

As of September 30, 2022

Quarterly Review



Agenda

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# **Economic and Market Update**

Data as of October 31, 2022

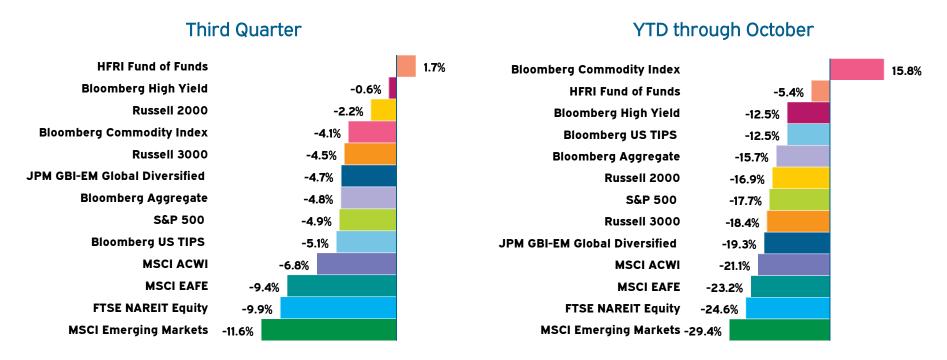


# Commentary

- → Investor sentiment improved in October as markets repriced for continued easing of inflation risks, a potential slowing in monetary policy tightening efforts, and hopes for a soft-landing in 2023.
  - After month-end, the Federal Reserve continued its aggressive tightening campaign with its fourth consecutive 75 basis point rate hike. Future hikes are expected into next year as US inflation remains high and labor markets tight.
  - In Europe, inflation hit a multi-decade high on energy prices, but manufacturing and service data in some countries surprised to the upside, lifting investor sentiment.
  - In the UK, the appointment of Rishi Sunak as the new prime minister calmed investors nerves to some extent.
  - US and developed equity markets rallied for the month, while emerging markets declined on significant China weakness (-16.8%) driven in part by political developments and continued strict COVID-19 policies.
  - Interest rates further increased across the US yield curve during October, and the curve remained inverted (ten- year yield minus the two-year yield) by 43 basis points. This year has witnessed by far the worst start to a calendar year for bond investors.
- → Persistently high inflation and tightening of monetary policy, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China and recent political developments will all continue to have considerable consequences for the global economy.



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



- → After broad declines in Q3 driven by expectations for further policy tightening, October produced mixed results with developed market equities posting notable gains.
- → Outside of commodities, all other public market asset classes remain significantly negative year-to-date.

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



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

	October	Q3	YTD	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)	(%)
S&P 500	8.1	-4.9	-17.7	-14.6	10.2	10.4	12.8
Russell 3000	8.2	-4.5	-18.4	-16.5	9.8	9.9	12.5
Russell 1000	8.0	-4.6	-18.5	-16.4	10.0	10.2	12.7
Russell 1000 Growth	5.8	-3.6	-26.6	-24.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-5.6	-9.3	-7.0	7.3	7.2	10.3
Russell MidCap	8.9	-3.4	-17.5	-17.2	7.8	7.9	11.3
Russell MidCap Growth	7.9	-0.7	-26.1	-28.9	6.3	8.7	11.9
Russell MidCap Value	9.4	-4.9	-12.8	-10.2	7.5	6.5	10.4
Russell 2000	11.0	-2.2	-16.9	-18.5	7.0	5.6	9.9
Russell 2000 Growth	9.5	0.2	-22.6	-26.0	5.1	5.2	10.1
Russell 2000 Value	12.6	-4.6	-11.2	-10.7	8.1	5.3	9.4

### US Equities: Russell 3000 Index rose 8.2% for October.

- → US stocks rallied, posting strong monthly returns across all indices, rebounding from a sharp drop in September. Investors demonstrated optimism across the style and market capitalization spectrum as earnings remained resilient despite economic pressures.
- → Most sectors rose in October, but there was wide dispersion. Energy's 24.8% gain led all sectors, driven by strong earnings, while consumer discretionary experienced a slightly positive gain (0.2%) given the impact of inflationary pressures on consumers.
- → Value stocks continued to outperform growth stocks across the market capitalization spectrum. The rally in energy stocks and the relative underperformance of technology and consumer discretionary stocks has driven this dynamic.

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



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

Foreign Equity	October (%)	<b>Q3</b> (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.0	-9.9	-24.3	-24.7	-1.7	-0.6	3.3
MSCI EAFE	5.4	-9.4	-23.2	-23.0	-1.3	-0.1	4.1
MSCI EAFE (Local Currency)	5.3	-3.6	-9.9	-8.4	3.7	3.3	7.9
MSCI EAFE Small Cap	4.2	-9.8	-29.2	-30.3	-2.3	-1.3	5.6
MSCI Emerging Markets	-3.1	-11.6	-29.4	-31.0	-4.4	-3.1	0.8
MSCI Emerging Markets (Local Currency)	-2.6	-8.2	-22.8	-24.2	-0.8	-0.2	4.2
MSCI China	-16.8	-22.5	-42.8	-47.9	-13.8	-9.7	-0.1

Developed International equities (MSCI EAFE) rose 5.4%, while emerging markets (MSCI EM) returned -3.1% in October, driven largely by declines in China.

- → Developed markets outside of the US had a strong month in October, posting gains in Europe, the UK, and Japan. Energy and industrials led broad-sectoral gains in the Eurozone, while the UK markets reacted positively to the appointment of the new prime minister, Rishi Sunak. The Bank of Japan's continued dovish policy stance and early signs of resilient Q3 earnings supported Japanese equities.
- → China dominated headlines this month across the non-US landscape. Rising geopolitical tensions, particularly after events from the 20<sup>th</sup> Communist Party Congress, on top of the continuation of the zero COVID-19 policies, drove sharp declines for the month.

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



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

								Current	
Fixed Income	October (%)	<b>Q3</b> (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Yield (%)	Duration (Years)
Bloomberg Universal	-1.1	-4.5	-15.8	-15.8	-3.6	-0.4	1.0	5.5	6.1
Bloomberg Aggregate	-1.3	-4.8	-15.7	-15.7	-3.8	-0.5	0.7	5.0	6.3
Bloomberg US TIPS	1.2	-5.1	-12.5	-11.5	1.1	2.2	1.0	4.6	6.9
Bloomberg High Yield	2.6	-0.6	-12.5	-11.8	0.3	2.0	4.1	9.1	4.5
JPM GBI-EM Global Diversified (USD)	-0.9	-5.8	-19.3	-20.3	-8.2	-3.5	-2.6	7.7	4.8

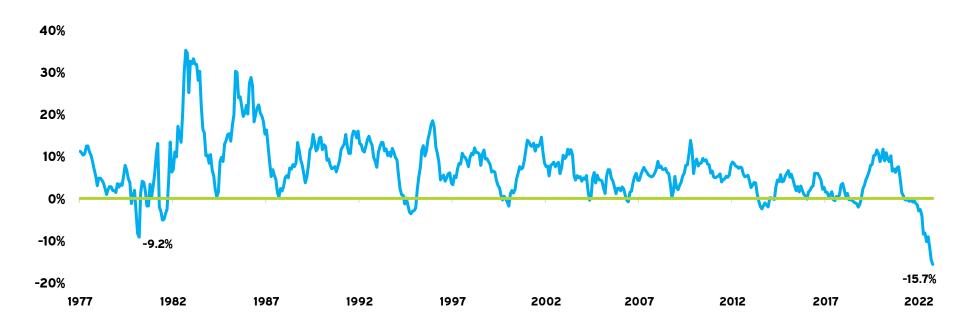
## Fixed Income: The Bloomberg Universal declined 1.1% in October.

- → A continued rise in bond yields in the US driven by the Fed reinforcing its commitment to fight inflation weighed on fixed income markets for the month. Year-to-date, the US bond market (Bloomberg Aggregate) performance is the worst on record.
- → TIPS appreciated for the month but remain down double-digits for the year as real rates have experienced a steep increase too. The inflation adjustment has led to a 320 basis points smaller decline than the broad US bond market though.
- → Riskier US bonds, as represented by the high yield index, produced the best fixed income results for the month (+2.6%) in the risk-on environment. Emerging market bonds finished down 0.9% in October adding to the significant declines year-to-date.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of October 31, 2022.



# Bloomberg US Aggregate Rolling One-year Returns<sup>1</sup>

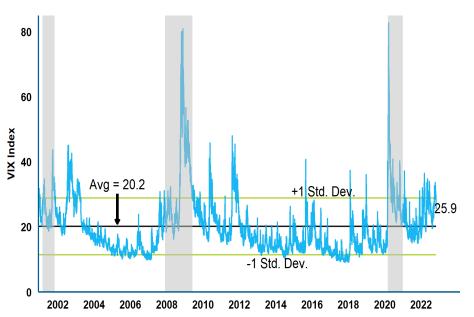


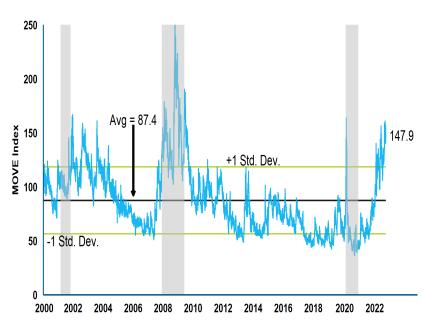
- → This has been the worst rolling one-year return period for the US bond market given the historic inflation levels and the corresponding rapid rise in interest rates.
- → Through October the trailing year return was -15.7% well ahead of the number two spot (-9.2%) from the early 1980s.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of 10/31/2022.



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



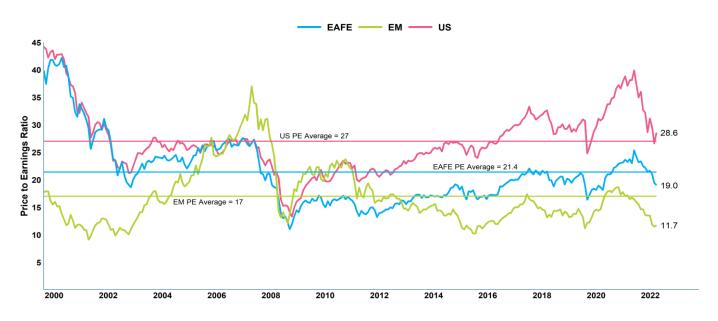


- $\rightarrow$  Volatility in equities (VIX) and fixed income (MOVE) remained above their long-run averages in October.
- → Fixed income volatility was particularly high due to the uncertain path of US interest rates as the Federal Reserve continued its hawkish stance on inflation.

<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 October 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

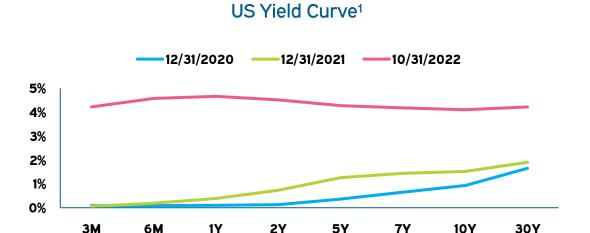


- → October's US equity rally brought the market's price-to-earnings ratio to slightly above the long-term (21st century) average.
- → International developed market valuations remain below the US and are below their own long-term average, with those for emerging markets the lowest and well under the 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>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 October 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.



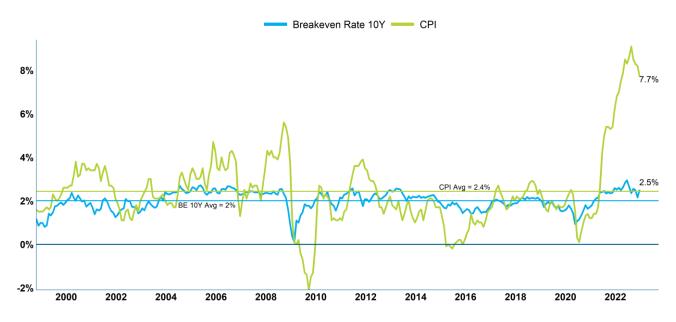


- → Rates across the yield curve remain far higher than at the start of the year.
- → In October, interest rates continued to increase across the yield curve, particularly at the front-end where there is more sensitivity to policy changes. Two-year Treasury yields rose from 4.3% to 4.5% for the month, while ten- year Treasury yields climbed from 3.8% to 4.1%.
- → The Fed remains strongly committed to fighting inflation, as it increased rates another 75 basis points to a range of 3.75% to 4.0% at its November meeting. This was the sixth increase this year and the fourth consecutive increase of this amount.
- → The yield spread between two-year and ten-year Treasuries remained negative, finishing September at -0.41%. The more closely watched measure by the Fed of three-month and ten-year Treasuries also inverted. Historically, inversions in the yield curve have often preceded recessions.

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



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

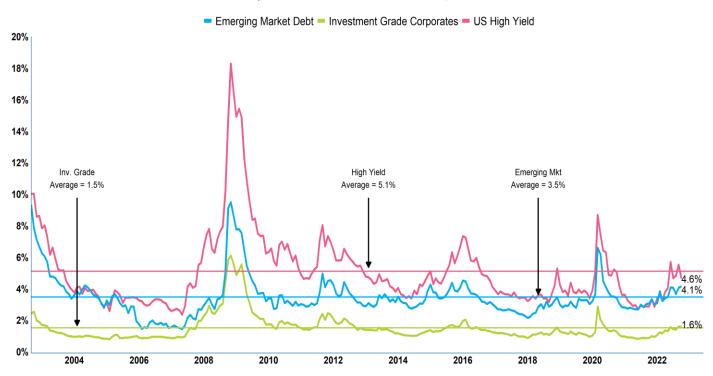


- $\rightarrow$  Inflation expectations (breakevens) rose slightly in October, remaining above the long-run average.
- → Trailing twelve-month CPI declined in October (7.7% versus 8.2%) coming in below expectations of 7.9%. Core inflation (excluding food and energy prices) declined from its recent 40-year peak of 6.6% to 6.3% over the same period.
- → Over the last year, rising prices for energy (particularly oil), food, housing, and for new and used cars remain key drivers of inflation.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of October 31, 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) fell in October to below their longrun average as below investment grade credit largely outperformed Treasuries in the risk-on environment.
- → Investment grade spreads stayed the same in the US (1.6%), near the long-run average, while emerging market spreads increased slightly (4.1% versus 4.0%) staying above their average.

<sup>1</sup> Sources: Bloomberg. Data is as of October 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 Economic Outlook

In their October update, the IMF maintained lowered global growth forecasts, driven by the economic impacts of persistent inflation and corresponding tighter policy, as well as issues related to the war in Ukraine and the lingering pandemic.

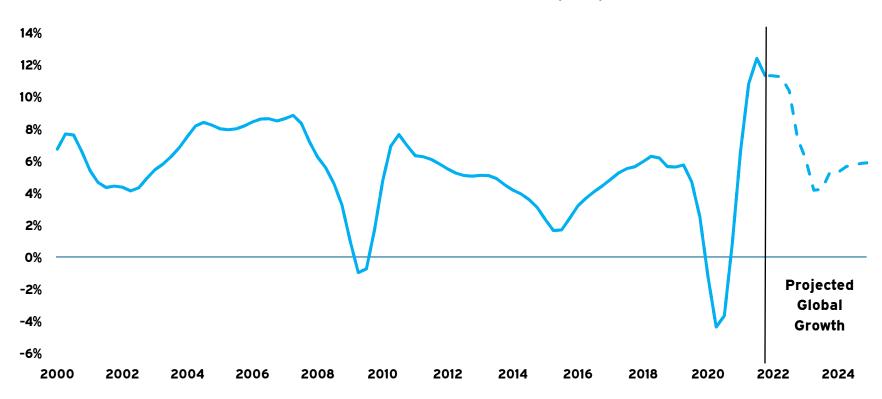
- → The IMF forecasts global GDP growth to come in at 3.2% in 2022 (like the July estimate) and 2.7% in 2023 (0.2% below the prior estimate).
- → In advanced economies, GDP is projected to grow 2.4% in 2022 and 1.1% in 2023. The US saw another downgrade in the 2022 (1.6% versus 2.3%) forecast largely due to accelerated policy tightening, given persistently high inflation. The euro area saw an upgrade in expected growth (3.1% versus 2.6%) on substantial fiscal stimulus in 2022 but a downgrade in 2023 (0.5% versus 1.2%) as rising energy prices weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and 1.6% in 2023.
- → Growth projections for emerging markets are higher than developed markets, at 3.7% in 2022 and 2023. China's growth was downgraded for 2022 (3.2% versus 3.3%) and 2023 (4.4% versus 4.6%) given tight COVID-19 restrictions and continued property sector problems.
- $\rightarrow$  The global inflation forecast was significantly increased for 2022 (8.8% versus 7.4%).

		Real GDP (%)1			Inflation (%)1	
	IMF	IMF	Actual	IMF	IMF	Actual
	2022 Forecast	2023 Forecast	10 Year Average	2022 Forecast	2023 Forecast	10 Year Average
World	3.2	2.7	3.2	8.8	6.5	3.6
Advanced Economies	2.4	1.1	1.6	7.2	4.3	1.6
US	1.6	1.0	2.1	8.1	3.5	2.0
Euro Area	3.1	0.5	1.0	8.3	5.7	1.3
Japan	1.7	1.6	0.8	2.0	1.4	0.4
Emerging Economies	3.7	3.7	4.4	9.9	8.1	5.3
China	3.2	4.4	7.3	2.2	2.2	2.4

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP and Inflation forecasts from October 2022 Update. "Actual 10 Year Average" represents data from 2012 to 2021.



# Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>

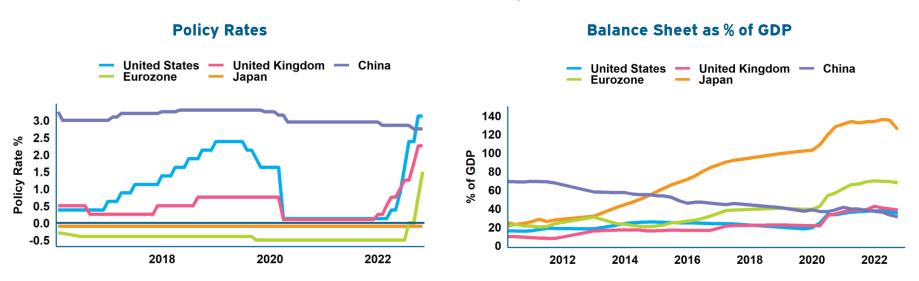


- → Global economies are expected to slow in 2022 compared to 2021, with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- → The delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

<sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated October 2022. Nominal expectations for GDP remain much higher than real GDP expectations given the elevated inflation levels.



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

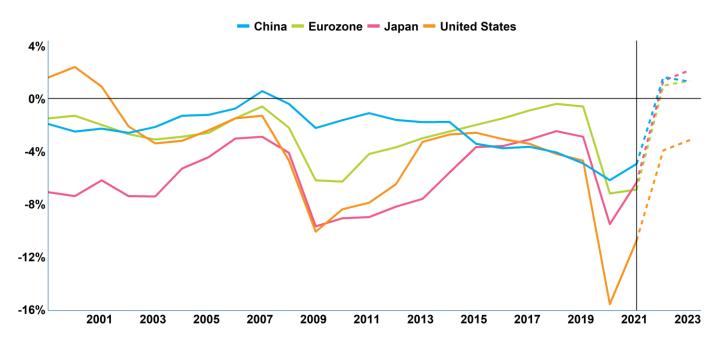


- → After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- → The pace of withdrawing support varies across central banks with the US taking a more aggressive approach.
- → 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, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.

<sup>1</sup> Source: Bloomberg. Policy rate data is as of October 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 September 30, 2022.



# Budget Surplus / Deficit as a Percentage of GDP1

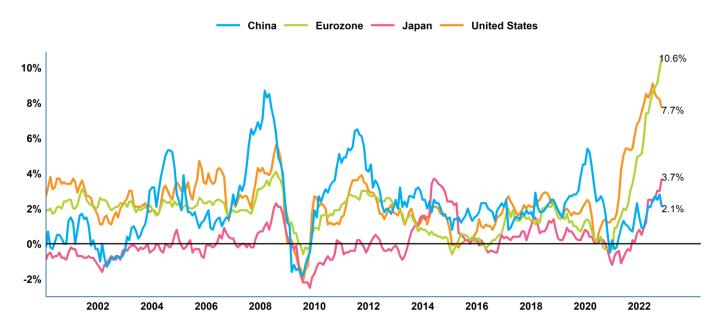


- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- → As fiscal stimulus programs end, and economic recoveries continue, deficits should improve.
- → Questions remain about how some countries will respond fiscally as inflation, particularly energy prices, weigh on consumers. Policies that undermine central banks' efforts to fight inflation could lead to additional market volatility like was seen recently in the UK.

Source: Bloomberg. Data is as of October 31, 2022. Projections via IMF Forecasts from October 2022 Report. Dotted lines represent 2022 and 2023 forecasts.



# Inflation (CPI Trailing Twelve Months)<sup>1</sup>

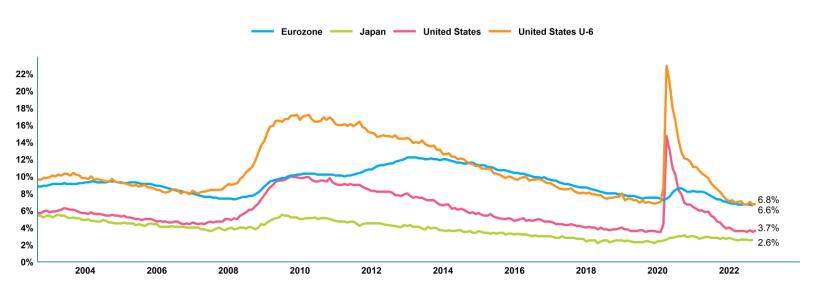


- → Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.
- → Inflation pressures continue to grow in Europe, reaching historic levels due to skyrocketing energy prices and a weak euro.
- → Supply issues 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 October 2022.



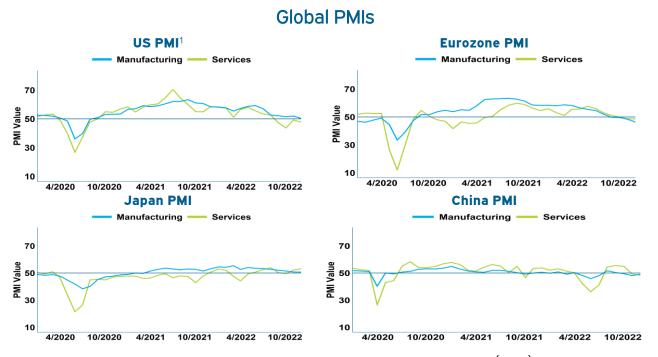




- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → Despite slowing growth and high inflation the US labor market remains a bright spot. Unemployment in the US, which experienced the steepest rise from the pandemic, has remained in a tight 3.5%-3.7% range for most of the year. The broader measure (U-6) that includes discouraged and underemployed workers remains much higher at 6.8%.
- → The strong labor market and higher wages, although beneficial for workers, motivates the Fed's efforts to fight inflation, likely leading to eventually higher unemployment.

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

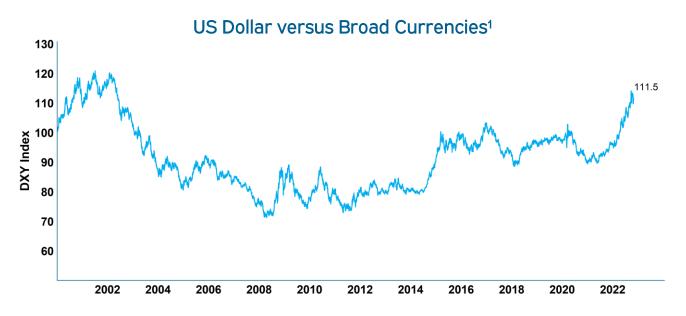




- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced downward pressure recently.
- → Service sector PMIs, except Japan (lifting COVID-19 restrictions and travel incentives have been helpful here), are all in contraction territory. The US service sector declined, remaining in negative territory, due to weak demand both domestically and abroad and softening employment.
- → Manufacturing PMIs are also slowing across China and developed markets given declines in demand and inflationary pressures with the Eurozone, and China in contraction territory.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of October 2022. Readings below 50 represent economic contractions.





- → Overall, the US dollar remained elevated in October but showed some signs of weakening. After month-end, the dollar weakened further.
- → The increased pace of policy tightening, stronger relative growth, and safe-haven flows all contributed to the dollar's strength this year.
- → The euro, yen, pound, and yuan have all experienced significant declines versus the dollar this year, adding to inflationary pressures in those countries.

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



## Summary

# Key Trends in 2022:

- → The impacts of record high inflation will remain key, with market volatility likely to stay high.
- → The pace of monetary tightening globally will be faster than previously expected, with the risk of overtightening.
- → Expect growth to slow globally for the rest of 2022 and into 2023 to the long-term trend or below. 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 will depress consumers' spending in other areas.
- → Valuations have significantly declined in the US to below long-term averages, largely driven by prices 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 major risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

# Executive Summary As of September 30, 2022



**Aggregate Plan Overview** 

The value of the San Jose Federated City Employees' Retirement System assets on September 30, 2022 was roughly the same as at the end of the prior quarter (\$2.7 billion). The System had net cash inflows of \$133 million and \$111 million of investment losses during the quarter.

- → The System's net of fees performance for the quarter was -3.9%, outperforming the Policy Benchmark (-4.4%), the Investable Benchmark Portfolio (-4.4%), and a 60/40 global portfolio (-6.7%). The peer median return was -4.0%. The Plan ranked in the top half of the peer group for the quarter.
- → The Retirement System returned -9.0% over the trailing one-year period, outperforming the Policy Benchmark (-9.8%), the Investable Benchmark (-10.3%), and a 60/40 global portfolio (-20.7%). The Retirement System's standard deviation of returns was 9.7% over the trailing one-year period, exhibiting lower volatility vs. the peer median (10.5%).
  - Growth returned -5.0% for the quarter and -12.1% over the trailing one-year period, compared to the -5.3% and -12.3% returns for the Growth Benchmark over the same periods, respectively.
  - Low Beta returned +0.3% for the quarter and +7.9% over the trailing one-year period, compared to -1.1% and -2.2% returns for the Low Beta Benchmark over the same periods, respectively.
  - Other assets returned -0.8% for the quarter and -1.1% over the trailing one-year period, compared to the -2.0% and -2.3% returns for the Other Benchmark over the same periods, respectively.
- → During the quarter, the System added three new investments: Centerbridge RE II (Growth Real Estate), GCP SecureSpace Property Partners, LP (Growth Real Estate), and Hull Street Energy II (Private Real Assets). Additionally, the System liquidated two investments: BlackRock 1-3 Year Gov/Credit (Investment Grade Bonds) and Northern Trust Aggregate Bond Index (Investment Grade Bonds).



**Manager Highlights** 

#### **Artisan**

→ Artisan Global Opportunities returned -3.7% for the quarter, outperforming the MSCI ACWI Growth NR USD benchmark by 220 basis points. Outperformance for the quarter was driven by ON Semiconductor (shift to higher margin products), Chipotle (earnings better than expected), and Atlassian (strong revenue growth). Compared to peers, Artisan ranks in the 19th percentile since inception (1st is best and 100th is worst).

### GQG

→ GQG Global Emerging Markets returned -6.6% for the quarter, outperforming the MSCI Emerging Markets benchmark by 500 basis points. Outperformance for the quarter was driven by Petrobas (Brazilian oil and gas exploration), ITC Limited (Indian consumer staples), and Itau Unibanco (Brazilian financial institution). Compared to peers, GQG ranks above the median of its peer group for the 1-year period, and in the 9th percentile since inception (1st is best and 100th is worst).

# Wellington

→ Wellington Iguazu Partners LP Fund returned +0.2% for the quarter, outperforming the 50% JPM EMBI GD/50% JPM GBI-EM benchmark by 480 basis points. Wellington uses an absolute return approach to investing in emerging markets debt. Compared to peers, Wellington ranks in the 1st percentile since inception.



# Third Quarter Manager Summary

		Changes/	Meketa	
Investment Manager	Asset Class	Announcements	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			
Morgan Stanley Int'l Equity	International Equity			
First Eagle Int'l Equity	International Equity			
Dimensional EM Value	Emerging Markets Equity			
GQG Partners Global EM	Emerging Markets Equity			
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			
Voya Securitized Credit	Investment Grade Bonds	Yes	Hold	Minority firm ownership change, PM addition, and Executive Team change
Invesco 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.



Third Quarter Manager Summary

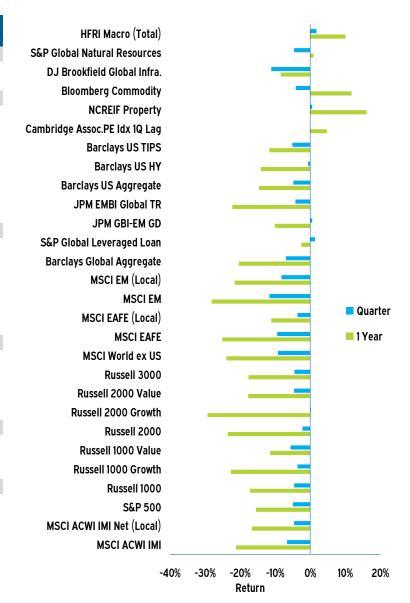
### **Cove Street**

→ Over the three-year period, Cove Street (+2.4%) has underperformed the Russell 2000 Value by 230 basis points. Since inception in May 2014, Cove Street has underperformed the benchmark by 120 basis points per year, on average, and ranked in the 82nd percentile compared to peers.



### Market Environment - 3Q22 Overview

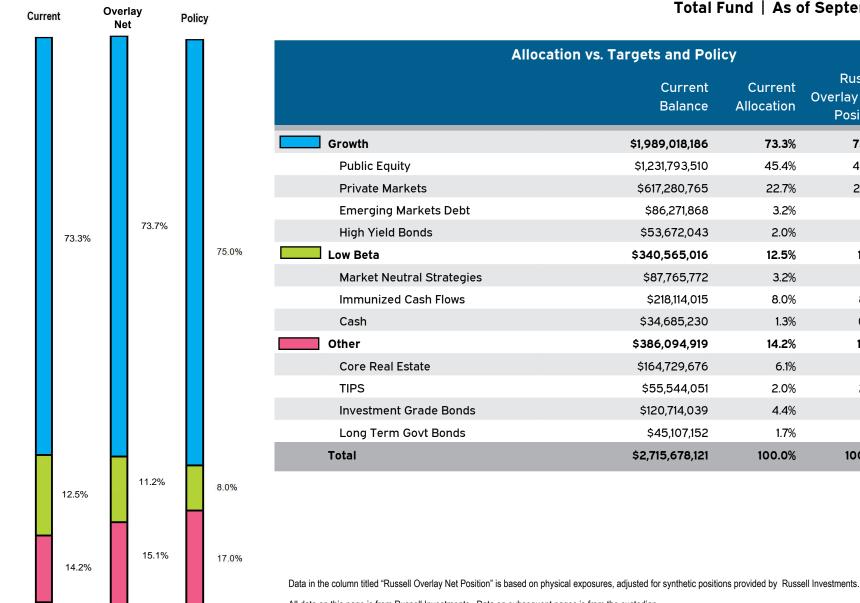
Scope   (%) (%) (%) (%) (%) (%) (%) (%) (%) (%)			3Q22	1 YR	3 YR	5 YR	10 YR	
MSCI ACWI IMI         World (Local Currency)         -6.6         -212         3.6         42         7.2           MSCI ACWI IMI Net (Local)         World (Local Currency)         -4.6         -16.6         52         5.6         9.0           Domestic Equity           S&P 500         Large Core         -4.9         -15.5         8.2         9.2         11.7           Russell 1000         Large Core         -4.6         -17.2         7.9         9.0         11.6           Russell 1000 Value         Large Fowth         -3.6         -22.6         10.7         12.2         13.7           Russell 2000         Small Core         -2.2         -23.5         4.3         3.6         8.6           Russell 2000 Growth         Small Growth         0.2         -29.3         2.9         3.6         8.8           Russell 2000 Growth         Small Growth         0.2         -29.3         2.9         3.6         8.8           Russell 2000 Growth         Small Growth         0.2         -29.3         2.9         3.6         8.8           Russell 2000 Growth         Small Growth         0.2         -29.3         2.9         3.6         8.8           Russell 2000 Growth <t< th=""><th>Benchmark</th><th>Scope</th><th>(%)</th><th>(%)</th><th>(%)</th><th>(%)</th><th>(%)</th></t<>	Benchmark	Scope	(%)	(%)	(%)	(%)	(%)	
MSCI ACWI MIN Net (Local)   World (Local Currency)   -4.6   -16.6   5.2   5.6   9.0	, , , , , , , , , , , , , , , , , , ,							
Name	= = =							
S&P 500         Large Core         -4.9         -15.5         8.2         9.2         11.7           Russell 1000         Large Core         -4.6         -17.2         7.9         9.0         11.6           Russell 1000 Growth         Large Core         -4.6         -17.2         7.9         9.0         11.6           Russell 1000 Value         Large Value         -5.6         -11.4         4.4         5.3         9.2           Russell 2000         Small Core         -2.2         -23.5         4.3         3.6         8.6           Russell 2000 Value         Small Value         -4.6         -17.7         4.7         2.9         7.9           Russell 3000         All Cap Core         -4.5         -17.6         7.7         8.6         11.4           International Equity         MSCI World ex US         World ex-US         -9.2         -23.9         -1.2         -0.4         3.6           MSCI EAFE         International Developed         -9.4         -25.1         -1.8         -0.8         3.7           MSCI EAFE (Local)         (Local Currency)         -3.6         -11.1         2.5         2.8         7.4           MSCI EM (Local)         (Local Currency)         -8.2	MSCI ACWI IMI Net (Local)	World (Local Currency)	-4.6	-16.6	5.2	5.6	9.0	
Russell 1000								
Russell 1000 Growth	S&P 500	Large Core	-4.9	-15.5	8.2	9.2	11.7	
Russell 1000 Value   Large Value   -5.6   -11.4   4.4   5.3   9.2     Russell 2000   Small Core   -2.2   -23.5   4.3   3.6   8.6     Russell 2000 Growth   Small Growth   0.2   -29.3   2.9   3.6   8.8     Russell 2000 Value   Small Value   -4.6   -17.7   4.7   2.9   7.9     Russell 3000   All Cap Core   -4.5   -17.6   7.7   8.6   11.4     International Equity	Russell 1000	Large Core	-4.6	-17.2	7.9	9.0	11.6	
Russell 2000   Small Core   -2.2   -2.3.5   4.3   3.6   8.6	Russell 1000 Growth	Large Growth	-3.6	-22.6	10.7	12.2	13.7	
Russell 2000 Growth   Small Growth   0.2   -29.3   2.9   3.6   8.8	Russell 1000 Value	Large Value	-5.6	-11.4	4.4	5.3	9.2	
Russell 2000 Value   Small Value   -4.6   -17.7   4.7   2.9   7.9	Russell 2000	Small Core	-2.2	-23.5	4.3	3.6	8.6	
Russell 3000	Russell 2000 Growth	Small Growth	0.2	-29.3	2.9	3.6	8.8	
MSCI World ex US   World ex-US   -9.2   -23.9   -1.2   -0.4   3.6	Russell 2000 Value	Small Value	-4.6	-17.7	4.7	2.9	7.9	
MSCI World ex US         World ex-US         -9.2         -23.9         -1.2         -0.4         3.6           MSCI EAFE         International Developed International Developed (Local Currency)         -3.6         -11.1         2.5         2.8         7.4           MSCI EAFE (Local)         (Local Currency)         -3.6         -11.1         2.5         2.8         7.4           MSCI EM (Local)         Emerging Markets - 11.6         -28.1         -2.1         -1.8         1.0           Global Fixed Income           Barclays Global Aggregate         Global Core Bonds         -6.9         -20.4         -5.7         -2.3         -0.9           S&P Global Leveraged Loan         Bank Loans         1.4         -2.5         2.4         2.5         3.3           JPM GBI-EM GD         (Local Currency)         0.6         -10.1         -1.0         2.3         4.4           JPM BBI Global TR	Russell 3000	All Cap Core	-4.5	-17.6	7.7	8.6	11.4	
MSCI EAFE         International Developed International Developed International Developed International Developed (Local Currency)         -3.6         -11.1         2.5         2.8         7.4           MSCI EM         Emerging Markets         -11.6         -28.1         -2.1         -1.8         1.0           MSCI EM (Local)         Emerging Markets         -11.6         -28.1         -2.1         -1.8         1.0           MSCI EM (Local)         (Local Currency)         -8.2         -21.5         1.1         1.1         4.5           Global Fixed Income           Barclays Global Aggregate         Global Core Bonds         -6.9         -20.4         -5.7         -2.3         -0.9           S&P Global Leveraged Loan         Bank Loans         1.4         -2.5         2.4         2.5         3.3           Emerging Markets Bonds         -6.9         -20.4         -5.7         -2.3         -0.9           JPM GBI-EM GD         (Local Currency)         0.6         -10.1         -1.0         2.3         4.4           JPM GBI-EM GD         (Local Currency)         0.6         -10.1         -1.0         2.3         1.0           Domestic Fixed Income <td col<="" td=""><td>International Equity</td><td></td><td></td><td></td><td></td><td></td><td></td></td>	<td>International Equity</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	International Equity						
International Developed   Clocal   Cl	MSCI World ex US	World ex-US	-9.2	-23.9	-1.2	-0.4	3.6	
MSCI EAFE (Local)         (Local Currency)         -3.6         -11.1         2.5         2.8         7.4           MSCI EM         Emerging Markets         -11.6         -28.1         -2.1         -1.8         1.0           Emerging Markets           MSCI EM (Local)         (Local Currency)         -8.2         -21.5         1.1         1.1         4.5           Global Fixed Income           Barclays Global Aggregate         Global Core Bonds         -6.9         -20.4         -5.7         -2.3         -0.9           S&P Global Leveraged Loan         Bank Loans         1.4         -2.5         2.4         2.5         3.3           Emerging Markets Bonds         1.4         -2.5         2.4         2.5         3.3           Emerging Market Bonds         -4.2         -22.2         -6.1         -2.3         1.0           Domestic Fixed Income           Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambri	MSCI EAFE	International Developed	-9.4	-25.1	-1.8	-0.8	3.7	
MSCI EM   Emerging Markets   -11.6   -28.1   -2.1   -1.8   1.0		International Developed						
Emerging Markets   Local Currency   -8.2   -21.5   1.1   1.1   1.5	MSCI EAFE (Local)	(Local Currency)	-3.6	-11.1	2.5	2.8	7.4	
MSCI EM (Local) (Local Currency)   -8.2   -21.5   1.1   1.1   4.5	MSCI EM	Emerging Markets	-11.6	-28.1	-2.1	-1.8	1.0	
Barclays Global Aggregate   Global Core Bonds   -6.9   -20.4   -5.7   -2.3   -0.9	, ,							
Barclays Global Aggregate         Global Core Bonds         -6.9         -20.4         -5.7         -2.3         -0.9           S&P Global Leveraged Loan         Bank Loans         1.4         -2.5         2.4         2.5         3.3           Emerging Markets Bonds           JPM GBI-EM GD         (Local Currency)         0.6         -10.1         -1.0         2.3         4.4           JPM EMBI Global TR         Emerging Market Bonds         -4.2         -22.2         -6.1         -2.3         1.0           Domestic Fixed Income           Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloombe	, ,	(Local Currency)	-8.2	-21.5	1.1	1.1	4.5	
S&P Global Leveraged Loan       Bank Loans Emerging Markets Bonds (Local Currency)       1.4       -2.5       2.4       2.5       3.3         JPM GBI-EM GD (Local Currency)       0.6       -10.1       -1.0       2.3       4.4         JPM EMBI Global TR       Emerging Market Bonds       -4.2       -22.2       -6.1       -2.3       1.0         Domestic Fixed Income         Barclays US Aggregate       Core Bonds       -4.8       -14.6       -3.3       -0.3       0.9         Barclays US HY       High Yield       -0.6       -14.1       -0.5       1.6       3.9         Barclays US TIPS       Inflation       -5.1       -11.6       0.8       2.0       1.0         Other         Cambridge AssociatesPE Index 1Qtr Lag       Private Equity       0.0       4.8       24.8       22.1       18.1         NCREIF Property       Real Estate       0.6       16.1       9.9       8.6       9.5         Bloomberg Commodity       Commodities       -4.1       11.8       13.5       7.0       -2.1         DJ Brookfield Global Infrastructure       Infrastructure       -11.1       -8.4       -0.4       2.5       5.7         S&								
Emerging Markets Bonds	, ,, ,	Global Core Bonds						
JPM GBI-EM GD         (Local Currency)         0.6         -10.1         -1.0         2.3         4.4           JPM EMBI Global TR         Emerging Market Bonds         -4.2         -22.2         -6.1         -2.3         1.0           Domestic Fixed Income           Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0	S&P Global Leveraged Loan	Bank Loans	1.4	-2.5	2.4	2.5	3.3	
JPM EMBI Global TR         Emerging Market Bonds         -4.2         -22.2         -6.1         -2.3         1.0           Domestic Fixed Income           Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4								
Domestic Fixed Income           Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4		' ''						
Barclays US Aggregate         Core Bonds         -4.8         -14.6         -3.3         -0.3         0.9           Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4	01 III 2III 21 010 00 11 II	Emerging Market Bonds	-4.2	-22.2	-6.1	-2.3	1.0	
Barclays US HY         High Yield         -0.6         -14.1         -0.5         1.6         3.9           Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4								
Barclays US TIPS         Inflation         -5.1         -11.6         0.8         2.0         1.0           Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4								
Other           Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4	•	•						
Cambridge AssociatesPE Index 1Qtr Lag         Private Equity         0.0         4.8         24.8         22.1         18.1           NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4	,	Inflation	-5.1	-11.6	0.8	2.0	1.0	
NCREIF Property         Real Estate         0.6         16.1         9.9         8.6         9.5           Bloomberg Commodity         Commodities         -4.1         11.8         13.5         7.0         -2.1           DJ Brookfield Global Infrastructure         Infrastructure         -11.1         -8.4         -0.4         2.5         5.7           S&P Global Natural Resources         Natural Resources         -4.6         1.0         9.1         5.7         3.4								
Bloomberg Commodity Commodities -4.1 11.8 13.5 7.0 -2.1 DJ Brookfield Global Infrastructure Infrastructure -11.1 -8.4 -0.4 2.5 5.7 S&P Global Natural Resources Natural Resources -4.6 1.0 9.1 5.7 3.4	Cambridge AssociatesPE Index 1Qtr Lag	Private Equity	0.0	4.8	24.8	22.1		
DJ Brookfield Global Infrastructure Infrastructure -11.1 -8.4 -0.4 2.5 5.7 S&P Global Natural Resources Natural Resources -4.6 1.0 9.1 5.7 3.4	' '	Real Estate	0.6	16.1	9.9		9.5	
S&P Global Natural Resources Natural Resources -4.6 1.0 9.1 5.7 3.4	Bloomberg Commodity	Commodities	-4.1	11.8	13.5	7.0	-2.1	
	DJ Brookfield Global Infrastructure	Infrastructure	-11.1	-8.4	-0.4	2.5	5.7	
HFRI Macro Hedge Funds 1.8 10.1 7.8 5.6 3.1	S&P Global Natural Resources	Natural Resources	-4.6	1.0	9.1	5.7	3.4	
	HFRI Macro	Hedge Funds	1.8	10.1	7.8	5.6	3.1	



# **3Q22 Review**



Total Fund | As of September 30, 2022



	Current Balance	Current Allocation	Overlay Net Position	Policy
Growth	\$1,989,018,186	73.3%	73.7%	75.0%
Public Equity	\$1,231,793,510	45.4%	45.7%	49.0%
Private Markets	\$617,280,765	22.7%	22.7%	21.0%
Emerging Markets Debt	\$86,271,868	3.2%	3.2%	3.0%
High Yield Bonds	\$53,672,043	2.0%	2.1%	2.0%
Low Beta	\$340,565,016	12.5%	11.2%	8.0%
Market Neutral Strategies	\$87,765,772	3.2%	3.2%	3.0%
Immunized Cash Flows	\$218,114,015	8.0%	8.0%	5.0%
Cash	\$34,685,230	1.3%	0.0%	0.0%
Other	\$386,094,919	14.2%	15.1%	17.0%
Core Real Estate	\$164,729,676	6.1%	6.1%	5.0%
TIPS	\$55,544,051	2.0%	2.0%	2.0%
Investment Grade Bonds	\$120,714,039	4.4%	5.1%	8.0%
Long Term Govt Bonds	\$45,107,152	1.7%	1.9%	2.0%
Total	\$2,715,678,121	100.0%	100.0%	100.0%

All data on this page is from Russell Investments. Data on subsequent pages is from the custodian.



Total Fund | As of September 30, 2022

	Asset Class Net F	Performan	ce Sum	mary						
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Aggregate	2,716,686,561	100.0	-3.9	-13.0	-9.0	7.1	5.7	5.4	6.6	Jan-94
Policy Benchmark			-4.4	-14.0	-9.8	6.4	5.4	<i>5.7</i>	6.8	Jan-94
Investable Benchmark Portfolio			-4.4	-14.4	-10.3	6.0	5.0	5.0		Jan-94
Low-Cost Passive Portfolio			-4.3	-18.0	-15.1	2.5				Jan-94
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			-6.7	<i>-23.3</i>	-20.7	0.1	1.8	4.1		Jan-94
Liability Benchmark Portfolio			-9.6	-28.8	-26.6	-8.5				Jan-94
InvMetrics Public DB > \$1B Net Median			-4.0	-14.4	-10.7	4.7	5.1	7.0	7.1	Jan-94
InvMetrics Public DB > \$1B Net Rank			47	31	28	12	31	92	87	Jan-94
Growth	2,003,549,695	73.7	-5.0	-17.0	-12.1	7.9	6.4		6.6	Jul-15
Growth Benchmark			<i>-5.3</i>	-17.4	-12.3	6.5	6.2		6.9	Jul-15
Public Equity	1,247,969,139	45.9	-7.0	-26.7	-23.3	2.9	3.0	6.5	6.4	May-10
Public Equity Benchmark			-7.2	-25.8	-22.0	3.3	3.9	7.1	6.8	May-10
Global Equity	212,925,584	7.8	-7.0	-28.2	-25.2	3.2	4.1		6.2	Jul-15
eV All Global Equity Net Median			-6.9	-26.5	-21.7	3.4	4.3	7.3	5.5	Jul-15
eV All Global Equity Net Rank			54	61	69	54	53		38	Jul-15
US Equity	504,601,611	18.6	-4.2	-24.2	-17.5	6.9	7.3		8.1	Jul-15
MSCI USA IMI NR USD			-4.6	-24.9	-18.0	7.4	8.2		8.9	Jul-15
eV All US Equity Net Median			-4.5	-23.8	-17.3	6.1	6.7	10.0	7.4	Jul-15
eV All US Equity Net Rank			45	54	52	40	43		40	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 September 30, 2022

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	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
International Equity	254,475,981	9.4	-9.6	-31.6	-30.1	-1.4	-1.1		1.3	Jul-15
MSCI World ex USA IMI NR USD			-9.2	-27.0	-25.0	-1.2	-0.5		1.6	Jul-15
eV ACWI ex-US All Cap Equity Net Median			-9.4	-29.7	-27.3	-0.4	-0.1	4.4	2.1	Jul-15
eV ACWI ex-US All Cap Equity Net Rank			52	61	61	65	69		73	Jul-15
Emerging Markets Equity	275,965,964	10.2	-9.6	-25.3	-25.5	0.3	-1.5		0.6	Jul-15
MSCI Emerging Markets IMI Net			-10.8	-26.8	-27.5	-1.2	-1.4		1.1	Jul-15
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	1.5	Jul-15
eV Emg Mkts Equity Net Rank			44	34	33	33	49		75	Jul-15
Private Markets	618,565,755	22.8	-1.7	5.1	15.3	18.5	13.4		11.2	Jul-15
Private Markets Benchmark			-1.7	5.1	15.3	18.5	14.5		12.7	Jul-15
MSCI ACWI IMI + 100bps			-6.4	-25.1	-20.4	4.7	5.2		6.6	Jul-15
Private Markets ex Russell 3000	618,565,755	22.8	-1.7	7.0	17.6	19.5	14.0		11.6	Jul-15
Private Equity	331,341,411	12.2	-3.5	4.4	17.5	25.3	19.1	15.5	10.5	Jan-06
San Jose Custom Private Equity Benchmark			-5.0	0.1	6.1	20.1	17.4	15.3	12.7	Jan-06
Venture Capital	15,320,002	0.6	-0.1	0.3	-0.4				-1.2	Jun-21
Private Debt	112,817,561	4.2	-1.3	9.4	12.0	12.5	5.9	5.3	5.3	Dec-10
S&P Global Leveraged Loan Index +2%			1.9	-1.7	-0.5	4.5	4.6	5.4	5.7	Dec-10
Growth Real Estate	106,949,049	3.9	2.6	11.0	23.1	14.4	15.0		16.1	Jul-15
NCREIF Property Index			0.6	9.4	16.1	9.9	8.6		8.6	Jul-15
Private Real Assets	52,137,731	1.9	0.3	14.8	22.7	11.8	10.6		9.1	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 September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Emerging Markets Debt	83,355,125	3.1	-0.4	1.9	2.7	5.2	3.2		3.9	Jul-15
50% JPM EMBI GD / 50% JPM GBI-EM			-4.6	-21.3	-22.5	-7.1	- <i>3.2</i>		-0.2	Jul-15
eV All Emg Mkts Fixed Inc Net Median			-4.1	-19.0	-20.3	-5.6	-2.5	0.4	0.5	Jul-15
eV All Emg Mkts Fixed Inc Net Rank			2	1	1	1	1		1	Jul-15
High Yield Bonds	53,659,676	2.0	-0.1	-13.5	-12.7	0.4	1.0		0.3	Jun-14
Bloomberg US Corporate High Yield TR			-0.6	-14.7	-14.1	-0.5	1.6		2.9	Jun-14
Low Beta	345,031,178	12.7	0.3	6.7	7.9	4.6	4.1		3.2	Jul-15
Low Beta Benchmark			-1.1	-2.0	-2.2	0.0	0.7		0.4	Jul-15
Immunized Cash Flows	214,311,377	7.9	-2.3	-4.1	-4.5	-0.4			0.8	Oct-18
Bloomberg US Govt/Credit 1-3 Yr. TR			-1.5	-4.5	-5.1	-0.4			0.8	Oct-18
Market Neutral Strategies	92,009,669	3.4	7.3	27.2	31.6	14.4	10.7		7.0	Nov-12
Market Neutral Strategies Benchmark			0.9	1.6	1.7	1.0	1.2		1.2	Nov-12
Relative Value	92,009,669	3.4	7.3	27.2	31.6	12.0	9.9		7.5	Oct-14
HFRI Relative Value (Total) Index			0.0	-2.1	-1.9	3.5	3.3		3.4	Oct-14
Cash	38,710,132	1.4	0.4	0.6	0.6	0.7	1.1			Jan-06
ICE BofA 91 Days T-Bills TR			0.5	0.6	0.6	0.6	1.1			Jan-06
Other	361,520,579	13.3	-0.8	-2.8	-1.1	1.0	1.8	1.3	1.9	Jul-04
Other Benchmark			-2.0	-4.5	-2.3	-1.8	-0.7			Jul-04
Investment Grade Bonds	119,825,525	4.4	-4.6	-12.1	-12.2				-1.8	Dec-19
Custom IG Bonds Benchmark			-4.0	-11.9	-12.1				-2.8	Dec-19
TIPS	55,544,051	2.0	-2.7	-3.9	-2.8	2.2	2.2		1.4	Jul-14
BBg U.S. TIPS 0-5 Years			-2.6	-4.0	-2.9	2.4	2.3		1.5	Jul-14

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 September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Private Real Estate	141,032,594	5.2	7.1	26.0	32.3	13.6	11.2	11.0	10.6	Jul-15
Core Real Estate Benchmark			4.5	20.6	28.3	11.3	9.2		9.0	Jul-15
Long-Term Government Bonds	45,118,409	1.7	-9.6	-28.6	-26.7				-15.6	May-20
Bloomberg US Treasury Long TR			-9.6	-28.8	-26.6				-16.5	May-20
Overlay	6,585,108	0.2								

Core Private Real Estate values are one quarter lagged.



Total Fund | As of September 30, 2022

	Trailing N	et Perforr	nance							
	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Aggregate	2,716,686,561	100.0	-3.9	-13.0	-9.0	7.1	5.7	5.4	6.6	Jan-94
Policy Benchmark			-4.4	-14.0	-9.8	6.4	5.4	5.7	6.8	Jan-94
Investable Benchmark Portfolio			-4.4	-14.4	-10.3	6.0	5.0	5.0		Jan-94
Low-Cost Passive Portfolio			-4.3	-18.0	-15.1	2.5				Jan-94
60/40 MSCI ACWI IMI/BBgBarc Global Aggregate			-6.7	<i>-23.3</i>	-20.7	0.1	1.8	4.1		Jan-94
Liability Benchmark Portfolio			-9.6	-28.8	-26.6	-8.5				Jan-94
InvMetrics Public DB > \$1B Net Median			-4.0	-14.4	-10.7	4.7	5.1	7.0	7.1	Jan-94
InvMetrics Public DB > \$1B Net Rank			47	31	28	12	31	92	87	Jan-94
Growth	2,003,549,695	73.7	-5.0	-17.0	-12.1	7.9	6.4		6.6	Jul-15
Growth Benchmark			-5.3	-17.4	-12.3	6.5	6.2		6.9	Jul-15
Public Equity	1,247,969,139	45.9	-7.0	-26.7	-23.3	2.9	3.0	6.5	6.4	May-10
Public Equity Benchmark			-7.2	-25.8	-22.0	3.3	3.9	7.1	6.8	May-10
Global Equity	212,925,584	7.8	-7.0	-28.2	-25.2	3.2	4.1		6.2	Jul-15
eV All Global Equity Net Median			-6.9	-26.5	-21.7	3.4	4.3	7.3	5.5	Jul-15
eV All Global Equity Net Rank			54	61	69	54	53		38	Jul-15
Artisan Global Value	118,356,968	4.4	-9.5	-23.0	-19.9	2.4	2.8	8.0	8.2	Mar-11
MSCI ACWI Value NR USD			-7.7	-19.1	-14.0	1.3	1.7	5.4	4.4	Mar-11
eV All Global Equity Net Median			-6.9	-26.5	-21.7	3.4	4.3	7.3	6.4	Mar-11
eV All Global Equity Net Rank			84	29	40	63	70	39	22	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 September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Artisan Global Opportunities	94,568,616	3.5	-3.7	-33.8	-30.7	5.4	6.8		7.5	Jul-17
MSCI ACWI Growth NR USD			-5.9	-32.2	-27.5	5.4	6.6		7.4	Jul-17
eV All Global Equity Net Median			-6.9	-26.5	-21.7	3.4	4.3	7.3	5.1	Jul-17
eV All Global Equity Net Rank			10	86	86	25	19		19	Jul-17
US Equity	504,601,611	18.6	-4.2	-24.2	-17.5	6.9	7.3		8.1	Jul-15
MSCI USA IMI NR USD			-4.6	-24.9	-18.0	7.4	8.2		8.9	Jul-15
eV All US Equity Net Median			-4.5	-23.8	-17.3	6.1	6.7	10.0	7.4	Jul-15
eV All US Equity Net Rank			45	54	52	40	43		40	Jul-15
Northern Trust Russell 3000 PE	485,138,772	17.9	-4.4	-24.6	-17.6				15.5	Mar-20
Russell 3000			-4.5	-24.6	-17.6				9.0	Mar-20
Cove Street Small Cap Value	19,462,839	0.7	-4.4	-19.0	-18.5	2.4	2.3		4.2	May-14
Russell 2000 Value			-4.6	-21.1	-17.7	4.7	2.9		5.4	May-14
eV US Small Cap Value Equity Net Median			-4.9	-20.3	-14.9	5.1	3.3	8.5	5.5	May-14
eV US Small Cap Value Equity Net Rank			46	37	76	82	74		82	May-14
International Equity	254,475,981	9.4	-9.6	-31.6	-30.1	-1.4	-1.1		1.3	Jul-15
MSCI World ex USA IMI NR USD			-9.2	-27.0	-25.0	-1.2	-0.5		1.6	Jul-15
eV ACWI ex-US All Cap Equity Net Median			-9.4	-29.7	-27.3	-0.4	-0.1	4.4	2.1	Jul-15
eV ACWI ex-US All Cap Equity Net Rank			52	61	61	65	69		73	Jul-15
Northern Trust MSCI World ex US	156,801,239	5.8	-9.6	-26.1	-23.5	-0.7	0.0		3.4	Nov-16
MSCI World ex USA			-9.2	-26.2	-23.9	-1.2	-0.4		2.9	Nov-16



Total Fund | As of September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Oberweis Intl Opportunities	32,031,238	1.2	-11.2	-43.3	-45.5	1.5	0.0		4.1	Nov-15
MSCI World ex USA Small Cap Growth NR USD			-8.8	-35.7	- <i>35.7</i>	-1.4	-0.7		3.2	Nov-15
eV ACWI ex-US All Cap Equity Net Median			-9.4	-29.7	-27.3	-0.4	-0.1	4.4	2.9	Nov-15
eV ACWI ex-US All Cap Equity Net Rank			79	98	98	20	46		23	Nov-15
Morgan Stanley Intl Equity	24,338,763	0.9	-9.8	-42.8	-40.2				-27.5	Apr-21
MSCI ACWI ex USA			-9.9	-26.5	-25.2				-16.3	Apr-21
eV ACWI ex-US All Cap Equity Net Median			-9.4	-29.7	-27.3	-0.4	-0.1	4.4	-17.5	Apr-21
eV ACWI ex-US All Cap Equity Net Rank			59	97	96				96	Apr-21
First Eagle International Equity	41,304,741	1.5	-8.1						-8.2	Jun-22
MSCI World ex USA			-9.2						-17.7	Jun-22
Emerging Markets Equity	275,965,964	10.2	-9.6	-25.3	-25.5	0.3	-1.5		0.6	Jul-15
MSCI Emerging Markets IMI Net			-10.8	-26.8	-27.5	-1.2	-1.4		1.1	Jul-15
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	1.5	Jul-15
eV Emg Mkts Equity Net Rank			44	34	33	33	49		75	Jul-15
Northern Trust MSCI EM IMI	109,508,919	4.0	-11.3	-27.0	-27.4	-1.5			-1.8	Oct-18
MSCI Emerging Markets IMI Net			-10.8	-26.8	-27.5	-1.2			-1.5	Oct-18
Dimensional Fund Adv EM Value	38,270,624	1.4	-9.8	-19.0	-18.7	8.0	-0.6		2.7	Nov-16
MSCI Emerging Markets Value NR USD			-11.0	<i>-23.3</i>	-23.6	-2.6	-2.1		0.8	Nov-16
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	2.1	Nov-16
eV Emg Mkts Equity Net Rank			48	8	9	30	34		41	Nov-16



Total Fund | As of September 30, 2022

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	Market Value	% of	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
GQG Global Emerging Markets	59,505,860	2.2	-6.6	-23.7	-23.8	2.0	2.0		3.9	Jul-17
MSCI Emerging Markets			-11.6	-27.2	-28.1	-2.1	-1.8		-0.3	Jul-17
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	0.0	Jul-17
eV Emg Mkts Equity Net Rank			23	24	28	21	12		9	Jul-17
Redwheel Emerging Markets Equity	25,692,944	0.9	-11.0	-30.5	-31.5	0.0			0.9	Sep-19
MSCI Emerging Markets			-11.6	-27.2	-28.1	-2.1			-1.4	Sep-19
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	-0.7	Sep-19
eV Emg Mkts Equity Net Rank			65	74	71	36			33	Sep-19
Wellington Emerging Markets Systematic Equity	33,391,696	1.2	-12.0	-28.1	-28.2	-0.6			-0.2	Sep-19
MSCI Emerging Markets			-11.6	-27.2	-28.1	-2.1			-1.4	Sep-19
eV Emg Mkts Equity Net Median			-10.1	-27.3	-28.1	-1.4	-1.6	1.6	-0.7	Sep-19
eV Emg Mkts Equity Net Rank			79	60	53	40			43	Sep-19
Kotak India Midcap	9,595,921	0.4	8.3	-11.4	-11.0				-3.2	Jun-21
MSCI India Midcap			8.3	-12.6	-13.9				-5.0	Jun-21
Private Markets	618,565,755	22.8	-1.7	5.1	15.3	18.5	13.4		11.2	Jul-15
Private Markets Benchmark			-1.7	5.1	15.3	18.5	14.5		12.7	Jul-15
MSCI ACWI IMI + 100bps			-6.4	-25.1	-20.4	4.7	5.2		6.6	Jul-15
Private Markets ex Russell 3000	618,565,755	22.8	-1.7	7.0	17.6	19.5	14.0		11.6	Jul-15
Private Equity	331,341,411	12.2	-3.5	4.4	17.5	25.3	19.1	15.5	10.5	Jan-06
San Jose Custom Private Equity Benchmark			-5.0	0.1	6.1	20.1	17.4	15.3	12.7	Jan-06
PE Strategic Partnership, LP	295,171,629	10.9	-3.3	4.1	18.2	27.4	19.0		18.4	Aug-17
Pathway Private Eq Fund VIII	638,551	0.0	0.4	-9.7	-11.1	-3.3	-4.2	2.4	5.4	Jul-09
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Total Fund | As of September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Pantheon USA Fund VII, LP	6,480,832	0.2	-5.8	-0.5	3.7	16.2			14.1	Jun-18
Pantheon Global Secondary III	450,520	0.0	-0.7	-2.8	-20.3	-10.7	-3.8	-0.6	1.3	Jul-09
Great Hill Equity Partners IV	2,920,657	0.1	-19.1	-21.4	-22.3	12.3	27.6	31.4	27.4	Jul-09
Partners Group Secondary 2008	569,355	0.0	-17.3	-21.3	-22.2	5.2	2.5	5.5	7.3	Jul-09
Partners Group Secondary 2011	3,527,263	0.1	-19.8	-17.8	-12.6	7.3	7.5		15.3	Nov-12
Innovation Endeavors III	13,595,081	0.5	-1.6	39.7	77.0	62.4			29.5	Jun-18
Crestline Portfolio Financing	7,987,523	0.3	3.0	5.0	3.8	10.0			9.3	Jun-18
Venture Capital	15,320,002	0.6	-0.1	0.3	-0.4				-1.2	Jun-21
Innovation Endeavors IV	1,513,778	0.1	-2.1	0.1	-5.2				-6.7	Jun-21
TI Platform SJFED LP	8,117,372	0.3	0.0	0.8	0.8				0.7	Jul-21
Soma Capital Fund III LP	1,836,443	0.1	1.1	5.1					5.1	Dec-21
Fin VC Horizons II	3,852,409	0.1	0.0							Jan-22
Private Debt	112,817,561	4.2	-1.3	9.4	12.0	12.5	5.9	5.3	5.3	Dec-10
S&P Global Leveraged Loan Index +2%			1.9	-1.7	-0.5	4.5	4.6	5.4	5.7	Dec-10
White Oak Direct Lending	35,928,305	1.3	-2.1	25.9	32.6	49.2	24.8	12.2	10.2	Feb-11
Blackstone/GSO Cap Partners	3,421,436	0.1	-10.0	-7.4	-8.2	-27.7	-16.5	-6.9	-3.5	Mar-11
Medley Opportunity Fund II LP	4,378,782	0.2	0.0	-9.8	-13.4	-10.3	-11.0	-2.2	-1.3	Jun-11
Cross Ocean USD ESS Fund II LP	2,599,422	0.1	-0.6	-0.4	2.1	7.4	6.9		8.9	Aug-16

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 September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Crestline Co-Investment	1,321,122	0.0	10.0	19.0	27.7	15.6			13.5	Mar-19
Cross Ocean USD ESS Fund III, L.P.	21,622,466	0.8	0.8	4.4	6.3	13.9			12.4	Jun-19
Arbour Lane Credit Opportunity Fund II, L.P.	10,658,128	0.4	-1.0	2.2	7.7				20.1	Apr-20
Eagle Point Defensive Income Fund	7,224,657	0.3	-7.2	-3.9	-10.1				2.9	Jun-20
HPS Special Situations Opportunity Fund	6,336,376	0.2	5.8	12.2	16.6				24.2	Jan-21
Crestline Portfolio Financing Fund II	2,752,991	0.1	2.5	7.1	8.5				8.3	Jan-21
SVP Special Situations V	2,687,244	0.1	0.7	12.0	9.6				7.6	Jun-21
Arbour Lane COF III	3,502,440	0.1	-8.2	-8.7					-8.7	Nov-21
Octagon CLO Opp Fund I	6,307,599	0.2	0.2						0.2	Mar-22
Angelo Gordon CS II	3,576,593	0.1	-5.1						-3.9	Feb-22
Growth Real Estate	106,949,049	3.9	2.6	11.0	23.1	14.4	15.0		16.1	Jul-15
NCREIF Property Index			0.6	9.4	16.1	9.9	8.6		8.6	Jul-15
DRA Growth & Income Fund VII	1,214,353	0.0	0.9	21.7	26.7	60.7	56.2	36.7	35.7	Apr-12
DRA Growth & Income Fund VIII	5,311,394	0.2	3.1	6.4	16.1	5.7	7.6		8.9	Jan-15
Tristan - EPISO IV	11,859,340	0.4	-4.8	-6.2	-5.3	6.8	6.7		7.0	Jan-16
DRA Growth & Income Fund IX	14,775,560	0.5	4.0	15.2	44.1	24.2	20.3		18.8	Feb-17
GEM Realty Fund VI	5,188,784	0.2	2.0	17.0	25.4	18.1			10.5	Dec-17



Total Fund | As of September 30, 2022

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	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Torchlight Debt Opportunity VI	22,209,623	0.8	2.6	11.6	20.0	9.6			6.3	Apr-18
Tristan - EPISO V	9,417,849	0.3	-3.7	-10.6	0.7	-16.2			-36.1	Apr-19
DRA Growth & Income Fund X	6,798,129	0.3	1.5	16.9	46.6				26.4	Mar-20
Rockpoint Real Estate Fund VI, L.P.	5,481,010	0.2	2.3	17.3	22.2				19.3	May-20
Exeter Industrial Value Fund V	6,436,178	0.2	0.9	32.6	58.4				41.9	Oct-20
Torchlight Debt Fund VII	3,112,024	0.1	3.9	5.5	6.1				3.8	Feb-21
H.I.G. Realty Partners IV, L.P.	3,868,190	0.1	9.4						-	Dec-21
Praedium X MidInc	2,294,061	0.1	6.1						6.1	Apr-22
AIGGRE Fund IV	5,868,290	0.2	45.9						39.0	Jun-22
Centerbridge RE II	1,306,187	0.0							-13.5	Jul-22
GCP SecureSpace Property Partners, L.P	1,808,077	0.1							-1.3	Jul-22
Private Real Assets	52,137,731	1.9	0.3	14.8	22.7	11.8	10.6		9.1	Jul-15
Global Infra Part III-A/B, LP	27,664,454	1.0	2.9	21.9	25.0	12.8	8.2		6.8	Sep-16
Lime Rock Partners VIII	3,592,082	0.1	3.1	33.6	31.7	14.1			10.9	Dec-18
Kimmeridge Energy Fund V, L.P.	5,707,576	0.2	-7.2	8.7	7.8	12.5			11.8	Aug-19
Global Infra Partners IV	2,108,747	0.1	1.5	10.6	8.7	-71.7			-	Sep-19
Lime Rock New Energy, L.P.	1,610,043	0.1	0.0	-56.2					-	Aug-20

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 September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Orion Mine Finance III	3,851,076	0.1	-3.5	3.6	28.1				7.3	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	3,363,740	0.1	-1.4	47.8	56.0				38.4	Jan-21
Tembo Cap Mining III	1,665,595	0.1	-12.2	-6.7	-6.7					
Mountain Capital II	1,056,487	0.0	-4.7	13.9					13.9	Jan-22
Aether Seed Partners I	155,047	0.0	0.0						0.0	May-22
Hull Street Energy II	162,888	0.0	0.0						0.0	Jul-22
Emerging Markets Debt	83,355,125	3.1	-0.4	1.9	2.7	5.2	3.2		3.9	Jul-15
50% JPM EMBI GD / 50% JPM GBI-EM			-4.6	-21.3	-22.5	-7.1	-3.2		-0.2	Jul-15
eV All Emg Mkts Fixed Inc Net Median			-4.1	-19.0	-20.3	-5.6	-2.5	0.4	0.5	Jul-15
eV All Emg Mkts Fixed Inc Net Rank			2	1	1	1	1		1	Jul-15
Wellington Iguazu Partners LP Fund	70,692,261	2.6	0.2	13.8	16.5	12.4			11.7	May-19
50% JPM EMBI GD / 50% JPM GBI-EM			-4.6	-21.3	-22.5	-7.1			-4.8	May-19
eV All Emg Mkts Fixed Inc Net Median			-4.1	-19.0	-20.3	-5.6	-2.5	0.4	-3.7	May-19
eV All Emg Mkts Fixed Inc Net Rank			2	1	1	1			1	May-19
Payden EMD Blended Currency	12,662,864	0.5	-3.9	-22.0	-23.3				-15.7	Dec-20
50% JPM EMBI GD / 50% JPM GBI-EM			-4.6	-21.3	-22.5				-15.5	Dec-20
eV All Emg Mkts Fixed Inc Net Median			-4.1	-19.0	-20.3	-5.6	-2.5	0.4	-14.0	Dec-20
eV All Emg Mkts Fixed Inc Net Rank			47	72	72				78	Dec-20



Total Fund | As of September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
High Yield Bonds	53,659,676	2.0	-0.1	-13.5	-12.7	0.4	1.0		0.3	Jun-14
Bloomberg US Corporate High Yield TR			-0.6	-14.7	-14.1	-0.5	1.6		2.9	Jun-14
Mellon High Yield Beta	4,847,540	0.2	-0.5	-14.6	-14.1				0.2	Jun-20
Bloomberg US Corporate High Yield TR			-0.6	-14.7	-14.1				0.4	Jun-20
eV US High Yield Fixed Inc Net Median			-0.5	<i>-13.5</i>	-12.9	-0.3	1.5	3.6	0.7	Jun-20
eV US High Yield Fixed Inc Net Rank			53	73	76				63	Jun-20
Columbia High Yield	48,812,137	1.8	-0.1	-13.4	-12.6				-5.2	Dec-20
Bloomberg US Corporate High Yield TR			-0.6	-14.7	-14.1				-6.0	Dec-20
eV US High Yield Fixed Inc Net Median			-0.5	<i>-13.5</i>	-12.9	-0.3	1.5	3.6	-5.3	Dec-20
eV US High Yield Fixed Inc Net Rank			29	46	45				48	Dec-20
Low Beta	345,031,178	12.7	0.3	6.7	7.9	4.6	4.1		3.2	Jul-15
Low Beta Benchmark			-1.1	-2.0	-2.2	0.0	0.7		0.4	Jul-15
Immunized Cash Flows	214,311,377	7.9	-2.3	-4.1	-4.5	-0.4			0.8	Oct-18
Bloomberg US Govt/Credit 1-3 Yr. TR			-1.5	-4.5	-5.1	-0.4			0.8	Oct-18
Insight Immunized Cash Flow	214,311,377	7.9	-2.3	-4.1	-4.5	-0.4				Jun-19
Bloomberg US Govt/Credit 1-3 Yr. TR			-1.5	-4.5	-5.1	-0.4				Jun-19
Market Neutral Strategies	92,009,669	3.4	7.3	27.2	31.6	14.4	10.7		7.0	Nov-12
Market Neutral Strategies Benchmark			0.9	1.6	1.7	1.0	1.2		1.2	Nov-12
Relative Value	92,009,669	3.4	7.3	27.2	31.6	12.0	9.9		7.5	Oct-14
HFRI Relative Value (Total) Index			0.0	-2.1	-1.9	3.5	3.3		3.4	Oct-14
Pine River Fund, Ltd	307,278	0.0	7.1	-6.3	-2.3	5.4	5.8		4.3	Jan-13
HFRI Relative Value (Total) Index			0.0	-2.1	-1.9	3.5	3.3		4.0	Jan-13



Total Fund | As of September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
DE Shaw Composite Fund, LLC	43,491,623	1.6	5.9	21.5	29.1	21.5	16.9		14.4	Apr-13
HFRI Fund Weighted Composite Index			-0.7	-6.3	-5.9	6.1	4.5		4.3	Apr-13
Hudson Bay	9,807,436	0.4	4.9	8.2	10.1	12.7	10.5		10.2	Aug-17
HFRI Relative Value (Total) Index			0.0	-2.1	-1.9	3.5	3.3		3.3	Aug-17
Crabel Advanced Trend	38,403,332	1.4	9.5	38.4	40.0				25.1	Jun-21
Barclay CTA Index			1.2	9.5	9.6				8.1	Jun-21
Cash	38,710,132	1.4	0.4	0.6	0.6	0.7	1.1			Jan-06
ICE BofA 91 Days T-Bills TR			0.5	0.6	0.6	0.6	1.1			Jan-06
Other	361,520,579	13.3	-0.8	-2.8	-1.1	1.0	1.8	1.3	1.9	Jul-04
Other Benchmark			-2.0	-4.5	-2.3	-1.8	-0.7			Jul-04
Investment Grade Bonds	119,825,525	4.4	-4.6	-12.1	-12.2				-1.8	Dec-19
Custom IG Bonds Benchmark			-4.0	-11.9	-12.1				-2.8	Dec-19
Voya Securitized Credit	39,671,747	1.5	-3.9	-12.9	-12.3				-1.6	May-20
Bloomberg US Securitized MBS ABS CMBS TR			-5.2	-13.4	-13.8				-5.9	May-20
Invesco Core Bonds	80,153,778	3.0	-5.0	-15.3	-15.3				-9.5	Feb-21
Bloomberg US Aggregate TR			-4.8	-14.6	-14.6				-9.1	Feb-21
TIPS	55,544,051	2.0	-2.7	-3.9	-2.8	2.2	2.2		1.4	Jul-14
BBg U.S. TIPS 0-5 Years			-2.6	-4.0	<i>-2.9</i>	2.4	2.3		1.5	Jul-14
Northern Trust 0-5 Year TIPS	55,544,051	2.0	-2.7	-3.9	-2.8	2.7	2.5		1.6	Jul-14
Bloomberg US Treasury TIPS 0-5 Yr TR			-2.6	-4.0	-2.9	2.4	2.3		1.5	Jul-14

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



Total Fund | As of September 30, 2022

	Market Value (\$)	% of Portfolio	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Core Private Real Estate	141,032,594	5.2	7.1	26.0	32.3	13.6	11.2	11.0	10.6	Jul-15
Core Real Estate Benchmark			4.5	20.6	28.3	11.3	9.2		9.0	Jul-15
BlackRock Core Property Fund	33,948,842	1.2	8.4	30.0	35.9	14.7			12.7	Feb-19
Core Real Estate Benchmark 2			4.5	20.6	28.3	11.3			9.9	Feb-19
Clarion Lion Properties Fund	66,352,877	2.4	7.2	23.3	30.6	13.1			12.3	Apr-19
Core Real Estate Benchmark 2			4.5	20.6	28.3	11.3			10.4	Apr-19
Clarion Lion Industrial Trust	14,478,188	0.5	7.3	31.6	31.6				31.6	Oct-21
Core Real Estate Benchmark 3			4.5	20.6	20.6				20.6	Oct-21
TA Realty Core Property Fund	26,252,687	1.0	4.9	23.5	23.5				23.5	Oct-21
Core Real Estate Benchmark 3			4.5	20.6	20.6				20.6	Oct-21
Long-Term Government Bonds	45,118,409	1.7	-9.6	-28.6	-26.7				-15.6	May-20
Bloomberg US Treasury Long TR			-9.6	-28.8	-26.6				-16.5	May-20
BlackRock Long-Term Gov Bonds	45,118,409	1.7	-9.6	-28.6	-26.7				-15.6	May-20
Bloomberg US Treasury Long TR			-9.6	-28.8	-26.6				-16.5	May-20
Overlay	6,585,108	0.2								
Russell Investments Overlay	6,578,626	0.2								



Total Fund | As of September 30, 2022

	Cas	h Flow Summar	у			
	Quarter En	ding September :	30, 2022			
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Aether Seed Partners I	\$155,047	\$0	\$0	\$0	\$0	\$155,047
AIGGRE Fund IV	\$4,360,629	\$428,878	-\$641,954	-\$213,076	\$1,720,738	\$5,868,290
Angelo Gordon CS II	\$2,035,284	\$1,800,000	-\$138,131	\$1,661,869	-\$120,560	\$3,576,593
Arbour Lane COF III	\$2,521,219	\$1,249,063	\$0	\$1,249,063	-\$267,841	\$3,502,440
Arbour Lane Credit Opportunity Fund II, L.P.	\$10,765,762	\$0	\$0	\$0	-\$107,634	\$10,658,128
Artisan Global Opportunities	\$98,246,097	\$0	\$0	\$0	-\$3,677,481	\$94,568,616
Artisan Global Value	\$130,746,456	\$0	\$0	\$0	-\$12,389,489	\$118,356,968
BlackRock 1-3 Year Gov/Credit	\$70,844,243	\$0	-\$71,005,507	-\$71,005,507	\$161,264	
BlackRock Core Property Fund	\$65,283,115	\$0	-\$33,979,281	-\$33,979,281	\$2,645,008	\$33,948,842
BlackRock Long-Term Gov Bonds	\$49,904,212	\$0	\$0	\$0	-\$4,785,803	\$45,118,409
Blackstone/GSO Cap Partners	\$3,799,965	\$0	\$0	\$0	-\$378,529	\$3,421,436
Cash Account	\$19,207,146	\$419,132,602	-\$399,900,948	\$19,231,654	\$271,333	\$38,710,132
Centerbridge RE II	\$0	\$1,509,867	\$0	\$1,509,867	-\$203,680	\$1,306,187
Clarion Lion Industrial Trust	\$13,490,286	\$0	\$0	\$0	\$987,902	\$14,478,188
Clarion Lion Properties Fund	\$62,336,116	\$0	-\$417,334	-\$417,334	\$4,434,095	\$66,352,877
Columbia High Yield	\$48,847,930	\$5,692	-\$5,692	\$0	-\$35,794	\$48,812,137
Cove Street Small Cap Value	\$20,366,836	\$0	\$0	\$0	-\$903,998	\$19,462,839
Crabel Advanced Trend	\$35,076,147	\$0	-\$88	-\$88	\$3,327,272	\$38,403,332
Crestline Co-Investment	\$1,201,242	\$0	\$0	\$0	\$119,880	\$1,321,122
Crestline Co-Investment II	\$3,404,426	\$7,234	\$0	\$7,234	-\$47,920	\$3,363,740
Crestline Portfolio Financing	\$8,697,282	\$357,782	-\$1,296,959	-\$939,177	\$229,419	\$7,987,523
Crestline Portfolio Financing Fund II	\$2,686,152	\$0	\$0	\$0	\$66,839	\$2,752,991



#### Total Fund | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Cross Ocean USD ESS Fund II LP	\$3,206,438	\$0	-\$589,067	-\$589,067	-\$17,949	\$2,599,422
Cross Ocean USD ESS Fund III, L.P.	\$22,287,333	\$0	-\$840,379	-\$840,379	\$175,512	\$21,622,466
DE Shaw Composite Fund, LLC	\$41,066,134	\$0	\$0	\$0	\$2,425,489	\$43,491,623
Dimensional Fund Adv EM Value	\$42,430,079	\$0	\$0	\$0	-\$4,159,455	\$38,270,624
DRA Growth & Income Fund IX	\$14,920,256	\$0	-\$720,802	-\$720,802	\$576,106	\$14,775,560
DRA Growth & Income Fund VII	\$1,203,453	\$0	\$0	\$0	\$10,900	\$1,214,353
DRA Growth & Income Fund VIII	\$5,151,983	\$0	\$0	\$0	\$159,411	\$5,311,394
DRA Growth & Income Fund X	\$5,914,050	\$1,505,263	-\$721,495	\$783,768	\$100,311	\$6,798,129
Eagle Point Defensive Income Fund	\$7,393,242	\$450,400	-\$92,986	\$357,414	-\$525,999	\$7,224,657
Exeter Industrial Value Fund V	\$6,381,732	\$0	\$0	\$0	\$54,447	\$6,436,178
Fin VC Horizons II	\$3,088,000	\$764,409	\$0	\$764,409	\$0	\$3,852,409
First Eagle International Equity	\$44,963,940	\$0	\$0	\$0	-\$3,659,199	\$41,304,741
GCP SecureSpace Property Partners, L.P		\$1,808,077	\$0	\$1,808,077	\$23,696	\$1,831,773
GEM Realty Fund VI	\$4,858,515	\$500,000	-\$271,250	\$228,750	\$101,519	\$5,188,784
Global Infra Part III-A/B, LP	\$27,703,778	\$0	-\$838,457	-\$838,457	\$799,133	\$27,664,454
Global Infra Partners IV	\$1,705,687	\$377,711	\$0	\$377,711	\$25,349	\$2,108,747
GQG Global Emerging Markets	\$63,720,827	\$0	\$0	\$0	-\$4,214,967	\$59,505,860
Great Hill Equity Partners IV	\$3,611,928	\$0	\$0	\$0	-\$691,271	\$2,920,657
H.I.G. Realty Partners IV, L.P.	\$1,346,036	\$2,395,868	\$0	\$2,395,868	\$126,286	\$3,868,190
HPS Special Situations Opportunity Fund	\$5,358,242	\$652,535	\$0	\$652,535	\$325,599	\$6,336,376
Hudson Bay	\$9,350,406	\$0	\$0	\$0	\$457,030	\$9,807,436



#### Total Fund | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Hull Street Energy II	\$0	\$162,888	\$0	\$162,888	\$0	\$162,888
Innovation Endeavors III	\$13,819,505	\$0	\$0	\$0	-\$224,424	\$13,595,081
Innovation Endeavors IV	\$1,182,457	\$360,000	\$0	\$360,000	-\$28,679	\$1,513,778
Insight Immunized Cash Flow	\$69,237,748	\$158,000,000	-\$7,605,276	\$150,394,724	-\$5,321,095	\$214,311,377
Invesco Core Bonds	\$84,329,824	\$1,066	-\$1,066	\$0	-\$4,176,047	\$80,153,778
Kimmeridge Energy Fund V, L.P.	\$4,336,763	\$1,699,044	\$0	\$1,699,044	-\$328,231	\$5,707,576
Kotak India Midcap	\$8,863,703	\$0	\$0	\$0	\$732,219	\$9,595,921
Lime Rock New Energy, L.P.	\$1,094,102	\$515,941	\$0	\$515,941	\$0	\$1,610,043
Lime Rock Partners VIII	\$3,594,452	\$0	-\$112,419	-\$112,419	\$110,049	\$3,592,082
Medley Opportunity Fund II LP	\$4,378,782	\$0	\$0	\$0	\$0	\$4,378,782
Mellon High Yield Beta	\$4,872,856	\$0	\$0	\$0	-\$25,317	\$4,847,540
Morgan Stanley Intl Equity	\$26,970,974	\$0	\$0	\$0	-\$2,632,211	\$24,338,763
Mountain Capital II	\$1,233,517	\$25,124	-\$142,435	-\$117,311	-\$59,719	\$1,056,487
Northern Trust 0-5 Year TIPS	\$57,065,479	\$0	\$0	\$0	-\$1,521,427	\$55,544,051
Northern Trust Aggregate Bond Index	\$39,034,574	\$0	-\$39,250,219	-\$39,250,219	\$215,645	
Northern Trust MSCI EM IMI	\$92,418,478	\$31,000,000	\$0	\$31,000,000	-\$13,909,559	\$109,508,919
Northern Trust MSCI World ex US	\$134,672,176	\$39,000,000	\$0	\$39,000,000	-\$16,870,937	\$156,801,239
Northern Trust Russell 3000 PE	\$475,650,079	\$80,000,000	-\$50,000,000	\$30,000,000	-\$20,511,306	\$485,138,772
Oberweis Intl Opportunities	\$36,053,699	\$0	\$0	\$0	-\$4,022,461	\$32,031,238
Octagon CLO Opp Fund I	\$3,150,885	\$3,150,000	\$0	\$3,150,000	\$6,714	\$6,307,599
Orion Mine Finance III	\$3,587,792	\$390,327	\$0	\$390,327	-\$127,043	\$3,851,076
Pantheon Global Secondary III	\$453,745	\$0	\$0	\$0	-\$3,225	\$450,520
Pantheon USA Fund VII, LP	\$7,718,715	\$0	-\$800,000	-\$800,000	-\$437,883	\$6,480,832
Partners Group Secondary 2008	\$688,778	\$0	\$0	\$0	-\$119,423	\$569,355
Partners Group Secondary 2011	\$4,568,401	\$0	-\$168,788	-\$168,788	-\$872,350	\$3,527,263



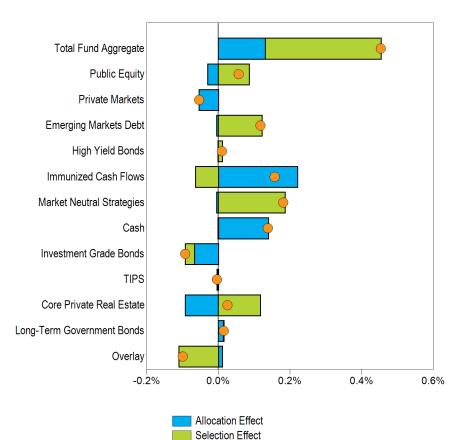
#### Total Fund | As of September 30, 2022

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Pathway Private Eq Fund VIII	\$635,817	\$0	\$0	\$0	\$2,734	\$638,551
Payden EMD Blended Currency	\$13,177,039	\$0	\$0	\$0	-\$514,175	\$12,662,864
PE Strategic Partnership, LP	\$303,363,027	\$1,737,500	\$0	\$1,737,500	-\$9,928,898	\$295,171,629
Pine River Fund, Ltd	\$286,847	\$0	\$0	\$0	\$20,431	\$307,278
Praedium X MidInc	\$2,188,948	\$0	-\$27,469	-\$27,469	\$132,582	\$2,294,061
Real Assets Coinvest I	\$1,199,996	\$0	\$0	\$0	\$0	\$1,199,996
Redwheel Emerging Markets Equity	\$28,879,192	\$0	\$0	\$0	-\$3,186,248	\$25,692,944
Rockpoint Real Estate Fund VI, L.P.	\$5,242,918	\$208,309	-\$94,367	\$113,942	\$124,150	\$5,481,010
Russell Investments Overlay	\$15,722,644	\$0	-\$5,000,000	-\$5,000,000	-\$4,144,018	\$6,578,626
Soma Capital Fund III LP	\$1,560,283	\$257,183	\$0	\$257,183	\$18,977	\$1,836,443
State Street Terminated Managers	\$6,917	\$0	\$0	\$0	-\$435	\$6,482
SVP Special Situations V	\$2,669,162	\$0	-\$1,875	-\$1,875	\$19,957	\$2,687,244
TA Realty Core Property Fund	\$24,084,074	\$1,200,000	-\$267,300	\$932,700	\$1,235,913	\$26,252,687
Tembo Cap Mining III	\$1,518,206	\$379,144	\$0	\$379,144	-\$231,755	\$1,665,595
TI Platform SJFED LP	\$8,117,372	\$0	\$0	\$0	\$0	\$8,117,372
Torchlight Debt Fund VII	\$1,839,501	\$1,200,000	\$0	\$1,200,000	\$72,523	\$3,112,024
Torchlight Debt Opportunity VI	\$25,755,563	\$0	-\$4,165,300	-\$4,165,300	\$619,360	\$22,209,623
Tristan - EPISO IV	\$12,547,589	\$2	-\$90,601	-\$90,599	-\$597,650	\$11,859,340
Tristan - EPISO V	\$10,317,431	\$303,217	-\$832,329	-\$529,113	-\$370,470	\$9,417,849
Voya Securitized Credit	\$41,293,197	\$0	\$0	\$0	-\$1,621,449	\$39,671,747
Wellington Emerging Markets Systematic Equity	\$38,015,952	\$0	-\$73,655	-\$73,655	-\$4,550,602	\$33,391,696
Wellington Iguazu Partners LP Fund	\$70,530,119	\$0	\$0	\$0	\$162,141	\$70,692,261
White Oak Direct Lending	\$36,701,733	\$0	\$0	\$0	-\$773,428	\$35,928,305
Total	\$2,694,268,662	\$753,058,820	-\$620,093,428	\$132,965,392	-\$110,547,493	\$2,716,686,561



#### Total Fund | As of September 30, 2022





Total Effect

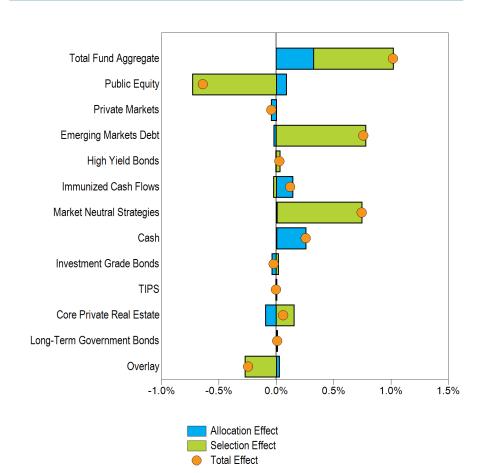
			Summary eptember 3	30, 2022		
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Public Equity	-7.0%	-7.2%	0.2%	0.1%	0.0%	0.1%
Private Markets	-1.7%	-1.7%	0.0%	0.0%	-0.1%	-0.1%
Emerging Markets Debt	-0.4%	-4.6%	4.2%	0.1%	0.0%	0.1%
High Yield Bonds	-0.1%	-0.6%	0.5%	0.0%	0.0%	0.0%
Immunized Cash Flows	-2.3%	-1.5%	-0.8%	-0.1%	0.2%	0.2%
Market Neutral Strategies	7.3%	0.9%	6.4%	0.2%	0.0%	0.2%
Cash	0.4%	0.5%	0.0%	0.0%	0.1%	0.1%
Investment Grade Bonds	-4.6%	-4.0%	-0.6%	0.0%	-0.1%	-0.1%
TIPS	-2.7%	-2.6%	0.0%	0.0%	0.0%	0.0%
Core Private Real Estate	7.1%	4.5%	2.5%	0.1%	-0.1%	0.0%
Long-Term Government Bonds	-9.6%	-9.6%	0.0%	0.0%	0.0%	0.0%
Overlay	-38.6%	0.5%	-39.1%	-0.1%	0.0%	-0.1%
Total	-3.9%	-4.3%	0.5%	0.3%	0.1%	0.5%

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 September 30, 2022



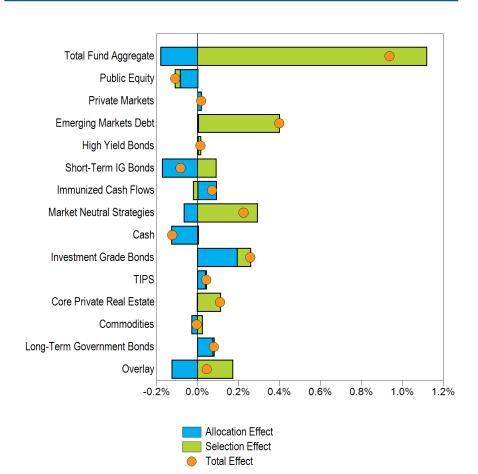


Attribution Summary 1 Year Ending September 30, 2022									
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects			
Public Equity	-23.3%	-22.0%	-1.3%	-0.7%	0.1%	-0.6%			
Private Markets	15.3%	15.3%	0.0%	0.0%	0.0%	0.0%			
Emerging Markets Debt	2.7%	-22.5%	25.1%	0.8%	0.0%	0.8%			
High Yield Bonds	-12.7%	-14.1%	1.4%	0.0%	0.0%	0.0%			
Immunized Cash Flows	-4.5%	-5.1%	0.6%	0.0%	0.1%	0.1%			
Market Neutral Strategies	31.6%	1.7%	30.0%	0.7%	0.0%	0.7%			
Cash	0.6%	0.6%	0.0%	0.0%	0.3%	0.3%			
Investment Grade Bonds	-12.2%	-12.1%	-0.1%	0.0%	0.0%	0.0%			
TIPS	-2.8%	-2.9%	0.1%	0.0%	0.0%	0.0%			
Core Private Real Estate	32.3%	28.3%	4.0%	0.2%	-0.1%	0.1%			
Long-Term Government Bonds	-26.7%	-26.6%	0.0%	0.0%	0.0%	0.0%			
Overlay	-65.4%	0.6%	-66.0%	-0.3%	0.0%	-0.2%			
Total	-8.8%	-9.9%	1.0%	0.7%	0.3%	1.0%			



#### Total Fund | As of September 30, 2022

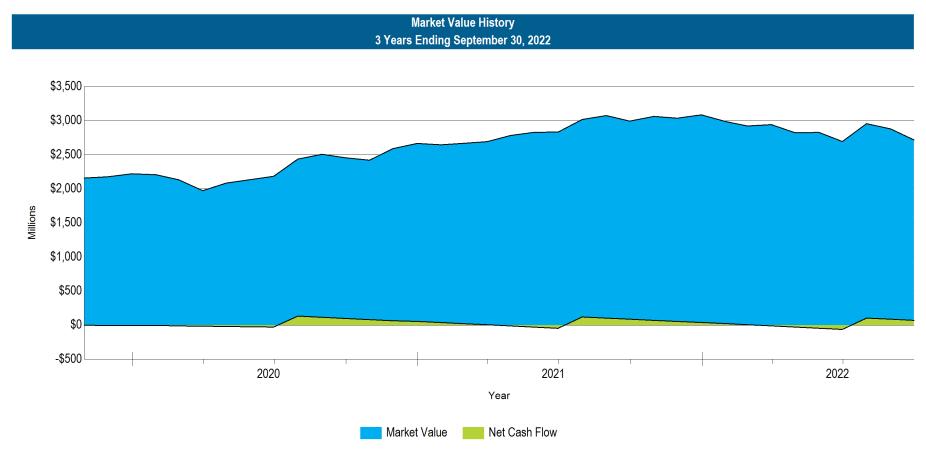




Attribution Summary 3 Years Ending September 30, 2022									
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects			
Public Equity	2.9%	3.3%	-0.3%	0.0%	-0.1%	-0.1%			
Private Markets	18.5%	18.5%	0.0%	0.0%	0.0%	0.0%			
Emerging Markets Debt	5.2%	-7.1%	12.3%	0.4%	0.0%	0.4%			
High Yield Bonds	0.4%	-0.5%	0.9%	0.0%	0.0%	0.0%			
Short-Term IG Bonds	1.0%	0.3%	0.7%	0.1%	-0.2%	-0.1%			
Immunized Cash Flows	-0.4%	-0.4%	0.0%	0.0%	0.1%	0.1%			
Market Neutral Strategies	14.4%	1.0%	13.4%	0.3%	-0.1%	0.2%			
Cash	0.7%	0.6%	0.1%	0.0%	-0.1%	-0.1%			
Investment Grade Bonds	-1.7%	-2.6%	0.9%	0.1%	0.2%	0.3%			
TIPS	2.2%	2.4%	-0.3%	0.0%	0.0%	0.0%			
Core Private Real Estate	13.6%	11.3%	2.4%	0.1%	0.0%	0.1%			
Commodities	-6.5%	9.3%	-15.8%	0.0%	0.0%	0.0%			
Long-Term Government Bonds	-12.8%	-8.5%	-4.3%	0.0%	0.1%	0.1%			
Overlay	-21.8%	0.5%	-22.3%	0.2%	-0.1%	0.0%			
Total	7.2%	6.3%	0.9%	1.1%	-0.2%	0.9%			



Total Fund | As of September 30, 2022

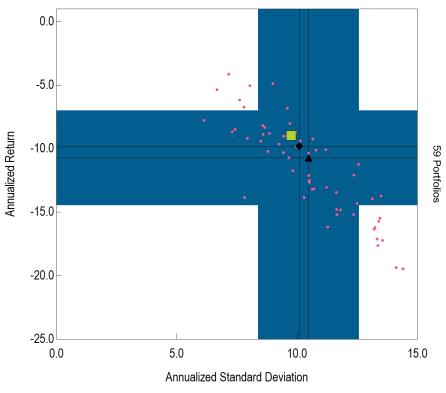


	Third Quarter	Fiscal Year-To-Date	One Year	Three Years
Beginning Market Value	\$2,694,268,662	\$2,694,268,662	\$2,993,662,496	\$2,129,249,945
Net Cash Flow	\$132,965,392	\$132,965,392	-\$17,412,846	\$69,096,281
Net Investment Change	-\$110,547,493	-\$110,547,493	-\$259,563,089	\$518,340,335
Ending Market Value	\$2,716,686,561	\$2,716,686,561	\$2,716,686,561	\$2,716,686,561



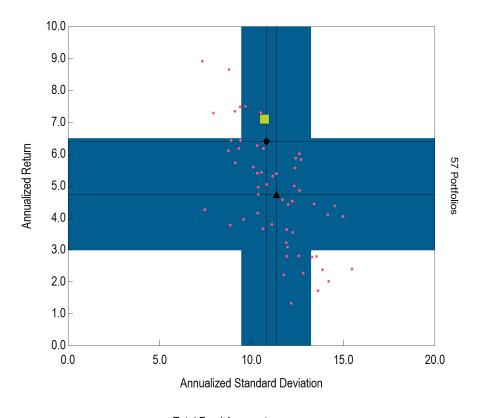
#### Total Fund | As of September 30, 2022

# Annualized Return vs. Annualized Standard Deviation 1 Year Ending September 30, 2022



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

# Annualized Return vs. Annualized Standard Deviation 3 Years Ending September 30, 2022

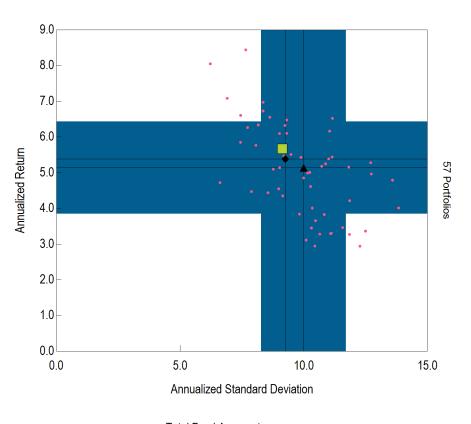


- Total Fund Aggregate
- Policy Benchmark
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Net



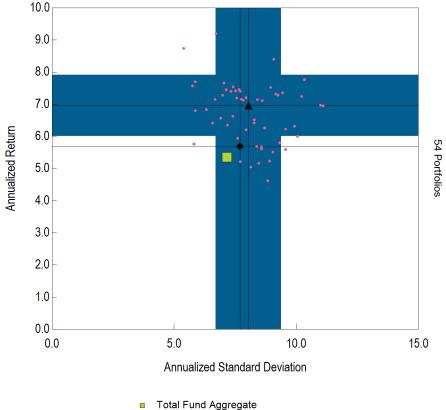
#### Total Fund | As of September 30, 2022





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

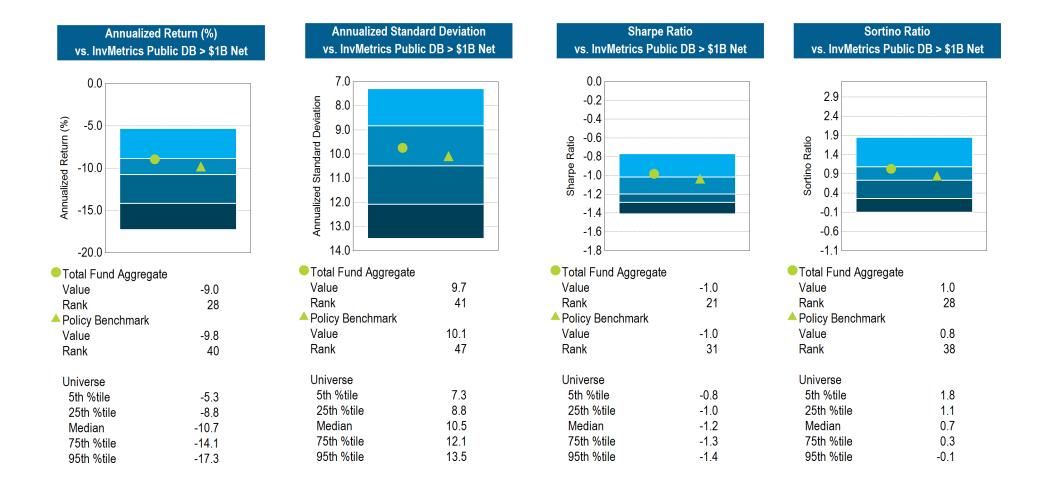
#### Annualized Return vs. Annualized Standard Deviation 10 Years Ending September 30, 2022



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

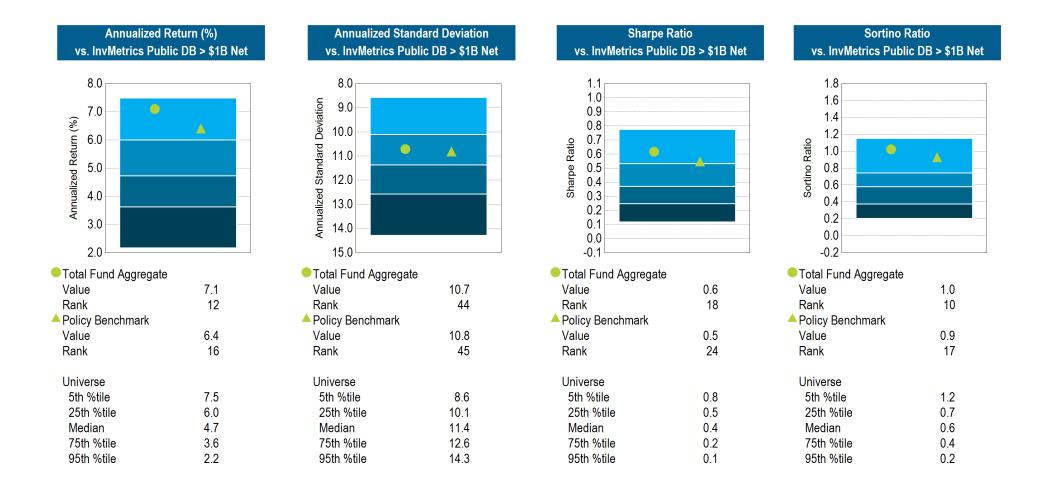


#### Total Fund | One Year As of September 30, 2022





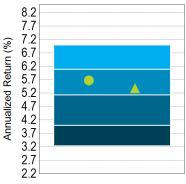
#### Total Fund | Three Years As of September 30, 2022





#### Total Fund | Five Years As of September 30, 2022

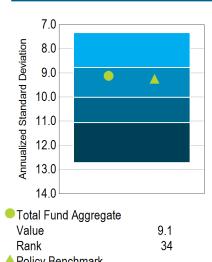
# Annualized Return (%) vs. InvMetrics Public DB > \$1B Net



Value	5.7
Rank	31
Policy Benchmark	
Value	5.4
Rank	42
Universe	
5th %tile	7.0
25th %tile	6.1
Median	5.1
75th %tile	4.0
95th %tile	3.2

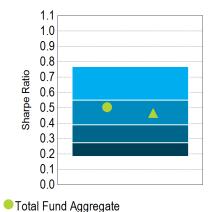
Total Fund Aggregate

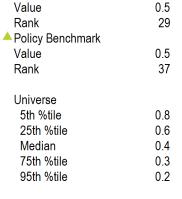
# Annualized Standard Deviation vs. InvMetrics Public DB > \$1B Net



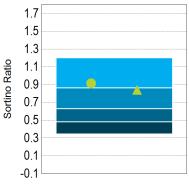
Value	9.2
Rank	39
Universe 5th %tile 25th %tile Median 75th %tile 95th %tile	7.3 8.8 10.0 11.0 12.7

#### Sharpe Ratio vs. InvMetrics Public DB > \$1B Net





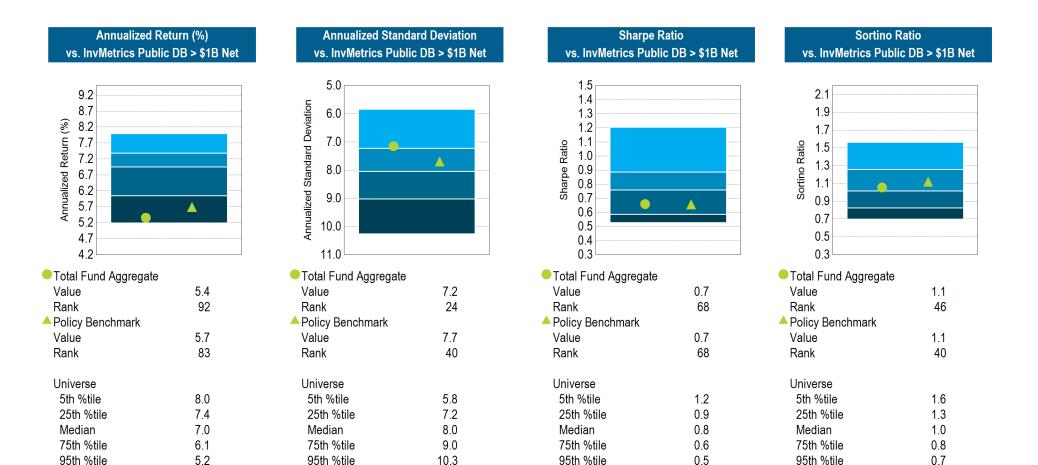
# Sortino Ratio vs. InvMetrics Public DB > \$1B Net



Total Fund Aggregate Value Rank	0.9 21
Policy Benchmark Value Rank	0.8 27
Universe	4.0
5th %tile 25th %tile	1.2 0.9
Median	0.6
75th %tile	0.5
95th %tile	0.3

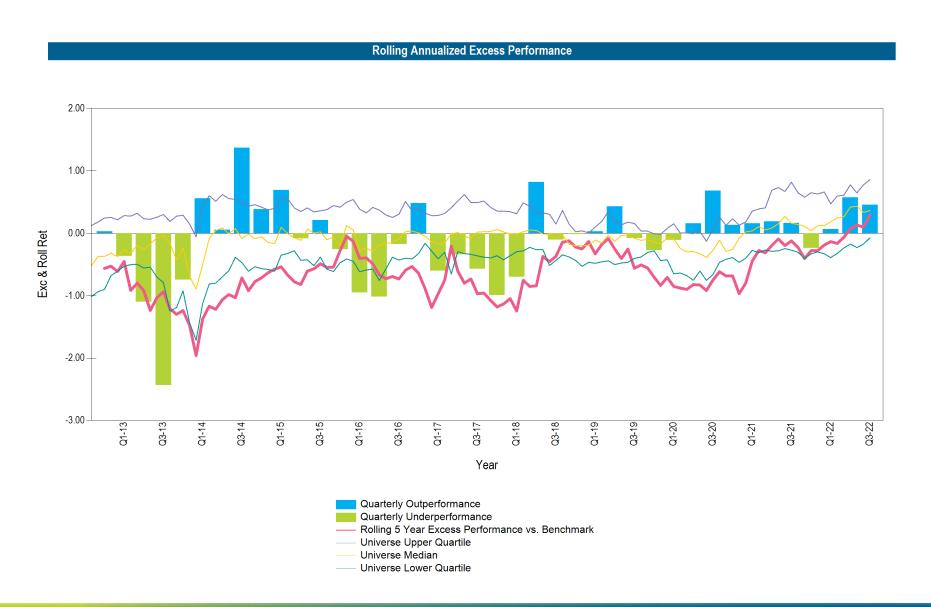


#### Total Fund | Ten Years As of September 30, 2022



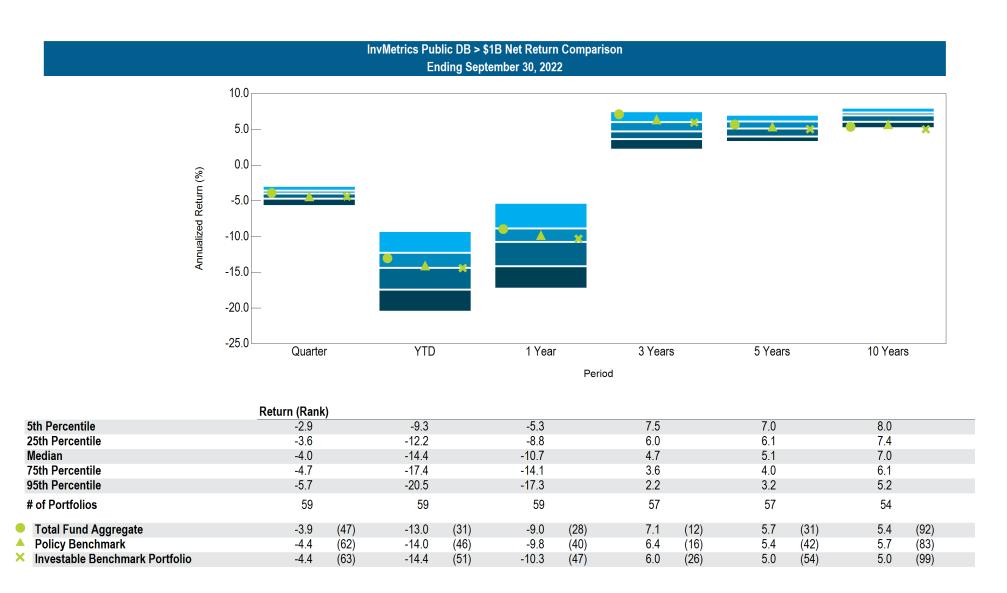


Total Fund | As of September 30, 2022



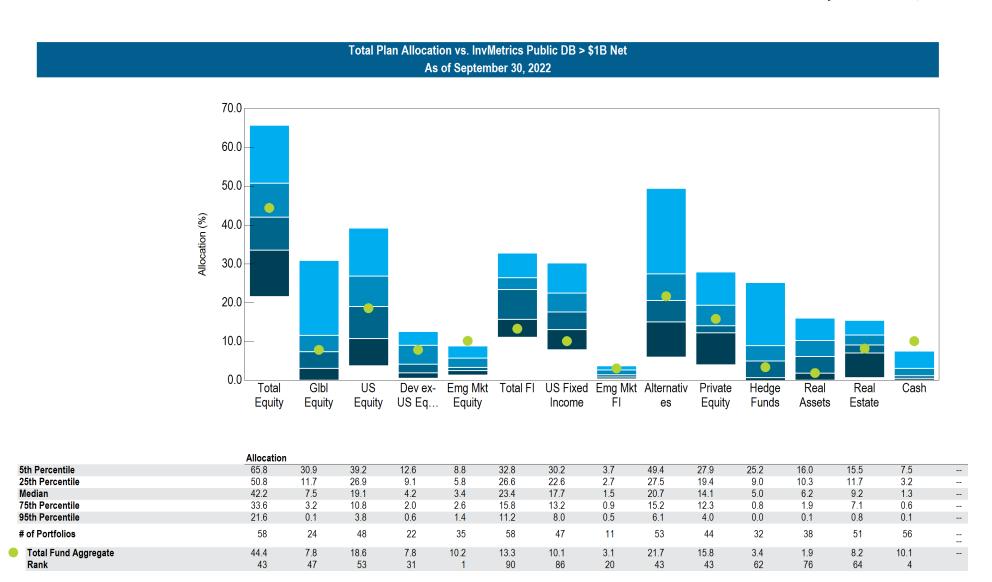


Total Fund | As of September 30, 2022





Total Fund | As of September 30, 2022



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



#### Total Fund | As of September 30, 2022

	Major Benchmark I Periods Ending Septemb				
Name	Q3-22	1 Yr	3 Yrs	5 Yrs	10 Yrs
US Equity					
Russell 3000	-4.5	-17.6	7.7	8.6	11.4
S&P 500	-4.9	-15.5	8.2	9.2	11.7
Russell 1000	-4.6	-17.2	7.9	9.0	11.6
Russell 1000 Growth	-3.6	-22.6	10.7	12.2	13.7
Russell 1000 Value	-5.6	-11.4	4.4	5.3	9.2
Russell MidCap	-3.4	-19.4	5.2	6.5	10.3
Russell 2000	-2.2	-23.5	4.3	3.6	8.6
Russell 2000 Growth	0.2	-29.3	2.9	3.6	8.8
Russell 2000 Value	-4.6	-17.7	4.7	2.9	7.9
International Equity					
MSCI ACWI	-6.8	-20.7	3.7	4.4	7.3
MSCI World ex USA	-9.2	-23.9	-1.2	-0.4	3.6
MSCI EAFE	-9.4	-25.1	-1.8	-0.8	3.7
MSCI Emerging Markets	-11.6	-28.1	-2.1	-1.8	1.0
Fixed Income					
91 Day T-Bills	0.5	0.6	0.5	1.1	0.6
Bloomberg US Aggregate TR	-4.8	-14.6	-3.3	-0.3	0.9
Bloomberg US Govt/Credit TR	-4.6	-14.9	-3.1	-0.1	1.0
Bloomberg US Municipal TR	-3.5	-11.5	-1.9	0.6	1.8
Bloomberg US High Yield TR	-0.6	-14.1	-0.5	1.6	3.9
FTSE WGBI TR	-7.6	-22.1	-7.0	-3.1	-1.8
FTSE WGBI ex US TR	-10.0	-28.3	-9.9	-5.1	-3.1
Real Estate					
FTSE NAREIT All REIT	-11.2	-17.4	-1.7	3.5	6.6
NCREIF Property Index	0.6	16.1	9.9	8.6	9.5
Alternatives					
HFRI Fund of Funds Composite Index	-0.2	-6.3	4.2	3.1	3.5
Inflation					
Consumer Price Index	0.2	8.2	5.0	3.8	2.5



Total Fund | As of September 30, 2022

				s	Statistics Sur	nmary						
3 Years Ending September 30, 2022												
	% 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%	7.10%	12	10.71%	44	0.76%	47	0.77%	0.90	12	0.99	0.62
Policy Benchmark		6.41%	16	10.81%	45	0.00%	85	0.00%			1.00	0.55
Growth	73.75%	7.86%		14.64%		1.55%		1.80%	0.74		0.96	0.50
Growth Benchmark		6.53%		15.08%		0.00%		0.00%			1.00	0.40
Public Equity	45.94%	2.93%	71	19.87%	85	-0.37%	66	1.40%	-0.23	68	1.01	0.12
Public Equity Benchmark		3.26%	68	19.54%	83	0.00%	48	0.00%			1.00	0.14
Global Equity	7.84%	3.15%	54	20.37%	54							0.13
MSCI ACWI IMI Index												
US Equity	18.57%	6.86%	40	21.40%	40	-0.62%	43	1.33%	-0.38	76	1.02	0.30
MSCI USA IMI NR USD		7.36%	35	20.99%	36	0.00%	35	0.00%			1.00	0.33
International Equity	9.37%	-1.39%	65	20.44%	54	-0.12%	65	3.14%	-0.05	69	1.02	-0.09
MSCI World ex USA IMI NR USD		-1.24%	63	19.75%	45	0.00%	64	0.00%			1.00	-0.09
Emerging Markets Equity	10.16%	0.32%	33	19.74%	35	1.53%	34	2.37%	0.64	12	1.01	-0.01
MSCI Emerging Markets IMI Net		-1.20%	48	19.48%	28	0.00%	47	0.00%			1.00	-0.09
Private Markets	22.77%	18.46%		9.39%		0.00%		0.00%	-1.33		1.00	1.91
Private Markets Benchmark		18.46%		9.39%		0.00%		0.00%			1.00	1.91
Private Equity	12.20%	25.26%	4	14.61%	72	25.79%	1	22.65%	0.23	27	-0.05	1.70
San Jose Custom Private Equity Benchmark		20.14%	49	16.48%	76	0.00%	91	0.00%		-	1.00	1.19
Private Debt	4.15%	12.50%	1	10.91%	99	10.18%	1	11.24%	0.71	21	0.45	1.10
S&P Global Leveraged Loan Index +2%		4.54%	2	8.64%	99	0.00%	87	0.00%		-	1.00	0.47



#### Total Fund | As of September 30, 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
Growth Real Estate	3.94%	14.42%	1	7.42%	58	16.44%	1	10.44%	0.43	11	-0.27	1.88
NCREIF Property Index		9.92%	77	5.93%	26	0.00%	49	0.00%			1.00	1.59
Emerging Markets Debt	3.07%	5.24%	1	7.52%	4	8.83%	1	6.72%	1.83	1	0.54	0.63
50% JPM EMBI GD / 50% JPM GBI-EM		-7.07%	80	12.04%	37	0.00%	90	0.00%			1.00	-0.63
High Yield Bonds	1.98%	0.43%	30	7.98%	16	0.42%	39	7.84%	0.11	45	0.51	-0.01
Bloomberg US Corporate High Yield TR		-0.45%	56	11.01%	72	0.00%	50	0.00%			1.00	-0.09
Low Beta	12.70%	4.58%		2.32%		3.85%		2.71%	1.68		-0.53	1.76
Low Beta Benchmark		0.04%		0.97%		0.00%		0.00%			1.00	-0.47
Immunized Cash Flows	7.89%	-0.43%	99	1.67%	94	-0.13%	98	0.85%	-0.02	99	0.87	-0.55
Bloomberg US Govt/Credit 1-3 Yr. TR		-0.42%	99	1.67%	94	0.00%	72	0.00%			1.00	-0.55
Market Neutral Strategies	3.39%	14.39%		7.84%		12.07%		7.79%	1.72		3.73	1.77
Market Neutral Strategies Benchmark		0.98%		0.32%		0.00%		0.00%			1.00	1.51
Relative Value	3.39%	11.96%		11.69%		7.72%		8.00%	1.06		1.24	0.98
HFRI Relative Value (Total) Index		3.50%		6.99%		0.00%		0.00%			1.00	0.43
Cash	1.42%	0.70%		0.34%		0.11%		0.23%	0.46		0.96	0.60
ICE BofA 91 Days T-Bills TR		0.59%		0.27%		0.00%		0.00%			1.00	0.38
Other	13.31%	1.02%		3.11%		1.84%		2.55%	1.09		0.58	0.17
Other Benchmark		-1.77%		4.44%		0.00%		0.00%			1.00	-0.51
TIPS	2.04%	2.18%		3.11%		-0.13%		0.80%	-0.32		0.94	0.54
BBg U.S. TIPS 0-5 Years		2.43%		3.22%		0.00%		0.00%			1.00	0.60
Core Private Real Estate	5.19%	13.64%		8.46%		1.53%		2.51%	0.95		1.08	1.55



#### Total Fund | As of September 30, 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
Core Real Estate Benchmark		11.26%		7.52%		0.00%		0.00%			1.00	1.43
Overlay	0.24%	-21.79%		34.29%		-22.28%		34.37%	-0.65		-56.66	-0.65
91 Day T-Bills		0.49%		0.21%		0.00%		0.00%			1.00	0.00



Total Fund | As of September 30, 2022

	Benchmark History							
		As of September 30, 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 September 30, 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 September 30, 2022

Growth		
6/1/2021	Present	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
4/1/2020	5/31/2021	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
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 Equit	У	
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 Eq	uity	
7/1/2015	Present	MSCI ACWI IMI NR USD
US Equity		
7/1/2015	Present	MSCI USA IMI NR USD
Internatio	nal Equity	
7/1/2015	Present	MSCI World ex USA IMI NR USD
Emerging	Markets Equit	У
7/1/2015	Present	MSCI Emerging Markets IMI NR USD



Total Fund | As of September 30, 2022

Marke	table Alternative	Equity
10/1/2014	4 Present	HFRI Equity Hedge (Total) Index
Private M	Markets	
7/1/2015	5 Present	Private Markets
Private	e Markets ex Rus	sell 3000
		No Benchmark Selected
Priv	ate Equity	
1/1/2006	5 Present	Custom Private Equity BM (100% Cambridge US PE)
Pr	ivate Equity ex R	ussell 3000
7/1/2018	9/30/2021	Cambridge Associates Global Private Equity Index
No	orthern Trust Rus	sell 3000
6/1/2018	B Present	Russell 3000
Priv	ate Debt	
12/1/2010	) Present	S&P Global Leveraged Loan Index +2%
Grov	wth Real Estate	
7/1/2015	5 Present	NCREIF Property Index
Priv	ate Real Assets	
		No Benchmark Selected
Emergin	g Markets Debt	
7/1/2015	5 Present	50% JP Morgan GBI EM Global Diversified TR USD / 50% JP Morgan EMBI Global Diversified
High Yie	ld 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 September 30, 2022

Short-Term	IG Bonds	
10/1/2018	Present	91 Day T-Bills
Immunized	Cash Flows	
10/1/2018	Present	Immunized Cash Flows
Market Neu	tral 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 V	'alue	
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	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 September 30, 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)
Commoditie	S	
5/1/2010	Present	Bloomberg Commodity Index TR USD
Long Term (	Government B	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.