices fell again for the month but remain up 7.3% from a year prior, while food prices fell slightly, and stickier service prices continued to increase.
- → Core inflation excluding food and energy also continued to decline in December (5.7% versus 6.0%) and matched estimates.
- → Inflation expectations (breakevens) declined slightly for the month (2.3% versus 2.4%) and remain well below current inflation levels as investors anticipate a significant moderation in inflation.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.



#### Credit Spreads vs. US Treasury Bonds<sup>1</sup>

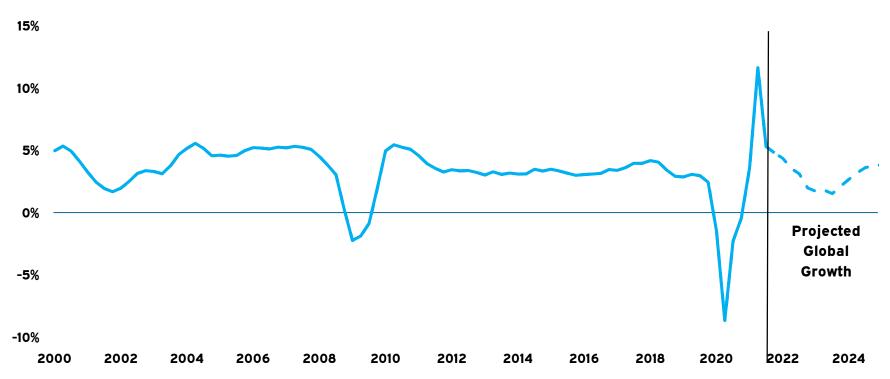


- → High yield spreads (the added yield above a comparable maturity Treasury) finished December at 4.7% (the same as the end of November) remaining below their long-run average.
- → Investment grade spreads also held steady at 1.3% as attractive yields and strong balance sheets continued to attract investors, while emerging market spreads rose (4.5% versus 3.6%) due to concerns regarding slower growth and lower commodity prices.

<sup>1</sup> Sources: Bloomberg. Data is as of December 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.





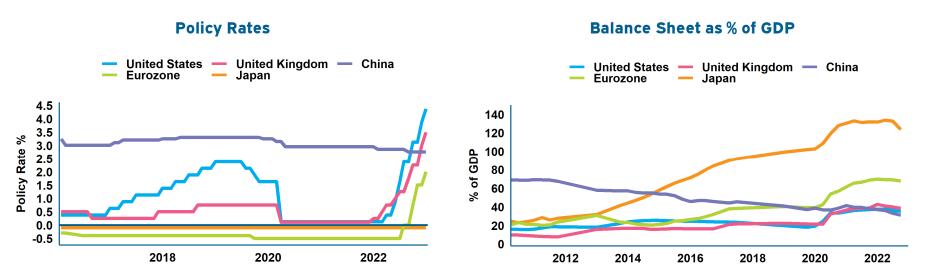


- → Global economies are expected to slow in 2023 compared to 2022, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

<sup>&</sup>lt;sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, real, % change YoY). Updated December 2022.



#### Central Bank Response<sup>1</sup>

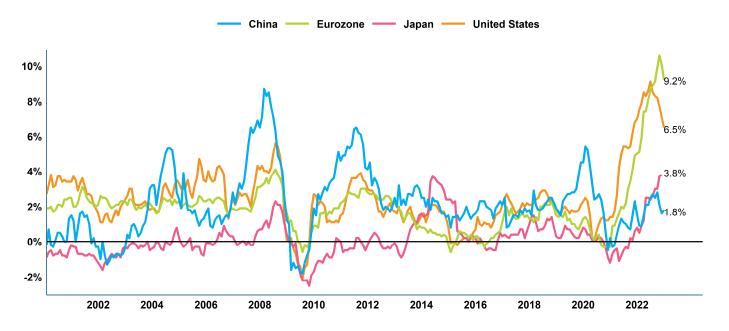


- → In 2022 many central banks aggressively reduced pandemic-era policy support in the face of high inflation with the US taking a more aggressive approach.
- → In December, the Bank of Japan relaxed its target yield for the 10-year bond which may mark an incremental step toward policy normalization after eight years of quantitative easing.
- → The one notable central bank outlier is China, where the central bank has lowered rates and reserve requirements in response to slowing growth.
- → The risk remains for a policy error, particularly overtightening, as record inflation and aggressive tightening to date could heavily weigh on global growth. The Federal Reserve's policy rate path could diverge from others this year given their strong early start to tightening.

Source: Bloomberg. Policy rate data is as of December 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of December 31, 2022.



### Inflation (CPI Trailing Twelve Months)1

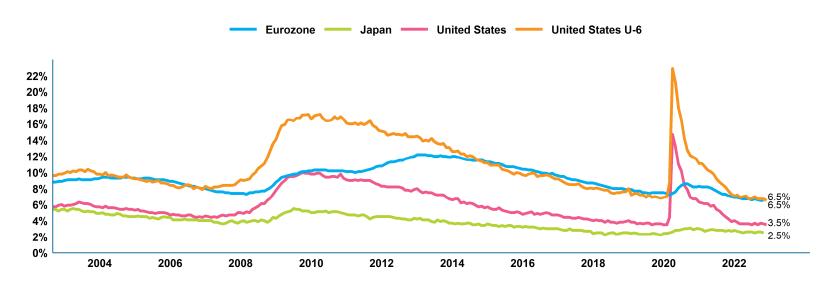


- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Inflation pressures are slowly declining in the US, but they remain elevated, while in Europe they have reached historic levels due to skyrocketing energy prices and a weak euro.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher commodity prices driven by the war in Ukraine have been key global drivers of inflation.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of December 2022. The most recent Japanese inflation data is as of November 2022.







- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation, the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year.
- → The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to higher unemployment.

<sup>1</sup> Source: Bloomberg. Data is as December 31, 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of November 30, 2022.





→ Overall, the US dollar continued to weaken from its recent peak in December as declining inflation supported the case for the Federal Reserve to slow its tightening.

- → The dollar finished the year much higher than it started though due to the increased pace of policy tightening, stronger relative growth, and safe-haven flows.
- → As we look to 2023, the track of inflation across economies and the corresponding monetary policy will likely be key drivers of currency moves.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data as of December 31, 2022.



#### Summary

#### **Key Trends:**

- → The impacts of record high inflation will remain key, with market volatility likely to stay high.
- → Monetary policy could diverge in 2023 with the Fed pausing and others continuing to tighten. The risk of policy errors in both directions remains.
- → Growth will continue to slow globally next year, with many economies likely falling into recessions. Inflation, monetary policy, and the war will all be key.
- → In the US the end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices could weigh on consumer spending.
- → Valuations have significantly declined in the US to around long-term averages, largely driven by price declines. The key going forward will be whether earnings can remain resilient if growth continues to slow.
- → Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including potential continued strength in the US dollar, higher inflation particularly weighing on Europe, and China's rushed exit from COVID-19 restrictions and on-going weakness in the real estate sector.

# Executive Summary As of December 31, 2022



**Aggregate Plan Overview** 

The value of the San Jose Federated City Employees' Retirement System assets on December 31, 2022 was \$2.8 billion, compared to \$2.7 billion at the end of the prior quarter. The System had net cash outflows of \$49 million and \$121 million of investment gains during the quarter.

- → The System's net of fees performance for the quarter was +4.5%, compared to +5.4% for the Policy Benchmark and +5.1% for the Investable Benchmark Portfolio. The peer median return was +5.0%.
- → The Retirement System returned -9.2% over the trailing one-year period, outperforming the Policy Benchmark (-9.4%), the Investable Benchmark (-10.0%), and a 60/40 global portfolio (-17.4%). The Retirement System's standard deviation of returns was 10.7% over the trailing one-year period, exhibiting lower volatility vs. the peer median (10.9%). Additionally, the System outperformed 95% of peers over the 3-year period.
  - Growth returned +6.0% for the quarter and -12.0% over the trailing one-year period, compared to the +6.9% and -11.7% returns for the Growth Benchmark over the same periods, respectively.
  - Low Beta returned -0.1% for the quarter and +6.6% over the trailing one-year period, compared to +1.1% and -0.9% returns for the Low Beta Benchmark over the same periods, respectively.
  - Other assets returned +0.8% for the quarter and -2.0% over the trailing one-year period, compared to the +1.0% and -3.6% returns for the Other Benchmark over the same periods, respectively.
- → During the quarter, the System added two new investments: HPS Special Situations Opportunity Fund II (Private Debt) and Kimmeridge Fund VI (Private Real Assets). The Plan did not liquidate any investments.



**Manager Highlights** 

#### **Artisan**

→ Artisan Global Value returned +13.6% for the quarter, slightly trailing the MSCI ACWI Value NR USD benchmark by 60 basis points, but still ranking in the top quartile of its peer group. Performance for the quarter was driven by UBS (too discounted relative to US peers), HeidelbergCement (good operating results), and Richemont (China economic rebound). Compared to peers, Artisan ranks in the 19th percentile since inception (1st is best and 100th is worst).

#### Morgan Stanley

→ Morgan Stanley International Equity returned +17.1% for the quarter, outperforming the MSCI All-Country World ex USA benchmark by 280 basis points. Outperformance for the quarter was driven by stock selection in consumer staples and industrials. Compared to peers, Morgan Stanley ranks in the top quintile of its peer group for the quarter.

#### BlackRock

→ BlackRock Core Property Fund returned +1.4% for the quarter, outperforming the Core Real Estate benchmark (2) by 110 basis points. Since inception in February of 2019, BlackRock has outperformed by 290 basis points per year on average.



## Fourth Quarter Manager Summary

nvestment Manager	Asset Class	Changes/ Announcements	Meketa Recommendation <sup>1</sup>	Comments
Artisan Global Value	Global Equity			
Artisan Global Opportunities	Global Equity			
Cove Street Small Cap Value	US Equity		Hold	Watch List
Oberweis International Opps	International Equity	Yes	Hold	CFO/CCO retired
Morgan Stanley Int'l Equity	International Equity			
First Eagle Int'l Equity	International Equity			
Dimensional EM Value	Emerging Markets Equity		<del></del>	
GQG Partners Global EM	Emerging Markets Equity	Yes	Hold	Co-PM departure
RWC Emerging Markets Equity	Emerging Markets Equity			
Wellington EM Systematic	Emerging Markets Equity			
Kotak India Midcap	Emerging Markets Equity			
Mellon High Yield Beta	High Yield Bonds			
Columbia High Yield	High Yield Bonds	Yes	Hold	Senior PM retiring 1Q23
Wellington Iguazu Partners LP	Emerging Markets Debt			
Payden EMD Blended Currency	Emerging Markets Debt			
BlackRock Core Property	Core Real Estate			
Clarion Lion Properties	Core Real Estate			
TA Realty Core Property	Core Real Estate			
Clarion Lion Industrial Trust	Core Real Estate		<del></del>	
Voya Securitized Credit	Investment Grade Bonds	Yes	Hold	Executive Team changes
nvesco Core Bonds	Investment Grade Bonds			

<sup>1</sup> The Meketa Investment Group recommendations are based on the noted organizational or resource changes at each manager.



**Watch List** 

#### Watch List<sup>1,2</sup>

Investment Manager	Asset Class	Watch List Status	Comments
Cove Street Small Cap Value	US Equity	Monitoring	Underperformance

<sup>&</sup>lt;sup>1</sup> Watch List excludes Private Markets and Passive Funds.

<sup>&</sup>lt;sup>2</sup> Placement on the Watch List includes qualitative reasons and manager underperformance versus the appropriate benchmark over a three and or five year period as outlined in the Investment Policy Statement.



Fourth Quarter Manager Summary

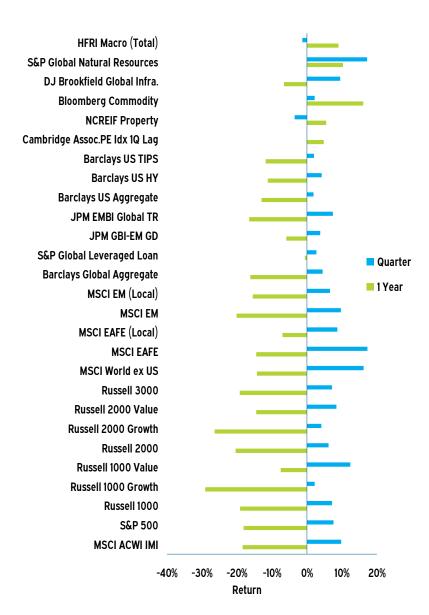
#### **Cove Street**

→ Over the three-year period, Cove Street (+2.5%) has underperformed the Russell 2000 Value by 220 basis points. Since inception in May 2014, Cove Street has underperformed the benchmark by 110 basis points per year, on average, and ranked in the 85th percentile compared to peers.



#### Market Environment - 4Q22 Overview

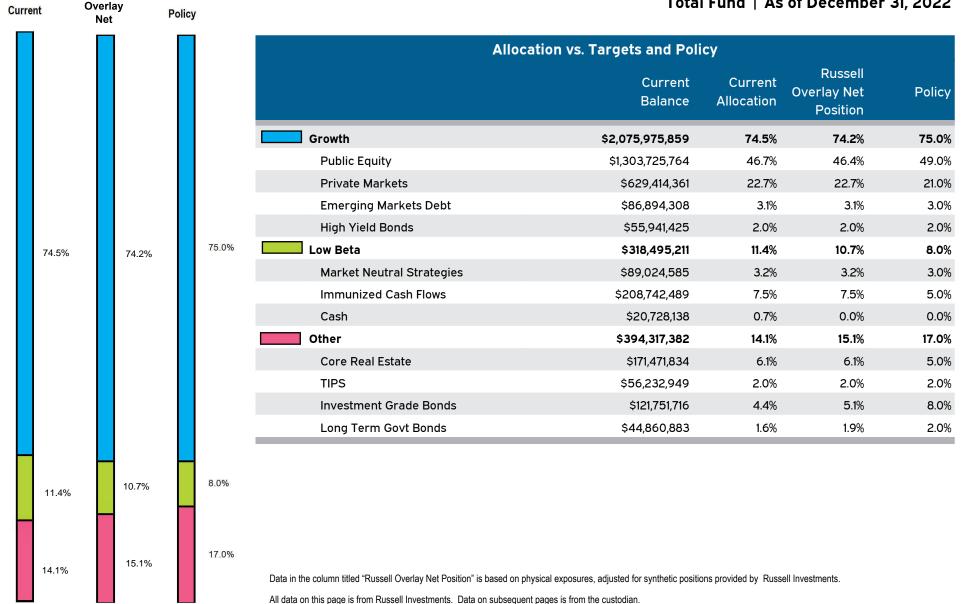
Benchmark	Scope	4Q22 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Global Equity						
MSCI ACWI IMI	World	9.8	-18.4	3.9	5.0	7.9
Domestic Equity						
S&P 500	Large Core	7.6	-18.1	7.7	9.4	12.6
Russell 1000	Large Core	7.2	-19.1	7.3	9.1	12.4
Russell 1000 Growth	Large Growth	2.2	-29.1	7.8	11.0	14.1
Russell 1000 Value	Large Value	12.4	-7.5	6.0	6.7	10.3
Russell 2000	Small Core	6.2	-20.4	3.1	4.1	9.0
Russell 2000 Growth	Small Growth	4.1	-26.4	0.6	3.5	9.2
Russell 2000 Value	Small Value	8.4	-14.5	4.7	4.1	8.5
Russell 3000	All Cap Core	7.2	-19.2	7.1	8.8	12.1
International Equity						
MSCI World ex US	World ex-US	16.2	-14.3	1.3	1.8	4.6
MSCI EAFE	International Developed	17.3	-14.5	0.9	1.5	4.7
MSCI EAFE (Local)	International Developed (Local Currency)	8.7	-7.0	3.6	3.8	7.6
MSCI EM	Emerging Markets	9.7	-20.1	-2.7	-1.4	1.4
MSCI EM (Local)	Emerging Markets (Local Currency)	6.6	-15.5	0.1	1.3	4.6
Global Fixed Income						
Barclays Global Aggregate	Global Core Bonds	4.5	-16.2	-4.5	-1.7	-0.4
S&P Global Leveraged Loan	Bank Loans	2.7	-0.6	2.5	2.8	3.4
JPM GBI-EM GD	Emerging Markets Bonds (Local Currency)	3.8	-5.9	-0.3	2.9	4.4
JPM EMBI Global TR	Emerging Market Bonds	7.4	-16.5	-4.5	-1.0	1.3
Domestic Fixed Income						
Barclays US Aggregate	Core Bonds	1.9	-13.0	-2.7	0.0	1.1
Barclays US HY	High Yield	4.2	-11.2	0.0	2.3	4.0
Barclays US TIPS	Inflation	2.0	-11.8	1.2	2.1	1.1
Other						
Cambridge AssociatesPE Index 1Qtr Lag	Private Equity	0.0	4.8	24.8	22.1	18.1
NCREIF Property	Real Estate	-3.5	5.5	8.1	7.5	8.8
Bloomberg Commodity	Commodities	2.2	16.1	12.7	6.4	-1.3
DJ Brookfield Global Infrastructure	Infrastructure	9.5	-6.6	1.4	4.3	6.4
S&P Global Natural Resources	Natural Resources	17.2	10.3	11.6	7.3	4.9
HFRI Macro	Hedge Funds	-1.3	9.0	7.3	4.8	3.1



# **4Q22 Review**



Total Fund | As of December 31, 2022





Total Fund | As of December 31, 2022

	Asset Class Net F	Performan	ce Sum	nmarv						
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Aggregate	2,788,828,980	100.0	4.5	0.4	-9.2	7.1	6.1	5.6	6.7	Jan-94
Policy Benchmark			5.4	0.8	-9.4	6.6	5.8	6.1	6.9	Jan-94
Investable Benchmark Portfolio			5.1	0.5	-10.0	6.1	5.4	5.4		Jan-94
Low-Cost Passive Portfolio			6.0	1.5	-13.1	2.7				Jan-94
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			7.8	0.6	-17.4	0.8	2.6	4.7		Jan-94
Liability Benchmark Portfolio			-0.6	-10.2	-29.3	-7.4				Jan-94
InvMetrics Public DB > \$1B Net Median			5.0	0.8	-11.1	4.5	5.4	6.9	7.2	Jan-94
InvMetrics Public DB > \$1B Net Rank			75	<i>75</i>	29	5	21	97	85	Jan-94
Growth	2,069,133,088	74.2	6.0	0.7	-12.0	7.5	6.9		7.2	Jul-15
Growth Benchmark			6.9	1.2	-11.7	6.3	6.7		7.6	Jul-15
Public Equity	1,296,251,337	46.5	9.7	2.0	-19.6	3.3	4.0	7.1	7.1	May-10
Public Equity Benchmark			10.0	2.1	-18.3	3.4	4.7	7.8	7.5	May-10
Global Equity	234,296,097	8.4	10.0	2.3	-21.0	3.6	5.2		7.4	Jul-15
eV All Global Equity Net Median			10.7	3.3	-18.3	4.4	5.5	8.2	6.8	Jul-15
eV All Global Equity Net Rank			59	64	63	63	54		42	Jul-15
US Equity	499,901,116	17.9	7.1	2.6	-18.8	6.3	7.8		8.9	Jul-15
MSCI USA IMI NR USD			7.1	2.2	-19.6	6.7	8.4		9.6	Jul-15
eV All US Equity Net Median			8.7	3.9	-16.9	6.4	7.4	10.9	8.5	Jul-15
eV All US Equity Net Rank			65	65	59	52	44		44	Jul-15

Fiscal Year begins July

Please see the Appendix for composition of the Policy Benchmark, Low-Cost Passive Portfolio, Liability Benchmark Portfolio, Growth Benchmark, and Public Equity Benchmark. Returns for the Public Equity Aggregate are gross of fees through June 2015 and net of fees thereafter.



Total Fund | As of December 31, 2022

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	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
International Equity	269,174,672	9.7	15.8	4.8	-20.8	1.0	0.9		3.3	Jul-15
MSCI World ex USA IMI NR USD			16.0	<i>5.3</i>	<i>-15.3</i>	1.0	1.6		3.6	Jul-15
eV ACWI ex-US All Cap Equity Net Median			14.3	3.4	-19.1	1.1	1.5	5.2	3.9	Jul-15
eV ACWI ex-US All Cap Equity Net Rank			27	24	60	53	67		69	Jul-15
Emerging Markets Equity	292,879,452	10.5	8.1	-2.3	-19.2	-0.3	-1.1		1.6	Jul-15
MSCI Emerging Markets IMI Net			9.5	-2.3	-19.8	-1.8	-1.1		2.3	Jul-15
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	2.1	2.9	Jul-15
eV Emg Mkts Equity Net Rank			77	65	46	38	59		82	Jul-15
Private Markets	634,277,958	22.7	-0.3	-2.0	4.8	16.5	12.8		10.8	Jul-15
Private Markets Benchmark			-0.3	-2.0	4.8	16.5	13.5		12.2	Jul-15
MSCI ACWI IMI + 100bps			10.1	3.1	-17.6	4.9	6.0		7.7	Jul-15
Private Markets ex Russell 3000	634,277,958	22.7	-0.3	-2.0	6.7	18.8	13.4		11.1	Jul-15
Private Equity	328,897,266	11.8	-2.1	-5.5	2.2	23.7	17.9	14.9	10.2	Jan-06
San Jose Custom Private Equity Benchmark			-0.3	-5.2	-0.2	19.7	16.3	14.8	12.5	Jan-06
Venture Capital	15,546,261	0.6	-0.2	-0.2	0.2				-1.1	Jun-21
Private Debt	118,778,134	4.3	1.3	0.0	10.9	13.2	7.1	5.0	5.3	Dec-10
S&P Global Leveraged Loan Index +2%			3.2	5.2	1.4	4.6	4.9	5.5	5.9	Dec-10
Growth Real Estate	113,108,702	4.1	2.7	5.4	14.0	14.3	14.3		15.9	Jul-15
NCREIF Property Index			-3.5	-3.0	5.5	8.1	7.5		7.8	Jul-15
Private Real Assets	57,947,595	2.1	0.9	1.2	15.8	11.8	9.9		8.9	Jul-15

Returns for the Fixed income, Private Debt, and Real Assets Aggregates are gross of fees through June 2015 and net of fees thereafter. Please see the Appendix for composition of the Private Markets Benchmark.

Private Equity composite includes Russell 3000 proxy performance history prior to October 1, 2018.



Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Debt	82,667,805	3.0	-0.8	-1.2	1.1	3.5	2.8		3.6	Jul-15
50% JPM EMBI GD / 50% JPM GBI-EM			8.3	3.3	-14.8	<i>-5.7</i>	-1.9		0.9	Jul-15
eV All Emg Mkts Fixed Inc Net Median			8.3	3.8	-12.8	-4.1	-1.0	1.0	1.6	Jul-15
eV All Emg Mkts Fixed Inc Net Rank			99	99	1	1	2		4	Jul-15
High Yield Bonds	55,935,988	2.0	4.2	4.1	-9.8	1.8	1.8		0.8	Jun-14
Bloomberg US Corporate High Yield TR			4.2	<i>3.5</i>	-11.2	0.0	2.3		3.3	Jun-14
Low Beta	317,221,694	11.4	-0.1	0.2	6.6	4.2	4.0		3.0	Jul-15
Low Beta Benchmark			1.1	0.0	-0.9	0.2	0.4		0.6	Jul-15
Immunized Cash Flows	208,742,489	7.5	1.0	-1.4	-3.1	-0.3			0.9	Oct-18
Bloomberg US Govt/Credit 1-3 Yr. TR			0.9	-0.6	-3.7	-0.3			1.0	Oct-18
Market Neutral Strategies	89,393,345	3.2	-2.8	4.2	23.5	12.6	9.9	6.5	6.5	Nov-12
Market Neutral Strategies Benchmark			1.3	2.2	2.9	1.2	1.0	1.2	1.3	Nov-12
Relative Value	89,393,345	3.2	-2.8	4.2	23.5	10.2	9.0		6.8	Oct-14
HFRI Relative Value (Total) Index			1.5	1.5	-0.7	3.4	3.4		3.4	Oct-14
Cash	19,085,861	0.7	8.0	1.3	1.4	0.6	1.2			Jan-06
ICE BofA 91 Days T-Bills TR			0.8	1.3	1.5	0.7	1.3			Jan-06
Other	394,983,869	14.2	8.0	-0.1	-2.0	0.8	1.7	1.5	1.9	Jul-04
Other Benchmark			1.0	-1.0	-3.6	-2.2	-0.9			Jul-04
Investment Grade Bonds	120,883,938	4.3	0.9	-3.7	-11.4	-1.4			-1.4	Dec-19
Custom IG Bonds Benchmark			1.7	-2.4	-10.5	-2.0			-2.0	Dec-19

Cash composite includes the cash account, cash collateral in the Russell Investments Overlay program, and residuals from terminated manager assets.

Please see the Appendix for composition of the Low Beta Benchmark, Immunized Cash Flows Benchmark, Market Neutral Strategies Benchmark, and Other Benchmark.



#### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TIPS	56,235,045	2.0	1.2	-1.5	-2.7	2.2	2.4		1.5	Jul-14
BBg U.S. TIPS 0-5 Years			1.3	-1.4	-2.7	2.5	2.6		1.6	Jul-14
Core Private Real Estate	173,203,516	6.2	1.0	8.1	27.2	13.7	11.0	10.9	10.4	Jul-15
Core Real Estate Benchmark			0.3	4.9	21.0	10.9	8.9		8.7	Jul-15
Long-Term Government Bonds	44,661,371	1.6	-1.0	-10.5	-29.3				-14.6	May-20
Bloomberg US Treasury Long TR			-0.6	-10.2	-29.3				-15.2	May-20
Overlay	7,490,329	0.3								

Core Private Real Estate values are one quarter lagged.



Total Fund | As of December 31, 2022

	Trailing N	let Perforr	mance							
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Aggregate	2,788,828,980	100.0	4.5	0.4	-9.2	7.1	6.1	5.6	6.7	Jan-94
Policy Benchmark			5.4	0.8	-9.4	6.6	5.8	6.1	6.9	Jan-94
Investable Benchmark Portfolio			5.1	0.5	-10.0	6.1	5.4	5.4		Jan-94
Low-Cost Passive Portfolio			6.0	1.5	-13.1	2.7				Jan-94
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			7.8	0.6	-17.4	0.8	2.6	4.7		Jan-94
Liability Benchmark Portfolio			-0.6	-10.2	-29.3	-7.4				Jan-94
InvMetrics Public DB > \$1B Net Median			5.0	0.8	-11.1	4.5	5.4	6.9	7.2	Jan-94
InvMetrics Public DB > \$1B Net Rank			<i>75</i>	75	29	5	21	97	85	Jan-94
Growth	2,069,133,088	74.2	6.0	0.7	-12.0	7.5	6.9		7.2	Jul-15
Growth Benchmark			6.9	1.2	-11.7	6.3	6.7		7.6	Jul-15
Public Equity	1,296,251,337	46.5	9.7	2.0	-19.6	3.3	4.0	7.1	7.1	May-10
Public Equity Benchmark			10.0	2.1	-18.3	3.4	4.7	7.8	7.5	May-10
Global Equity	234,296,097	8.4	10.0	2.3	-21.0	3.6	5.2		7.4	Jul-15
eV All Global Equity Net Median			10.7	3.3	-18.3	4.4	5.5	8.2	6.8	Jul-15
eV All Global Equity Net Rank			59	64	63	63	54		42	Jul-15
Artisan Global Value	134,498,036	4.8	13.6	2.9	-12.5	4.0	4.6	9.0	9.2	Mar-11
MSCI ACWI Value NR USD			14.2	5.5	-7.5	3.3	3.5	6.4	5.5	Mar-11
eV All Global Equity Net Median			10.7	3.3	-18.3	4.4	5.5	8.2	7.2	Mar-11
eV All Global Equity Net Rank			22	57	28	56	62	37	19	Mar-11

Returns for the Equity Aggregate are gross of fees through June 2015 and net of fees thereafter. Please see final page of the performance report for composition of the Policy Benchmark. Throughout the report performance will be shown for funds after one full month of investment.



#### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Artisan Global Opportunities	99,798,061	3.6	5.5	1.6	-30.1	4.1	7.0		8.2	Jul-17
MSCI ACWI Growth NR USD			5.3	-1.0	-28.6	3.8	6.4		8.1	Jul-17
eV All Global Equity Net Median			10.7	3.3	-18.3	4.4	5.5	8.2	6.9	Jul-17
eV All Global Equity Net Rank			92	73	88	56	25		29	Jul-17
US Equity	499,901,116	17.9	7.1	2.6	-18.8	6.3	7.8		8.9	Jul-15
MSCI USA IMI NR USD			7.1	2.2	-19.6	6.7	8.4		9.6	Jul-15
eV All US Equity Net Median			8.7	3.9	-16.9	6.4	7.4	10.9	8.5	Jul-15
eV All US Equity Net Rank			65	65	59	52	44		44	Jul-15
Northern Trust Russell 3000 PE	478,634,993	17.2	7.2	2.4	-19.2				16.9	Mar-20
Russell 3000			7.2	2.4	-19.2				10.8	Mar-20
Cove Street Small Cap Value	21,266,123	0.8	9.3	4.4	-11.5	2.5	4.2		5.2	May-14
Russell 2000 Value			8.4	3.4	-14.5	4.7	4.1		6.3	May-14
eV US Small Cap Value Equity Net Median			10.8	<i>5.2</i>	-11.7	6.3	4.6	9.2	6.7	May-14
eV US Small Cap Value Equity Net Rank			71	59	49	90	62		85	May-14
International Equity	269,174,672	9.7	15.8	4.8	-20.8	1.0	0.9		3.3	Jul-15
MSCI World ex USA IMI NR USD			16.0	<i>5.3</i>	-15.3	1.0	1.6		3.6	Jul-15
eV ACWI ex-US All Cap Equity Net Median			14.3	3.4	-19.1	1.1	1.5	5.2	3.9	Jul-15
eV ACWI ex-US All Cap Equity Net Rank			27	24	60	53	67		69	Jul-15
Northern Trust MSCI World ex US	158,306,757	5.7	17.3	6.1	-13.3	2.1	2.5		5.9	Nov-16
MSCI World ex USA			16.2	5.5	-14.3	1.3	1.8		5.4	Nov-16



Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Oberweis Intl Opportunities	36,133,740	1.3	12.8	0.2	-36.1	2.9	0.9		5.7	Nov-15
MSCI World ex USA Small Cap Growth NR USD			13.6	3.6	-27.0	-0.8	0.5		5.0	Nov-15
eV ACWI ex-US All Cap Equity Net Median			14.3	3.4	-19.1	1.1	1.5	5.2	4.7	Nov-15
eV ACWI ex-US All Cap Equity Net Rank			73	93	96	21	67		27	Nov-15
Morgan Stanley Intl Equity	28,496,311	1.0	17.1	5.7	-33.0				-16.9	Apr-21
MSCI ACWI ex USA			14.3	3.0	-16.0				-7.3	Apr-21
eV ACWI ex-US All Cap Equity Net Median			14.3	3.4	-19.1	1.1	1.5	5.2	-8.3	Apr-21
eV ACWI ex-US All Cap Equity Net Rank			17	13	96				95	Apr-21
First Eagle International Equity	46,237,865	1.7	11.9	2.8					2.8	Jun-22
MSCI World ex USA			16.2	5.5					-4.4	Jun-22
Emerging Markets Equity	292,879,452	10.5	8.1	-2.3	-19.2	-0.3	-1.1		1.6	Jul-15
MSCI Emerging Markets IMI Net			9.5	-2.3	-19.8	-1.8	-1.1		2.3	Jul-15
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	2.1	2.9	Jul-15
eV Emg Mkts Equity Net Rank			77	65	46	<i>38</i>	59		82	Jul-15
Northern Trust MSCI EM IMI	115,196,505	4.1	10.2	-2.2	-19.5	-1.8			0.6	Oct-18
MSCI Emerging Markets IMI Net			9.5	-2.3	-19.8	-1.8			0.7	Oct-18
Dimensional Fund Adv EM Value	42,200,126	1.5	10.3	-0.5	-10.7	1.0	-0.2		4.2	Nov-16
MSCI Emerging Markets Value NR USD			9.8	-2.3	-15.8	-2.6	-1.6		2.3	Nov-16
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	2.1	3.7	Nov-16
eV Emg Mkts Equity Net Rank			51	48	11	27	38		40	Nov-16



Total Fund | As of December 31, 2022

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	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
GQG Global Emerging Markets	61,433,621	2.2	3.2	-3.6	-21.2	1.0	1.5		4.3	Jul-17
MSCI Emerging Markets			9.7	-3.0	-20.1	-2.7	-1.4		1.4	Jul-17
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	2.1	1.9	Jul-17
eV Emg Mkts Equity Net Rank			97	80	61	27	19		16	Jul-17
Redwheel Emerging Markets Equity	27,857,921	1.0	8.4	-3.5	-24.6	-0.9			3.3	Sep-19
MSCI Emerging Markets			9.7	-3.0	-20.1	-2.7			1.5	Sep-19
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	2.1	2.2	Sep-19
eV Emg Mkts Equity Net Rank			74	79	77	42			36	Sep-19
Wellington Emerging Markets Systematic Equity	36,728,147	1.3	10.0	-3.2	-20.9	-1.1			2.7	Sep-19
MSCI Emerging Markets			9.7	-3.0	-20.1	-2.7			1.5	Sep-19
eV Emg Mkts Equity Net Median			10.3	-0.7	-19.8	-1.6	-0.7	<i>2.1</i>	2.2	Sep-19
eV Emg Mkts Equity Net Rank			58	76	59	45			46	Sep-19
Kotak India Midcap	9,463,132	0.3	-1.4	6.8	-12.6				-3.6	Jun-21
Private Markets	634,277,958	22.7	-0.3	-2.0	4.8	16.5	12.8		10.8	Jul-15
Private Markets Benchmark			-0.3	-2.0	4.8	16.5	13.5		12.2	Jul-15
MSCI ACWI IMI + 100bps			10.1	3.1	-17.6	4.9	6.0		7.7	Jul-15
Private Markets ex Russell 3000	634,277,958	22.7	-0.3	-2.0	6.7	18.8	13.4		11.1	Jul-15
Private Equity	328,897,266	11.8	-2.1	-5.5	2.2	23.7	17.9	14.9	10.2	Jan-06
San Jose Custom Private Equity Benchmark			-0.3	-5.2	-0.2	19.7	16.3	14.8	12.5	Jan-06
PE Strategic Partnership, LP	292,719,264	10.5	-2.6	-5.7	1.5	25.1	19.8		16.9	Aug-17
Pathway Private Eq Fund VIII	599,425	0.0	-6.1	-5.7	-15.3	-5.1	-6.6	1.5	4.8	Jul-09



Total Fund | As of December 31, 2022

Pantheon USA Fund VII, LP         5,995,301         0.2         -2.6         -8.2         -3.1         16.0											
Pantheon Global Secondary III       443,066       0.0       -1.7       -2.4       -4.4       -11.6       -4.6       -0.8       1.1         Great Hill Equity Partners IV       3,117,624       0.1       6.7       -13.7       -16.1       12.4       25.7       31.2       27.4         Partners Group Secondary 2008       534,529       0.0       8.3       -10.5       -14.8       5.6       4.0       5.7       7.8         Partners Group Secondary 2011       3,398,070       0.1       1.4       -18.7       -16.6       10.4       7.2       11.3       15.0         Innovation Endeavors III       14,239,718       0.5       3.7       2.0       44.8       65.0         28.7         Crestline Portfolio Financing       7,850,269       0.3       1.6       4.7       6.7       9.4         9.2         Venture Capital       15,546,261       0.6       -0.2       -0.2       0.2          -1.1         Innovation Endeavors IV       1,506,198       0.1       -0.5       -2.6       -0.4            -0.6         TI Platform SJFED LP       8,117,372					YTD						Inception Date
Great Hill Equity Partners IV         3,117,624         0.1         6.7         -13.7         -16.1         12.4         25.7         31.2         27.4           Partners Group Secondary 2008         534,529         0.0         8.3         -10.5         -14.8         5.6         4.0         5.7         7.8           Partners Group Secondary 2011         3,398,070         0.1         1.4         -18.7         -16.6         10.4         7.2         11.3         15.0           Innovation Endeavors III         14,239,718         0.5         3.7         2.0         44.8         65.0           28.7           Crestline Portfolio Financing         7,850,269         0.3         1.6         4.7         6.7         9.4           9.2           Venture Capital         15,546,261         0.6         -0.2         -0.2         0.2            -1.1           Innovation Endeavors IV         1,506,198         0.1         -0.5         -2.6         -0.4             -6.0           TI Platform SJFED LP         8,117,372         0.3         0.0         0.0         0.8	ntheon USA Fund VII, LP	5,995,301	0.2	-2.6	-8.2	-3.1	16.0			12.7	Jun-18
Partners Group Secondary 2008       534,529       0.0       8.3       -10.5       -14.8       5.6       4.0       5.7       7.8         Partners Group Secondary 2011       3,398,070       0.1       1.4       -18.7       -16.6       10.4       7.2       11.3       15.0         Innovation Endeavors III       14,239,718       0.5       3.7       2.0       44.8       65.0         28.7         Crestline Portfolio Financing       7,850,269       0.3       1.6       4.7       6.7       9.4         9.2         Venture Capital       15,546,261       0.6       -0.2       -0.2       0.2          -1.1         Innovation Endeavors IV       1,506,198       0.1       -0.5       -2.6       -0.4          -6.0         TI Platform SJFED LP       8,117,372       0.3       0.0       0.0       0.8          0.6	ntheon Global Secondary III	443,066	0.0	-1.7	-2.4	-4.4	-11.6	-4.6	-0.8	1.1	Jul-09
Partners Group Secondary 2011 3,398,070 0.1 1.4 -18.7 -16.6 10.4 7.2 11.3 15.0 Innovation Endeavors III 14,239,718 0.5 3.7 2.0 44.8 65.0 28.7 Crestline Portfolio Financing 7,850,269 0.3 1.6 4.7 6.7 9.4 9.2 Venture Capital 15,546,261 0.6 -0.2 -0.2 0.21.1 Innovation Endeavors IV 1,506,198 0.1 -0.5 -2.6 -0.4 6.0 TI Platform SJFED LP 8,117,372 0.3 0.0 0.0 0.8 0.6	at Hill Equity Partners IV	3,117,624	0.1	6.7	-13.7	-16.1	12.4	25.7	31.2	27.4	Jul-09
Innovation Endeavors III         14,239,718         0.5         3.7         2.0         44.8         65.0           28.7           Crestline Portfolio Financing         7,850,269         0.3         1.6         4.7         6.7         9.4           9.2           Venture Capital         15,546,261         0.6         -0.2         -0.2         0.2            -1.1           Innovation Endeavors IV         1,506,198         0.1         -0.5         -2.6         -0.4            -6.0           TI Platform SJFED LP         8,117,372         0.3         0.0         0.0         0.8            0.6	tners Group Secondary 2008	534,529	0.0	8.3	-10.5	-14.8	5.6	4.0	5.7	7.8	Jul-09
Crestline Portfolio Financing         7,850,269         0.3         1.6         4.7         6.7         9.4           9.2           /enture Capital         15,546,261         0.6         -0.2         -0.2         0.2            -1.1           Innovation Endeavors IV         1,506,198         0.1         -0.5         -2.6         -0.4             -6.0           TI Platform SJFED LP         8,117,372         0.3         0.0         0.0         0.8            0.6	tners Group Secondary 2011	3,398,070	0.1	1.4	-18.7	-16.6	10.4	7.2	11.3	15.0	Nov-12
Venture Capital         15,546,261         0.6         -0.2         -0.2         0.2            -1.1           Innovation Endeavors IV         1,506,198         0.1         -0.5         -2.6         -0.4                      0.6           TI Platform SJFED LP         8,117,372         0.3         0.0         0.0         0.8            0.6	ovation Endeavors III	14,239,718	0.5	3.7	2.0	44.8	65.0			28.7	Jun-18
Innovation Endeavors IV 1,506,198 0.1 -0.5 -2.6 -0.46.0  TI Platform SJFED LP 8,117,372 0.3 0.0 0.0 0.8 0.6	stline Portfolio Financing	7,850,269	0.3	1.6	4.7	6.7	9.4			9.2	Jun-18
TI Platform SJFED LP 8,117,372 0.3 0.0 0.0 0.8 0.6	ıre Capital	15,546,261	0.6	-0.2	-0.2	0.2		-		-1.1	Jun-21
	ovation Endeavors IV	1,506,198	0.1	-0.5	-2.6	-0.4				-6.0	Jun-21
Soma Capital Fund III LP 2,154,025 0.1 3.2 4.4 8.5 7.9	Platform SJFED LP	8,117,372	0.3	0.0	0.0	0.8				0.6	Jul-21
	na Capital Fund III LP	2,154,025	0.1	3.2	4.4	8.5				7.9	Dec-21
Fin VC Horizons II 3,768,666 0.1 -2.2 -2.2	VC Horizons II	3,768,666	0.1	-2.2	-2.2						Jan-22
Private Debt 118,778,134 4.3 1.3 0.0 10.9 13.2 7.1 5.0 5.3	te Debt	118,778,134	4.3	1.3	0.0	10.9	13.2	7.1	5.0	5.3	Dec-10
S&P Global Leveraged Loan Index +2% 3.2 5.2 1.4 4.6 4.9 5.5 5.9	Global Leveraged Loan Index +2%			3.2	5.2	1.4	4.6	4.9	5.5	5.9	Dec-10
White Oak Direct Lending 36,832,370 1.3 2.5 0.4 29.1 43.4 29.1 11.6 10.2	ite Oak Direct Lending	36,832,370	1.3	2.5	0.4	29.1	43.4	29.1	11.6	10.2	Feb-11
Blackstone/GSO Cap Partners 3,988,662 0.1 16.6 5.0 7.9 -21.7 -14.0 -5.9 -2.1	ckstone/GSO Cap Partners	3,988,662	0.1	16.6	5.0	7.9	-21.7	-14.0	-5.9	-2.1	Mar-11
Medley Opportunity Fund II LP 4,378,782 0.2 0.0 0.0 -9.8 -8.3 -10.6 -2.5 -1.3	dley Opportunity Fund II LP	4,378,782	0.2	0.0	0.0	-9.8	-8.3	-10.6	-2.5	-1.3	Jun-11

Returns for the Private Debt and Real Assets Aggregates are gross of fees through June 2015 and net of fees thereafter.



Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cross Ocean USD ESS Fund II LP	2,632,166	0.1	1.3	0.6	0.9	7.2	6.7		8.8	Aug-16
Crestline Co-Investment	1,416,795	0.1	5.2	15.7	25.2	15.4			14.1	Mar-19
Cross Ocean USD ESS Fund III, L.P.	21,796,262	0.8	0.8	1.6	5.2	14.9			11.7	Jun-19
Arbour Lane Credit Opportunity Fund II, L.P.	10,657,624	0.4	0.0	-1.0	2.2				18.0	Apr-20
Eagle Point Defensive Income Fund	7,020,937	0.3	-1.1	-8.2	-5.0				2.1	Jun-20
HPS Special Situations Opportunity Fund	7,279,897	0.3	1.4	7.2	13.7				21.7	Jan-21
Crestline Portfolio Financing Fund II	2,286,459	0.1	2.5	5.1	9.8				8.5	Jan-21
SVP Special Situations V	3,111,889	0.1	-4.2	-3.5	7.3				3.3	Jun-21
Arbour Lane COF III	3,472,739	0.1	-0.8	-8.9	-9.5				-8.1	Nov-21
Octagon CLO Opp Fund IV	7,602,221	0.3	-0.9	-0.7					-0.7	Mar-22
Angelo Gordon CS II	4,121,555	0.1	-1.7	-6.8					-5.6	Feb-22
HPS SP SIT OPP II	1,001,608	0.0							0.0	Dec-22
Eagle Point DIF II	1,178,167	0.0	-3.2						-3.2	Sep-22
Growth Real Estate	113,108,702	4.1	2.7	5.4	14.0	14.3	14.3		15.9	Jul-15
NCREIF Property Index			-3.5	-3.0	5.5	8.1	7.5		7.8	Jul-15
DRA Growth & Income Fund VII	1,225,812	0.0	0.9	1.9	22.9	56.1	54.1	36.4	34.9	Apr-12



Total Fund | As of December 31, 2022

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	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DRA Growth & Income Fund VIII	5,258,891	0.2	-1.0	2.1	5.4	5.1	5.8		8.5	Jan-15
Tristan - EPISO IV	13,077,479	0.5	10.3	5.0	3.4	8.3	8.2		8.2	Jan-16
DRA Growth & Income Fund IX	15,142,032	0.5	3.4	7.5	19.1	24.5	20.2		18.6	Feb-17
SEM Realty Fund VI	5,054,871	0.2	-2.7	-0.7	13.9	18.7	9.6		9.4	Dec-17
orchlight Debt Opportunity VI	21,715,127	0.8	1.7	4.3	13.5	9.1			6.3	Apr-18
ristan - EPISO V	10,190,687	0.4	12.8	8.6	0.9	-13.6			-32.0	Apr-19
A Growth & Income Fund X	8,004,598	0.3	7.3	8.9	25.5				26.9	Mar-20
ckpoint Real Estate Fund VI, L.P.	5,636,374	0.2	-2.5	-0.2	14.4				16.3	May-20
keter Industrial Value Fund V	7,638,048	0.3	-5.0	-4.2	26.0				33.1	Oct-20
orchlight Debt Fund VII	3,146,520	0.1	1.1	5.1	6.7				3.9	Feb-2
I.I.G. Realty Partners IV, L.P.	4,752,426	0.2	4.6	14.4						Dec-2
Praedium X MidInc	3,288,717	0.1	-6.3	-0.6					-0.6	Apr-22
NGGRE Fund IV	6,207,826	0.2	-4.7	39.1					32.4	Jun-22
Centerbridge RE II	1,293,839	0.0	-0.9						-14.3	Jul-22
GCP SecureSpace Property Partners, L.P	1,475,456	0.1	4.7						3.4	Jul-22

Returns for the Private Debt and Real Assets Aggregates are gross of fees through June 2015 and net of fees thereafter.



### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Real Assets	57,947,595	2.1	0.9	1.2	15.8	11.8	9.9		8.9	Jul-15
Global Infra Part III-A/B, LP	24,385,451	0.9	-2.6	0.3	18.7	11.3	10.3		6.1	Sep-16
Lime Rock Partners VIII	3,601,192	0.1	2.0	5.1	36.2	15.3			10.8	Dec-18
Kimmeridge Energy Fund V, L.P.	5,309,509	0.2	4.6	-2.9	13.7	25.8			12.4	Aug-19
Global Infra Partners IV	2,556,002	0.1	1.9	3.5	12.8	-71.6				Sep-19
Lime Rock New Energy, L.P.	1,697,433	0.1	7.0	7.0	-53.1					Aug-20
Orion Mine Finance III	4,075,016	0.1	2.3	-1.2	6.0				7.6	Aug-20
Real Assets Coinvest I	1,199,996	0.0	0.0	0.0	0.0				0.0	Sep-20
Crestline Co-Investment II	3,524,721	0.1	4.8	3.3	54.9				36.1	Jan-21
Tembo Cap Mining III	1,561,974	0.1	-8.0	-19.3	-14.2					
Mountain Capital II	1,067,205	0.0	-3.3	-7.9	10.2				10.2	Jan-22
Aether Seed Partners I	1,003,004	0.0	424.5	424.5					424.5	May-22
Hull Street Energy II	318,033	0.0	0.0	0.0					0.0	Jul-22
Kimmeridge Fund VI	7,648,059	0.3	0.0						0.0	Oct-22



Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Debt	82,667,805	3.0	-0.8	-1.2	1.1	3.5	2.8		3.6	Jul-15
50% JPM EMBI GD / 50% JPM GBI-EM			8.3	3.3	-14.8	-5.7	-1.9		0.9	Jul-15
eV All Emg Mkts Fixed Inc Net Median			8.3	3.8	-12.8	-4.1	-1.0	1.0	1.6	Jul-15
eV All Emg Mkts Fixed Inc Net Rank			99	99	1	1	2		4	Jul-15
Wellington Iguazu Partners LP Fund	68,682,584	2.5	-2.8	-2.6	10.6	9.6			10.0	May-19
50% JPM EMBI GD / 50% JPM GBI-EM			8.3	3.3	-14.8	<i>-5.7</i>			-2.4	May-19
eV All Emg Mkts Fixed Inc Net Median			8.3	3.8	-12.8	-4.1	-1.0	1.0	-1.3	May-19
eV All Emg Mkts Fixed Inc Net Rank			99	99	1	1			1	May-19
Payden EMD Blended Currency	13,985,221	0.5	10.4	6.1	-13.9				-9.5	Dec-20
50% JPM EMBI GD / 50% JPM GBI-EM			8.3	3.3	-14.8				-10.2	Dec-20
eV All Emg Mkts Fixed Inc Net Median			8.3	3.8	-12.8	-4.1	-1.0	1.0	-8.7	Dec-20
eV All Emg Mkts Fixed Inc Net Rank			9	9	60				64	Dec-20
High Yield Bonds	55,935,988	2.0	4.2	4.1	-9.8	1.8	1.8		0.8	Jun-14
Bloomberg US Corporate High Yield TR			4.2	3.5	-11.2	0.0	2.3		3.3	Jun-14
Mellon High Yield Beta	5,071,272	0.2	4.6	4.1	-10.7				1.9	Jun-20
Bloomberg US Corporate High Yield TR			4.2	3.5	-11.2				2.0	Jun-20
eV US High Yield Fixed Inc Net Median			3.9	3.5	-10.0	0.3	2.3	3.7	2.1	Jun-20
eV US High Yield Fixed Inc Net Rank			15	18	64				57	Jun-20
Columbia High Yield	50,864,717	1.8	4.2	4.1	-9.8				-2.6	Dec-20
Bloomberg US Corporate High Yield TR			4.2	3.5	-11.2				-3.3	Dec-20
eV US High Yield Fixed Inc Net Median			3.9	3.5	-10.0	0.3	2.3	3.7	-2.8	Dec-20
eV US High Yield Fixed Inc Net Rank			32	16	45				48	Dec-20



### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Low Beta	317,221,694	11.4	-0.1	0.2	6.6	4.2	4.0		3.0	Jul-15
Low Beta Benchmark			1.1	0.0	-0.9	0.2	0.4		0.6	Jul-15
Immunized Cash Flows	208,742,489	7.5	1.0	-1.4	-3.1	-0.3			0.9	Oct-18
Bloomberg US Govt/Credit 1-3 Yr. TR			0.9	-0.6	<i>-3.7</i>	-0.3			1.0	Oct-18
Insight Immunized Cash Flow	208,742,489	7.5	1.0	-1.4	-3.1	-0.3				Jun-19
Bloomberg US Govt/Credit 1-3 Yr. TR			0.9	-0.6	-3.7	-0.3				Jun-19
Market Neutral Strategies	89,393,345	3.2	-2.8	4.2	23.5	12.6	9.9	6.5	6.5	Nov-12
Market Neutral Strategies Benchmark			1.3	2.2	2.9	1.2	1.0	1.2	1.3	Nov-12
Relative Value	89,393,345	3.2	-2.8	4.2	23.5	10.2	9.0		6.8	Oct-14
HFRI Relative Value (Total) Index			1.5	1.5	-0.7	3.4	3.4		3.4	Oct-14
Pine River Fund, Ltd	303,706	0.0	-1.2	5.9	-7.4	1.1	5.9	4.1	4.1	Jan-13
HFRI Relative Value (Total) Index			1.5	1.5	-0.7	3.4	3.4	4.0	4.0	Jan-13
DE Shaw Composite Fund, LLC	44,663,253	1.6	2.7	8.8	24.8	21.3	17.2		14.3	Apr-13
HFRI Fund Weighted Composite Index			2.3	1.6	-4.1	5.7	4.4		4.4	Apr-13
Hudson Bay	9,902,845	0.4	1.0	5.9	9.3	12.7	10.4		9.9	Aug-17
HFRI Relative Value (Total) Index			1.5	1.5	-0.7	3.4	3.4		3.4	Aug-17
Crabel Advanced Trend	34,523,541	1.2	-10.1	-1.6	24.4				12.3	Jun-21
Barclay CTA Index			-2.1	-0.9	7.1				5.2	Jun-21

Cash composite includes the cash account, cash collateral in the Russell Investments Overlay program, and residuals from terminated manager assets.



### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cash	19,085,861	0.7	0.8	1.3	1.4	0.6	1.2			Jan-06
ICE BofA 91 Days T-Bills TR			0.8	1.3	1.5	0.7	1.3			Jan-06
Other	394,983,869	14.2	0.8	-0.1	-2.0	0.8	1.7	1.5	1.9	Jul-04
Other Benchmark			1.0	-1.0	<i>-3.6</i>	-2.2	-0.9			Jul-04
Investment Grade Bonds	120,883,938	4.3	0.9	-3.7	-11.4	-1.4			-1.4	Dec-19
Custom IG Bonds Benchmark			1.7	-2.4	-10.5	-2.0			-2.0	Dec-19
Voya Securitized Credit	39,265,338	1.4	-1.0	-4.9	-13.8				-1.8	May-20
Bloomberg US Securitized MBS ABS CMBS TR			2.1	-3.3	-11.7				-4.6	May-20
Invesco Core Bonds	81,618,600	2.9	1.8	-3.2	-13.8				-7.3	Feb-21
Bloomberg US Aggregate TR			1.9	-3.0	-13.0				-7.0	Feb-21
TIPS	56,235,045	2.0	1.2	-1.5	-2.7	2.2	2.4		1.5	Jul-14
BBg U.S. TIPS 0-5 Years			1.3	-1.4	-2.7	2.5	2.6		1.6	Jul-14
Northern Trust 0-5 Year TIPS	56,235,045	2.0	1.2	-1.5	-2.7	2.7	2.7		1.7	Jul-14
Bloomberg US Treasury TIPS 0-5 Yr TR			1.3	-1.4	-2.7	2.5	2.6		1.6	Jul-14
Core Private Real Estate	173,203,516	6.2	1.0	8.1	27.2	13.7	11.0	10.9	10.4	Jul-15
Core Real Estate Benchmark			0.3	4.9	21.0	10.9	8.9		8.7	Jul-15
BlackRock Core Property Fund	32,888,178	1.2	1.4	9.9	31.8	14.8			12.2	Feb-19
Core Real Estate Benchmark 2			0.3	4.9	21.0	10.9			9.3	Feb-19
Clarion Lion Properties Fund	66,210,127	2.4	0.4	7.6	23.8	13.2			11.6	Apr-19
Core Real Estate Benchmark 2			0.3	4.9	21.0	10.9			9.8	Apr-19



### Total Fund | As of December 31, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Clarion Lion Industrial Trust	15,141,826	0.5	4.6	12.2	37.7				29.1	Oct-21
Core Real Estate Benchmark 3			0.3	4.9	21.0				16.4	Oct-21
TA Realty Core Property Fund	58,963,385	2.1	0.6	5.6	24.2				19.0	Oct-21
Core Real Estate Benchmark 3			0.3	4.9	21.0				16.4	Oct-21
Long-Term Government Bonds	44,661,371	1.6	-1.0	-10.5	-29.3				-14.6	May-20
Bloomberg US Treasury Long TR			-0.6	-10.2	-29.3				-15.2	May-20
BlackRock Long-Term Gov Bonds	44,661,371	1.6	-1.0	-10.5	-29.3				-14.6	May-20
Bloomberg US Treasury Long TR			-0.6	-10.2	-29.3				-15.2	May-20
Overlay	7,490,329	0.3								
Russell Investments Overlay	7,483,268	0.3								



Total Fund | As of December 31, 2022

Cash Flow Summary										
	Quarter Er	nding December 3	31, 2022							
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value				
Aether Seed Partners I	\$155,047	\$189,772	\$0	\$189,772	\$658,185	\$1,003,004				
AIGGRE Fund IV	\$5,868,290	\$702,899	-\$91,136	\$611,763	-\$272,228	\$6,207,826				
Angelo Gordon CS II	\$3,576,593	\$675,000	-\$63,297	\$611,703	-\$66,741	\$4,121,555				
Arbour Lane COF III	\$3,502,440	\$0	\$0	\$0	-\$29,701	\$3,472,739				
Arbour Lane Credit Opportunity Fund II, L.P.	\$10,658,128	\$0	\$0	\$0	-\$504	\$10,657,624				
Artisan Global Opportunities	\$94,568,616	\$0	\$0	\$0	\$5,229,445	\$99,798,061				
Artisan Global Value	\$118,356,968	\$0	\$0	\$0	\$16,141,068	\$134,498,036				
BlackRock Core Property Fund	\$33,948,842	\$0	-\$1,498,925	-\$1,498,925	\$438,261	\$32,888,178				
BlackRock Long-Term Gov Bonds	\$45,118,409	\$0	\$0	\$0	-\$457,038	\$44,661,371				
Blackstone/GSO Cap Partners	\$3,421,436	\$0	\$0	\$0	\$567,226	\$3,988,662				
Cash Account	\$38,710,132	\$103,690,506	-\$123,572,562	-\$19,882,056	\$257,784	\$19,085,861				
Centerbridge RE II	\$1,306,187	\$0	\$0	\$0	-\$12,348	\$1,293,839				
Clarion Lion Industrial Trust	\$14,478,188	\$0	\$0	\$0	\$663,638	\$15,141,826				
Clarion Lion Properties Fund	\$66,352,877	\$0	-\$407,909	-\$407,909	\$265,159	\$66,210,127				
Columbia High Yield	\$48,812,137	\$2,364	-\$2,364	\$0	\$2,052,580	\$50,864,717				
Cove Street Small Cap Value	\$19,462,839	\$0	\$0	\$0	\$1,803,285	\$21,266,123				
Crabel Advanced Trend	\$38,403,332	\$0	\$0	\$0	-\$3,879,791	\$34,523,541				
Crestline Co-Investment	\$1,321,122	\$27,119	\$0	\$27,119	\$68,555	\$1,416,795				
Crestline Co-Investment II	\$3,363,740	\$0	\$0	\$0	\$160,981	\$3,524,721				
Crestline Portfolio Financing	\$7,987,523	\$447,227	-\$716,978	-\$269,751	\$132,497	\$7,850,269				
Crestline Portfolio Financing Fund II	\$2,752,991	\$0	-\$534,693	-\$534,693	\$68,161	\$2,286,459				
Cross Ocean USD ESS Fund II LP	\$2,599,422	\$0	\$0	\$0	\$32,744	\$2,632,166				



### Total Fund | As of December 31, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Cross Ocean USD ESS Fund III, L.P.	\$21,622,466	\$0	\$0	\$0	\$173,796	\$21,796,262
DE Shaw Composite Fund, LLC	\$43,491,623	\$0	\$0	\$0	\$1,171,630	\$44,663,253
Dimensional Fund Adv EM Value	\$38,270,624	\$0	\$0	\$0	\$3,929,503	\$42,200,126
DRA Growth & Income Fund IX	\$14,775,560	\$0	-\$126,904	-\$126,904	\$493,376	\$15,142,032
DRA Growth & Income Fund VII	\$1,214,353	\$0	\$0	\$0	\$11,459	\$1,225,812
DRA Growth & Income Fund VIII	\$5,311,394	\$0	\$0	\$0	-\$52,503	\$5,258,891
DRA Growth & Income Fund X	\$6,798,129	\$868,421	-\$149,714	\$718,707	\$487,762	\$8,004,598
Eagle Point Defensive Income Fund	\$7,224,657	\$0	-\$123,198	-\$123,198	-\$80,522	\$7,020,937
Eagle Point DIF II	\$500,000	\$717,000	\$0	\$717,000	-\$38,833	\$1,178,167
Exeter Industrial Value Fund V	\$6,436,178	\$1,565,494	\$0	\$1,565,494	-\$363,625	\$7,638,048
Fin VC Horizons II	\$3,852,409	\$0	\$0	\$0	-\$83,744	\$3,768,666
First Eagle International Equity	\$41,304,741	\$0	\$0	\$0	\$4,933,123	\$46,237,865
GCP SecureSpace Property Partners, L.P	\$1,808,077	\$0	-\$401,541	-\$401,541	\$68,920	\$1,475,456
GEM Realty Fund VI	\$5,188,784	\$500,000	-\$503,750	-\$3,750	-\$130,163	\$5,054,871
Global Infra Part III-A/B, LP	\$27,664,454	\$0	-\$2,599,183	-\$2,599,183	-\$679,820	\$24,385,451
Global Infra Partners IV	\$2,108,747	\$405,137	\$0	\$405,137	\$42,118	\$2,556,002
GQG Global Emerging Markets	\$59,505,860	\$0	\$0	\$0	\$1,927,761	\$61,433,621
Great Hill Equity Partners IV	\$2,920,657	\$0	\$0	\$0	\$196,967	\$3,117,624
H.I.G. Realty Partners IV, L.P.	\$3,868,190	\$691,576	\$0	\$691,576	\$192,660	\$4,752,426
HPS SP SIT OPP II		\$1,001,608	\$0	\$1,001,608	\$0	\$1,001,608
HPS Special Situations Opportunity Fund	\$6,336,376	\$856,079	\$0	\$856,079	\$87,442	\$7,279,897



### Total Fund | As of December 31, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Hudson Bay	\$9,807,436	\$0	\$0	\$0	\$95,409	\$9,902,845
Hull Street Energy II	\$162,888	\$155,145	\$0	\$155,145	\$0	\$318,033
Innovation Endeavors III	\$13,595,081	\$144,000	\$0	\$144,000	\$500,637	\$14,239,718
Innovation Endeavors IV	\$1,513,778	\$0	\$0	\$0	-\$7,580	\$1,506,198
Insight Immunized Cash Flow	\$214,311,377	\$0	-\$7,605,276	-\$7,605,276	\$2,036,388	\$208,742,489
Invesco Core Bonds	\$80,153,778	\$5,453	-\$5,453	\$0	\$1,464,823	\$81,618,600
Kimmeridge Energy Fund V, L.P.	\$5,707,576	\$0	-\$648,442	-\$648,442	\$250,375	\$5,309,509
Kimmeridge Fund VI	\$0	\$7,887,007	-\$238,948	\$7,648,059	\$0	\$7,648,059
Kotak India Midcap	\$9,595,921	\$0	\$0	\$0	-\$132,789	\$9,463,132
Lime Rock New Energy, L.P.	\$1,610,043	\$0	-\$26,014	-\$26,014	\$113,404	\$1,697,433
Lime Rock Partners VIII	\$3,592,082	\$181,328	-\$243,774	-\$62,446	\$71,556	\$3,601,192
Medley Opportunity Fund II LP	\$4,378,782	\$0	\$0	\$0	\$0	\$4,378,782
Mellon High Yield Beta	\$4,847,540	\$0	\$0	\$0	\$223,732	\$5,071,272
Morgan Stanley Intl Equity	\$24,338,763	\$0	\$0	\$0	\$4,157,548	\$28,496,311
Mountain Capital II	\$1,056,487	\$45,371	\$0	\$45,371	-\$34,653	\$1,067,205
Northern Trust 0-5 Year TIPS	\$55,544,051	\$0	\$0	\$0	\$690,993	\$56,235,045
Northern Trust MSCI EM IMI	\$109,508,919	\$0	-\$5,000,000	-\$5,000,000	\$10,687,586	\$115,196,505
Northern Trust MSCI World ex US	\$156,801,239	\$0	-\$25,000,000	-\$25,000,000	\$26,505,518	\$158,306,757
Northern Trust Russell 3000 PE	\$485,138,772	\$0	-\$40,000,000	-\$40,000,000	\$33,496,221	\$478,634,993
Oberweis Intl Opportunities	\$32,031,238	\$0	\$0	\$0	\$4,102,502	\$36,133,740
Octagon CLO Opp Fund IV	\$6,307,599	\$1,350,000	\$0	\$1,350,000	-\$55,378	\$7,602,221
Orion Mine Finance III	\$3,851,076	\$134,653	\$0	\$134,653	\$89,287	\$4,075,016
Pantheon Global Secondary III	\$450,520	\$0	\$0	\$0	-\$7,454	\$443,066
Pantheon USA Fund VII, LP	\$6,480,832	\$105	-\$320,105	-\$320,000	-\$165,531	\$5,995,301
Partners Group Secondary 2008	\$569,355	\$0	-\$80,168	-\$80,168	\$45,342	\$534,529



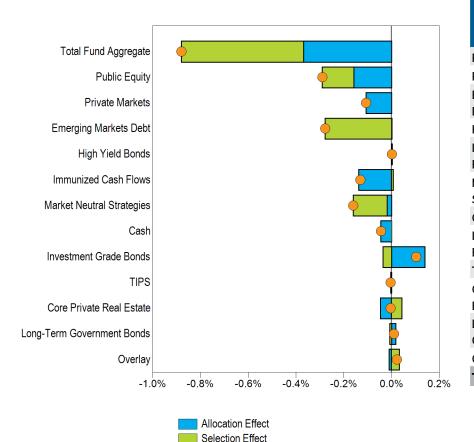
### Total Fund | As of December 31, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Partners Group Secondary 2011	\$3,527,263	\$0	-\$180,041	-\$180,041	\$50,848	\$3,398,070
Pathway Private Eq Fund VIII	\$638,551	\$0	\$0	\$0	-\$39,126	\$599,425
Payden EMD Blended Currency	\$12,662,864	\$0	\$0	\$0	\$1,322,357	\$13,985,221
PE Strategic Partnership, LP	\$295,171,629	\$6,950,000	-\$1,737,500	\$5,212,500	-\$7,664,865	\$292,719,264
Pine River Fund, Ltd	\$307,278	\$0	\$0	\$0	-\$3,572	\$303,706
Praedium X MidInc	\$2,294,061	\$1,167,436	-\$27,469	\$1,139,967	-\$145,311	\$3,288,717
Real Assets Coinvest I	\$1,199,996	\$0	\$0	\$0	\$0	\$1,199,996
Redwheel Emerging Markets Equity	\$25,692,944	\$0	\$0	\$0	\$2,164,977	\$27,857,921
Rockpoint Real Estate Fund VI, L.P.	\$5,481,010	\$294,692	\$0	\$294,692	-\$139,328	\$5,636,374
Russell Investments Overlay	\$6,578,626	\$0	\$0	\$0	\$904,642	\$7,483,268
Soma Capital Fund III LP	\$1,836,443	\$250,000	\$0	\$250,000	\$67,582	\$2,154,025
State Street Terminated Managers	\$6,482	\$0	\$0	\$0	\$579	\$7,062
SVP Special Situations V	\$2,687,244	\$562,500	-\$1,875	\$560,625	-\$135,980	\$3,111,889
TA Realty Core Property Fund	\$26,252,687	\$33,000,000	-\$653,923	\$32,346,077	\$364,621	\$58,963,385
Tembo Cap Mining III	\$1,665,595	\$31,951	\$0	\$31,951	-\$135,572	\$1,561,974
TI Platform SJFED LP	\$8,117,372	\$0	\$0	\$0	\$0	\$8,117,372
Torchlight Debt Fund VII	\$3,112,024	\$0	\$0	\$0	\$34,496	\$3,146,520
Torchlight Debt Opportunity VI	\$22,209,623	\$0	-\$851,258	-\$851,258	\$356,762	\$21,715,127
Tristan - EPISO IV	\$11,859,340	\$0	\$0	\$0	\$1,218,138	\$13,077,479
Tristan - EPISO V	\$9,417,849	\$0	-\$408,126	-\$408,126	\$1,180,964	\$10,190,687
Voya Securitized Credit	\$39,671,747	\$0	\$0	\$0	-\$406,410	\$39,265,338
Wellington Emerging Markets Systematic Equity	\$33,391,696	\$0	\$0	\$0	\$3,336,451	\$36,728,147
Wellington Iguazu Partners LP Fund	\$70,692,261	\$0	\$0	\$0	-\$2,009,677	\$68,682,584
White Oak Direct Lending	\$35,928,305	\$0	\$0	\$0	\$904,065	\$36,832,370
Total	\$2,716,686,561	\$164,499,843	-\$213,820,525	-\$49,320,682	\$121,463,102	\$2,788,828,980



#### Total Fund | As of December 31, 2022





Total Effect

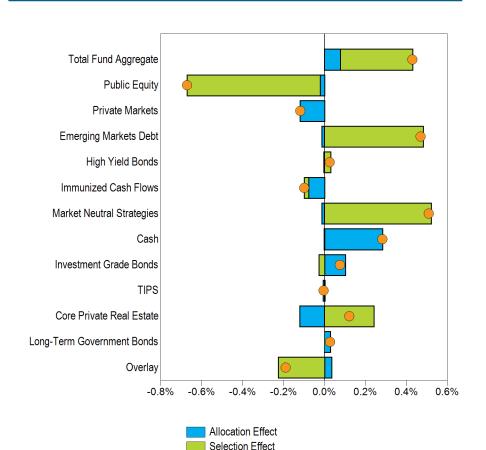
			Summary ecember 3	1, 2022		
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Public Equity	9.7%	10.0%	-0.3%	-0.1%	-0.2%	-0.3%
Private Markets	-0.3%	-0.3%	0.0%	0.0%	-0.1%	-0.1%
Emerging Markets Debt	-0.8%	8.3%	-9.1%	-0.3%	0.0%	-0.3%
High Yield Bonds	4.2%	4.2%	0.1%	0.0%	0.0%	0.0%
Immunized Cash Flows	1.0%	0.9%	0.1%	0.0%	-0.1%	-0.1%
Market Neutral Strategies	-2.8%	1.3%	-4.1%	-0.1%	0.0%	-0.2%
Cash	0.8%	0.8%	0.0%	0.0%	0.0%	0.0%
Investment Grade Bonds	0.9%	1.7%	-0.8%	0.0%	0.1%	0.1%
TIPS	1.2%	1.3%	0.0%	0.0%	0.0%	0.0%
Core Private Real Estate	1.0%	0.3%	0.7%	0.0%	0.0%	0.0%
Long-Term Government Bonds	-1.0%	-0.6%	-0.4%	0.0%	0.0%	0.0%
Overlay	13.7%	0.8%	12.9%	0.0%	0.0%	0.0%
Total	4.6%	5.4%	-0.9%	-0.5%	-0.4%	-0.9%

Difference in attribution returns and returns in the performance summary may occur as a result of the different calculation methodologies that are applied by InvestorForce.



### Total Fund | As of December 31, 2022





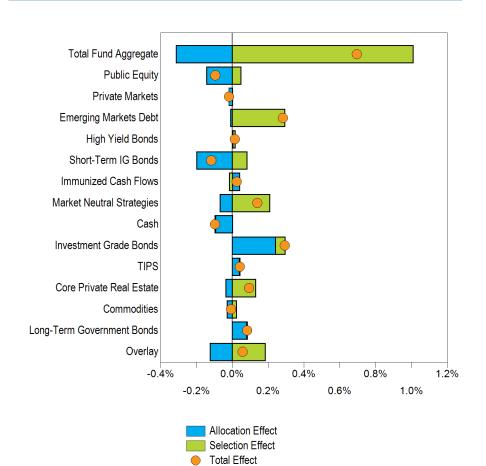
Total Effect

		ttribution Ending De				
	Wtd. Actual Return	Wtd. Index Return			Allocation Effect	Total Effects
Public Equity	-19.6%	-18.3%	-1.3%	-0.6%	0.0%	-0.7%
Private Markets	4.8%	4.8%	0.0%	0.0%	-0.1%	-0.1%
Emerging Markets Debt	1.1%	-14.8%	15.8%	0.5%	0.0%	0.5%
High Yield Bonds	-9.8%	-11.2%	1.3%	0.0%	0.0%	0.0%
Immunized Cash Flows	-3.1%	-3.7%	0.5%	0.0%	-0.1%	-0.1%
Market Neutral Strategies	23.5%	2.9%	20.6%	0.5%	0.0%	0.5%
Cash	1.4%	1.5%	-0.1%	0.0%	0.3%	0.3%
Investment Grade Bonds	-11.4%	-10.5%	-0.9%	0.0%	0.1%	0.1%
TIPS	-2.7%	-2.7%	0.1%	0.0%	0.0%	0.0%
Core Private Real Estate	27.2%	21.0%	6.3%	0.2%	-0.1%	0.1%
Long-Term Government Bonds	-29.3%	-29.3%	-0.1%	0.0%	0.0%	0.0%
Overlay	-58.4%	1.5%	-59.9%	-0.2%	0.0%	-0.2%
Total	-9.0%	-9.4%	0.4%	0.4%	0.1%	0.4%



#### Total Fund | As of December 31, 2022

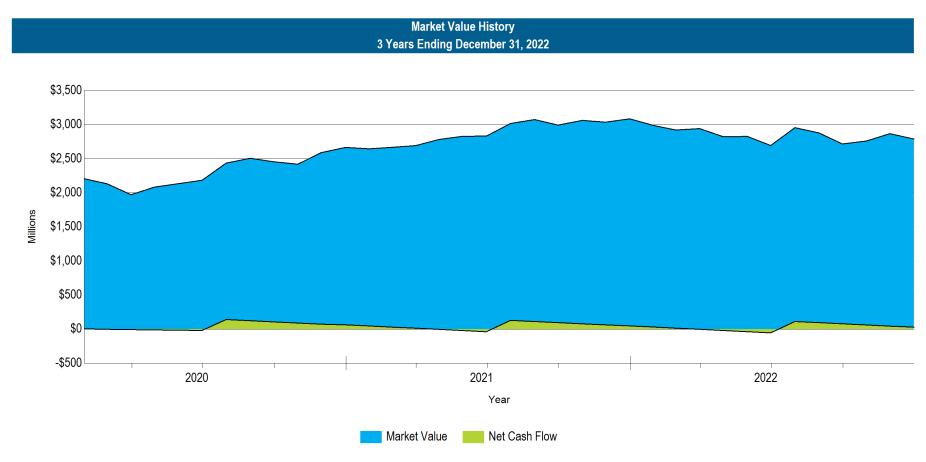




	A	ttribution	Summary			
	3 Years	Ending De	cember 3	1, 2022		
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Public Equity	3.3%	3.4%	-0.1%	0.0%	-0.1%	-0.1%
Private Markets	16.5%	16.5%	0.0%	0.0%	0.0%	0.0%
Emerging Markets Debt	3.5%	-5.7%	9.2%	0.3%	0.0%	0.3%
High Yield Bonds	1.8%	0.0%	1.8%	0.0%	0.0%	0.0%
Short-Term IG Bonds	0.9%	0.2%	0.7%	0.1%	-0.2%	-0.1%
Immunized Cash Flows	-0.3%	-0.3%	0.1%	0.0%	0.0%	0.0%
Market Neutral Strategies	12.6%	1.2%	11.3%	0.2%	-0.1%	0.1%
Cash	0.6%	0.7%	-0.1%	0.0%	-0.1%	-0.1%
Investment Grade Bonds	-1.4%	-2.0%	0.6%	0.1%	0.2%	0.3%
TIPS	2.2%	2.5%	-0.3%	0.0%	0.0%	0.0%
Core Private Real Estate	13.7%	10.9%	2.8%	0.1%	0.0%	0.1%
Commodities	-7.8%	7.8%	-15.5%	0.0%	0.0%	0.0%
Long-Term Government Bonds	-13.1%	-7.4%	-5.7%	0.0%	0.1%	0.1%
Overlay	-18.2%	0.6%	-18.9%	0.2%	-0.1%	0.1%
Total	7.2%	6.5%	0.7%	1.0%	-0.3%	0.7%



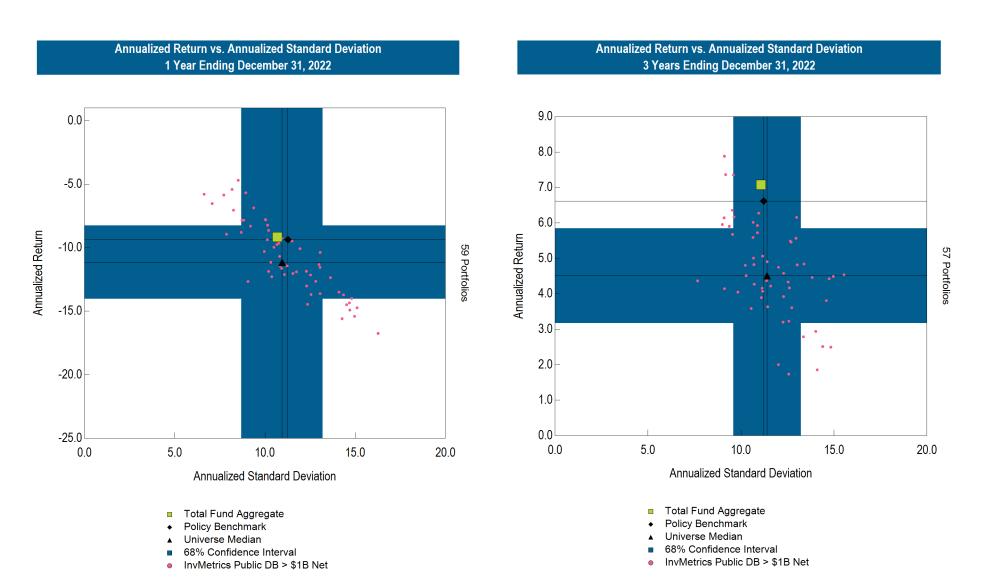
Total Fund | As of December 31, 2022



	Fourth Quarter	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$2,716,686,561	\$2,694,268,662	\$3,085,375,034	\$2,220,094,606
Net Cash Flow	-\$49,320,682	\$83,644,710	-\$18,585,581	\$28,108,218
Net Investment Change	\$121,463,102	\$10,915,608	-\$277,960,472	\$540,626,157
Ending Market Value	\$2,788,828,980	\$2,788,828,980	\$2,788,828,980	\$2,788,828,980



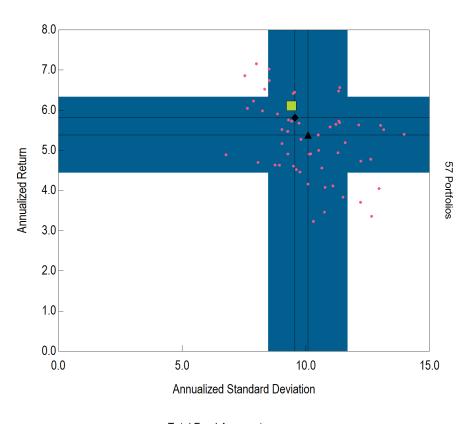
#### Total Fund | As of December 31, 2022





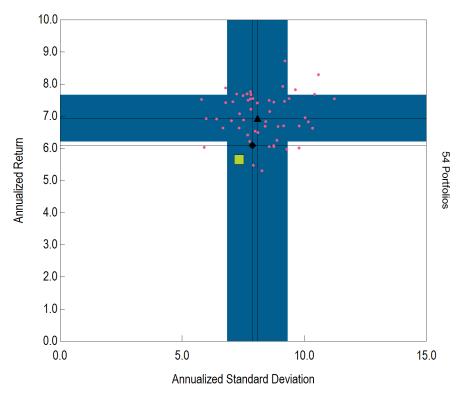
#### Total Fund | As of December 31, 2022

## Annualized Return vs. Annualized Standard Deviation 5 Years Ending December 31, 2022



- Total Fund Aggregate
- Policy Benchmark
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

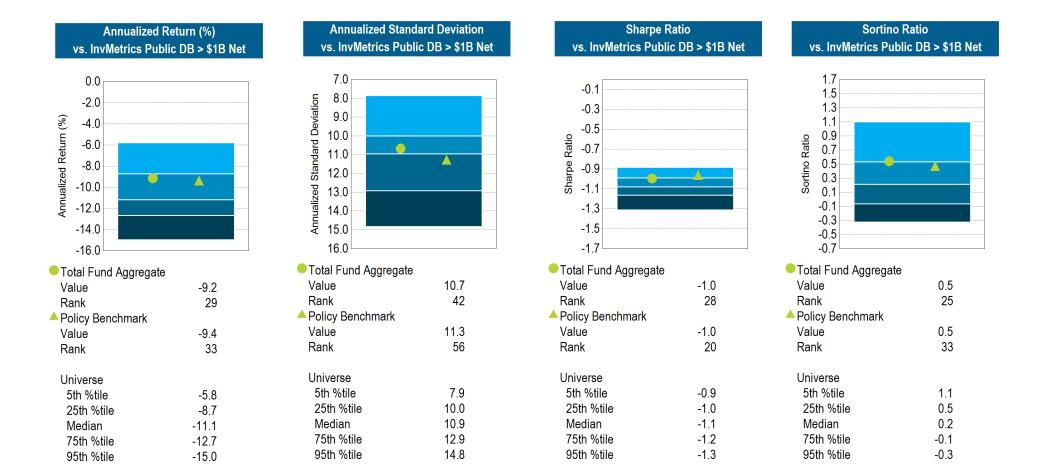
## Annualized Return vs. Annualized Standard Deviation 10 Years Ending December 31, 2022



- Total Fund Aggregate
- Policy Benchmark
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net

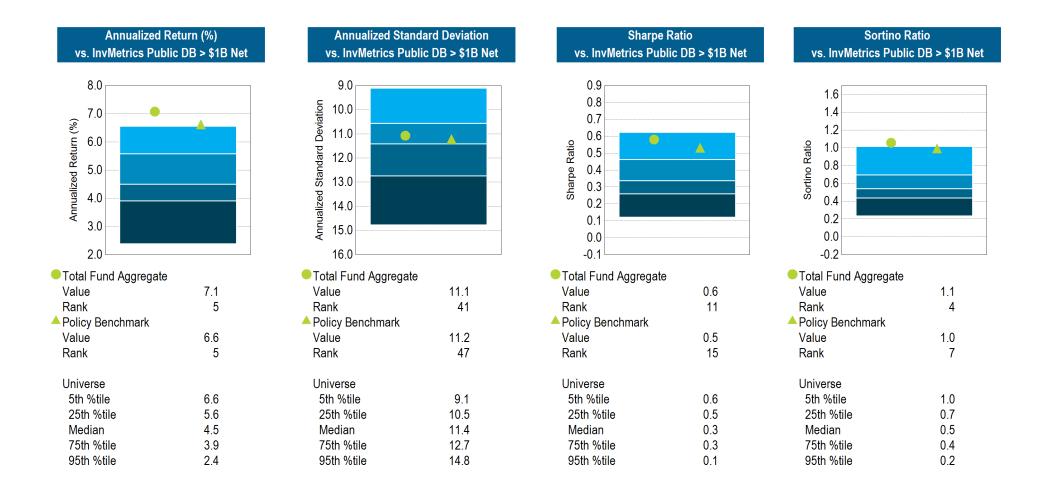


#### Total Fund | One Year As of December 31, 2022





#### Total Fund | Three Years As of December 31, 2022





5.9

5.4

4.6

37

25th %tile

75th %tile

95th %tile

Median

### San Jose Federated City Employees' Retirement System

#### Total Fund | Five Years As of December 31, 2022

25th %tile

75th %tile

95th %tile

Median

0.9

0.7

0.6

0.4

#### Annualized Return (%) Sharpe Ratio Sortino Ratio **Annualized Standard Deviation** vs. InvMetrics Public DB > \$1B Net 7.0 1.0 8.2 1.4 7.7 0.9 Annualized Standard Deviation 8.0 1.3 7.2 8.0 1.2 Annualized Return (%) 6.7 9.0 0.7 1.1 Sharpe Ratio 6.2 Sortino Ratio 1.0 0.9 0.8 0.6 10.0 5.7 0.5 5.2 11.0 0.4 0.7 4.7 0.6 0.3 4.2 12.0 0.5 0.2 3.7 0.4 13.0 0.1 3.2 0.3 2.7 0.0 0.2 14.0 Total Fund Aggregate Total Fund Aggregate Total Fund Aggregate Total Fund Aggregate Value 6.1 Value 9.4 Value 0.5 Value 1.0 Rank 21 Rank 34 Rank 24 Rank 12 ▲ Policy Benchmark ▲ Policy Benchmark ▲ Policy Benchmark Policy Benchmark Value 5.8 Value 9.6 Value 0.5 Value 0.9 27 Rank 27 Rank 42 Rank Rank 18 Universe Universe Universe Universe 5th %tile 5th %tile 7.8 5th %tile 5th %tile 1.2 6.8 0.7

9.0

10.1

11.3

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25th %tile

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Median

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Median

0.5

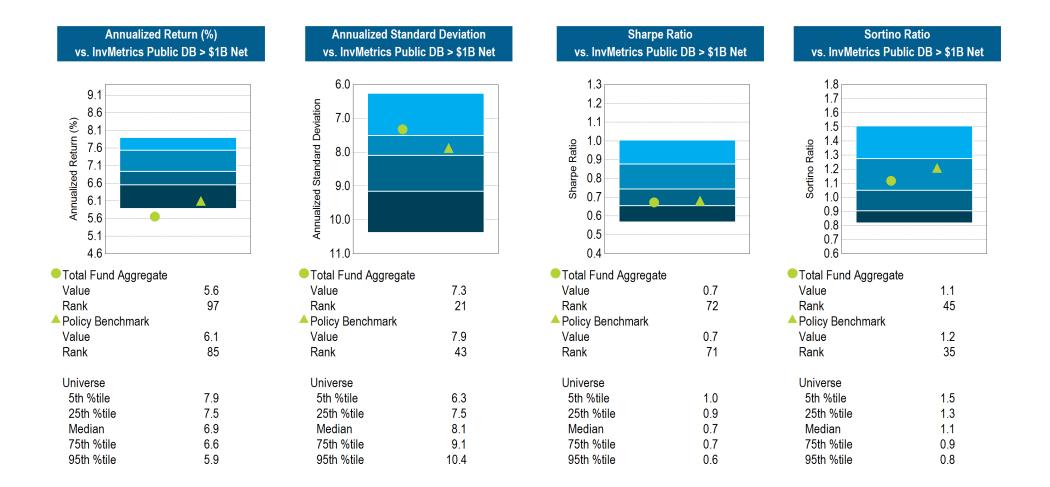
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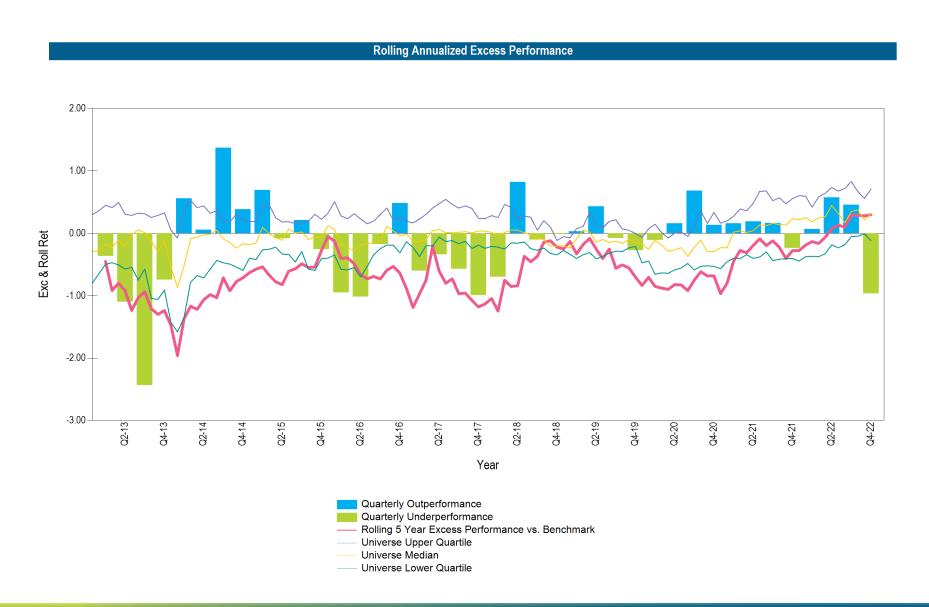


#### Total Fund | Ten Years As of December 31, 2022



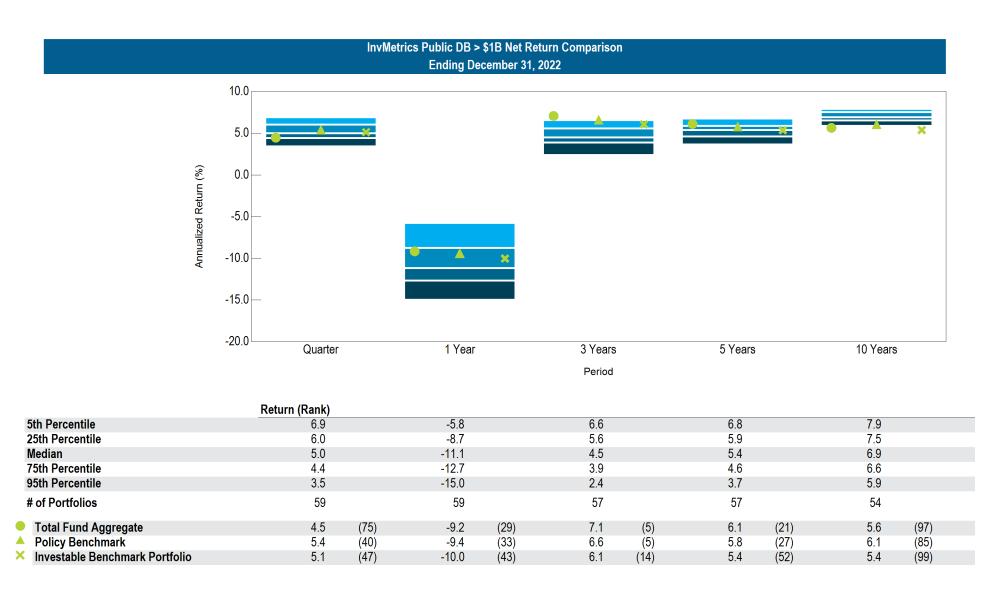


Total Fund | As of December 31, 2022



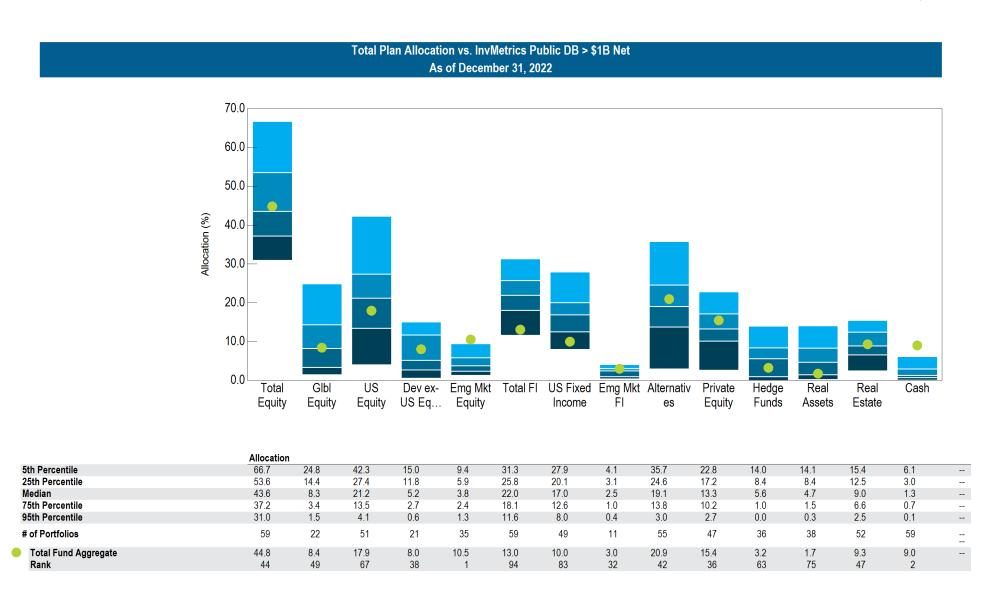


Total Fund | As of December 31, 2022





Total Fund | As of December 31, 2022



Alternatives group includes Private Equity, Hedge Funds, and Real Assets. Private Equity group includes Private Debt and Venture Capital.



### Total Fund | As of December 31, 2022

	Major Benchmark F	Returns			
	Periods Ending Decembe	er 31, 2022			
Name	Q4-22	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity					
Russell 3000	7.2	-19.2	7.1	8.8	12.1
S&P 500	7.6	-18.1	7.7	9.4	12.6
Russell 1000	7.2	-19.1	7.3	9.1	12.4
Russell 1000 Growth	2.2	-29.1	7.8	11.0	14.1
Russell 1000 Value	12.4	-7.5	6.0	6.7	10.3
Russell MidCap	9.2	-17.3	5.9	7.1	11.0
Russell 2000	6.2	-20.4	3.1	4.1	9.0
Russell 2000 Growth	4.1	-26.4	0.6	3.5	9.2
Russell 2000 Value	8.4	-14.5	4.7	4.1	8.5
International Equity					
MSCI ACWI	9.8	-18.4	4.0	5.2	8.0
MSCI World ex USA	16.2	-14.3	1.3	1.8	4.6
MSCI EAFE	17.3	-14.5	0.9	1.5	4.7
MSCI Emerging Markets	9.7	-20.1	-2.7	-1.4	1.4
Fixed Income					
91 Day T-Bills	0.8	1.5	0.6	1.2	0.7
Bloomberg US Aggregate TR	1.9	-13.0	-2.7	0.0	1.1
Bloomberg US Govt/Credit TR	1.8	-13.6	-2.6	0.2	1.2
Bloomberg US Municipal TR	4.1	-8.5	-0.8	1.3	2.1
Bloomberg US High Yield TR	4.2	-11.2	0.0	2.3	4.0
FTSE WGBI TR	3.8	-18.3	-5.7	-2.5	-1.2
FTSE WGBI ex US TR	6.5	-22.1	-8.0	-4.2	-2.3
Real Estate					
FTSE NAREIT All REIT	4.5	-25.1	-0.5	3.9	6.9
NCREIF Property Index	-3.5	5.5	8.1	7.5	8.8
Alternatives					
HFRI Fund of Funds Composite Index	1.7	-5.3	3.7	3.0	3.5
Inflation					
Consumer Price Index	0.0	6.5	4.9	3.8	2.6



Total Fund | As of December 31, 2022

				S	statistics Sur	mmary						
				3 Years	Ending Dece	mber 31, 202	2					
	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Anlzd Alpha J	Anlzd Alpha J Rank	Tracking Error	Information Ratio	Information Ratio Rank	Beta	Sharpe Ratio
Total Fund Aggregate	100.00%	7.07%	5	11.08%	41	0.55%	54	0.87%	0.52	25	0.98	0.58
Policy Benchmark		6.62%	5	11.21%	47	0.00%	86	0.00%			1.00	0.53
Growth	74.19%	7.53%		15.08%		1.39%		1.84%	0.65		0.97	0.46
Growth Benchmark		6.33%		15.49%		0.00%		0.00%		-	1.00	0.37
Public Equity	46.48%	3.28%	79	20.61%	86	-0.13%	76	1.37%	-0.06	70	1.02	0.13
Public Equity Benchmark		3.36%	78	20.20%	85	0.00%	70	0.00%			1.00	0.13
Global Equity	8.40%	3.60%	63	21.07%	52							0.14
MSCI ACWI IMI Index										-		
US Equity	17.93%	6.27%	52	22.22%	40	-0.58%	55	1.34%	-0.36	83	1.02	0.25
MSCI USA IMI NR USD		6.75%	46	21.83%	36	0.00%	47	0.00%		-	1.00	0.28
International Equity	9.65%	1.00%	53	21.67%	62	-0.06%	54	3.36%	-0.01	54	1.03	0.02
MSCI World ex USA IMI NR USD		1.05%	52	20.70%	44	0.00%	53	0.00%		-	1.00	0.02
Emerging Markets Equity	10.50%	-0.32%	38	20.70%	31	1.48%	38	2.71%	0.55	17	0.99	-0.05
MSCI Emerging Markets IMI Net		-1.82%	53	20.65%	31	0.00%	53	0.00%		-	1.00	-0.12
Private Markets	22.74%	16.46%		9.53%		0.00%		0.00%	-1.06		1.00	1.66
Private Markets Benchmark		16.46%		9.53%		0.00%		0.00%			1.00	1.66
Private Equity	11.79%	23.66%	24	14.80%	62	23.80%	1	22.66%	0.17	40	-0.04	1.56
San Jose Custom Private Equity Benchmark		19.75%	48	16.51%	74	0.00%	99	0.00%			1.00	1.16
Private Debt	4.26%	13.15%	1	10.53%	99	10.74%	1	10.92%	0.78	22	0.45	1.19
S&P Global Leveraged Loan Index +2%		4.59%	2	8.93%	99	0.00%	86	0.00%			1.00	0.44



### Total Fund | As of December 31, 2022

	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Anizd Alpha J	Anizd Alpha J Rank	Tracking Error	Information Ratio	Information Ratio Rank	Beta	Sharpe Ratio
Growth Real Estate	4.06%	14.27%	1	7.37%	28	15.15%	1	10.59%	0.59	16	-0.20	1.85
NCREIF Property Index		8.07%	80	6.41%	23	0.00%	65	0.00%			1.00	1.16
Emerging Markets Debt	2.96%	3.52%	1	8.04%	4	5.87%	4	8.53%	1.08	6	0.47	0.36
50% JPM EMBI GD / 50% JPM GBI-EM		-5.66%	83	12.69%	35	0.00%	91	0.00%			1.00	-0.50
High Yield Bonds	2.01%	1.83%	13	8.24%	17	1.51%	15	7.75%	0.23	39	0.53	0.14
Bloomberg US Corporate High Yield TR		0.05%	58	11.13%	71	0.00%	56	0.00%			1.00	-0.05
Low Beta	11.37%	4.24%		2.36%		3.38%		2.81%	1.43		-0.53	1.53
Low Beta Benchmark		0.22%		1.07%		0.00%		0.00%			1.00	-0.39
Immunized Cash Flows	7.48%	-0.26%	99	1.77%	95	-0.04%	88	0.86%	0.06	99	0.90	-0.51
Bloomberg US Govt/Credit 1-3 Yr. TR		-0.32%	99	1.73%	95	0.00%	78	0.00%			1.00	-0.56
Market Neutral Strategies	3.21%	12.59%		8.15%		12.70%		8.20%	1.38		-1.25	1.47
Market Neutral Strategies Benchmark		1.25%		0.46%		0.00%		0.00%			1.00	1.30
Relative Value	3.21%	10.18%		11.89%		6.17%		8.36%	0.81		1.23	0.80
HFRI Relative Value (Total) Index		3.38%		6.98%		0.00%		0.00%			1.00	0.39
Cash	0.68%	0.65%		0.30%		-0.06%		0.15%	-0.50		0.76	0.00
ICE BofA 91 Days T-Bills TR		0.72%		0.35%		0.00%		0.00%			1.00	0.22
Other	14.16%	0.80%		3.23%		1.94%		2.34%	1.28		0.63	0.05
Other Benchmark		-2.20%		4.37%		0.00%		0.00%			1.00	-0.65
Investment Grade Bonds	4.33%	-1.42%	6	4.97%	6	0.67%	17	1.03%	0.61	1	1.02	-0.42
Custom IG Bonds Benchmark		-2.05%	26	4.79%	4	0.00%	77	0.00%			1.00	-0.56
TIPS	2.02%	2.21%		3.12%		-0.15%		0.82%	-0.34		0.93	0.50



### Total Fund | As of December 31, 2022

	% of Total MV	Anlzd Return	Anlzd Return Rank	Anlzd Standard Deviation	Anlzd Standard Deviation Rank	Anizd Alpha J	Anlzd Alpha J Rank	Tracking Error	Information Ratio	Information Ratio Rank	Beta	Sharpe Ratio
BBg U.S. TIPS 0-5 Years		2.49%		3.25%		0.00%		0.00%		-	1.00	0.57
Core Private Real Estate	6.21%	13.72%		8.47%		1.95%		2.38%	1.18		1.08	1.54
Core Real Estate Benchmark		10.91%		7.52%		0.00%		0.00%			1.00	1.37
Overlay	0.27%	-18.22%		38.95%		-18.86%		38.96%	-0.48		-6.10	-0.48
91 Day T-Bills		0.64%		0.32%		0.00%		0.00%			1.00	0.00



Total Fund | As of December 31, 2022

		Benchmark History
		As of December 31, 2022
Total Fund Ago	gregate	
3/1/2022	Present	25% MSCI USA IMI NR USD / 12% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Markets IMI NR USD / 21% Private Markets Benchmark / 5% NCREIF-ODCE NR USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 2% Bloomberg US Corporate High Yield TR / 3% SOFR +1.5% / 5% Immunized Cash Flow Benchmark / 2% Bloomberg US Treasury TIPS 0-5 Yr TR / 8% Custom IG Bonds Benchmark / 2% Bloomberg US Treasury Long TR
6/1/2021	2/28/2022	25% MSCI USA IMI NR USD / 12% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Markets IMI NR USD / 21% Private Markets Benchmark / 5% NCREIF-ODCE NR USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 2% Bloomberg US Corporate High Yield TR / 3% LIBOR 3-Month +1.5% / 5% Immunized Cash Flow Benchmark / 2% Bloomberg US Treasury TIPS 0-5 Yr TR / 8% Custom IG Bonds Benchmark / 2% Bloomberg US Treasury Long TR
4/1/2020	5/31/2021	25% MSCI USA IMI NR USD / 12% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 21% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 2% Bloomberg US Corporate High Yield TR / 5% Immunized Cash Flows Benchmark / 3% Market Neutral Strategies Benchmark / 5% NCREIF-ODCE / 2% Bloomberg US Govt Long TR / 2% Bloomberg US Treasury TIPS 0-5 Yr TR / 8% Custom IG Bonds Benchmark
12/1/2019	3/31/2020	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 23% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 15% ICE BofA 91 Days T-Bills TR / 5% Immunized Cash Flows Benchmark / 7% Market Neutral Strategies Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 2% Bloomberg US Treasury TIPS 0-5 Yr TR / 3% BBgBarc Global Aggregate TR
11/1/2019	11/30/2019	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 23% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 18% ICE BofA 91 Days T-Bills TR / 5% Immunized Cash Flows Benchmark / 7% Market Neutral Strategies Benchmark / 5% NCREIF-ODCE / 2% Bloomberg Commodity Index TR USD / 2% Bloomberg US Treasury TIPS 0-5 Yr TR
10/1/2019	10/31/2019	13% MSCI USA IMI NR USD / 7% MSCI World ex USA IMI NR USD / 10% MSCI Emerging Market IMI Net / 25% Private Markets Benchmark / 5% 50% JPM EMBI GD / 50% JPM GBI-EM / 18% ICE BofA 91 Days T-Bills TR / 5% Immunized Cash Flows Benchmark / 7% Market Neutral Strategies Benchmark / 5% NCREIF-ODCE / 3% Bloomberg Commodity Index TR USD / 2% Bloomberg US Treasury TIPS 0-5 Yr TR
10/1/2018	9/30/2019	13% MSCI USA IMI NR USD / 7% MSCI World ex USA IMI NR USD / 10% MSCI Emerging Market IMI Net / 25% Private Markets Benchmark / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 20% ICE BofA 91 Days T-Bills TR / 5% Immunized Cash Flows Benchmark / 7% Market Neutral Strategies Benchmark / 5% NCREIF-ODCE / 3% Bloomberg Commodity Index TR USD / 2% Bloomberg US Treasury TIPS 0-5 Yr TR
11/1/2017	9/30/2018	28% MSCI ACWI IMI Net USD / 9% Cambridge PE Composite BM / 33% Fixed Income Custom Benchmark / 6% S&P Global Leveraged Loan Index +2% / 8% NCREIF Property Index / 4% Bloomberg Commodity Index TR USD / 1% DJ Brookfield Global Infrastructure Net TR USD / 11% HFRI Macro (Total) Index
7/1/2015	10/31/2017	28% MSCI ACWI IMI Net USD / 9% Cambridge Associates Private Equity Composite / 19% Fixed Income Custom Benchmark / 5% S&P Global Leveraged Loan Index +2% / 7% NCREIF Property Index / 6% Bloomberg Commodity Index TR USD / 5% DJ Brookfield Global Infrastructure Net TR USD / 5% S&P Global LargeMidCap Commodity and Resources GR USD / 11% HFRI Macro (Total) Index / 5% 60/40 MSCI ACWI IMI/BC Global



Total Fund | As of December 31, 2022

Low Cost Passiv	ve Benchmark	
6/1/2021	Present	25% MSCI USA IMI NR USD / 12% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Markets IMI NR USD / 12% Russell 3000 / 3% BBgBarc US Aggregate TR / 3% S&P Global Natural Resources / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 2% BBgBarc US Corporate High Yield TR / 8% FTSE EPRA/NAREIT Global NR USD / 2% BBgBarc US Treasury Long TR / 5% BBgBarc Gov/Credit 1-3 Yr / 3% LIBOR 3-Month / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 8% Custom IG Bonds Benchmark
4/1/2020	5/31/2021	25% MSCI USA IMI NR USD / 12% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 10% Russell 3000 / 11% BBgBarc US Aggregate TR / 2% BBgBarc US Corporate High Yield TR 8% / 3% FTSE EPRA/NAREIT Global NR USD / 2% BBgBarc US Govt Long TR / 5% ICE BofAML 91 Days T-Bills TR / 3% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR
12/1/2019	3/31/2020	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 13% Russell 3000 / 7% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 5% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 7% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 15% BBgBarc US Govt/Credit 1-3 Yr. TR
11/1/2019	11/30/2019	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 12% MSCI Emerging Market IMI Net / 13% Russell 3000 / 7% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 5% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 7% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 18% BBgBarc US Govt/Credit 1-3 Yr. TR
10/1/2019	10/31/2019	13% MSCI USA IMI NR USD / 7% MSCI World ex USA IMI NR USD / 10% MSCI Emerging Market IMI Net / 15% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 5% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 7% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 3% Bloomberg Commodity Index TR USD / 18% BBgBarc US Govt/Credit 1-3 Yr. TR
10/1/2018	9/30/2019	13% MSCI USA IMI NR USD / 10% MSCI World ex USA IMI NR USD / 13% MSCI Emerging Market IMI Net / 12% Russell 3000 / 4% BBgBarc US Aggregate TR / 8% FTSE EPRA/NAREIT Global NR USD / 3% S&P Global Natural Resources Net USD / 3% 50% JPM EMBI GD / 50% JPM GBI-EM / 5% ICE BofAML 91 Days T-Bills TR / 5% 3-Month Libor +1% / 2% BBgBarc US Treasury TIPS 0-5 Yr TR / 2% Bloomberg Commodity Index TR USD / 3% FTSE WGBI ex US TR/17% BBgBarc US Govt/Credit 1-3 Yr. TR



Total Fund | As of December 31, 2022

Growth 6/1/2021 4/1/2020	Present 5/31/2021	65.33% Public Equity Benchmark / 28.0% Private Markets Benchmark / 4.0% 50% JPM EMBI GD / 50% JPM GBI-EM / 2.67% BBgBarc US Corporate High Yield TR 65.33% Public Equity Benchmark / 28% Private Markets Benchmark / 6.67% 50% JPM EMBI GD / 50% JPM GBI-EM / 4.08% BBgBarc US Corporate
		High Yield TR 65.33% Public Equity Benchmark / 28% Private Markets Benchmark / 6.67% 50% JPM EMBI GD / 50% JPM GBI-EM / 4.08% BBgBarc US Corporate
4/1/2020	5/31/2021	
		High Yield TR
11/1/2019	3/31/2020	57.38% Public Equity Benchmark / 37.7% Private Markets Benchmark / 4.92% 50% JPM EMBI GD / 50% JPM GBI-EM
10/1/2019	10/31/2019	50% Public Equity Benchmark / 41.67% Private Markets Benchmark / 8.33% 50% JPM EMBI GD / 50% JPM GBI-EM
10/1/2018	9/30/2019	51.73% Public Equity Benchmark / 43.1% Private Markets Benchmark / 5.17% 50% JPM EMBI GD / 50% JPM GBI-EM
11/1/2017	9/30/2018	51.29% MSCI ACWI IMI Net USD / 16.48% Cambridge PE Composite BM / 10.99% S&P Global Leveraged Loan Index +2% / 7.33% NCREIF Property Index / 60.4% 50% JPM EMBI GD (US)/ 50% JPM GBIEM GD (Lcl) / 60.4% 50% BAML Global HY / 50% S&P Global Leveraged Loan / 1.83% DJ Brookfield Global Infrastructure Net TR USD
7/1/2015	10/31/2017	47.23% MSCI ACWI IMI Net USD / 15.18% Cambridge PE Composite BM / 8.43% S&P Global Leveraged Loan Index +2% / 8.43% DJ Brookfield Global Infrastructure Net TR USD / 8.43% S&P Global Natural Resources Index TR USD / 5.9% NCREIF Property Index / 3.2% 50% JPM EMBI GD (US)/ 50% JPM GBIEM GD (Lcl) / 3.2% 50% BAML Global HY / 50% S&P Global Leveraged Loan
Public Equity		
6/1/2021	Present	51.02% MSCI USA IMI NR USD / 24.49% MSCI World ex USA IMI NR USD / 24.49% MSCI Emerging Market IMI NR USD
4/1/2020	5/31/2021	51.02% MSCI USA IMI NR USD / 24.49% MSCI World ex USA IMI NR USD / 24.49% MSCI Emerging Market IMI Net
11/1/2019	3/31/2020	37.14% MSCI USA IMI NR USD / 28.57% MSCI World ex USA IMI NR USD / 34.29% MSCI Emerging Market IMI Net
10/1/2018	10/31/2019	43.33% MSCI USA IMI NR USD / 23.33% MSCI World ex USA IMI NR USD / 33.33% MSCI Emerging Market IMI Net
5/1/2010	9/30/2018	MSCI ACWI IMI Net USD
Global Equi	ty	
7/1/2015	Present	MSCI ACWI IMI NR USD
US Equity		
7/1/2015	Present	MSCI USA IMI NR USD
Internation	al Equity	
7/1/2015	Present	MSCI World ex USA IMI NR USD
Emerging N	Markets Equity	
7/1/2015	Present	MSCI Emerging Markets IMI NR USD



Total Fund | As of December 31, 2022

Marketak	Marketable Alternative Equity					
10/1/2014	Present	HFRI Equity Hedge (Total) Index				
Private Ma	Private Markets					
7/1/2015	Present	Private Markets				
Private Markets ex Russell 3000						
		No Benchmark Selected				
Private	e Equity					
1/1/2006	Present	Custom Private Equity BM (100% Cambridge US PE)				
Private Equity ex Russell 3000						
7/1/2018	9/30/2021	Cambridge Associates Global Private Equity Index				
Nort	Northern Trust Russell 3000					
6/1/2018	Present	Russell 3000				
Private	Private Debt					
12/1/2010	Present	S&P Global Leveraged Loan Index +2%				
Growth	n Real Estate					
7/1/2015	Present	NCREIF Property Index				
Private	Real Assets					
		No Benchmark Selected				
Emerging N	Markets Debt					
7/1/2015	Present	50% JP Morgan GBI EM Global Diversified TR USD / 50% JP Morgan EMBI Global Diversified				
High Yield I	High Yield Bonds					
6/1/2020	Present	BBgBarc US Corporate High Yield TR				
Low Beta						
4/1/2020	Present	62.5% Immunized Cash Flows Benchmark / 37.5% Market Neutral Strategies Benchmark				
12/1/2019	3/31/2020	55.56% ICE BofA 91 Days T-Bills TR / 25.93% Immunized Cash Flows Benchmark / 18.52% Market Neutral Strategies Benchmark				
10/1/2019	11/30/2019	60% ICE BofA 91 Days T-Bills TR / 23.33% Immunized Cash Flows Benchmark / 6.67% Market Neutral Strategies Benchmark				
10/1/2018	9/30/2019	62.5% ICE BofA 91 Days T-Bills TR / 15.62% Immunized Cash Flows Benchmark / 21.88% Market Neutral Strategies Benchmark				
7/1/2015	9/30/2018	HFRI Macro (Total) Index				



Total Fund | As of December 31, 2022

Short-Term IG Bonds					
10/1/2018	Present	91 Day T-Bills			
Immunized Cash Flows					
10/1/2018	Present	Immunized Cash Flows			
Market Neutral Strategies					
3/1/2022	Present	SOFR + 1.5%			
6/1/2021	2/28/2022	LIBOR 3-Month +1.5%			
10/1/2018	5/31/2021	3-Month Libor Total Return USD			
11/1/2012	9/30/2018	HFRI Macro (Total) Index			
Macro					
10/1/2014	Present	HFRI Macro (Total) Index			
Relative Value					
10/1/2014	Present	HFRI Relative Value (Total) Index			
Cash					
1/1/2006	Present	ICE BofA 91 Days T-Bills TR			
Other					
6/1/2021	Present	29.41% NCREIF ODCE Value Weighted (Net) (1 Qtr Lag) / 47.06% Custom IG Bonds Benchmark / 11.76% BBgBarc US Treasury Long TR / 11.76% BBgBarc US Treasury TIPS 0-5 Yr TR			
4/1/2020	5/31/2021	29.41% NCREIF ODCE Equal Weighted / 47.06% Custom IG Bonds Benchmark / 11.76% BBgBarc US Govt Long TR / 11.76% BBgBarc US Treasury TIP 0-5 Yr TR			
12/1/2019	3/31/2020	41.67% NCREIF-ODCE / 16.67% Bloomberg Commodity Index TR USD / 16.67% BBgBarc U.S. TIPS 0-5 Years / 25% BBgBarc Global Aggregate TR			
11/1/2019	11/30/2019	55.55% NCREIF-ODCE / 22.22% Bloomberg Commodity Index TR USD / 22.22% BBgBarc U.S. TIPS 0-5 Years			
10/1/2018	10/31/2019	50% NCREIF-ODCE / 30% Bloomberg Commodity Index TR USD / 20% BBgBarc U.S. TIPS 0-5 Years			
11/1/2017	9/30/2018	76.74% BBgBarc Global Aggregate TR / 11.63% NCREIF Property Index / 11.63% Bloomberg Commodity Index TR USD			
7/1/2015	10/31/2017	51.18% BBgBarc Global Aggregate TR / 11.78% NCREIF Property Index / 20.2% Bloomberg Commodity Index TR USD / 16.84% 60/40 MSCI ACWI/BBgBarc Global Aggregate			
Investment	Investment Grade Bonds				
12/1/2019	Present	Custom IG Bonds Benchmark (25% BBgBac 1-3 Year Government/Credit, 56% US Aggregate, 19% US Securitized MBS/ABS/CMBS)			
TIPS					
3/1/2017	Present	100% BBgBarc US Treasury TIPS 0-5 Yr TR			



Total Fund | As of December 31, 2022

Core Private Real Estate					
6/1/2021	Present	NCREIF ODCE Value Weighted (Net) (1 Qtr Lag)			
7/1/2004	5/31/2021	NCREIF ODCE Equal Weighted (Net)			
Commodities					
5/1/2010	Present	Bloomberg Commodity Index TR USD			
Long Term Government Bonds					
5/1/2020	Present	BBgBarc US Govt Long TR			
Core Bonds					
7/1/2015	Present	BBgBarc Global Aggregate TR			
Overlay					
11/1/2011	Present	91 Day T-Bills			



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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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



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

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

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

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

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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